

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
LOUISIVLLE DIVISION

Electronically filed

DOE 1, *et al.*
Plaintiffs

v.

Civil Action No. 3:23-CV-00230-DJH

THORNBURY, *et al.*
Defendants

and

COMMONWEALTH OF KENTUCKY,
ex rel. ATTORNEY GENERAL DANIEL
CAMERON
Intervening Defendant

**THE COMMONWEALTH OF KENTUCKY’S REPLY
IN SUPPORT OF ITS MOTION TO STRIKE OR
FOR LEAVE TO FILE REBUTTAL DECLARATIONS**

The Commonwealth of Kentucky is entitled to file rebuttal declarations in response to the two declarations (brand new evidence) filed by Plaintiffs’ newly disclosed experts, Kenneth Goodman, DN 52-2, and Dan Karasic, DN 52-4, along with the Plaintiffs’ reply in support of their motion for preliminary injunctive relief.

The rule here is straightforward: “While the [Federal Rules of Civil Procedure] are silent as to timing matters with reply affidavits, precedent establishes that, in the face of new evidence, the court should permit the opposing party an opportunity to respond.” *Peters v. Lincoln Elec. Co.*, 285 F.3d 456, 477 (6th Cir. 2002). There can

be no debate that when the Plaintiffs submitted the declarations of Kenneth Goodman, DN 52-2, and Dan Karasic, DN 52-4, they introduced new evidence.

To start, the submission of declarations by brand new, never-before-seen, experts *always* constitutes the submission of new evidence. Each side has had an opportunity to respond to all of the other's original expert and lay witnesses. But the Plaintiffs employed a different strategy with respect to Drs. Goodman and Karasic—"sandbagging." *Viero v. Bufano*, 925 F. Supp. 1374, 1380 (N.D. Ill. 1996). "[B]y reserving" Goodman's and Karasic's "opinion[s] until" the Commonwealth "had no ability to respond," the Plaintiffs "avoided having" those opinions exposed. *Id.* So "[w]hatever the case may be, any consideration of" Goodman's and Karasic's opinions "would involve a one-sided and unfair analysis, where [the Commonwealth] would be left without an opportunity to respond." *Id.* Courts are loath to allow such litigation tactics. *See, e.g., id.* (refusing to consider an affidavit submitted by a party to its reply brief because "[t]rial by ambush is the stuff of Hollywood or TV movies, and it was once a recognized part of the sporting (or 'fox-hunt') theory of justice, but today it has no place in a court of law."); *Pike v. Caldera*, 188 F.R.D. 519, 532 (S.D. Ind. 1999) ("The court does not condone 'lying in wait' or 'sandbagging' litigation tactics."); *Stiner v. Brookdale Senior Living, Inc.*, No. 17-cv-03962, 2023 WL 2722294, at *15 (N.D. Cal. Mar. 30, 2023) (refusing "to consider or rely on any" of the "massive amounts of new material, proffered by brand new experts, on reply"); *Murphy v. Vill. of Hoffman Estates*, No. 95-C-5192, 1999 WL 160305, at *2 (N.D. Ill. Mar. 17, 1999), *aff'd*, 234

F.3d 1273 (7th Cir. 2000) (“[I]t is established beyond peradventure that it is improper to sandbag one’s opponent by raising new matter in reply.”).¹

Even a cursory review of the Goodman and Karasic declarations reveals that they include new substantive content. For example, both declarations rely upon never-before-discussed publications. Goodman Decl., ¶¶ 18 n.6, 20 ns.7, 9 (introducing for the first time in this litigation the Sackett (2000), Isaac (2013), and Liu (2022) publications); Karasic Decl., ¶¶ 37, 38, 54 (introducing for the first time in this litigation the Bustos (2021), Owen-Smith (2018), and Conron (2012) publications, among others). Examples of new substantive content like that, some of which the Commonwealth’s experts will respond to, tend to reveal that the Plaintiffs “offered” the Goodman and Karasic Declarations to attempt “to replace inadequate evidentiary submissions offered in support of” their motion for preliminary injunction. *Tishcon Corp. v. Soundview Commc’ns, Inc.*, No. 1:04-cv-524, 2005 WL 6038743, at *8 (N.D. Ga. Feb. 15, 2005). But “[j]ustice is not served by allowing a moving party to unfairly surprise and prejudice the non-movant by producing evidence of new, substantive

¹ The Plaintiffs overstate the unpublished decision of *Key v. Shelby Cnty.*, 551 F. App’x 262 (6th Cir. 2014). The holding in *Key* was that because the party wishing to file a sur-reply waited too long, the district court did not abuse its discretion in denying leave to file the sur-reply. *Id.* at 265 (“Considering the amount of time that passed between Shelby County’s filing of its reply brief and Key’s filing of her motion for leave to file a sur-reply, the district court did not abuse its discretion in denying the motion.”). In *Key*, the movant waited six months before attempting to file a sur-reply, and on that basis alone, the district court denied that request. *Id.* (“The district court ultimately ruled that in the absence of any Federal Rule or Local Rule providing for the filing of a sur-reply, Key’s unexplained delay of six months in moving for leave to file the sur-reply justified its denial.”); *see also Key v. Shelby Cnty.*, No. 09-2752-JDT, 2012 WL 12871903, at *1 (W.D. Tenn. Mar. 27, 2012).

facts at the last minute when there is no opportunity for the non-movant to respond.”
Id. “This is precisely the kind of trial by ambush that the federal rules summarily
reject.” *Id.*

For the foregoing reasons, the Court should allow the Commonwealth to submit rebuttal declarations to Plaintiffs’ belated submissions from Goodman and Karasic. Alternatively, the Court should strike the Goodman and Karasic Declarations, DNs 52-2, 52-4, from the record. *See Seay v. Tenn. Valley Auth.*, 339 F.3d 454, 480–82 (6th Cir. 2003) (reversing the district court’s decision not to strike newly submitted evidence attached to a party’s reply brief). The Commonwealth tenders its expert rebuttal declarations along with this reply.

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on June 26, 2023 the above document was filed with the CM/ECF filing system, which electronically served a copy to all counsel of record.

/s/ Alexander Y. Magera

*Counsel for the Commonwealth of Kentucky
ex rel. Attorney General Daniel Cameron*

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REBUTTAL DECLARATION OF MICHAEL K. LAIDLAW, M.D.

I, Michael K. Laidlaw, M.D., hereby declare and state as follows:

1. I am over 18 years of age, and of sound mind, and competent to testify.
2. I have been retained by counsel as an expert in connection with the above captioned litigation.
3. The opinions expressed in this declaration are my own and do not express the views of opinions of others.
4. I have actual knowledge of the matters stated herein.
5. If I am called to testify in this matter, I would do so truthfully and based on my expert opinion.

6. My background and qualifications, review of prior testimony, and compensation have been previously provided in my expert report. The curriculum vita attached to my initial expert report remains true, correct and up to date.
7. I previously submitted an Expert Declaration in the above-captioned litigation (Doc. 47-10). After the filing of my declaration, the plaintiffs retained two new experts who rendered opinions critical of the opinions expressed in my declaration.
8. I have reviewed the declarations of Kenneth Goodman, PhD, FACMI, FACE, and Dan H. Karasic, M.D.
9. In preparing this rebuttal report, I have relied on my training and years of research and clinical experience, as set out in my curriculum vitae attached to this rebuttal report as Exhibit A and on the materials listed therein; the materials listed in the bibliography attached to my original report; and the additional materials listed in the supplemental bibliography attached to this rebuttal report.
10. I reserve the right to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including because of new scientific research or publications or in response to statements and issues that may arise in my area of expertise. I may also further supplement these opinions in response to information

produced by Plaintiffs in discovery and in response to additional information from Plaintiffs' designated experts.

11. I submit this rebuttal declaration to respond to expert declarations of Drs. Dan Karasic and Kenneth Goodman.

12. Dr. Karasic states that "[g]ender dysphoria is a psychiatric diagnosis." (Karasic decl, par 58). We have no disagreement in that regard. The contention is with the etiology and treatment. In another declaration submitted in litigation pending in Alabama, Dr. Karasic stated that "[g]ender identity, which has biological bases, is not subject to voluntary change." (Karasic AL decl, par 19). However, he provides no examples of objective biological tests to confirm the gender identity (such as blood tests, genetic markers, imaging). There is no definitive evidence that gender identity is anything other than a psychological concept. Psychological conditions are treated with either psychological therapeutic measures or sometimes with psychiatric medications.

13. What is unique about gender affirmative therapy is that hormones are being administered to alter the human body based on a psychological condition and not a physical condition. Even more than that, hormones are being administered in high doses to produce the endocrine conditions of hyperandrogenism and hyperestrogenemia, which are conditions that endocrinologists normally would treat or resolve. Also GnRHa (puberty blocking medications) are given to cause the endocrine condition

hypogonadotropic hypogonadism which results in deficiencies of sex hormones and stops normal adolescent pubertal development.

14. Gender identity is not immutable. Dr. Karasic contends that gender identity is not subject to “voluntary change” (Karasic decl, par 58). But this statement does not equate to gender identity being immutable or something that has biological permanence. For example, JM1’s mother, Jane Doe 1, describes JM1 as a “transgender boy” who “came out’ as transgender when he was about eleven”. However, Jane Doe 1 goes on to say that JM1 also came out “as nonbinary a few years previous, and as a lesbian before that” (Jane Doe 1 decl, par 5). If gender identity were immutable, then such change would not occur.

15. Dr. Karasic seems to take issue with the interpretation of objective facts from Dhejne’s data (Karasic decl, par 73). The Dhejne team made extensive use of numerous Swedish database registries and examined data from 324 patients in Sweden over 30 years who had taken opposite sex hormones and had undergone sex reassignment surgery (Dhejne et al., 2011). They used population controls matched by birth year, birth sex, and reassigned sex. When followed out beyond ten years, the sex-reassigned group had nineteen times the rate of completed suicides and nearly three times the rate of all-cause mortality and inpatient psychiatric care compared to the general population of Sweden. He does not dispute these facts.

16. Dr. Karasic instead appeals to the author’s subjective opinion about the data. He states that “Dr. Dhejne has repeatedly stated that interpretations like the

above [that gender affirming treatments increase harm] are incorrect” (Karasic decl, par 73).

17. A principle of reviewing scientific studies is an awareness that a study provides 1) methods of how the study is conducted and 2) data resulting from the conduct of the study. Both of these sections of the study are intended to contain objective facts such that 1) anyone can interpret the data and critique the methods to obtain such data, and 2) anyone can repeat the study under similar conditions to see if they obtain similar results.
18. The study author’s opinions (even Dhejne’s) are simply that, opinions. They are a subjective interpretation of the data. They are subject to particular biases, as are anyone’s opinions, and must be argued with supporting facts. In other words, the study’s author’s statement doesn’t amount to science or preclude anyone else from forming a different or even opposite opinion.
19. Dr. Karasic does not challenge that a comprehensive study of 30 years’ worth of data showed remarkably high rates of completed suicide, psychiatric hospitalization and mortality compared to the socially liberal population of Sweden. The suicide rate was 19 times the general population. While Dr. Karasic is correct in asserting that it is not known if gender affirmative therapy (GAT) increased these risks, it also is not proven that GAT decreased the risks either.
20. What we are left with are statistics that show very high rates of morbidity and mortality in spite of both hormonal and surgical interventions that are

intended to prevent such occurrences. Given that suicide occurs in the context of psychological conditions, particularly depression, in my opinion, it is more likely that untreated psychological comorbidities, possibly compounded by negative psychological effects of high dose hormones and post operative regret, led to higher rates of completed suicide as compared to the general population (Hirschfeld and Russel, 1997).

21. Dr. Karasic refers to another paper, Kaltiala et al., 2020, to defend GAT. In this study they report that “35% of the trans youth needed treatment for suicidality/self-harm before starting hormones, versus 4% after initiation of gender affirming hormones” (Kaltiala, et al., 2020). Although these hormonal treatments apparently were associated with reduced suicidality and psychiatric conditions like anxiety in the short term, one cannot rule out a short-term benefit tied directly to the side effects of hormones. For example, one of the side effects of testosterone used at high doses is euphoria (Hall, 2005). One can also not rule out the placebo effect generated by changes in physical appearance (such as beard growth on natal females or increase breast tissue in natal males) that may make the young person transiently satisfied that they are modifying their appearance to match their perceived gender identity. Following subjects over a considerably longer time frame (as in Dhejne et al. 2011) is needed to know the ultimate effect on parameters such as suicidality and psychiatric pathology. In fact, even though some specific treatments for psychiatric care decreased in Kaltiala et al. in the short term,

the overall need for psychiatric care did not decrease and a number of problems did not improve such as conduct problems, psychotic symptoms, substance abuse, ADHD, eating disorders, and autism related problems.

22. In contrast to Kaltiala et al. findings, the study of gender incongruence by Hisle-Gorman looked at 3,754 youths who received Military Health System care between 2010 and 2018 (Hisle-Gorman et al., 2021). They were tracked for a considerably longer period of time, an average of 8.5 years. They found that gender incongruent “youth were more likely to have a mental health diagnosis and have a greater number of total mental health diagnoses” compared to siblings who did not have gender incongruence. They also found that the 963 gender incongruent youths who were followed before and after starting GAT did not experience significant improvement in mental health and that psychotropic medication use increased. Suicidality was shown to be worse in this group after starting GAT.

23. Although Dr. Karasic describes the tragic deaths of two young people as “very concerning” in the recent Chen et al. study of opposite sex hormones for GAT, he does not provide any insights as to what psychological conditions may have predisposed these young people to take their own lives (Karasic decl, par 75). Dr. Karasic displays a lack of intellectual curiosity about the patients’ predisposing mental health problems, course of mental health treatment, psychotropic medications taken, the levels of hormones at the time of death,

autopsy reports and so forth. All this pertinent medical history would be useful in understanding how this experimental therapy is affecting young people.

24. There are multiple deficiencies in the Chen study:

- 1) the study was not randomized and had no control group;
- 2) 315 participants were enrolled, however data was not available for almost one fifth of all possible observations;
- 3) neither the types of mental health conditions the subjects had at baseline and follow-up, nor the mental health care (if any) research subjects received preceding and during the study time frame were reported, nor were psychotropic medications and dosages reported;
- 4) neither the subjects dosages of opposite sex hormones, nor the serum levels of these hormones, nor post-mortem hormone levels were reported;
- 5) the findings from the deceased subjects autopsy reports were not reported.

25. The necessary inclusion of suicidality measures in Kaltiala and Hisle-Gorman studies discussed earlier, exposes a serious flaw within the Chen paper, insofar as there was no comparison of either suicidality or self-harm before starting opposite sex hormones versus after in the Chen et al. study. The principal investigator of the study, Dr. Johanna Olson-Kennedy, submitted a grant application to the NIH in 2014 and was awarded \$5.7 million over 5 years in part to answer just that question (NIH RePorter, 2023). In the section entitled “Specific aims”, the authors wrote: “Hypothesis 2a: Patients treated with cross-sex hormones will exhibit decreased symptoms of gender dysphoria,

depression, anxiety, trauma symptoms, self-injury, and suicidality and increased body esteem and quality of life over time.” (Olson-Kennedy grant application, 2014, p. 163 (attached as Exhibit B)) (emphasis mine).

26. Astonishingly, even after the suicide deaths of two young people and observing that “[t]he most common adverse event was suicidal ideation” in 11 subjects, there was no comparison of suicidal ideation before and after receiving hormones (Chen et al., 2023). This is important short-term information needed to help determine if hormones in GAT provide relief to young people who at baseline have a high risk of suicidal ideation. To not provide such information, particularly when it was one of the study’s primary aims, is negligent on the part of the study authors. Dr. Karasic provides no defense of such negligence.
27. We can better understand the problem with the Chen et al. study by looking at a hypothetical example. Imagine a small study of 315 patients taking medication to control high blood pressure. Results showed that 11 subjects were sent to the hospital with worsening hypertension and two subjects died of hypertensive crises. But because the other subjects showed a modest improvement in headaches, the negative results of the study were ignored and glossed over. If such a study were to take place, further investigations would need to be done to see if such a medication should be pulled from the market, and any clinician who read the study would use either abundant caution in prescribing such a medication or stop from prescribing such a treatment altogether.

28. With respect to general suicide risk in mental healthcare, psychotherapy has been successfully employed to reduce such risk. As an example, in a systematic review of the effectiveness of psychotherapy on suicidal outcomes, it was found that in twenty-three assessed studies, there was a “decrease of suicidal ideation rates in 95.7% of them.” (Méndez-Bustos et al., 2019) With respect to suicide attempts, seventeen studies were examined and 88.2% showed positive (good) results (Id.). Given that a high percentage of adolescents have comorbid psychiatric conditions in association with gender dysphoria, a reasonable approach to treating these young people (and avoiding the harms of hormones and surgeries) would be to employ such psychotherapeutic approaches.

29. The WPATH SOC 8 discusses psychotherapy, but it is primarily in the context of gender identity affirmation. The SOC 8 does not appear to consider that psychotherapy may alleviate gender identity conflict. The root of the problem likely stems from the belief that gender identity is an immutable characteristic of the human person, rather than a psychological concept which describes an internal feeling that is subject to change and in fact will change for most gender dysphoric children once they reach adulthood (Laidlaw decl, par 212-215).

30. Therefore, although WPATH SOC 8 discusses psychotherapy, it is primarily in the context of supporting the young person’s perceived gender identity. For example, SOC 8 states that the aims of such interventions are to “foster protective social and emotional coping skills to promote resilience in the face of potential negative reactions to the child’s gender identity, expressions”,

“collaboratively problem-solve social challenges to reduce gender minority stress”, and “provide the child an opportunity to further understand their internal gender experiences” (WPATH SOC 8, p. S73). None of the aims discuss helping the young person to accept their own bodies and avoid the harmful interventions of puberty blockers, cross sex hormones and surgeries which are not capable of truly changing one’s sex to conform to one’s perceived gender identity.

31. In fact, the aim of psychological interventions in SOC 8 is rather to instill the WPATH’s own particular advocacy model onto both parents and children by educating them only about gender affirmation: “Parents/caregivers and their children should also have the opportunity to develop knowledge about gender development and gender literacy through age-appropriate psychoeducation. Gender literacy involves understanding the distinctions between sex designated at birth, gender identity, and gender expression, including the ways in which these three factors uniquely come together for a child... As a child gains gender literacy, they may view their developing gender identity and gender expression more positively, promoting resilience and self-esteem, and diminishing risk of shame in the face of negative messages from the environment.” (WPATH SOC 8, p. S74) (citations omitted).

32. Likewise as children approach puberty the aim of SOC 8’s psychological interventions are primarily to promote gender affirmation: “expert consensus and developmental psychological literature generally support the notion that

open communication with children about their bodies and preparation for physiological changes of puberty, combined with gender-affirming acceptance, will promote resilience and help to foster positive sexuality as a child matures into adolescence” (WPATH SOC 8, p. S75) (citations omitted).

33. Dr. Karasic takes issue with my use of examples of supraphysiologic doses of hormones, as occurs in anabolic steroid abuse, as a physiologic model for the high doses of testosterone used in GAT. As I stated in my original report, the doses of testosterone recommended in the Endocrine Society Guidelines (ESG) are such as to bring natal female testosterone levels ultimately into the male range. As an example, the guideline for natal female adults recommends testosterone levels in the 320-1000 ng/dL range (Hembree et al., 2017). This is on the order of 6 to 100 times normal female levels which are around 10-50 ng/dL. This is akin to what happens in male anabolic steroid abuse.

34. Dr. Karasic cites the study Pope et. al 2000 which was a “randomized, placebo-controlled, double-blind crossover study of the psychiatric effects of intramuscular testosterone cypionate treatment” in which men were given supraphysiologic doses of testosterone over 6 weeks beginning at 150 mg of testosterone per week and gradually increased to 600 mg per week (Pope et al., 2000). I have prescribed hundreds of prescriptions of testosterone for adult men. The typical dose is about 100 mg per week. This means that, in the Pope study, men were given 1.5 times the typical dose to start and the dosage was gradually increased to 6 times the typical dose.

35. There are two important items to note. First, this six-week study gradually brought testosterone doses to 6 times the average male dose, however GAT by the ESG potentially brings female testosterone levels significantly higher, to at as much as 100 times the normal female reference range. And this occurs for a prolonged (even indefinite) amount of time. Second, although Dr. Karasic is correct that the majority of men in this short duration study (84%) “exhibited minimal psychiatric effects”, he leaves out the critical finding that “12% became mildly hypomanic, and 4% became markedly hypomanic,” and that “[t]he results showed that testosterone significantly increased mania, elevating scores on multiple instruments; that the drug was liked and sought after; and that aggression increased” (Pope et al., 2000). It stands to reason that higher doses, beyond 6 times the normal, over much longer periods of time, as occurs in GAT, would produce higher rates of symptomatology and that effects would be even more severe than that described in the Pope study. In fact, to raise a person’s testosterone level to the upper extreme described by the ESG (one hundred times above normal) is described by Pope et al. as not possible in a scientific study because “ethically [one] cannot use highly supraphysiologic doses of AAS [anabolic androgenic steroids like testosterone] approaching those used illicitly.” (Id.)

36. It is ironic that Dr. Karasic labels my admonition to discontinue GAT for the plaintiffs as unethical when he in fact did not declare that he even read the plaintiffs’ declarations (Karasic, par 92, par 18-24). In fact, he endorses a

blanket recommendation to continue GAT without knowing anything at all about the plaintiffs' individual cases.

37. The guidelines in both SOC 8 and the ESG make it abundantly clear that a psychosocial evaluation is required when young people present with gender identity concerns and are considering GAT.

38. SOC 8 states, "6.3- We recommend health care professionals working with gender diverse adolescents undertake a comprehensive biopsychosocial assessment of adolescents who present with gender identity-related concerns and seek medical/surgical transition-related care, and that this be accomplished in a collaborative and supportive manner." (SOC 8, p. S48).

39. The ESG state, "Because of the psychological vulnerability of many individuals with GD/gender incongruence, it is important that mental health care is available before, during, and sometimes also after transitioning. For children and adolescents, an MHP [mental health professional] who has training/experience in child and adolescent gender development (as well as child and adolescent psychopathology) should make the diagnosis, because assessing GD/gender incongruence in children and adolescents is often extremely complex." (Hembree et al., 2017).

40. It follows then that a clinician evaluating any of the plaintiffs' cases would want to see medical record evidence of a comprehensive mental health evaluation and follow-up mental health appointments before offering an

endorsement of GAT with its potential for irreversible bodily changes and high risk of harms.

41. Nor is my position favoring psychological interventions as the primary therapeutic approach for adolescents with gender incongruence an outlier position. On June 8, 2023 NIH England issued interim guidance for their specialty service for children and young people with gender dysphoria (NIH England, 2023). They wrote, “The primary intervention for children and young people who are assessed as suitable for The Service is psychosocial (including psychoeducation) and psychological support and intervention; the main objective is to alleviate distress associated with gender incongruence and promote the individual’s global functioning and wellbeing. (NIH England, section 5) (emphasis mine). They clearly do not follow the GAT model espoused by WPATH and the ESG. In fact, neither WPATH’s name nor their faulty attempt at an evidence review is mentioned once within the NIH document, nor is the ESG mentioned.

42. Furthermore, NIH England has a provision for the child or young person who has started puberty blocking medications outside of NIH protocols that involves stopping the blockers for a period of time to “allow baseline investigations to be undertaken by The Service.” (NIH England, p. 17) If a patient is then considered appropriate to be restarted on treatment, then blockers must be resumed under a strict protocol including “the requirement for the patient to be enrolled in the formal research protocol.” (Id.)

43. Dr. Goodman states that “GRADE is a widely accepted framework for developing and presenting summaries of medical evidence and establishing clinical recommendations and guidelines based thereon.” (Goodman decl, par 15). We are in general agreement on that point. To expand on this further, the GRADE system, if used properly, “offers a transparent and structured process for developing and presenting evidence summaries for systematic reviews and guidelines in health care”. It also provides “clinicians and patients with a guide to using” the developed “recommendations in clinical practice” through a “transparent and structured process” (Guyatt et al, 2021).

44. In so doing the GRADE system offers a method to rate both 1) the quality of evidence and 2) the strength of recommendations in clinical guidelines which are the two key components of the grading system. (Id.)

45. Dr. Goodman quotes from GRADE guidelines stating, “The GRADE approach uses four categories to rate the quality of evidence: ‘high,’ ‘moderate,’ ‘low,’ and ‘very low’.” (Goodman decl par 15, citing Balshem et al., 2011). In that, we are also in agreement. Dr. Goodman continues, “These rankings reflect the extent of confidence that the estimates of an effect are adequate to support a particular clinical decision or recommendation.” (Goodman decl, par 15).

46. With respect to the strength of the recommendations, the GRADE guidelines state that there are two types, “Recommendations are characterized as [1] strong or [2] weak... according to the quality of the supporting evidence and

the balance between desirable and undesirable consequences of the alternative management options.”

47. One can see that for any recommendations there are four possible categories of evidence quality, and these may be combined with two different strengths of recommendation (strong or weak). This means that for any recommendation there are eight possible combinations of evidence quality combined with recommendation strength.

48. The problem is that SOC 8 did not follow the GRADE approach in ranking the quality of evidence independently from the strength of a recommendation. Instead, any recommendation of “we recommend” (a strong recommendation) was automatically assigned as “high” quality evidence. Likewise, any recommendation of “we suggest” (a weak recommendation) was automatically assigned as having “weaknesses of the evidence base” (Coleman et al., S250). The end effect is that instead of eight possible outcomes for any recommendation, there were only two: a strong recommendation paired with “high” quality evidence (as determined by WPATH) and a weak recommendation based on low quality evidence. This is not anything like what Dr. Goodman describes. Furthermore, the GRADE authors specifically recommend against such modifications.¹

¹ From the GRADE guidelines: “Some organizations have used modified versions of the GRADE approach. We recommend against such modifications because the elements of the GRADE process are interlinked because modifications may confuse some users of evidence summaries and guidelines, and because such changes compromise the goal of a single system with which clinicians, policy makers, and patients can become familiar” (Guyatt et al., 2011).

49. Because SOC 8 did not rank the quality of evidence based on four rankings, they modified GRADE and subverted its utility in providing a transparent method for understanding the authors' evaluation of the evidence. Not only that but they perverted the recommendation system by leading readers to believe that every strong recommendation has been backed by high quality evidence.

50. Dr. Goodman states that “[t]hese [GRADE evidence quality] rankings reflect the extent of confidence that the estimates of an effect are adequate to support a particular clinical decision or recommendation.” (Goodman decl, par 15). While his statement may be true for a properly constructed GRADE-based guideline, the SOC 8 is not one. The SOC 8 modification of GRADE has instead provided clinicians with no confidence at all that “the estimates of an effect are adequate to support any of their recommendations”. Quite the contrary, clinicians should understand that SOC 8 represents a set of recommendations designed by an advocacy group which wishes to both promote GAT as widely as possible and to obscure the low to no quality evidence base of GAT.

51. Furthermore, we know that such high-quality evidence that SOC 8 reports to have found with respect to GAT in adolescents, generally does not exist because Dr. Goodman tells us so: “The clinical practice guidelines for treatment of gender dysphoria in minors are consistent with guidelines developed in other areas of pediatric care where many interventions are supported solely or

SOC 8 also failed to provide evidence profile tables which should include “an explicit judgment of each factor that determines the quality of evidence for each outcome” (Id.)

primarily by evidence regarded as less than high quality.” (Goodman decl, par 20).

52. Interestingly, although Dr. Goodman appears to acknowledge that recommendations for GAT are based on low quality evidence (as opposed to SOC 8’s reported findings), his response is to say in effect that it’s not a problem because the bulk of pediatric recommendations are based on similar low quality evidence.

53. But GRADE does not simply advise basing recommendations as strong or weak solely on the quality of supporting evidence but also “the balance between desirable and undesirable consequences of the alternative management options.” (Id.)

54. It is precisely the study of alternatives such as psychotherapy and watching and waiting with psychosocial support which is missing from both SOC8 and ESG in their advocacy of GAT to the apparent exclusion of other treatments. For example, other medical systems, such as NHS England now view psychotherapy as the primary treatment modality for youth gender incongruence as I discussed previously.

55. Furthermore, unlike some other recommendations for adolescent GAT, the Endocrine Society’s Guideline does not include any grading of the quality of evidence specifically for their justification of laboratory ranges of testosterone or estrogen or for adolescent mastectomy or other surgeries (Hembree, 2017).

56. Dr. Goodman takes issue with my contention that GAT is experimental (Goodman decl, FN 5). Gender Affirmative Therapy is experimental for at least two reasons: 1) The individual hormonal agents have not been subject to rigorous experimentation for their particular use cases, which I will explain; and

2) the spectrum of care of GAT encompassing some combination of social transition, puberty blocking medication, opposite sex hormones, and surgeries of the reproductive system, breasts and face has never been properly tested in randomized controlled studies.

57. With respect to the first contention regarding the use case of hormones consider the FDA approval of testosterone. The necessary testing of testosterone for FDA approval has only been performed on males.² Why is this important? Because the human species is sexually dimorphic. There is increasing recognition that the way that males and females react to medications are different because of inherent differences in physiology even down to the cellular level (Deegan and Engal, 2019; Barus et al., 2022). However, one does not need to go down to the cellular level to understand that the normal reference ranges for testosterone in males and females are vastly different. As I have discussed the adult male testosterone levels are approximately 300-1000 ng/dL, and the female levels are much lower at 10-50 ng/dL. Therefore, not only has testosterone not undergone rigorous testing by

² As evidenced by the fact that indications exist only for males (Actavis Pharma, 2018)

the FDA for females (as it was tested specifically male hormone replacement), but it has also never been tested at the exceedingly high levels recommended in GAT. This is an experimental use of testosterone that has never had equivalent FDA trials for approval and certainly not at the extremely high doses recommended by the Endocrine Society and WPATH.

58. Secondly, GAT advocates for multiple types of interventions employed over time including social transition (which is a psychological intervention), puberty blockers (to stop normal adolescent pubertal development), opposite sex hormones (at supraphysiologic dosages), and surgeries of the genitals and breasts. The grouping of one of these interventions with one or more of the others constitutes an experimental therapy group which has undergone no rigorous testing. Even a simply designed study comparing a group of gender dysphoric youth who are randomized to receive GAT compared to another group randomized to psychotherapy has to my knowledge never been attempted.

59. The primary ethical principle in medicine is *primum non nocere*, translated as “first, do no harm”. Discontinuing the practice of GAT for children and adolescents is consistent with that principle for the following reasons:

1) there is considerable uncertainty in ascertaining which person, who has a gender identity mismatch as a child, will continue have this mismatch as an adult because a large majority with this mismatch will in fact desist by adulthood;

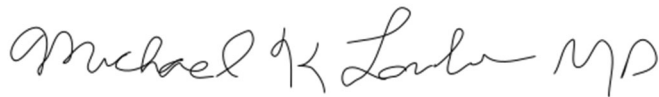
2) blocking normal puberty and administering supraphysiologic doses of hormones causes considerable harms to the body as I have described in my original declaration;

3) therefore, young people will be physically and psychologically harmed by GAT as dictated by the ESG and WPATH;

4) the most appropriate interventions for this age group are psychological.

So, I therefore provide my opinion, in good conscience, that GAT for children and adolescents be discontinued and that the young people with gender dysphoria instead receive the care of competent psychiatrists and psychologists who do not follow the GAT model.

I declare, pursuant to 28 U.S.C. § 1746, under penalty of perjury that the foregoing is true and correct.

A handwritten signature in cursive script that reads "Michael K Laidlaw MD".

Michael K. Laidlaw, MD

June 26, 2023

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trial. Arch Gen Psychiatry. 2000 Feb;57(2):133-40; discussion 155-6. doi: 10.1001/archpsyc.57.2.133. PMID: 10665615.

EXHIBIT A

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Endocrinology, Diabetes, and Metabolism
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EMPLOYMENT

2006-Present Michael K Laidlaw, MD Inc. Private Practice – Endocrinology, Diabetes, and Metabolism. Rocklin, CA

EDUCATION

2004-2006 Endocrinology and Metabolism Fellowship - Los Angeles County/University of Southern California Keck School of Medicine
2001-2004 Internal Medicine Residency - Los Angeles County/University of Southern California Keck School of Medicine
1997-2001 University of Southern California Keck School of Medicine
Doctor of Medicine Degree May 2001
1990-1997 San Jose State University
Bachelor of Science Degree in Biology with a concentration in Molecular Biology, Cum Laude

LICENSURE

California Medical License – Physician and Surgeon: # A81060: Nov 6, 2002. Exp 5/31/2024.

PROFESSIONAL AFFILIATIONS

Endocrine Society 2006-2023
American Board of Internal Medicine - Endocrinology, Diabetes, and Metabolism – 2006
American Board of Internal Medicine - Internal Medicine - 2005
National Board of Physicians and Surgeons - Endocrinology, Diabetes, & Metabolism 2018-2024
National Board of Physicians and Surgeons - Internal Medicine 2018-2024

HONORS AND RECOGNITION

2010 Endocrine Society Harold Vigersky Practicing Physician Travel Award
2004-2005 Vice President - Joint Council of Interns and Residents
2002-2004 Council Member – Joint Council of Interns and Residents
1996, 1997 Dean's Scholar, San Jose State University
1995 Golden Key National Honor Society

RESEARCH AND PUBLICATIONS

- 2021 Publication – Michael K Laidlaw, Andre Van Mol, Quentin Van Meter, Jeffrey E Hansen. Letter to the Editor from M Laidlaw et al.: “Erythrocytosis in a Large Cohort of Trans Men Using Testosterone: A Long-Term Follow-Up Study on Prevalence, Determinants, and Exposure Years.” The Journal of Clinical Endocrinology & Metabolism, Volume 106, Issue 12, December 2021, Pages e5275–e5276, <https://doi.org/10.1210/clinem/dgab514>
- 2020 Publication – Van Mol A, Laidlaw MK, Grossman M, McHugh P. "Correction: Transgender Surgery Provides No Mental Health Benefit." Public Discourse, 13 Sep 2020. <https://www.thepublicdiscourse.com/2020/09/71296/>
- 2020 Publication – VanMol A, Laidlaw MK, Grossman M, McHugh P.. "Gender-affirmation surgery conclusion lacks evidence (letter)". Am J Psychiatry 2020; 177:765–766.
- 2020 Publication – Laidlaw MK. "The Pediatric Endocrine Society’s Statement on Puberty Blockers Isn’t Just Deceptive. It’s Dangerous." Public Discourse. 13 Jan 2020. <https://www.thepublicdiscourse.com/2020/01/59422/>
- 2019 Speech to the U.K. House of Lords – Laidlaw MK. “Medical Harms Associated with the Hormonal and Surgical Therapy of Child and Adolescent Gender Dysphoria”. Parliament, London, U.K. 15 May 2019.
- 2019 Publication – Laidlaw MK, Cretella M, Donovan K. "The Right to Best Care for Children Does Not Include the Right to Medical Transition". The American Journal of Bioethics. Volume 19. Published online 20 Feb 2019. 75-77. <https://doi.org/10.1080/15265161.2018.1557288>
- 2018 Publication – Laidlaw MK, Van Meter QL, Hruz PW, Van Mol A, Malone WJ. Letter to the Editor: “Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline.” The Journal of Clinical Endocrinology & Metabolism, Volume 104, Issue 3, 1 March 2019, Pages 686–687, <https://doi.org/10.1210/jc.2018-01925> (first published on-line 11/2018)
- 2018 Publication – Laidlaw MK. "The Gender Identity Phantom". gdworkinggroup.org, 24 Oct 2018. <http://gdworkinggroup.org/2018/10/24/the-gender-identity-phantom/>
- 2018 Publication – Laidlaw MK. “Gender Dysphoria and Children: An Endocrinologist’s Evaluation of ‘I am Jazz’”. Public Discourse, 5 Apr 2018. <https://www.thepublicdiscourse.com/2018/04/21220/>
- 2013 Abstract – Poster presentation Jun 2013. Endocrine Society Annual Meeting. A 12 Step Program for the Treatment of Type 2 Diabetes and Obesity.

- 2011 Abstract – Poster presentation Nov 2011. Journal of Diabetes Science and Technology. A Video Game Teaching Tool for the Prevention of Type 2 Diabetes and Obesity in Children and Young Adults.
- 2011 Abstract – Journal of Diabetes Science and Technology. A Web-Based Clinical Software Tool to Assist in Meeting Diabetes Guidelines and Documenting Patient Encounters.
- 2008 Abstract - Accepted to Endocrine Society Annual Meeting 2008. Hypercalcemia with an elevated 1,25 dihydroxy-Vitamin D level and low PTH due to granulomatous disease.
- 2005-2006 Clinical Research - University of Southern California – Utility of Thyroid Ultrasound in the Detection of Thyroid Cancer. Study involving the use of color flow/power doppler ultrasound and ultrasound guided biopsy to detect the recurrence of thyroid cancer in patients with total thyroidectomies.
- 2005 Certification - Certification in Diagnostic Thyroid Ultrasound and Biopsy – AACE 2005
- 2003 Certification - Understanding the Fundamentals: Responsibilities and Requirements for the Protection of Human Subjects in Research. University of Southern California. 29 Sep 2003 - 29 Sep 2006
- 2002-2005 Clinical Research - University of Southern California - Determining the Role of Magnesium in Osteoporosis. Study involved collecting and analyzing patient data related to patient characteristics, laboratory results, bone mineral density exams, nutrition analysis, and genetic analysis in order to determine a link between magnesium deficiency and osteoporosis.
- 1996 Research Assistant - San Jose State University - Role of the suprachiasmatic nucleus pacemaker in antelope ground squirrels.
- 1995-1996 Research Assistant - San Jose State University/NASA. Acoustic tolerance test and paste diet study for space shuttle rats.

EXPERT WITNESS WORK AND AMICUS BRIEFS

- 2023 Expert Witness – Laidlaw MK. United States District Court for the Northern District of Oklahoma. PETER POE, et al., Plaintiffs, v. GENTNER DRUMMOND, et al., Defendants. Case No. 23-cv-00177-JFH-SH.
- 2023 Expert Witness – Laidlaw MK. United States District Court for the Western District of Kentucky. JANE DOE 1, et al., Plaintiffs, v. WILLIAM C. THORNBURY, JR., MD, in his official capacity as the President of the Kentucky Board of Medical Licensure, et al., Defendants. Case No. 3:23-cv-00230-DJH.
- 2023 Expert Witness – Laidlaw MK. United States District Court for the Middle District of Tennessee Nashville Division. L.W., by and through her parents and next friends, Samantha Williams and Brian Wil-liams, et al. Plaintiffs, v.

JONATHAN SKRMETTI, in his official capacity as the Tennessee Attorney General and Reporter, et al., Defendants. Case No. 3:23-cv-00376.

- 2022-2023 Expert Witness – Laidlaw MK. United States District Court for the Northern District of Florida Tallahassee Division. AUGUST DEKKER, et al., Plaintiffs, v. SIMONE MARSTILLER, et al., Defendants. Case No. 4:22-cv-00325-RHMAF. Report October 3, 2022. Testified in court October 12, 2022. Expert Report February 17, 2023. Rebuttal March 10, 2023.
- 2022 Expert Witness Report – Laidlaw MK. C. P., by and through his parents, Patricia Pritchard and Nolle Pritchard; and PATRICIA PRITCHARD, Plaintiff, vs. BLUE CROSS BLUE SHIELD OF ILLINOIS, Defendants. Case No. 3:20-cv-06145-RJB
- 2022 Expert Witness Report – Laidlaw MK. DISTRICT COURT OF TRAVIS COUNTY, TEXAS 459th JUDICIAL DISTRICT. PFLAG, INC., ET AL., Plaintiffs, v. GREG ABBOTT, ET AL., Defendants. NO. D-1-GN-22-002569. 3 July 2022.
- 2022 Expert Witness Report #2 – Laidlaw MK. United States District Court for the District of Arizona. DH and John Doe, Plaintiffs, vs. Jami Snyder, Director of the Arizona Health Care Cost Containment System, in her official capacity, Defendant. Case No. 4:20-cv-00335-SHR. 24 Jun 2022. (Sealed under Protective Order).
- 2022 Expert Witness Report – Laidlaw MK. United States District Court for the Middle District of Alabama Northern Division. REV. PAUL A. EKNES-TUCKER, et al., Plaintiffs, v. KAY IVEY, in her official capacity as Governor of Alabama, et al., Defendants. Civil Action No. 2:22-cv-184-LCB. 2 May 2022.
- 2021 Brief of Amicus Curiae – Bursch, John J., McCaleb, Gary S., Van Meter, Quentin L., Laidlaw, Michael K., Van Mol, Andre, Hansen, Jeffrey E. Brief of Amicus Curiae. United States Court of Appeals for the Eighth Circuit. DYLAN BRANDT, et al., Plaintiffs-Appellees v. LESLIE RUTLEDGE, in her official capacity as the Arkansas Attorney General, et. al. Defendants-Appellants. 23 Nov 2021.
- 2021 Expert Witness – JULIANA PAOLI v. JOSEPH HUDSON et al. heard in THE SUPERIOR COURT OF THE STATE OF CALIFORNIA, COUNTY OF TULARE. CASE NO. 279126. 2021.
- 2021 Brief of Amicus Curiae – Bursch, John J., McCaleb, Gary S., Grossman, Miriam, Van Meter, Quentin L., Laidlaw, Michael K., Van Mol, Andre, Hansen, Jeffrey E. Brief of Amicus Curiae. United States Court of Appeals for the Eleventh Circuit. DREW ADAMS, Plaintiffs-Appellee v. SCHOOL BOARD OF ST. JOHNS COUNTY, FLORIDA, et. al. Defendants-Appellant. 26 Oct 2021.
- 2020 Expert Witness Affidavit 1 & 2 – Laidlaw MK. Supreme Court of British Columbia. File No. S2011599, Vancouver Registry. Between A.M. Plaintiff and Dr. F and Daniel McKee Defendants. 11/23/20 & 11/25/20.

- 2020 Brief of Amicus Curiae – Wenger, Randal L., McCaleb, Gary S., Grossman, Miriam, Laidlaw, Michael K., McCaleb, Gary S., Van Meter, Quentin L., Van Mol, Andre. Brief of Amicus Curiae. United States Court of Appeals for the Ninth Circuit. LINDSAY HECOX and JANE DOE, with her next friends Jean Doe and John Doe, Plaintiffs-Appellees v. BRADLEY LITTLE, in his official capacity as Governor of the State of Idaho, et. al. Defendant-Appellant. 19 Nov 2020
- 2020 Expert Witness Report – Laidlaw MK. United States District Court for the District of Arizona. DH and John Doe, Plaintiffs, vs. Jami Snyder, Director of the Arizona Health Care Cost Containment System, in her official capacity, Defendant. Case No. 4:20-cv-00335-SHR. 27 Sep 2020.
- 2019 Expert Witness Affidavit – Laidlaw MK. Court of Appeal File No. CA45940, Vancouver Registry. B.C. Supreme Court File No. E190334, between A.B. Respondent/Claimant, and C.D. Appellant/Respondent, and E.F. Respondent/Respondent. 24 Jun 2019.
- 2018 Brief of Amicus Curiae – Alliance Defending Freedom, Campbell, James A., Grossman, Miriam, Laidlaw, Michael K., McCaleb, Gary S., Van Meter, Quentin L., Van Mol, Andre. Brief of Amicus Curiae. United States Court of Appeals for the Eleventh Circuit. Drew Adams, Plaintiff-Appellee, v. School Board of St. Johns County, Florida, Defendant-Appellant. 12/27/2018.

PERSONAL

Languages: Conversational Spanish, French

Tutor: Biochemistry, computer science, High School mentor

Computers: Ruby, Rails, Javascript, C++, C, Java, and HTML programming

EXHIBIT B

PI: Olson, Johanna	Title: The Impact of Early Medical Treatment in Transgender Youth	
Received: 11/05/2014	FOA: PA12-111	Council: 05/2015
Competition ID: FORMS-C	FOA Title: RESEARCH ON THE HEALTH OF LGBTI POPULATIONS [R01]	
1 R01 HD082554-01A1	Dual: MH	Accession Number: 3760705
IPF: 1520001	Organization: CHILDREN'S HOSPITAL OF LOS ANGELES	
Former Number:	Department: Pediatrics	
IRG/SRG: CHHD-M	AIDS: N	Expedited: N
Subtotal Direct Costs (excludes consortium F&A) Year 1: 665,323 Year 2: 887,474 Year 3: 906,553 Year 4: 922,172 Year 5: 926,973	Animals: N Humans: Y Clinical Trial: N Current HS Code: 30 HESC: N	New Investigator: N Early Stage Investigator: N
<i>Senior/Key Personnel:</i>	<i>Organization:</i>	<i>Role Category:</i>
Johanna Olson M.D.	Children's Hospital Los Angeles	PD/PI
Marvin Belzer M.D.	Children's Hospital Los Angeles	Co-Investigator
Leslie Clark Ph.D	Children's Hospital Los Angeles	Co-Investigator
Sheree Schrager Ph.D	Children's Hospital Los Angeles	Co-Investigator
Norman Spack M.D.	Boston Children's Hospital	MPI
Daniel Shumer M.D.	Boston Children's Hospital	Co-Investigator
Amy Tishelman Ph.D	Boston Children's Hospital	Co-Investigator
Robert Garofalo M.D.	Lurie Children's Hospital of Chicago	MPI
Lisa Simons M.D.	Lurie Children's Hospital of Chicago	Co-Investigator
Marco Hidalgo Ph.D	Lurie Children's Hospital of Chicago	Co-Investigator
Scott Leibowitz M.D.	Lurie Children's Hospital of Chicago	Co-Investigator
Courtney Finlayson M.D.	Lurie Children's Hospital of Chicago	Co-Investigator
Joel Frader M.D.	Lurie Children's Hospital of Chicago	Other (Specify)-Ethicist
Stephen Rosenthal M.D.	University of California at San Francisco	MPI
Diane Ehrensaft Ph.D	University of California at San Francisco	Co-Investigator
David Glidden Ph.D	University of California at San Francisco	Co-Investigator

Appendices

Appx b consent permission assent forms, Appx c early pubertal cohort tg specific measures, Appx d late pubertal cohort tg specific measures, Appx a wpath and endocrine society letter

APPLICATION FOR FEDERAL ASSISTANCE

SF 424 (R&R)

3. DATE RECEIVED BY STATE		State Application Identifier	
1. TYPE OF SUBMISSION*		4.a. Federal Identifier HD082554	
☐ Pre-application ☐ Application ☒ Changed/Corrected Application		b. Agency Routing Number	
2. DATE SUBMITTED	Application Identifier	c. Previous Grants.gov Tracking Number Grant11778312	
5. APPLICANT INFORMATION Organizational DUNS*: 052277936			
Legal Name*: Children's Hospital Los Angeles Department: Sponsored Projects Office Division: The Saban Research Institute Street1*: 4650 Sunset Blvd., MS #97 Street2: City*: Los Angeles County: Los Angeles State*: CA: California Province: Country*: USA: UNITED STATES ZIP / Postal Code*: 90027-6062			
Person to be contacted on matters involving this application Prefix: Ms. First Name*: Samantha Middle Name: J. Last Name*: Westcott Suffix: Position/Title: Manager, Sponsored Projects Team Street1*: 4650 Sunset Boulevard, Mailstop #97 Street2: City*: Los Angeles County: State*: CA: California Province: Country*: USA: UNITED STATES ZIP / Postal Code*: 90027-6062 Phone Number*: 323-361-4110 Fax Number: 323-361-8054 Email: chlaawards@chla.usc.edu			
6. EMPLOYER IDENTIFICATION NUMBER (EIN) or (TIN)*		95-1690977	
7. TYPE OF APPLICANT*		M: Nonprofit with 501C3 IRS Status (Other than Institution of Higher Education)	
Other (Specify): ☒ Small Business Organization Type ☐ Women Owned ☐ Socially and Economically Disadvantaged			
8. TYPE OF APPLICATION*		If Revision, mark appropriate box(es).	
☐ New ☒ Resubmission ☐ Renewal ☐ Continuation ☐ Revision		☐ A. Increase Award ☐ B. Decrease Award ☐ C. Increase Duration ☐ D. Decrease Duration ☐ E. Other (specify) :	
Is this application being submitted to other agencies?*		☐ Yes ☒ No What other Agencies?	
9. NAME OF FEDERAL AGENCY* National Institutes of Health		10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER TITLE:	
11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT* The Impact of Early Medical Treatment in Transgender Youth			
12. PROPOSED PROJECT		13. CONGRESSIONAL DISTRICTS OF APPLICANT	
Start Date* Ending Date* 07/01/2015 06/30/2020		CA-028	

SF 424 (R&R) APPLICATION FOR FEDERAL ASSISTANCE

Page 2

14. PROJECT DIRECTOR/PRINCIPAL INVESTIGATOR CONTACT INFORMATION

Prefix: Dr. First Name*: Johanna Middle Name: Last Name*: Olson Suffix: M.D.
 Position/Title: Assistant Professor
 Organization Name*: Children's Hospital Los Angeles
 Department: Pediatrics
 Division: Adolescent Medicine
 Street1*: 4650 Sunset Blvd., MS#2
 Street2:
 City*: Los Angeles
 County: Los Angeles
 State*: CA: California
 Province:
 Country*: USA: UNITED STATES
 ZIP / Postal Code*: 90027-6062
 Phone Number*: 323-361-3128 Fax Number: 323-913-3614 Email*: jolson@chla.usc.edu

15. ESTIMATED PROJECT FUNDING

a. Total Federal Funds Requested* \$7,030,432.00
 b. Total Non-Federal Funds* \$0.00
 c. Total Federal & Non-Federal Funds* \$7,030,432.00
 d. Estimated Program Income* \$0.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?*

a. YES ☐ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
 DATE:
 b. NO ☒ PROGRAM IS NOT COVERED BY E.O. 12372; OR
☐ PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances * and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

☒ I agree*

* The list of certifications and assurances, or an Internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

18. SFLL or OTHER EXPLANATORY DOCUMENTATION

File Name:

19. AUTHORIZED REPRESENTATIVE

Prefix: Ms. First Name*: Samantha Middle Name: J. Last Name*: Westcott Suffix:
 Position/Title*: Manager, Sponsored Projects Team
 Organization Name*: Children's Hospital Los Angeles
 Department: Sponsored Projects Office
 Division: The Saban Research Institute
 Street1*: 4650 Sunset Blvd., MS #97
 Street2:
 City*: Los Angeles
 County: Los Angeles
 State*: CA: California
 Province:
 Country*: USA: UNITED STATES
 ZIP / Postal Code*: 90027-6062
 Phone Number*: 323-361-4110 Fax Number: 323-361-8054 Email*: chlaawards@chla.usc.edu

Signature of Authorized Representative*

Riza Natividad-Awai

Date Signed*

11/05/2014

20. PRE-APPLICATION File Name:

21. COVER LETTER ATTACHMENT File Name:1235-Cover Letter.pdf

424 R&R and PHS-398 Specific Table Of Contents

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Appendix

Number of Attachments in Appendix: 4

Project/Performance Site Location(s)

Project/Performance Site Primary Location

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Children's Hospital Los Angeles
Duns Number: 0522779360000
Street1*: 4650 Sunset Blvd., MS #97
Street2:
City*: Los Angeles
County: Los Angeles
State*: CA: California
Province:
Country*: USA: UNITED STATES
Zip / Postal Code*: 90027-6062
Project/Performance Site Congressional District*: CA-028

Project/Performance Site Location 1

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Boston Children's Hospital
DUNS Number: 0765937220000
Street1*: 300 Longwood Avenue
Street2:
City*: Boston
County: Suffolk
State*: MA: Massachusetts
Province:
Country*: USA: UNITED STATES
Zip / Postal Code*: 02115-5724
Project/Performance Site Congressional District*: MA-007

Project/Performance Site Location 2

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Lurie Children's Hospital of Chicago
DUNS Number: 0744387550000
Street1*: 225 East Chicago Avenue
Street2:
City*: Chicago
County: Cook County
State*: IL: Illinois
Province:
Country*: USA: UNITED STATES
Zip / Postal Code*: 60614-3393
Project/Performance Site Congressional District*: IL-005

Project/Performance Site Location 3

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: University of California at San Francisco
DUNS Number: 0948783370000
Street1*: 400 Parnassus Ave, Second Floor
Street2:
City*: San Francisco
County: San Francisco
State*: CA: California
Province:
Country*: USA: UNITED STATES
Zip / Postal Code*: 94143-0296
Project/Performance Site Congressional District*: CA-012

File Name

Additional Location(s)

RESEARCH & RELATED Other Project Information

1. Are Human Subjects Involved?* ☒ Yes ☐ No	
1.a. If YES to Human Subjects	
Is the Project Exempt from Federal regulations? ☐ Yes ☒ No	
If YES, check appropriate exemption number: — 1 — 2 — 3 — 4 — 5 — 6	
If NO, is the IRB review Pending? ☒ Yes ☐ No	
IRB Approval Date:	
Human Subject Assurance Number 00001914	
2. Are Vertebrate Animals Used?* ☐ Yes ☒ No	
2.a. If YES to Vertebrate Animals	
Is the IACUC review Pending? ☐ Yes ☐ No	
IACUC Approval Date:	
Animal Welfare Assurance Number	
3. Is proprietary/privileged information included in the application?* ☐ Yes ☒ No	
4.a. Does this project have an actual or potential impact - positive or negative - on the environment?* ☐ Yes ☒ No	
4.b. If yes, please explain:	
4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No	
4.d. If yes, please explain:	
5. Is the research performance site designated, or eligible to be designated, as a historic place?* ☐ Yes ☒ No	
5.a. If yes, please explain:	
6. Does this project involve activities outside the United States or partnership with international collaborators?* ☐ Yes ☒ No	
6.a. If yes, identify countries:	
6.b. Optional Explanation:	
7. Project Summary/Abstract*	Filename 1236-Project Summary Abstract.pdf
8. Project Narrative*	1237-Project Narrative.pdf
9. Bibliography & References Cited	1238-References.pdf
10. Facilities & Other Resources	1239-Facilities and Resources.pdf
11. Equipment	
12. Other Attachments	1240-LargeGrantWaiverApproval.pdf

PROJECT SUMMARY/ABSTRACT

Transgender children and adolescents are a poorly understood and a distinctly understudied population in the United States. The limited available data suggest that transgender youth who are gender dysphoric (persistently distressed about gender incongruence) are at increased risk for negative mental and medical health outcomes including anxiety, depression, HIV acquisition, suicide, and substance use compared to their peers. Therefore, medical intervention is aimed at alleviating gender dysphoria and ameliorating potential negative outcomes. Existing strategies for treating transgender youth depend on the developmental stage at which these youth present for care. For those transgender youth that present for care in the early stages of pubertal development, treatment is aimed at suppressing their endogenous puberty in order to avoid the development of undesired secondary sexual characteristics that intensify the distress associated with gender incongruence. For those youth in later stages of puberty, the goal of treatment is to use cross-sex hormones in order to induce the development of desired secondary sexual characteristics that bring the body into closer alignment with the youth's internal sense of gender. In 2011, the Institute of Medicine emphasized a clear need for the development of evidence-based and rigorous research aimed at understanding the health implications of hormone use in transgender individuals. The proposed study networks four academic sites around the country (Children's Hospital Los Angeles/University of Southern California, Boston Children's Hospital, Lurie Children's Hospital of Chicago/Northwestern University, and University of California San Francisco) with dedicated transgender youth clinics to conduct a multi-site observational study examining the physiological and psychosocial outcomes of existing medical treatment protocols for transgender youth with gender dysphoria. The study will include two groups of gender dysphoric youth: one in the earliest stages of pubertal development to assess the impact of puberty suppression, and one in later stages of pubertal development to assess the impact of cross-sex hormones for gender transition. Specifically, in the earlier pubertal cohort (Tanner stages 2-3; n=80) the study will evaluate the impact on mental health, psychological well-being, physiologic parameters and bone health as well as document safety of GnRH agonists administered for puberty suppression. In the later pubertal cohort (Tanner stages 4-5; n=200) the study will evaluate the impact on mental health, psychological well-being, and metabolic/physiologic parameters, as well as document the safety of cross-sex hormones administered for gender transition. This multi-center study will be the first in the U.S. to evaluate longitudinal outcomes of medical treatment for transgender youth and will provide essential evidence-based data on the physiological and psychosocial effects and safety of treatments currently used for transgender youth.

PROJECT NARRATIVE

The Institute of Medicine's 2011 report "The Health of Lesbian, Gay, Bisexual, and Transgender (LGBT) People," calls for the development of evidence-based and rigorous research aimed at understanding the health implications of hormone use in transgender individuals. The goal of the proposed research is to conduct a multi-site observational study examining the physiological and psychosocial outcomes of existing medical treatment protocols for gender dysphoria in two cohorts: early pubertal and late pubertal transgender youth.

FACILITIES AND RESOURCES

Children's Hospital Los Angeles

Children's Hospital Los Angeles (CHLA)

Located at 4650 Sunset Boulevard in the Hollywood/Wilshire Health District of Service Planning Area 4 of Los Angeles County, Children's Hospital Los Angeles (CHLA) is the largest pediatric facility in the western United States and is the principal pediatric center in Southern California. Founded in 1901, CHLA has been dedicated to serving the needs of critically and chronically ill children with compassion, dedication, and excellence. As a community-based medical center with an international impact, CHLA provides specialized, multi-disciplinary treatment and prevention services for more than 104,000 children and youth each year. Guided by a century of medical care, its mission is "to create hope and build healthier futures." In 1932, CHLA and the University of Southern California (USC) signed an affiliation agreement that made CHLA the principal pediatric teaching facility for the Keck School of Medicine. Full time physicians (176) at CHLA have appointments in the Departments of Pediatrics, Surgery, Pathology, Neurology, and Radiology at the Keck School of Medicine, while the full time basic science faculty (36) holds appointments in the Departments of Biochemistry, Cell Biology, Microbiology, and Physiology.

CHLA is unique because few pediatric hospitals in the world combine a freestanding clinical center with an on-campus research facility – the CHLA Saban Research Institute, one of the largest and most productive pediatric research facilities in the United States. This link offers the ability within a single institution to rapidly move discoveries from the research laboratories to the bedside of children suffering from complex and life-threatening disease. Dedicated to advancing the limits of knowledge, the researchers at CHLA seek solutions for childhood cancer, infections, genetic disease, development disabilities, and healthcare success.

Saban Research Institute at CHLA

Established in 1992, the Saban Research Institute is the umbrella under which research is conducted at CHLA. Its mission is to foster an environment of scientific excellence where research will lead to discoveries involving the molecular and clinical understanding of childhood development and implementation of procedures to diagnose, treat, and prevent pediatric diseases and promote child health. The Saban Research Institute ranks fifth among 26 major pediatric research institutions across the country, and principal investigators utilize more than 150,000-square-feet of research space in the Saban Research Building, the Smith Research Tower, within the hospital, and in the community. Researchers are involved in more than 200 active studies and projects, many of which are funded by NIH. The Research Institute and faculty are affiliated with USC, and at any given time, more than 120 graduate students and post-doctoral fellows are in training.

The Clinical Investigation Center and the Clinical Trials Unit support clinical research while the Office of Research Advancement and Administration provides centralized support for all aspects of research. The Department of Research Administration provides a centralized administrative system that ensures that research is maintained at the highest quality and safety levels. It includes sponsored-research award administration, the Office of Technology Transfer, the Office of Operation and Facilities, and satellite offices for Human Resources, Accounts Payable, Purchasing, and Marketing Communications.

Extramural funding for research totaled \$37,412,898 at the end of FY 2009, including \$23,345,012 in NIH funding. These research activities reflect a very significant expansion of the Saban Research Institute over the past years. Extramural funding has increased from \$20.5 MM (total costs) in 1998 to \$37.4 MM in 2009, while NIH funding increased from \$10.3 MM in 1998 to \$26 MM in 2009. At the same time, institutional intramural funding for research has increased by 1.8 fold, research restricted endowments by 2.5 fold, and research space by 1.6 fold with the completion of the Saban Research Building in June of 2003, reflecting the strong commitment of CHLA to research. As a result, the Research Institute has been able to actively recruit new research faculty members, increasing the pool of extramurally funded investigators from 69 in 1998 to 100 in 2009. A total of 186 extramurally funded research projects existed in 2009.

Research education is an integral part of the mission of CHLA and a top priority of the Saban Research Institute. The Research Institute has developed a comprehensive approach to training and contributing to the development of the research careers of individuals at various levels of their education. The Saban Research

Institute established in 1997 a High School Outreach Program with Marlborough High School supporting four or five students per year to perform research projects under the guidance of individual principal investigators at the Research Institute. The Saban Research Institute funds graduate students who are enrolled in a USC-based graduate program and are working in the laboratory of a principal investigator located at CHLA. An intramural Research Career Development Fellowship (CHLA-RCDF) was established in 1995 that supports the research and promotes the careers of postdoctoral fellows. The Saban Research Institute also established a mentored Research Career Development Award (RCDA) modeled after the NIH RCDA program that supports the academic careers of junior faculty at CHLA. A total of \$2.1 MM has been allocated to support these research education efforts since 1995.

Division of Adolescent and Young Adult Medicine

The proposed research will be conducted under the auspices of the Division of Adolescent and Young Adult Medicine at CHLA and the direction of Principal Investigator Dr. Johanna Olson. The Division of Adolescent and Young Adult Medicine (DAYAM), established in 1963, is known for its innovative service models, leadership in community collaboration, training programs in adolescent health care, and research regarding adolescent issues. The mission of the DAYAM is to advance the health and well-being of adolescents by integrating health care, health promotion and prevention, youth development, professional education, advocacy, and research and evaluation in response to the needs of young people and their communities.

Since the early 1980s, the DAYAM has had a special focus on at-risk youth and has developed model programs to serve targeted groups of vulnerable youth. These youth include homeless and runaway youth, substance-using youth, youth with mental health problems, youth at-risk for and infected with HIV, pregnant teens and teenparents, transgender youth, and youth at-risk for violence. Through these programs, the DAYAM provides health care, mental health and substance abuse treatment, case management, and health education services to over 7,000 youth annually. The DAYAM operates an outpatient clinic for youth ages 10 to 24, and through a mental health contract from the County, provides individual, family, group, and multi-family treatment to over 300 youth annually. Since 1982, the DAYAM has established itself as a leader in needs assessments, epidemiologic and ethnographic studies, and research and evaluation projects focused on adolescents and young adults from diverse communities throughout Los Angeles County and the Southern California region.

The DAYAM has an accredited adolescent medicine fellowship program, one of only two in California, and an American Psychological Association accredited pre-doctoral internship and post-doctoral fellowship program. In fiscal year 2013-14, the DAYAM's total operating budget exceeded 13.9 million dollars of which 3.3 million dollars were dedicated to a wide range of research activities, including research associated with the national Adolescent Trials Network; the development and evaluation of an evidence-based HIV/AIDS prevention intervention that is being adapted for application with youth from middle and high schools and with emerging adults; epidemiologic and intervention research related to substance use and misuse; service needs assessment of homeless and runaway youth; and evaluation research related to DAYAM programs.

The DAYAM's key programs for this research study are:

- **The Center for Transyouth Health and Development** – The Center for Transyouth Health and Development promotes healthy futures for transyouth by providing services, research, training, and capacity building that are developmentally informed, affirmative, compassionate, and holistic for gender non-conforming children and transyouth. The principal investigator (Dr. Olson) is the Medical Director for the Center. The Center includes the nation's largest pediatric clinic for transgender youth and gender non-conforming children. The Center also houses the DAYAM's mental health, health education, research, and capacity building assistance focused on transgender youth and children.
- **The Research and Evaluation Program** – The Research and Evaluation Program conducts mixed and single-method epidemiologic and evaluation research related to issues affecting the health and well-being of adolescents and young adults. Past and current research foci include, but are not limited to, substance use and misuse, HIV/AIDS, reproductive health, relationship violence, transition of youth with chronic illness and special needs to adult care, and service needs of disenfranchised or marginalized youth. The Research and Evaluation Program also develops and conducts research for each DAYAM service program to support the development and document the impact of our prevention and intervention programs and increase our understanding of the youth utilizing DAYAM services.

Additional programs include:

- **The Teenage and Young Adult Health Center** – health care for youth with complex medical and psychosocial problems. In addition to the health care services offered through the health center, we provide health care at the Los Angeles and Long Beach Job Corps and in community clinics;
- **The Risk Reduction Program** – specialty health care, mental health counseling, case management, and support for HIV positive youth and HIV prevention services for transgender youth and young gay men. The DAYAM has a harm reduction program for transgender youth offering hormone treatment, case management, mental health services, and youth leadership opportunities. The Risk Reduction Program participates in a multicenter research network funded by the NIH to explore promising behavioral and therapeutic interventions for HIV-infected and at-risk adolescents;
- **The Behavioral Health Program** – mental health services for youth 12-21 including assessment; individual, family, and group counseling; and case management services funded by Medi-Cal and under the auspice of the Department of Mental Health;
- **The High Risk Youth Program** – health care, mental health counseling, case management and support for homeless youth. The project is a member of the six agency Hollywood Homeless Youth Partnership and the countywide LA Coalition to End Youth Homelessness.
- **Adolescent Transition Clinic** – in collaboration with CHLA sub-specialty clinics, the Adolescent Transition Team caters to teens and young adults with special health issues and their families to facilitate transition into adulthood and adult healthcare. Provides comprehensive, individualized mental, physical, and social evaluation and planning that emphasizes empowering each young adult to take control of his/her own health issues to ensure successful transition. Tools include health passports, interactive web programs, financial counseling, individual therapy, and peer support.
- **The Gang Reduction/Youth Development Program** – violence prevention services for youth 10-15 years old and their families in the Cypress Park/Glassell Park areas, focused on keeping youth away from gangs, supporting families, and building healthy communities;
- **Project NATEEN** – case management and support for pregnant and parenting teens and young adults with an on-site school, a special employment and life skills program for young parents, and specialized services for young fathers; and
- **The Substance Abuse Prevention and Treatment** – no-cost outpatient services for youth ages 10-25. Services include walk-in screenings and short and long-term individual, family, and group sessions.

Division Director Marvin Belzer, MD, serves as the Principal Investigator of all Los Angeles-based research related to the Adolescent Trials Network (ATN), an NIH-supported national consortium of 14 academic institutions throughout the US. The ATN has put forth a broad research agenda calling for “interventional studies, conducted collaboratively and independently when needed, aimed at the primary, secondary, and tertiary prevention of HIV infection in pre-adolescents, adolescents, and young adults at the trial units in the network.” CHLA, the only ATN site on the West Coast, has been engaged in dozens of ATN studies over the past 15 years as a primary or collaborative research site.

While the Division Director oversees all divisional activities, the DAYAM operates with a 20-member Management Team that includes the managers of each of the community based programs, medical directors, the Director of Behavioral Health, the Director of Research, the Fiscal Administrator, the Associate Director, and the Division Director. A seven person senior management team provides oversight for clinical, research, and training activities, as well as finance and administration, and includes the Director, Associate Director, Fiscal Administrator, Director of Research, and Director of Behavioral Health Services.

Community, Health Outcomes, and Intervention Research (CHOIR) Program

Many of the DAYAM’s faculty are part of the institution-wide Community, Health Outcomes, and Intervention Research (CHOIR) Program of the Saban Research Institute, an assembly of faculty and other CHLA investigators conducting health services/outcomes, social, behavioral, and community-focused research to promote the health and wellbeing of children, adolescents, and families. In an urban, densely populated area such as Los Angeles, there are numerous opportunities to reduce health disparities and address barriers to healthy living for children and adolescents. Our researchers seek to prevent illness, injury and reduce barriers to health care by conducting innovative research, implementing effective interventions, and working to ensure that all children and adolescents receive the high-quality healthcare that they need. Research plays a critical

role in understanding why some children are at greater risk for poorer health than others and how best to intervene to improve health and health outcomes. CHOIR members conduct research that is interdisciplinary, collaborative, cumulative, applied, and closely linked to policy and practice. Moreover, CHOIR's work emphasizes the importance of adopting a developmental framework that focuses attention on the differing needs, circumstances, and key transitions that children, adolescents, and young adults experience as they grow and develop. Whenever possible, CHOIR works closely with faculty and staff across the various Departments and Divisions at CHLA and USC to ensure that there are clear and tangible linkages among research, clinical care, and program development. Finally, considerable effort is made to disseminate the research findings widely and strategically to key stakeholder groups (e.g., federal, state, and local policy makers, health providers, advocacy groups, the media, and parents).

Members of the CHOIR program also participate in a range of formal and informal staff support, research, and technical training meetings convened on a regular basis. These include weekly staff meetings, regular and ongoing seminars convened by researchers who are conducting children's health services and behavioral and social science research as part of several funded research projects, and ongoing technical support and training meetings. Qualitative and quantitative researchers meet regularly to discuss their work, analytic approaches used for various types of research, and mathematical models that can be used and applied to advance our work.

Clinic

The clinical space for outpatient medical services is 3,314 square feet. Clinical space includes eight exam rooms, two laboratories for collection of lab specimens and a utility room containing storage for immunizations and lab collection materials. Access to radiologic services is located at the main campus of CHLA approximately one-half mile from the DAYAM.

Lab

The Department of Pathology and Laboratory Medicine at Children's Hospital Los Angeles provides a full array of laboratory services that draw on both established and state-of-the-art diagnostic techniques. The department, one of the most comprehensive pediatric pathology programs nationwide, is staffed by board-certified pediatric pathologists including several pathologists with sub-specialty expertise. The department directs the operations of the main Clinical Laboratory, Surgical Pathology, and Autopsy Service, as well as phlebotomy services, point-of-care testing, and a laboratory outreach program. In addition, the department is responsible for the Blood Bank, Blood Donor Programs, and Transfusion Medicine. The department's service functions are complemented by an active educational program, with a certified pediatric pathology residency program and a State of California certified education program for Clinical Laboratory Scientists, plus various learning opportunities for hospital and community physicians. The full-service Clinical Laboratory at Children's Hospital Los Angeles provides a broad spectrum of clinical chemistry analyses, including routine chemistry, therapeutic drug monitoring, thyroid testing, transplant immunosuppressive drug monitoring, qualitative drugs-of-abuse screening and blood gas analysis. The hematology laboratory has extensive experience in the diagnosis of a variety of hematological disorders and coagulationopathies. The histocompatibility laboratory supports the extensive programs in bone marrow and solid organ transplantation. Microbiology services are oriented to common pediatric infectious diseases as well as infections in immunocompromised patients. The Special Chemistry laboratory aids in the diagnosis and treatment of metabolic disorders. Many of these services are available around the clock, every day of the year. Special services to meet the needs of the hospital's pediatric population include a comprehensive cytogenetics laboratory (COG certified); catecholamine (vanillylmandelic acid and homovanillic acid) testing; and blood lead testing. Appropriate pediatric reference values are included with each laboratory report. The CHLA Laboratories are CLIA Certified, State of California Department of Public Health Licensed, College of American Pathologists Accredited, and hold other relevant certifications and accreditations. Our experienced staff is comprised of American Society for Clinical Pathology-certified technologists who are licensed by the State of California as Clinical Laboratory Scientists.

Computer

CHLA research investigators have access to research computing facilities at their workstations in their offices and at PC work stations in the Biostatistics lab located at CHLA. A computer lab is designated for data entry, management, and statistical support staff. The DAYAM and CHOIR provide statistical database, spreadsheet, word-processing, desktop publishing, accounting, and a variety of utility software programs to all platforms. E-mail and internet access is provided to all staff. In addition, the USC University Computing Services provides a

comprehensive computing environment to support instructional and research goals of the University and its affiliated campuses, including CHLA. Facilities and services include campus-wide networking, a variety of central host systems, public user rooms, and support for distributed systems, hardware maintenance, and user support services. It provides support for and access to departmental and shared campus computing resources, library information systems, and regional, national, and international information resources. USC utilizes the most up-to-date hardware equipment and supports a variety of communication and scientific hardware and software systems. CHLA is connected to USC's health sciences network. Every research faculty and staff member has a computer on his or her desk for database and statistical analysis, simulation, spreadsheet work, and text processing and has the capability to communicate electronically.

Office

CHLA is located in the Los Angeles community known as East Hollywood, approximately eight miles from the USC Health Sciences Campus and the Keck School of Medicine. The Co-Investigators and research staff will be located at the offices in the Division of Adolescent and Young Adult Medicine. The DAYAM's main administrative offices and comprehensive ambulatory health clinic, the Teenage and Young Adult Health Center, are located at 5000 Sunset Blvd., in a seven-story office building several blocks from the main campus of CHLA. The Division occupies 20,233 square feet on three floors. Offices are equipped with computers and broadband connections to the internet. There are two large multi-purpose rooms. One is 560 square feet on the fourth floor, and the other is 400 square feet on the fifth floor. Four smaller conference rooms are also available on the fourth and seventh floors.

Other

The Children's Hospital Health Sciences Library provides resources and services to CHLA staff. In addition to its collection of 3,500 print books and 170+ current print journal subscriptions, the library supplies access to over 200 electronic books and 2,000 electronic journals. Online access is available anywhere in the hospital or from remote computers that connect to the USC network. In addition to books and journals, the library also provides local and remote access to journal article databases including: Ovid MEDLINE, Ovid CINAHL, PubMed, PsycINFO, Science Citation Index, and Journal Citation Reports. The library's book and journal catalog, as well as that of the USC Norris Medical Library with whom the CHLA library has reciprocal borrowing agreements, is searchable online as well. Library services include mediated literature searching (searches conducted by a librarian), interlibrary loan borrowing (for obtaining materials that the CHLA library does not own), Ovid AutoAlerts (a current awareness service that delivers weekly citations that match a researcher's predefined topic), and HouseCalls (one-one-one, time-of-need meetings where the librarian can instruct users on a variety of topics including database searching, PowerPoint, or EndNote).

Ann & Robert H. Lurie Children's Hospital of Chicago

Ann & Robert H. Lurie Children's Hospital of Chicago (Lurie Children's; formerly known as Children's Memorial Hospital)

Located at new state of the art facilities at 225 E. Chicago Avenue in Chicago, is a 288 bed pediatric facility with over 1,100 pediatric/adolescent specialists focusing on 70 medical specialties. Lurie Children's provides care to more young people than any other Chicago-area hospital or medical center with more than 330,000 outpatient visits each year and more than 9,000 inpatient visits. Lurie is accredited by the Joint Commission on Accreditation of Healthcare Organization (JCAHO) and has a fully equipped ambulatory adolescent and HIV clinic located at its Clark/Deming building designed to be culturally appropriate for adolescents and young adults specifically. This adolescent specific space has four exam rooms, team meeting space, provider office space and touchdown areas for nursing and social work.

Laboratory

The clinical mass spectrometry lab is located in the Deming Building, room 3043 at Ann & Robert H. Lurie Children's Hospital of Chicago Outpatient Center. The clinical LC-MS/MS laboratory at Lurie Children's Hospital Outpatient Center is an 1100 ft² laboratory and is comprised of 5 rooms and is under the direct supervision of Shannon Haymond, Ph.D., a clinical and analytical chemist. The laboratory is CLIA-certified by the College of American Pathologists and performs testing for clinical and research purposes. The processes and procedures used for research samples during the pre-analytical, analytical, and post-analytical phases of

testing are aligned and compliant with CLIA quality regulations for clinical testing. It is staffed by a manager and four technologists/scientists with dedicated training in HPLC and tandem mass spectrometry, in addition to general clinical laboratory functions (e.g., specimen processing, lab information system function, electronic medical record function). The main lab area contains two HPLC, two UPLC, three tandem mass spectrometers (LC-MS/MS) and one graphite furnace atomic absorption spectrometer as well as an automated pipetting system, fume hoods, refrigerator, freezers, evaporators, flammable and acid/base storage cabinets, reverse osmosis water filtration system, sinks, lab benches, storage units, and five technologist PC workstations. Therefore, this room is used for glassware washing, sample preparation, analysis, and documentation. The second room is specifically separated from the main area of the lab to prevent contamination from carryover during analysis as it is used to precisely and accurately weigh the standard compounds used to prepare the calibrators, quality control materials, and other concentrated stock solutions required for the various assays. This room contains a lab bench, sink, freezer, a fume hood, flammable storage cabinet, and analytical balance with balance enclosure situated atop a marble table. The third room contains a nitrogen generator system that supplies high purity nitrogen gas required for operation of the mass spectrometers. It comprises an air compressor, storage tank, dryer unit, and nitrogen generator. Nitrogen cylinders that are connected to an automatic switch over system serve as backup in case of nitrogen generator system failure. The fourth room is the tank room containing 4 high purity argon cylinders to supply gas to the mass spectrometers and the atomic absorption spectrometer. Reagents and stock solutions are stored in -20° C freezers and/or refrigerator located throughout the lab rooms. Specimens are stored at -70° C until ready for analysis. Two dedicated -70° C freezers are located in the final room. Freezer and refrigerator temperatures are monitored and recorded by an automated building alarm system.

The clinical chemistry laboratory is located on the 8th floor of the Ann & Robert H. Lurie Children's Hospital of Chicago. It is included within the 'core' laboratory and is under the direct supervision of Shannon Haymond, Ph.D., a clinical and analytical chemist. This laboratory is CLIA-certified by the College of American Pathologists and performs testing for clinical and research purposes. The processes and procedures used for research samples during the pre-analytical, analytical, and post-analytical phases of testing are aligned and compliant with CLIA quality regulations for clinical testing. It is staffed by a manager, three coordinators and over 30 technologists/scientists to maintain the 24/7 operation necessary to support inpatient and outpatient activity in a tertiary care pediatric facility. Policies, procedures, training, and competency documents detailing research services are maintained by the laboratory management and a dedicated coordinator. All laboratory personnel responsible for shipping samples are IATA certified to package and ship biohazardous goods.

All entry points to the laboratory are secure and require badge access. The laboratory receipt and processing area has a window opening to the hallway where specimens are dropped off and picked up by couriers and hospital staff. Next to the window is the tube system where specimens are sent from inpatient units and onsite outpatient centers. The specimen processing areas equipped with all items (e.g. centrifuge, racks, decant tubes, label printer, workstation) necessary to prepare the specimen for testing, storage and shipment. The automated testing area includes Chemistry, Hematology, Coagulation, and Urinalysis. After necessary processing, samples are manually delivered to the performing instrument or laboratory. Specimens are tracked throughout the process using a barcoded specimen management system.

Hematology has three Advia 2120 analyzers. Coagulation has two BCS XP Coagulation analyzers. Urinalysis has two Clinitek Advantus analyzers. Chemistry has two Cobas 6000 analyzers and one Immulite 2000 analyzer and one Nova 8 analyzer. There is a manual testing bench for testing of specialty markers. The laboratory research services utilize two -70° C freezers, 4° C refrigerator, and room temperature storage space. Freezer and refrigerator temperatures are monitored and recorded by an automated building alarm system. Monthly reports are reviewed and approved by the manager of the laboratory receiving and processing area. In the event of failure, samples will be moved to a back-up -70° C freezer that is also monitored and maintained by the Department of Pathology and Laboratory Medicine. A departmental policy contains the details of the temperature monitoring, freezer maintenance, and backup plan.

Computer

Lurie Children's maintains excellent computer support staff for general faculty services (i.e. internet access, purchasing, hardware support) and provides staff with full access to the computer resources. PCs are

connected to secure Intranet, allowing for coordination of data entry and management. The PI will have full access to computers and support staff for technical assistance.

Office

Research personnel have adequate office space at Lurie Children's satellite office in the Uptown neighborhood on the north side of Chicago, housed in the Center for Gender, Sexuality and HIV Prevention. The Center has two floors in this location of approximately 4,800 square feet with five private and shared offices, 20 workstations, and six interview rooms on two floors. Each workstation or office is equipped with a computer networked to Lurie Children's main server.

Other

The Stanley Manne Children's Research Institute (CRI) is one of 13 interdisciplinary research centers and institutes of Northwestern University's Feinberg School of Medicine. All principal investigators at the institute are full-time faculty members at Feinberg. The institute is the research arm of Lurie Children's, which is the primary pediatric teaching hospital for the Feinberg School of Medicine. CRI is one of five institutions in the United States dedicated exclusively to pediatric research. The main laboratory of the institute is the Children's Research Center, a 71,000 square-foot facility that opened in 1995. A subdivision of CRI, the Child Health Research Core focuses on population-based research, including multidisciplinary investigations of children in their families and communities. As the research institute affiliated with Lurie Children's, CRI has a long history of successfully managing large federal research projects and is an ideal site for this project because it complements the 3 missions of the hospital: (1) providing culturally relevant child and adolescent health care services; (2) doing research into the prevention, causes and treatment of diseases that affect children and adolescents; and (3) advocacy for the general well-being of all children/adolescents.

The Gender, Sexuality and HIV Prevention Center, at Research Center of excellence at CHCRC, directed by Dr. Garofalo, examines a broad range of multidisciplinary academic subjects including sexual health, gender, sexuality, HIV prevention and health disparities affecting adolescent and young adult populations at risk of acquiring HIV. The Center works to make the lives of high-risk adolescent populations healthier through clinical care, education and evaluation as well as professional training, research and public health advocacy. These populations include but are not limited to homeless, lesbian, gay, bisexual, transgender, and questioning (LGBTQ) youth. The Center strives to partner with like-minded organizations creating an environment where clinicians, academics, and scientists can collaborate to design projects with public health significance. Currently the Center is involved as primary awardee or subcontractor on nine government-funded research projects and programs focusing on the Center's target populations.

Boston Children's Hospital

Boston Children's Hospital

Clinical Recruitment: Patients will be recruited from Boston Children's Hospital, a 395-bed comprehensive center for pediatric health care located at 300 Longwood Avenue in Boston, MA. Boston Children's Hospital has approximately 25,000 inpatient admissions per year and 500,000 annual outpatient visits to 240 specialized clinical programs.

Department of Medicine, Endocrine Division – GeMS Program

Boston Children's Hospital's Division of Endocrinology operates one of the nation's most extensive research programs focused on pediatric endocrine disorders with more than 50 basic science and clinical researchers. The research enterprise addresses an array of endocrine disorders that affect the health and quality of life of children.

The Gender Management (GeMS) Service of Boston Children's Hospital

In 2007, with the support of the hospital administration and clinical leadership of the Division of Endocrinology and the Dept of Pediatrics, the Gender Management Service was inaugurated to serve both transgender adolescents and children, and adolescents with Disorders of Sex Development. The Service was co-directed by the Divisions of Endocrinology under Dr. Spack and the Department of Urology under David Diamond, MD. GeMS was the first academic pediatric center in North America to run a program for the evaluation and

medical treatment of transgender youth and to train pediatric trainees, Endocrinology fellows from pediatric and internal medicine departments and Reproductive Endocrinologists-in-training. In the past six years, ten additional centers in the USA and Canada have initiated their own programs for trans youth, in many cases modeled after the GeMS Program and led by former trainees of ours.

In 2012, we reported on the demographics of the first 100 patients seen in GeMS. Similar to the Dutch, we had equal numbers of genotypic males and females, and 10% of our patients were in the autistic spectrum. Our patients were a bit older by almost two years: 14 years for genotypic males and 15 years for females. Despite being brought to us by both parents with a referral from a gender specialist-therapist following at least six months of counseling, 23% of our patients admitted self-harm prior to their first appointment and 9% had attempted suicide. This data was published in the March issue of Pediatrics in the first article ever written on transgender youth in that journal. From July 1, 2007 – October 31, 2014, GeMS clinic has seen 191 new patients, with a marked increase in the number offered GnRHa analogue since 2011, including genotypic males as genitally advanced as Tanner IV but with incomplete virilization of voice, Adam's apple, facial bones, and facial hair. The long-term benefits of the late intervention need to be ascertained. In addition to our testing psychologist and social worker, we have added a research psychologist, and two part-time endocrinologists. With the receipt of a recent hospital award, our social worker has organized seven Saturday conferences on transgenderism over two years for health professionals, parents, and school personnel. Dr. Spack was invited to eight "visiting professorships" and lectureships in North America in 2013 to strategize about the development of new academic clinics or to be involved in launching them.

Office

Dr. Spack has an office at the 333 Longwood Avenue hospital building across the street from the main hospital. Dr. Shumer has office space in 1 Autumn Street a Boston Children's Hospital office building; Dr. Tishelman has an office at 300 Longwood Avenue, the main building. Office space for study staff will be made available. Offices of faculty and staff at Boston Children's Hospital are fully equipped with telephones with conference calling capability, computers, laser printers, fax machines, scanner, and photocopiers. Locked filing cabinets are part of the office space.

Computer

All investigators have a computer with hospital networking and access to an extensive array of communication, word processing, spreadsheet, graphics, and statistical software. The computers are password protected and there are private servers for data storage. Microsoft Office software includes word processing, spreadsheets (Access, Excel), graphics, and PowerPoint. Statistical software such as SAS, STATA, and SPSS are supported by the hospital's research computing department. Children's Hospital's library supports Endnote citation manager and provides access to extensive resource for literature searches.

Other

- Clinical Research Center (CRC) Established in 1998, the Clinical Research Center (CRC) at Boston Children's Hospital is charged with the mission of providing infrastructure for the conduct of clinical research and methodological expertise to the diverse clinical research community. The goal of the CRC is to provide all investigators with access to expertise in clinical research methods, including biostatistics, epidemiology, survey methods, clinical trials methodology, database programming, data management, and quality control. The faculty and staff of the CRC include doctoral level biostatisticians, master's level biostatisticians, survey epidemiologists, project directors/clinical trials managers, informatics professionals, data managers/study coordinators and data entry staff. The network and computing infrastructure of the clinical research enterprise is supported by the Information Systems Department (ISD) and Research Computing facilities.
- The Children's Hospital library has an extensive collection of pediatric journals and books. The librarian, Alison Clapp, is also available to assist with literature searches and request interlibrary loans.
- The Francis A. Countway Library of Medicine is the largest medial library in the United States with more than 480,000 volumes, 5,000 periodicals, and complete computer searching capabilities.
- The Harvard Catalyst Program allows investigators to perform cutting edge human research and facilitates human interdisciplinary research across the broad spectrum of departments and research areas through

transformation and extension of the prior NIH-funded General Clinical Research Centers. Now referred to as the Clinical and Translational Study Unit, this resource incorporates dedicated inpatient and outpatient clinical research sites, clinical research personnel, and core laboratory services at the following participating Institutions: Beth Israel-Deaconess Medical Center, Brigham and Women's Hospital, Children's Hospital Boston, Massachusetts General Hospital, and Massachusetts Institute of Technology. Each provides resources available to assist investigators within as well as across these Institutions. Selected resources are available in space dedicated to the CTSU and off-site in other areas where patients are located such as the intensive care units, emergency departments, and ambulatory centers.

University of California San Francisco (UCSF) Benioff Children's Hospital

UCSF Benioff Children's Hospital

The University of California, San Francisco (UCSF) is one of the premier medical research institutions in the world. UCSF is consistently ranked as one of the top five medical schools in the US, and received more research funds from the NIH than any other public institution in 2010 (and ranked third among all institutions nationwide). The 107 acre Parnassus campus houses the schools of Medicine, Dentistry, Pharmacy and Nursing, the Graduate Division, the UCSF Medical Center, The UCSF Benioff Children's Hospital and the Langly-Porter Neuropsychiatric Institute. Additional campuses include the Mt. Zion Cancer Center, the Laurel Heights Campus and the new 43 acre Mission Bay Campus, with >1.3 million ft² of research space. There are >1200 principal investigators at UCSF, including 4 Nobel laureates, 42 members of the National Academy of Sciences and 75 members of the Institute of Medicine. Research funding for 2010 was ~\$950 million/year, including ~\$475 million from NIH: our Schools of Dentistry (\$20 M), Nursing (\$10 M), and Pharmacy (\$23 M) each ranked #1 nationally, and the School of Medicine (\$422 M) ranked #2 in NIH funding. Thus scientific excellence pervades the campus.

The UCSF Benioff Children's Hospital is presently a 'hospital-within-a-hospital' at UCSF and accounts for about 25% of the total clinical activity at UCSF Medical Center. In its present configuration within the UCSF Medical Center on Parnassus Avenue, the UCSF Benioff Children's Hospital has 183 beds (excluding well baby bassinets) in the following units: 67 inpatient medical and surgical beds, 16 intensive care beds, 8 cardiac intensive care beds, 7 bone marrow transplant beds, 5 Pediatric Clinical research Center beds, 51 intensive care nursery beds, 29 perinatal beds, and 12 well baby bassinets. In 2009-10 there were 5,147 (7,289 including OB) admissions to the Children's Hospital. The general pediatric clinics saw 40,590 visits in 2009-10 and the subspecialty clinics saw 19,714 visits; of these, 4,269 were in pediatric endocrinology.

A new 283-bed Children's, Women's and Cancer Hospital is now under construction on a 14.5 acre plot directly adjacent to the 43 acre UCSF Mission Bay Campus, and is scheduled to open in 2015. The Benioff Children's Hospital, assisted by a \$100 million gift from Marc and Lynne Benioff, will occupy 189 of these 283 beds. This new Children's Hospital will include state of the art facilities for translational research with faculty fully integrated into the Mission Bay research campus. Plans are also being developed for new ambulatory facilities along with space for faculty offices, which are also intended to accommodate anticipated expansion of laboratory, clinical, and translational research within the Department of Pediatrics. With the administrative offices of the Clinical and Translational Sciences Institute (CTSI) to be located adjacent to Mission Bay, and as UCSF continues with construction of the 43-acre Mission Bay campus, the Benioff Children's Hospital faculty and trainees will be uniquely positioned to take maximum advantage of the UCSF tradition of research collaboration.

The Clinical and Translational Sciences Institute (CTSI)

UCSF was one of the first twelve academic institutions selected to be part of the NIH's national clinical and translational science consortium, resulting in the creation of the Clinical and Translational Sciences Institute (CTSI). The consortium has a charter to transform clinical and translational research to ensure that the best health solutions get to patients as quickly as possible. The UCSF CTSI is a cross-campus institute. The four major goals of the CTSI are to: 1) enhance, support, and integrate existing training programs, thereby increasing the number and quality of programs, and providing trainees from diverse disciplines with the knowledge, skills, and motivation to make significant contributions to clinical and translational research; 2) enhance, support, and integrate existing infrastructure, thereby implementing changes required to foster the

design and conduct of a diverse spectrum of high quality, original clinical investigation and translational research: 3) enhance career development of faculty and trainees involved in clinical investigation and translational research by providing mentoring, providing opportunities to catalyze original research, and changing the academic culture to appropriately reward original, multidisciplinary, collaborative work; and 4) create a "virtual home" for clinical and translational researchers, thereby nurturing communication, encouraging collaboration, fostering original ideas, and catalyzing the successful conduct of clinical investigation and translational research.

The Pediatric Clinical Research Center (PCRC)

The UCSF PCRC, which was continuously funded by the NIH as a free standing Clinical Research Center from 1967 through 2006, is now part of the unified CTSI Clinical Research Centers (CCRC). The UCSF CTSI-PCRC provides resources for investigator initiated and industry-funded clinical research in a 2,000 sq ft facility located in Moffitt Hospital 6th floor. Available research space relevant to our proposed outpatient study includes 2 outpatient exam rooms, additional rooms for psychosocial assessments, and a conference room for discussion and consenting. The facility is in close proximity to Dr. Rosenthal's office in the Pediatric Endocrinology Divisional space. The PCRC currently provides infrastructure for 78 active principal investigators with 125 approved protocols, and in the past fiscal year had 2,159 outpatient visits and 1,510 inpatient days, with 40 resultant publications. All protocols for research conducted in the PCRC are approved both by the Committee on Human Research/UCSF and by the PCRC Advisory Committee. The PCRC is funded by an NIH National Center for Research Resources (NCRR) grant M01 RR01271. It is one of 77 General Clinical Research Centers nationwide and one of only nine discrete Pediatric Clinical Research Centers.

UCSF Child and Adolescent Gender Center (CAGC)

Under the directorship of Dr. Rosenthal, Professor of Pediatrics and Program Director for Pediatric Endocrinology, the UCSF Child and Adolescent Gender Center (CAGC) is one of the leading centers for the multidisciplinary care of transgender youth in the U.S., and serves as the Pediatric/Adolescent clinical arm of the widely recognized UCSF Center of Excellence for Transgender Health. Housed in the Division of Pediatric Endocrinology at the UCSF Benioff Children's Hospital, the CAGC offers patients and their families an integrated and coherent set of services – medical, mental health, educational, legal, and other forms of advocacy – across the span of childhood and young adulthood, empowering families to more effectively plan for the current and future needs of their gender diverse children. Through a unified network of multi-disciplinary professionals, the CAGC serves to develop and provide best clinical practices, create greater acceptance of gender diversity in schools and other institutions, provide advocacy, influence public policy, and conduct research aimed at enhancing the healthy development and wellbeing of transgender children, adolescents, and young adults. In collaboration with Dr. Rosenthal, the UCSF CAGC provides mental health support under the direction of Diane Ehrensaft, PhD, internationally known child psychologist/gender specialist and widely recognized author, and advocacy support by Gender Spectrum, one of the leading national advocacy groups for transgender youth. The CAGC also provides nursing, social work, and legal support. The CAGC is the only such multi-disciplinary gender program in northern California, attracting patients not only from California, but from as far away as Alaska, Florida, and Egypt. A steady increase in referrals (8-10/month) has led to a quadrupling of services in the last two years. Dr. Rosenthal is a nationally and internationally recognized expert in the care of transgender youth, having been appointed as the official representative of the Pediatric Endocrine Society (PES) to the Endocrine Society (ES)'s Clinical Practice Guidelines Revision Task Force for the Care of Transgender Individuals, and was appointed to the World Professional Association for Transgender Health (WPATH) Consensus committee for revisions of the International Classification of Disease (ICD)-11 pertaining to transgender youth and adults. He has authored 7 manuscripts on transgender youth, including a recently in-press "State-of-the-Art" invited review in *Pediatrics* and an in-press invited review in the "Approach to the patient" series in the *Journal of Clinical Endocrinology & Metabolism*. He has been an invited speaker on transgender youth at annual meetings of PES and ES, as well as at the most recent international meeting of WPATH, and has lectured on this subject at academic centers throughout the U.S. Dr. Rosenthal is also the recipient of the 2013 UCSF Chancellor Award for LGBT Leadership in recognition of his work with transgender youth. As a reflection of its national and international impact, the UCSF CAGC is being featured in an upcoming documentary on transgender youth produced by the British Broadcasting Corporation (BBC).

UCSF Transgender Center of Excellence

The UCSF Transgender Center of Excellence (CoE) was established in 2007 with the mission to increase access to comprehensive, effective, and affirming health care services for transgender and gender-variant communities. The CoE combines the unique strengths and resources of a nationally renowned training and capacity-building institution, the Pacific AIDS Education and Training Center (PAETC), and an internationally recognized leader in HIV prevention research, the Center for AIDS Prevention Studies (CAPS), both of which are housed at UCSF. The ultimate CoE goal is to improve the overall health and well-being of transgender individuals by developing and implementing programs in response to community-identified needs. The CoE is currently implementing several programs for the transgender community with support from the U.S. Centers for Disease Control and Prevention (CDC), the California Endowment, and the NIH. These programs include Coalitions in Action for Transgender Community Health (CATCH): Project to increase community capacity to engage in HIV prevention activities; the Transitions Project, focused on training and assistance for programs seeking to implement HIV prevention interventions in transgender communities, particularly transgender communities of color; and the Transgender Evaluation and Technical Assistance Center (TETAC), focused on enhancing engagement and retention in quality HIV care for transgender women of color.

The UCSF Transgender CoE is linked with a range of clinical services which complement the educational, research, and capacity building missions of the CoE. The UCSF CAGC serves as the Pediatric/Adolescent clinical arm of the UCSF Transgender CoE. The multidisciplinary CAGC is complemented by transgender-focused clinical services in adult primary care, psychiatry, gynecology and gynecologic surgery, and urology and urologic surgery.

Laboratory

The Sample Processing Lab/Pediatric Clinical Research Center is a BSL 1 certified lab, occupying 600sqft in the UCSF Benioff Children's Hospital, 6th floor. It is staffed by 2 FTE providing services to UCSF investigators in routine sample processing, shipping and short-term storage for up to 3 months. The PCRC is equipped with two -80 C freezers, centrifuge, liquid nitrogen storage, CO₂ incubator, and bio-safety cabinets. The PCRC currently supports 55 active investigators with routine processing of blood, urine and other body fluids. On average, the PCRC receives up to 25 specimens per day for routine and specialized processing. Routine processing consists of labeling and identification, processing, shipping, and short-term storage. As a short term storage facility the PCRC lab offers specimen labeling with bar-coded freezer labels and tracking in a sample database. Each freezer is alarmed and monitored by the UC police department who notify PCRC staff of temperature fluctuations. The daily freezer temperature range is monitored twice daily and recorded. In the event of freezer malfunction, samples are transferred to PCRC back up freezers on the Adult CRC sample processing lab for investigator retrieval until the non-functioning freezer is repaired.

Office

Dr. Rosenthal has a 150 square foot office in close proximity to his clinical space. His office has a new PC computer and laser printer. His research staff occupies space nearby, and all are within a very short walk of the clinical space. The Department of Pediatrics at UCSF provides general office machines, faxes, photocopying, and office supplies.

Computer

Dr. Rosenthal's computer has word-processing capability, data analysis, and graphics software, and is connected to the Internet through a campus-wide server. Additional Macintosh and PC computers are available in the Division of Pediatric Endocrinology for use by faculty and staff. Computer support personnel are available through the Information Technology Department of UCSF.

Other

The UCSF library, built in 1990, is both a traditional library, containing extensive collections of scientific books and journals relevant to the study of endocrinology, and is also a teaching and database management facility with The Interactive Learning Center and Center for Knowledge Management. The UCSF Digital Library (GALEN II) offers easy access to a broad collection of databases, reference resources, electronic journals and catalogues of local materials. Through the newly created California Digital Library, students, trainees, and faculty are able to view and request materials from the 10 UC campus libraries. The UCSF library has 900,000 volumes including 2,600 current subscriptions. In addition to the journals and books in the library, the

Interactive Learning Centers maintain facilities for computing with PC and Macintosh computers, printers, software, documentation, consulting support, and connections to the internet, and electronic classrooms. The Multimedia Development Lab provides hardware, software, and consulting support for development of curriculum-integrated, educational materials. Education and Consulting Services offers curriculum-integrated instruction and seminars that assist students, fellows, and faculty in the use of databases, internet, and personal file management software. The Center for Knowledge Management develops knowledge bases and on-line tools for the health sciences, pursues applied research projects, and serves as a laboratory for graduate students interested in using new technologies to solve important health sciences information problems.

ARA acceptance: The Impact of Early Medical Treatment in Transgender Youth

Gorham, Vanessa (NIH/NICHD) [E] [gorhamva@mail.nih.gov]

Sent: Tuesday, February 04, 2014 12:26 PM

To: Olson, Jo

Cc: Freund, Lisa (NIH/NICHD) [E] [freundl@mail.nih.gov]; Hayunga, Eugene G. (NIH/NICHD) [E] [ehayunga@mail.nih.gov]; Dupere, Sherry (NIH/NICHD) [E] [duperes@mail.nih.gov]; Ledu, Melani (NIH/NICHD) [E] [LeduM@niaid.nih.gov]; Nguyen, Hien (NIH/NICHD) [C] [nguyenhi@mail.nih.gov]; Underwood, Brenda (NIH/NICHD) [E] [underwob@mail.nih.gov]; Gorham, Vanessa (NIH/NICHD) [E] [gorhamva@mail.nih.gov]

Dear Dr. Olson:

I am pleased to inform you that the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD) has approved your request for a waiver of policy and will accept your large grant application for review. We have notified the NIH Center for Scientific Review (CSR) of this decision.

When you submit your application to CSR, please remember to indicate in a cover letter that you have contacted NICHD and that we have agreed to accept this application for review. You may include this letter as an attachment if you wish. Please also remember that all applications requesting \$500,000 or more in any budget year are required to include plans for addressing the NIH Policy on Data Sharing (see http://grants.nih.gov/grants/policy/data_sharing/)

Acceptance of your application for review does not guarantee that NICHD will fund the application or will fund it at the requested levels, regardless of the outcome of peer review.

Sincerely,

Vanessa Gorham

On behalf of

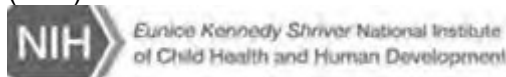
Eugene Hayunga, PhD

Director, OEP

The *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)

Office of Extramural Policy

(301) 435-6856



NIH is in the process of converting to electronic submission of grant applications through [Grants.gov](http://grants.gov), using the SF424 (Research and Related [R&M]) family of forms. Information on the transition plan and on registering for electronic submission is available at <http://grants.nih.gov/grants/guide/notice-files/NOT-OD-05-067.html>. Updates regarding the transition process are at <http://era.nih.gov/ElectronicReceipt>.

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RESEARCH & RELATED Senior/Key Person Profile (Expanded)

PROFILE - Project Director/Principal Investigator				
Prefix: Dr.	First Name*: Johanna	Middle Name	Last Name*: Olson	Suffix: M.D.
Position/Title*:	Assistant Professor			
Organization Name*:	Children's Hospital Los Angeles			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	4650 Sunset Blvd., MS#2			
Street2:				
City*:	Los Angeles			
County:	Los Angeles			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	90027-6062			
Phone Number*: 323-361-3128 Fax Number: 323-913-3614 E-Mail*: jolson@chla.usc.edu				
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: PD/PI		Other Project Role Category:		
Degree Type: MD		Degree Year: 1997		
Attach Biographical Sketch*: Attach Current & Pending Support:		File Name		
		1251-Olson Biosketch.pdf		

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Marvin	Middle Name Eric	Last Name*: Belzer	Suffix: M.D.
Position/Title*:	Professor			
Organization Name*:	Children's Hospital Los Angeles			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	4650 Sunset Blvd., MS#2			
Street2:				
City*:	Los Angeles			
County:	Los Angeles			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	90027-6062			
Phone Number*: 323-361-2112 Fax Number: 323-913-3614 E-Mail*: mbelzer@chla.usc.edu				
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: Co-Investigator		Other Project Role Category:		
Degree Type: MD		Degree Year: 1987		
Attach Biographical Sketch*: Attach Current & Pending Support:		File Name		
		1252-Belzer Biosketch.pdf		

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Leslie	Middle Name Frances	Last Name*: Clark	Suffix: Ph.D
Position/Title*:	Associate Professor			
Organization Name*:	Children's Hospital Los Angeles			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	4650 Sunset Blvd., MS#2			
Street2:				
City*:	Los Angeles			
County:	Los Angeles			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	90027-6062			
Phone Number*:	323-361-3917	Fax Number:	323-913-3614	E-Mail*: lclark@chla.usc.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Co-Investigator		Other Project Role Category:	
Degree Type:	PhD		Degree Year: 1985	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1253-Clark Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Sheree	Middle Name Michelle	Last Name*: Schrager	Suffix: Ph.D
Position/Title*:	Director of Research			
Organization Name*:	Children's Hospital Los Angeles			
Department:	Pediatrics			
Division:	Hospital Medicine			
Street1*:	4650 Sunset Blvd., MS#94			
Street2:				
City*:	Los Angeles			
County:	Los Angeles			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	90027-6062			
Phone Number*:	323-361-5727	Fax Number:	323-361-8667	E-Mail*: sschrager@chla.usc.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Co-Investigator		Other Project Role Category:	
Degree Type:	PhD		Degree Year: 2008	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1254-Schrager Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Norman	Middle Name P	Last Name*: Spack	Suffix: M.D.
Position/Title*:	Associate Clinical Professor			
Organization Name*:	Boston Children's Hospital			
Department:	Medicine			
Division:	Endocrinology			
Street1*:	300 Longwood Avenue			
Street2:				
City*:	Boston			
County:	Suffolk			
State*:	MA: Massachusetts			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	02115-5724			
Phone Number*: 617-355-5070 Fax Number: 617-730-0194 E-Mail*: norman.spack@childrens.harvard.edu				
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: PD/PI	Other Project Role Category:			
Degree Type: MD		Degree Year: 1969		
		File Name		
Attach Biographical Sketch*:		1255-Spack Biosketch.pdf		
Attach Current & Pending Support:				

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Daniel	Middle Name Evan	Last Name*: Shumer	Suffix: M.D.
Position/Title*:	Fellow			
Organization Name*:	Boston Children's Hospital			
Department:	Medicine			
Division:	Endocrinology			
Street1*:	300 Longwood Avenue			
Street2:				
City*:	Boston			
County:	Suffolk			
State*:	MA: Massachusetts			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	02115-5724			
Phone Number*: 857-218-3672 Fax Number: 617-730-0244 E-Mail*: Daniel.Shumer@childrens.harvard.edu				
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: Co-Investigator	Other Project Role Category:			
Degree Type: MD		Degree Year: 2008		
		File Name		
Attach Biographical Sketch*:		1256-Shumer Biosketch.pdf		
Attach Current & Pending Support:				

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Amy	Middle Name C	Last Name*: Tishelman	Suffix: Ph.D
Position/Title*:	Director of Clinical Research			
Organization Name*:	Boston Children's Hospital			
Department:	Medicine			
Division:	Endocrinology			
Street1*:	300 Longwood Avenue			
Street2:				
City*:	Boston			
County:	Suffolk			
State*:	MA: Massachusetts			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	02115-5724			
Phone Number*:	617-355-4758	Fax Number:	617-730-0809	E-Mail*: Amy.Tishelman@childrens.harvard.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Co-Investigator		Other Project Role Category:	
Degree Type:	PhD		Degree Year: 1988	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1257-Tishelman Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Robert	Middle Name	Last Name*: Garofalo	Suffix: M.D.
Position/Title*:	Division Chief			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 161			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*:	773-303-6058	Fax Number:	773-754-7618	E-Mail*: rgarofalo@luriechildrens.org
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	PD/PI		Other Project Role Category:	
Degree Type:	MD		Degree Year: 1992	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1258-Garofalo Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Lisa	Middle Name K	Last Name*: Simons	Suffix: M.D.
Position/Title*:	Attending Physician			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 161			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*:	773-796-3028	Fax Number:	773-754-7618	E-Mail*: lsimons@luriechildrens.org
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Co-Investigator		Other Project Role Category:	
Degree Type:	MD		Degree Year: 2007	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1259-Simons Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Marco	Middle Name A	Last Name*: Hidalgo	Suffix: Ph.D
Position/Title*:	Medical Psychologist			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 10-B			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*:	312-227-2948	Fax Number:	312-227-9461	E-Mail*: mhidalgo@luriechildrens.org
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Co-Investigator		Other Project Role Category:	
Degree Type:	PhD		Degree Year: 2011	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1260-Hidalgo Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Scott	Middle Name	Last Name*: Leibowitz	Suffix: M.D.
Position/Title*:	Attending Psychiatrist			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 10			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*: 312-227-3418		Fax Number: 312-227-9659		E-Mail*: SLeibowitz@luriechildrens.org
Credential, e.g., agency login:				
Project Role*: Co-Investigator			Other Project Role Category:	
Degree Type: MD			Degree Year: 2004	
Attach Biographical Sketch*:			File Name	
			1261-Leibowitz Biosketch.pdf	
Attach Current & Pending Support:				

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Courtney	Middle Name Anne	Last Name*: Finlayson	Suffix: M.D.
Position/Title*:	Attending Physician			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 54			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*: 312-227-6090		Fax Number: 312-227-9403		E-Mail*: cfinlayson@luriechildrens.org
Credential, e.g., agency login:		ERA Commons Username		
Project Role*: Co-Investigator			Other Project Role Category:	
Degree Type: MD			Degree Year: 2003	
Attach Biographical Sketch*:			File Name	
			1262-Finlayson Biosketch.pdf	
Attach Current & Pending Support:				

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Joel	Middle Name E	Last Name*: Frader	Suffix: M.D.
Position/Title*:	Head, General Pediatrics and Primary Care			
Organization Name*:	Lurie Children's Hospital of Chicago			
Department:	Pediatrics			
Division:	Adolescent Medicine			
Street1*:	225 East Chicago Avenue, Box 54			
Street2:				
City*:	Chicago			
County:	Cook			
State*:	IL: Illinois			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	60611-2605			
Phone Number*:	312-227-6111	Fax Number:	312-227-9403	E-Mail*: jfrader@northwestern.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	Other (Specify)		Other Project Role Category: Ethicist	
Degree Type:	MD		Degree Year: 1974	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1263-Frader Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Stephen	Middle Name M	Last Name*: Rosenthal	Suffix: M.D.
Position/Title*:	Professor of Pediatrics			
Organization Name*:	University of California at San Francisco			
Department:	School of Medicine			
Division:	Pediatric Endocrinology			
Street1*:	513 Parnassus Ave			
Street2:				
City*:	San Francisco			
County:	San Francisco			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	94143-0296			
Phone Number*:	415-476-2266	Fax Number:	415-476-8214	E-Mail*: rosenthals@peds.ucsf.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*:	PD/PI		Other Project Role Category:	
Degree Type:	MD		Degree Year: 1976	
Attach Biographical Sketch*:			File Name	
Attach Current & Pending Support:			1264-Rosenthal Biosketch.pdf	

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: Diane	Middle Name	Last Name*: Ehrensaft	Suffix: Ph.D
Position/Title*:	Adjunct Associate Professor of Pediatrics			
Organization Name*:	University of California at San Francisco			
Department:	School of Medicine			
Division:	Pediatrics			
Street1*:	505 Parnassus Ave, Med Sci Room 696, Box 0110			
Street2:				
City*:	San Francisco			
County:	San Francisco			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	94143-0296			
Phone Number*: 510-547-4147		Fax Number: 510-547-7692		E-Mail*: dehrensaft@earthlink.net
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: Co-Investigator		Other Project Role Category:		
Degree Type: PhD		Degree Year: 1974		
		File Name		
Attach Biographical Sketch*:		1265-Ehrensaft Biosketch.pdf		
Attach Current & Pending Support:				

PROFILE - Senior/Key Person				
Prefix: Dr.	First Name*: David	Middle Name V	Last Name*: Glidden	Suffix: Ph.D
Position/Title*:	Professor of Biostatistics			
Organization Name*:	University of California at San Francisco			
Department:	School of Medicine			
Division:	Division of Biostatistics			
Street1*:	185 Berry Street, Lobby 5, Suite 5700			
Street2:				
City*:	San Francisco			
County:	San Francisco			
State*:	CA: California			
Province:				
Country*:	USA: UNITED STATES			
Zip / Postal Code*:	94143-0296			
Phone Number*: 415-514-8009		Fax Number: 415-514-8150		E-Mail*: dave@biostat.ucsf.edu
Credential, e.g., agency login:	ERA Commons Username			
Project Role*: Co-Investigator		Other Project Role Category:		
Degree Type: PhD		Degree Year: 1993		
		File Name		
Attach Biographical Sketch*:		1266-Glidden Biosketch.pdf		
Attach Current & Pending Support:				

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
 Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Olson, Johanna L MD		POSITION TITLE PI/Assistant Professor of Clinical Pediatrics	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California San Diego	BA	1992	Animal Physiology
Chicago Medical School	MS	1993	Applied Physiology
Chicago Medical School	MD	1997	Medicine
Children's Hospital Orange County	Internship and Residency	2000	Pediatrics
Children's Hospital Los Angeles	Fellowship	2003	Adolescent Medicine

A. Personal Statement

The goal of the proposed research is to investigate the impact of early medical treatment in transgender children and adolescents presenting for care at four sites across the United States. As a pediatrician and a leading expert in the field of transgender youth care, I am confident that the proposed multi-site study will inform the development of evidence-based practices, thereby leading to improved health outcomes for this understudied and underserved population. I am uniquely suited to actualize the proposed research agenda. As Principal Investigator at the lead site, I will be responsible for overseeing coordination of care services for participants enrolled in the study at the CHLA site, as well as assist in the development of the implementation protocol and contribute to presentations and manuscripts based on study data. While I am early in my career, I am a recognized leader in the development of research and clinical care for transgender and gender non-conforming children and adolescents. I was selected by my colleagues (i.e. R. Garafolo, S. Rosenthal, and N. Spack) to provide leadership on this study in acknowledgement of my overall expertise and experience. I will be provided with mentorship from both my local site mentors (i.e. M. Belzer and L. Clark) as well as the other three site PIs, Drs. Garofalo, Rosenthal and Spack. I have the only active prospective study in the US investigating the impact of treatment of transgender youth. Over the last 4 years, I have developed research protocols, recruited and retained subjects and have initiated data analyses. I have been the recipient of two training grants to pursue research in the gender non-conforming and transgender youth populations; the first, a two year Clinical Research Career Development Award through the Saban Research Institute at CHLA and the second a KL2 translational science award from USC ending in June 2014. I am finishing a Master's Degree in Clinical and Biomedical Investigations at USC, and have two first author papers about transgender youth already published. I am the Medical Director of our Center for Transyouth Health and Development at CHLA. Over the past five years I have expanded the services of the Center to include care and consultative services for gender non-conforming and transgender children and adolescents ages 4 to 24. Over the past five years I have worked tirelessly to successfully quadruple the number of patients served by the Center, with 335 patients actively enrolled in the clinic at this time, making ours the largest transgender youth clinic in the US. Finally, I have made dozens of appearances across the country and on national television over the past 5 years to educate the community, parents and providers about the needs of transgender youth.

B. Positions and Honors

Positions and Employment

2006- USC/ Children's Hospital Los Angeles Assistant Professor of Clinical Pediatrics
 2003-2005 University of California Los Angeles – 2003 – 2005

Professional Appointments

2011–present Medical Director of the Center for Transyouth Health and Development
 2008-2012 Adolescent Medicine Fellowship Program Director
 2003-2006 Pediatric Practice of Zimble/Reinstein
 2004–2006 Northeast Valley Health Corporation
 2002-2003 Kaiser Permanente, California Sunset

Professional Activity

2014 Medical Expert “A Report on Transgender Children” – CBS The Sunday Morning Show
 2013 Medical Expert “Boy to Girl: One Child’s Journey” – People Magazine – July 8, 2013
 2013 Medical Expert Gender Non-conforming and Transgender Youth – Kids in the House Website
 2012 Medical Expert “Trapped in the Wrong Body” – The Ricki Lake Show
 2012 Medical Expert “Transgender Childhood” – Dateline
 2012 Medical Expert – LA Times
 2012 Medical Expert – Bruce Hentsel Show
 2012 Medical Expert – Taboo
 2012 Medical Expert Transgender Children - Dateline – July 2012
 2011 Present Executive Board Member – TransYouth Family Allies
 2011 Medical Expert – My Extraordinary Family – Nightline
 2011 Medical Expert for the OWN Network – The DOC Club – Rosie O’Donnell/ Transgender Youth
 2011 Medical Expert “Adolescents and Bullying” – Dr. Drew show
 2009- Executive Board Member – The Champion Fund
 2008 Audience Expert for the Dr. Phil Show – “Lost Little Boy”
 2007 Medical Expert – “Born in the Wrong Body” – 20/20

Society Memberships

Society for Adolescent Health and Medicine
 American Academy of Pediatrics
 Los Angeles Pediatric Society
 World Professional Association of Transgender Health

Honors

2009 Health Care Advocacy Champion – Democratic Advocates for Disability Issues.
 2010 Clinical Research Academic Career Development Award -Saban Research Center TSRI
 Program: Community Health Outcomes and Intervention
 Project: “Treating transgender youth: the impact of a multidisciplinary care team approach”.
 2012 Extraordinary Service Award – Equality California

C. Selected Peer-Reviewed Publications

Most relevant to the current application

1. **Olson J**, Schrager S M., Clark L F., Dunlap S L., Belzer M. Subcutaneous Testosterone: An Effective Delivery Mechanism for Masculinizing Young Transgender Men, *LGBT Health*. September 2014, 1(3): 165-167. doi:10.1089/lgbt.2014.0018.
2. **Olson J**, Garofalo R., The peripubertal gender-dysphoric child: puberty suppression and treatment paradigms. *Pediatr Ann*. 2014 Jun;43(6):e132-7. doi: 10.3928/00904481-20140522-08.
3. Hildago MA, Ehrensaft D, Tishelman AC, Clark LF, Garofalo R, Rosenthal SM, Spack NP, **Olson J**. The gender affirmative model: What we know and what we aim to learn. *Human Development*, 2013, 3: 285-290.
4. Simons L, Schrager S, Clark LF, Belzer M, **Olson J**. Parental support and mental health among transgender adolescents, *J Adol Health*, September 2013 (10.1016/j.jadohealth.2013.07.019).
5. **Olson J**, Clark L, Schrager S, Simons L, Belzer M. Baseline characteristics of transgender youth naïve to cross sex hormone therapy, *J Adol Health*, February 2013 (Vol. 52, Issue 2, Supplement 1, S35-S36).
6. **Olson J**, Forbes C, Belzer M. Management of the transgender adolescent, *Arch Pediatr Adolesc*. 2011;165(2): 171-176.

Additional recent publications of importance to the field (in chronological order)

7. Puccio, JA, Belzer M, **Olson J**, Martinez M, Salata C, Tucker D, Tanaka D. The use of cell phone reminder calls for assisting HIV infected youth to adhere to highly active antiretroviral therapy: A pilot study. *AIDS Patient Care and STDs*. June 1, 2005, 20(6): 438-444. doi:10.1089/apc.2006.20.438.
8. Belzer M, Sanchez K, **Olson J**, Jacobs A, Tucker D. Advance supply of emergency contraception: A Randomized Trial in Adolescent Mothers. *J Ped and Adolesc Gyn*. 2006, 8, 347-354.
9. Belzer ME, **Olson J**. Adherence in adolescents: A review of the literature. Adolescent Medicine: State of the Art Reviews. Evaluation and Management of Adolescent Issues. *Amer Acad of Peds* 2008:1999-117.
10. Belzer M, Naar-King S, **Olson J**, Kohana S, Mussa S, Thornton S, Gaur A, Clark LF. The use of cell phone support for non-adherent HIV-infected youth and young adults: A randomized and controlled intervention trial. *AIDS and Behav* 2013.

D. Research Support

Ongoing Research Support

KL2 Mentored Career Research Development Program of the Center for Education, Training and Career Development under the SC CTSI

The Impact of Hormone Blockers on the Physiologic and Psychosocial Development of Gender Non-Conforming Peri-Pubertal Youth
Role: PI

Treating Transgender Youth Olson (PI)

Examine the impact of a multidisciplinary treatment model on transgender youth starting cross sex hormones.
Role: PI

Descriptive Study of Transgender Patients at Children's Hospital Los Angeles

This study is a retrospective chart review of transgender patients treated for around one year with cross sex hormones to assess safety of treatment.
Role: Co-PI

U01HD040474

Korelitz (PI)

03/01/11-02/28/16

Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN)

The primary mission of the ATN is to conduct research, both independently and in collaboration with existing research networks and individual investigators, in HIV-infected and HIV-at-risk pre-adolescents, adolescents, and young adults up to age 25 years.

Role: Co-Investigator

Completed Research Support

N01-DK-8-0001

Belzer (Site PI)

12/16/07-08/31/14

IMPAACT, P1076: Impact of oral alendronate therapy on bone mineral density in HIV-infected children and adolescents with low bone mineral density.

Role: Co-Investigator

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Belzer, Marvin E. M.D.		POSITION TITLE Professor of Pediatrics and Medicine	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (<i>Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.</i>)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California, Davis	BS	1981	Zoology
University of Southern California	MD	1986	Medicine
University of California Irvine Medical Center	Intern & Residency	1989	Internal Medicine
Children's Hospital Los Angeles	Fellowship	1991	Adolescent Medicine

A. Personal Statement

I am currently the Director of the Division of Adolescent and Young Adult Medicine at Children's Hospital Los Angeles and an Adolescent Medicine specialist since 1991. I began caring for transgender youth in 1991 and helped develop the first and largest youth-focused, transgender clinic in the United States. I have conducted several research studies looking at risks for female transyouth. I co-chaired the NICHD sponsored study of high risk transgender youth for the Adolescent Trials Network, which included mentoring the protocol chair (Erin Wilson, DrPH) while she was working on her DrPH at UC Berkeley. I have been a site PI in the NICHD supported REACH and ATN Networks for the past 20 years and the PACTG/IMPAACT Network for 15 years. I was the chair of the ATN clinical PI's for a total of 7.5 years and now the ATP representative to the Behavioral Leadership Group. I have extensive experience managing clinical trials and will assist Dr. Olson in managing this complex, 4-site, observational trial of transgender youth. I have been Dr. Olson's primary mentor for her transyouth research over the past 4 years (currently on year 2 of her CTSI KL2 award from the University of Southern California) and well positioned to provide her the support required to ensure this project is successful.

B. Positions and Honors

Positions and Employment

1991- Assistant Professor of Pediatrics and Medicine-University of Southern California
2003- Associate Professor of Pediatrics and Medicine-University of Southern California
2011- Professor of Pediatrics and Medicine-University of Southern California

Professional Appointments

1991- Medical Director, Risk Reduction HIV Program-Division of Adolescent Medicine, CHLA
1995-2006 Medical Director, Teenage Health Center-Division of Adolescent Medicine, CHLA
2006-2008 Associate Director of Research-Division of Adolescent Medicine, CHLA
2008- Director/Division Head-Division of Adolescent Medicine, CHLA

Other Experience and Professional Memberships

1991-2004 Chairman, Adolescent HIV Consortium, County of Los Angeles, California
1992-1993 Member, Adolescent Scientific Committee for AIDS Clinical Trials
1993-1994 Member, Pediatric Primary Therapy Working Group for AIDS Clinical Trials
1994-2001 Principal Investigator from Los Angeles for the Medicine HIV/AIDS Research Network (NIAID/NICHD/HIRSA/NIDA Funded) Clinical Science Group Chair, Steering/Executive Committee Member
1996-1999 Advisory Board Member, Redefining Actions and Decisions. Carbondale, Colorado
2002- Principal Investigator for the Los Angeles Site of the Adolescent Trials Network for HIV/AIDS
2002-2009 Adolescent HIV Trials Network, Chair Clinical PI's, Executive Committee member,

2011-2013	Site Performance Committee
2002-2006	Member Board of Directors, Los Angeles Physicians AIDS Forum
2002-	Journal Review Panel Member for Journal of Adolescent Health, Archives of Pediatric and Adolescent Medicine, Psychology, Public Policy and Law
2003-	American Academy of HIV Medicine Education Committee
2003-2008	AIDS Project Los Angeles IRB Member
2002-2010	American Board of Internal Medicine Representative to Adolescent Medicine Subboard Committee
2009-2010	American Board of Pediatrics Adolescent Medicine Subboard Chair
2014-	American Board of Pediatrics Adolescent Subboard Medical Editor
2005-2007	HRSA Web-based HIV Care, Education Project (Advisory Committee Member)
2005-2007	Member Los Angeles County Office of AIDS Programs and Policy Standards of Care Task Force
2006-	Children's Hospital Los Angeles GCRC/CTSI Local Advisory Committee
2007-	Children's Hospital Los Angeles GCRC/CTSI Local Advisory Committee Chair
2007-2009	Vice-chair of the Adolescent Trials Network Executive Committee

Society Memberships

Society for Adolescent Medicine-Fellow
American College of Physicians-Fellow
American Academy of HIV Medicine-HIV Specialist
World Professional Association for Transgender Health

C. Selected Peer-Reviewed Publications (Selected from 37 peer-reviewed publications)

Most relevant to the current application

1. Johanna Olson, Sheree M. Schrager, Leslie F. Clark, Shannon L Dunlap and **Marvin Belzer***. Subcutaneous Testosterone: An Effective Delivery Mechanism For Masculinizing Transgender Men." *LGBT Health*. 2014;1:1-3. DOI:10.1089/LGBT.2014.0018
2. Simons L, Schrager SM, Clark LF, **Belzer M**, Olson J. Parental support and mental Health among transgender adolescents. *Journal of Adolesc Health*. 2013;53:791– 793.
3. Wilson EC, Iverson E, Garofalo R, Belzer M. Parental support and condom use among transgender female youth. *J Assoc Nurses AIDS Care*. 2012;23(4): 306-17.
4. Brennan J, Kuhns LM, Johnson AK, **Belzer M**, Wilson EC, Garofalo R. Syndemic theory and HIV-related risk among young transgender women: the role of multiple, co-occurring health problems and social marginalization. *American Journal of Public Health*. 2012;102:1751-7.
5. Olson J, Forbes C, **Belzer M**. Management of the transgender adolescent. *Arch Pediatr Adolesc*. 2011;165(2): 171-176.
6. Wilson EC, Garofalo R, Harris DR, **Belzer M**. Sexual risk taking among transgender male-to-female youths with different partner types. *American Journal of Public Health*. 2010;100:1500-1505.
7. Wilson, EC, Garofalo R, Harris RH, Herrick A, Martinez M, **Belzer M**. Transgender female youth and sex work: HIV risk and a comparison of life factors related to engagement in sex work. *AIDS Behavior*, 2009. DOI 10.1007/s10461-008-9508-8.

Additional recent publications of importance to the field (in reverse chronological order)

8. Schrager SM, Olson J, Beharry M, **Belzer M**, Goldsich K, Desai M, Clark LF. Young men and the morning after: a missed opportunity for emergency contraception provision? *J Fam Plann Reprod Health Care*. Jan 24, 2014. [Epub ahead of print].
9. **Belzer ME**, Naar-King S, Olson J, Sarr M, Thornton S, Kahana SY, Gaur A, Clark L. The use of cell phone support for non-adherent HIV-Infected youth and young adults: An initial randomized and controlled intervention trial. *AIDS and Behav*. 2013 DOI 10.1007/s10461-012-0661-3.
10. Garvie P, Flynn P, **Belzer M**, Britto P, Hu C, Grahm B, Neely M, McSherry G, Spector SA, Guar AH. Psychological Factors, beliefs about medication, and adherence of youth with HIV-1 in a multisite directly observed therapy (DOT) Pilot Study. *Journal of Adolescent Health*. 2011;48:637-640.

11. Nugent NR, Brown LK, **Belzer M**, Harper GW, Naar-king S, Nachman S. Youth living with HIV and problem substance use: Elevated distress is associated with nonadherence and sexual risk. *Journal of the International Association of Physicians in AIDS Care*. Online First, Feb 4, 2010 as doi:10.1177/1545109709709357472.
12. **Belzer ME**, Olson J. Adherence in adolescents: A review of the literature. Adolescent Medicine: State of the art reviews. Evaluation and management of adolescent issues. *Amer Acad of Peds*. 2008;1999-117.
13. Puccio JA, **Belzer M**, Olson J, Martinez M, Salata C, Tucker D, Tanaka D. The use of cell phone reminder calls for assisting HIV-Infected adolescents and young adults to adhere to HAART: A Pilot Study. *AIDS Patient Care and STDs*. 2006;20:438-444.
14. **Belzer MB**, Sanchez K, Olson J, Jacobs A, Tucker D. Use of advance supply of emergency contraception: a randomized trial in adolescent mothers. *J Adol Pediatr Adol Gyn*. 2005;18.
15. Murphy DA, **Belzer ME**, Durako SJ, Sarr M, Wilson CM, Muenz LR. Longitudinal antiretroviral adherence among adolescents infected with human immunodeficiency virus. *Arch Pediatr Adolesc Med*. 2005;159:764-770.

D. Research Support

Ongoing Research Support

U01HD040463 (Belzer), NIH/NICHD

04/16/01-02/29/16

Adolescent Medicine Trials Network for HIV/AIDS Interventions

U01HD040533

Wilson (PI)

04/26/01-02/28/16

NIH/NICHD via University of Alabama at Birmingham

ATN Coordinating Center

Role: Site PI

U01HD040474

Korelitz (PI)

04/01-02/28/16

NIH/NICHD via Westat

Adolescent Medicine Trials Network for HIV/AIDS Interventions (ATN)

The primary mission of the ATN is to conduct research, both independently and in collaboration with existing research networks and individual investigators, in HIV-infected and HIV-at-risk pre-adolescents, adolescents, and young adults up to age 25 years.

Role: Site PI

CPIMP141084-01-00

Martinez (Grantee Project Director)

09/30/14-08/30/17

Office of Minority Health

HIV/AIDS Initiative for Minority Men (AIMM)

Completed Research Support

N01-DK-8-0001

Belzer (Site PI)

12/16/07-08/31/14

NICHD International and Domestic Pediatric and Maternal HIV Studies Coordinating Center

The International Maternal Pediatric Adolescent AIDS Clinical Trials (IMPAACT) Network is a global collaboration of investigators, institutions, community representatives and other partners organized for the purpose of evaluating interventions to treat and prevent HIV infection and its consequences in infants, children, adolescents and pregnant/postpartum women through the conduct of high quality clinical trials.

Role: Site PI

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Clark, Leslie F.		POSITION TITLE Associate Professor of Pediatrics	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
California State University, Fullerton, CA	B.A.	1978	Psychology
California State University, Fullerton, CA	M.A.	1981	Experimental
University of California, Los Angeles, CA	Ph.D.	1985	Social Psychology
Emory University, Atlanta, GA	M.P.H.	1995	Social/Behavioral Health
Emory University and Centers for Disease, Control and Prevention, Atlanta, GA	NIMH Postdoctoral	1995	Behavioral Science in HIV/AIDS

A. Personal Statement

For the current proposed project, I will supervise (with Dr. Schrager) the Data Manager in setting up the cross site data set, data form development, tracking analysis efforts. I will also assist the PI (Dr. Olson) and the other PIs in the research agenda including the development of the cross-site protocols, the ACASI surveys, analysis plans, manuscript preparation and in meeting all benchmarks for project success. In the final years of the study I will supervise the data analyst in performance and interpretation of analysis for the stated project hypotheses. As a behavioral science researcher I have 30 years of experience working with psychosocial measures and collection of survey data from vulnerable populations. I am the Director of Research for the Division of Adolescent Medicine, Department of Pediatrics, at the USC Keck School of Medicine. I have extensive experience in multi-site and multi-partner studies as PI or Co-investigator including the13 site Community Intervention Trial for Youth (CITY Project CDC PI), HIV couples testing in two African Capitols (NIH co-I), Project AIM in 3 School Districts (CDC overall PI), and provision of start-up support for the NICHD funded ATN Connect to Protect Project (15 communities). My funded work includes risk and protective factors and behavioral interventions for low income, high risk populations including minority adolescents, male to female transgender youth, homeless youth, young gay men, HIV+ youth, and teen mothers. I served as a founding member of the Behavioral Leadership Group of the NIH-funded Adolescent Trials Network that supports intervention development and implementation in 14 clinical and community sites and as a behavioral science working group member of the NIH funded HIV Prevention Trials Network. I am the developer of Project AIM (Adult Identity Mentoring), with middle school African American youth to reduce sexual risk behaviors. Project AIM is a nationally recognized evidenced based intervention that has been adapted for transgender females (TG-AIM), homeless youth (Project Legacy), and teen mothers (AIM4TM).

B. Positions and Honors

Positions and Employment

1985-1989	Assistant Professor, Psychology Department, Memphis State University
1989-1994	Associate Professor, Psychological Sciences, Purdue University
1994-1995	Consultant to CDC International Activity Clinical Trial Projects on Reducing Prenatal HIV
1995-2005	Associate Professor, Health Behavior, UAB School of Public Health
2000-2005	Director, Behavioral Science Core, UAB Center for AIDS Research
2005	Associate Professor, Pediatrics, USC Keck School of Medicine
2010	Consultant to Global AIDS Program, Centers for Disease Control and Prevention
2012	Director of Research, Adolescent Medicine, Pediatrics, USC Keck School of Medicine

Other Experience and Professional Memberships

2002 – 2004 Governor's Task Force on AIDS, Alabama
 2007 Expert Panel: Positive Youth Development, CDC

Honors

1981-1984 Health Psychology NIMH Predoctoral Fellowship, U.C.L.A.
 1993-1995 Visiting Fellow, Division of HIV/AIDS, NCID, CDC
 1993-1995 Behavioral Science in HIV/AIDS NIMH Postdoctoral Fellowship

C. Selected Peer-reviewed Publications (Selected from 48 peer-reviewed publications)

Most relevant to the current application (in reverse chronological order)

1. Olson J, Schrager S, **Clark LF**, Dunlap S. Subcutaneous testosterone: An effective delivery mechanism for masculinizing transgender men, *LGBT Health*. September 2014, 1(3): 165-1067.
2. Hildago M, Ehrensaft D, Tishbaum A, **Clark LF**, Garafalo R, Rosenthal S, Spack, N, Olson J. The Gender Affirmative Model: What we know and what we aim to learn. *Human Development* 2013, 3: 285-290.
3. Simons LS, Schrager SM, **Clark LF**, Belzer M, Olson J. Parental support and mental health among transgender adolescents. *J Adolesc Health*. 2013, 53(6): 791-3.
4. Olson J, **Clark LF**, Schrager S, Simons L, Belzer M. Baseline characteristics of transgender youth naive to cross sex hormones therapy. *J Adol Health*. 2013;52(2),S35-S36
5. Wong, CF, **Clark, LF**, Marlotte, L. The impact of specific and complex trauma on the mental health of homeless youth. *J Interpers Vio*, in press, 2014.
6. Warf C, **Clark LF**, Desai M, Rabinovitz SJ, Agahi SJ, Calvo R, Hoffman J. Coming of age on the streets: Survival sex among homeless young women in Hollywood. *J of Adolesc*, 2013: 36(6):1205-13.
7. **Clark LF**, Desai M, Warf C, Calvo R, Rabinovitz S. Being African American, young, and homeless Ethnic implication for HIV risk. *Health and Equity*. 2009; 2(1), 50-60.

Additional recent publications of importance to the field (in reverse chronological order)

8. Schrager S, Beharry M, Olson J, Belzer M, Goldsich K, Desai M, **Clark LF**. Young men and the morning after: A missed opportunity for emergency contraception provision? *J of Reproductive Health Services*, 2014, DOI:10.1136/jfprhc/2013/100617.
9. Belzer M, Naar-King S, Olson J, Kohana S, Mussa S, Thornton S, Gaur A, **Clark LF**. The use of cell phone support for non-adherent HIV-infected youth and young adults: A randomized control intervention. *AIDS and Behav*. April 2014, 18(4): 686-696.
10. Miller KS, **Clark LF**, Fasula AM, Parker T, Zackery S, Wyckoff SC, Poulsen MN. Two pre-risk prevention programs to address sexual health disparities among African American youth. In TT Sharpe, J Stallworth, KS Miller, HD Dean, and K Fenton (Eds.) Special issue. *Health and Equity*. 2009; 2(1), 42-49.
11. Warf CW, **Clark LF**, Herz DC Rabinovitz SJ. The continuity of care to nowhere: Poverty, child protective services, juvenile justice, homelessness and incarceration of African American children and youth. *Int J Child Adolesc Health*. 2009;2(1) 49-64.
12. Sumartojo E, Lyles C, Guenther-Grey C, Choi K, **Clark LF**, Collins C, Lin L, Peterson J, Remafedi G, CITY Research Teams. Predictors of HIV testing in a US national sample of men who have sex with men. *AIDS Care*. 2008;20(1); 1-14.
13. **Clark LF**, Miller KS, Nagy SS, Avery J, Roth DL, Liddon N, Mukherjee S. Adult Identity Mentoring: Reducing sexual risk in African American seventh grade students. *J Adolesc Health*. 2005; 37, e11-e10.
14. Mashburn A, Peterson JL, Bakeman R, Miller RL, **Clark LF**, The Community Intervention Trial for Youth Study Team (2004). HIV testing among young African American men who have sex with men and the moderating effect of geographic setting. *J of Comm Psych*. 2004; 32, 1-16.
15. Dutra R, Forehand R, Armistead L, Brody G, Morse P, **Clark LF**. Child resiliency in inner-city families affected by HIV: The role of family variables. *Behavior Research and Therapy* 38:471-486.

D. Research Support

Ongoing Research Support

90AP2674
 Evaluation of AIM 4 Teen Moms

Desai (PI)

09/30/10-09/29/15

The goal for this proposed project is to reduce rapid repeat pregnancies among teen mothers under age 21. Approximately 1,200 pregnant teens and teen parents (ages 14-18) will be enrolled into the project and randomly assigned to either intervention (an adapted version of Project AIM called AIM 4 Teen Moms) or a control group and followed for 2 years.

Role: Co-investigator

PS10-1003 Clark (PI) 10/01/10-03/31/15

Reducing risk for young gay men: Project LIFE

This project is funded to develop an adaptation of Popular Opinion Leaders (POL) for young Latino gay men to prevent HIV and improve access to HIV testing and counseling. This adapted intervention is implemented and implementation data are collected. In addition, risk behaviors among POL youth are examined.

Role: PI

U01 HD 40463-06 Belzer (PI) 03/01/09-02/28/16

Adolescent Medicine Trials Network for HIV/AIDS Interventions

The primary mission is to conduct research, both independently and in collaboration with existing research networks (e.g., HPTN, HVTN, the PACTG, AACTG) on promising behavioral, therapeutic, and vaccine modalities in HIV-infected and HIV-at-risk adolescents, ages 12 -24.

Role: Behavioral Science Researcher

Completed Research Support

U65 PS 001708-01 Clark (PI) 10/01/09-02/28/14

SYPP Center – Strengthening Youth Prevention Paradigms

Capacity Building and technical assistance services for community mobilization around HIV prevention, testing, and connection to care for minority young gay men and male to female transgender youth (ages 12-24).

Role: Director

5U79SP014985 Schneir (PI) 09/30/08-09/29/13

Substance Abuse and HIV Prevention for Homeless Youth of Color 18-24

This project is using the Strategic Prevention Framework to design and implement substance abuse and HIV prevention services for homeless youth of color ages 18 - 24 in the Hollywood community.

Role: Behavioral Science Researcher

SAMSHA National Centers for Trauma Services Schneir (PI) 10/01/09 - 09/31/12

Trauma Services for Runaway and Homeless Youth

Center to address trauma-informed services for runaway and homeless youth. Center comprised of CHLA and 6 community based youth-serving agencies to develop and adopt trauma-informed services for runaway and homeless youth.

Role: Director of Evaluation

R21-DA-024588-01 Kipke (PI) 02/15/08 – 01/31/10

HIV Prevention for High Risk African American Young Men

This study is focused on adapting an existing, evidence-based HIV prevention intervention, Project AIM (Adult Identity Mentoring), for use with 18-24 year old African American men who have sex with men (MSM). Project AIM has demonstrated short- and long-term increases in sexual abstinence and reductions in sexual activity among African-American adolescent males. The intervention seeks to steer adolescents away from risky behavioral choices by offering alternative avenues to define themselves as adults. This study adapted Project AIM to be developmentally appropriate and culturally relevant for use with young African American MSM in Los Angeles and pilot tested the feasibility and acceptability of the adapted intervention.

Role: Co-investigator

1U22 PS000500-01 Rabinovitz (PI) 08/01/06-07/31/09

Homeless and Runaway Youth Program – Needs Assessment

The purpose of this study is to conduct survey and qualitative research to understand and characterize: use of illicit drugs, trauma and mental health, psychological risk and protective factors from childhood or during time on the street and role of current service utilization in homeless adolescents at risk for adverse outcomes.

Role: Co-investigator

SAMSHA National Centers for Trauma Services Schneir (PI) 10/01/05-09/31/09

Trauma Services for Runaway and Homeless Youth

Center comprised of CHLA and 6 community based youth-serving agencies to develop and adopt trauma-informed services for runaway and homeless youth.

Role: Director of Evaluation

1 U22 PS000500-01

Clark (PI)

09/30/06 – 09/29/09

HIV Prevention Program Targeting Young Transgender Persons of Color

The purpose of this study was to adapt and implement Project AIM for male to female transgender youth (15-24 years) to reduce HIV-related risk behaviors including drug use, sex trade and unsafe sex practices.

Approximately 200 African American, Latino, and Asian transyouth participated in a 3 group 4 case-management session version (TG-AIM) across two months in one of five participating agency settings.

Role: PI

A1 H62 PS000575-01

Clark (PI)

09/30/06-09/29/08

Packaging Proven HIV Behavioral Interventions for use with Underserved and Emergent High Risk Populations

The goal of this project is to engage youth and community members in packaging and dissemination of Project AIM (Adult Identity Mentoring), an intervention for middle school students of color. Several instruments of process evaluation were developed and utilized including facilitator checklists, youth opinions, technical assistance records, coded observation of Project AIM sessions and key informant interviews with community based agency personnel. An intervention dissemination package was created including a Facilitator Handbook, youth workbooks, Starter Kit, Implementation and TA Manual, and an Evaluation Guide.

Role: PI

5P30A1027767-129007

Hunter (PI)

06/01/99-05/31/05

University of Alabama, Birmingham Center for AIDS Research (CFAR)

The center was funded to promote laboratory research in virology, vaccine development, transmission, and animal models; to partner in National Clinical Trials Research on HIV treatment protocols; to improve health care and associated services for HIV+ individuals; to increase access to HIV testing; and to test behavioral interventions for HIV+ and high risk populations. The Center connected scientists across fields; provided incubation around multi-system projects, and supported faculty teams in writing and obtaining federal funding. The Behavioral Science Core participated fully in all aspects of the center including educational efforts for medical and behavioral professionals (e.g., International Fogerty Fellows); community interfacing for clinical trials recruitment and retention; and behavioral intervention research domestically and abroad. In addition, the Behavioral Science Core Leader participated in advocacy issues (e.g., Governors' Task Force on HIV/AIDS); trainings for community agencies and stakeholders; and represented the Center on the HIV Prevention Trials Network and the Adolescent Trials Network.

Role: Leader of Behavioral Science Core

1R01HD040125-01A1

Allen (PI)

09/01/01-8/31/06

Family Planning Promotion to Prevent Unplanned pregnancies in HIV infected Zambian Couples

The purpose of this study was to develop an intervention to motivate HIV-serodiscordant and concordant couples to uptake user independent contraception to avoid unplanned pregnancies. The intervention was developed using a film modality and created dream sequences representing negative and positive possible family futures. Couples receiving services in a community HIV/AIDS medical clinic were recruited into the study. Couples were randomly assigned to either an informational video; a motivation video, a combined video, or a video on unrelated health practices.

Role: Co-Investigator, relinquished role 2004, PI move to Emory

5U01HD040533-05

Clark (PI)

03/01/05-02/28/06

Addressing Quality of Life among Perinatally HIV infected Adolescents, Ages 15-20

The goal of this pilot and feasibility study was to develop a small group intervention based on Motivational Interviewing, Cognitive Behavioral Theory, and future-oriented concepts from the Theory of Possible Selves to address quality of life, risk behaviors, and medication adherence issues among HIV+ perinatally-infected youth. Separate groups with males and females met weekly for 8 weeks to participate in small group sessions and met with a psychologist for individual motivational interviewing sessions tailored to specific issues identified by participant and therapist. Groups were led by social workers and a perinatally infected peer aged 21-24. Evaluation included coding of audio taped sessions, youth evaluations and a pre- and post survey.

Role: PI

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Schrager, Sheree Michelle	POSITION TITLE Director of Research		
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, and include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
Wellesley College, Wellesley, MA	BA	05/02	Mathematics, Psychology
University of Wisconsin – Madison, Madison, WI	MS	12/03	Psychology
University of Wisconsin – Madison, Madison, WI	MS	12/06	Statistics
University of Wisconsin – Madison, Madison, WI	PhD	05/08	Psychology

A. Personal Statement

As Co-Investigator, I will 1) advise the study core responsible for establishing standard procedures, merging collected data, and managing, analyzing, and reporting on data from all four study sites and 2) collaborate with the project PIs and Co-Is to provide scientific leadership and direction, particularly related to psychological variable measurement and operationalization. Specifically, I will provide direction to the CHLA site study coordinator, data collection staff, data manager, and biostatistician responsible for data management, cleaning, and analysis. I will also assist with survey development and constructing the protocols that will standardize our data collection and merging procedures; oversee the programming of final data collection instruments and pilot testing of ACASI programming logic; and provide advanced statistical consultation to the project, including diagnosing data problems, developing and executing analytical plans, and advising the analytic team on appropriate longitudinal data analysis methods and procedures. I maintain a similar role as Co-Investigator on a current longitudinal study of adolescent and young adult medical marijuana users (R01DA034067-01A1; PI: Lankenau), which is now successfully finishing its first year of data collection. I have several years' experience working productively with members of the CHLA study team (PI Olson, Co-Is Belzer and Clark), most recently on the PI's KL2 Mentored Research Career Development award, and I was a research mentor to a Co-I (Simons) at the Chicago site during her fellowship at CHLA. My history of NIH funding, extensive research and statistical training and experience, and progressive research management experience have prepared me well for the role of Co-Investigator on this study. As the Director of Research for Hospital Medicine at CHLA, my primary work is to develop the research skills of hospital-affiliated faculty and research staff in all aspects of quantitative research methodology, including experimental and non-experimental study design, survey development, study protocols, and data analysis and reporting, with a particular focus on advanced statistical methods. My primary research area has been the health, functioning, and risk behavior of adolescents and young adults, particularly sexual minority and transgender adolescents, which has allowed me to develop considerable expertise in the methods proposed in this R01 application. Specific areas of focus include psychometric analysis, multivariate statistics, and general linear models with corresponding expertise in a variety of analytic software packages. I am also an IRB member and experienced research project manager whose responsibilities include hiring and managing project staff; assisting with IRB protocol development; designing research protocols and instruments; ensuring compliance with IRB and funding source requirements; documenting research processes, including intervention, process, and evaluation data; and leading and participating in project-specific and general management training and meetings. This leadership experience will support me to facilitate the conduct of rigorous, collaborative, and productive research by the project team.

B. Positions and Honors

Positions and Employment

2002-2008	Graduate Research Fellow, University of Wisconsin – Madison, Madison, WI
2008-2009	Biostatistician, Children's Hospital Los Angeles, Los Angeles, CA
2008-2011	Consultant, Agile Mind, San Francisco, CA
2010-2012	Sr. Research Manager, Children's Hospital Los Angeles, Los Angeles, CA

2002	Wellesley College: Summa Cum Laude; Lewis Atterbury Stimson Prize in Mathematics; Departmental Honors in Mathematics and Psychology University of Wisconsin-Madison: Graduate Research Fellowship
2003-2006	National Science Foundation Graduate Research Fellowship
2006-2008	Interdisciplinary Training Program in Education Sciences Fellowship
2007	University of Wisconsin-Madison: Royalty Research Foundation Collaborative Research Award (also awarded 2005); Hertz Foundation Research Travel Award (also awarded 2005, 2006); Vilas Travel Grant Award Society for Personality and Social Psychology Graduate Student Poster Award

Most relevant to the current application:

1. Olson J, **Schrager SM**, Clark LF, Dunlap SL, Belzer M. Subcutaneous testosterone: An effective delivery mechanism for masculinizing young transgender men. *LGBT Health*. 2014;1(3):165-167.
2. Simon LK, **Schrager SM**, Clark LF, Belzer M, Olson J. Parental support and mental health among transgender adolescents. *J Adolesc Health*. 2013;53(6): 791-793.
3. **Schrager SM**, Olson J, Beharry M, Belzer M, Goldsich K, Desai M, Clark LF. Young men and the morning after: A missed opportunity for emergency contraception provision? *J Fam Plann Reprod Health Care*. 2014 Jan 24 [Epub ahead of print].

4. Wu S, Baker C, Lang ME, **Schrager SM**, Liley FF, Papa C, Mira VM, Balkian A, Mason WH. A randomized controlled trial of nebulized hypertonic saline for bronchiolitis. *JAMA Pediatr*. 2014;168(7):657-663.
5. **Schrager SM**, Latkin C, Weiss G, Kubicek K, Kipke MD. High risk sexual activity in the House and Ball community: Influence of social networks. *Am J Public Health*. 2014;104(2):326-331.

Unpublished Article

Unpublished Article

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13. Chen AY, **Schrager SM**, Mangione-Smith R. Quality indicators for primary care of complex pediatric patients. *Pediatrics*. 2012;129(3):433-445.
14. Traube DE, Holloway IW, **Schrager SM**, Kipke MD. Utilizing Social Action Theory as a framework to determine correlates of illicit drug use among young men who have sex with men. *Psychol Addict Behav*. 2012;26(1):78-88.
15. **Schrager SM**, Wong CF, Weiss G, Kipke MD. HIV testing and risk behaviors among young men who have sex with men in Los Angeles County. *Am J Health Promot*. 2011;25(4):244-247.

D. Research Support

Ongoing Research Support

R21 HD 082813-01A1 (Goldbach/Schrager), **09/25/14 – 08/31/16**
National Institute of Child Health and Human Development (NICHD)

“Measuring Stress Among Diverse Adolescents”

Although sexual minorities consistently report health disparities compared to heterosexuals, the relationship between minority stressors and negative health outcomes remains unclear due to lack of available measures. We will develop an instrument to measure minority stress among racial and ethnically diverse LGBT adolescents. Results will support operationalization of minority stress constructs for adolescents, development of targeted health interventions, and opportunities to measure minority stress in longitudinal designs.

Role: Co-Principal Investigator

R01 DA 034067-01A1 (Lankenau), National Institute on Drug Abuse (NIDA) **07/01/13 – 06/30/18**

“Medical Marijuana, Emerging Adults & Community: Connecting Health and Policy”

This five-year study will determine whether: (1) young medical marijuana (MM) patients experience an overall improvement in physical and psychological health; (2) young MM patients experience changes in patterns of misuse of alcohol, prescription, and illicit drugs; and (3) MM dispensaries exert positive or negative effects on emerging adults in their communities. Findings will guide members of the public health community towards devising MM policies that maximize health and minimize negative effects on youth and communities.

Role: Co-Investigator

R01 DA032600-01A1 (Traube), National Institute on Drug Abuse (NIDA) **09/30/12 – 08/31/15**

“Isolating Targets with Existing Data to Prevent Teen Drug Use in Child Welfare”

We will conduct analyses of an extant national probability cohort of child welfare involved teens to determine the prevalence and impact of substance use, predictors of substance abuse over the course of adolescent development, and the role that current child welfare services play in ameliorating substance use and abuse.

Role: Co-Investigator

U18 HS020506-01 (Mangione-Smith), **03/01/11 – 02/28/15**
Agency for Healthcare Research and Quality (AHRQ)

“Center of Excellence on Quality of Care Measures for Children with Complex Needs”

The quality of care measures to be developed under this award will provide new tools to rigorously and comprehensively evaluate health care for children with complex needs. These measures will be designed for dissemination and use among all Medicaid and Child Health Insurance Programs (CHIP) nationally.

Role: Site Principal Investigator (July 2014-present)

Completed Research Support

KL2 Mentored Research Career Development Program (Olson), **07/01/12 – 06/30/15**
Southern California Clinical and Translational Science Institute

“The Physiologic and Psychosocial Development of Gender Non-Conforming Youth”

The purpose of this study was to collect preliminary data on puberty suppression with GnRH analogues, measuring bone mineral density, hormone levels and anthropometric measures including Tanner staging, linear growth, weight and BMI in transgender peri-pubertal youth. Additionally, this study examined the impact of GnRH analogues on depression, anxiety, quality of life, body esteem and suicidal ideation.

Role: Research mentor and biostatistician

R01 HL088503-01A2 (Mangione-Smith; Chen), **03/01/09 – 02/28/14**
National Heart, Lung, and Blood Institute (NHLBI)

“Developing Quality Measures to Assess Pediatric Inpatient Respiratory Care”

We developed a rigorously designed quality of care assessment tool to examine the degree to which hospitals caring for children adhere to recommended standards of care for respiratory illness and to determine the feasibility and validity of using administrative data to make these assessments. We used the tool to assess inpatient management for children treated for asthma, bronchiolitis, croup, pneumonia, and cystic fibrosis.

Role: Project manager and biostatistician

K02 HS018087-01 (Chen), Agency for Healthcare Research and Quality (AHRQ) 07/01/09 – 06/30/12

“Measuring Quality of Primary Care in Complex Pediatric Patients”

Children with complex medical conditions (i.e., a developmental condition or two or more chronic conditions) are often managed by multiple providers, but the chronic and complex nature of these conditions, coupled with fragmented interaction and communication, can lead to inconsistent and poorly managed care. Our main objective was to develop a set of rigorously designed medical-record-based quality of care measures using the medical home concept to assess primary care of complex pediatric patients.

Role: Project manager

R01 DA-022968-01 (Kipke), National Institute on Drug Abuse (NIDA) 04/01/08 – 03/31/12

“African American Young Men’s Study”

The purpose of this study was to understand and characterize the structural, social, and cultural characteristics of the Ball and House communities in Los Angeles; Ball and House members’ use of illicit drugs, involvement in HIV risk and protective behaviors, and their social and sexual networks; and the role that rejection, discrimination and internalized homophobia play with respect to encouraging drug use and HIV risk.

Role: Biostatistician

R01-DA-021299-04 (Lankenau), National Institute on Drug Abuse (NIDA) 09/01/07 – 08/31/11

“Non-Medical Prescription Drug Use Among High-Risk Youth”

This was a comparative study of high-risk youth aged 16 to 25 in New York City and Los Angeles who were homeless, polydrug users, and/or injection drug users. We sought to describe why high-risk youth initiate non-medical prescription drug use, describe variability in the forms of prescription drugs available and behavioral practices employed in their administration, chart the social trajectory of the transition from prescription drug use into other types of controlled substances, and assess the consequences of chronic use of prescription drugs on increased risk for onset of behaviors associated with exposure to HIV and STIs.

Role: Biostatistician

R03-DA-024976-02 (Traube), National Institute on Drug Abuse (NIDA) 09/01/08 – 05/31/11

“Drugs, Sexual Impulsivity, HIV: Psychosocial and Cognitive Risk Factors of YMSM”

This study aimed to empirically validate the chain of relationships depicted in Social Action Theory (SAT) to determine if the theory addresses the interaction of individual, contextual, and social correlates of sexual and drug risk taking behaviors as they relate to YMSM. We further validated SAT by testing and incorporating competing relationships depicted in other behavioral models to develop a comprehensive theory of the social, psychosocial and cognitive risk factors for drug use, sexual impulsivity, and HIV among YMSM.

Role: Biostatistician

R21-DA-024588-01 (Kipke), National Institute on Drug Abuse (NIDA) 02/15/08 – 01/31/10

“HIV Prevention for High Risk African American Young Men”

This study adapted an existing, evidence-based HIV prevention intervention, *Project AIM* (Adult Identity Mentoring), for use with 18-24 year old African American young men who have sex with men (AAYMSM). This study adapted *Project AIM* to be developmentally appropriate and culturally relevant for use with AAYMSM in Los Angeles and pilot tested the feasibility and acceptability of the adapted intervention.

Role: Biostatistician

5-R01-DA-15638-03 (Kipke), National Institute on Drug Abuse (NIDA) 09/01/03 – 06/30/09

“Drug Use, Sexual Risk and Health Promoting Behaviors Among At-Risk Youth”

This study involved community-based, theory-driven longitudinal research with an ethnically diverse cohort of at-risk young men to examine individual, familial, social, and interpersonal risk and protective factors associated with drug use and HIV risk behaviors.

Role: Biostatistician

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Spack, Norman MD		POSITION TITLE Associate Clinical Professor in Endocrinology	
eRACOMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Williams College, MA	BA	06/65	Biology
University of Rochester School of Medicine and Dentistry, NY	MD	06/69	Medicine
Boston City Hospital, MA	Intern and Resident	06/72	Pediatrics
Children's Hospital Boston, MA	Fellow	06/75	Adolescent Medicine
Children's Hospital Boston, MA	Fellow	06/77	Diabetes
Children's Hospital Boston, MA	Fellow	06/93	Pediatric Endocrinology

A. Personal Statement

Norman Spack, M.D., is a Senior Associate in the Endocrine Division at Children's Hospital, Boston, and Associate Clinical Professor of Pediatrics at Harvard Medical School. A 1965 graduate of Williams College, he received his MD from University of Rochester School of Medicine and Dentistry in 1969. He completed a Pediatric Residency at Boston City and Children's Hospitals and fellowships in Adolescent Medicine and Endocrinology at Children's, where he was on the team that first used the A1c test in a pediatric population. In 1978, Dr. Spack co-founded the first community-based private practice of Adolescent Medicine in New England. In 1998, he was appointed Clinical Director of the Endocrine Division. He served on the Admissions Committee of Harvard Medical School and is on the Peer Review Committee of Children's Hospital.

He was a member of the 2005 International Consensus Conference on Intersex and on the Endocrine Society's 7-person international task-force that published clinical guidelines for the management of transsexual adolescents and adults in 2009.

Dr. Spack has received awards for his teaching, clinical care, and community service and has mentored dozens of endocrinologists, some now chairing pediatric endocrine departments. In 2007, with David Diamond M.D., he co-founded Children's Hospital's GeMS, Gender Management Service, an interdisciplinary clinical program for patients with Disorders of Sex Development (Intersex) or Transgenderism. It is the first such program outside of Europe. He was lead author in a March 2012 Pediatrics article on transgender youth, the first article on that subject in that journal. His review article on transgenderism appeared in JAMA in 2012.

The goal of the proposed research is to investigate early medical treatment in transgender youth. Specifically, we will evaluate the impact of GnRH agonists administered for suppression of puberty on mental health and metabolic parameters and the safety and effect of cross-sex hormones. While these treatments are currently suggested by The Endocrine Society's Clinical Practice Guidelines, they have not been studied extensively in the U.S. population. Dr. Spack, as the co-founder and director of the GeMS program at Boston Children's Hospital, is well suited to lead the institution's participation in this important proposal.

B. Positions and Honors

Positions and Employment

1977-78	Instructor in Pediatrics- Harvard Medical School
1978-96	Clinical Instructor in Pediatrics- Harvard Medical School
1997-12	Assistant Professor of Pediatrics- Harvard Medical School

2013 Associate Clinical Professor of Pediatrics- Harvard Medical School

Appointments at Hospital/Affiliated Institutions

1974-98 Courtesy Staff -Saints Memorial Medical Center, Lowell, MA
1976-80 Assistant in Medicine-Children's Hospital Boston
1978-98 Active Staff-Newton-Wellesley Hospital, Newton, MA
1981- Associate in Medicine-Boston Children's Hospital
1983-95 Medical Staff-N.E. Deaconess Hospital, Boston, MA
1990-95 Medical Staff-Waltham-Weston Hospital, Waltham, MA
1999-01 Active Staff-Lowell General Hospital, Lowell, MA
1999-01 Consulting Staff-St. Elizabeth's Hospital, Boston, MA
1999-10 Consulting Staff-Caritas Norwood Hospital, Norwood, MA

Other Professional Positions

1974-84 Liaison to Children's Hospital- Bridge Over Troubled Waters, Boston, MA
1981-85 Medical Advisory Board- Bridge Over Troubled Waters, Boston, MA
1985-89 Medical Consultant- Multi-Service Center of Newton, MA
1987-92 Coordinator, Prospective Study of Vascular Complications in Adolescent Diabetics- Eye Research Institute Boston and Baylor University School of Medicine
1993-99 Director- Diabetes & Endocrine Youth Program, Saints Memorial Med Center, Lowell, MA
1999-01 Director- Pediatric Endocrine Clinic, Lowell General Hospital, Lowell, MA

Other Experience and Professional Memberships

1975-2002 American Academy of Pediatrics- Member
1975- Society for Adolescent Medicine- Writer, Endocrine Section, First Board Examination
1978- Massachusetts Medical Society- Member
1993- Project Hope Medical Alumni- Member
1996- Harry Benjamin International Gender Dysphoria Association (WPATH)- Member& Abstract Reviewer for Biennial International meeting
1996- Lawson Wilkins Pediatrics Endocrine Society- Member
1997- The Endocrine Society- Member
2005- Standing committee on Disorders of Sex Development, Pediatric Endocrine Society- Member
2005- Standing committee on Disorders of Sex Development, Pediatric Endocrine Society- Member
2008-09 Endocrine Society International Task Force on Clinical Management of Transsexual Persons and co-author of the resulting published Guidelines- Member

Honors

1964 Williams College: Lehman Scholar College; Undergraduate service to college.
1985 Anne Woolf Award: Juv. Diabetes Assoc of Greater Boston for Service to Children with Diabetes
1987 Mead Johnson Clinical Scholar: Dept of Medicine; Teaching
1994 Children's Hospital: Service; Employee Recognition Award
1996 Janeway Service Award: Department of Medicine; Service
2012 David Weiner Award to GeMS from Children's Board of Trustees for Leadership Innovation in Child Health
2012 Annual lecture in honor of John F. Crigler, Jr. MD, Dept of Medicine Grand Rounds ,Sponsored by Endocrine Division
2012 Bicentennial Medal from Williams College for Lifetime Achievement in Transgender Care/Advocacy

C. Selected Peer-reviewed Publications

1. Unpublished Article
2. **Spack NP.** Clinical Crossroads, Management of Transgenderism. *JAMA.* 2013;209(5):478-484.
3. **Spack NP,** Edwards-Leeper L, Feldman HA, Leibowitz S, Mandel F, Diamond DA, Vance SR. Characteristics of children and adolescents with gender identity disorder referred to a pediatric medical center. *Pediatrics.* 2012;129(3):418-425.

4. Perrin E, Smith N, Davis C, **Spack N**, Stein MT. Gender variant and gender dysphoria in two young children. *J Dev Behav Pediatr*. 2010;31(2):161-4.
5. Goddard DS, Liang MG, Chamlin SL, Svoren BM, **Spack NP**, Mulliken JB. Hypopituitarism in PHACES Association. *Pediatric Dermatology*, 2006. Sept-Oct;23(5):476-80.
6. Poussaint TY, Barnes PD, Anthony DC, **Spack NP**, Scott RM, Tarbell NJ. Hemorrhagic pituitary adenomas of adolescence. *American Journal of Neuro-radiology*. 1996;17:1907-12.
7. Feke GT, Buzney SM, Ogasawara H, Fujio N, **Spack NP**, Gabbay KH. Retinal circulatory abnormalities in type 1 diabetes. *Investigative Ophthalmology & Visual Science*. 1994;35: 2968-75.
8. Gabbay KH, **Spack NP**, Loo S, Hirsch HF and Ackil A. Aldose Reductase Inhibition: Studies with Alrestratin. *Metabolism*. 1979;28(4):471-6.

D. Research Support

Dr. Spack is not supported by grants

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Daniel Shumer, MD		POSITION TITLE Fellow in Endocrinology	
eRACOMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Northwestern University, Chicago, IL	BA	08/03	Psychology
Northwestern University, Feinberg School of Medicine, Chicago, IL	MD	05/08	Medicine
University of Vermont / Vermont Children's Hospital	Residency	06/11	Pediatrics
University of Vermont / Vermont Children's Hospital	Chief Resident	06/12	Pediatrics
Harvard University / Boston Children's Hospital, MA	Fellow	Current	Pediatric Endocrinology
Harvard School of Public Health, Boston, MA	MPH (expected)	Current	Clinical Effectiveness

A. Personal Statement

The goal of the proposed research is to investigate early medical treatment in transgender youth. Specifically, we will evaluate the impact of GnRH agonists administered for suppression of puberty on mental health and metabolic parameters and the safety and effect of cross-sex hormones. While these treatments are currently suggested by The Endocrine Society's Clinical Practice Guidelines, they have not been studied extensively in the U.S. population. As a fellow at Boston Children's Hospital (BCH), I have dedicated my clinical time and research to the transgender health care. I have participated in the transgender clinic at BCH since the beginning of fellowship and now care for my own patient cohort. My research focuses on measuring mental health parameters in the transgender patient population. I am also receiving a Masters of Public Health at Harvard School of Public Health as a fellow in the Harvard Pediatric Health Services Research Fellowship. This fellowship is training me for a research and clinical career in the transgender field. I plan to continue as faculty at BCH after fellowship in July 2015 with an administrative, clinical, and research role in the transgender program. The clinical and research skills I have been acquiring during my fellowship have prepared me to contribute to this important project as a co-investigator.

B. Positions and Honors

Positions and Employment

2008-2009	Pediatric Internship, Vermont Children's Hospital, Burlington, VT
2009-2011	Pediatric Residency, Vermont Children's Hospital, Burlington, VT
2011-2012	Pediatric Chief Resident, Vermont Children's Hospital, Burlington, VT
2012-	Pediatric Endocrinology Fellow, Boston Children's Hospital, Boston, MA
2013-	Investigational Review Board Member, The Fenway Institute, Boston, MA
2013-	Research Fellow, Harvard Pediatric Health Services Research Fellowship, Boston, MA

Other Experience and Professional Memberships

2012- Pediatric Endocrine Society

C. Selected Peer-reviewed Publications

1. **Shumer DE**, Spack NP. Current management of Gender Identity Disorder in Childhood and Adolescence: Guidelines, Barriers and Areas of Controversy. *Curr Opin Endocrinol Diabetes Obes.* 2013;20(1):69-73

2. Unpublished Article

3. Unpublished Article

4. **Shumer DE**, Thaker V, Taylor GA, Wassner AJ. Severe hypercalcemia due to subcutaneous fat necrosis: presentation, management and complications. *Arch Dis Child Fetal Neonatal Ed.* 2014;99(5):F419-21.
5. **Shumer, DE**, Mehringer JE, Braverman LE, Dauber A. Acquired Hypothyroidism in an Infant Related to Excessive Maternal Iodine Intake: Food for Thought. *Endocr Pract.* 2013;19(4):729-31

D. Research Support

Ongoing Research Support

Dr. Shumer is currently supported by a training grant through June 2015: 1T32HD075727-01

Completed Research Support

No completed research projects for the past three years (Federal or non-Federally-supported).

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Amy C. Tishelman		POSITION TITLE Director of Clinical Research, Disorder of Sexual Development- Gender Management Service Director of Psychology, Department of Urology Boston Children's Hospital Director of Research, Child Protection Program Massachusetts General Hospital Assistant Professor, Harvard Medical School	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Clark University, Worcester, MA	B.A.	1977	Psychology
West Virginia University, Morgantown, WV	M.A.	1985	Clinical Psychology
University of Oklahoma Health Sciences Center	Pre-Doctoral Internship	1987	Pediatric Psychology/ Neuropsychology
West Virginia University, Morgantown, WV	Ph.D.	1988	Clinical Psychology
Center for Advanced Study in the Behavioral Sciences, Stanford, CA	Summer Fellow	1990	Human Development and Psychopathology
Children's Hospital Boston/Harvard Medical School	Fellow	1992-94	Clinical Research Fellow on Family Violence
The Bunting Institute, Radcliffe College and Harvard Medical School/Boston Children's Hospital (Joint Fellowship)	Fellow	1993-95	Family Violence

A. Personal Statement

Amy C. Tishelman, Ph.D. is a clinical psychologist and an Assistant Professor at Harvard Medical School. She is currently Director of Clinical Research and a senior staff psychologist for the Disorders of Sexual Development-Gender Management Service (DSD-GeMS) at Boston Children's Hospital (BCH), where she has been asked to develop a clinical research program related to transgender and gender non-conforming youth, and youth with DSD. She also serves as BCH Director of Psychology in the Urology Department. In addition, Dr. Tishelman is Research Director and a senior staff psychologist for the Child Protection Program at Massachusetts General Hospital. Prior to her current appointments, she was the BCH Director of Research and Training for the Child Protection Program and, earlier, BCH Director of Child Protection Clinical Services (CPCS). She has an abiding interest in clinical work with vulnerable children and families, as well as in scholarship designed to enhance clinical care. Dr. Tishelman is on the editorial boards of several journals, including Child Abuse & Neglect, the Journal of Child Sexual Abuse (JCSA), and the Journal of Family Violence and is an Associate Editor of the Journal of Child and Adolescent Trauma (JCAT). She recently co-edited special double issues of both JCSA and JCAT. Additionally, Dr. Tishelman is a sought after expert in the forensic realm and speaks frequently on issues related to her areas of expertise. She is also a part-time faculty member in the Psychology Department of Boston College, where she has been employed since 1993, and is co-teaching a class annually on Child Maltreatment (with Robin Deutsch, Ph.D.) at the Massachusetts School of Professional Psychology in The Center of Excellence for Children, Families and the Law.

B. Positions and Honors

Positions and Employment

1986-1987	Clinical Psychology Intern, University of Oklahoma Health Sciences Center, Oklahoma City, OK
1987-1988	Lecturer, Department of Psychology, State University of New York, Binghamton, NY
1988-1992	Assistant Professor, Department of Psychology, State University of New York, Binghamton, NY

1993-	Part-time Faculty, Department of Psychology, Boston College, Chestnut Hill, MA
1994-2011	Instructor, Harvard Medical School, Boston, MA
1995-1997	Affiliated Clinician, Psychological Services, Inc. Brockton, MA
1995-2002	Senior Psychologist, Child Protection Program, Boston Children's Hospital, Boston, MA
1995-2003	Clinical Psychologist, Private practice, Cambridge, MA
1999-1999	Staff Psychologist, Child Protection Program, Boston Children's Hospital, Boston, MA
2002-2003	Supervising Psychologist, Optimal Weight for Life Clinic, Children's Hospital, Boston, MA
2002-2005	Director, Child Protection Program, Boston Children's Hospital, Boston, MA
2005-2012	Director, Training and Research, Child Protection Program, Children's Hospital Boston, MA
2011-	Assistant Professor, Harvard Medical School
2013-	Director of Clinical Research, Senior Staff Psychologist, Disorders of Sexual Development-Gender Management Service, Boston Children's Hospital, Boston, MA
2013-	Director of Psychology, Department of Urology, Boston
2013-	Director of Research and Senior Psychologist, Child Protection Program, Massachusetts General Hospital, Boston, MA
2113-	Part-time faculty, Massachusetts school of Professional Psychology

Selected Other Experience

2002-2012	Mental Health Consultant: Suffolk County Child Advocacy Center, Boston, MA
2003-2011	Disaster Response Network (DRN) Steering Committee, Massachusetts Psychological Association
2004-2006	Governors Commission on Sexual and Domestic Violence: Child and Adolescent Committee
2006-2011	Advisory Council, Department of Education Safe and Supportive Learning Environment Project
2007-2010	Ethics Advisory Committee, Children's Hospital Boston
2007-2010	Co-Chair, Child/Youth Services Committee, Governor's Council on Sexual and Domestic Violence, Patrick Administration
2008-2012	Co-Chair, Massachusetts, Guardians Ad Litem Task Force
2007-	Governor's Council on Sexual and Domestic Violence, Patrick Administration
2008-2011	Institutional Review Board (IRB), Children's Hospital Boston, Primary Representative, Psychiatry
2011-2014	Institutional Review Board (IRB), Children's Hospital Boston, Alternate Representative, Psychiatry

Editorial Leadership Roles

2007-2010	Editorial Board, Journal of Child and Adolescent Trauma
2010	Guest Co-Editor, Special Double Issue, Journal of Child Sexual Abuse: Tishelman & Geffner (Eds.), 2010. <i>Forensic, Cultural and Systems Issues in Child Sexual Abuse Cases</i> , Volume 19, 5 & 6.
2011	Guest Co-Editor, Special Double Issue, Journal of Child and Adolescent Trauma: Tishelman & Geffner (Eds.), 2011. <i>Child and Adolescent Trauma Across the Spectrum of Experience: Interpersonal and Ecological Factors</i> . <i>Journal of Child and Adolescent Trauma</i>
2010-	Editorial Board, Child Abuse and Neglect
2011-	Editorial Board, Journal of Child Sexual Abuse
2011-	Associate Editor, Journal of Child and Adolescent Trauma
2012-	Editorial Board, Journal of Family Violence

Selected Professional Memberships

American Psychological Association
World Professional Association on Transgender Health
Society of Pediatric Psychology

C. Selected Peer-reviewed Publications

Most relevant to the current application (in chronological order)

1. Bell-Dolan, D.J., Foster, S.L., & Tishelman, A.C. (1989). An alternative to negative nomination sociometric measures. *Journal of Clinical Child Psychology*, 18, 153-157.

2. Hansen, D.J., Smith, G.M., **Tishelman, A.C.**, Conway, L.P. & MacMillan, V.M. (1989). Parental problem-solving skills and child behavior problems: A comparison of physically abusive, neglectful, clinic and community families. *Journal of Family Violence*, 4, 353-368.
3. Hansen, D. J., **Tishelman, A. C.**, Hawkins, R. P., & Doepke, K. (1990). Habits with potential as Disorders: Prevalence, severity and other characteristics among college students. *Behavior Modification*, 14, 66-80.
4. Evans, I.M., Okifugi, A., Engler, L., Bromley, K & Tishelman, A.C. (1993). Home-school communication in the treatment of child behavior problems. *Child and Family Behavior Therapy*, 15, 37-60.
5. DeRoma, V.M., Hansen, D.J., **Tishelman, A.C.** & D'Amico, P. (1997). Influence of information related to child physical abuse on professional ratings of adjustment and prognosis. *Child Abuse and Neglect*, 21, 293-308.
6. **Tishelman, A.C.**, Haney, P., Greenwald O'Brien, J & Blaustein, M. (2010). A framework for school-based psychological evaluations: Utilizing a 'trauma lens'. *Journal of Child and Adolescent Trauma*, 3 (4), 279-302.
7. **Tishelman, A.C.**, Meyer, S.K. Haney, P., McLeod, S.K. (2010). Clinical-Forensic dichotomy in sexual abuse evaluations: Moving toward an integrative model. *Journal of Child Sexual Abuse*, 19 (5), 590-608.
8. **Tishelman, A.C.** & Geffner, R. (2010). Forensic, cultural, and systems Issues in child sexual abuse cases: An introduction. *Journal of Child Sexual Abuse*, 19 (5), 485-490.
9. **Tishelman, A.C.** & Geffner, R. (2010). Forensic, cultural, and systems issues in child sexual abuse cases - Part 2: Research and practitioner issues. *Journal of Child Sexual Abuse*, 19 (6), 609- 617.
10. **Tishelman, A.C.** & Geffner, R. (2011). Child and adolescent trauma across the spectrum of experience: Research and clinical interventions. *Journal of Child and Adolescent Trauma*, 4, 1-7.
11. Geffner, R. & **Tishelman, A.C.** (2011). Child and adolescent trauma across the spectrum of experience: Underserved populations and psychological abuse. *Journal of Child and Adolescent Trauma*, 4 (2), 87-89.
12. Williams, J. Nelson-Gardell, D., Faller, K., Cordisco-Steele & **Tishelman, A.C.** (2013). Is there a place for extended assessments for evaluating concerns about child sexual abuse? Perceptions of 1,294 child maltreatment professionals. *Journal of Forensic Social Work*, 88-105.
13. Hidalgo, M.A. , Ehrensaft, D., **Tishelman, A.C.**, Clark, L., Garofalo, R., Rosenthal, S., Spack, N.P & Olson, J. (2013). The gender affirmative model: What we know and what we aim to learn. *Human Development*, 56, 285-290.
14. Williams, J. Nelson-Gardell, D., Faller, K., **Tishelman, A.C.** & Cordisco-Steele, L. (2014). Is there a place for extended assessments in addressing child sexual abuse allegations? How sensitivity and specificity impact professional perspectives. *Journal of Child Sexual Abuse*, 23, 179-197
15. Unpublished Article

D. Selected Ongoing and Completed Research Support

Funded

2009-2014: Domestic Violence and Child Interview Practices during Guardian Ad Litem Evaluations: A Preliminary Study

Surveys current approaches to the assessment of domestic violence in custody/access disputes by Custody Evaluators within and outside of Massachusetts.

Current Status: Data collection and analysis completed.

Role: PI

2014: Disclosure in Disorders of Sexual Development

This is a qualitative research study designed to better understand factors that impact how three populations of patients with DSD (Klinefelter's Syndrome, Turner's Syndrome, and Complete Androgen Insensitivity Syndrome) experience disclosure of medical information, how they disclose to others, and factors impacting their quality of life and relationships.

Current Status: Research protocol successfully reviewed by Scientific Review Committee, and BCH IRB. This study is currently being reviewed by Compliance personnel at BCH. Internally funded by the Department of Urology at BCH.

Role: PI

2014: Cultural issues in Child Sexual Abuse Forensic Interviews: A Qualitative Approach

Qualitative project involving semi-structured interviews of staff involved in forensic interviews of children alleging child sexual abuse, in four geographic regions in the United States; examines important and frequent cultural issues perceived by these interviewers; internally funded by the Private Support

Current Status: Recently approved by IRB at MGH and at UMass Amherst. Active research will commence shortly.

Role: PI (with Lisa Fontes, Ph.D.)

Unfunded

2010: Psychosocial and Disclosure Information in Children Evaluated for Child Sexual Abuse: A Preliminary Study of Descriptive Information and Data Correspondence

In children referred for sexual abuse evaluations, behavioral and psychological status of the disclosing and non-disclosing child, from archival evaluation records.

Current Status: Data collection (A subset of this data is being used as part of the dissertation of a BCH staff member.)

Role: PI

2010-2014: Professional Perceptions of the Need for Extended Assessments

This is a collaborative study with colleagues at other institutions nationally (Faller, Nelson-Gardell, Cordisco-Steele & Tishelman) surveying professionals to gather information about 1) their perceptions and experience of the need for extended assessments of allegations of child maltreatment, 2) existing extended assessment resources in their communities, and 3) respondent expertise in conducting extended assessments.

Current Status: Data collection and analysis completed. Two publications have resulted from this study; we have a final research paper under review at present.

Role: PI

2013: Psychological Characteristics of Gender Dysphoric Adolescents Presenting for Evaluation and Possible Medical Treatment in a Pediatric Medical Center Gender Clinic

This study has created a database of patients seen for gender dysphoria in the Gender Management Service (GeMS) at Boston Children's Hospital. The database is being used to describe the psychological characteristics of adolescents requesting medical intervention in such a clinic.

Current Status: Data analysis

Role: PI (with Laura Edwards-Leeper, Ph.D. and Dan Shumer, M.D.)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Robert Garofalo MD, MPH		POSITION TITLE Division Head – Adolescent Medicine Professor of Pediatrics – Northwestern U.	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Duke University; Durham, NC	BS	05/88	Biological Psychology
New York University School of Medicine; NY, NY	MD	06/92	Medicine
Harvard University School of Public Health; Boston, MA	MPH	06/99	Family and Community Health
Postdoctoral Training			
Children's Hospital of Philadelphia; Phila, PA	Intern	07/92-06/93	Pediatrics
Children's Hospital of Philadelphia; Phila, PA	Resident	07/93-06/95	Pediatrics
Children's Hospital; Boston, MA	Fellow	07/95-06/97	Pediatric Advocacy
Children's Hospital; Boston, MA	Fellow	07/00-06/01	Adolescent Medicine

A. Personal Statement

The primary aim of this proposal is to observational and longitudinal outcomes research related to medical interventions in gender non-conforming children and adolescents. As a pediatrician I believe this work to critically needed in the field to help inform evidence –based practices which is currently lacking as we advise and counsel parents and families. I feel my background in both clinical care and research as it relates to transgender health is well-suited to proposed research. My research career has focused on the collection of basic data on marginalized populations and the translation of this data into intervention development. I have extensive experience engaging transgender women and young MSM age 16-24, in longitudinal and STI/HIV prevention research. I have extensive experience running and being the site PI of clinical and translational research projects funded by the NIH. I have been PI or Co-PI on 6 NIH grants (3 specific to HIV risk among MSM), 2 CDC research grants, and Co-Investigator on 3 additional NIH grants. Across these projects I have developed the skills to lead interdisciplinary and multi-site clinical research teams. Specific to this application, I worked extensively over the past year with the other site PI's on this proposal. I am the Director of The Lurie Children's Hospital Center for Gender, Sexuality and HIV Prevention as well as the Co-Director of our Program in Gender and Sex Development. I also serve as the hospital's Division Head of Adolescent Medicine. I have over 10 years' experience doing clinical work with the proposed populations of youth and adolescents. I have led the formation of a multidisciplinary clinical and research team at our institution as they relate to gender non-conforming children and adolescents. I served on the Institute of Medicine Committee on "The Health of Lesbian, Gay, Bisexual and Transgender People" where my expertise in youth, transgender health and HIV were focal points of my involvement. It is the findings from this Committee that in large part motivate the proposed research. I will take primary responsibility for the implementation of the scientific aims of this project at Lurie Children's as well as the dissemination of our findings. I will appropriately mentor junior and Co-Investigators at my site including Dr.'s Hidalgo, Leibowitz, Finlayson and Simons as this is their primary academic and clinical interest but to-date have not had significant experience with NIH funded research. In addition, along with Dr. Belzer from Children's Hospital of Los Angeles, I will help co-mentor the contact PI Joanna Olsen as I have done throughout her young and promising career. While Dr. Olson may be relatively inexperienced with NIH-funded multisite clinical trials, it is my opinion that she is the emerging clinical leader in this field. The proposed network of 4 sites gave very careful consideration in deciding the contact PI for this proposal. I have full confidence that with the appropriate guidance and mentoring that Dr. Olson is ideally suited to lead this effort. She has my full support.

B. Positions and Professional Experience

1997-01 Instructor in Pediatrics, Harvard Medical School
 1997 Health Policy Fellow: Office of Senator Edward M. Kennedy. Washington, DC.
 1997-01 Assistant in Medicine/Attending Physician, Division of General Pediatrics
 Children's Hospital/Harvard Medical School, Boston, MA
 1997-01 Director of Adolescent Medicine. JRI/Sidney Borum Community Health Center. Boston, MA.
 2001- Attending Physician, Division of General Academic Pediatrics/Infectious Diseases
 Lurie Children's Hospital (formerly Children's Memorial Hospital)/Northwestern University Medical
 School, Chicago, IL
 2001-11 Program Director/Principal Investigator: PATH Youth Network. HRSA/Ryan White Title IV-funded
 collaboration for Adolescent HIV: Children's Memorial Hospital and Howard Brown Health Center,
 Chicago, IL.
 2001- Director of Adolescent HIV Services, Lurie Children's Hospital, Chicago, IL
 2002-05 Director of Youth Services; Howard Brown Health Center, Chicago, IL
 2006-2011 Duty Director/Director of Youth Services; Howard Brown Health Center, Chicago, IL
 2008- Associate Professor of Pediatrics and Preventive Medicine; Northwestern University Feinberg
 School of Medicine. Chicago, IL

Committee Service

1997-00 Co-coordinator of the HIV/AIDS Stewardship Committee. Harvard Medical School. Boston, MA
 1998-00 Government Affairs Committee: National AIDS Policy Center for Children Youth and Families.
 Washington, DC
 2002 Chair of Organizing Committee. International conference sponsored by the National Security
 Education program. *Pediatric and Adolescent HIV: An International Perspective*. Northwestern
 University Feinberg School of Medicine
 2000-03 Co-Director of Lesbian, Gay, Bisexual and Transgendered Youth Special Interest Group.
 Society for Adolescent Medicine
 2003- Professional Education Curriculum Review Committee; Department of Preventive Medicine.
 Northwestern University School of Public Health
 2003- Board of Directors. Gay and Lesbian Medical Association. San Francisco, CA
 2004- Adolescent Research Advisory Committee. NIAID/Pediatric AIDS Clinical Trials Group (PACTG)
 2005- President. Gay and Lesbian Medical Association. San Francisco, CA
 2006 NIH Scientific Review Committee. HIV Behavioral Research Group - AARR G(03). July 2006
 2009- National Community Advisory Board. Human Rights Campaign. Healthcare Equality Index
 2010-11 National Academy of Sciences/Institute of Medicine Committee. LGBT Research
 Gaps/Opportunities
 2010-15 NIH Scientific Review Committee. Behavioral and Social Consequences of HIV/AIDS
 2011 Expert Advisory Panel. The Joint Commission. Advancing Effective Communication,
 Cultural Competence, and Patient- and Family-Centered Care for LGBT Communities: A Field
 Guide

Honors.

1988 Magna Cum Laude – Duke University. Durham, NC
 1992 Alpha Omega Alpha (AOA) – New York University School of Medicine. NY, NY
 1992 AOA Achievement Award – New York University School of Medicine. NY, NY
 2000 Employee of the Year. Justice Resource Institute (JRI). Boston, MA
 2001 Community Service Award Beth Israel Deaconess Medical Center. Boston, MA
 2005 Friend for Life Award. Howard Brown Health Center. Chicago, IL
 2007 GLMA Achievement Award. Gay and Lesbian Medical Association
 2011 City of Chicago LGBT Hall of Fame Inductee

C. Publications – (selected academic articles and book chapters in chronological order – from 35)

Most relevant to the current application:

1. Wilson E, Garofalo R, Harris R, Herrick A, Martinez M, Martinez J, Belzer M. (2009). Transgender Female Youth and Sex Work: HIV Risk and a Comparison of Life Factors Related to Engagement in Sex Work. *AIDS and Behavior*, 13(5):902-913. PMCID: PMC2756328.

2. Wilson EC, Garofalo R, Harris RD, Martinez J, Belzer M. (2010). Sexual risk-taking among transgender male-to-female youths with different partner types. *Am J Public Health*, 100(8):1500-5. PMID: PMC2901273.
3. Mustanski BS, **Garofalo R**, Emerson E. (2010). Mental Health Disorders, Psychological Distress, and Suicidality in a Sample of Lesbian, Gay, Bisexual, and Transgender Youths. *Am J Public Health*, 100(12): 2426-2432. PMID: PMC2978194.
4. Dowshen N, Forke CM, Johnson AK, Kuhns LM, Rubin D, Garofalo R. (2011). Religiosity As a Protective Factor Against HIV Risk Among Young Transgender Women. *J Adolesc Health*; 48(4):410-414.
5. Brennan J, Kuhns LM, Johnson AK, Belzer M, Wilson EC, **Garofalo R**. (2012). Syndemic Theory and HIV-Related Risk Among Young Transgender Women: The Role of Multiple, Co-Occurring Health Problems and Social Marginalization. *American Journal of Public Health*, 102(9):1751-1757. PMID: PMC3416048.
6. Garofalo R, Johnson A, Kuhns L, Cotten C, Joseph H, Margolis A. (2012). Life Skills: Evaluation of a Theory-Driven Behavioral HIV Prevention Intervention for Young Transgender Women. *J Urban Health*, 89(3):419-431. PMID: PMC3368050.
7. Wilson EC, Iverson E, **Garofalo R**, Belzer M. (2012). Parental Support and Condom Use Among Transgender Female Youth. *Journal of the Association of Nurses in AIDS Care*, 23(4):306-317. PMID: PMC3288276.
8. Bird JDP, Kuhns L, **Garofalo R**. (2012). The Impact of Role Models on Health Outcomes for Lesbian, Gay, Bisexual, and Transgender Youth. *Journal of Adolescent Health*, 50(4):353-357. PMID: PMC3313463.
9. Hotton AL, **Garofalo R**, Kuhns LM, Johnson AK. (2013). Substance Use as a Mediator of the Relationship Between Life Stress and Sexual Risk among Youth Transgender Women, 25(1): 62-71.
10. **Garofalo R**. (2014). Tipping points in caring for the gender nonconforming child and adolescent, 46(6): 227-229.
11. Olson J, **Garofalo R**. (2014). The peripubertal gender-dysphoric child: Puberty suppression and treatment paradigms. *Pediatr Annals*, 42(6):e132-137.

Additional recent publications of importance to the field:

12. **Garofalo R**, Mustanski BS, McKirnan D, Herrick A, Donenberg GR. (2007). Methamphetamine and young men who have sex with men: Understanding patterns and correlates of use and the association with HIV-related sexual risk. *Archives Pediatr Adolesc Med*, 161:591-596.
13. **Garofalo R**, Herrick A, Mustanski BS, Donenberg GR. (2007). Tip of the iceberg: Young men who have sex with men, the Internet and HIV risk. *Am J Public Health*, 97(6): 1113-1117.
14. **Garofalo R**, Mustanski BS, Donenberg GR. (2008). HIV Prevention with Young Men Who Have Sex with Men: Parents Know and Parents Matter; Is it Time to Develop Family-Based Programs for This Vulnerable Population? *J Adolesc Health*, 43:201-204. PMID: PMC2601675.
15. **Garofalo R**, Mustanski B, Johnson A, Emerson E. (2010). Exploring Factors That Underlie Racial/Ethnic Disparities in HIV Risk among Young Men Who Have Sex with Men. *J Urban Health*, 87(2):318-323. PMID: PMC2845827.

D. Research Support

Ongoing Research Support

R01MH094323-01
 NIMH

Garofalo / Mimiaga (PIs)

06/13/2011 – 03/31/2016

HIV Prevention Intervention for Young Transgender Women

The purpose of this study is to test the efficacy of a uniquely targeted HIV risk reduction intervention for young transgender women (YTW), ages 16 to 24, at risk for HIV acquisition or transmission.

R01DA025548
 NIDA

Garofalo / Mustanski (PIs)

04/01/2009 – 01/31/2014

Syndemic Development and HIV Risk Among Vulnerable Young Men

This project will investigate a syndemic of psychosocial health issues linked to HIV among YMSM ages 16-20. This syndemic includes HIV risk, drug use, internalizing mental health problems, and violence exposure. The overarching goals of this study are twofold: 1) to provide much-needed epidemiological data on the prevalence of HIV and related health issues in order to inform public health priorities; and 2) to collect vital information on risk and protective factors to inform the development of an intervention targeting this vulnerable population.

R34DA031053 Garofalo (PI) 09/30/2010 – 05/31/2014
 NIDA

Text Messaging Intervention to improve Adherence Among HIV-positive Youth and Young Adults

This study is a randomized controlled trial which will test the efficacy of a SMS text messaging intervention on antiretroviral adherence rates among non-adherent youth and young adults living with HIV, ages 16-29.

R34MH097622 Schneider 03/01/2012 - 02/28/2015
 NIH/NIMH

Network supported care for young black men newly diagnosed with HIV

Description: This goal of this project is to refine and pilot test a flexible Network Supported Engagement in Care (NSEC) intervention that recruits and motivates one or more organic social support network members of recently HIV diagnosed young black men who have sex with men (YBMSM) to improve engagement in HIV primary care.

Role: Co-Investigator

Completed Research Support:

U01 HD052172 Garofalo (PI) 10/01/2006 – 02/28/2013
 NICHD

The PATH Youth Program: HIV/AIDS Interventions in Adolescents

This award is for our site to be a member of the Adolescent Medicine Trials Network (ATN). The ATN conducts clinical and behavioral research projects with HIV+ adolescents and youth at risk of acquiring HIV.

UR6 PS000396 Garofalo (PI) 09/01/2006 – 08/31/2008
 CDC

Life Skills Intervention: Safety & Coping Among Transgender Youth and Young Adults

This study, funded by the HIV prevention research branch of the CDC, is to develop and pilot test and HIV prevention intervention for at-risk transgender youth age 14-24. The developed multi-dimensional intervention will be based upon Bronfenbrenner's Social-Ecological Model.

R34 MH079714 Mustanski (PI) 06/01/2007 – 05/31/2010
 NIMH

Internet-based HIV/STI prevention for young MSM receiving HIV testing

This three year study involves using the Transtheoretical Model of Behavior Change for the phased development and testing of an online HIV prevention program targeting the unique mechanisms of risk of young adult men who have sex with men (MSM) age 18-24 who recently tested negative from HIV.

Role: Co-Investigator

R34 MH079707 Garofalo (PI) 09/01/2007 – 11/31/2010
 NIMH

Intervention Development: Reducing HIV Risk in Vulnerable Youth

This three year study supports the development of a group-based intervention for an ethnically-diverse sample of young men who have sex with other men age 14-20. The intervention, based upon the Social-Personal Model of HIV Risk, will target the unique mechanisms of this high-risk adolescent population

R01HD051438 Eyre (PI) 07/01/2007 – 06/30/2012
 NICHD

Cultural Predictors of HIV Risk in African-American Adolescents

This award is for a qualitative and ethnographic study seeking to understand the cultural underpinnings of HIV in African-American male and female adolescents. This is a 3 site study: San Francisco, CA; Chicago, IL; and Birmingham, AL.

Role: Co-Investigator

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Simons, Lisa K.		POSITION TITLE Attending Physician <i>Ann and Robert H. Lurie Children's Hospital of Chicago</i> Instructor of Pediatrics <i>Northwestern University Feinberg School of Medicine</i>	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Pennsylvania	BA	05/01	Biological Basis of Behavior
Sackler School of Medicine, Tel Aviv, Israel	MD	06/07	Medicine
Johns Hopkins Children's Center, Baltimore, MD		06/10	Residency, Pediatrics
Children's Hospital Los Angeles, CA		06/13	Fellowship, Adolescent Medicine

A. Personal Statement

The primary aim of this proposal is to gather observational and longitudinal outcomes related to the impact of medical treatment for transgender children and adolescents in the United States. As an adolescent medicine fellow with career interests in health care for marginalized youth, I spent three years working at Children's Hospital Los Angeles (CHLA) Center for Transyouth Health and Development learning more about the needs of the transgender population and training in specialized health care for transgender adolescent and young adults. Additionally, during fellowship I worked at a homeless shelter (Covenant House), a drop-in center (Jeff Griffith Youth Center), and a community clinic (Saban Free Clinic) providing health care to homeless and underinsured adolescents. Each of these sites served a disproportionately high number of transgender-identified youth, many of whom shared their experiences of rejection by peers and family; physical, verbal and sexual harassment or assault; and chronic homelessness. A number of these youth suffered from depression and suicidal ideation, and many described prior suicide attempts. While some transgender adolescents I encountered reported poor access to health care, other shared negative experiences trying to obtain even routine medical care. In 2013, I came to Ann & Robert H. Lurie Children's Hospital of Chicago specifically to expand my experience and knowledge base in gender care for youth and young adults, and here I am gaining valuable experience under the mentorship of Dr. Robert Garofalo, MD, MPH. My working relationship with Dr. Olson at CHLA, one of my primary mentors during fellowship at CHLA, remains strong.

B. Positions and Honors

Positions and Employment

2010-2013 Clinical Research Fellow, Division of Adolescent Medicine, Children's Hospital Los Angeles, CA
 2013- Attending Physician, Lurie Children's Gender Development Clinic, Division of Adolescent Medicine, Ann and Robert H. Lurie Children's Hospital of Chicago, IL
 2013- Instructor of Pediatrics, Northwestern University Feinberg School of Medicine, Chicago, IL
 2014- Physician (part-time), Heartland Health Community Center, community-based health center offering comprehensive health care to homeless people of all ages, Chicago, IL

Honors and Awards

2012 Young Scholars Award, North American Society of Pediatric and Adolescent Gynecology

C. Selected Peer-reviewed Publications

Journal Articles

1. **Simons L**, Schrager SM, Clark LF, Belzer M, Olson J. Parental support and mental health among transgender adolescents. *Journal of Adolescent Health*. 2013;53(6):791-793.
2. **Simons LK**, Leibowitz SF, Hidalgo MA. Understanding gender variance in children and adolescents. Understanding gender variance in children and adolescents. *Pediatr Ann*. 2014;43(6):e126-31.

Published Abstracts

1. **Simons L**, Olson J, Belzer M, Clark L, Schrager S. The Relationship between Parental Support and Depression and Suicidality in Transgender Adolescents. *Journal of Adolescent Health*. 2012;50(2):S29.
2. Olson J, Clark L, Schrager S, **Simons L**, Belzer M. Baseline Characteristics of Transgender Youth Naïve to Cross-Sex Hormone Therapy. *Journal of Adolescent Health*. 2013;52(2):S35-36.

D. Research Support

While I have not yet received research support, as a fellow I was a co-investigator on Dr. Johanna Olson's) longitudinal observational study (funded by an intramural faculty research grant at Children's Hospital Los Angeles) assessing the impact of a multidisciplinary treatment model for transgender youth that includes provision of cross-sex hormone therapy, psychological counseling and case management.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors in the order listed on Form Page 2. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Marco A. Hidalgo, PhD		POSITION TITLE Psychologist – Division of Adol. Medicine Assistant Professor of Psychiatry and Behavioral Sciences, Northwestern Univ., Feinberg School of Medicine	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
San Francisco State Univ; San Francisco, CA	BA	05/04	Psychology
DePaul University; Chicago, IL	MA	06/07	Clinical/Community Psychology
DePaul University; Chicago, IL	PhD	06/11	Clinical Psychology
Postdoctoral Training			
Harvard Medical School, Boston, MA	Fellowship	08/11-08/12	Clinical Psychology

A. Personal Statement

This project proposes to conduct an observational study examining the safety of hormonal interventions and the physiological and psychological outcomes associated with these treatments in a sample of peri- and post-pubertal gender-variant youth gathered from 4 subspecialty clinics serving this population across the US. I have devoted my early career to conducting clinical practice and research among lesbian, gay, bisexual, and transgender/gender-variant youth (LGBT) and my work thus far has prepared me well to contribute to the proposed project as a Co-Investigator. At Lurie Children's, where I provide direct clinical care within a multidisciplinary, subspecialty service offering medical and behavioral health care to gender-variant youth, I rely on evidence-based practice to evaluate and treat gender dysphoria as well as mood, anxiety, traumatic stress, and emotional adjustment disorders in gender-nonconforming and transgender youth. In my research, I have applied mixed-methods approaches to develop, implement, and evaluate HIV prevention interventions among sexual minority males at-risk for HIV-exposure. The majority of my publications to date relate to clinical care and HIV prevention in populations including gender-variant youth, young men who have sex with men (MSM) and other gay/bisexual males. My early career research will continue to expand upon these areas, focusing on the examination of psychosocial resilience in gender-variant youth, and HIV prevention as it relates psychosocial health in adolescent and adult transgender women. I am currently a Co-Investigator on an NIH-funded RCT comparing the effects of individual versus couples-level HIV test counseling on antiretroviral initiation and adherence in MSM, and I plan on applying this methodology to examine couple-level factors affecting HIV transmission in partnerships where one partner is a transgender woman. I have directed a NIH-funded research protocol awarded to Dr. Garofalo (R34 MH079707) and my experience in this role has prepared me well for my administrative and supervisory responsibilities on the proposed study. As a Co-Investigator on this project, I will assist Investigators in directly supervising and managing frontline research activities involving project direction and data management. Specifically, I will supervise the Lurie Children's Project Coordinator in their management of day-to-day tasks by coordinating IRB submissions, developing and overseeing effective recruitment strategies and providing ongoing advice regarding confidential data collection/management procedures. I will also participate directly in data collection efforts, conducting the behavioral health portions of study visits. I will also assist the Data Manager in refining assessment instruments, managing study databases, and creating data manuals. Last, I will contribute to the dissemination of our findings in collaboration with the investigative team.

B. Positions and Professional Experience

2004-2006	Project Director, (PIs: GW Harper and MI Fernandez) Adolescent Community Health Research Group, DePaul University, Chicago, IL
2007-2008	Instructor in Psychology, DePaul University
2008-2010	Research Director in Behavioral Research, (PI: Garofalo) Howard Brown Health Center/Lurie Children's, Chicago, IL

- 2010-2011 Predoctoral Intern in Clinical Psychology, Center for Addiction Medicine, Alexian Bros Behavioral Health Hospital, Hoffman Estates, IL
- 2011-2012 Clinical Fellow of Psychology in Psychiatry, Harvard Medical School, Boston, MA
- 2012-2013 Behavioral Research Scientist, Academic General Pediatrics, Lurie Children's Hospital, Chicago, IL
- 2013-Present Medical Psychologist, Division of Adolescent Medicine, Lurie Children's Hospital, Chicago, IL

Committee Service

- 2006-2008 National Student Representative, Executive Committee, Division 27 (Society for Community Research and Action), American Psychological Association.
- 2014-2016 Founding Chair, Gender Variance Special Interest Group, Division 53 (Society of Clinical Child and Adolescent Psychology), American Psychological Association

Honors.

- 2004 Magna Cum Laude – San Francisco State University. San Francisco, CA
- 2010 Recipient, Scrivner Memorial Research Grant (\$5,000) – American Psychological Foundation
- 2013 Finalist, Robert H. DuRant Award for Statistical Rigor and Innovation in Adolescent Health Research – Society for Adolescent Health and Medicine 2014, Austin, TX

C. Selected Peer-reviewed Publications

Most relevant to the current application

1. Simons L, Leibowitz S, **Hidalgo MA**. Understanding gender variance in children and adolescents. *Pediatric Annals*. 2014;43(6):e126-e131. PMID: 24972420
2. **Hidalgo MA**, Ehrensaft D, Tishelman AC, Clark, LF, Garofalo, R, Rosenthal, S., Spack, NP, & Olson, J. The gender affirmative model: What we know and what we aim to learn. *Human Development*. 2013;56(5):285-290.

Additional recent publications of importance to the field:

1. **Hidalgo MA**, Kuhns LM, Hotton AL, Johnson AK, Mustanski B, Garofalo R. The MyPEEPS Randomized Controlled Trial: A Pilot of Preliminary Efficacy, Feasibility, and Acceptability of a Group-Level, HIV Risk Reduction Intervention for Young Men Who Have Sex with Men. *Archives of Sexual Behavior*. 2014:1-11 [epub ahead of print] PMID: 25135064.
2. Garofalo R, Kuhns LM, **Hidalgo M**, et al. Impact of Religiosity on the Sexual Risk Behaviors of Young Men Who Have Sex With Men. *J Sex Res*. Jul 29 2014:1-9. PMID: 25072796
3. **Hidalgo MA**, Cotten C, Johnson AK, Kuhns L, Garofalo R. "Yes, I am More Than Just That": Gay/Bisexual Young Men Residing in the US Discuss the Influence of Minority Stress on Their Sexual Risk Behavior Prior to HIV-infection. *Int J Sex Health*. 2013; 25(4):291-304.
4. Wilson BM, Harper G, **Hidalgo MA**, Jamil O, Torres R, Isabel Fernandez M. Negotiating Dominant Masculinity Ideology: Strategies Used by Gay, Bisexual and Questioning Male Adolescents. *Amer J Community Psychology*. 2010;45(1-2):169-185. PMID: 20082238
5. Warren J, Fernández MI, Harper GW, **Hidalgo MA**, Jamil OB, Torres RS. Predictors of Unprotected Sex among Young Sexually Active African American, Hispanic, and White MSM: The Importance of Ethnicity and Culture. *AIDS and Behavior*. 2008;12(3):459-468. PMID:17721725
6. Oden, K., Hernández, B., & **Hidalgo, M. A.** (2010). Payoffs of participatory action research: Racial and ethnic minorities with disabilities reflect on their research experiences. *Community Development: Journal of the Community Development Society*, 41(1), 21-31. PMID: 20668640
7. Hernández, B., Balcazar, F., Keys, C., **Hidalgo, M. A.**, & Rosen, J. (2006). Taking it to the streets: Ethnic minorities seek inclusion. *Community Development: Journal of the Community Development Society*, 37, 13-25.

D. Research Support

Completed Research Support:

R34 MH079707 R. Garofalo (PI)

9/1/07 – 11/31/10

NIMH

Intervention Development: Reducing HIV Risk in Vulnerable Youth

This three year study supported the development of a group-based intervention for an ethnically-diverse sample of young men who have sex with other men age 14-20. The intervention, based upon the Social-Personal Model of HIV Risk, targeted the unique mechanisms of this high-risk adolescent population
Role: Project Director

Ongoing Research Support:

R01 HD075655-01A1 R. Garofalo/ R. Stephenson/ M. Mimiaga (PIs) 04/10/13 – 03/31/18
NICHD

CVCTPlus: A Couples-Based Approach to Linkage to Care and ARV Adherence

Multisite RCT evaluating, over 24 mos, couples-based HIV testing versus standard of care on antiretroviral initiation and adherence in gay/bisexual male couples.

Role: Co-Investigator

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Leibowitz, Scott		POSITION TITLE Attending Physician, <i>Ann and Robert H. Lurie Children's Hospital of Chicago</i> Assistant Professor, <i>Northwestern University Feinberg School of Medicine</i>	
eRA COMMONS USER NAME (credential, e.g., agency login)			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Cornell University, Ithaca, NY	BS	05/00	Human Development
Sackler School of Medicine, Tel Aviv, Israel	MD	05/04	Medicine
Long Island Jewish Medical Center/Zucker Hillside Hospital, Glen Oaks, NY		06/08	Residency, Psychiatry
Boston Children's Hospital, MA		06/10	Fellowship, Child and Adolescent Psychiatry

A. Personal Statement

This research proposal aims to assess the long-term medical effects of pubertal suppression with GnRH agonists on transgender adolescents across the four main centers in the United States who are offering such intervention. As a psychiatrist who has developed a psychosocial consultative clinic to meet the needs of gender nonconforming and transgender youth across the developmental spectrum, this research is of particular interest to me and is highly needed to determine the safety of this intervention. Puberty, if unsuppressed, leads to irreversible changes that are often devastating to individuals whose affirmed gender is discordant with their anatomy. The acute and long-term psychiatric implications related to untreated internal distress (gender dysphoria) are significant, with much higher rates of depression, suicidal ideation and behavior, anxiety, potential substance use disorders, high risk-taking behaviors, etc. in this population, even among those youth whose parents are considered accepting. Initial research has shown the marked psychiatric benefits of using pubertal suppression as a method to extend the period of exploration during a time that allows an adolescent to not experience the unwanted irreversible effects of puberty. I will participate on the research team at Lurie Children's Hospital of Chicago by participating in project development calls, assessing patients, and providing the psychiatrist's perspective throughout the various time points of the study.

B. Positions and Honors

Positions and Employment

2010-2013 Instructor of Psychiatry, Harvard Medical School, Boston, MA

2010-2013 Attending Child and Adolescent Psychiatrist, Boston Children's Hospital, MA
I worked both within the Department of Psychiatry and the Division of Adolescent and Young Adult Medicine during this period. In the Department of Psychiatry, I established a consultative psychosocial gender identity clinic that provided assessment, consultation, and ongoing behavioral health services to gender nonconforming and dysphoric youth across the developmental spectrum. In the Division of Adolescent and Young Adult Medicine, I served as the primary psychopharmacologist working on a multidisciplinary team in a primary care setting.

2013- Assistant Professor of Psychiatry and Behavioral Sciences, Northwestern University Feinberg School of Medicine, Chicago, IL

2013- Attending Child and Adolescent Psychiatrist, Head Child and Adolescent Psychiatrist for the Gender and Sex Development Program, Ann and Robert H. Lurie Children's Hospital of Chicago, Department of Psychiatry, Chicago, IL

I currently work on the multidisciplinary team to help assess, consult, and treat the behavioral health aspects of gender nonconforming and dysphoric youth across the developmental spectrum. Our team is involved in clinical, research, and advocacy efforts on behalf of this population for youth in the Chicago metropolitan area and beyond. We are the first major academic pediatric medical center in the Midwest to provide the full range of services to these youth, and are the only clinic in the country to be represented by the full range of disciplines. I also work on the Consultation Liaison service and general outpatient service in the Department of Psychiatry.

Other Experience and Professional Memberships

- 2009- Sexual Orientation and Gender Identity Issues Committee, American Academy of Child and Adolescent Psychiatry
- 2013- Committee Co-Chair, Sexual Orientation and Gender Identity Issues Committee, American Academy of Child and Adolescent Psychiatry
- 2012- Trevor Project Advisory Council
- 2012- American Association of Medical Colleges, Lesbian, Gay, Bisexual, Transgender, and Disorders of Sex Development Affected Individuals Patient Care Project Advisory Committee

Honors

- 2011 Campaign for American's Kids Junior Scholar Award, American Academy of Child and Adolescent Psychiatry
- 2012 Prism Award, GLBT and Friends Committee, Boston Children's Hospital

C. Selected Peer-reviewed Publications

1. **Leibowitz S**, Spack N. "The Development of a Gender Identity Psychosocial Clinic: Treatment Issues, Logistical Considerations, Interdisciplinary Cooperation, and Future Initiatives." *Child and Adolescent Psychiatric Clinics of North America*. 2011; 20(4):701-724.
2. Stoddard J, **Leibowitz S**, Ton H, Snowdon S. "Improving Medical Education About Gender-Variant Youth and Transgender Adolescents." *Child and Adolescent Psychiatric Clinics of North America*. 2011;20(4):779-791.
3. **Leibowitz S**, Telingator C. "Assessing Gender Identity Concerns in Children and Adolescents: Evaluation, Treatments, and Outcomes." *Current Psychiatry Reports*. 2012;14(2):111-120.
4. Adelson, S. et al. "Practice Parameter on Gay, Lesbian, or Bisexual Sexual Orientation, Gender Nonconformity, and Gender Discordance in Children and Adolescence." *Journal of American Academy of Child and Adolescent Psychiatry*. 2012;51(9):957-974. (member of the AACAP committee, Sexual Orientation and Gender Identity Issues Committee, cited in the Attribution section)

D. Research Support

No ongoing or completed research projects for the past three years (Federal or non-Federally-supported).

BIOGRAPHICAL SKETCH

Provide the following information for the key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Courtney Anne Finlayson		POSITION TITLE Assistant Professor of Pediatrics	
eRA COMMONS USER NAME ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Michigan	BS with honors	1995-1999	Biology
Northwestern University, Evanston, IL	MD	1999-2003	
Rush University, Chicago, IL	Residency	2003-2006	Pediatrics
Northwestern University, Children's Memorial Hospital, Chicago, IL	Fellowship	2006-2009	Pediatric Endocrinology

A. Personal Statement

The goal of the proposed research is to study and improve care for youth who are transgender and gender dysphoric. This is an understudied and generally poorly understood population. In the past, few pediatric endocrinologists have had the knowledge and willingness to care for these children. I am the endocrinologist for the Gender & Sex Development Program at the Ann & Robert H. Lurie Children's Hospital of Chicago. I have had a specific interest in these patients which has guided my research and clinical training. My research as an endocrinology fellow was in the laboratory of Dr. J. Larry Jameson studying sex development. As a junior faculty member, I worked with Dr. Norman Spack in the Gender Management Services program at the Children's Hospital Boston. Following my move to Chicago, I have been the primary endocrinologist to assist in developing our program. As a result of this training and my interest in this population, I am prepared to participate in the proposed project.

B. Positions and Honors

Positions and Employment

2003-2006	Pediatric Resident, Rush University
2003	Staff Physician, American Diabetes Association Triangle D Camp, Illinois
2006	Staff Physician, American Diabetes Association Triangle D Camp, Illinois
2007	Staff Physician, American Diabetes Association Triangle D Camp, Illinois
2006-2009	Pediatric Endocrinology Fellow, Children's Memorial Hospital, Northwestern University
2009-2010	Instructor, Department of Pediatrics, Division of Pediatric Endocrinology, Children's Hospital Boston, Harvard Medical School
2010-2014	Instructor, Department of Pediatrics, Division of Pediatric Endocrinology, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University
2014-	Assistant Professor, Department of Pediatrics, Division of Pediatric Endocrinology, Ann & Robert H. Lurie Children's Hospital of Chicago, Northwestern University

Other Experience and Professional Memberships

2003-2010	Member, American Academy of Pediatrics
2006-	Member, Endocrine Society
2007-	Member, Lawson Wilkins Pediatric Endocrine Society

Honors

1999	Phi Beta Kappa, University of Michigan
2008	Lawson Wilkins Pediatric Endocrine Society Fellows Travel Grant
2008	Endocrine Society Endocrine Trainee Day Travel Grant

C. Selected Peer-reviewed Publications

1. Harris RM, Finlayson C, Weiss J, Fisher L, Hurley L, Barret T, Emge D, Bathgate RA, AgoulNIK AI, Jameson JL. A missense mutation in LRR8 of RXFP2 is associated with cryptorchidism. Mamm Genome. 2010. 21(442-9).
2. Weiss J, Hurley LA, Harris RM, Finlayson C, Tong M, Fisher LA, Moran JL, Beier DR, Mason C, Jameson JL. ENU mutagenesis in mice identifies candidate genes for hypogonadism. Mamm Genome. 2012. 23(5-6):346-55.

D. Research Support

No ongoing or completed research projects for the past three years (Federal or non-Federally-supported).

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Joel E. Frader, M.D., M.A.	POSITION TITLE A Todd Davis Professor of Academic General Pediatrics, Prof. Medical Humanities and Bioethics		
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING <i>(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)</i>			
INSTITUTION AND LOCATION	DEGREE <i>(if applicable)</i>	MM/YY	FIELD OF STUDY
Columbia University, NYC	BA	1970	Sociology
Tufts University School of Medicine, Boston, MA	MD	1974	
University of Pennsylvania, Philadelphia, PA	MA	1980	Sociology

A. Personal Statement

I pursue scholarly work in pediatric palliative care and medical ethics, especially ethics in pediatrics, human subjects research, transplantation, children with disorders of sex development (DSD), gender nonconformity, clinical innovation, and conscientious objection by health care professionals. I do qualitative social science studies collaboratively with Kelly Michelson, MD, a pediatric critical care physician, on families and staff in the pediatric intensive care unit facing decisions to provide or forgo life-sustaining treatment. My main clinical interests are in pediatric palliative and hospice care, multidisciplinary care of children with DSD and gender nonconformity, and parent support for difficult decisions under conditions of uncertainty.

B. Positions and Honors

Positions and Employment

1974-76	Intern and 2nd Year Resident (Pediatrics): Tufts-New England Medical Center
1976-79	3rd Year Resident (Pediatrics) and Robert Wood Johnson Clinical School, Children's Hospital of Philadelphia and University of Pennsylvania
1979-81	Assistant Professor of Pediatrics, University of Pennsylvania School of Medicine
1981-90	Assistant Professor of Pediatrics, Children's Hosp. of Pittsburgh and University of Pittsburgh School
1986-97	Associate Director, Center for Medical Ethics, University of Pittsburgh
1990-97	Associate Professor of Pediatrics, University of Pittsburgh School of Medicine
1997-2000	Associate Professor of Pediatrics, Assoc. Prof. of Medical Ethics and Humanities, Children's Memorial Hospital and Northwestern University
2000-03	Professor of Pediatrics and Professor of Medical Humanities and Bioethics, Northwestern University
2001-03	Interim Chief, Division of General Academic Pediatrics, Children's Memorial Hospital
2003-	Chief, Academic General Pediatrics, Children's Memorial Hospital (now Lurie Children's Hospital)
2013-	Director, Bridges Pediatric Palliative Care Program, Lurie Children's Hospital

Ethics-Related Experience and Professional Memberships

1983-86	Member, Council (Board of Directors), Society for Health and Human Values (Now American Society for Bioethics and Humanities)
1989-96	Member, Board of Directors, Society for Bioethics Consultation
1990-98	Member, Committee on Bioethics, American Academy of Pediatrics
1991-94	President-elect, President, Immediate Past-president, Society for Health and Human Values
1994-98	Chair, Committee on Bioethics, American Academy of Pediatrics
1994-98	Member, Committee on Ethics, American College of Obstetricians and Gynecologists
1997	Member, NIH Special Study Section: Informed Consent in Research Involving Human Participants

1998	Member, NIH Study Section: Ethical, Legal, and Social Implications of the Human Genome Project
1998-2000	Associate Member, Ethics Committee, American Board of Pediatrics
1998-2007	Ethics Reviewer, NIH Study Section: Hyperaccelerated Award—Mechanisms in Immune Disease Trials
1997	Member, Ad hoc NIH Study Section: Research on Ethical Issues in Human Studies
2000-01	Ethics Member, NHLBI Data Safety Monitoring Board: Fetal Tracheal Occlusion for Severe Diaphragmatic Hernia Clinical Trial
2000	Member, NIH Consensus Development Panel: Antenatal Corticosteroids Revisited: Repeat Courses
2000-03	Member, NHLBI Data Safety Monitoring Board: Recombinant CC10 for Prevention of Neonatal BPD
1999-03	Member, Hastings Center Project on Families and Traumatic Brain Injury
2001-03	Member, Hastings Center Project: Surgically Shaping Children
2002-03	Member, Work Group on Ethical Issues in Human Germline Genetic Modification Research (Convened by R. Dresser, Washington University School of Law)
2003-04	Member, University of Virginia Task Force: Regulating Innovative Surgery: Development of Recommendations for National Policy
2004-09	Member, NHLBI DSMB for Randomized Trial of Pulmonary Valve Replacement in Tetralogy of Fallot and Thymic Tolerance Trial in Pediatric Heart Transplant
2007-	Member, NIDCD DSMB for Phase II randomized clinical trial for Recurrent Respiratory Papillomatosis
2007-10	Member, NIAID Study Section: Ancillary Studies in Immunomodulation Clinical Trials

Honors

1976-79	Robert Wood Johnson Clinical Scholar, University of Pennsylvania
1993	Elected Fellow, The Hastings Center
1995	Elected Member, American Pediatrics Society
2009	Named A Todd Davis Professor of Academic General Pediatrics, Feinberg School of Medicine
2112	Named William G. Bartholome Awardee for Ethical Excellence, American Academy of Pediatrics

C. Selected Peer-reviewed Publications

1. Frader J: Difficulties in providing intensive care. *Pediatrics* 1979;64(1):10-16.
2. Lantos JD, Frader J: Extracorporeal membrane oxygenation and the ethics of clinical research in pediatrics. *N Engl J Med* 1990;323:409-413.
3. Truog RD, Brett AS, Frader J: The problem with futility. *N Engl J Med* 1992;326:1560-64.
4. Frader J, Caniano DA: Research and innovation in surgery. In McCullough LB, Jones JW, Brody BA, eds, *Surgical Ethics*. Oxford University Press, 1998.
5. Flanagan-Klygis E, Friedman Ross L, Lantos J, Frader J, Yogev R: Disclosing the diagnosis of HIV in pediatrics. *J Clin Ethics* 2000;12(2)150-157.
6. Daaboul J, Frader J: Management of the patient with intersex: a middle way. *J Ped Endocrin Metab*, 2001;14(9):1575-
7. Dreger A, Chase C, Sousa A, Gruppuso PA, Frader J: Changing the nomenclature/taxonomy for intersex: a scientific and clinical rationale. *J Pediatr Endo Metab* 2005;18(8): 729-733.
8. Bosk CL, Frader J. It's not easy wearing green: the art of surgical innovation and the science of clinical trials. In Reitsma AM, Moreno JD eds., *Ethical Guidelines for Innovative Surgery*. University Publishing Group, 2006.
9. Darugar MA, Harris RM, Frader JE. Consent and cultural conflicts: ethical issues in pediatric anesthesiologists' participation in female genital cutting. In, Von Norman, G, Palmer S, Jackson S, Rosenbaum S, and Cahana A, eds., *Clinical Ethics in Anesthesiology: A Case-Based Textbook*. New York, Cambridge University Press, 2011.
10. RM Harris, Frader J. Ethical issues in the treatment of pediatric patients with disorders of sex development. In, Diekema DS, Mercurio MR, Adam MB, eds, *Clinical Ethics in Pediatrics: A Case-Based Textbook*, New York, Cambridge University Press, 2011.

11. Frader J, Kodish E, Lantos JD. Symbolic resuscitation, medical futility, and parental rights. *Pediatrics* 2010; 126(4):769-772.
12. Michelson KN, Emanuel L, Carter A, Brinkman P, Clayman ML, Frader J. Pediatric intensive care unit family conferences: one mode of communication for discussing end-of-life care decisions. *Pediatr Crit Care Med* 2011;12(6):e336-43).
13. Michelson KN, Blehart K, Hochberg T, James K, Frader J. Bereavement photography for children: program development and healthcare professionals' response. *Death Studies* E-pub 11 Jan 2013.
14. Michelson KN, Patel R, Haber-Barker N, Emanuel L, Frader J. End-of-life care decisions in the pediatric intensive care unit: roles professionals play. *Pediatr Crit Care Med*, 2013;14(1):e34-44.
15. Michelson KN, Clayman ML, Haber-Barker N, Ryan C, Rychlik K, Emanuel L, Frader J. The use of family conferences in the pediatric intensive care unit. *J Pall Med*. 2013;16(12):1595-601.

D. Research Support

Dr. Frader does not have any ongoing or completed research projects for the past three years (Federal or non-Federally-supported).

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Rosenthal, Stephen M. M.D.		POSITION TITLE Professor of Pediatrics	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
Yale University, CT	B.A.	1968-72	Psychology
Columbia Univ., College of Physicians & Surgeons, NY	M.D.	1972-76	Medicine
Presbyterian Hospital, Columbia University, NY		1976-79	Intern/Resident, Pediatrics
University of California, San Francisco		1979-82	Fellow, Pediatric Endocrinology

A. Personal Statement

In addition to my role as Program Director for our NIH-funded T32 Pediatric Endocrinology Fellowship at UCSF, I also serve as Director of the Pediatric Endocrine Clinics, Co-Director of the Disorders of Sex Development (DSD) Clinic, and founder and Medical Director of the UCSF Child and Adolescent Gender Center (CAGC). The UCSF CAGC serves as the Pediatric/Adolescent clinical arm of the widely recognized UCSF Center of Excellence for Transgender Health. The CAGC provides multi-disciplinary care to gender non-conforming/transgender youth and adolescents, and is the only such multi-disciplinary gender program in northern California, attracting patients not only from California, but from as far away as Alaska, Florida, and Egypt. A steady increase in referrals (8-10/month) has led to a quadrupling of services in the last two years. In recognition of my experience providing care and developing protocols for transgender youth, I have been appointed as the official representative of the Pediatric Endocrine Society (PES) to the Endocrine Society's (ES) Clinical Practice Guidelines Revision Task Force for the Care of Transgender Individuals, and was appointed to the World Professional Association for Transgender Health (WPATH) Consensus committee for revisions of the International Classification of Disease (ICD)-11 pertaining to transgender youth and adults. I have authored 7 manuscripts on transgender youth, including a recent "State-of-the-art" invited review in *Pediatrics* and an invited review in the "Approach to the Patient" series for the *Journal of Clinical Endocrinology and Metabolism*. I have been an invited speaker on transgender youth at annual meetings of PES and ES, as well as at the most recent international meeting of WPATH, and have lectured on this subject at academic centers throughout the U.S. As a reflection of the national and international impact of the UCSF CAGC, our program for transgender youth is being featured in an upcoming documentary produced by the British Broadcasting Corporation (BBC). I am also the recipient of the UCSF Chancellor Award for LGBT leadership in recognition of my work with transgender youth and am the recipient of the UCSF Family Advisory Council Caring Tree Award and the UCSF Haile T. Debas Academy of Medical Educators Excellence in Teaching Award. I have had significant experience conducting multi-center trials, and I am currently serving as site PI for NIH/NICHD Disorders of Sex Development: Platform for Basic and Translational Research (1R01HD068138-01A1).

B. Positions and Honors

Positions and Employment

1982-83	Clinical Instructor in Pediatrics, University of California San Francisco, CA
1983-92	Assistant Professor of Pediatrics, University of California San Francisco, CA
1992-98	Associate Professor of Pediatrics, University of California San Francisco, CA
1998-	Professor of Pediatrics, University of California San Francisco, CA
2006-	Director, Pediatric Endocrine Clinics, University of California San Francisco, CA

2008-11 Associate Program Director, Pediatric Endocrinology, University of California San Francisco, CA
2011- Program Director, Pediatric Endocrinology, University of California San Francisco, CA
2011- Medical Director, Child and Adolescent Gender Center, University of California San Francisco, CA

Other Experience and Professional Memberships

1991- Elected to Society for Pediatric Research
2000-05 Appointed to Drug and Therapeutics Committee, Lawson Wilkins Pediatric Endocrine Society
2000-05 Appointed to Special Programs Committee, The Endocrine Society
2002-04 Chair, Drug and Therapeutics Committee, Lawson Wilkins Pediatric Endocrine Society
2005-08 Appointed to Meetings and Educational Programs Committee of The Endocrine Society
2007-13 Appointed to Ethics Committee, Pediatric Endocrine Society
2008-11 Appointed to Annual Meeting Steering Committee, The Endocrine Society
2010-13 Elected to Board of Directors, Pediatric Endocrine Society
2012- Appointed to the Clinical Endocrine Education Committee, The Endocrine Society
2013 Appointed to the World Professional Association for Transgender Health Consensus Committee for ICD-11 revisions pertaining to transgender youth and adults
2014 Appointed as the Pediatric Endocrine Society's official representative to the Endocrine Society's Clinical Practice Guidelines Revision Task Force for the Care of Transgender Individuals

Honors

2012 UCSF Family Advisory Council Caring Tree Award
2013 Chancellor Award for Gay, Lesbian, Bisexual, and Transgender Leadership
2014 UCSF Haile T. Debas Academy of Medical Educators Excellence in Teaching Award

C. Selected Peer-reviewed Publications (Selected from 65 peer-reviewed publications)

Most relevant to current application (in reverse chronological order)

1. **Rosenthal SM.** Approach to the Patient: Transgender Youth: Endocrine Considerations. J Clin Endocrinol Metab, 2014 Aug 20:jc20141919. Epub ahead of print.
2. Unpublished Article
3. Unpublished Article
4. Unpublished Article
5. Unpublished Article
6. Sherer I, Baum J, Ehrensaft D, **Rosenthal SM.** Gender Nonconforming/Gender Expansive and Transgender Children and Teens. Contemporary Pediatrics, under review (invited manuscript), 2014.
7. Hidalgo MA, Ehrensaft D, Tishelman AC, Clark LF, Garofalo R, **Rosenthal SM**, Spack NP, Olson J. The gender affirmative model: What we know and what we aim to learn. Human Development 56:285-290, 2013.
8. Sherer I, **Rosenthal SM**, Ehrensaft D, Baum J: Child and Adolescent Gender Center: A multidisciplinary collaboration to improve the lives of gender nonconforming children and teens. Pediatr Rev 33:273-275, 2012.

Additional recent publications (in reverse chronological order)

9. Herold KC, Gitelman SE, Willi SM, Gottlieb PA, Waldron-Lynch F, Devine L, Sherr J, **Rosenthal SM**, Adi S, Jalaludin MY, Michels AW, Dziura J, Bluestone JA: Teplizumab treatment may improve C-peptide responses in participants with type 1 diabetes after the new onset period: a randomized controlled trial. Diabetologia 56:391-400, 2013.
10. Cheung CC, Cadnapaphornchai MA, Ranadive SA, Gitelman SE, **Rosenthal SM:** Persistent elevation of urine Aquaporin-2 during water loading in a child with Nephrogenic Syndrome of Inappropriate Antidiuresis (NSIAD) caused by a R137L mutation in the V2 Vasopressin receptor. Int J Pediatr Endocrinol 3:1-6, 2012.

11. Aslan IR, Baca EA, Charlton W, **Rosenthal SM**: Respiratory syncytial virus (RSV) infection as a precipitant of thyroid storm in a previously undiagnosed case of Graves disease in a prepubertal girl. Int J Pediatr Endocrinol 2011:138903. Epub 2011 Mar 22.
12. Rochdi MD, Vargas GA, Carpentier E, Oligny-Longpre G, Chen S, Kavoov, A, Gitelman SE, **Rosenthal SM**, von Zastrow M, Bouvier M: Functional characterization of vasopressin type 2 receptor substitutions (R137H/C/L) leading to nephrogenic diabetes insipidus and nephrogenic syndrome of inappropriate antidiuresis: Implications for treatments. Mol Pharmacol 77:836-845, 2010.
13. Meyer GE, Chesler L, Liu D, Youngren J, Goldfine ID, Weiss WA, Matthay KK, **Rosenthal SM**: Nordihydroguaiaretic acid inhibits insulin-like growth factor signaling, growth and survival in human neuroblastoma cells. J Cell Biochem 102:1529-1541, 2007.
14. Feldman BJ*, **Rosenthal SM***, Vargas GA, Fenwick RG, Huang EA, Matsuda-Abedini M, Lustig RH, Mathias RS, Portale AA, Miller WL, Gitelman SE. Nephrogenic syndrome of inappropriate antidiureses. Identification of novel activating mutations in the vasopressin type 2 receptor causing a newly described genetic disease. N Engl J Med. 352:1884-90 2005. *denotes co-first author
15. Tiffin N, Adi S, Stokoe D, Wu NY, **Rosenthal SM**: Akt phosphorylation is not sufficient for insulin-like growth factor-stimulated myogenin expression but must be accompanied by down-regulation of mitogen-activated protein kinase/extracellular signal-regulated kinase phosphorylation. Endocrinology 145:4991-4996, 2004.

D. Research Support

Ongoing Research Support

1R01HD068138-01A1 Vilain (PI) 09/26/2011 - 06/30/2016
NIH/ NICHD
Disorders of Sex Development: Platform for Basic and Translational Research
Role: Site PI

Completed Research Support

U01 DK61010 2009-2012
NIDDK/NIH
UCSF Trial Net: UCSF Trial Net: A Phase II Trial of Imatinib in New Onset Type I Diabetes
Role: Co-PI

R01 2006-2011
NIH/NIDDK/Juvenile Diabetes research Foundation
Phase II Trial of hOKT3 γ 1 (Ala-Ala) administered from 4 months to 12 months after diagnosis of Type 1 diabetes mellitus
Role: Co-PI

N01-AI 15416 2005-2012
NIH/NIAID/ITN/NIDDK
Phase II trial of hOKT3 γ 1 (Ala-Ala) for treatment of new onset Type 1 Diabetes Mellitus
Role: Co-PI

Immune Tolerance Network 2005-2012
NIH/NIAID
Thymoglobulin for treatment of new onset type 1 diabetes mellitus
Role: Co-PI

Basic Research Award Rosenthal (PI) 2009-2011

Private Support

The Therapeutic Potential of A12 Anti-IGF-IR Antibody and Radiation in Neuroblastoma
Role: PI

Private Support

2005-2008

Targeted agents that synergize with radiation in high risk neuroblastoma; The goal of this study was to assess inhibitors of insulin-like growth factors (IGF)-1 signaling and other agents that synergize with radiation in high risk neuroblastoma.

Role: Co-PI

Basic Research Award

Rosenthal (PI)

2005-2008

Private Support

Small Molecule Inhibitors of the IGF-I Receptor as a Potential Treatment for Neuroblastoma

Role: PI

N01-AI 15416

2005-2010

NIH/NIAID/ITN/NIDDK

Phase II trial of hOKT3 γ 1 (Ala-Ala) for treatment of new onset Type1 diabetes mellitus

The goal of this study was to attempt to prolong endogenous insulin secretion in those with new onset type 1 diabetes mellitus utilizing an anti-CD3 monoclonal antibody at 6 month intervals for a total of 3 doses. This study was part of a multi-center trial.

Role: Co-PI

Translational Basic Research Award

Rosenthal (PI)

2004-2005

Private Support

IGFs and Skeletal Muscle: Implications for Myotherapy.

This study explored the mechanisms which influence the decision of skeletal myoblasts to proliferate or differentiate in response to IGFs.

Role: PI

R01

2001-2010

NIH/NIDDK/Juvenile Diabetes Research Foundation

Phase II trial of hOKT3 γ 1 (Ala-Ala) administered from 4 months to 12 months after diagnosis of Type1 diabetes mellitus

The goal of this study was to attempt to prolong endogenous insulin secretion in those with new onset type 1 diabetes mellitus utilizing a humanized, anti-CD3 monoclonal antibody. This study was part of a multi-center trial.

Role: Co-PI

R01 DK44181-10

Rosenthal (PI)

1998-2003

NIDDK

IGFs and Skeletal Muscle Cell Differentiation.

The major goals of this project were to investigate the molecular mechanisms by which the insulin-like growth factors (IGFs) regulate myogenesis.

Role: PI

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Ehrensaft, Diane Ph.D.		POSITION TITLE Clinical Psychologist Adjunct Associate Professor of Pediatrics	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of Michigan	B.A.	1968	Psychology
University of Michigan	Ph.D.	1974	Psychology

A. Personal Statement

In my roles as Director of Mental Health of the Child and Adolescent Gender Center and attending psychologist at the gender clinic in the Department of Pediatrics at Benioff Children's Hospital UCSF, I oversee the psychological assessment and treatment of all gender non-conforming children and youth who come through our program. This work is complemented by the extensive ongoing clinical work I do with gender nonconforming children and their families in my private practice. Since completing my doctoral dissertation at the University of Michigan on the topic of gender socialization in pre-school children, gender has consistently been the focus of my academic and clinical work. My research and writing has involved in-depth clinical studies of gender-nonconforming children and their families. As new medical interventions have been introduced to facilitate the care and treatment of these children and youth, specifically puberty blockers and cross-sex hormones, it has come to my attention that longitudinal research is now needed to demonstrate whether these medical and accompanying psychological interventions are having good effect in providing supports and positive mental health outcomes for gender-nonconforming and transgender children and youth, and look forward to seeing such a study launched with interdisciplinary and multi-site participation.

B. Positions and Honors

Positions and Employment

2011-	Clinical Faculty, Pediatrics, Psychologist, University of California, San Francisco (UCSF) Gender Clinic
2009-	Director of Mental Health, Child and Adolescent Gender Center
1981-	Clinical Psychologist, Private Practice, Oakland, California
1999-	Faculty, Psychoanalytic Institute of Northern California
1992-	Senior Clinician, A Home Within (non-profit organization addressing emotional needs of children/youth in foster care)
1982-	Licensed Clinical Psychologist (California License # PSY 7342)
1995-1999	Clinical Faculty, Mt. Zion Psychiatric Department, University of California, San Francisco
1992-1998	Clinical Faculty, Ann Martin Children's Center, Piedmont, California
1986-1992	Clinical Faculty, Department of Psychiatry, Children's Hospital San Francisco
1986-1990	Clinical Consultant, Children's Hospital Medical Center of Northern California, Oakland
1985-1986	Consulting Psychologist, Health America Rockridge, Oakland, California
1982-1988	Independent Contractor to Child Development Center, Children's Hospital Medical Center of Northern California
1981-2004	Professor, The Wright Institute, Berkeley
1980-1983	Mental Health Consultant, Alameda Headstart, Alameda, CA
1979-1981	Faculty, University of San Francisco
1977-1979	Faculty, Field Studies Program, University of California, Berkeley
1974-1978	Faculty, Interdisciplinary Program on Day Care and Child Development, University of California, Berkeley
1974-1978	Faculty, School of Social Welfare, University of California, Berkeley

1972-1973 Faculty, Sociology Department, Sir George Williams University, Montreal, Quebec

Other Experience and Professional Memberships

1968, 1969, 1970 NIMH Fellowship, University of Michigan
1971 Rackham Pre-doctoral Fellowship, University of Michigan
1972 University of Michigan Dissertation Grant
1982 Election to Board of the Section on Childhood and Adolescence, Division of Psychoanalysis, American Psychological Association
1992 Election to Board of the Section on Women, Gender, and Psychoanalysis, Division of Psychoanalysis, American Psychological Association
2002 Appointment to Board of Directors, Division of Psychoanalysis, American Psychological Association
2004 Election to Board of the Section on Psychoanalysis and Social Justice, Division of Psychoanalysis, American Psychological Association
2011 Appointment as co-chair of the 2015 Division of Psychoanalysis meeting, San Francisco

Honors

2012 Annual Scholarship Award Advancement of Gender Issues in Psychoanalysis APA, Division of Psychoanalysis
2013 Recognition Award for Outstanding Service, Childhood and Adolescence, APA, Division of Psychoanalysis

C. Selected Peer-Reviewed Publications (Selected from 32 peer-reviewed publications)

Most relevant to the current application (in reverse chronological order)

1. Unpublished Article
2. Sherer I, Baum J, **Ehrensaft D**, Rosenthal SM. Gender Nonconforming/Gender Expansive and Transgender Children and Teens. Under review (invited manuscript) at Contemporary Pediatrics, 2014.
3. Unpublished Article
4. Unpublished Article
5. **Ehrensaft D**. "Look, Mom, I'm a Boy—Don't Tell Anyone I Was a Girl." Journal of LGBT Youth, 10:1–20, 2013.
6. Hidalgo MA, **Ehrensaft D**, Tishelman AC, Clark LF, Garofalo R, Rosenthal SM, Spack NP, Olson J. The gender affirmative model: What we know and what we aim to learn. Human Development 56:285-290, 2013.
7. Sherer I, Rosenthal SM, **Ehrensaft D**, Baum J: Child and Adolescent Gender Center: A multidisciplinary collaboration to improve the lives of gender nonconforming children and teens. Pediatr Rev 33:273-275, 2012.
8. **Ehrensaft, D**. From gender identity disorder to gender identity creativity: True gender self therapy. Journal of Homosexuality, 59, 337–356, 2012.
9. **Ehrensaft D**. Boys will be girls, girls will be boys: Children affect parents as parents affect children in gender nonconformity. Psychoanalytic Psychologist 28: 528-548, 2011.
10. **Ehrensaft D**. One pill makes you boy, one pill makes you girl. International Journal of Applied Psychoanalytic Studies, 6: 12–24, 2009.
11. **Ehrensaft D**. Raising Girlyboys: A Parent's Perspective. Studies in Gender and Sexuality 8(3): 269-302, 2007.
12. **Ehrensaft D**. The Stork Didn't Bring Me, I Came From a Dish: Psychological Experiences of Children Conceived through Assisted Reproductive Technology. Journal of Infant, Child, and Adolescent Psychotherapy 6(2): 124-140, 2007.

Additional recent publications of importance to the field (in reverse chronological order)

13. Unpublished Article

14. **Ehrensaft D.** A terrible thing happened on the way to becoming a girl. In P. Cohen, K. M. Sossin, & R. Ruth (eds.), *Healing After Parent Loss in Childhood and Adolescence*, New York: Rowman & Littlefield, 2014.
15. **Ehrensaft, D.** *Gender born, gender made: Raising healthy gender-nonconforming children*. New York: The Experiment, 2011.

D. Research Support

No ongoing and completed research projects for the past three years (Federal or non-Federally-supported).

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

NAME Glidden, David V.		POSITION TITLE Professor of Biostatistics	
eRA COMMONS USER NAME (credential, e.g., agency login) ERA Commons Username			
EDUCATION/TRAINING (Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable.)			
INSTITUTION AND LOCATION	DEGREE (if applicable)	MM/YY	FIELD OF STUDY
University of California, Berkeley, CA	B.A.	1988	Statistics
University of Washington, Seattle, WA	Ph.D.	1993	Biostatistics
Harvard University, Boston, MA	Fellowship	1995	Biostatistics

A. Personal Statement

I will work as a resource for Dr. Schrager and will provide advice and support on analytic approaches. I will contribute expertise on the statistical design of the study, the framing of hypotheses and development of analysis strategies to test those hypotheses with focus on the analysis of the metabolic data. I will be responsible for the design, analysis plan development, and execution of these analyses.

B. Positions and Honors

Positions and Employment

1988-1993	Research Assistant, University of Washington
1993-1995	Research Fellow, Harvard University, Boston MA
1995-1997	Research Associate, Harvard University, Boston, MA
1997-2003	Assistant Adjunct Professor, University of California, San Francisco
2003-2007	Associate Professor in Residence, University of California, San Francisco
2007-	Professor in Residence University of California, San Francisco

Honors and Awards

1988	W.W. Stout Fellowship, Graduate School, University of Washington
1988-1990	Graduate Fellowship Award, Graduate School, University of Washington
1990-1993	National Research Service Award, National Heart, Lung and Blood Institute
1993	School of Public Health Outstanding Student Citation for Biostatistics, Univ. of Washington
2007	TICR Award for Excellence in Teaching

C. Selected Peer-reviewed Publications

Most relevant to the current application

1. Anderson PL, Glidden DV, Liu A, Buchbinder S, Lama JR, Guanira JV, McMahan V, Bushman LR, Casapi M, Montoya-Herrera O, Veloso VG, Mayer KH, Chariyalertsak S, Schechter M, Bekker LG, Kallas EG, Grant RM for the iPrEx Study Team. Emtricitabine-Tenofovir concentrations and pre-exposure prophylaxis efficacy in men who have sex with men. *Science Translational Medicine*, 2012.
2. Grant RM, Lama JR, Anderson PL, McMahan V, Liu AY, Vargas L, Goicochea P, Casapía M, Guanira-Carranza JV, Ramirez-Cardich ME, Montoya-Herrera O, Fernandez T, Veloso VG, Buchbinder SP, Chariyalertsak S, Schechter M, Bekker LG, Mayer KH, Kallas EG, Amico KR, Mulligan K, Bushman LR, Hance RJ, Ganoza C, Defechereux P, Postle B, Wang F, McConnell JJ, Zhang JH, Lee J, Rooney JF, Jaffe HS, Martinez AI, Burns DH, Glidden DV for the iPrEx Study Team. Pre-exposure chemoprophylaxis for HIV prevention in men who have sex with men. *New England Journal of Medicine*, 363: 2587-99, 2010.

3. Glidden DV. Design by Trail. *Nature* 490 :350-1. doi: 10.1038/490350a, 2012 (invited commentary on Rolland, et al, doi:10.1038/nature11519).

Additional recent publications of importance to the field (in chronological order)

4. Fleming TR, Prentice RL, Pepe MS, Glidden D. Surrogate and auxiliary endpoints in clinical trials with potential applications in cancer and AIDS research. *Statistics in Medicine* 13:955-968, 1994.
5. Glidden DV, Self SG. Semiparametric likelihood estimation in the Clayton-Oakes model. *Scandinavian Journal of Statistics* 26:363-372, 1999.
6. Glidden DV, Wei LJ. Rank estimation of treatment differences based on repeated measurements subject to dependent censoring. *Journal of the American Statistical Association* 94:888-895, 1999.
7. Glidden, DV. A two-stage estimator of the dependence parameter in the Clayton-Oakes model. *Lifetime Data Analysis* 6:141-156, 2000.
8. Para MF, Glidden DV, Coombs RW, Collier AC, Condra JH, Craig C, Bassett R, Leavitt R, Snyder S, McAuliffe V, Boucher C and AIDS Clinical Trials Group Protocol 333 Team. Baseline human immunodeficiency virus type 1 phenotype, genotype, and RNA response after switching from long-term hard-capsule saquinavir to indinavir or soft-gel capsule saquinavir in AIDS Clinical Trials Group Protocol 333. *Journal of Infectious Diseases* 182:733-743, 2000.
9. Glidden DV. Robust inference for event probabilities with non-Markov data. *Biometrics* 58:361-368, 2002.
10. Glidden DV. Rejoinder to the discussion of P.R. Burton and M.P. Epstein. *Gen Epidemiol* 23:219-20, 2002.
11. Glidden DV, Liang K-Y, Chiu Y-F, Pulver AE. Multipoint affected sibpair linkage methods for localizing susceptibility genes for complex diseases. *Genetic Epidemiology* 24:107-177, 2003.
12. Glidden DV, Vittinghoff E. Modelling clustered survival data from multicentre clinical trials. *Stat Med* 23:369-88, 2004.
13. Vittinghoff E, Glidden DV, Shiboski SC, McCulloch CE. *Regression Methods in Biostatistics: Linear, Logistic, Survival and Repeated Measures Models*. Springer, New York, 2005.
14. Glidden DV. Pairwise dependence diagnostics for clustered failure time data. *Biometrika* 94:371-85, 2007.
15. Geng EH, Glidden DV, Bangsberg DR, Bwana MB, Musinguzi N, Nash D, Metcalfe JZ, Yiannoutsos CT, Martin JN, Petersen ML. A causal framework for understanding the effect of losses to follow-up on epidemiologic analyses in clinic-based cohorts: The case of HIV-infected patients on antiretroviral therapy in Africa. *American Journal of Epidemiology*, doi: 10.1093/aje/kwr444

D. Research Support

Ongoing Research Support

U01AI064002-07 (Grant; UCSF PI Glidden)

1/31/13-11/30/14

NIH
Chemoprophylaxis for HIV Prevention in Men Expansion
Statistics Core for a randomized trial of chemoprophylaxis for HIV, which evaluates the safety and efficacy of daily oral tenofovir. Supplement to NIH-NIAID U01 AI064002 (Grant).
Role: Co-Investigator

U01 AI069911 (Yiannoutsos; Martin PI UCSF subcontract)

8/5/06-7/31/16

NIH/University of Indiana
East Africa IEDEA Regional Consortium
To contribute and analyze data for the International Epidemiologic Databases to Evaluate AIDS (IEDEA) from the Mbarara, Uganda-based ISS and UARTO cohorts.
Role: Co-Investigator

Completed Research Support

R01NS063876

McQuillen

9/1/09-8/30/12

NIH-NINDS

White Matter Injury in Critically Ill Newborns with Congenital Heart Disease

The goal of this study is to use perioperative advanced MR imaging in fetuses and neonates with congenital heart disease to determine if fetal and postnatal delayed brain development is a risk factor for perioperative white matter injury.

Role: Co-Investigator

P01 NS41997 Carlson; Project 3 Prusiner 7/1/07-6/30/12

NIH-NINDS/McLaughlin Research Inst.

Functional Genetics of Susceptibility to Prions

To develop cell culture models based on neurospheres, to understand the cell biology of various prions strains, and to enable rapid assay of prions from a range of species.

Role: Co-Investigator

UL1 RR024131 Johnston (PI) 9/30/06-6/30/11

NIH-NCRR

Clinical and Translational Science Institute

To enhance training and infrastructure to foster the translation of discoveries in basic science into practices that promote the health of our patients and our community.

Role: Co-Investigator

U01 AI064002 Grant / Shafer (PI) 8/15/05-1/31/09

NIH/NIAID/Gladstone Inst.

Effort ended 1/31/08

Chemoprophylaxis for HIV Prevention in Peruvian Men

To evaluate the safety and efficacy of chemoprophylaxis for HIV prevention in a randomized and blinded trial of daily oral tenofovir versus placebo among men in Peru.

Role: Co-investigator

R01 NS046432 Barkovich (PI) 9/15/04-5/31/08

NIH/NINDS

Effort ended 5/31/07

MRSI and DTI of Brain Injury in Preterm Neonates

To determine if MR techniques detect metabolic or microstructural abnormalities associated with subsequent cognitive, visual, motor, and auditory deficits more accurately than current clinical parameters.

Role: Co-investigator

R01 HL65411 Glidden (PI) 4/1/01-3/31/06

NIH/NHLBI

Failure Time Methods for Family Disease Studies

The long-term objective of this research is the development of sound methodologies that will facilitate studying the role of both genetic and environmental factors in cardiovascular disease. The short-term goal of the proposal is to develop statistical methods for age at onset data from population-based family studies of disease incidence.

Role: Principal Investigator

U62/CCU922423 Rutherford (PI) 9/30/02-3/31/06

CDC

Univ. Technical Assistance Projects in Support of the Global AIDS Program: Uganda

Project will provide technical assistant in support of the Global AIDS Program to Uganda. Assistance will be provided in the areas of training, research methodology, and evaluation and monitoring.

Role: Co-investigator

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Enter name of Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2015 End Date*: 06-30-2016 Budget Period: 1

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base	Calendar	Academic	Summer
		Name				Salary (\$)	Months	Months	Months
1 . Dr.	Johanna		Olson	M.D.	PD/PI	Institutional Based Salary	Months Devoted to Project		
2 . Dr.	Marvin		Belzer	MD	Co-Investigator				
3 . Dr.	Leslie		Clark	PhD	Co-Investigator				
4 . Dr.	Sheree		Schrager	PhD	Co-Investigator				
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons: File Name:									
Total Senior/Key Person									
169,840.00									

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
0	Post Doctoral Associates	0.00	0.00	0.00	0.00	0.00 0.00
0	Graduate Students	0.00	0.00	0.00	0.00	0.00 0.00
0	Undergraduate Students	0.00	0.00	0.00	0.00	0.00 0.00
1	Secretarial/Clerical	2.40			8,951.00	2,283.00 11,234.00
1	Study Coordinator	9.00			41,250.00	10,519.00 51,769.00
1	Data Manager	3.00			17,000.00	4,335.00 21,335.00
1	Clinical Research Manager	0.60			4,152.00	1,059.00 5,211.00
1	Psychologist	0.30			2,186.00	557.00 2,743.00
5	Total Number Other Personnel				Total Other Personnel	92,292.00
					Total Salary, Wages and Fringe Benefits (A+B)	262,132.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

C. Equipment Description	
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	Funds Requested (\$)*
Total funds requested for all equipment listed in the attached file	
Total Equipment	
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	15,000.00
2. Foreign Travel Costs	0.00
Total Travel Cost	15,000.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	10,344.00
2. Publication Costs	0.00
3. Consultant Services	0.00
4. ADP/Computer Services	0.00
5. Subawards/Consortium/Contractual Costs	575,233.00
6. Equipment or Facility Rental/User Fees	0.00
7. Alterations and Renovations	0.00
8 . Outpatient Care Costs - Labs	14,000.00
9 . Participant Incentives	4,960.00
10 . Participant Transportation	1,260.00
Total Other Direct Costs	605,797.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	882,929.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	65.00	382,696.00	248,752.00
		Total Indirect Costs	248,752.00
Cognizant Federal Agency	DHHS, Robert Lee, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	1,131,681.00

J. Fee	Funds Requested (\$)*
	0.00

K. Budget Justification*	File Name: 1234-CHLA Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 0522779360000
Budget Type*: ☒ Project ☐ Subaward/Consortium
Enter name of Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2016 End Date*: 06-30-2017 Budget Period: 2

A. Senior/Key Person																			
Prefix First Name*		Middle Name	Last Name*		Suffix		Project Role*		Base Salary (\$)		Calendar Academic Summer Months		Requested Salary (\$)*		Fringe Benefits (\$)*		Funds Requested (\$)*		
1 . Dr.		Johanna	Olson		M.D.		PD/PI		Institutional Based Salary		Months Devoted to Project		61,466.00		19,116.00		80,582.00		
2 . Dr.		Marvin	Belzer		MD		Co-Investigator						4,538.00		1,411.00		5,949.00		
3 . Dr.		Leslie	Clark		PhD		Co-Investigator						34,577.00		10,753.00		45,330.00		
4 . Dr.		Sheree	Schrager		PhD		Co-Investigator						7,427.00		1,894.00		9,321.00		
Total Funds Requested for all Senior Key Persons in the attached file																			
Additional Senior Key Persons:														File Name:		Total Senior/Key Person		141,182.00	

B. Other Personnel								
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*	
Post Doctoral Associates								
Graduate Students								
Undergraduate Students								
1	Secretarial/Clerical	2.40			9,220.00	2,351.00	11,571.00	
1	Study Coordinator	12.00			56,650.00	14,446.00	71,096.00	
1	Data Manager	9.00			52,530.00	13,395.00	65,925.00	
1	Clinical Research Manager	0.60			4,277.00	1,091.00	5,368.00	
1	Psychologist	0.60			4,504.00	1,148.00	5,652.00	
5	Total Number Other Personnel					Total Other Personnel	159,612.00	
							Total Salary, Wages and Fringe Benefits (A+B)	300,794.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

C. Equipment Description	
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	Funds Requested (\$)*
Total funds requested for all equipment listed in the attached file	
Total Equipment	
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	14,000.00
2. Foreign Travel Costs	
Total Travel Cost	14,000.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

F. Other Direct Costs		Funds Requested (\$)*
1. Materials and Supplies		1,566.00
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		842,170.00
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8 . Outpatient Care Costs - Labs		20,000.00
9 . Participant Incentives		19,760.00
10 . Participant Transportation		5,075.00
Total Other Direct Costs		888,571.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	1,203,365.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	65.00	361,195.00	234,777.00
Total Indirect Costs			234,777.00
Cognizant Federal Agency		DHHS, Robert Lee, 415-437-7820	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	1,438,142.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1234-CHLA Budget Justification.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 0522779360000
Budget Type*: ☒ Project ☐ Subaward/Consortium
Enter name of Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2017 End Date*: 06-30-2018 Budget Period: 3

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 .	Dr.	Johanna	Olson		M.D.	PD/PI	Institutional Based Salary			63,310.00	19,689.00	82,999.00	
2 .	Dr.	Marvin	Belzer		MD	Co-Investigator				4,538.00	1,411.00	5,949.00	
3 .	Dr.	Leslie	Clark		PhD	Co-Investigator				35,614.00	11,076.00	46,690.00	
4 .	Dr.	Sheree	Schrager		PhD	Co-Investigator				7,649.00	1,950.00	9,599.00	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:													
File Name:												Total Senior/Key Person	145,237.00

B. Other Personnel										
Number of Personnel*		Project Role*	Calendar Months			Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
Post Doctoral Associates										
Graduate Students										
Undergraduate Students										
1		Secretarial/Clerical		2.40			9,496.00	2,421.00	11,917.00	
1		Study Coordinator		12.00			58,350.00	14,879.00	73,229.00	
1		Data Manager		9.00			54,106.00	13,797.00	67,903.00	
1		Clinical Research Manager		0.60			4,405.00	1,123.00	5,528.00	
1		Psychologist		0.60			4,639.00	1,183.00	5,822.00	
5	Total Number Other Personnel							Total Other Personnel	164,399.00	
									Total Salary, Wages and Fringe Benefits (A+B)	309,636.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

C. Equipment Description	
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	Funds Requested (\$)*
Total funds requested for all equipment listed in the attached file	
Total Equipment	
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	7,449.00
2. Foreign Travel Costs	
Total Travel Cost	7,449.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

F. Other Direct Costs		Funds Requested (\$)*
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		865,513.00
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8 . Outpatient Care Costs - Labs		30,000.00
9 . Participant Incentives		15,120.00
10 . Participant Transportation		3,500.00
Total Other Direct Costs		914,133.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	1,231,218.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	65.00	365,705.00	237,708.00
Total Indirect Costs			237,708.00
Cognizant Federal Agency		DHHS, Robert Lee 415-437-7820	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	1,468,926.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1234-CHLA Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ● Project ○ Subaward/Consortium

Enter name of Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2018	End Date*: 06-30-2019	Budget Period: 4
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A. Senior/Key Person												
Prefix First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Johanna	Olson		M.D. PD/PI	Institutional Based Salary				65,209.00	20,280.00	85,489.00	
2 . Dr.	Marvin	Belzer		MD Co-Investigator					4,538.00	1,411.00	5,949.00	
3 . Dr.	Leslie	Clark		PhD Co-Investigator					36,300.00	11,289.00	47,589.00	
4 . Dr.	Sheree	Schrager		PhD Co-Investigator					7,879.00	2,009.00	9,888.00	
Total Funds Requested for all Senior Key Persons in the attached file												
Additional Senior Key Persons:											File Name:	Total Senior/Key Person
												148,915.00

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
	Post Doctoral Associates					
	Graduate Students					
	Undergraduate Students					
1	Secretarial/Clerical	2.40			9,781.00	2,494.00 12,275.00
1	Study Coordinator	12.00			60,101.00	15,326.00 75,427.00
1	Data Manager	9.60			59,444.00	15,158.00 74,602.00
1	Data Coordinating Site Statistician	0.60			4,863.00	1,240.00 6,103.00
1	Clinical Research Manager	0.60			4,537.00	1,157.00 5,694.00
1	Psychologist	0.60			4,778.00	1,218.00 5,996.00
6	Total Number Other Personnel					Total Other Personnel 180,097.00
						Total Salary, Wages and Fringe Benefits (A+B) 329,012.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

C. Equipment Description	
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	Funds Requested (\$)*
Total funds requested for all equipment listed in the attached file	
Total Equipment	
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	10,278.00
2. Foreign Travel Costs	
Total Travel Cost	10,278.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	0.00
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	886,890.00
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . Outpatient Care Costs - Labs	20,000.00
9 . Participant Incentives	6,960.00
10 . Participant Transportation	1,750.00
Total Other Direct Costs	915,600.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	1,254,890.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	65.00	368,000.00	239,200.00
		Total Indirect Costs	239,200.00
Cognizant Federal Agency	DHHS, Robert Lee, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	1,494,090.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1234-CHLA Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Enter name of Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2019 End Date*: 06-30-2020 Budget Period: 5

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
						Requested Salary (\$)*	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Johanna		Olson	M.D.	PD/PI		62,688.00	19,496.00	82,184.00
2 . Dr.	Marvin		Belzer	MD	Co-Investigator		3,630.00	1,129.00	4,759.00
3 . Dr.	Leslie		Clark	PhD	Co-Investigator		45,375.00	14,112.00	59,487.00
4 . Dr.	Sheree		Schrager	PhD	Co-Investigator		8,115.00	2,069.00	10,184.00
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons: File Name:									Total Senior/Key Person
									156,614.00

B. Other Personnel									
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*		
1	Post Doctoral Associates	12.00			48,000.00	12,240.00	60,240.00		
	Graduate Students								
	Undergraduate Students								
1	Secretarial/Clerical	2.40			10,074.00	2,569.00	12,643.00		
1	Study Coordinator	4.00			20,635.00	5,262.00	25,897.00		
1	Data Manager	9.60			61,227.00	15,613.00	76,840.00		
1	Data Coordinating Site Statistician	3.00			25,043.00	6,386.00	31,429.00		
1	Clinical Research Manager	0.60			4,673.00	1,192.00	5,865.00		
6	Total Number Other Personnel				Total Other Personnel		212,914.00		
							Total Salary, Wages and Fringe Benefits (A+B)		
							369,528.00		

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

C. Equipment Description	
List items and dollar amount for each item exceeding \$5,000	
Equipment Item	Funds Requested (\$)*
Total funds requested for all equipment listed in the attached file	
Total Equipment	
Additional Equipment: File Name:	

D. Travel	Funds Requested (\$)*
1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)	15,492.00
2. Foreign Travel Costs	
Total Travel Cost	15,492.00

E. Participant/Trainee Support Costs	Funds Requested (\$)*
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other:	
Number of Participants/Trainees	Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 0522779360000

Budget Type*: ☒ Project ☐ Subaward/Consortium

Organization: Children's Hospital Los Angeles

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

F. Other Direct Costs			Funds Requested (\$)*
1. Materials and Supplies			0.00
2. Publication Costs			
3. Consultant Services			
4. ADP/Computer Services			
5. Subawards/Consortium/Contractual Costs			854,522.00
6. Equipment or Facility Rental/User Fees			
7. Alterations and Renovations			
8. Outpatient Care Costs - Labs			4,000.00
9. Participant Incentives			720.00
Total Other Direct Costs			859,242.00

G. Direct Costs		Funds Requested (\$)*
Total Direct Costs (A thru F)		1,244,262.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	65.00	389,740.00	253,331.00
Total Indirect Costs			253,331.00
Cognizant Federal Agency	DHHS, Robert Lee, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs		Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)		1,497,593.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1234-CHLA Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

BUDGET JUSTIFICATION – CHILDREN’S HOSPITAL LOS ANGELES

On 2/4/14, NICHD approved our request for a waiver of policy and would accept our large grant application for review (please see Attachment). The total direct costs excluding the consortium F&A costs approved were \$4,308,525. The total direct costs excluding the consortium F&A costs for this resubmission are \$4,308,495.

A. Senior/Key Personnel

Johanna Olson, M.D., Lead/ Principal Investigator **Calendar Months (CM) Y1;** **CM Y2-Y4;** **CM Y5)**

Qualifications: Dr. Olson's research has primarily focused on transgender youth. She has a strong experience in research on issues of transgender youth including a two-year CHLA new investigator award and is one and a half years into her KL2 translational science award examining the impact of treatment of transgender youth. Dr. Olson is one semester from finishing a Master's Degree in Clinical and Biomedical Investigations at USC, and has two first author papers about transgender youth currently under review. Finally, she has extensive clinical experience treating transgender youth over the past five years. She expanded the Center for Transyouth Health and Development to include care and consultative services for children of all ages, and over the past two years worked to quadruple the number of patients served by the Center.

Role on Project: As principal investigator, Dr. Olson is responsible for overseeing all aspects of the proposed work at the CHLA site and coordinating with the Principal Investigators and Co-Investigators at the other three sites. Dr. Olson will oversee the activities of the Data Coordinating Site and serve as the liaison to the larger group of PI and Co-investigators. Dr. Olson will oversee development and implementation of the protocols for data collection, including physiologic and psychosocial data, at CHLA. As principal investigator she will be primarily responsible for overseeing coordination of care services for participants enrolled in the study at CHLA, assist in the development of the implementation protocol and contribute to presentations and manuscripts based on study data. **Total Salary Requested Y1-Y5: \$324,284**

Marvin Belzer, M.D., Co-Investigator **CM Y1;** **CM Y2-Y4;** **CM Y5)**

Qualifications: Dr. Belzer is the Director of the Division of Adolescent Medicine and has been PI for Los Angeles Adolescent Trials Network site for the past 13 years. He has been primary mentor for Dr. Olson over the past three and a half years. As a longstanding member of the NICHD funded Adolescent Trials Network, he has been involved in research with HIV+ adolescents and transgender adolescents for several years. Dr. Belzer has provided clinical care for transyouth for over 20 years.

Role on Project: As a Co-Investigator, Dr. Belzer will provide mentorship, expertise, and guidance to Dr. Olson in implementing this complex multi-site research endeavor. **Total Salary Requested Y1-Y5: \$26,319**

Leslie F. Clark, Ph.D., M.P.H., Co-Investigator **CM Y1 and Y5;** **CM Y2-Y4)**

Qualifications: Dr. Clark is a social health psychologist with training in public health and the Director of Research for the Division of Adolescent Medicine, Department of Pediatrics, at the USC Keck School of Medicine. She has worked on issues of gay and transgender youth for 18 years. Her CDC- and NIH-funded work include development, implementation, and evaluation of behavioral interventions for minority adolescents, young gay men, transgender youth, homeless youth and HIV+ youth. She was a founding member of the Behavioral Leadership Group of the NIH-funded Adolescent Trials Network and has extensive research experience with standardized measures, instrument development, implementation fidelity, and analysis of longitudinal data sets.

Role on Project: Dr. Clark will have a principal role in design of the study, methodological decision making, setting up study protocols, and survey instrument design. Dr. Clark will be responsible for coordinating the psychosocial aspects of the proposed work, including finalization of psychosocial measures with the behavioral health Co-Is, as well as establishing and maintaining a central repository of measures and relevant literature. She will also assist with survey development, data collection protocols, and intervention implementation plans. She will collaborate in cross-site data analysis, preparation of manuscripts, and strategic dissemination of discovery. **Total Salary Requested Y1-Y5: \$193,828**

Sheree M. Schrager, Ph.D., M.S., Co-Investigator ☐ CM Y1-Y5)

Qualifications: Dr. Schrager is a social psychologist with extensive knowledge of advanced statistical methods relevant to social and physical sciences and experience collecting and analyzing cross-sectional and longitudinal psychological and health datasets. She is currently the Co-Investigator of a NIDA-funded R01 grant studying substance use among adolescents in the child welfare system and has numerous publications on LGBT adolescents and young adults. As a senior manager at CHLA, she manages federally funded research projects, including design of study protocols and instruments; ensuring compliance with IRB and funding source requirements; documenting research processes, including intervention, process, and evaluation data; generating data analysis plans and supervising researchers responsible for data collection, management, and analysis; leading project-related training and meetings; and developing manuscripts for publication.

Role on Project: Dr. Schrager will advise the study core responsible for establishing standard procedures, merging collected data, and managing, analyzing, and reporting on data from all four study sites and collaborate with the project PIs and Co-Is to provide scientific leadership and direction, particularly related to psychological variable measurement and operationalization. She will provide direction to the CHLA site study coordinator, data collection staff, data manager, and biostatistician responsible for data management, cleaning, and analysis. She will also assist with survey development and constructing the protocols that will standardize the data collection and merging procedures; oversee the programming of final data collection instruments and pilot testing of ACASI programming logic; and provide advanced statistical consultation to the project, including diagnosing data problems, developing and executing analytical plans, and advising the analytic team on appropriate longitudinal data analysis methods and procedures. **Total Salary Requested Y1-Y5: \$38,280**

B. Other Personnel

To Be Named, Post-Doc Fellow (12 CM Y5)

A Post-Doctoral Fellow will be hired in year 5 to assist in the longitudinal modeling and other data analyses associated with the project and develop manuscripts for publication. **Total Salary Requested Y5: \$48,000**

Griselda Monroy, Secretarial/Clerical (Research Assistant) ☐ CM Y1-Y5)

Ms. Monroy will be responsible for ordering supplies, scheduling conference calls, arranging travel for annual meetings, and conference participation of PIs and Co-investigators. She/he will provide general administrative support to core staff and will report to Drs. Schrager and Olson. **Total Salary Requested Y1-Y5: \$47,522**

To Be Named, Study Coordinator (9 CM Y1; 12 CM Y2-4; 4 CM Y5)

She/he will conduct CHLA Institutional Review Board (IRB) activities, create and implement procedures for study visits per the protocol, collect study data, interact with study participants, and provide feedback to the CHLA research team. **Total Salary Requested Y1-5: \$236,986**

To Be Named, Data Manager (3 CM Y1; 9 CM Y2-Y3; 9.6 CM Y4-5)

This person will have extensive experience in quantitative research, including the development of data collection protocols, the design of data collection instruments, quality control, and the management of large complex data sets. This person will assist in the generation of cross-site protocols for data collection; templates for the Human Subjects IRB Boards at each site; and forms for respondent recruitment, enrollment and tracking, as well as for off-protocol and adverse events documentation. This person will train site-specific data collection staff; generate tracking tools; and enact quality control procedures for monitoring fidelity of protocol implementation, adverse event reporting, and all study forms. The data manager will be responsible for ensuring that site data are safely transferred via secure protocols to CHLA for cleaning and merging. The data manager will generate tracking reports regarding the accrual of respondents at each site as well as specific characteristics of the emerging cross-site data file. In addition, this person manages the overall data set, merging different elements, cleaning, creating composite variables and scales and running descriptive statistics such as characteristics of subjects for the entire sample (male v. female, other demographics, etc.) for the larger study group. She/he will be responsible for the establishing and maintaining a manual of all documents as implemented, IRB protocols, amendments, approvals, adverse event reporting, and correspondence. **Total Salary Requested Y1-Y5: \$244,307**

To Be Named, Data Coordinating Site Statistician (0.6 CM Y4; 3 CM Y5)

A Data Coordinating Site Statistician is budgeted for small amounts in the last year to support both central analyses to be used by all sites as well as any analyses to support future collaborative funding efforts. **Total Salary Requested Y4-Y5: \$29,906**

Julie McAvoy-Banerjea, M.P.H., Clinical Research Manager ☐ CM Y1-Y5)

Ms. McAvoy-Banerjea has strong skills in managing clinical research trials. Her experience includes budget management, supervision of research protocol implementation, conducting quality assurance activities, and IRB and regulatory documentation. She will supervise the CHLA Study Coordinator, provide support and assistance for study-related activities, and conduct quality assurance activities. **Total Salary Requested Y1-Y5: \$22,044**

Catherine Forbes, Ph.D., Psychologist ☐ CM Y1, ☐ CM Y2-Y4)

Dr. Forbes has extensive experience in providing individual, family, and group therapy to transgender youth. She will provide psychological evaluation of CHLA study participants, therapeutic services, and urgent assessments related to research participation. **Total Salary Requested Y1-Y4: \$16,107**

Fringe Benefits

The fringe benefit rate for USC Faculty (Dr. Olson, Dr. Belzer and Dr. Clark) is 31.1% of Salaries. The fringe benefit rate for Children's Hospital Los Angeles staff (the rest of the personnel) is 25.5%. Total Fringe Benefits are: Year 1 \$58,735; Year 2 \$65,605; Year 3 \$67,529; Year 4 \$71,582; Year 5 \$80,068. **Total Fringe Benefits Requested Y1-Y5: \$343,519**

C. Equipment

No Equipment in excess of \$5,000 per item will be purchased.

D. Travel

The Data Coordinating Site requests travel funds to support an annual trip for non-CHLA PI and Co-Investigators to meet in Los Angeles to discuss research agendas, progress, and products. Domestic travel is budgeted at \$1,000 per person (including airfare, hotel, and per diem) for two investigators from San Francisco and \$1,500 per person (including airfare, hotel, and per diem) for four investigators from the sites outside of California. In addition, the PI or a Co-I at each site will make one domestic trip to a relevant professional conference, grantee meeting, or to consult with other researchers (\$1,750 for hotel, airfare, and per diem). A total of \$15,000 is requested for travel in Year 1. In Year 2, \$10,000 is requested for the annual PI/Co-I meeting and \$4,000 for domestic travel for relevant professional conference, grantee meeting, or to consult with other researchers for at total of \$14,000. In Year 3, \$7,449 is budgeted for the PI/Co-I meeting. In Year 4, \$8,000 is requested for the annual PI/Co-I meeting and \$2,278 for domestic travel for relevant professional conference, grantee meeting, or to consult with other researchers for at total of \$10,278. In Year 5, \$8,000 is requested for the annual PI/Co-I meeting and \$7,492 for domestic travel for relevant professional conference, grantee meeting, or to consult with other researchers for at total of \$15,492. **Total Travel Requested Y1-Y5: \$62,219**

E. Participant/Trainee Support Costs

No Participant/Trainee Supports Costs are being requested.

F. Other Direct Costs

Other Direct Costs are as follows:

F1. Materials and Supplies: Computers are budgeted at \$1,000 each per site and one for the data manager in Year 1. Software for data collection, management, and storage will be purchased for the four site specific laptops and the data manager computer and is requested at \$1,200 in Year 1. Project specific supplies for use in study activities are proposed at \$4,144 for Year 1, \$1,566 for Year 2, \$0 for Years 3 through 5 for a Total of \$5,710. **Total Materials and Supplies Requested Y1-Y5: \$11,910**

F2. Publication Costs: No Publication Costs are being requested.

F3. Consultant Services: No Consultant Services are being requested.

F4. ADP/Computer Services: No ADP/Computer Services are being requested.

F5. Subawards/Consortium/Contractual Costs: Consortium costs are as follows:

Boston Children's Hospital:

	Direct	Indirect (76.75/77%)	TOTAL Per Year
Year 1	\$97,165	\$74,574	\$171,739
Year 2	\$130,545	\$100,520	\$231,065
Year 3	\$134,113	\$103,267	\$237,380
Year 4	\$137,783	\$106,093	\$243,876
Year 5	\$110,288	\$84,922	\$195,210
TOTAL	\$609,894	\$469,376	\$1,079,270

Lurie Children's Hospital of Chicago:

	Direct	Indirect (50%)	TOTAL Per Year
Year 1	\$109,864	\$54,932	\$164,796
Year 2	\$189,811	\$94,906	\$284,717
Year 3	\$194,612	\$97,306	\$291,918
Year 4	\$199,558	\$93,779	\$299,337
Year 5	\$204,652	\$102,326	\$306,978
TOTAL	\$898,497	\$449,249	\$1,347,746

University of California San Francisco:

	Direct	Indirect (58.5%)	TOTAL Per Year
Year 1	\$150,598	\$88,100	\$238,698
Year 2	\$205,923	\$120,465	\$326,388
Year 3	\$212,123	\$124,092	\$336,215
Year 4	\$216,831	\$126,846	\$343,677
Year 5	\$222,293	\$130,041	\$352,334
TOTAL	\$1,007,768	\$589,544	\$1,597,312

Cost sharing: Expertise across the specialties will be available for all of the sites. In this manner, we are able to avoid duplication and increased cost of specialists at each site. Subawards/Consortium/Contractual cost for Year 1 are \$575,233, Year 2 \$842,170, Year 3 \$865,513, Year 4 \$886,890, Year 5 \$854,522. **Total Subawards/Consortium/Contractual Costs Requested Y1-Y5: \$4,024,328.**

F6. Equipment or Facility Rental /User Fees: No Equipment or Facility Rental/User Fees are being requested.

F7. Alterations and Renovations: No Alterations and Renovations are being requested.

F8. Outpatient Care Costs: While it is our expectation that insurance will cover the labs associated with this proposal for the most part, we acknowledge that there may be instances where obstacles arise and insurance is unable to cover labs required for research windows as proposed. Therefore, we are requesting \$14,000 to cover an estimated 10-20% of laboratory costs in Year 1, \$20,000 in Year 2, \$30,000 in Year 3, \$20,000 in Year 4, and \$4,000 in Year 5. The funding request fluctuates over the years to correlate with the flow of patient visits based on the visit timeline. Children's Hospital Los Angeles has a DHHS-negotiated research patient care rate agreement for in-house clinical research labs at 38% of cost; however, many of these labs are sent to off-site laboratories such as Quest, and those charges are at cost. Examples of expected labs and their associated costs are:

- Gonadotropin Assay (Follicle Stimulating Hormone) \$25.78
- Free Testosterone Assay \$9.00
- Total Testosterone Assay \$10.00
- Estradiol Ultra Sensitive Assay \$36.50

Total Outpatient Care Costs Requested Y1-Y5: \$88,000

F9. Participant Incentives: Compensation of \$40 will be provided at each visit to the participants. For the early pubertal cohort, the parent-child dyad will receive only \$40 even though they are both considered research subjects. We anticipate the following numbers of visits by year: Year 1: 124; Year 2, 494; Year 3, 378; Year 4, 174, Year 5, 18. Therefore we request \$4,960 for Year 1, \$19,760 for Year 2, \$15,120 in Year 3, \$6,960 for Year 4, and \$720 for Year 5.

Total Participant Incentives Requested Y1-Y5: \$47,520

F9. Participant Transportation: For the site-specific activities, participant transportation is requested at \$70 per site visit for those participants who do not have reliable transportation. We request \$1,260 (18 visits) for Year 1, \$5,075 (72.5 visits) for Year 2, \$3,500 (50 visits) for Year 3, \$1,750 (25 visits) for Year 4, and \$0 for Year 5. **Total Participant Transportation Requested Y1-Y4: \$11,585.**

G. Total Direct Costs

Total Direct Costs are as follows:

	Direct
Year 1	\$882,929
Year 2	\$1,203,365
Year 3	\$1,231,218
Year 4	\$1,254,890
Year 5	\$1,244,262
TOTAL	\$5,816,664

H. Indirect Costs

Indirect costs (Facilities & Administrative Costs) are based on Modified Total Direct Costs and are 65% as approved by the Department of Health and Human Services on 2/5/14.

	Indirect (65%)
Year 1	\$248,752
Year 2	\$234,777
Year 3	\$237,708
Year 4	\$239,200
Year 5	\$253,331
TOTAL	\$1,213,768

I. Total Direct and Indirect Costs

	Direct	Indirect (65%)	TOTAL Per Year
Year 1	\$882,929	\$248,752	\$1,131,681
Year 2	\$1,203,365	\$234,777	\$1,438,142
Year 3	\$1,231,218	\$237,708	\$1,468,926
Year 4	\$1,254,890	\$239,200	\$1,494,090
Year 5	\$1,244,262	\$253,331	\$1,497,593
TOTAL	\$5,816,664	\$1,213,768	\$7,030,432

J. Fee

No Fee is being requested.

Timeline of Project Activities: Funds will be used to implement the research project according to the following Timeline of Project Activities:

Activities	YEAR 1 (SEP '14-AUG '15)				YEAR 2 (SEP '15-AUG '16)				YEAR 3 (SEP '16-AUG '17)				YEAR 4 (SEP '17-AUG '18)				YEAR 5 (SEP '18-AUG '19)			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Start Up and Project Implementation Activities																				
Ongoing cross-site decisional calls	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Protocol development/IRB approval	x	x																		
Hire project data manager	x																			
Pilot test measures and procedures		x																		
Program and test ACASI		x																		
Hire/train project coordinators and staff			x																	
Convene yearly cross site meetings	x				x				x				x				x			
Data Collection: Early Pubertal Cohort																				
Recruit and consent subjects			x	x	x	x	x	x	x	x										
Baseline ACASI/physiologic data			x	x	x	x	x	x	x	x										
6,12, 24-month assessments					x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Data Collection: Late Pubertal Cohort																				
Recruit and consent subjects			x	x	x	x	x	x												
Baseline ACASI/physiologic data			x	x	x	x	x	x	x											
6,12, 24-month assessments					x	x	x	x	x	x	x	x	x	x	x	x	x			
Data Management, Analysis, and Write Up																				
Data management			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	
Data analysis							x	x	x	x	x	x	x	x	x	x	x	x	x	x
Dissemination and publications								x	x	x	x	x	x	x	x	x	x	x	x	x

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		761,788.00
Section B, Other Personnel		809,314.00
Total Number Other Personnel	27	
Total Salary, Wages and Fringe Benefits (A+B)		1,571,102.00
Section C, Equipment		
Section D, Travel		62,219.00
1. Domestic	62,219.00	
2. Foreign	0.00	
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		4,183,343.00
1. Materials and Supplies	11,910.00	
2. Publication Costs	0.00	
3. Consultant Services	0.00	
4. ADP/Computer Services	0.00	
5. Subawards/Consortium/Contractual Costs	4,024,328.00	
6. Equipment or Facility Rental/User Fees	0.00	
7. Alterations and Renovations	0.00	
8. Other 1	88,000.00	
9. Other 2	47,520.00	
10. Other 3	11,585.00	
Section G, Direct Costs (A thru F)		5,816,664.00
Section H, Indirect Costs		1,213,768.00
Section I, Total Direct and Indirect Costs (G + H)		7,030,432.00
Section J, Fee		0.00

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Boston Children's Hospital

Start Date*: 07-01-2015 End Date*: 06-30-2016 Budget Period: 1

A. Senior/Key Person			
Prefix First Name*	Middle Name	Last Name*	Suffix Project Role*
1 . Dr. Norman		Spack	MD PD/PI
2 . Dr. Amy		Tishelman	PhD Co-Investigator
3 . Dr. Daniel		Shumer	MD Co-Investigator
Total Funds Requested for all Senior Key Persons in the attached file			
Additional Senior Key Persons:			File Name:

Salary (\$)	Months	Calendar Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
Institutional Based Salary	Months Devoted to Project			9,075.00	2,654.00	11,729.00
				20,600.00	6,026.00	26,626.00
				15,000.00	4,388.00	19,388.00
Total Senior/Key Person						57,743.00

B. Other Personnel			
Number of Personnel*	Project Role*	Calendar Months	Academic Months
	Post Doctoral Associates		
	Graduate Students		
	Undergraduate Students		
	Secretarial/Clerical		
1	Research Nurse	1.20	
1	Project Coordinator	6.00	
2	Total Number Other Personnel		
Total Salary, Wages and Fringe Benefits (A+B)		Total Other Personnel	

Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
9,000.00	2,633.00	11,633.00
21,500.00	6,289.00	27,789.00
Total Salary, Wages and Fringe Benefits (A+B)		97,165.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	97,165.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	76.75	97,165.00	74,574.00
		Total Indirect Costs	74,574.00
Cognizant Federal Agency		DHHS, Joseph Guarnieri, 212-264-2069	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	171,739.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1241-Boston Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Boston Children's Hospital

Start Date*: 07-01-2016 End Date*: 06-30-2017 Budget Period: 2

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
						Requested Salary (\$)*	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Norman		Spacks	MD	PD/PI		9,075.00	2,654.00	11,729.00
2 . Dr.	Amy		Tishelman	PhD	Co-Investigator		21,218.00	6,206.00	27,424.00
3 . Dr.	Daniel		Shumer	MD	Co-Investigator		15,450.00	4,519.00	19,969.00
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons:						Total Senior/Key Person			
File Name:						59,122.00			

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Research Nurse	1.20			9,270.00	2,711.00 11,981.00
1	Project Coordinator	12.00			44,290.00	12,955.00 57,245.00
1	Research Assistant	0.60			1,700.00	497.00 2,197.00
3	Total Number Other Personnel				Total Other Personnel	71,423.00
					Total Salary, Wages and Fringe Benefits (A+B)	
					130,545.00	

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	130,545.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	77.00	130,545.00	100,520.00
		Total Indirect Costs	100,520.00
Cognizant Federal Agency		DHHS, Joseph Guarnieri, 212-264-2069	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	231,065.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1241-Boston Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Boston Children's Hospital

Start Date*: 07-01-2017 End Date*: 06-30-2018 Budget Period: 3

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
						Salary (\$)	Months	Months	Months
						Institutional Based Salary	Months Devoted to Project		
						Requested Salary (\$)*	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Norman		Spack	MD	PD/PI				
2 . Dr.	Amy		Tishelman	PhD	Co-Investigator				
3 . Dr.	Daniel		Shumer	MD	Co-Investigator				
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons:						Total Senior/Key Person		60,546.00	
File Name:									

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Research Nurse	1.20			9,548.00	2,793.00 12,341.00
1	Project Coordinator	12.00			45,619.00	13,344.00 58,963.00
1	Research Assistant	0.60			1,751.00	512.00 2,263.00
3	Total Number Other Personnel				Total Other Personnel	73,567.00
Total Salary, Wages and Fringe Benefits (A+B)						134,113.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	134,113.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	77.00	134,113.00	103,267.00
		Total Indirect Costs	103,267.00
Cognizant Federal Agency		DHHS, Joseph Guarnieri, 212-264-2069	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	237,380.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1241-Boston Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Boston Children's Hospital

Start Date*: 07-01-2018 End Date*: 06-30-2019 Budget Period: 4

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
			Name						
1 . Dr.	Norman		Spack	MD	PD/PI	Institutional Based Salary [Redacted]	Months Devoted to Project [Redacted]		Requested Salary (\$)*
									Fringe Benefits (\$)*
									Funds Requested (\$)*
2 . Dr.	Amy		Tishelman	PhD	Co-Investigator				9,075.00
									22,510.00
									2,654.00
3 . Dr.	Daniel		Shuman	MD	Co-Investigator				16,391.00
									6,584.00
									4,794.00
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons: File Name:									
Total Senior/Key Person									62,008.00

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Research Nurse	1.20			9,835.00	2,877.00 12,712.00
1	Project Coordinator	12.00			46,987.00	13,744.00 60,731.00
1	Research Assistant	0.60			1,804.00	528.00 2,332.00
3	Total Number Other Personnel				Total Other Personnel	75,775.00
Total Salary, Wages and Fringe Benefits (A+B)						137,783.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	137,783.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	77.00	137,783.00	106,093.00
		Total Indirect Costs	106,093.00
Cognizant Federal Agency		DHHS, Joseph Guarnieri, 212-264-2069	
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	243,876.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1241-Boston Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 0765937220000
Budget Type*: ☐ Project ☒ Subaward/Consortium
Enter name of Organization: Boston Children's Hospital

Start Date*: 07-01-2019 End Date*: 06-30-2020 Budget Period: 5

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
						Requested Salary (\$)*	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Norman		Spack	MD	PD/PI	9,075.00	23,185.00	2,654.00	11,729.00
2 . Dr.	Amy		Tishelman	PhD	Co-Investigator	16,883.00	23,185.00	6,782.00	29,967.00
3 . Dr.	Daniel		Shumer		Co-Investigator		16,883.00	4,938.00	21,821.00
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons:						Total Senior/Key Person			
File Name:						63,517.00			

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Research Nurse	1.20			10,130.00	2,963.00 13,093.00
1	Project Coordinator	6.00			24,199.00	7,078.00 31,277.00
1	Research Assistant	0.60			1,858.00	543.00 2,401.00
3	Total Number Other Personnel				Total Other Personnel	46,771.00
					Total Salary, Wages and Fringe Benefits (A+B)	110,288.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 0765937220000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Boston Children's Hospital

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	110,288.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	77.00	110,288.00	84,922.00
		Total Indirect Costs	84,922.00
Cognizant Federal Agency	DHHS, Joseph Guarnieri, 212-264-2069		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	195,210.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1241-Boston Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

BUDGET JUSTIFICATION – BOSTON CHILDREN'S HOSPITAL

A. Senior/Key Personnel

Norman Spack, M.D., Principal Investigator ☐ **Calendar Months (CM) Y1-Y5)**

Qualifications: Dr. Spack is a Pediatric Endocrinologist and a principal in Boston Children's Hospital's Gender Management Service (GeMS) which opened in 2007. GeMS was the first pediatric academic program in the western hemisphere to treat early adolescents with gender dysphoria.

Role on Project: He will collaborate with the project Principal Investigators and relevant Co-Investigators to create and finalize a cross-site study implementation protocol, so that each site carries out the project in the same manner. He will take primary responsibility for the implementation of the scientific aims of this project at Boston Children's Hospital as well as collaborate to disseminate findings. **Total Salary Requested Y1-5: \$45,375**

Amy Tishelman, Ph.D., Co-Investigator ☐ **CM Y1-5)**

Qualifications: Dr. Tishelman is a Clinical Psychologist with significant expertise in scholarship and clinical realms. Before joining the GeMS team, she was the Director of Child Protection Clinical Services at Boston Children's Hospital and subsequently Director of Training and Research for that program.

Role on Project: She will share responsibility for the scientific and fiscal integrity of this project, provide support to research participants when needed, and will oversee all research activities at Boston Children's Hospital. She will assist in directly supervising and managing frontline research activities involving project direction and data management. Specifically, Dr. Tishelman, along with Dr. Shumer, will supervise the Project Coordinator in her/his management of day-to-day tasks by coordinating IRB submissions, developing and overseeing effective recruitment strategies, and providing ongoing advice regarding confidential data collection/management procedures. She will share responsibility for data interpretation and dissemination of findings with Drs. Spack and Shumer. **Total Salary Requested Y1-5: \$109,368**

Daniel Shumer, M.D., Co-Investigator ☐ **CM Y1-Y5)**

Qualifications: Dr. Shumer is a Pediatric Endocrinologist at Boston Children's Hospital.

Role on Project: As a clinical co-investigator Dr. Shumer will support the PIs around all issues of research at the Boston site. These include hiring, study design, setting up study protocols, and survey instrument design. Along with Dr. Tishelman, he will train and supervise the Project Coordinator and Research Assistant, train the Registered Nurse, and help to oversee all aspects of the research activities at Boston Children's Hospital. He will also assist in data collection protocols and intervention implementation plans. He will collaborate in data analysis, preparation of manuscripts, and dissemination activities. He will conduct patient assessments, review laboratory results, prescribe medication, and consult with the study team on all endocrinological issues such as bone development and growth. Dr. Shumer will assist in protocol development and attend project meetings, phone calls, and other study related interactions as needed **Total Salary Requested Y1-5: \$79,638**

B. Other Personnel

To Be Named, Research Nurse, R.N. (1.2 CM Y1-Y5)

The Research Nurse will be an individual with a Registered Nurse degree or higher and will have substantial research experience with LGBT, YMSM, and/or YGBM populations. He/she will conduct study-related research visits in collaboration with study faculty and engage in activities such as assessments, collection of study related specimens, and regulatory documentation. **Total Salary Requested Y1-5: \$47,783**

To Be Named – Project Coordinator (6 CM Y1; 12 CM Y2-Y4; 6 CM Y5)

The Project Coordinator will be an individual with a clinical master's degree and substantial research experience with LGBT populations. He/she will meet regularly with project investigators and will coordinate project development, participant recruitment, and overall project implementation. He/she will work with the Co-Is to communicate with the site IRB, coordinate recruitment and retention, manage day-to-day operations of the project, and oversee confidential data collection procedures. He/she will also assist in refining assessment instruments, preparation of procedural manuals, and assist in maintaining IRB approval. He/she will coordinate

and attend staff meetings and other study related collaborations as needed. **Total Salary Requested Y1-5: \$182,595**

To Be Named – Research Assistant (0.6 CM Y2-5)

The Research Assistant will provide data collection support. He/she will also participate in all study-related meetings, calls, and collaborations and assist the Project Coordinator as needed. **Total Salary Requested Y2-5: \$7,113**

Fringe Benefits

The fringe benefit rate is 29.25% of Salaries. Total Fringe Benefits are: Year 1 \$21,990; Year 2 \$29,542; Year 3 \$30,351; Year 4 \$31,181; Year 5 \$24,958. **Total Fringe Benefits Requested Y1-Y5: \$138,022**

C. Equipment

No Equipment in excess of \$5,000 per item will be purchased.

D. Travel

No Travel is requested.

E. Participant/Trainee Support Costs

No Participant/Trainee Supports Costs are being requested.

F. Other Direct Costs

No Direct Costs are being requested.

G. Total Direct Costs

Total Direct Costs are as follows:

	Direct
Year 1	\$97,165
Year 2	\$130,545
Year 3	\$134,113
Year 4	\$137,783
Year 5	\$110,288
TOTAL	\$609,894

H. Indirect Costs

Indirect costs (Facilities & Administrative Costs) are based on Modified Total Direct Costs and are 76.75% in Year 1 and 77% in Years 2 - 5 as approved by the Department of Health and Human Services on 10/1/2013.

	Indirect 76.75%	Indirect 77%
Year 1	\$74,574	
Year 2		\$100,520
Year 3		\$103,267

Year 4	\$106,093
Year 5	\$84,922
TOTAL	\$469,376

I. Total Direct and Indirect Costs

	TOTAL Per Year
Year 1	\$171,739
Year 2	\$231,065
Year 3	\$237,380
Year 4	\$243,876
Year 5	\$195,210
TOTAL	\$1,079,270

J. Fee

No Fee is being requested.

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		302,936.00
Section B, Other Personnel		306,958.00
Total Number Other Personnel	14	
Total Salary, Wages and Fringe Benefits (A+B)		609,894.00
Section C, Equipment		
Section D, Travel		
1. Domestic		
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Other 1		
9. Other 2		
10. Other 3		
Section G, Direct Costs (A thru F)		609,894.00
Section H, Indirect Costs		469,376.00
Section I, Total Direct and Indirect Costs (G + H)		1,079,270.00
Section J, Fee		

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2015 End Date*: 06-30-2016 Budget Period: 1

A. Senior/Key Person														
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*		
1 . Dr.	Robert		Garofalo	MD	PD/PI	Institutional Based Salary	Months Devoted to Project					21,780.00	5,663.00	27,443.00
2 . Dr.	Lisa		Simons	MD	Co-Investigator - Pediatrician							6,988.00	1,817.00	8,805.00
3 . Dr.	Marco		Hidalgo	PhD	Co-Investigator - Psychologist							15,054.00	3,914.00	18,968.00
4 . Dr.	Scott		Leibowitz	MD	Co-Investigator - Psychiatrist							3,172.00	825.00	3,997.00
5 . Dr.	Courtney		Finlayson	MD	Co-Investigator - Endocrinologist							8,034.00	2,089.00	10,123.00
6 . Dr.	Joel		Frader	MD	Ethicist							1,815.00	472.00	2,287.00
Total Funds Requested for all Senior Key Persons in the attached file														
Additional Senior Key Persons:												Total Senior/Key Person		71,623.00
File Name:														

B. Other Personnel								
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*	
	Post Doctoral Associates							
	Graduate Students							
	Undergraduate Students							
	Secretarial/Clerical							
1	Project Coordinator	6.00			21,350.00	5,551.00	26,901.00	
1	Nurse	3.00			9,000.00	2,340.00	11,340.00	
2	Total Number Other Personnel					Total Other Personnel	38,241.00	
Total Salary, Wages and Fringe Benefits (A+B)							109,864.00	

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	109,864.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Mmodified Total Direct Costs	50.00	109,864.00	54,932.00
		Total Indirect Costs	54,932.00
Cognizant Federal Agency	DHHS, Denise Shirlee, 214-767-3261		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	164,796.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1242-Lurie Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2016 End Date*: 06-30-2017 Budget Period: 2

A. Senior/Key Person														
Prefix First Name*		Middle Name	Last Name*		Suffix	Project Role*	Base Salary (\$)		Calendar Academic Months		Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1 . Dr.	Robert		Garofalo		MD	PD/PI	Institutional Based Salary	Months Devoted to Project						
2 . Dr.	Lisa		Simons		MD	Co-Investigator - Pediatrician								
3 . Dr.	Marco		Hidalgo		PhD	Co-Investigator - Psychologist								
4 . Dr.	Scott		Leibowitz		MD	Co-Investigator - Psychiatrist								
5 . Dr.	Courtney		Finlayson		MD	Co-Investigator - Endocrinologist								
6 . Dr.	Joel		Frader		MD	Ethicist								
Total Funds Requested for all Senior Key Persons in the attached file														
Additional Senior Key Persons: File Name:														
Total Senior/Key Person													72,882.00	

B. Other Personnel		Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
			Post Doctoral Associates						
			Graduate Students						
			Undergraduate Students						
			Secretarial/Clerical						
	1		Project Coordinator	12.00			43,981.00	11,435.00	55,416.00
	1		Data Manager	3.00			11,740.00	3,052.00	14,792.00
	1		Nurse	6.00			37,080.00	9,641.00	46,721.00
		3	Total Number Other Personnel				Total Other Personnel		116,929.00
							Total Salary, Wages and Fringe Benefits (A+B)		189,811.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	189,811.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	50.00	189,811.00	94,906.00
		Total Indirect Costs	94,906.00
Cognizant Federal Agency	DHHS, Denise Shirlee, 214-767-3261		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	284,717.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1242-Lurie Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2017 End Date*: 06-30-2018 Budget Period: 3

A. Senior/Key Person													
Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Robert		Garofalo	MD	PD/PI	Institutional Based Salary	Months Devoted to Project			21,780.00	5,663.00	27,443.00	
2 . Dr.	Lisa		Simons	MD	Co-Investigator - Pediatrician					7,414.00	1,928.00	9,342.00	
3 . Dr.	Marco		Hidalgo	PhD	Co-Investigator - Psychologist					15,971.00	4,152.00	20,123.00	
4 . Dr.	Scott		Leibowitz	MD	Co-Investigator - Psychiatrist					3,366.00	875.00	4,241.00	
5 . Dr.	Courtney		Finlayson	PhD	Co-Investigator - Endocrinologist					8,523.00	2,216.00	10,739.00	
6 . Dr.	Joel		Frader	MD	Ethicist					1,815.00	472.00	2,287.00	
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons: File Name:												Total Senior/Key Person	74,175.00

B. Other Personnel		Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
			Post Doctoral Associates						
			Graduate Students						
			Undergraduate Students						
			Secretarial/Clerical						
		1	Project Coordinator	12.00			45,300.00	11,778.00	57,078.00
		1	Data Manager	3.00			12,092.00	3,144.00	15,236.00
		1	Nurse	6.00			38,193.00	9,930.00	48,123.00
		3	Total Number Other Personnel				Total Other Personnel		120,437.00
							Total Salary, Wages and Fringe Benefits (A+B)		194,612.00

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	194,612.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	50.00	194,612.00	97,306.00
Total Indirect Costs			97,306.00
Cognizant Federal Agency	DHHS, Denise Shirlee, 214-767-3261		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	291,918.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1242-Lurie Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 0744387550000
Budget Type*: ☐ Project ☒ Subaward/Consortium
Enter name of Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2018 End Date*: 06-30-2019 Budget Period: 4

A. Senior/Key Person													
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base	Calendar	Academic	Summer	Requested	Fringe	Funds Requested (\$)*	
		Name				Salary (\$)	Months	Months	Months	Salary (\$)*	Benefits (\$)*		
1 . Dr.	Robert		Garofalo	MD	PD/PI	Institutional Based Salary	Months Devoted to Project			21,780.00	5,663.00	27,443.00	
2 . Dr.	Lisa		Simons	MD	Co-Investigator Pediatrician					7,636.00		1,985.00	9,621.00
3 . Dr.	Marco		Hidalgo	PhD	Co-Investigator Psychologist					16,450.00		4,277.00	20,727.00
4 . Dr.	Scott		Leibowitz	MD	Co-Investigator Psychiatrist					3,467.00		901.00	4,368.00
5 . Dr.	Courtney		Finlayson	MD	Co-Investigator Endocrinologist					8,779.00		2,283.00	11,062.00
6 . Dr.	Joel		Frader	MD	Ethicist					1,815.00		472.00	2,287.00
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons:													
File Name:													
Total Senior/Key Person													
75,508.00													

B. Other Personnel												
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*					
Post Doctoral Associates												
Graduate Students												
Undergraduate Students												
Secretarial/Clerical												
1	Project Coordinator	12.00			46,659.00	12,131.00	58,790.00					
1	Data Manager	3.00			12,455.00	3,238.00	15,693.00					
1	Nurse	6.00			39,339.00	10,228.00	49,567.00					
3	Total Number Other Personnel					Total Other Personnel	124,050.00					
							Total Salary, Wages and Fringe Benefits (A+B)	199,558.00				

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item	Funds Requested (\$)*
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Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	199,558.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	50.00	199,558.00	99,779.00
		Total Indirect Costs	99,779.00
Cognizant Federal Agency	DHHS, Denise Shirlee, 214-767-3261		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	299,337.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1242-Lurie Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 0744387550000
Budget Type*: ☐ Project ☒ Subaward/Consortium
Enter name of Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2019 End Date*: 06-30-2020 Budget Period: 5

A. Senior/Key Person														
Prefix First Name*		Middle Name	Last Name*		Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Robert		Garofalo		MD	PD/PI	Institutional Based Salary	Months Devoted to Project			21,780.00	5,663.00	27,443.00	
2 . Dr.	Lisa		Simons		MD	Co-Investigator Pediatrician					7,865.00	2,045.00	9,910.00	
3 . Dr.	Marco		Hidalgo		PhD	Co-Investigator Psychologist					16,944.00	4,405.00	21,349.00	
4 . Dr.	Scott		leibowitz		MD	Co-Investigator Psychiatrist					3,571.00	928.00	4,499.00	
5 . Dr.	Courtney		Finlayson		MD	Co-Investigator Endocrinologist					9,042.00	2,351.00	11,393.00	
6 . Dr.	Joel		Frader		MD	Ethicist					1,815.00	472.00	2,287.00	
Total Funds Requested for all Senior Key Persons in the attached file														
Additional Senior Key Persons:												Total Senior/Key Person		76,881.00
File Name:														

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
	Post Doctoral Associates					
	Graduate Students					
	Undergraduate Students					
	Secretarial/Clerical					
1	Project Coordinator	12.00			48,059.00	12,495.00 60,554.00
1	Data Manager	3.00			12,828.00	3,335.00 16,163.00
1	Nurse	6.00			40,519.00	10,535.00 51,054.00
3	Total Number Other Personnel				Total Other Personnel	127,771.00
Total Salary, Wages and Fringe Benefits (A+B)						204,652.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children???s Hospital of Chicago

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 0744387550000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: Ann and Robert H. Lurie Children's Hospital of Chicago

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
Total Other Direct Costs	

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	204,652.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	50.00	204,652.00	102,326.00
		Total Indirect Costs	102,326.00
Cognizant Federal Agency	DHHS, Denise Shirlee, 214-767-3261		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	306,978.00

J. Fee	Funds Requested (\$)*
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K. Budget Justification*	File Name: 1242-Lurie Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

BUDGET JUSTIFICATION – ANN AND ROBERT H. LURIE CHILDREN'S HOSPITAL OF CHICAGO

A. Senior/Key Personnel

Rob Garofalo, M.D., MPH, Principal Investigator ☐ **Calendar Months (CM) Y1-Y5)**

Qualifications: Dr. Garofalo is Director of Adolescent HIV Services and Director of the Center for Gender, Sexuality and HIV Prevention at Lurie Children's. He is also Associate Professor in the Departments of Pediatrics and Preventive Medicine, Northwestern University's Feinberg School of Medicine. Dr. Garofalo has extensive experience in the clinical care of gender non-conforming children and young adults. His research career has focused on the collection of data, both behavioral and clinical biomarkers, in marginalized populations and the translation of this data into intervention development. As a PI on numerous federally funded studies, he has developed the skills to collaborate with and/or lead interdisciplinary and multi-site research teams.

Role on Project: He will take primary responsibility for the implementation of the scientific aims of this project at Lurie Children's as well as collaborate to disseminate findings. **Total Salary Requested Y1-5: \$108,379**

Lisa Simons, M.D., Co-Investigator – Pediatrician ☐ **CM Y1-5)**

Qualifications: Dr. Simons is Instructor of Pediatrics at Northwestern University, Feinberg School of Medicine and Attending Physician, Division of Adolescent Medicine at Ann & Robert H. Lurie Children's Hospital of Chicago.

Role on Project: She will share responsibility for the scientific and fiscal integrity of this project and will oversee all research activities at Lurie Children's. She will share responsibility for data interpretation and dissemination of findings with Dr. Garofalo. **Total Salary Requested Y1-5: \$37,101**

Marco A. Hidalgo, Ph.D., Co-Investigator – Psychologist ☐ **CM Y1-Y5)**

Qualifications: Dr. Hidalgo is a Medical Psychologist in the Division of Adolescent Medicine at Lurie Children's Hospital.

Role on Project: He will assist Investigators in directly supervising and managing frontline research activities involving project direction and data management. Specifically, Dr. Hidalgo will supervise the Project Coordinator in her/his management of day-to-day tasks by coordinating IRB submissions, developing and overseeing effective recruitment strategies, and providing ongoing advice regarding confidential data collection/ management procedures. He will also assist the Data Manager in refining assessment instruments, managing study databases, and creating data manuals. Dr. Hidalgo will attend staff meetings. **Total Salary Requested Y1-5: \$79,925**

Scott Leibowitz, M.D., Co-Investigator – Psychiatrist ☐ **CM Y1-5)**

Qualifications: Dr. Leibowitz is the only Psychiatrist appointed across all study sites. Dr. Leibowitz has extensive experience working with gender nonconforming children and adolescents.

Role on Project: He will assist in protocol development as well as conduct patient assessments at the Lurie site. Dr. Leibowitz will attend project meetings, phone calls, and other study related interactions as needed. **Total Salary Requested Y1-5: \$16,844**

Courtney Finlayson, M.D., Co-Investigator – Endocrinologist ☐ **CM Y1-Y5)**

Qualifications: Dr. Finlayson's work has focused on pediatric endocrinology and diabetes patients with a specific interest in disorders of sex development and puberty.

Role on Project: She will be the lead Endocrinologist at the Lurie site and will conduct patient assessments, review laboratory results, and consult with the study teams on all endocrinological issues such as bone development and growth. Dr. Finlayson will assist in protocol development and attend project meetings, phone calls, and other study related interactions as needed. **Total Salary Requested Y1-5: \$42,653**

Joel Frader, M.D., Ethicist ☐ **CM Y1-Y5)**

Qualifications: Dr. Frader is the Division Head of Academic General Pediatrics at the Lurie site.

Role on Project: He will examine ethical aspects of the implementation of clinical guidelines, including: identifying the age and developmental/maturational characteristics of decision-making capacity of children and adolescents for treatment; describing the ways in which clinicians and parents manage different points of view regarding treatment, particularly when parent perspectives are based on particular religious and philosophical

convictions; and ethical and legal issues surrounding school or voluntary organization exclusion or other discrimination based on gender nonconformity. Dr. Frader will also assist in protocol development and attend project meetings, phone calls, and other study related interactions as needed. **Total Salary Requested Y1-5: \$9,075**

B. Other Personnel

To Be Named, Project Coordinator (6 CM Y1; 12 CM Y2-Y5)

The Project Coordinator will be an individual with a clinical master's degree and substantial research experience with LGBT populations. He/she will meet regularly with project investigators and will coordinate project development, participant recruitment, and overall project implementation. He/she will work with the Co-Is to coordinate all IRB-related communication, coordinate recruitment and retention, and manage day-to-day operations of the project, including overseeing confidential data collection procedures. He/she will also assist in refining assessment instruments, preparing procedural manuals, and maintaining IRB approval. He/she will coordinate and attend staff meetings and other study related collaborations as needed. **Total Salary Requested Y1-5: \$205,349**

Abigail Muldoon, BA, Data Manager[#] (CM Y2-5)

The data manager will program the computerized data collection instrument and provide data management support (including maintenance of research records, preparation of progress reports, and IRB submission). She will also participate in all study-related meetings, calls, and collaborations and assist in the preparation of manuscripts and the presentation of study findings at national conferences. **Total Salary Requested Y2-5: \$49,115**

To Be Named, Research Nurse, R.N. (3 CM Y1; 6 CM Y2-Y5)

The Research Nurse will be an individual with a Registered Nurse degree or higher and will have substantial research experience with LGBT, YMSM, and/or YGBM populations. He/she will conduct study-related research visits in collaboration with study faculty and engage in activities such as assessments, collection of study related specimens, and regulatory documentation. **Total Salary Requested Y1-5: \$164,131**

Fringe Benefits

Fringe Calculations are based on the Anne and Robert H. Lurie Children's Hospital of Chicago FY14-15 rate of 26% and total **\$185,404 for Y1-5**.

C. Equipment

No Equipment in excess of \$5,000 per item will be purchased.

D. Travel

No Travel is requested.

E. Participant/Trainee Support Costs

No Participant/Trainee Supports Costs are being requested.

F. Other Direct Costs

No Direct Costs are being requested.

G. Total Direct Costs

Total Direct Costs are as follows:

	Direct
Year 1	\$109,864
Year 2	\$189,811
Year 3	\$194,612
Year 4	\$199,558
Year 5	\$204,652
TOTAL	\$898,497

H. Indirect Costs

Indirect costs (Facilities & Administrative Costs) are based on Modified Total Direct Costs and are 50% in Years 1 - 5 as approved by the Department of Health and Human Services.

Year 1	\$54,932
Year 2	\$94,906
Year 3	\$97,306
Year 4	\$99,779
Year 5	\$102,326
TOTAL	\$449,249

I. Total Direct and Indirect Costs

	TOTAL Per Year
Year 1	\$164,796
Year 2	\$284,717
Year 3	\$291,918
Year 4	\$299,337
Year 5	\$306,978
TOTAL	\$1,347,746

J. Fee

No Fee is being requested.

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)
Section A, Senior/Key Person	371,069.00
Section B, Other Personnel	527,428.00
Total Number Other Personnel	14
Total Salary, Wages and Fringe Benefits (A+B)	898,497.00
Section C, Equipment	
Section D, Travel	
1. Domestic	
2. Foreign	
Section E, Participant/Trainee Support Costs	
1. Tuition/Fees/Health Insurance	
2. Stipends	
3. Travel	
4. Subsistence	
5. Other	
6. Number of Participants/Trainees	
Section F, Other Direct Costs	
1. Materials and Supplies	
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8. Other 1	
9. Other 2	
10. Other 3	
Section G, Direct Costs (A thru F)	898,497.00
Section H, Indirect Costs	449,249.00
Section I, Total Direct and Indirect Costs (G + H)	1,347,746.00
Section J, Fee	

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2015 End Date*: 06-30-2016 Budget Period: 1

A. Senior/Key Person											
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Academic Months	Summer Months	Fringe Benefits (\$)*	Funds Requested (\$)*	
1 . Dr.	Stephen		Rosenthal	MD	PD/PI	Institutional Based Salary	Months Devoted to Project		36,300.00	48,279.00	
2 . Dr.	Diane		Ehrensaft	PhD	Co-Investigator			25,713.00		11,056.00	36,769.00
3 . Dr.	David		Glidden	PhD	Co-Investigator			9,075.00		3,358.00	12,433.00
Total Funds Requested for all Senior Key Persons in the attached file											
Additional Senior Key Persons:						File Name:		Total Senior/Key Person			
								97,481.00			

B. Other Personnel									
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*		
	Post Doctoral Associates								
	Graduate Students								
	Undergraduate Students								
	Secretarial/Clerical								
1	Study Coordinator	3.90			21,933.00	9,431.00	31,364.00		
1	Clinical Research Nurse	1.50			14,315.00	6,155.00	20,470.00		
2	Total Number Other Personnel				Total Other Personnel		51,834.00		
						Total Salary, Wages and Fringe Benefits (A+B)		149,315.00	

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2015

End Date*: 06-30-2016

Budget Period: 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . Data Network Recharge	414.00
9 . CCDSS	869.00
Total Other Direct Costs	1,283.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	150,598.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	58.50	150,598.00	88,100.00
		Total Indirect Costs	88,100.00
Cognizant Federal Agency	DHHS, Jeanette Lu, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	238,698.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1243-UCSF Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 2

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2016 End Date*: 06-30-2017 Budget Period: 2

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base	Calendar	Academic	Summer
		Name				Salary (\$)	Months	Months	Months
1 . Dr.	Stephen		Rosenthal	MD	PD/PI	Institutional Based Salary	Months Devoted to Project		
2 . Dr.	Diane		Ehrensaft	PhD	Co-Investigator				
3 . Dr.	David		Glidden	PhD	Co-Investigator				
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons:						File Name:			
						Total Senior/Key Person			
							</		

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Study Coordinator	5.40			31,279.00	14,076.00 45,355.00
1	Data Manager	2.40			11,585.00	5,213.00 16,798.00
1	Clinical Research Nurse	3.00			29,489.00	13,270.00 42,759.00
3	Total Number Other Personnel				Total Other Personnel	104,912.00
					Total Salary, Wages and Fringe Benefits (A+B)	
					203,815.00	

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 2

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 2

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2016

End Date*: 06-30-2017

Budget Period: 2

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . Data Network Recharge	682.00
9 . CCDSS	1,426.00
Total Other Direct Costs	2,108.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	205,923.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	58.50	205,923.00	120,465.00
		Total Indirect Costs	120,465.00
Cognizant Federal Agency	DHHS, Jeanette Lu, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	326,388.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1243-UCSF Budget Justification.pdf
	(Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 3

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2017 End Date*: 06-30-2018 Budget Period: 3

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base	Calendar	Academic	Summer
		Name				Salary (\$)	Months	Months	Months
1 . Dr.	Stephen		Rosenthal	MD	PD/PI	Institutional Based Salary	Months Devoted to Project		
2 . Dr.	Diane		Ehrensaft	PhD	Co-Investigator				
3 . Dr.	David		Glidden	PhD	Co-Investigator				
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons:						Total Senior/Key Person		100,325.00	
File Name:									

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Study Coordinator	5.40			32,218.00	15,142.00 47,360.00
1	Data Manager	2.40			11,932.00	5,608.00 17,540.00
1	Clinical Research Nurse	3.00			30,374.00	14,276.00 44,650.00
3	Total Number Other Personnel				Total Other Personnel	109,550.00
					Total Salary, Wages and Fringe Benefits (A+B)	209,875.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 3

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 3

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2017

End Date*: 06-30-2018

Budget Period: 3

F. Other Direct Costs		Funds Requested (\$)*
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8 . Data Network Recharge		729.00
9 . CCDSS		1,519.00
Total Other Direct Costs		2,248.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	212,123.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	58.50	212,123.00	124,092.00
Total Indirect Costs			124,092.00
Cognizant Federal Agency	DHHS, Jeanette Lu, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	336,215.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1243-UCSF Budget Justification.pdf
	(Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 4

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Enter name of Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2018 End Date*: 06-30-2019 Budget Period: 4

A. Senior/Key Person													
Prefix First Name*		Middle	Last Name*	Suffix	Project Role*	Base	Calendar	Academic	Summer	Requested	Fringe	Funds Requested (\$)*	
		Name				Salary (\$)	Months	Months	Months	Salary (\$)*	Benefits (\$)*		
1	Dr.	Stephen	Rosenthal	MD	PD/PI	Institutional Based Salary Months Devoted to Project				36,300.00	14,157.00	50,457.00	
2	Dr.	Diane	Ehrensaft	PhD	Co-Investigator						25,713.00	12,599.00	38,312.00
3	Dr.	David	Glidden	PhD	Co-Investigator						9,075.00	3,902.00	12,977.00
Total Funds Requested for all Senior Key Persons in the attached file													
Additional Senior Key Persons: File Name:												Total Senior/Key Person	
												101,746.00	

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Study Coordinator	5.40			33,184.00	15,597.00 48,781.00
1	Data Manager	2.40			12,290.00	5,777.00 18,067.00
1	Clinical Research Nurse	3.00			31,285.00	14,704.00 45,989.00
3	Total Number Other Personnel				Total Other Personnel	112,837.00
Total Salary, Wages and Fringe Benefits (A+B)						214,583.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 4

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item	Funds Requested (\$)*
-----------------------	------------------------------

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 4

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2018

End Date*: 06-30-2019

Budget Period: 4

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . Data Network Recharge	729.00
9 . CCDSS	1,519.00
Total Other Direct Costs	2,248.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	216,831.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	58.50	216,831.00	126,846.00
		Total Indirect Costs	126,846.00
Cognizant Federal Agency	DHHS, Jeanette Lu, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	343,677.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1243-UCSF Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 5

ORGANIZATIONAL DUNS*: 0948783370000
Budget Type*: ☐ Project ☒ Subaward/Consortium
Enter name of Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2019 End Date*: 06-30-2020 Budget Period: 5

A. Senior/Key Person									
Prefix	First Name*	Middle	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months
		Name					Months Devoted to Project		
1 . Dr.	Stephen		Rosenthal	MD	PD/PI				
2 . Dr.	Diane		Ehrensaft	PhD	Co-Investigator				
3 . Dr.	David		Glidden	PhD	Co-Investigator				
Total Funds Requested for all Senior Key Persons in the attached file									
Additional Senior Key Persons: File Name:									
Total Senior/Key Person									103,168.00

B. Other Personnel						
Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits* Funds Requested (\$)*
Post Doctoral Associates						
Graduate Students						
Undergraduate Students						
Secretarial/Clerical						
1	Study Coordinator	5.40			34,180.00	16,348.00 50,528.00
1	Data Manager	2.40			12,659.00	6,055.00 18,714.00
1	Clinical Research Nurse	3.00			32,223.00	15,412.00 47,635.00
3	Total Number Other Personnel				Total Other Personnel	116,877.00
Total Salary, Wages and Fringe Benefits (A+B)						220,045.00

RESEARCH & RELATED Budget (A-B) (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 5

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

C. Equipment Description

List items and dollar amount for each item exceeding \$5,000

Equipment Item

Funds Requested (\$)*

Total funds requested for all equipment listed in the attached file

Total Equipment

Additional Equipment: File Name:

D. Travel

Funds Requested (\$)*

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost

E. Participant/Trainee Support Costs

Funds Requested (\$)*

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees

Total Participant Trainee Support Costs

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 5

ORGANIZATIONAL DUNS*: 0948783370000

Budget Type*: ☐ Project ☒ Subaward/Consortium

Organization: The Regents of the University of California at San Francisco

Start Date*: 07-01-2019

End Date*: 06-30-2020

Budget Period: 5

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	
2. Publication Costs	
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . Data Network Recharge	729.00
9 . CCDSS	1,519.00
Total Other Direct Costs	2,248.00

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	222,293.00

H. Indirect Costs			
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)	Funds Requested (\$)*
1 . Modified Total Direct Costs	58.50	222,293.00	130,041.00
		Total Indirect Costs	130,041.00
Cognizant Federal Agency	DHHS, Jeanette Lu, 415-437-7820		
(Agency Name, POC Name, and POC Phone Number)			

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	352,334.00

J. Fee	Funds Requested (\$)*

K. Budget Justification*	File Name: 1243-UCSF Budget Justification.pdf (Only attach one file.)
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RESEARCH & RELATED Budget {F-K} (Funds Requested)

BUDGET JUSTIFICATION: UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Salaries: Pursuant to University of California (UC) policy, salaries in the initial budget period are based on current published UC salary scales and include University mandated range adjustments and merit increases scheduled to occur before the proposed project start date. Pay rate increases in FY02 through FY05 are based on merit review schedules established by UCSF Academic Affairs.

A. Senior/Key Personnel

Stephen M. Rosenthal, M.D., Site Principal Investigator # Calendar Months (CM) Y1-Y5)

Qualifications: Dr. Rosenthal is Professor of Pediatrics at UCSF, Program Director for Pediatric Endocrinology, Co-Director of the Disorders of Sex Development Clinic, and founder and Medical Director of the UCSF Child and Adolescent Gender Center (CAGC). The UCSF CAGC serves as the Pediatric/Adolescent clinical arm of the widely recognized UCSF Center of Excellence for Transgender Health. The CAGC provides multi-disciplinary care to gender non-conforming/transgender youth and adolescents and is the only such multi-disciplinary gender program in Northern California, attracting patients not only from California, but from as far away as Alaska, Florida, and Egypt. Dr. Rosenthal has been appointed as the official representative of the Pediatric Endocrine Society (PES) to the Endocrine Society's (ES) Clinical Practice Guidelines Revision Task Force for the Care of Transgender Individuals and was appointed to the World Professional Association for Transgender Health (WPATH) Consensus committee for revisions of the International Classification of Disease (ICD)-11 pertaining to transgender youth and adults. Dr. Rosenthal has authored seven manuscripts on transgender youth, including a recent "State-of-the-art" invited review in *Pediatrics* and an invited review in the "Approach to the Patient" series for the *Journal of Clinical Endocrinology and Metabolism*. Dr. Rosenthal has been an invited speaker on transgender youth at annual meetings of PES and ES, as well as at the most recent international meeting of WPATH, and has lectured on this subject at academic centers throughout the U.S. Dr. Rosenthal is also the recipient of the UCSF Chancellor Award for LGBT leadership in recognition of his work with transgender youth and is the recipient of the UCSF Family Advisory Council Caring Tree Award and the UCSF Haile T. Debas Academy of Medical Educators Excellence in Teaching Award. Dr. Rosenthal is an established clinical investigator with greater than 30 years' experience in child and adolescent endocrinology and has significant experience conducting multi-center trials. He is currently serving as site PI for NIH/NICHD Disorders of Sex Development: Platform for Basic and Translational Research (1R01HD068138-01A1).

Role on Project: Dr. Rosenthal will have primary responsibility for the implementation of the scientific aims of this project at UCSF. He will collaborate in protocol development (in particular, the endocrine/metabolic parameters), data analysis, and dissemination of findings. **Total Salary Requested Y1-5: \$181,500**

Diane Ehrensaft, Ph.D., Co-Investigator and Psychologist # CM Y1- Y5)

Qualifications: Dr. Ehrensaft is Associate Professor of Pediatrics at UCSF and Mental Health Director of the UCSF Child and Adolescent Gender Center. She is a developmental and clinical psychologist and an internationally recognized child and adolescent gender specialist.

Role on Project: Dr. Ehrensaft will have a primary role in the design and implementation of mental health measures and will collaborate in data analysis and dissemination of findings. **Total Salary Requested Y1-5: \$128,565**

David V. Glidden, Ph.D., Biostatistician # CM Y1-Y5)

Qualifications: Dr. Glidden is Professor of Biostatistics at UCSF. He received his Ph.D. from the University of Washington in 1993 and spent four years at the Department of Biostatistics at the Harvard School of Public Health before joining the UCSF faculty in 1997. He has experience in developing methods for data analysis, has been an author of an intermediate textbook (Regression Methods in Biostatistics, Spring, 2nd edition, 2011), and has long experience collaborating with investigators in diverse medical specialties. He also has extensive experience in clinical trials, having been the lead statistician for a pivotal study (Grant et al, 2010; for which he was senior author) for chemoprophylaxis for the prevention of HIV acquisition. He is experienced in the analysis of longitudinal data.

Role on Project: Dr. Glidden will work as a resource for Dr. Schrager, Biostatistician at the Core Site, and will provide advice and support on analytic approaches. He will focus the bulk of his activities on the analysis of the

metabolic data. He will be responsible for the design, analysis plan development, and execution of these analyses. **Total Salary Requested Y1-5: \$45,375**

B. Other Personnel

To Be Named, Study Coordinator (3.9 CM Y1; 5.4 CM Y2-Y5)

Role on Project: The Study Coordinator will meet regularly with project investigators and will coordinate project development, participant recruitment, and overall project implementation. He/she will also work with the site PI to coordinate all Institutional Review Board (IRB)-related communications and will manage day-to-day operations of the project. **Total Salary Requested Y1-5: \$152,794**

To Be Named, Data Manager (2.4 CM Y2-Y5)

Role on Project: The Data Manager will program computerized data collection and provide data management support, including maintenance of research records, preparation of progress reports, and assistance with IRB submissions. The Data Manager will also assist in the preparation of manuscripts and conference presentations. **Total Salary Requested Y1-5: \$48,466**

To Be Named, Clinical Research Nurse (1.5 CM Y1; 3.0 CM Y2-Y5)

Role on Project: The Clinical Research Nurse (Registered Nurse degree or more advanced) will conduct study-related research visits in collaboration with study investigators and will assist with collection of study-related specimens and regulatory documentation. **Total Salary Requested Y1-5: \$137,686**

Fringe Benefits

Fringe Benefits include health and life insurance, social security, Medicare, dental plan, vision, unemployment insurance, non-industrial disability insurance, worker's compensation insurance, and retirement. Our request is based on actual fringe rates for current employees, which varies according to each person's benefit enrollments. Fringe benefits for TBN employees are 47.8% of salaries for staff personnel, as of July 1, 2015. Fringe benefits for current and TBN employees escalate by 2% each year, based on campus budget projections and consistent with guidance from the University of California, San Francisco (UCSF) Office of Sponsored Research. Total Fringe Benefits are: Year 1 \$41,979; Year 2 \$60,374; Year 3 \$64,263; Year 4 \$66,736; Year 5 \$69,895. **Total Fringe Benefits Requested Y1-Y5: \$303,247**

C. Equipment

No Equipment in excess of \$5,000 per item will be purchased.

D. Travel

No Travel is requested.

E. Participant/Trainee Support Costs

No Participant/Trainee Supports Costs are being requested.

F. Other Direct Costs

UCSF Data Network Recharge: Effective November 1, 2009 the Chancellor's Executive Committee approved a UCSF data network services recharge. The recharge provides funding for critical equipment in support of the campus network. The funding model for data network service includes a UCSF-wide per capita recharge of \$41/month/FTE. The rate increases in future years, as follows: 7/1/16-6/30/17: \$44/month/FTE and \$47/month/FTE from 7/1/17 until amended. As permissible by OMB A-21 and per review and agreement

by our cognizant federal agency, UCSF data network costs are an allowable direct expense. **Total UCSF Data Network Recharge Requested: \$3,283**

Computing and Communication Device Support Services (CCDSS): CCDSS provides integral support to campus voice and data technology functions. CCDSS includes software installation/updates, internet security, hardware setup/configuration, and centrally managed patching, storage and backup. The university charges these expenses to all funding sources based on a monthly recharge rate per FTE, consistent with the university's current methodology used for data network services. The recharge rates are provided for under our approved DS-2, will be computed in accordance with applicable OMB requirements, including 2 CFR Part 220 (formerly Circular A-21), and will be reviewed and adjusted annually. **Total Computing and Communication Device Support Services Requested: \$6,852**

G. Total Direct Costs

Total Direct Costs are as follows:

	Direct
Year 1	\$150,598
Year 2	\$205,923
Year 3	\$212,123
Year 4	\$216,831
Year 5	\$222,293
TOTAL	\$1,007,768

H. Indirect Costs

Indirect costs (Facilities & Administrative Costs) are based on Modified Total Direct Costs and are 58.5% in Years 1 - 5 as approved by the Department of Health and Human Services.

Year 1	\$88,100
Year 2	\$120,465
Year 3	\$124,092
Year 4	\$126,846
Year 5	\$130,041
TOTAL	\$589,544

I. Total Direct and Indirect Costs

	TOTAL Per Year
Year 1	\$238,698
Year 2	\$326,388
Year 3	\$336,215
Year 4	\$343,677
Year 5	\$352,334
TOTAL	\$1,597,312

J. Fee

No Fee is being requested.

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		501,623.00
Section B, Other Personnel		496,010.00
Total Number Other Personnel	14	
Total Salary, Wages and Fringe Benefits (A+B)		997,633.00
Section C, Equipment		
Section D, Travel		
1. Domestic		
2. Foreign		
Section E, Participant/Trainee Support Costs		
1. Tuition/Fees/Health Insurance		
2. Stipends		
3. Travel		
4. Subsistence		
5. Other		
6. Number of Participants/Trainees		
Section F, Other Direct Costs		10,135.00
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services		
4. ADP/Computer Services		
5. Subawards/Consortium/Contractual Costs		
6. Equipment or Facility Rental/User Fees		
7. Alterations and Renovations		
8. Other 1	3,283.00	
9. Other 2	6,852.00	
10. Other 3		
Section G, Direct Costs (A thru F)		1,007,768.00
Section H, Indirect Costs		589,544.00
Section I, Total Direct and Indirect Costs (G + H)		1,597,312.00
Section J, Fee		

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OMB Number: 0925-0001

1. Project Director / Principal Investigator (PD/PI)

Prefix: Dr.
First Name*: Johanna
Middle Name:
Last Name*: Olson
Suffix: M.D.

2. Human Subjects

Clinical Trial? ☒ No ☐ Yes
Agency-Defined Phase III Clinical Trial?* ☐ No ☐ Yes

3. Permission Statement*

If this application does not result in an award, is the Government permitted to disclose the title of your proposed project, and the name, address, telephone number and e-mail address of the official signing for the applicant organization, to organizations that may be interested in contacting you for further information (e.g., possible collaborations, investment)?

☒ Yes ☐ No

4. Program Income*

Is program income anticipated during the periods for which the grant support is requested? ☐ Yes ☒ No

If you checked "yes" above (indicating that program income is anticipated), then use the format below to reflect the amount and source(s). Otherwise, leave this section blank.

Budget Period*	Anticipated Amount (\$)*	Source(s)*
.....		
.....		
.....		
.....		
.....		

PHS 398 Cover Page Supplement

5. Human Embryonic Stem Cells

Does the proposed project involve human embryonic stem cells?* ☒ No ☐ Yes

If the proposed project involves human embryonic stem cells, list below the registration number of the specific cell line(s) from the following list: http://grants.nih.gov/stem_cells/registry/current.htm. Or, if a specific stem cell line cannot be referenced at this time, please check the box indicating that one from the registry will be used:

Cell Line(s): ☐ Specific stem cell line cannot be referenced at this time. One from the registry will be used.

6. Inventions and Patents (For renewal applications only)

Inventions and Patents*: ☐ Yes ☐ No

If the answer is "Yes" then please answer the following:

Previously Reported*: ☐ Yes ☐ No

7. Change of Investigator / Change of Institution Questions

☐ Change of principal investigator / program director

Name of former principal investigator / program director:

Prefix:

First Name*:

Middle Name:

Last Name*:

Suffix:

☐ Change of Grantee Institution

Name of former institution*:

PHS 398 Research Plan

Please attach applicable sections of the research plan, below.

OMB Number: 0925-0001

1. Introduction to Application (for RESUBMISSION or REVISION only)	1244-Introduction to Application.pdf
2. Specific Aims	1245-Specific Aims.pdf
3. Research Strategy*	1246-Research Strategy.pdf
4. Progress Report Publication List	
Human Subjects Sections	
5. Protection of Human Subjects	1267-Protection of Human Subjects.pdf
6. Inclusion of Women and Minorities	1268-Inclusion of Women and Minorities.pdf
7. Inclusion of Children	1269-Inclusion of Children.pdf
Other Research Plan Sections	
8. Vertebrate Animals	
9. Select Agent Research	
10. Multiple PD/PI Leadership Plan	1270-Multiple PI Leadership Plan.pdf
11. Consortium/Contractual Arrangements	1271-Consortium Contractual Arrangements.pdf
12. Letters of Support	1272-Letters of Support.pdf
13. Resource Sharing Plan(s)	1273-Resource Sharing Plan Data Sharing.pdf
Appendix (if applicable)	
14. Appendix	1247-Appx A WPATH and Endocrine Society Letters.pdf 1248-Appx B Consent Permission Assent Forms.pdf 1249-Appx C Early Pubertal Cohort TG Specific Measures.pdf 1250-Appx D Late Pubertal Cohort TG Specific Measures.pdf

INTRODUCTION TO RESUBMISSION APPLICATION

We would like to thank the committee for a thorough and detailed review of our proposal. We were pleased

Reviewer Comments

SPECIFIC AIMS

Transgender children and adolescents, those who experience incongruence between assigned birth sex and internal gender identity, are a poorly understood and a distinctly understudied population in the United States. The limited available data suggest that transgender youth who are gender dysphoric (persistently distressed about gender incongruence) are at increased risk for **anxiety, depression, suicide, and substance use** compared to their peers. The development of undesired secondary sex characteristics during puberty intensifies the distress associated with gender incongruence and increases the risk for these conditions.

Current clinical practice guidelines aim to decrease gender dysphoria and ameliorate potential negative health outcomes. Treatment recommendations vary depending on the age and developmental stage of youth with gender dysphoria. For those youth in the earliest stages of pubertal development (Tanner 2-3), treatment with gonadotropin-releasing hormone (GnRH) agonists is recommended in order to suppress endogenous puberty and avoid the development of undesired secondary sex characteristics. In older adolescents in the later stages of pubertal development (Tanner 4-5), treatment with cross-sex hormones is recommended to induce desired masculine or feminine features. While these guidelines have been used at academic and community centers across the U.S., they are based on very limited data. Furthermore, there are **no available data examining the physiologic and metabolic consequences of cross-sex hormone treatment in youth**. This represents a critical gap in knowledge that has significant implications for clinical practice across the U.S. In 2011, a report of the Institute of Medicine called for the development of rigorous research aimed at understanding the health implications of hormone use and other transgender-specific issues.

The objective of the proposed research is to **provide evidence-based data to inform clinical care for transgender youth**. The study will leverage the partnership between four, university-affiliated, gender clinics across the U.S. to recruit two developmental cohorts and conduct **a multi-site, observational study** examining the safety of hormonal interventions and the physiological and psychosocial outcomes associated with these treatments. The Specific Aims are:

Aim 1: To evaluate the impact of **GnRH agonists** administered for puberty suppression, on **mental health, psychological well-being, physiologic parameters, and bone health** as well as document the safety of GnRH agonists in an **early-pubertal** cohort (Tanner stages 2-3; n=80) of transgender children and adolescents, comparing baseline and follow-up assessments at 6 months, 1 year, and 2 years after initiating treatment.

Hypothesis 1a: Patients treated with GnRH agonists will exhibit decreased symptoms of depression, anxiety, trauma symptoms, self-injury, and suicidality and increased body esteem and quality of life over time.

Hypothesis 1b: GnRH agonists will be tolerable and safe for early-pubertal transgender youth, i.e., fasting lipids and glucose, liver enzymes, electrolytes, insulin, and HbA1c will not increase above clinically safe ranges.

Hypothesis 1c: Raw bone density scores will remain stable for early-pubertal transgender youth receiving GnRH agonists; however, age-matched z-scores may decrease.

Aim 2: To evaluate the impact of **cross-sex hormones** administered for gender transition on **mental health, psychological well-being, and metabolic/physiologic parameters** as well as document the safety of cross-sex hormones in a **late-pubertal** cohort (Tanner stages 4-5; n=200) of transgender adolescents, comparing baseline and follow up assessments at 6 months, 1 year, and 2 years after initiating treatment.

Hypothesis 2a: Patients treated with cross-sex hormones will exhibit decreased symptoms of gender dysphoria, depression, anxiety, trauma symptoms, self-injury, and suicidality and increased body esteem and quality of life over time.

Hypothesis 2b: Cross-sex hormones will be tolerable and safe to use for late-pubertal transgender youth initiating phenotypic transition, i.e., will not increase fasting lipids and glucose, liver enzymes, electrolytes, and hemoglobin above clinically safe ranges.

Aim 3 (Exploratory): Based on evidence of high rates of substance use and HIV infection in some transgender adolescents (specifically, young transgender women), we will **determine substance use and sexual risk behavior over time**. *A priori* hypotheses regarding the impact of hormone treatment on sexual and substance use behaviors cannot be specified given that these behaviors increase through adolescence.

This multi-center study will be the **first in the U.S.** to evaluate longitudinal outcomes of medical treatment for transgender youth, and it will provide highly needed evidence-based data on the physiological and psychosocial effects and safety of treatments currently used for transgender youth.

A. SIGNIFICANCE

A1. Transgender Youth are an Underserved, Understudied Population

Transgender adolescents and children, those who experience incongruence between assigned birth sex and internal gender identity, are a poorly understood and understudied population in the United States. As detailed in the May 2011 Institute of Medicine (IOM)¹ report, “The Health of Lesbian, Gay, Bisexual, and Transgender People,” the existing body of scientific evidence documenting health and well-being of transgender individuals is sparse. The report explicitly calls for NIH-supported research on transgender health needs, including the development of evidence-based data for providing transgender-specific health care to address gender dysphoria and rigorous research aimed at understanding the health implications of hormone use and other transgender-specific issues. In addition, the IOM report calls for longitudinal and cohort studies that incorporate a life course perspective to examine the specific experiences of transgender individuals across different chronological ages.

Research on transgender youth has historically focused on the disproportionate morbidity and mortality among transgender individuals in comparison to the population at large. One study of 55 transgender youth in New York City reported that 45% had seriously thought about suicide, and 26% had attempted suicide at least once, indicating that transgender youth specifically are at increased risk for **anxiety, depression, social isolation, and suicide** compared to non-transgender peers.²⁻⁴ Our recent pilot study with a cohort of 70 multi-ethnic transgender youth at Children’s Hospital Los Angeles (CHLA), the lead agency for the proposed study, supports these numbers, with 52% participants reporting thoughts of suicide and 30% reporting having attempted suicide at least once. Without appropriate care, as they age, transgender youth are likely to face economic and societal marginalization, incarceration, and physical abuse leaving them at significantly higher risk for drug abuse, violence, HIV acquisition, other sexual transmitted infections, and homelessness.^{2,4-6}

A2. The “Dutch Model”

Over the past 30 years, a team of specialists in the Netherlands at the Amsterdam Center of Expertise on Gender Dysphoria observed that transgender individuals who underwent hormonal gender transition at earlier ages assimilated easier into their “new gender” roles because of improved physical outcomes.⁷ Additionally, transgender youth suffering through an undesired endogenous puberty experience distress, and this “wrong puberty” has a strong negative impact on their emotional, academic, and family functioning.^{7,8} Based on these clinical observations, Dutch clinician investigators initiated early treatment of transgender youth aimed at suppressing undesired puberty with gonadotropin-releasing hormone agonists (GnRHa’s). GnRHa’s have previously been used as the primary strategy for the suppression of puberty in children experiencing precocious puberty.⁹ Early results from the first 70 gender dysphoric youth undergoing puberty suppression with GnRHa’s in the Netherlands showed a decrease in behavioral and emotional problems, as well as a decrease in depressive symptoms. Improved general functioning for these youth was also reported.¹⁰ By blocking the progression of puberty, the distress associated with full development of adult sexual characteristics incongruent with an internal gender identity is prevented.¹¹ A single study examining the physiologic impact of puberty suppression with GnRHa’s reported that the first 21 patients undergoing this treatment had adequate suppression of their pituitary gonadal axis and no progression of their endogenous puberty. While on GnRHa’s, height standard deviation scores decreased, and bone density remained in the same range for patients experiencing suppression. Compared to age-matched peers, bone density z-scores went down while patients were being suppressed.¹¹ In 2006, the “Dutch Model” was introduced, outlining this new approach to the care of transgender youth. Gender dysphoric adolescents 12 years and older are given GnRHa’s to prevent (or minimize in those already undergoing puberty) the development of undesired secondary sexual characteristics. For youth on GnRHa’s who continue to experience gender dysphoria through adolescence, appropriate cross-sex hormones (estrogen for the development of female characteristics and testosterone for the development of male characteristics) are added to the regimen to feminize or masculinize accordingly. The Dutch model recommends the addition of cross-sex hormones to allow the body to be brought into closer alignment with the identified internal gender when youth reach age 16. *[A recent follow up study from the Dutch team examining the impact of puberty suppression followed by cross sex hormones and gender reassignment surgery in 55 transgender young adults showed alleviation of gender dysphoria and steady improvement of psychological functioning.]*¹²

One important limitation of the Dutch model is the chronological age criterion that requires gender dysphoric children be at least age 12 before initiating suppression of puberty; however, by that age, it is well documented that many children in the United States are already well into their puberty.^{13,14} In 2010, Biro et al. reported that across three metropolitan areas of the U.S., 42.1% of girls had Tanner 2 breast development by the age of

eight years.¹⁵ Relying on this chronological age criterion rather than sexual developmental stage decreases early intervention potential and may increase risk for negative mental health outcomes. Additionally, only a few studies describe the physiological¹¹ and psychosocial impact of this treatment protocol for puberty suppression.¹⁰ Finally, the recommendations from the Dutch model are based on data collected from a homogenous population of white, European youth living in relatively supportive environments and are not necessarily generalizable to multi-ethnic transgender youth in the U.S.

A3. The Endocrine Society Clinical Practice Guidelines

In 2009, using the best available evidence, the Endocrine Society incorporated the Dutch model into the clinical guidelines “Endocrine Treatment of Transsexual Persons,” which includes recommendations for treatment of transgender youth.¹⁶ In contrast to the Dutch model, the Endocrine Society recommends starting treatment with GnRHa’s for puberty suppression based on sexual development (Tanner staging) rather than chronological age. These guidelines recommend puberty blocking medications for youth with gender dysphoria at the beginning stages of puberty (Tanner stage 2 or 3), followed by appropriate cross-sex hormone therapy at around age 16. Since the introduction of these guidelines, **no data have been collected in the U.S. on the physiologic and mental health impact, safety, or tolerability of pubertal-blocking medical interventions with GnRHa’s for transgender youth, particularly in children younger than age 12**, leaving a gap in the evidence for this practice. Furthermore, the impact of GnRHa’s on the bone health of transgender children, specifically in those younger than 12 years, remains unknown. **This study will investigate the physiologic and mental health impact of GnRHa administration as well as document the safety of GnRHa’s in a large cohort of transgender children and adolescents in the early stages of puberty.**

The Endocrine Society Clinical Practice Guidelines include recommendations to initiate cross-sex hormones for gender dysphoric, late pubertal adolescents at around the age of 16. For those youth who are on GnRHa’s, cross-sex hormones are added to the regimen. For those new to clinical care, cross-sex hormones are prescribed without GnRHa’s, a protocol commonly used in both adolescents and adults. Studies in adult transgender populations have reported on the physiologic impact of cross-sex hormones,¹⁷⁻¹⁹ but no studies to date have detailed the physiological impact of cross-sex hormone administration in transgender adolescents. **This study will investigate both the physiologic and the mental health impact of cross-sex hormone administration as well as document the safety of cross-sex hormones in transgender adolescents in the later stages of puberty.**

A4. Contribution of the Proposed Work

The lack of data supporting medical interventions for transgender youth combined with a shortage of providers knowledgeable in the complex psychosocial risk factors facing these young people contributes to a health disparity and public health crisis of considerable magnitude. The proposed investigation is highly significant in scope as it is the first longitudinal study collecting data - assessing both physiologic and mental health outcomes - to evaluate commonly used clinical guidelines for transgender youth in the U.S. In addition, we propose to do this work in four geographically distinct sites, in part because of the relative rarity of these conditions and also to increase the generalizability of the work. Results from this study have the potential to significantly impact the medical and mental health services provided to transgender youth in the U.S. by making available rigorous scientific evidence outlining the impact and safety of early treatment based on sexual development stage.

B. INNOVATION: The proposed study is innovative in the following ways:

B1. Creation of a National Network of Gender Centers to Study Treatment Outcomes of the Endocrine Society Clinical Practice Guidelines for Transgender Children and Adolescents

There are providers scattered around the U.S. (and the world) utilizing the Endocrine Society Clinical Practice Guidelines, but there are no formal empirical studies of related clinical outcomes in transgender children and adolescents. This application proposes to create a network of four academic hospitals (i.e., Children’s Hospital Los Angeles/University of Southern California, Boston Children’s Hospital, Lurie Children’s Hospital of Chicago/Northwestern University, and the Benioff Children’s Hospital/University of California San Francisco) strategically situated across the country with strong histories of clinical service in this area to investigate the impact of the treatment on multi-ethnic transgender youth. All four sites have dedicated transgender youth clinics, employ a similar model of care that includes medical and mental health professionals, and are considered the national leaders in the care of transgender children and adolescents. The involvement of these four sites provides the experience, expertise, and clinic populations for a research endeavor of this magnitude and importance. In addition to the significant combined clinical experience of these four sites, all of the sites have strong and deep-rooted ties to academic research.

B2. The Clinical Sites Provide Services to Diverse, Multiethnic, Transgender Children and Adolescents Across the Developmental Stages Targeted for this Study

Available data about the impact of the recommended treatment protocols come from a primarily white, European cohort in the Netherlands. This study proposes examining the impact of treatment on diverse, multiethnic, transgender youth more representative of the U.S. population.

B3. This Study Targets an Early Pubertal Cohort, as Recommended by Clinical Practice Guidelines

Avoiding the development of undesired secondary sexual characteristics by starting puberty suppression at the earliest stages of puberty is recommended in the Endocrine Society Clinical Practice Guidelines, but has never been comprehensively studied in the U.S. and has never been studied in children under the age of 12 years. This study proposes to enroll transgender children eight years or older in the earliest stages of puberty to start treatment with GnRH agonists for puberty suppression, which will provide a critically important extension to the base of empirical knowledge about treatment outcomes.

B4. Early Initiation of Cross-sex Hormone Therapy in Transgender Adolescents

Despite the knowledge that transgender identity is stable by the time youth reach adolescence,⁷ The Endocrine Society Clinical Practice Guidelines recommend introducing cross-sex hormones “around” the age of 16. This study proposes to evaluate the effects and document the tolerability and safety of cross-sex hormones in youth in Tanner stages 4 and 5, including those younger than 16 years. While it is common for this team of experts to initiate cross-sex hormone therapy in transgender youth younger than age 16, there are no available data on this younger population.

B5. Groundwork for Future Investigation

The development of this four-site network with the capacity to enroll hundreds of transgender children and adolescents in clinical research paves the way for ongoing longitudinal investigation of this unique population as they age into adulthood. Clinical trials investigating best practices on hormone regimens, optimizing growth, predicting persistence of gender incongruence from childhood into adolescence, identifying resiliency factors, and investigating treatment as prevention from HIV acquisition are just a few of the future research endeavors that will be possible with the existence of this new network. *[The investigators acknowledge it is highly likely that cultural values and beliefs impact families’ decision-making around seeking treatment for gender dysphoria. Although the specific study of cultural differences that impact decision-making around care are beyond the scope of what is proposed herein, it is the PI’s intent to attune to these issues as they arise and develop sub-studies that the four city network is well poised to undertake.]*

B6. Summary of Innovation

This longitudinal, observational study proposes to collect critical data on the existing models of care for transgender youth that have been commonly used in clinical settings for close to a decade, although with very limited empirical research to support them. The gap in existing knowledge about the impact of these practices leaves providers and caretakers uncertain about moving forward with the recommended medical interventions for transgender youth seeking phenotypic transition. The proposed research is a direct response to the IOM report calling for such studies, as well as the needs of clinicians and patients. **The findings from this research have the capacity to substantially expand treatment across the country by providing rigorous evidence to demonstrate the benefits of early treatment and ultimately decrease the health disparity currently existing for transgender youth.**

C. APPROACH

C1. Study Objectives

The primary objective of this observational, longitudinal, multicenter study is to investigate the impact of medical treatments for gender dysphoria in two developmental and multi-ethnic cohorts of transgender youth recruited from across the nation via a network of Gender Centers dedicated to their care (Children’s Hospital Los Angeles/University of Southern California, Boston Children’s Hospital, Lurie Children’s Hospital of Chicago/Northwestern University, and the Benioff Children’s Hospital/University of California San Francisco). The proposed project aligns with the objectives outlined by the Institute of Medicine in “The Health of Lesbian, Gay, Bisexual, and Transgender People.” Long-term follow-up on this ethnically diverse population is critical for generating the scientific evidence required to maximize treatment protocols and generate standards of care for the U.S. Results for this study are sorely needed to expand the body of evidence-based knowledge surrounding the practice of puberty suppression and cross-sex hormone use in adolescence and constitute the basis for further follow-up of these cohorts.

C2. Study Sites/Preliminary Data

Dr. Johanna Olson (Pediatrics and Adolescent Medicine) is the Medical Director for the Center for Transyouth Health and Development and PI at CHLA/USC. The Center has provided transgender youth care services for over 20 years and currently has 335 transgender youth in active care. Each month, this site enrolls 8-10 new transgender youth in services at the Center. **Dr. Norman Spack** (Pediatric Endocrinology) is the Medical Director of the Gender Management Service (GeMS) and is the PI at Boston Children's Hospital. GeMS was the first pediatric academic program in the Western Hemisphere to treat early adolescents with gender dysphoria. GeMS provides clinical services for 75 transgender youth and enrolls two new patients into care each month. **Dr. Robert Garofalo** (Pediatrics and Adolescent Medicine) is Co-Director of the Gender and Sex Development Program and the PI for Lurie Children's Hospital of Chicago/ Northwestern University. He has considerable experience leading and working on NIH-funded research and has been providing clinical services for transgender youth for more than a decade. The program currently has over 125 gender non-conforming children and transgender adolescents in care and on average enrolls 3-5 new patients each month. **Dr. Stephen M. Rosenthal** (Pediatric Endocrinology) is the Medical Director of the Child and Adolescent Gender Center (CAGC) and the PI at Benioff Children's Hospital/UCSF. He has significant experience conducting multi-center trials and is currently site PI for NIH/NICHD Disorders of Sex Development: Platform for Basic and Translational Research. The UCSF CAGC team has been providing multi-disciplinary care for gender non-conforming/transgender youth and adolescents for the past six years. Currently, the program has 125 youth in clinical services and is enrolling 8-10 new patients into care each month.

A pilot study funded by The Saban Research Institute conducted by Dr. Olson (CHLA) included 70 transgender youth between the ages of 12 and 24 years treated with cross-sex hormones for gender transition. Of the youth approached to participate, 99% agreed to take part in this study. The initial baseline data from this cohort confirmed high rates of suicidal ideation, suicide attempts, and drug use in this population. Fifty-four percent of participants reported thinking about suicide, and 33% had attempted suicide at least once in their lives. These numbers are three and four times higher, respectively, than the rates for general youth reported in the Youth Risk Behavior Survey (YRBS) data in 2011.²⁰ The majority of participants reported using alcohol, tobacco, and cannabis (78.5%, 68%, and 68% respectively). Six of the youth reported trading sex for money, food, drugs, or a place to live (survival sex). These results underscore that transgender youth remain at high risk for psychosocial morbidity. This initial pilot study, funded via a short term clinical research career development award, does not allow for longitudinal follow-up of the cohort. Additionally, this pilot cohort was primarily Caucasian and Latino/a. In order to better inform current guidelines and clinical care, the proposed project intends to include a more geographically and ethnically diverse sample; will collect expanded information about baseline mental health, comprehensive anthropometrics, and physiologic and metabolic parameters; and report follow-up results and changes over longer periods of time after treatment is initiated.

C3. Study Design

The study has a longitudinal observational design for both the early pubertal and late pubertal cohorts. *[Comparing a treated vs. an untreated control group would be the ideal mechanism to study the impact of existing recommendations for care of transgender youth, including administration of GnRHa's for younger youth and cross sex hormones for older youth. However, the current standards of care from the Endocrine Society and the World Professional Association of Transgender Health (WPATH) were both developed from a panel of scientific experts and a consensus-building process based largely upon clinical experience and the existing minimal, predominantly non-U.S. body of research, and each supports the positive impact of intervention and the negative impact of no intervention. Proceeding through an undesired puberty without treatment causes distress for transgender youth. Thus, an untreated control group does not represent a "neutral" option, but in actuality places transgender youth at risk for negative health outcomes. Inclusion of a non-intervention control group or any control group as part of a traditional randomized trial would be both impractical and unethical. Letters of support regarding our cohort design from both the Endocrine Society and WPATH are included in Appendix A. The study does include collecting longitudinal outcome data from what might be considered a "natural control" – those gender nonconforming youth who meet diagnostic criteria and get offered GnRHa's for suppression but who elect or refuse treatment as part of the informed consent process. In a small, but not rare, number of cases, parents and/or the children may elect under certain circumstances (e.g. cost, fears given a lack of scientific evidence, etc.) to not initiate pubertal suppression. For this cohort, we propose enrolling these patients and collecting and capturing outcome data for comparison along the same visit schedule as our treated cohort. In addition, as part of our original study design we will collect data on age and Tanner staging to be able to examine if early vs. delayed treatment in these young*

people affects health outcomes.] The anthropometric and physiologic parameters in the study are those routinely collected within the constructs of the clinical visit at each site. Audio computer-assisted self-interviewing (ACASI) survey instruments will be used to collect demographic, mental health, psychosocial, and behavioral data from 1) early pubertal cohort youth and their parent/caretaker and 2) late pubertal youth.

Youth participants will be recruited from patients seeking care at any of the four study sites. Because presentation of gender dysphoric youth in Tanner stage 2 or 3 is less common than presentation in later Tanner stages, we will enroll 88 youth in the early pubertal cohort, which allows for 10% anticipated attrition across the follow-up assessments. In the late pubertal cohort, 240 participants will be enrolled, which takes into account an expected 20% attrition across follow-up assessments in order to obtain a sample of 200 participants. While patients between 8 and 21 years old will be eligible for enrollment in one or the other cohorts depending on their Tanner staging, the focus of this investigation is *early treatment*. Therefore, we will not enroll more than 20% of youth age 19 or older in the late pubertal cohort. We will aim to enroll equal numbers of each gender for both cohorts. Clinical observation indicates that equal number of girls and boys seek care for gender dysphoria in the specialty clinics; thus, we do not anticipate overrepresentation of either gender.

C4. Early Pubertal Cohort

C4a. Early Pubertal Cohort - Study Enrollment and Inclusion/Exclusion Criteria

The early pubertal cohort will be recruited from those youth in early stages of puberty presenting for care at any of the four sites along with their parent/primary caretaker. Transgender children and adolescents in the first stages of pubertal development will be screened by the primary medical provider at each site for participation in the study with the following criteria:

Inclusion criteria: 1) gender dysphoria as defined by DSM-V;²¹ 2) Tanner stage 2 or 3 of sexual development; 3) desire to undergo puberty suppression; and 4) *[ability to read and understand English or Spanish.]* Parent/Caretaker inclusion criteria includes reading and understanding English or Spanish.

Exclusion criteria: 1) prior utilization of GnRHa's; 2) precocious puberty (natal males younger than 9 years or natal females younger than 8 years); or 3) pre-existing osteoporosis.

Youth who meet inclusion criteria will provide assent, and their parent/caretaker will provide informed consent for participation in the study. (For consent forms, see Appendix B: Consent Forms.)

C4b. Early Pubertal Cohort: Treatment Plan and Data Collection

Medications used in the course of this study are the standard of care for puberty suppression at the four study sites and include the GnRHa's leuprolide acetate and histrelin acetate. The study will not influence prescription patterns among the clinical providers. Decisions about GnRHa dosing will be individually determined based on subjects' adequate and appropriate response to medications, as well as tolerability of side effects. Patients who experience intolerable side effects will have medication adjustments made according to the discretion of the medical provider at the site where they are receiving care.

[Demographic data including age, ethnicity, religion, educational level, relationship to child (biological parent, adoptive parent) and birth city/country]; **anthropometric measures**, including height, weight, BMI, sitting height, and Tanner stage; **physiologic parameters**, including fasting lipids and glucose, blood pressure, liver enzymes, electrolytes, and glycosylated hemoglobin; and **hormone levels** used to assess adequate pubertal suppression, including ultrasensitive luteinizing hormone and estradiol or testosterone based on gender, will be collected at baseline (T0) and at 6 months (T1), 12 months (T2), and 24 months (T3) following initiation of GnRHa treatment. **Measures related to bone health**, including bone mineral density (BMD), bone age, 25-hydroxy vitamin D, calcium, phosphate, and serum bone-specific alkaline phosphatase, will be collected at baseline and at 12 months and 24 months following initiation of GnRHa treatment.

Psychosocial ACASI Assessments

The life course approach highlights the importance of adolescence as a developmental stage in which self-identity formation and validation are crucial tasks that affect the remainder of adulthood.²² Careful attention was given to choosing age-appropriate standardized measures with strong reliability for each construct. The use of the life course approach to our choice of psychosocial assessments dictates a focus on contextual variables that will strengthen our understanding of risk and resilience within our cohorts. These measures include the experience of life stressors and traumatic events, parental and peer relationships, and quality of life. While we will use the standardized instruments described in Table 1, we will also add events and experiences specific to the age range of our respondents, based on our teams' experiences as physicians and psychologists treating these youth, as well as information from youth and their parents. Table 1 lists the

measures, the intended respondent: Parent (P), Child (C), or both (P/C), the number of items (#), and the Cronbach alpha value. The measures in the ACASI survey fall into four domains: 1) demographic 2) transgender-specific experiences including gender dysphoria, 3) mental health and trauma assessments, and 4) additional psychosocial information including quality of life and relationships with parents and peers. ACASI survey instruments for youth and for parent/caretaker will be administered at the initial visit (T0) and 6 months (T1), 12 months (T2), and 24 months (T3) following initiation of GnRHa treatment (Table 2).

Table 1. ACASI Survey Instruments: Early Pubertal Cohort

Construct	Scale	#	α
Parent/Caretaker Survey			
Demographics	As described above	--	--
Gender Identity	Parent Report Gender Identity Questionnaire ²³	14	--
Social Transitioning	Social Transitioning Scale ²⁴	8	--
Trauma symptoms	Trauma Symptom Checklist: Young Children ²⁵	20	.81-.88
Child Anxiety	Screen for Child Anxiety Related Disorders ²⁶	41	.78-.90
Child's Life events	Life Incidence of Traumatic Events ²⁷	16	--
Child's Resilience	Strengths & Difficulties ²⁸	25	.76
Child Survey			
Gender Identity			
Body Esteem	Revised Body Esteem 8-10.5 ²⁹	20	.73-.77
Body Image	Body Image Scale ³⁰	30	
Anxiety	Screen for Child Anxiety Related Disorders ²⁶	41	.78-.90
Depression	Beck Depression Inventory ³¹ Youth (7-12)	20	
Self injury/Suicide	Suicide and self-harm ³²	6	--
Quality of Life	Health-related Quality of Life in Children (KINDL) ³³		
Peer relationships	Harter Social Competence ³⁴		

Parent/Caretaker ACASI Instrument

Transgender experience will be assessed as child gender identity, child's age of realization of transgender status, child's age of first living in the desired gender role, domains where the child is living in their desired gender role, social transitioning, parental/guardian support, and disclosure of child's transgender status to others. Mental health and trauma assessments include parent reports of child's anxiety, child's experience of trauma and trauma symptoms (including those associated with impending or beginning pubertal development), child's suicide (ideation and attempts), and self-harm. Additional psychosocial measures include child's quality of life and child's strengths and difficulties.

Child ACASI Instrument

Transgender experience includes age of realization of transgender status, social transitioning, gender identity, and gender dysphoria. Additional measures will assess body esteem and body image. Mental health assessments will include anxiety, depression, suicide (ideation and attempts), and self-harm. Additional psychosocial measures include peer relationships. (See Appendix C: Transgender Specific Measures – Early Pubertal Cohort.)

Table 2. Data Collection Schedule – Early Pubertal Cohort

Measure	T0	T1	T2	T3
	(Baseline)	(6 mo)	(12 mo)	(24 mo)
Anthropometric Measures - height, weight, BMI, sitting height, and Tanner stage	X	X	X	X
Physiologic Parameters - fasting lipids and glucose, blood pressure, liver enzymes, electrolytes, prolactin level, and glycosylated hemoglobin	X	X	X	X
Hormone Levels - luteinizing hormone via ultrasensitive assay, and estradiol or testosterone via ultrasensitive assay based on gender	X	X	X	X
Measures of Bone Health - Bone mineral density (BMD), bone age, 25-hydroxy vitamin D, calcium, phosphate, and serum bone-specific alkaline phosphatase	X		X	X
Parent/Caretaker and Child Demographic, Transgender Experience, and Psychosocial ACASI - (see Table 1)	X	X	X	X

C5. Late Pubertal Cohort

C5a. Late Pubertal Cohort - Study Enrollment and Inclusion/Exclusion Criteria

Transgender adolescents in later stages of puberty (Tanner stage 4 or 5) seeking medical treatment for the purpose of phenotypic gender transition at any of the four sites will be screened by the primary medical provider at each site for participation in the study with the following criteria:

Inclusion criteria: 1) the presence of gender dysphoria as defined by the DSM-V;²¹ 2) Tanner stage 4 or 5 of sexual development; 3) interested in pursuing a phenotypic gender change with cross-sex hormones; and 4) *[ability to read and understand English or Spanish.]*

Exclusion criteria: 1) <13 or >21 years old or 2) prior utilization of cross-sex hormones. Youth who are under the age of 18 will provide assent for participation, and their parents/legal guardian will provide consent. Youth age 18 or older will provide consent for participation. (For consent forms, see Appendix B: Consent Forms.)

C5b. Late Pubertal Cohort: Treatment Plan and Data Collection

Medications used in the course of this study (i.e., feminizing agents for transgender females and masculinizing agents for transgender males) are the standard of care at the four study sites. As the study is observational, it will not influence prescription patterns among the clinical providers. Decisions about medication doses are individually determined based on adequate and appropriate response to medications, as well as tolerability of side effects. Feminizing medications include oral, transdermal, or intramuscular 17 β -estradiol. Spironolactone, commonly used to suppress testosterone synthesis and action in natal males, is often used in combination with estradiol to further assist in feminization. Medroxyprogesterone is occasionally used in patients to further breast development. Masculinization medications include injectable or transdermal testosterone esters. Data on specific hormone type and dosing will be collected to evaluate differences as part of the analysis.

[Demographic data including age, ethnicity, race, religion, sexual orientation educational level and birth city/country]; anthropometric measures including height, weight, BMI, and Tanner stage and **physiologic parameters** including fasting lipids and glucose, blood pressure, liver enzymes, electrolytes, prolactin level, hemoglobin, glycosylated hemoglobin and hormone levels will be collected at baseline (T0) and 6 months (T1), 12 months (T2), and 24 months (T3) following initiation of treatment with cross-sex hormones.

Psychosocial ACASI Assessments

As mentioned above, the life course approach highlights the importance of adolescence as a developmental stage in which self-identity formation and validation are crucial tasks as well as the importance of social environments.²² Age-appropriate standardized measures with strong reliability were chosen wherever possible. As with the younger cohort, we will add events and experiences specific to the age range of our respondents, based on our teams' experience as well as information from youth themselves. Table 3 lists the measures chosen for the late pubertal cohort, the number (#) of items, and the Cronbach's alpha value. Our choice of measures to use in the ACASI survey fall into five domains: 1) demographics; 2) transgender-specific experiences including gender dysphoria; 3) mental health and trauma assessments; 4) additional psychosocial information including quality of life and relationships with parents and peers; and 5) behavior risk including alcohol/drug use, sex work and high-risk sexual activities.

Table 3. ACASI Survey Instruments: Late Pubertal Cohort

Construct	Scale	#	α
Transitioning	Transitioning Scale	8	--
Gender Dysphoria	The Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults ³⁵	12	.74-.86
Body Esteem	Body Esteem ³⁶	30	.81-.94
Body Image	Body Image Scale ³⁰	30	
Depression	BDI II (Adolescent) ³⁷	21	.90
Anxiety	Manifest Anxiety Scale ³⁸	36	.91
Trauma Symptoms	Trauma Symptom Checklist ³⁹	17	--
Life events	Life Events Checklist ⁴⁰	21	--
Self Injury/Suicide	Suicide and Self-Harm ³²	6	--
Quality of Life	Health-related Quality of Life ⁴¹	17	.74-.82
Stress/Connectedness	Gender Minority Stress ⁴²	55	.71-.93
Social Support	Multi-Dimensional Social Support ⁴³	12	.92
Drug Use	Alcohol, Smoking, and Substance Involvement Screening Test ⁴⁴	48	--
Sexual Risk	Adolescent Sexual Activity Index ⁴⁵	13	--

Transgender experience questions will include gender identity (age of realization of transgender status), transitioning (age of first transitioning or “real life experience” in the desired gender role), gender dysphoria, previous hormone use, and length of treatment. Additional measures will assess body esteem, and body image. Mental health and trauma assessments will include depression, anxiety, experience of trauma and trauma symptoms (including those associated with being transgender), suicide (ideation and attempts) and self-harm. Additional psychosocial measures include quality of life, social support from peers and family. In addition, stress will be captured by the Life Events and Gender Minority Stress Scales, including additions specific to transgender experience. (See Appendix D: Transgender Specific Measures - Late Pubertal Cohort). Behavioral risk will include assessment of drug use and sexual activity, including high-risk sexual behavior such as sex work.

Table 4. Data Collection Schedule – Late Pubertal Cohort

Measure	T0	T1	T2	T3
	(Baseline)	(6 mo)	(12 mo)	(24 mo)
Anthropometric Measures - height, weight, BMI, and Tanner stage	X	X	X	X
Physiologic Parameters - fasting lipids and glucose, blood pressure, liver enzymes, electrolytes, prolactin level, hemoglobin, glycosylated hemoglobin, estradiol, and free and total testosterone	X	X	X	X
Demographic, Transgender Experience, Psychosocial, and Behavioral Risk ACASI - see Table 3	X	X	X	X

C6. Data Management

The PIs from the four sites will collaborate with relevant Co-Investigators to create and finalize a cross-site study implementation protocol for each site to carry out the project in a consistent manner. The data coordination staff, housed at CHLA, will support all PIs with the generation of a cross-site protocol for data collection and templates for the Institutional Review Boards at each site. The final data collection instruments, vetted by each site PI/Co-I, will be programmed into the ACASI software by core staff. Programming will be overseen and ACASI logic (skip patterns, etc.) will be tested by Dr. Schrager. Once piloted by core staff, computers for each site will be loaded with survey data collection and data housing software. In the event of changes to future surveys, the study core will release updated survey versions and instructions for loading onto site computers to the study coordinator at each site.

Data will be collected systematically at each site using identical operating procedures, including case report forms (CRFs) for abstracting physiological parameters from medical chart data, ACASI programming, and data flow sheets to facilitate the creation of a data repository that is suitable for analysis and available for all four sites to explore. The data will be owned equally by each of the four participating sites. Data will be stored at each site and transferred to CHLA. Study-wide data management procedures, including integration and verification of multi-site data, will take place at CHLA under the direction of Dr. Schrager (CHLA Co-I).

The data manager at the coordinating site will be responsible for ensuring that site data are safely transferred via secure protocols to CHLA for cleaning and merging. The data manager will generate tracking reports regarding the accrual of participants at each site, as well as specific characteristics of the emerging cross-site data file (such as balance of male and female transgender respondents, respondent ages or age categories, etc.). The data manager will work with site staff to facilitate the receipt of data, provide technical assistance as necessary, and meet regularly via telephone with the staff person responsible for site-specific quality assurance. In addition, the data manager will manage the overall dataset, merging elements, cleaning data, creating composite variables and scales, and running descriptive statistics such as characteristics of subjects for the entire sample (male v. female, other demographics, etc.) for the larger study group.

Cleaned and coded data from all four sites, including scored measures and created scales, will be made readily available to all PIs. To meet NIH obligations for data sharing, other investigators not affiliated with the study will also be able to access de-identified study data pursuant to a signed Data Use Agreement. The core staff will be responsible for maintaining Data Use Agreement records and secure transmission of data to outside investigators.

C7. Analytical Plan and Power Analysis

C7a. General Analytical Framework for Aims 1 and 2

The analysis plan of categorical and continuous variables consists of the following: descriptive analyses; psychometric analyses of scales; and use of generalized linear models to evaluate study hypotheses (including, but not limited to multiple linear and logistic regression, path analyses, and structural equation

modeling). SPSS (version 22) and Mplus (version 7.11) will be used for data management and all preliminary and formal hypothesis-testing analyses. Prior to beginning hypothesis testing, we will undertake the following activities with all waves of psychological and physiological data from both cohorts.

C7b. Data Checking, Cleaning, and Management

Procedures to clean and screen the survey data will include univariate analyses (e.g., mean, standard deviation, plausible range and value, skewness, and kurtosis), patterns of correlation and covariance, and checks for multicollinearity and singularity of variables. These procedures will facilitate the identification of multivariate outliers and check assumptions of multivariate normality (e.g., normal distribution, linearity, and homoscedasticity). Transformation of variables (e.g., log transformation) will be conducted as needed to reduce the effects of valid outliers or violations of multivariate normality. Univariate statistics will be used to broadly examine the characteristics of the sample, including demographics, mental health, physiological parameters, substance use, and other risk behaviors (e.g., sexual risk), social support, and parental measures for the early puberty cohort. Bivariate analyses (e.g., correlation analyses) will examine relationships among variables of interest and identify potential covariates for inclusion in later multivariate models. Data reduction techniques such as factor analysis will be used to identify and/or verify scale structure of constructs of interest. Scale scores will be created as means or sums of unweighted composite scores or composite scores weighted by factor loadings, as appropriate. Confirmatory factor analysis will be considered for evaluating the stability of composite scores over time. Psychometric properties (e.g., Cronbach's alpha) of all scale measures will be evaluated at each assessment time point.

Following these preliminary analyses, formal hypothesis testing to address **Specific Aims 1 (early pubertal youth) and 2 (late pubertal youth)** will proceed as follows:

Effects of Hormonal Interventions on Mental Health and Psychological Well-Being

Hypothesis 1a: Patients treated with GnRHa's will exhibit decreased symptoms of gender dysphoria, depression, anxiety, trauma symptoms, self-injury, and suicidality and increased body esteem and quality of life over time.

Hypothesis 2a: Patients treated with cross-sex hormones will exhibit decreased symptoms of anxiety and depression, gender dysphoria, self-injury, trauma symptoms, and suicidality and increased body esteem and quality of life over time.

Hypotheses 1a and 2a will be tested in the early-puberty and late-puberty cohorts, respectively, using repeated measures multivariate analysis of variance (MANOVA) to assess the trajectories of continuous mental health outcomes and psychological well-being over time within each cohort. The MANOVA approach will preserve statistical power to detect significant effects among this set of related continuous outcomes without the inflated Type I error rates associated with a series of individual ANOVA or regression analyses. The MANOVA analyses will investigate the changes over time in gender dysphoria, depression, anxiety, trauma symptoms, self-injury, suicidality, body esteem, and quality of life. The model will incorporate time (i.e., measurement time point: baseline, 6-month, 12-month, or 24-month survey) as a within-subjects factor. Asserted gender, age, ethnicity, and other socio-demographic variables may additionally be entered as possible covariates (i.e., ANCOVA) to improve statistical power to detect significant time effects. However, we do not propose any *a priori* hypotheses about demographic effects on these outcomes, and any demographic variables that do not contribute significantly to the model will be removed from the analysis in order to preserve power and increase model parsimony.

In keeping with conventional practice, analysis will first proceed with a review of Box's test for the equality of covariance matrices. Violations of this assumption would require the use of Pillai's trace, as opposed to Wilks' Lambda, to determine multivariate statistical significance. If, as hypothesized, the within-subjects time variable demonstrates significant multivariate effects, the follow-up univariate results will be inspected as appropriate. The assumption of sphericity via Mauchly's test will be checked for each measured outcome; if sphericity is violated, the Huynh-Feldt correction for degrees of freedom will be applied to that outcome. Finally, for outcomes showing significant time effects, linear and quadratic contrasts will be checked for significance and marginal means will be computed and plotted to create a visual display of significant trajectories. An *a priori* p-value of 0.05 will be applied as the criterion for statistical significance in all analyses.

Safety of Hormonal Interventions

Hypothesis 1b: GnRH agonists are tolerable and safe for early-pubertal transgender youth, i.e., lipids, glucose, liver enzymes, electrolytes, insulin, and HgbA1c will not increase above clinically safe ranges.

Hypothesis 2b: Cross-sex hormones are tolerable and safe to use with late-pubertal transgender youth initiating phenotypic transition, i.e., will not increase lipids, glucose, liver enzymes, electrolytes, hemoglobin A1c and hemoglobin above clinically safe ranges.

Unlike the mental health and psychological well-being measures, the question of interest for these metabolic and physiological parameters is not whether they show significant fluctuation over time (which may or may not be meaningful), but rather whether development after initiation of hormonal interventions pushes any physiological indicator above the clinically safe range for that indicator, i.e., above predetermined safety cutoff values based on previous literature and clinical guidelines. Safety will be assessed cross-sectionally with one-sided one-sample t-tests comparing cohort mean scores to the cutoff value. We hypothesize that the cohort means will be significantly lower than the cutoff score. We will use the Benjamini-Hochberg procedure⁴⁶ to account for inflated family-wise alpha due to multiple comparisons at each time point.

Additionally, ranges of raw scores from all patient labs will be computed at each time point as part of the preliminary data cleaning and descriptive analysis phase. This will provide an immediate assessment whether the indicator value for any individual patient has crossed the safety threshold for that indicator as data are collected at each time point. In the event any patient experiences an individual increase in laboratory values above the threshold, medication adjustments will be made to protect the well-being of the patient according to the discretion of the medical provider at the site where they are receiving care regardless of the whole-cohort significance test results for that time point.

Bone Density in Early Pubertal Youth

Hypothesis 1c: Raw bone density scores will remain stable for early-pubertal transgender youth receiving GnRH agonists; however, age-matched z-scores may decrease.

We will use repeated measures ANOVA to estimate trajectories of raw and age-matched bone density scores over time in early pubertal youth. As before, asserted gender and socio-demographic variables may be entered as possible covariates, linear and quadratic contrasts will be assessed, and marginal means will be computed and plotted to create a visual display of trajectories for both outcomes. We hypothesize that for raw scores, the linear term will *not* differ significantly from zero, indicating net stability in bone density over time. However, for age-matched z-scores, the linear term may be negative as gender non-conforming youth receiving GnRH agonists fail to add bone density at a rate comparable to their age-matched peers.¹¹

Risk Behavior in Late Pubertal Youth

Exploratory Aim 3: Based on evidence of high rates of substance use and HIV infection in some transgender adolescents, we will measure substance use and sexual risk behavior over time.

We will conduct an exploratory assessment of sexual risk and substance use behavior in the late pubertal cohort, using repeated measures MANOVA to model trajectories of these risk outcomes over time. As before, asserted gender and socio-demographic variables may be entered as possible covariates. Given that sexual risk and substance use behaviors increase during adolescence in normative samples, we do not specify *a priori* hypotheses regarding the impact of hormone treatment on these risk outcomes in our transgender population. However, linear and quadratic contrasts will be assessed. Significant positive terms (indicating increased risk over time) would be indicative of a typical adolescent risk trajectory, whereas significant negative terms (indicating decreasing engagement in risky behaviors) or non-significant time effects (suggesting no net change in risk) would instead support a “treatment-as-prevention” explanation. Again, Box’s test will be reviewed for equality of covariance matrices and multivariate test statistic determined accordingly, and sphericity will be assessed via Mauchly’s test with the Huyhn-Feldt correction applied as needed.

C7c. Additional Analytic Considerations: Site Clustering Effects

Although the proposed observational study will take place at four sites nationwide, we do not anticipate substantial site effects. To verify this, a group identifier for each participant will be included in the merged analytic dataset, and the intra-class correlation (ICC) for each outcome will be calculated prior to conducting multivariate analyses. If, as anticipated, no significant variance is carried at the group level, we will reduce the

model to a traditional one-level model. If significant group-level variance does emerge, dummy codes to control site-specific variance will be used to enhance statistical power.

C7d. Missing Data

We will conduct missing data analyses in order to differentiate between data that are missing at random (MAR) and data that are missing related to gender or aspects of the treatment plan (e.g., hormone dosing). If missing data can be regarded as MAR, multiple imputations may be used. If the MAR assumption is not plausible, sensitivity analyses will be conducted to evaluate the impact of MAR violations on analyses by specifying models for non-ignorable missing data mechanisms.

C7e. Power Analysis to Determine Sample Size

Early Pubertal Cohort. Unique to the early puberty cohort is the need to assess the effect of GnRH agonists on bone health (Hypothesis 1c). Although we hypothesize that there is no net change in raw bone density over time (precluding power analysis), it is important to assess nontrivial lags in development compared to age-matched peers. Using G*Power version 3.1.3 to conduct an *a priori* power analysis in a repeated measures MANOVA framework with effect size $f=.20$ (a moderate effect size equivalent to Cohen's $d=.40$), $\alpha=.05$, adequate statistical power $=.80$, and 4 measurement time points, a sample of 73 participants would be sufficient to detect significant decrease in age-matched z-scores over time. Thus, we propose to recruit a sample of **80 evaluable participants in the early puberty cohort**, which will yield comparable power to detect moderate changes in mental health outcomes over time (Hypothesis 1a) and good (.89) power to detect significant differences in metabolic and physiologic lab values of one-third of a standard deviation from clinical cutoffs (Hypothesis 1b).

Late Pubertal Cohort. In the absence of available longitudinal metabolic and physiological data, the proposed study will be powered to assess changes in mental health and psychological well-being (Hypothesis 2a) based on evidence from our preliminary data. Using G*Power version 3.1.3 and conducting an *a priori* power analysis in a repeated measures MANOVA framework with effect size $f=.11$ (a small effect size equivalent to Cohen's $d=.22$), $\alpha=.05$, adequate statistical power $=.80$, and 4 measurement time points, with a small natural correlation among repeated measures of $r=.15$, a total sample of 196 participants would be needed for adequate power to detect multivariate significance. This sample would generate adequate (.80) power to detect effects as small as $d=.17$, or less than a fifth of a standard deviation from clinical cutoffs, in the safety analyses of Hypothesis 2b. Therefore, we propose to recruit a total sample of **200 evaluable participants in the late puberty cohort** to ensure adequate statistical power to test the two hypotheses of Aim 2 and to conduct the exploratory analysis of Aim 3.

C8. Expected Outcomes

Aim 1: Findings will determine that the treatment practice of blocking puberty in gender dysphoric youth is not only tolerable and safe, but that this practice improves the mental health of these youth by avoiding the development of secondary sex characteristics that are undesirable. We anticipate that bone density during puberty suppression will continue to accrue at a pre-pubertal rate. Collectively, these outcomes will help clinicians and caregivers make the critical decision to move forward with treatment of gender dysphoric youth. Additionally, policy makers will have expanded scientific evidence that will support the medical necessity of this treatment approach, informing policies related to gender transition.

Aim 2: In our late pubertal cohort, findings will determine that gender transition with cross-sex hormones is tolerable, safe, and improves the mental health of transgender adolescents. Additionally, cross-sex hormone treatment may lead to a decrease in high-risk behavior including sexual activity and drug use. Collectively, these outcomes will help clinicians and caregivers provide the necessary early care for transgender adolescents. Rigorous scientific evidence supporting the benefits of early treatment will help reduce the anxiety often experienced by providers and caregivers that cross-sex hormones are harmful and the fear that the irreversible changes occurring from hormones is the wrong choice for the health and well being of their children and patients. Treatment models that are proven to improve mental health outcomes and decrease life-threatening behaviors are medically necessary and need to be unequivocally framed as such.

C9. Potential Problems and Alternative Strategies

A first potential problem with the study is participant attrition between baseline enrollment and follow-up visits, which could impact the validity of results and the power to detect relationships among variables. Older adolescents are migratory by nature, although continued hormone treatment is a compelling reason to stay engaged in care. In our pilot study of transgender youth at CHLA, attrition over one year was 15%. We are over-recruiting by 20% in the late pubertal cohort to account for potential increased attrition over 2 years. For

the youth in the early pubertal cohort, we anticipate that attrition rates will be lower than in the older cohort based on clinical observation and on increased parental involvement. We are over-recruiting in this cohort by 10% to allow for potential participant attrition.

Collecting and transmitting data consistently across four participating sites can be challenging. Data must be cleaned and stored uniformly in order to perform useful analyses and generate meaningful conclusions. Therefore, we have budgeted for a data coordination core staff at CHLA, whose responsibility it is to conduct trainings of data collection personnel at each site concerning appropriate procedures for recruitment, enrollment, and use of computer assisted data collection. Additionally, core staff will be responsible for verifying that data from all sites are comparable.

While this study will likely cause minimal risk to participants, they could potentially experience distress and/or triggering of negative feelings when asked questions on the ACASI of a more sensitive nature. If patients experience discomfort or distress, as outlined in the Protection of Human Subjects attachment, they will be directed immediately to onsite mental health providers for evaluation and counseling.

[Finally, a study design that had a more scientifically robust control arm was considered, but in light of both the WPATH and the Endocrine Society's guidelines we decided against such an approach as we deemed it both unfeasible and not ethically responsive to the population served.]

C10. Benchmarks of Success and Timeline

Benchmarks (see **Timeline of Project Activities** in the Budget Justification section) include: 1) The successful completion of project protocols and human subject approvals; 2) development and piloting of the ACASI instrument; 3) standardized training of project coordinators and data collection staff; 4) successful enactment of recruitment protocols; 5) completion of baseline collection of bone density, physiologic, and psychosocial data; 6) data collection at each follow-up point; 7) data management and analysis; and 8) published manuscripts and dissemination.

C11. Dissemination

The PIs from all sites will each attend one national conference per year to disseminate findings beginning in Year 2. Data obtained from this study are of interest to and will be presented to participants at gender specific conferences such as the World Professional Association of Transgender Health, Gender Odyssey, Philadelphia TransHealth Conference, and Gender Spectrum, and also at national conferences concerning the health of children and adolescents such as the American Academy of Pediatrics, Society for Adolescent Health and Medicine, Pediatric Academic Societies, and others. Beginning in Year 3, peer-reviewed publications will be developed pertaining to cross-sectional hypotheses and research questions found in Aims 1 and 2, though the bulk of publications are longitudinal in nature and will be developed in Year 5. Dissemination of findings to State and County officials, policy makers, and organizations will begin in Year 3, when preliminary data become available.

C12. Future Directions

The development of this network of investigators is an essential step in the progress to eradicating the health disparity that currently exists for transgender youth. Together, these sites anticipate expanding investigation into the experiences and needs of transgender youth from early childhood through early adulthood. Our network of four research sites views the proposed research as only the beginning of a larger body of longitudinal outcome research needed for understanding and optimizing medical interventions for gender non-conforming children and adolescents. A distinct strength of the proposed network is that we will be well-suited to address new and unanticipated issues as they arise within the context of the proposed work in order to refine aspects of future studies. As children and adolescents who are blocked in puberty move on to cross-sex hormones, it will be critical to understand the impact of GnRH analogues on their bone mineral density, as well as neurocognitive development. We plan to extend our investigations to include the youngest cohort of gender non-conforming children in order to identify resiliency factors, understand the role of social support systems, and identify predictors of persistence of gender non-conformity from childhood into adolescence. Additionally, future investigation into the experience of parenting gender non-conforming and transgender youth is of interest and importance. This proposal sets up an ideal framework to continue collecting longitudinal data from the cohorts recruited for this initial work as well as understand the additional complexities of this population.

PROTECTION OF HUMAN SUBJECTS

Risks to Human Subjects

a. Human Subjects Involvement, Characteristics, and Design

Transgender children and adolescents, those who experience incongruence between assigned birth sex and internal gender identity, are a poorly understood and distinctly understudied population in the United States. The limited available data suggest that transgender youth who are gender dysphoric (persistently distressed about their gender incongruence) are at increased risk for numerous health disparities in comparison to their peers, including higher rates of anxiety, depression, suicide, and substance use. The development of undesired secondary sex characteristics during puberty intensifies the distress associated with gender incongruence and increases the risk for these conditions. Current clinical practice guidelines include strategies for treating transgender youth with the use of: 1) gonadotropin releasing hormone (GnRH) agonists to suppress endogenous puberty in early pubertal adolescents in order to avoid the development of undesired secondary sex characteristics and 2) cross sex hormones to induce masculine or feminine features in late pubertal adolescents. The goal of these interventions is to decrease gender dysphoria and ameliorate other potential negative health outcomes. These guidelines are used at academic and community-based centers across the U.S.; however, they are only partially empirically derived and based on very limited data, largely from non-U.S. sources. Further, there are no data available examining the physiologic and metabolic consequences of these treatments in adolescents. This represents an obvious gap in the literature that has significant implications for clinical practice across the U.S. The general lack of U.S. data leaves healthcare providers uncertain about optimal care for these highly vulnerable youth. This proposed research will fill gaps in knowledge, provide empirical evidence to inform clinical care, and would be the first study of its kind evaluating longitudinal outcomes of medical treatment for multi-ethnic, transgender youth in the U.S.

The proposed research study will collect data from 328 transgender youth (88 early pubertal [Tanner stages 2 and 3] and 240 late pubertal youth [Tanner stages 4 and 5]) and 88 parents of the early pubertal group in order to evaluate the impact of hormone therapy.

Potential participants will be receiving services at one of the four sites (Boston, Chicago, Los Angeles, and San Francisco) and seeking hormonal intervention to either delay the progression of puberty through the use of GnRH agonists or begin phenotypic gender transition by adding cross-sex hormones. Recruitment will be conducted by one of the care providers at the site, and ongoing retention will be supported through the participants receiving transgender care services.

Inclusion criteria for early pubertal cohort includes the presence of gender dysphoria, expressed anxiety about endogenous puberty and/or the development of undesired secondary sexual characteristics, Tanner stage 2 or 3 of sexual development, and a desire to undergo puberty suppression. Patients and parents/legal guardians must be able to read and understand English. To be eligible for enrollment, the participants cannot have utilized GnRH agonists or hormones prior to the initial visit.

Inclusion criteria for the late pubertal cohort includes transgender youth between 13 and 21 years of age with gender dysphoria, Tanner stage 4 or 5 of sexual development, and an interest in pursuing a phenotypic gender change with cross-sex hormones. Patients must be able to read and understand English. To be eligible for enrollment, the participants cannot have utilized cross sex hormones prior to the initial visit.

The involvement of children is required as this study focuses on transgender youth who are either early pubertal or late pubertal. The hormonal interventions are ideally utilized in Tanner stages 2 and 3 for puberty delay or Tanner stages 4 and 5 for phenotypic gender change. No other special vulnerable populations will be enrolled.

Physiologic, psychosocial, behavioral, and medical data will be collected at the baseline visit (T0), 6 months (T1), 12 months (T2), and 24 months (T3). The timeline for data collection is correlated with expected standard of care clinical visits so as to not overly burden the participants or their parents/legal guardians with additional

study visits. Physiologic data will be abstracted from medical records, while demographic, psychosocial, and behavioral data will be collected via Audio Computer-Assisted Self-Interviewing (ACASI) technology.

The research is being conducted at Children's Hospital Los Angeles, University of California San Francisco Benioff Children's Hospital, Lurie Children's Hospital of Chicago, and Boston Children's Hospital in order to investigate the impact of the treatment on multi-ethnic transgender youth in the United States. These four academic hospitals situated strategically across the country have dedicated transgender youth clinics and are considered the national leaders in the care of transgender children and adolescents. All four sites employ a similar model for care that includes medical and mental health professionals and represent some of the most experienced providers in the country doing this work.

ACASI data collected at the collaborating sites will be encrypted and transferred to CHLA. Upon transfer of the encrypted data to CHLA, the data will be stored on CHLA's secured network (with firewall protection), which cannot be accessed by anyone outside of CHLA. All case report forms (CRFs) will be entered into password protected databases at the site and be transmitted securely with an ID core to CHLA. A password will be used to access survey data and chart abstraction files and will be made accessible only to the Principal Investigators and study staff. These data will be archived in a password-protected database on the local network on a daily basis. The data coordination staff, housed at CHLA, will support all PIs with the generation of a cross-site protocol for data collection and templates for the Institutional Review Boards at each site. Study-wide data management procedures, including integration and verification of multi-site data, will take place at CHLA.

b. Sources of Materials

Case report forms (CRFs) for abstracting physiological parameters (height, weight, BMI, sitting height, Tanner stage), hormone levels, and bone health from medical chart data will be used.

Data will be collected directly from participants and for the early pubertal group, their parents/legal guardians, via ACASI to minimize concerns about confidentiality. Demographic data for the early pubertal group collected will include age, ethnicity, educational level and birth city/country, as well as data specific to the transgender population, such as age of realization of transgender status, age of first living in the desired gender role, and domains where they are living in their desired gender role, if any. Demographic, mental health, and behavioral data will also be collected from the parents of the youth in the early pubertal group.

Demographic data for the late pubertal group collected will include age, ethnicity, educational level, and birth city/country, as well as data specific to the transgender population, such as age of realization of transgender status, age of first transitioning or "real life experience" in the desired gender role, prior sexual activity, sexual orientation, previous hormone use, and length of treatment. Psychosocial indicators from the late pubertal group include gender dysphoria, quality of life, body esteem, depression, suicidal ideation, drug use, sex work, and high-risk sexual behavior.

Only site-specific research staff and local institution IRB personnel conducting quality assurance activities will have access to individually identifiable private information about the participants.

No personal identifying information (e.g., name, tracking information, etc.) will be placed on any of the CRFs or collected within the ACASI survey. All study-specific records will be identified by a coded number only, to maintain confidentiality. Only the research staff will have access to the database linking the participant's unique ID code and name in a secure network, password-protected file or in a secure location under double-lock when not in use and with restricted access during work hours and/or when unattended.

Anthropometric measures, hormone levels, laboratory result data, and bone health will be abstracted by trained, research staff and recorded on CRFs. All CRFs will be entered into password protected databases at the site and transmitted securely with an ID to CHLA.

For the ACASI baseline and follow-up surveys each participant will be assigned a code and their pre- and post-surveys will be linked via this code. A master list of the codes assigned to participants will be kept in a secure,

password protected file at each site or in a secured location under double-lock when not in use and with restricted access during work hours and/or when unattended.

c. Potential Risks

The risks of participation in this study are minimal and are not greater than those that would be accepted by other persons not participating in the study. Participants are expected to be exposed only to minimal risk based on questions asked and the confidential system of data collection. While all safeguards will be in place to protect their identity, there is also potential risk that identifying information collected could be accessed by someone other than the research team. A number of precautions and safeguards have been developed in order to protect the confidentiality of individuals who participate in the study. No personal identifying information will be used on the CRFs or ACASIs. Consent forms will be filed and stored separate from the raw data in a secured location under double-lock when not in use and with restricted access during work hours and/or when unattended.

As this is an observational study, there are no alternative treatments or procedures.

Adequacy of Protection Against Risks

a. Recruitment and Informed Consent

Site care members will recruit participants for the study by speaking with patients and their parents/legal guardians face-to-face or by telephone. Information regarding the study will be provided and interest in participation will be assessed.

If the potential participants are interested in enrolling in the study, staff members from Children's Hospital Los Angeles, Boston Children's Hospital, Lurie Children's Hospital of Chicago, and University of California at San Francisco who have received IRB certification will consent participants. The Institutional Review Boards at all sites requires that all research participants review and sign an informed consent/permission/assent form or be given an information sheet (if a waiver of written consent is obtained). The informed consent/permission/assent form covers information about the overall purpose of the study, what the study entails, potential risks, potential benefits to participating individuals and society, the confidentiality of data, and contact information for the Principal Investigator and the IRB. Once informed consent/permission/assent has been obtained, the research staff will have the form reviewed by a fellow research team member, who will confirm that it is fully completed before it is filed in a secure location under double-lock when not in use and with restricted access during work hours and/or when unattended.

For participants aged 7 to 13 years old, the participant will sign an age-appropriate assent form, and the parent/legal guardian will sign a consent/permission/assent form.

For participants aged 14 to 17 years old, the participant and the parent/legal guardian will sign a consent/permission/assent form.

For participants aged 18 years or older, the participant will sign a consent/permission/assent form.

Project Staff will inform participants that they have the right to skip any survey questions that make them feel uncomfortable. Participants will be informed that participation is completely voluntary and that they are free to stop their involvement in the study at any time without any negative consequences. They will be informed of their rights to privacy and confidentiality and will be told that their answers to the survey will be kept confidential and not shared with others outside of the research staff. They will be informed that no information about them or provided by them during the research will be disclosed to others without their written permission, except if necessary to protect their rights or welfare (for example, if they are injured and need emergency care) or if required by law (i.e., child or elder abuse, harm to self or others, or reports of certain infectious diseases).

Participation in all phases of the data collection process is voluntary. There will be no mandatory participation through any venue (e.g., court-ordered, condition of probation, compliance with agreement to work, or to

maintain housing). The consent/permission/assent form clearly states that participation is voluntary and that a decision to not participate is entirely up to each individual.

b. Protections Against Risk

A number of precautions and safeguards have been developed in order to protect the confidentiality of individuals who participate in the study.

No personal identifying information (e.g., names) of the participants will appear in any computer files associated with this research project in any location. Participants will be assigned a unique identification number code. A key file that matches the ID number to the participant and organization will be maintained in a secure data repository within the project offices at each of the four sites. Data will be kept strictly confidential, except as required by law, and stored on a secure network, with password protection such that only authorized users will have access to the file server. All computers will be located in locked facilities, and consent forms will be filed and stored separate from the raw data in a secured location under double-lock when not in use and with restricted access during work hours and/or when unattended. Any temporary data files kept on removable storage devices, as well as printouts derived from data analysis, will be stored in a locked compartment when not in use.

After a subject completes the ACASI survey at a site, the ACASI data will be secured by being saved in a password-protected compressed file. As each section of the survey is completed, the section will be saved and encrypted so that no one is able to look at previous screens to view the data. If the subject completing the interview requires a short break, it is possible to stop the interview and return later to complete it. Only authorized users with a login name and password will be able to open the survey on the laptop.

Data will remain on the CHLA server during data collection, verification, cleaning, and analysis. At the closure of the study, electronic and hardcopy data will be maintained for a minimum of six years per CHLA IRB policy. The local site data will be retained at the local site for the length of time as defined the local site's IRB policy. Project binders at CHLA containing archival information will be stored a minimum of six years and will then be eligible to be destroyed.

The research staff and protocol will be certified through the local IRB at each of the four sites to conduct research on human subjects, especially as related to children. This observational study is 46.404, research not involving greater than minimal risk, and 46.408 requirements for permission by parents or guardians and for assent by children will be followed. Within the first two months of funding, the project staff will submit an application to the IRB for protocol approval. Throughout the project, staff will continue to work with IRB at their respective sites to protect the rights and confidentiality of all individuals who participate in data collection.

As this is an observational study, adverse events are not anticipated. However, there is some risk that answering questions about some of the topics may be uncomfortable or upsetting. In the event of discomfort or upset, there are medical and psychological professionals on the research team who can provide ongoing support as needed. Participants do not have to answer any question in the computerized interview that they do not want to answer. Furthermore, participants will be informed that at any point, they may stop if they do not wish to continue the questionnaire. In the event of an adverse event, it will be reported to the IRB as per protocol to ensure the safety of participants.

Potential Benefits of the Proposed Research to Human Subjects and Others

While there are no potential direct benefits to the research participants, the risks involved in this study are minimal and the anticipated societal benefits outweigh them.

Importance of the Knowledge to be Gained

As described above the risks involved in this study are minimal and the anticipated societal benefits outweigh them. The proposed research provides the opportunity to obtain a better understanding of transgender youth, improve their care, and share information on a local and national level about how to provide care and hormone

therapy for gender dysphoric children and adolescents. The information that is learned from this project will support innovative approaches to identifying, understanding, and providing optimal care for early pubertal and late pubertal, multi-ethnic transgender youth.

Data and Safety Monitoring Plan

Not applicable as the proposed research does not include a clinical trial.

ClinicalTrials.gov Requirements

Not applicable as the proposed research does not include a clinical trial.

INCLUSION OF WOMEN AND MINORITIES

Inclusion of Women

As a study of transgender children and youth, those designated at birth as female or male and who identify with a gender that is inconsistent with that label will be eligible to be enrolled in this study. These individuals will be recruited to participate in the proposed study as the target population and may identify with any number of gender identity labels including, but not limited to transgender, female, transgender female, male, and transgender male.

Inclusion of Minorities

All racial and ethnic categories are eligible for our proposed study; however, our proposed sample will be predominantly White, Hispanic, and African American. This reflects the target populations of transgender individuals that are currently being served within the four sites. The inclusion criteria include monolingual Spanish speakers, and the ACASI instruments and consents will be made available in Spanish.

Planned Enrollment Report

Study Title:

The Impact of Early Medical Treatment in Transgender Youth

Domestic/Foreign:

Domestic

Comments:

Racial Categories	Ethnic Categories				Total
	Not Hispanic or Latino		Hispanic or Latino		
	Female	Male	Female	Male	
American Indian/Alaska Native	1	1	0	0	2
Asian	19	16	0	0	35
Native Hawaiian or Other Pacific Islander	1	1	0	0	2
Black or African American	41	40	0	0	81
White	109	67	12	10	198
More than One Race	34	14	28	22	98
Total	205	139	40	32	416

Study 1 of 1

INCLUSION OF CHILDREN

The proposed research will include coded data from early and late pubertal, gender dysphoric children and adolescents (Tanner stages 2-5) to understand the impact of hormone therapy to suppress puberty. Data will be collected from their medical charts as well as audio computer-assisted self-interviewing surveys; however, all data collection will be coded to help ensure confidentiality. Children and adolescents will be asked to complete surveys at baseline, 6 months, 12 months, and 24 months. As described in the Research Plan, the Principal Investigator, research staff, and collaborating partners have a long history of working with and conducting research related to transgender children and adolescents.

MULTIPLE PI/PD LEADERSHIP PLAN

Johanna Olson, M.D., Norman Spack, M.D., Robert Garofalo M.D., M.P.H., and Stephen Rosenthal, M.D., will serve as a team of Principal Investigators on this application, each responsible and accountable to the National Institutes of Health (NIH) for the proper conduct of the research. The rationale for the decision to act as a multiple PI team is based on the fact that these four investigators bring unique experiences and knowledge that will integrate and complement one another in the implementation of this project. Additionally, the involvement of these four sites provides larger numbers than a single site could of potential participants for a research endeavor seeking to understand an uncommon experience. The PIs serve as the Medical Directors of four university-affiliated programs in the United States currently providing care for transgender youth.

Dr. Johanna Olson, M.D. (Pediatrics and Adolescent Medicine), is the Medical Director of the Center for Transyouth Health and Development at Children's Hospital Los Angeles (University of Southern California). She and her team based at CHLA, including Co-Is Marvin Belzer, M.D., Leslie Clark, Ph.D., M.P.H., and Sheree Schrager, Ph.D., M.S., lead the largest transgender youth program in the United States. The combined expertise of this team provides both comprehensive clinical knowledge and extensive research expertise in the area of transgender adolescents. Patients seek care at this center from as far away as Shanghai. While we acknowledge that Dr. Olson, the lead PI, is still early in her career, she is surrounded by an experienced team of mentors at her own site and at the three other sites participating in the proposed project. Dr. Belzer has extensive experience managing clinical trials, including his participation as a site PI in the NICHD supported REACH and ATN Networks for the past 20 years as well as the PACTG/IMPAACT Network for 15 years. Dr. Belzer will serve as the primary mentor for Dr. Olson, a role he has had for the past four years. Drs. Clark and Schrager bring an extensive portfolio of skills including the design and implementation of behavioral interventions, expertise in research methodology and statistical analysis, and prior experience managing multi-site studies.

Dr. Norman Spack, M.D. (Pediatric Endocrinology), and his team, including Co-I Psychologist Amy Tishelman, Ph.D., are principals in Boston Children's Hospital's Gender Management Service (GeMS) which opened in 2007. GeMS was the first pediatric academic program in the western hemisphere to treat pubescent teens. Dr. Spack treated 200 transgender adults from 1985-2006, and in 2004, GeMS' personnel were trained by the Amsterdam team and given their protocols for psychometric assessment and pubertal suppression. 75% of GeMS' patients come from a 150 mile radius of Boston; the rest come from throughout the US. His Co-Investigator, Amy Tishelman, Ph.D., is a clinical psychologist with significant expertise in scholarship and clinical realms; before joining the GeMS team she was the Director of Child Protection Clinical Services at Boston Children's Hospital and subsequently Director of Training and Research for that program. She has decades of experience evaluating children and families and is a recognized expert in the area of trauma and interpersonal violence with an interest in helping vulnerable children and adolescents.

Dr. Robert Garofalo, M.D., M.P.H. (Pediatrics and Adolescent Medicine), is Co-Director of the Gender and Sex Development Program, Division Head of Adolescent Medicine at Lurie Children's Hospital of Chicago, and Associate Professor of Pediatrics at Northwestern University's Feinberg School of Medicine. He will serve as the PI for the Chicago site. He and his team, including Co-Is Marco Hidalgo, Ph.D., Lisa Simons, M.D., Courtney Finlayson, M.D., and Scott Leibowitz, M.D., and Ethicist Joel Frader, M.D., bring a wealth of expertise caring for and conducting research in adolescent populations, with particular focus on transgender and other sexual minority youth. The Chicago team has been providing clinical services to gender non-conforming youth for more than a decade. Their multidisciplinary program for gender non-conforming youth and transgender youth undergoing medical suppression of puberty or initiating cross-sex hormone therapy brings together experts in pediatrics/adolescent care, endocrinology, psychology and child development, psychiatry, surgical subspecialties, and medical ethics. The team has extensive experience conducting NIH-funded multisite clinical and behavioral research with marginalized populations of youth.

Dr. Stephen M. Rosenthal, M.D. (Pediatric Endocrinology), Professor of Pediatrics, Program Director for Pediatric Endocrinology, Co-Director of the Disorders of Sex Development Clinic, and Medical Director of the Child and Adolescent Gender Center (CAGC) at the University of California San Francisco (UCSF) Benioff Children's Hospital, is an established clinical investigator with greater than 30 years of experience in child and adolescent endocrinology. He will serve as PI for the UCSF site. His Co-Investigator, Diane Ehrensaft, Ph.D.,

and Mental Health Director of the UCSF CAGC, is an internationally recognized child psychologist/gender specialist. His Co-Investigator, David Glidden, Ph.D., Professor of Epidemiology and Biostatistics at UCSF, brings extensive expertise in research design and statistical analysis. The UCSF CAGC has been providing multi-disciplinary care for gender non-conforming/transgender youth and adolescents for the past six years. The UCSF CAGC is the only such multi-disciplinary gender program in Northern California and attracts patients not only from California, but from as far away as Florida and Egypt.

Primary Roles and Areas of Responsibility for Each PI

- Administrative
 - Upon successful funding, the award will be made to Children’s Hospital Los Angeles (CHLA). All participants will be enrolled at one of the four study sites – The Center for Transyouth Health and Development (CHLA), The Child and Adolescent Gender Center (University of California San Francisco), The Gender, Sexuality and HIV Prevention Center (Lurie Children’s Hospital of Chicago), or the Gender Management Service (Boston Children’s Hospital). Drs. Olson, Garofalo, Rosenthal, and Spack will work collaboratively to prepare reports and other requirements for submission to the NIH. Each will oversee the administrative responsibilities at each of their respective institutions.
- Technical
 - Dr. Olson, given her experience conducting the pilot studies that serve as the principal preliminary data for the current application, will work with Drs. Rosenthal, Spack, and Garofalo to finalize study implementation protocols at each site, so that each site carries out the project in the same manner. Data will be collected systematically, with identical operating procedures including CRFs, ACASI programming, and data flow sheets to facilitate the creation of a data repository that is suitable for analysis and available for all four sites to explore. The data will be owned equally by each of the four participating sites.
 - Dr. Olson will oversee the protocols for data collection, including physiologic and psychosocial at each site.
 - All four PIs will finalize protocols for each cohort in the study and standardize these to ensure that there is consistency in delivery across the four study sites.
 - All four PIs, with the project directors/Co-Is at each site, will direct recruitment, retention, data collection, and intervention delivery, with support from the project team at each of their respective sites. Data will be stored at all sites and safely transferred via secure protocols to CHLA for cleaning and merging.
 - Drs. Clark and Schrager will direct data management, including integration and verification at CHLA.
 - Drs. Clark, Schrager, and Glidden will direct data analysis at CHLA and UCSF.
 - Dr. Garofalo will be involved in scientific direction and support data interpretation and dissemination.

Governance/Structure

- Communication plan
 - These four sites are positioned across the U.S., necessitating ongoing communication via teleconference. The investigators have budgeted for a one-week training at the beginning of the study, in which all of the teams will meet at one of the principal sites. The investigators have also budgeted travel for mid-study team meetings that will allow the research team to review study progress and ensure successful completion. In the final year, the investigators have budgeted travel for the purpose of meeting around data analysis, interpretation, and manuscript writing.
 - During the accelerated start up phase of the study, the PIs and Co-Is will meet twice weekly via Skype/phone with the project managers at each site to discuss scientific issues, intervention sessions, recruitment, implementation, etc. Additional meetings will be scheduled with members of the study team as needed.
 - Decisions on scientific direction will be made during the weekly meetings. Dr. Olson will make final decisions on the delivery of the intervention protocol, whereas Drs. Clark and Schrager will make final decisions regarding instruments, data collection tools, and the statistical analyses for manuscript preparation.

- Procedures for resolving conflicts – The four sites have determined that the following domains may require third party arbitration in the event of conflict that is not resolved through discussion amongst the sites:
 - Authorship dispute – issues of conflict will be heard by an objective observer from the WPATH executive board.
 - Scientific dispute – scientific conflict will be arbitrated by a pediatric endocrinologist faculty member at Children’s Hospital of Pennsylvania.
 - Safety – a data safety monitoring board will be established by the end of month three to provide periodic assessment of the protocol and preliminary results, and assist with conflict arising from potential safety issues.
- Distribution of resources to four sites – CHLA will be the primary institution for the receipt of the award and the three other sites will be supported through subcontracts from CHLA. Primary responsibility for administration at the CHLA site is Dr. Marvin Belzer, along with financial administrator Priscilla Brown. This team has extensive experience with financial administration of multiple site projects.

Dissemination

- In order to share process and outcome data from this project with the broader scientific community, abstracts will be submitted for presentation to at least one scientific conference per year. Conferences where data may be presented include annual meetings of the Society for Adolescent Health and Medicine, The American Academy of Pediatrics, The World Professional Association of Transgender Health, Pediatric Academic Societies, The Endocrine Society, The American Public Health Association, The American Psychological Association, The American Psychiatric Association, and others. Manuscripts are planned on the following topics:
 - Description of the sample and preliminary results
 - Description of the intervention
 - Primary outcomes

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CONSORTIUM/CONTRACTUAL ARRANGEMENTS

PA-12-111 Research on the Health of LGBTI Populations (R01)
Due Date: November 5, 2014
Earliest Start Date if funded: July 1, 2015
Duration of Project Period: Five years
Project Title: The Impact of Early Treatment in Transgender Youth
Primary Applicant: Children's Hospital Los Angeles
Principal Investigator: Johanna Olson

The appropriate programmatic and administrative personnel of each organization involved in this grant application are aware of the agency's consortium agreement policy and are prepared to establish the necessary inter-organizational agreements consistent with that policy.

Programmatic Arrangement:

Children's Hospital Los Angeles

Children's Hospital Los Angeles (CHLA) will be the primary institution for the receipt of the award and the three partner sites will be supported through subcontracts from Children's Hospital Los Angeles. CHLA will act as the data center or core for the project, and the CHLA research team led by Johanna Olson, MD, will have the primary responsibility for creating data protocols in partnership with the other sites. Programming of the ACASI, creation of CRFs, and data management, cleaning, and analysis will occur at CHLA.

Boston Children's Hospital

The Site Principal Investigator, Norman Spack, MD, will implement the proposed observational study on the impact of providing treatment to early-pubertal and late-pubertal transgender youth. Dr. Spack will take primary responsibility for the implementation of the scientific aims of this project at Boston Children's Hospital and will collaborate in the dissemination of findings. The key personnel at Boston Children's Hospital will collaborate with the partner sites to submit abstracts for presentation at scientific conferences and in co-authorship of publications to disseminate important research findings as a result of this study.

Lurie's Children's Hospital of Chicago

The Site Principal Investigator, Robert Garofalo, MD, will take primary responsibility for the implementation of the scientific aims of this project at Lurie Children's Hospital of Chicago. The Co-Investigators will share responsibility for the scientific and fiscal integrity of the project, assist in protocol development, and examine ethical aspects of the implementation of clinical guidelines and issues surrounding school or voluntary organization exclusion or other discrimination based on gender nonconformity.

University of California San Francisco

The Site Principal Investigator, Stephen M. Rosenthal, MD, will implement the proposed observational study on the impact of providing treatment to early-pubertal and late-pubertal transgender youth. Dr. Rosenthal will take primary responsibility for the implementation of the scientific aims of this project at Benioff Children's Hospital at UCSF and will collaborate in the dissemination of findings. The key personnel at UCSF will collaborate with the partner sites to submit abstracts for presentation at scientific conferences and in co-authorship of publications to disseminate important research findings as a result of this study.

Fiscal Arrangement:

Children's Hospital Los Angeles: includes full project costs (CHLA site costs, consortium site costs, and CHLA's and consortium sites' F&A)

	Direct	Indirect (65%)	TOTAL Per Year
Year 1	\$882,929	\$248,752	\$1,131,681
Year 2	\$1,203,365	\$234,777	\$1,438,142
Year 3	\$1,231,218	\$237,708	\$1,468,926
Year 4	\$1,254,890	\$239,200	\$1,494,090
Year 5	\$1,244,262	\$253,331	\$1,497,593
TOTAL	\$5,816,664	\$1,213,768	\$7,030,432

Boston Children's Hospital:

	Direct	Indirect (76.75/77%)	TOTAL Per Year
Year 1	\$97,165	\$74,574	\$171,739
Year 2	\$130,545	\$100,520	\$231,065
Year 3	\$134,113	\$103,267	\$237,380
Year 4	\$137,783	\$106,093	\$243,876
Year 5	\$110,288	\$84,922	\$195,210
TOTAL	\$609,894	\$469,376	\$1,079,270

Lurie Children's Hospital of Chicago:

	Direct	Indirect (50%)	TOTAL Per Year
Year 1	\$109,864	\$54,932	\$164,796
Year 2	\$189,811	\$94,906	\$284,717
Year 3	\$194,612	\$97,306	\$291,918
Year 4	\$199,558	\$93,779	\$299,337
Year 5	\$204,652	\$102,326	\$306,978
TOTAL	\$898,497	\$449,249	\$1,347,746

University of California San Francisco:

	Direct	Indirect (58.5%)	TOTAL Per Year
Year 1	\$150,598	\$88,100	\$238,698
Year 2	\$205,923	\$120,465	\$326,388
Year 3	\$212,123	\$124,092	\$336,215
Year 4	\$216,831	\$126,846	\$343,677
Year 5	\$222,293	\$130,041	\$352,334
TOTAL	\$1,007,768	\$589,544	\$1,597,312

Ann & Robert H. Lurie
Children's Hospital of Chicago™
Gender and Sex Development Program

Robert Garofalo, MD, MPH
Division Chief, Adolescent Medicine
Director, Center for Gender, Sexuality and HIV Prevention
Ann & Robert H. Lurie Children's Hospital of Chicago
255 East Chicago Avenue, Box 161
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October 29, 2014

Johanna Olson, MD, MPH
Assistant Professor of Clinical Pediatrics
Medical Director, Center for Transyouth Health and Development
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5000 W. Sunset Blvd., 4th Floor
Los Angeles, CA 90027

Dear Dr. Olson:

We are delighted to join your team of investigators for the project entitled "Impact of Early Treatment on Transgender Youth" to be submitted through the R01 mechanism. We have a great deal of experience in working with transgender children and adolescents at the Center for Gender, Sexuality and HIV Prevention at Lurie Children's Hospital of Chicago. Specifically, we have focused on the collection of data, both behavioral and clinical biomarkers, in marginalized populations and the translation of this data into intervention development. I was Committee Member on the Institute of Medicine (IOM) Study on The Health of Lesbian, Gay, Bisexual and Transgender People that established as a research priority the need for longitudinal outcomes research on medical interventions for transgender people. As such, it is a distinct honor to be part of this collaborative network of research teams and investigators. For this proposal, the following key personnel will work with you to implement an observational study of the impact of providing early treatment to peri-pubertal and post-pubertal transgender youth.

Rob Garofalo, M.D., MPH, Site Principal Investigator, will take primary responsibility for the implementation of the scientific aims of this project at Lurie Children's as well as collaborate to disseminate findings.

Lisa Simons, M.D., Co-Investigator, Pediatrician, will share responsibility for patient care as a Pediatrician and the scientific and fiscal integrity of this project and will oversee all research activities at Lurie Children's. She will also share responsibility for data analysis and dissemination of findings with Dr. Garofalo.

Marco A. Hidalgo, Ph.D., Co-Investigator, will supervise the Project Coordinator in her/his management of day-to-day tasks by coordinating IRB submissions, developing and overseeing effective recruitment strategies and providing ongoing advice regarding confidential data collection/ management procedures. He will also assist the Data Manager in refining assessment instruments, managing study databases, and creating data manuals.

Scott Leibowitz, MD., Co-Investigator/Psychiatrist, will assist in protocol development as well as conduct patient assessments at the Lurie site.

 Ann & Robert H. Lurie
Children's Hospital of Chicago™
Gender and Sex Development Program

Joel Frader, M.D., Ethicist, will examine ethical aspects of the implementation of clinical guidelines, including: the age and developmental/maturational characteristics of decision-making capacity of children and adolescents for treatment; the ways in which clinicians and parents manage different points of view regarding treatment, particularly when parent perspectives are based on particular religious and philosophical convictions; and ethical and legal issues surrounding school or voluntary organization exclusion or other discrimination based on gender nonconformity. Dr. Frader will also assist in protocol development.

Courtney Finlayson, M.D., Co-Investigator/Endocrinologist, will be the lead Endocrinologist at the Lurie site and will: conduct patient assessments; review laboratory results; consult with the study teams on all endocrinological issues such as bone development and growth. Dr. Finlayson will also assist in protocol development.

The key personnel at Lurie Children's Hospital will collaborate with the partner sites to submit abstracts for presentation at scientific conferences and in co-authorship of publications to disseminate important research findings as a result of this study.

In addition, along with your Division Head, Dr. Belzer, I will help co-mentor you as the contact PI as I/we have done throughout your young and promising career. Although as contact PI you may be relatively inexperienced with NIH-funded multisite clinical trials, it is my opinion that you are the emerging clinical and research leader in this field. As you are aware the proposed network of 4 sites gave very careful consideration in deciding the contact PI for this proposal. I have full confidence that with the appropriate guidance and mentoring that you are ideally suited to lead this effort. You have my full support and I am happy to provide whatever mentorship is required to make this project a success.

Lastly, reflecting back upon the recommendations of the IOM, the proposed body of research is not only innovative but of considerable public health significance as it will have a profound impact on the body of clinical evidence. This evidence is sorely needed to hone the safety and efficacy of clinical guidelines and to properly advise parents and families on proposer treatment options for their gender non-conforming and transgender children and adolescents. We look forward to doing this work as a Team Investigators from across the U.S. and in partnership with the NIH/NICHHD.

Sincerely,



Rob Garofalo, MD, MPH
Co-Director of the Gender and Sex Development Program
Division Head of Adolescent Medicine, Lurie Children's Hospital
Professor of Pediatrics and Preventive Medicine
Northwestern University's Feinberg School of Medicine



Boston Children's Hospital

Department of Medicine
Division of Endocrinology
Senior Associate in Medicine



Harvard Medical School

Department of Pediatrics
Associate Clinical Professor of Pediatrics

Norman Spack, M.D.,
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October 16th, 2014

Johanna Olson, MD, MPH
Assistant Professor of Clinical Pediatrics
Medical Director, Center for Transyouth Health and Development
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Los Angeles, CA 90027

Dear Dr. Olson:

We are delighted to join your team of investigators for the project entitled "Impact of Early Treatment on Transgender Youth" to be submitted through the R01 mechanism. We have a great deal of experience in working with transgender children and adolescents at the Gender Management Service (GeMS) at Boston Children's Hospital and Harvard Medical School. Specifically, we are the first clinic to treat transgender and gender questioning youth in North America, and have years of experience working with this population and an investment facilitating research to enhance the well-being of these youth and facilitate optimal clinical care. Some of the attributes of the children and adolescents we treat and our approaches have been recently described in papers published in the journals *Pediatrics* (Spack et al, 2012), and *Professional Psychology: Research and Practice* (Tishelman et al, in press) and we believe that the research proposed in this study is timely and will have a significant impact on clinical care.

For this proposal, the following key personnel will work with you to implement an observational study of the impact of providing early treatment to peri-pubertal and post-pubertal transgender youth.

Norman Spack, M.D, Site Principal Investigator, will take primary responsibility for the implementation of the scientific aims of this project at Boston Children's Hospital, as well as collaborate to disseminate findings.

Amy Tishelman, Ph.D., Co-Investigator, and Director of Clinical Research for the DSD-GeMS program, will share responsibility for the scientific and fiscal integrity of this project and will oversee research activities at Boston Children's Hospital. Along with Dr. Shumer, she will hire, train and supervise the Project Coordinator and other staff. She will assist in data collection, protocol development, and intervention implementation plans. She will collaborate in data analysis, interpretation, preparation of manuscripts, and dissemination activities. Dr. Tishelman, a Clinical Psychologist, will also provide therapeutic services and urgent assessments related to research participation.

Daniel Shumer, M.D., Co-Investigator and endocrinologist, will share responsibility for the scientific and fiscal integrity of this project and, along with Dr. Tishelman, will help to oversee research activities at Boston Children's Hospital. He will work with Dr. Tishelman to hire, train and supervise the Project Coordinator and other staff and assist in data collection, protocol development, and intervention implementation plans. As an endocrinologist, he will help to conduct patient assessments; review laboratory results; consult with the study teams on all endocrinological issues such as bone development and growth. He will collaborate in data analysis, interpretation, preparation of manuscripts, and dissemination activities.

Sincerely,

A handwritten signature in dark ink, appearing to read "Norman Spack". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Norman Spack, M.D.
Co-Director, Gender Management Service
Endocrine Division, Boston Children's Hospital
300 Longwood Avenue, Boston MA 02115

Associate Clinical Professor of Pediatrics
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Stephen M. Rosenthal, MD
Professor of Pediatrics
Program Director, Pediatric Endocrinology
Medical Director, Child and Adolescent Gender Center
University of California San Francisco, Benioff Children's Hospital

October 24, 2014

Johanna Olson, MD, MPH
Assistant Professor of Clinical Pediatrics
Medical Director, Center for Transyouth Health and Development
Children's Hospital Los Angeles
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Los Angeles, CA 90027

Dear Dr. Olson:

We are delighted to join your team of investigators for the project entitled "Impact of Early Treatment on Transgender Youth" in response to PA-12-111, to be submitted through the R01 mechanism. We have a great deal of experience working with transgender children and adolescents at the Child and Adolescent Gender Center (CAGC) at the University of California San Francisco (UCSF) Benioff Children's Hospital. The UCSF CAGC is one of the leading centers for the multidisciplinary care of transgender youth in the U.S., and serves as the Pediatric/Adolescent clinical arm of the widely recognized UCSF Transgender Center of Excellence. Our CAGC investigators have authored numerous publications on transgender youth, including a recently in-press "State-of-the-Art" invited review in *Pediatrics* and an in-press invited review in the "Approach-to-the-Patient" series in the *Journal of Clinical Endocrinology and Metabolism*. I am currently serving as the official representative of the Pediatric Endocrine Society to the Endocrine Society's Clinical Practice Guidelines Revision Task Force for the Care of Transgender individuals. In addition, as a basic and clinical investigator with > 30 years' experience in child and adolescent endocrinology, I have had significant experience conducting multi-center trials, and am currently serving as UCSF Site Principal Investigator for NIH/NICHD "Disorders of Sex Development: Platform for Basic and Translational Research". Our UCSF CAGC team strongly believes that the research proposed in this study is timely and will have a significant impact on clinical care.

For this proposal, the following key personnel will work with you to implement an observational study of the impact of providing early treatment to early-pubertal and late-pubertal transgender youth:

Stephen M. Rosenthal, M.D., Site Principal Investigator, will take primary responsibility for the implementation of the scientific aims of this project at UCSF Benioff Children's Hospital, as well as collaborate to disseminate findings.

Diane Ehrensaft, Ph.D., Co-Investigator, will share responsibility for the scientific and fiscal integrity of this project. As a Clinical Psychologist, Dr. Ehrensaft will assist in protocol development, data collection, data analysis, preparation of manuscripts, and dissemination of findings at scientific meetings. She will also assist Dr. Rosenthal with IRB submissions, and will assist in developing and overseeing effective recruitment strategies.

David V. Glidden, Ph.D., Co-Investigator and Biostatistician, will work closely with Dr. Schrager at Children's Hospital Los Angeles, and will provide advice and support on analytic approaches. Dr. Glidden will contribute expertise on the statistical design of the study and will focus on analysis of the metabolic data in this project. He will be responsible for the design, analysis plan, and execution of these analyses.

As you know, existing clinical practice guidelines for the multidisciplinary care of transgender youth and adolescents are primarily based on expert opinion, as only minimal outcomes data currently exist. Our collaborative proposal has the potential to provide such needed outcomes data to inform appropriate care for a population of youth that has been marginalized and poorly understood. We are deeply committed to this work and seeing it reach its fruition.

Sincerely,



Stephen M. Rosenthal, MD
Professor of Pediatrics
Program Director, Pediatric Endocrinology,
Medical Director, Child and Adolescent Gender Center
University of California San Francisco, Benioff Children's Hospital

RESOURCE SHARING PLAN: DATA SHARING PLAN

The proposed research will include final data from approximately 240 transgender youth in the late pubertal group, 88 youth in the early pubertal group, and 88 parents/legal guardians of the early pubertal group. The final datasets will include self-reported demographic and behavioral data from surveys with the subjects and laboratory data from specimens provided for routine care of transgender youth. The dataset for the early pubertal group will also include demographic, behavioral, and mental health data about the youth from the parent. Although the final dataset will be stripped of identifiers prior to release for sharing, we believe that there remains the possibility of deductive disclosure of subjects with unusual characteristics. Thus, we will make the data and associated documentation available to users only under a data-sharing agreement that provides for: (1) a commitment to using the data only for research purposes and not to identify any individual participant; (2) a commitment to securing the data using appropriate computer technology; and (3) a commitment to destroying or returning the data after analyses are completed.

We wish to make our results available to the transgender community, mental and medical health providers, public health practitioners, and scientists interested in studying, providing, and receiving competent mental and medical healthcare. Thus, we will make our data available to other NIH investigators under the data-sharing agreement after a reasonable time period that includes enough opportunity to prepare and have submitted for publication four manuscripts presenting the basic outcomes of the project. Our plan also includes sharing of study findings through multiple presentations at meetings of both community oriented audiences (such as the World Professional Organization of Transgender Health and GLAMA) and national pediatric and transgender health conferences (such as the American Academy of Pediatrics, the Society for Adolescent Health and Medicine, the Pediatric Endocrine Society, and the Endocrine Society).

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
LOUISIVLLE DIVISION

Electronically filed

DOE 1, *et al.*
Plaintiffs

v.

Civil Action No. 3:23-CV-00230-DJH

THORNBURY, *et al.*
Defendants

and

COMMONWEALTH OF KENTUCKY,
ex rel. ATTORNEY GENERAL DANIEL
CAMERON
Intervening Defendant

REBUTTAL DECLARATION OF STEPHEN B. LEVINE, M.D.

I, Stephen B. Levine, M.D., hereby declare and state as follows:

1. I am over 18 years of age, and of sound mind, and competent to testify.
2. I have been retained by counsel as an expert in connection with the above captioned litigation.
3. The opinions expressed in this declaration are my own and do not express the views of others.
4. I have actual knowledge of the matters stated herein.
5. If I am called to testify in this matter, I would do so truthfully and based on my expert opinion.

6. My background and qualifications, review of prior testimony, and compensation have been previously provided in my expert report. The curriculum vita attached to my initial expert report remains true, correct and up to date.
7. I previously submitted an Expert Declaration in the above-captioned litigation (Doc. 47-11). After the filing of my declaration, the plaintiffs retained two new experts who rendered opinions critical of the opinions expressed in my declaration.
8. I have reviewed the declarations of Kenneth Goodman, PhD, FACMI, FACE, and Dan H. Karasic, M.D.
9. In preparing this rebuttal report, I have relied on my training and years of research and clinical experience, as set out in my curriculum vita attached to my original report and on the materials listed therein; the materials listed in the bibliography attached to my original report; and the additional materials listed in the supplemental bibliography attached to this rebuttal report.
10. I reserve the right to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including because of new scientific research or publications or in response to statements and issues that may arise in my area of expertise. I may also further supplement these opinions in response to information produced by Plaintiffs in discovery and in response to additional information from Plaintiffs' designated experts.

11. I submit this rebuttal declaration to respond to expert declarations of Drs. Dan Karasic and Kenneth Goodman.

12. In paragraphs 16-18, and in paragraph 20 of his declaration, Dr. Goodman summarizes the evidence for safety and efficacy of puberty blockers and cross-sex hormones as “robust.” In contrast, every systematic comprehensive scientific review of this evidence independently concludes that the evidence of safety and effectiveness is of very low and of low quality respectively. I detailed this reality in Paragraphs 14j, 55, 80-81, 217, and footnote 2 of my original declaration. Thus, the physicians and nurse practitioners who administer these medications do so based on evidence that scientific experts in data analysis call inadequate: uncontrolled, insufficiently followed up, employing variable means of measurement, and biased by selection and patient dropout. These reviews have asserted the uncertainty of the treatment’s efficacy. And that is very far from robust.

13. Indeed, this issue is a bioethical one since social transition and puberty blockers interfere with natural desistence of cross-gender identity and prevent the acceptance of the self during adolescence as a lesbian, gay or bisexual person, thereby seemingly delaying recognition of earlier felt attractions to the same sex. When puberty is upsetting in its earliest manifestations of breast development, menstruation, penile growth, erections, and predictable emotional turmoil in each sex, adolescents who do not undergo social or medical transition tend to accept their natal sex when they begin to have

romantic attractions and early pleasant sexual interactions. Thus, the early blocking of puberty to ameliorate the dread of physiological events deprives the teens of the social, romantic, and physical interactions of their maturing bodies which have the potential to allow them to accept themselves. Avoiding puberty blockers can allow some trans-identified middle and high school aged individuals to accept their bodies as they experience these age-expected pleasures. Puberty blockers keep children puerile and deprive them of the positive aspects of being like their age mates who are now interested in exploring the complexities and pleasures of crushes and new social interactions. I detailed the well-documented concerns of social and medical transition on desistance in my declaration at paragraphs 174, 183, 184, and 194.

14. In my declaration at paragraphs 135, 136, 217, and 218, I described the GRADE system. Dr. Goodman's review of the GRADE system and the acceptance of the challenged treatments as evidence-based stands in contrast to the opinion of the founder of the GRADE system, Dr. Guyatt (Guyatt et al, 2008) about the same evidence. Dr. Goodman's argument rests upon other low-quality evidence in medicine, but those treatments are based on the treatment of diseased anatomy or physiology whereas applying low quality evidence to justify inducing abnormal physiological states and changes anatomy is a far more serious matter.

15. The integration with patient/parental values is, of course, clinically important.

But parental values are informed by parental beliefs in the evidence that medical and social treatment are best responses to transgender identities—information obtained through discussion with professionals who hold the same belief. Thus, parental values are influenced by trust of the beliefs of their specialist doctors. The matter of informed consent requires parents to be told the state of the evidence, the uncertainties, the long-term elevated suicide rates, the meaning of infertility and sexual dysfunction for the long-term happiness of their child. These are difficult subjects to discuss with parents of 9-13 year-olds in part because they are difficult for the doctors who are primarily focused on short term distress and beliefs that there is nothing else that can help. I detailed the known risks in my declaration in paragraphs 157, 171, and 201-209. These doctors make no mention of the fact that many parents do not have the value system that social transition and hormones are the best approach. In many instances, the parents disagree, and the doctors are working only with the parent who agrees with affirmative care, not working with the parent who disagrees.

16. In paragraph 19 of his declaration, Dr. Goodman opines that randomized controlled studies are unethical, thus attempting to explain the lack of qualitative medical evidence from such studies. The reason randomized controlled studies are thought to be unethical is simply that many physicians believe, as does Dr. Goodman, that the affirmative care model is effective and

safe. But, if they accepted the conclusions of five independent reviews of this issue (*see* Carmichael et al 2021; Levine et al 2022; Biggs 2022; Abbruzzese et al 2023; Thompson et al 2022, cited in my declaration in paragraphs 48 and 55), they could honestly report to parents that a controlled study in which minors are enrolled in affirmative care, psychotherapy only, and no treatment with defined intervals of agreed upon measurements, tracking outcomes and dropouts, there would be no ethical issue. This is how medicine ethically advances, including pediatric medicine. It is my understanding that Sweden is permitting affirmative care only in the context of a high quality scientific protocol.

17. In Kentucky, minors get cosmetic procedures such as breast augmentation, ear lobe correction, rhinoplasty for cosmetic reasons and yet these same procedures for currently trans-identified patients are not cosmetic. The reason that no other pediatric interventions have received such scrutiny is that they do not cause infertility, sexual dysfunction, social isolation, carry an elevated lifetime risk of suicide or have a known statistically significant shortening of patients' life span from all causes. *See* Jackson et al, 2023 and Levine declaration paragraphs 146, 162-168, 190, 193, 194, and footnote 14. Why is treatment of adolescent gender dysphoria so important? It is a significant matter because what we do to and for young people not only affects their health *now*, but also profoundly shapes their chances of living as happy, healthy, functional adults over their lifetimes. Therefore, to be a responsible provider of care, one must

have scientifically-justified confidence that in trying to helping the *child* or *adolescent*, one is not doing long-term harm to *the adult* whom that child or adolescent becomes.

18. Suffering from gender dysphoria is not the same thing as identifying as a transgender person. Yet “affirmative” approaches to adolescent gender dysphoria (encouraging social presentation in the gender that does not conform to their biological sex, using puberty blockers, cross-sex hormones, and various surgeries) provide patients with precious little motivation to explore the possibility that their gender dysphoria is not merely genetically dictated, may be a response to postnatal psychological and social influences, and may have a clinical significance that is not yet apparent to the patient, the parents, or the provider.

19. It is troubling that every cross-sectional study of transgender communities shows that both adolescents and adults have higher rates of autism, depression, suicidality, substance abuse, anxiety states, eating disorders, and the need for psychiatric care than control groups. They also tend to do poorly on quality-of-life measures, particularly physical health. The transgender population has lower marriage rates, lower life expectancies, and higher incarceration rates. Case series of adolescents presenting to gender clinics have higher rates of psychiatric problems and childhood adversities prior to their identification as transgender adolescents.

20. How we think about and therapeutically respond to young people with gender dysphoria has enormous significance for the adolescent's life trajectory. The current controversy concerns whether clinicians are quick to assume that the patient's current transgender identity is immutable, that is, permanent, and can only be addressed by social transition and medical/surgical intervention, or whether clinicians take time to evaluate the patient's development and carefully assess and respond therapeutically to their other very common life challenges. Doctors and our clinical surrogates must take the utmost care so that we are not—ourselves—influencing patients because of our erroneous belief that science has already established the best clinical approach to this complex personal and familial problem. Patient desire, physician belief, and ancillary clinic personnel support may very well create a short-term placebo effect that accounts for the initial happiness described by affirmative care professionals (Clayton, 2022).¹

21. Those who advocate for and practice “affirmative” interventions of adolescents have a decided lack of data about the long-term outcome of their patients. They are self-servingly assuming they are enabling their patients to have full healthy successful lives, even though decades of experience indicate that an average transgender life involves medical dependency, diminished social and

¹ A. Clayton, Gender-Affirming Treatment of Gender Dysphoria in Youth: A Perfect Storm Environment for the Placebo Effect—The Implications for Research and Clinical Practice, Archives of Sexual Behavior (2022), <https://personandidentity.com/wp-content/uploads/2022/12/Clayton-2022-Placebo-Effect-of-Gender-affirming-treatment-for-gender-dysphoria-Perfect-storm-2022.pdf>.

vocational prospects, sterility, sexual dysfunction and long periods of relative social isolation. “Affirmative” providers, however, believe that they are helping these adolescents because many are initially glad to receive it. These clinicians, their young hopeful patients, and some of their parents share this unsubstantiated optimism.

22. The current state of transgender medicine in the United States is a volatile mixture of at least seven elements. They are: 1. a vulnerable young person’s distress about the incongruence of the mind and body; 2. parents’ profound concern for their child’s current and future welfare; 3. the ideologically freighted advice of gender specialists; 4. the hidden financial support for educational programs and WPATH itself by hormone manufacturers; 5. Families’ tradition of trusting the medical profession; 6. the emerging declaration that adolescents themselves know best what they need for long term happiness, that is, the rebalancing of medical ethics such conviction that “respect for patient autonomy” trumps “do no harm.”); and 7. The policies of support of US medical professional organization provided without systematic review of the data. Nowhere in this mixture of forces do we find the ethical and legal requirement that informed consent requires physicians to share what is known and not known about benefits, risks, and alternative treatments.²

² S. Levine, E. Abbruzzese, and J. Mason (2022), Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults, *Journal Sex & Marital Therapy*, in press.

23. Adolescents are newly and rapidly maturing young people whose imaginative creative possibilities are influenced by their passionate intensities, impulsive judgments, desire to change the world, discomforts with their changing bodies, new sexual attractions, teen culture, and emerging capricious sexual desires. They are just beginning the long journey of learning how to cope with their new emotions, rapidly growing bodies, acquired insights, and shifting attitudes. Adult society knows that puberty creates hormone-driven sexual desires, new socialization challenges, and sudden sexual excitements, even if the individual adolescent does not recognize what is happening to him or her and why. It is, of course, normal to be uncomfortable with the emerging self during adolescence and to wonder if others are experiencing the anxiety and concerns that are occurring within the subjective realm of the patient.

24. Powerful elements in our culture are now creating a new explanation for adolescent angst. Many newly transgender identified adolescents have learned from Internet sources, other transgender teens, and public images of carefully scrubbed presentation of transgender people in the media that they belong to a category—a community. “I am trans” means to the previously alienated and often socially isolated youth that “I belong to a group.” This serves as a ready explanation for their subjective angst.—“I did not know where I belonged.” The medical profession increasingly reinforces their membership in this community through its diagnosis of gender dysphoria. “Affirmative” professionals typically display no skepticism or concern for what

else might be happening within the patient. Instead of helping the adolescent to tolerate subjective distress, to work out one's sexual orientation and understanding of gender over time, and to recognize and accept the diverse dimensions of the self, these adolescents are being naively ushered into a medicalized developmental trajectory by doctors with misguided confidence that they are offering "life-saving" treatment. It is as though the professionals' have negated what 50 years of study of adolescent developmental processes have recognized about the twists and turns of changeable teenage identity processes.

25. This exaggerated and uninvestigated belief, along with other dubious assumptions, has medicalized adolescent developmental angst. Instead of recognizing and defining the normal tasks of adolescent development (for example, growing new capacities and skills, mastering social anxieties, and gradually comfortably separating and individuating from the family while preserving relationships with them) such treatment assumes that the psychological and functional difficulties they observe are due to gender dysphoria and will improve with their medical interventions. The well-known characteristics of adolescents, particularly those impaired by psychiatric syndromes—heightened susceptibility to peer pressure, deficiency in making cost-benefit calculations, tendency to become passionately caught up in ideas and identities that they eventually shed—are felt to be irrelevant to the presence of gender dysphoria. Gender dysphoria, "affirmative" professionals

unjustifiably believe, is an entity unto itself that must be treated by bringing the body into congruence with the patient's present gender identity.

26. The American Academy of Pediatrics' Committee of Bioethics recognizes that "parents...are better situated than others to understand the unique needs of their children and to make appropriate, caring decisions regarding their children's health care" (Katz et al., 2016).³ The plight of the families unable to find specialists capable of conducting thorough evaluations draws attention to the widespread acceptance of medical interventions for gender-dysphoric youth as the first line of treatment. The problem is that such care has been established through precedent rather than through scientific demonstrations of its efficacy. We contend that parents and patients have a right to know this, and that it is the professionals' responsibility and obligation to inform them of the state of knowledge in this arena of care.

27. The poor quality of mental health evaluations has been a point of significant discontent for a growing number of parents of gender dysphoric youth. Increasingly, parents have formed dozens of support groups in North America, Europe, and Australia and New Zealand, united in their objections to the idea that the best or the only treatment for their gender dysphoric children is affirmation (Genspect, 2021).⁴ These distressed parents, recognizing that their

³ K. Katz et al., Transgender Patients, Isotretinoin, and US Food and Drug Administrative-Mandated Risk Evaluation and Mitigation Strategies: A Prescription for Inclusion, *JAMA Dermatol*, 152(5): 513-514 (2016), doi:10.1001/jamadermatol.2015.5547.

⁴ Helpful Groups, Genspect (2021), <https://genspect.org/groups/>

son or daughter may eventually decide to present to others as a transgender person, want a psychotherapeutic investigation to understand what contributed to the development of this identity and an exploration of noninvasive treatment options. Frequently, they cannot find anyone in their community who does not recommend immediate affirmation.

28. Dr. Karasic and I disagree about many aspects of the reasons for medical care and psychological care. I conclude that he thinks a diagnosis of gender dysphoria demands hormonal and surgical treatment if the patient wants it, and I conclude that the pathway to a current transgender identity needs to be seriously considered in a psychotherapeutic process for a long period before hormonal treatment is elected. Depriving children of the biopsychosocial aspects of puberty just because of the child's distress prevents them from discovering the pleasures of their bodies, and depriving them of an exploratory psychotherapeutic process keeps their illusion that the only option for them is medical transition. Psychotherapy also helps the parents manage their complicated situation.

29. In the final analysis of our disagreements, the issue of what happens to these adolescents who are medically transitioned over time is not known by the advocates. Dr. Karasic should be less certain and more willing to acknowledge that the indicators do not all point to happy, full, and successful lives as he promises. We need to begin our discussions with the elevated mortality rates from all causes. Throughout medicine, the outcome of the intervention are the

ultimate proofs of their efficacy and harms. Why are we so passionately sure the outcomes are great without the data to claim this? Even the deVries group recognizes the need for follow up information. In fact, they have begun to obtain such. However, in their first report, 50% of prior patients did not want to participate or were lost to follow up.

30. I, with colleagues, and additionally Dr. Biggs, have provided the first critical reviews of the Dutch protocol on which the wide medical consensus that puberty blockers, cross-sex hormones, and various surgeries are based. (See Biggs, M. (2021); Biggs, M. (2022a); Biggs, M. (2022b); Levine, S, et al. (2022) Abbruzzese et al (2023)). Both the Endocrine Society and WPATH 8th Standards of Care refer only to the Dutch protocol as the scientific basis for the consensus recommendations. Thus, Dr. Karasic, who as an expert, most likely has read these critical reviews and has ignored their importance. They have had an enormous readership as tracked by the publishers. As of this writing, the Levine et al 2022 publication alone has had 64,038 downloads. Thus, Dr. Karasic is hiding behind professional organizations' recommendations that have ignored our, and much other, evidence from systematic reviews.

31. In response to paragraphs 25, 26, and 29 of Dr. Karasic's declaration, Dr Karasic is correct in pointing out the recommendations for comprehensive psychiatric evaluation, but there are two issues to consider:

- a. Recommendations are easy to make, the devil is in the details in how they are conducted at any particular location. When patients are given

prescriptions at the end of the first 45-minute encounter, there is no such thing as a comprehensive psychiatric evaluation. If comprehensive is defined, it would include separate visits with the parents, with the parents and child, and with the minor alone. Thus, a comprehensive evaluation requires considerable time and an initial uncertainty on how best to address the findings.

- b. The reason for the evaluation is not to make the evaluation per se but to identify the co-existing problems and to approach each of these comorbidities therapeutically. The comprehensive psychiatric evaluation is not an end unto itself; it is a tool for prudent treatment planning. What often happens is that the treatment of the distress of the current transgender identity is prioritized for treatment in the hope that the co-morbidities will improve. Thus, the underlying purpose of the comprehensive evaluation is often obviated, and while teens are often happy with the cosmetic appearance of cross-sex hormones, their mental health is often not otherwise improved. This has not been Dr. Karasic's experience for he believes that mental health is improved, despite the lack of convincing evidence from many studies. (See Hisle-Gorman et al (2021)).⁵ Confirmation bias exists when professionals only quote studies that support their views.

⁵ Hisle-Gorman et al, Mental Healthcare Utilization of Transgender Youth Before and After Affirming Treatment, J Sex Med Aug 18(8), 1444-1454 (2021), doi: 10.1016/j.jsxm.2021.05.014.

- c. The idea that comorbidities are “appropriately addressed” is aspirational, but the standards of care state “under reasonably good control” which is never defined. One has to look at the mental health outcomes of adults who have undergone medical and surgical treatment to know that the co-morbidities are not eradicated by hormones and surgery nor is gender dysphoria. I explained this in detail in paragraph 197 of my declaration.
32. The informed consent issue is a complex one as is the idea that a young, middle, or older adolescent has the cognitive maturity and life experiences to agree to bodily alterations that will produce infertility, sexual dysfunction, social isolation marginalization, and premature mortality. *See* Levine declaration paragraphs 146, 162-168, 190, 193, 194, and footnote 14. Adolescents are notoriously certain, arrogantly so, before they realize that life is more complex than their youthful views of it. Thus, we are resting upon the professional’s view that the adolescent is mature enough to make these decisions even though the doctors do not know how to ascertain this. Reading a checklist and endorsing that they understand the risk of future cardiovascular disease, infertility, lipid abnormalities, high RBC counts, blood clots, weight gain, diabetes is not informed consent. Informed consent is a process over time with the parents and the teen, usually in psychotherapy setting, where each person has a chance over time to consider the profound implications of these treatments. *See* Levine declaration paragraphs 201-209; *see also* Vrouenraets

et al., 2015; Levine et al., 2022; Levine, 2018; Vrouenraets et al., 2022; Biggs, 2022. Some affirmative care specialists think this view of informed consent is merely a scare tactic and glibly think that a teen who want these treatments know best what will serve them well over time. We ask doctors to be more prudent that to endorse such assumptions uncritically.

33. I have personally treated patients, over the course of decades of experience, and have seen countless patients whose prescriptions of hormones and cheerleading support for transition by professionals fail to meet WPATH's announced standards of care and the parents' standards of care and personal value system.

34. There is a growing recognition that rapid evaluations that disregard factors contributing to the developing of gender dysphoria in youth are problematic. In November 2021, two leaders of the World Professional Organization for Transgender Health (WPATH) warned the medical community that the "The mental health establishment is failing trans kids" (Anderson & Edwards-Leeper, 2021). Frequently, evaluations provided by gender clinicians may only ascertain the diagnosis of gender dysphoria (DSM-5) or its ICD-11 counterpart gender incongruence, and screen for conspicuous mental illness prior to recommending hormones and surgeries. These limited, abbreviated evaluations overlook, and as a result fail to address, the relevant issue of the forces that may have influenced the young person's current gender identity.

35. I recently returned from an international conference, having heard discussions of Dr. Edwards-Leeper and Dr. Anderson. These doctors believe affirmative care helps some individuals, like Dr. Anderson herself who is trans-identified. But each asserts that psychotherapy should be the first treatment approach. (International conference communication, June 16, 2023). Dr. Karasic has not considered that these psychologists were early endorsers of affirmative care, and now with seeing the rapid institution of hormones and the negative outcomes, have become more cautious in their approaches. Both were attacked for their earlier statements of concern and pressured to modify their statements, and yet remain far more cautious than plaintiff's experts.

36. The “scandal”⁶ of transition regret caused by a lack of attention to psychosocial aspects of gender identity and other psychiatric comorbidities has now caught the attention of the media. Dr. Edwards-Leeper, founder with Dr. Norman Spack of the first children's transgender clinic in the United States, joined Dr. Anderson, a former WPATH president, in a *Washington Post* essay entitled “The Mental Health Establishment is Failing Trans Kids.” They write that “the rising number of detransitioners that clinicians report . . . indicates that this [medical] approach can backfire. This is not the most common outcome of a transition process, but it is hardly unheard of, either.” They write that

⁶ See Anatomy of a Scandal: Opinion on the Use of Puberty Blockers in America is Turning, *The Economist*, (October 16, 2021), <https://www.economist.com/united-states/2021/10/16/opinion-on-the-use-of-puberty-blockers-in-america-is-turning> (“too few teens undergo crucial mental-health assessments before starting treatment.”)

“[l]onger-term longitudinal studies are needed to better understand the role of medical interventions on lifetime psychological health, particularly with the newer subset of adolescents presenting with no childhood dysphoria and significant mental health concerns. Research is needed to help determine whether quick medical treatment or a more cautious approach is best in these cases.” They observe that *three quarters* of detransitioners do not tell their doctors that they have reversed their transitions, and they warn that “we may be harming some of the young people we strive to support.”⁷

37. *The Economist* recently highlighted a study by Littman⁸ of one hundred detransitioners, the majority of whom stated that they had not received an adequate psychiatric evaluation before treatment. The detransitioners reported that their gender dysphoria was caused by underlying trauma, abuse, or a mental-health condition. The article describes a woman, Carol, who began taking testosterone and transitioned to living as a man before going on antidepressants, which relieved her anxiety and panic attacks. The article

⁷ L. Edwards-Leeper and E. Anderson, The Mental Health Establishment is Failing Trans Kids, *The Washington Post* (November 24, 2021), <https://www.washingtonpost.com/outlook/2021/11/24/trans-kids-therapy-psychologist/>; see L. Littman (2021) Individuals Treated for Gender Dysphoria with Medical and/or Surgical Transition Who Subsequently Detransitioned: A Survey of 100 Detransitioners, *Archives of Sexual Behavior* 50(8), doi: 10.1007/s10508-021-02163-w

⁸ L. Littman (2021), Individuals Treated for Gender Dysphoria with Medical and/or Surgical Transition Who Subsequently Detransitioned: A Survey of 100 Detransitioners, *Archives of Sexual Behavior* 50(8), doi: 10.1007/s10508-021-02163-w

quotes her as saying “I needed the antidepressants; I didn’t need to transition.”⁹

38. Along with Dr. Marci Bowers, a vaginoplasty specialist set to become WPATH president this year, Erica Anderson has “blown the whistle” on gender clinics’ treatment of adolescents. Referring to the phenomenon of “Rapid Onset Gender Dysphoria,” Anderson decries the “sloppy healthcare work” of gender clinics. This includes “[r]ushing people through the medicalization . . . and failure—*abject* failure—to evaluate the mental health of someone historically in current time, and to prepare them for making such a life-changing decision.”¹⁰ “In my over 40 years as a psychologist,” Anderson explains, “I’ve seen psychotherapeutic phenomena come and go. Eating disorders, multiple personality disorders and repressed memory syndrome have in retrospect spread through subgroups of adolescents and the professionals who have treated them. This spread is like wildfire through vulnerable underbrush, clearly borne in an environment of contagion. Why is this phenomenon distinctly different than previous ones?”¹¹ The implicit answer, of course, is that there’s no reason to believe it is any different.

⁹ Portrait of a Detransitioner as a Young Woman, *The Economist* (November 6, 2021), <https://www.economist.com/united-states/2021/11/06/portrait-of-a-detransitioner-as-a-young-woman>.

¹⁰ A. Shrier, Top Trans Doctors Blow the Whistle on “Sloppy” Care, *Common Sense with Bari Weiss* (October 4, 2021), <https://bariweiss.substack.com/p/top-trans-doctors-blow-the-whistle>

¹¹ E. Anderson, When it Comes to Trans Youth, We’re in Danger of Losing Our Way, *San Francisco Examiner* (January 4, 2022),

39. *The New York Times* has covered the controversy in an article titled, “Doctors Debate Whether Trans Teens Need Therapy Before Hormones.”¹² It explains that “experts in transgender health are divided” on WPATH’s draft guidelines, “reflecting a fraught debate over how to weigh conflicting risks for young people, who typically can’t give full legal consent until they are 18 and who may be in emotional distress or more vulnerable to peer influence than adults are.”

40. Despite these warnings, WPATH more broadly has thrown caution to the wind and even *further* deemphasized the role of psychotherapy for people with gender dysphoria. Karasic notes that he is the lead author on the draft of the Mental Health chapter of the WPATH Standards of Care, version 8. That chapter—in a shift from version 7—actually now recommends that “health professionals should *not* make it mandatory for transgender and gender diverse people to undergo psychotherapy prior to the initiation of gender-affirming [medical procedures].”¹³ As the former Chairman of the committee that drafted version 5 of the WPATH guidelines, I find WPATH’s movement away from psychotherapy utterly dismaying.

<https://www.sfexaminer.com/opinion/are-we-seeing-a-phenomenon-of-trans-youth-social-contagion/> (omitting paragraph break).

¹² A. Ghorayshi, Doctors Debate Whether Trans Teens Need Therapy Before Hormones, *New York Times* (January 13, 2022), <https://www.nytimes.com/2022/01/13/health/transgender-teens-hormones.html>

¹³ World Professional Association for Transgender Health, Standards of Care, Version 8 Draft (December 2021), chapter entitled “Mental Health,” Statement 9 (emphasis mine).

41. Dr. Karasic reports in paragraph 33 of his declaration that the Pffafflin and Junge report was in 1998, but it was issued in 1991.
42. Many of these studies—Almazan, deVries, Tordoff, Achille, Turban, etc.—have been analyzed and criticized for their biases and limitations. Dr Karasic is using the authors’ conclusions and not the quality of their work to dismiss my concerns. The Almazan & Keuroghian and the Bränström & Pachanis studies (the latter not mentioned) were undertaken to prove that medical/surgical interventions improved mental health. If this is such a clear concept that 60 years of surgery for these conditions have demonstrated their effectiveness in improving mental health, why have these authors conducted recent studies to ascertain the improvements? Bränström & Pachankis’s conclusions were retracted in August 2020, which Dr. Karasic fails to mention in his rebuttal.
43. Dr. Karasic does not mention that proportion of patients who improve or fail to improve. Systematic studies have failed to show the preponderance of improvement in mental health (*see* Thompson, 2022). It is well understood that clinicians working with patients tend to have more positive views of their work than can be objectively verified. I too think my work has positive impacts, the patients tell me this in the short span of their lives that I am a part of. Dr. Karasic should espouse more humility in this arena.
44. I have written about regret rates and their biases in Current Sexual Health Reports in a widely read article published on April 14, 2023 (40,000 downloads as of June 24, 2023). The regret rates commonly asserted—two % or less—are

beyond credulity and are artifacts of how regret was defined—request for legal name change or surgical reversal of the trans operation (Jorgensen, 2023).¹⁴ They are not based on the current wave of treatments of adolescents; they are based on previous surgical treatments of adults who typically had more psychiatric scrutiny prior to surgery. We know why the treatments are undertaken and we know that reduction in gender dysphoria immediately after hormones or surgery is not the same as curing it for a lifetime. Why is there such an elevated lifetime suicide rate if the treatments are so effective?

45. For an increasing number of people with gender dysphoria, a transgender self-identification and “affirmation” by well-meaning providers has proven to be, at best, a distraction from dealing with underlying psychiatric conditions, and at worst, a disastrous mistake resulting in profound personal regret. Dr. Karasic, suggests that the regret rate is only about one percent, citing an unreliable post-surgical study based on data that is “inherently flawed by loss to follow up.”¹⁵ This is an example of selection bias that taints the results. Surgery occurs at the end of a multiple step process. Regrets reflected by dropping out of endocrine treatment or after living in the aspired-to gender are not reflected in the astonishing 1% figure, nor are suicides calculated as regrets. Estimated

¹⁴ Sarah C. J. Jorgensen (2023): Iatrogenic Harm in Gender Medicine, *Journal of Sex & Marital Therapy*, DOI: 10.1080/0092623X.2023.2224320

¹⁵ I. Boyd, T. Hackett, and S. Bewley (2022), *Care of Transgender Patients: A General Practice Quality Improvement Approach*, *Healthcare* 2022, 10(1), 121, <https://doi.org/10.3390/healthcare10010121>

rates of detransition and regret likely underreport true regret rates,¹⁶ which vary by methods used, countries of origin, and ages and stages of patients.¹⁷ New post-hormones or post surgical romantic, sexual, and medical problems can create regret that is not initially felt. These experiences are not even considered when the 1 or 2% regret figures are repeatedly quoted. The Court may ask those who claim such low regret rates if those making suicide attempts, those who die of suicide or drug overdoses, those who stop their hormones, and those that return to living in their original gender represent regret?

46. Az Hakeem, a distinguished British psychiatrist, has warned about such low regret claims. “The public are often told that relative regret is extremely low,” he says, “[b]ut this of course is a complete fiction. There are no follow-up studies,” and “this low rate results from the lack of any information being collected.” Hakeem reports that 26% of his patients are post-operative regretters. “Many of them were too embarrassed to admit that they regretted

¹⁶ R. D’Angelo (2018), Psychiatry’s Ethical Involvement in Gender-affirming Care, *Australasian Psychiatry*, 26(5), 460–463, <https://doi.org/10.1177/1039856218775216>

¹⁷ C. Wiepjes, N. Nota, C. de Blok, M. Klaver, A. de Vries, S. Wensing-Kruger, R. de Jongh, M. Bouman, T. Steensma, P. Cohen-Kettenis, L. Gooren, B. Kreukels, & M. den Heijer (2018), The Amsterdam Cohort of Gender Dysphoria Study (1972–2015): Trends in Prevalence, Treatment, and Regrets, *The Journal of Sexual Medicine*, 15(4), 582–590, <https://doi.org/10.1016/j.jsxm.2018.01.016>

their decision having persuaded the Doctors and Psychiatrists and gender clinic to give them what they wanted and felt they needed.”¹⁸

47. A recent study surveyed 237 detransitioners, both male and female, finding that over half the respondents had *three* mental health co-morbidities. The majority of the sample, a full 70%, detransitioned because they realized their “gender dysphoria was related to other issues,” 62% did so due to health concerns, 50% did so because transitioning proved unhelpful for their dysphoria, and 45% did so because they found other ways of dealing with their dysphoria.¹⁹ It is reasonable to assume that not all who experience regret detransition. There are many reports of individuals who regret transitioning but make the best of the situation they find themselves in. Those individuals’ experiences are not captured by this data.

48. The evidence increasingly suggests that for many teens and young adults, a post-pubertal onset of transgender identification can be a transient phase of identity exploration, rather than a permanent identity, as evidenced by a

¹⁸ An Interview with Dr. Az Hakeem, *Transgender Trend Blog* (September 1, 2021), <https://www.transgendertrend.com/interview-az-hakeem/>; see A. Hakeem (2007), Trans-sexuality: A Case of the “Emperor’s New Clothes,” in D. Morgan and S. Ruszczyński, eds. (2007), *Lectures on Violence, Perversion and Delinquency*, at 179-192, <https://doi-org.ezproxy.lib.utexas.edu/10.4324/9780429476648>

¹⁹ E. Vandenbussche (2021), Detransition-Related Needs and Support: A Cross-sectional Online Survey, *Journal of Homosexuality*, doi: 10.1080/00918369.2021.1919479

growing number of young detransitioners.²⁰ In the last several years since “affirmative” approaches have increased in popularity, the detransition rate appears to be accelerating. According to a recent study from a UK adult gender clinic, 6.9% of those treated with gender-affirmative interventions detransitioned within 16 months of starting treatment, and 3.4% had a pattern of care suggestive of detransition, yielding a rate of probable detransition in excess of 10%. Another 21.7% of patients disengaged from gender clinics without completing their treatment plan.²¹ While some of these individuals later re-engaged with the gender service, the authors concluded, “detransitioning might be more frequent than previously reported.” Another recent study among slightly older endocrine treated transgender patients also showed similar high rates of desistence and stopping hormonal treatment.²² Indeed, given that regret may take up to 8-11 years to materialize,²³ many more detransitioners are likely to emerge in the coming years.

²⁰ K. Entwistle (2020), Debate: Reality check – Detransitioners’ Testimonies Require Us to Rethink Gender Dysphoria, *Child and Adolescent Mental Health*, <https://doi.org/10.1111/camh.12380>

²¹ R. Hall, L. Mitchell, & J. Sachdeva (2021), Access to Care and Frequency of Detransition among a Cohort Discharged by a UK National Adult Gender Identity Clinic: Retrospective Case-note Review. *BJPsych Open*, 7(6), e184, <https://doi.org/10.1192/bjo.2021.1022>

²² Boyd, I., Hackett, T., & Bewley, S. (2022). Care of Transgender Patients: A General Practice Quality Improvement Approach. *Healthcare*, 10(1), 121. <https://doi.org/10.3390/healthcare10010121>

²³ C. Dhejne, K. Öberg, S. Arver, & M. Landén (2014), An Analysis of All Applications for Sex Reassignment Surgery in Sweden, 1960–2010: Prevalence,

49. The many medical institutions' endorsements of affirmative care are not based on scientific reviews; they are based on welcoming diversities of all types. Invoking conversion therapy arguments for attempts to modify comorbidities and equating all psychotherapeutic attempts with decades ago attempts to cure homosexuality is a politically successful but specious argument. Those who are more prudent and wanting to investigate the psychosocial antecedents of a new gender identity are called conversion therapist whereas Dr. Karasic preferred treatment of the body is not conversion therapy.

50. Some of the gender-affirmative specialists are unaware of alternative approaches, such as gender-exploratory psychotherapy or watchful waiting (Bonfatto & Crasnow, 2018;²⁴ Churcher Clarke, A., & Spiliadis, 2019;²⁵ Spiliadis, 2019). Others erroneously believe that science has established the efficacy of gender-affirmative interventions (Clayton et al., 2021). Some even claim that gender-affirmative care will address the frequently observed accompanying neurocognitive deficits and psychiatric symptoms, with negligible health risks (Turban, 2018; Turban & van Schalkwyk, 2018; Turban

Incidence, and Regrets, *Archives of Sexual Behavior*, 43(8), 1535–1545, <https://doi.org/10.1007/s10508-014-0300-8>

²⁴ M. Bonfatto & E. Crasnow, Gender/ed identities: an overview of our current work as child psychotherapists in the Gender Identity Development Service, *Journal of Child Psychotherapy*, 44:1, 29-46 (2018), <https://doi.org/10.1080/0075417X.2018.1443150>.

²⁵ A. Churcher Clarke & A. Spiliadis, 'Taking the lid off the box': The value of extended clinical assessment for adolescents presenting with gender identity difficulties, *Clin Child Psychol Psychiatry*, 24(2): 338-352 (2019), doi: 10.1177/1359104518825288.

et al., 2020). The assertions have proven controversial even among the supporters of “gender-affirmative” care (Strang et al., 2018;²⁶ van der Miesen, Cohen-Kettenis, & de Vries, 2018). Recent data have emerged suggesting that youth with underlying psychiatric issues continue to struggle post-transition (Kaltiala-Heino, Työläjärv & Suomalainen, 2020).²⁷

51. Dr. Karasic repeatedly references deVries 2014 without mentioning the international published dialogue between Levine, Abuzzese, Mason and Biggs and deVries (*see* Levine declaration paragraph 48, citing Levine et al, 2022; Biggs, 2022, Abbruzzese et al, 2023) which has demonstrated the limitations of that study and undermines the certainty with which Dr. Karasic views the positive long-term results. In fact, the issue is how these individuals are faring in their twenties and thirties whereas the study evaluated them within 18 months following surgery between ages 19-22. Over and over again, arguments are based on authors’ conclusions rather than objective appraisals of the degree of certainty of their conclusions. This is where systemic reviews of data need to be considered by people outside the field who have no economic and ethical conflicts of interest. Rather than quoting Dr. Zucker from 2010, Dr. Karasic

²⁶ J. Strang et al., Initial Clinical Guidelines for Co-Occurring Autism Spectrum Disorder and Gender Dysphoria or Incongruence in Adolescents, *J. Clin. Child Adolesc. Psychol.*, 47(1): 105-115 (2018), doi: 10.1080/15374416.2016.1228462.

²⁷ R. Kaltiala et al., Adolescent development and psychosocial functioning after starting cross-sex hormones for gender dysphoria, *Nordic Journal of Psychiatry*, 74:3, 213-219, doi: 10.1080/08039488.2019.1691260.

should recognize Dr. Zucker's scientific approach to the uncertainty of outcome and the uncertainty of the best practice.²⁸

52. Dr. Karasic's experience is with those who reach for medical care. Various studies are aware of the difference between adolescent transgender identity and gender dysphoria and those with symptoms of gender dysphoria who do not seek hormonal therapy. A transgender identity does not equate with demand for, or medical necessity of, hormonal intervention. It is likely that a current adolescent transgender identity is not necessarily a permanent identity as teens are known to try on various identities prior to stabilizing into adult forms. *See* Levine declaration paragraphs 45, 105-118; *see also* Cantor 2019 at 1; Adelson et al. 2012 at 963; *see also* Cohen- Kettenis 2008 at 1895; Hembree 2017 at 3879. Anyway, desistance has been observed in up to 30% of adults who were given hormones as adolescents. *See* Boyd et al, 2022; Hall et al., 2021; and Roberts et al, 2022²⁹.

53. The difference between 20% and 80% persistence of transgender identities at puberty for those not transitioned compared to those who were transitioned seems like reasonable evidence that social transition of children *causes* persistence, *see* Levine declaration paragraph 123; *see also* Zucker 2018 at 77;

²⁸ Zucker KJ. Debate: Different strokes for different folks. *Child Adolesc Ment Health*. 2020 Feb;25(1):36-37. doi: 10.1111/camh.12330. Epub 2019 May 31. PMID: 32285638.

²⁹ C. Roberts et al., Continuation of Gender-affirming Hormones Among Transgender Adolescents and Adults, *The Journal of Clinical Endocrinology & Metabolism*, Vol. 107, Issue 9, e3937-e3943 (2022), <https://doi.org/10.1210/clinem/dgac251>.

Steensma et al. 2013; Singh et al. 2021 at 14, despite Dr. Karasic's uncharacteristic skepticism and methodology.

54. Dr. Karasic's lengthy explanation denying the rising incidence, changing sex ratios, and the role of social contagion does not seem to accept the observations made even by treatment advocates on at least three continents. What is so dangerous about the idea that youth are influenced by social changes and are part of the ever-evolving social construction of life? Why should rising fashion of identifications of new gender identity forms be exempt from social contagion when all of us, including Dr Karasic, are influenced by and adopt changing fashion styles as a result of social "contagion." Is there an ordinary adolescent (a person in formation) anywhere who is not influenced by his or her teenage culture of music, fashion, ideology, education, and media?

55. Confirming the young person's self-diagnosis of gender dysphoria is easy. Clarifying the developmental forces that have influenced it and determining an appropriate intervention are not. Contextualizing these forces involves an understanding of child and adolescent developmental processes, childhood adversity, co-existing physical and cognitive disadvantages, unfortunate parental or family circumstances (Levine, 2021), as well as the role of social influence (Anderson & Edwards-Leeper, 2021; Littman, 2018; Littman, 2021).

56. Dr. Karasic is in error in asserting DSM-5 demonstrated the validity of the diagnosis; it only demonstrated the inter-rater reliability, which is not a form of validity. The head of the NIMH shortly after DSM-5 was available pointed

this out and recognized that similar symptoms of anxiety and depression and inattentiveness are found in numerous diagnoses.³⁰

57. Dr. Karasic provides a superficial look at the European countries statements and policies making psychotherapy the first approach to transgender minors. Most transgender identified minors will be treated with psychotherapy first in UK, Norway, Finland, and Sweden while other countries, not sharing American optimism or belief in the merit of WPATH's Standards of Care, do not share Dr. Karasic's certainty about what is best for this population. They have seen the result in their countries of affirmative care. The science and the clinical results have led to their policy changes.

58. Rather than being based on controlled studies or long-term systematic follow-up, affirmative care is based on clinical precedent—therapeutic fashion—that has been evolving dramatically in the past seven years when it comes to children and adolescents with atypical gender identities. Three national studies in Sweden, Finland, and the UK have independently reviewed the many existing studies and have found the evidence so weak and methodologically problematic (National Institute for Health and Care Excellence, 2020a, 2020b) that Finland is urging delaying affirmative care until adulthood, Sweden suggests adolescents be only treated in the context of a controlled scientific trial, and all consider psychotherapy as a first response.

³⁰ Sharon Jayson, NIH official clarifies criticism of diagnostic manual, USA Today (May 14, 2023), <https://www.usatoday.com/story/news/nation/2013/05/14/dsm-5-mental-health-diagnosis/2159345/>

There are few attempts to study this topic in the US, in part because we have 50 states, no history of careful follow-up studies, and the adolescent specialists often have limited awareness of the adult transgender populations. Practitioners are often taught how to treat in their residency programs by those who may believe what they are teaching but have no grasp of its scientific foundation or lack thereof. No responsible expert, such as Karasic, is unaware of the criticism found in numerous publications raising objections to WPATH's "best practices." Wide acceptance of poorly informed professionals does not equate with scientifically established efficacy, known rates of cure or major improvements, known rates of various harms. The wide acceptance without a well-established scientific foundation may be highly unethical if parents and teens are not fully informed of the limitations of knowledge.

59. First, in 2019, Sweden commissioned a review of the scientific literature on gender dysphoria in children and adolescents. That review found a lack of evidence in the literature to support the use of hormone treatment (i.e., puberty blockers and cross-sex hormones) and surgery to reduce distress associated with gender dysphoria.³¹ Consequently, the Karolinska Hospital in Sweden issued a new guideline effective May 1, 2021, that recognized that "the studies conducted to date are small, uncontrolled observational studies

³¹ Swedish Agency for Health Tech. Assessment and Assessment of Soc'l Servs., *Gender Dysphoria in Children and Adolescents: An Inventory of the Literature*, <https://www.sbu.se/en/publications/sbu-bereder/gender-dysphoria-in-children-and-adolescents-an-inventory-of-the-literature/>.

providing low quality evidence that the treatments have the desired effect, and . . . we have very little knowledge about their safety in the long term.”³² It noted that “these treatments are potentially fraught with extensive and irreversible adverse consequences such as cardiovascular disease, osteoporosis, infertility, increased cancer risk, and thrombosis.” It concluded that “[i]n light of the above, and based on the precautionary principle, which should always be applied, the [Hospital] will not initiate hormonal treatment (i.e., puberty blocking and cross-sex hormones, *see above*) for patients with gender dysphoria.” Accordingly, it banned the use of cross-sex hormones in those under 16 years old and banned all such procedures for those between 16 and 18 outside of clinical-trial settings specifically approved by the Swedish Institutional Review Board.

60. Then, in June 2020, Finland published new guidelines governing medical treatments of adolescents with gender dysphoria. Finland broke with the WPATH guidelines, stating that, “[a]s far as minors are concerned, there are no medical treatment[s] that can be considered evidence-based.” Finland recognized that for adolescents with gender dysphoria, “[t]he first-line treatment . . . is psychosocial support and, as necessary, psychotherapy and treatment of possible comorbid psychiatric disorders.” It concluded that

³² *Guideline Regarding Hormonal Treatment of Minors with Gender Dysphoria at Tema Barn - Astrid Lindgren Children's Hospital (ALB)*, <https://segm.org/sites/default/files/Karolin-ska%20Guideline%20K2021-4144%20April%202021%20%28English%2C%20unoffi-cial%20translation%29.pdf>

because “reduction of psychiatric symptoms cannot be achieved with hormonal and surgical interventions, it is not a valid justification for gender reassignment.”³³

61. Months later, in October 2020, the UK National Institute for Health and Care Excellence (NICE) published two systematic reviews of the evidence concerning whether puberty blockers and cross-sex hormones effectively treated adolescents with gender dysphoria. The review of studies of puberty blockers found that they “are all small, uncontrolled observational studies, which are subject to bias and confounding, and all the results are of very low certainty.” It noted that “[s]tudies that found differences in outcomes could represent changes that are either of questionable clinical value, or the studies themselves are not reliable and changes could be due to confounding, bias or chance.” In any case, the review found “little change . . . from baseline to follow-up” on “the critical outcomes of gender dysphoria and mental health (depression, anger and anxiety), and the important outcomes of body image and psychosocial impact (global and psychosocial functioning).”³⁴ The NICE review similarly found that all of the studies of cross-sex hormones “are

³³ Palveluvalikoima, *Recommendation of the Council for Choices in Health Care in Finland* (PALKO / COHERE Finland), https://segm.org/sites/default/files/Finnish_Guidelines_2020_Minors_Unofficial%20Translation.pdf

³⁴ National Institute of Health & Care Excellence, *Evidence Review: Gonadotrophin Releasing Hormone Analogues for Children and Adolescents with Gender Dysphoria*, at 13 (Mar. 11, 2021), <https://www.evidence.nhs.uk/document?id=2334888&returnUrl=search%3fq%3dtransgender%26s%3dDate>.

uncontrolled observational studies, which are subject to bias and confounding and were of very low certainty.”³⁵

62. Then, in November 2020, Cochrane—an international network of many tens of thousands of researchers devoted to Evidence-Based Medicine—published a systematic review that “aimed to assess the efficacy and safety of hormone therapy” for male-to-female transitioners. Considering 1057 studies, the review concluded that “[d]espite more than four decades of ongoing efforts to improve the quality of hormone therapy, . . . no [randomized controlled trials] or suitable cohort studies have yet been conducted to investigate the efficacy and safety of hormonal treatment approaches.” It noted that the Endocrine Society, the UK National Health Service, and the NHS Guideline Panel had all reached the same conclusion. The review struck a note of perplexity: “If hormone therapy is highly valued in the treatment of gender dysphoria, then this raises the question: why are there no [randomized controlled trials] or appropriate cohort studies for this clinical condition?”³⁶

63. Most recently in April 2021, the *British Medical Journal* Open published a systematic review that specifically assessed clinical practice guidelines for

³⁵ National Institute of Health & Care Excellence, *Evidence Review: Gender-affirming Hormones for Children and Adolescents with Gender Dysphoria*, at 47 (Mar. 11, 2021), <https://www.evidence.nhs.uk/document?id=2334889&returnUrl=search%3ffrom%3d2021-03-10%26q%3dEvidence%2bReview%26to%3d2021-04-01>.

³⁶ Claudia Haupt, et al., *Antiandrogen or Estradiol Treatment or Both during Hormone Therapy in Transitioning Transgender Women*, Cochrane Database of Systematic Reviews (Nov. 28, 2020).

treatment of people who identify as transgender. The review analyzed guidelines for treatment of blood-borne infections (including HIV) as well as those for gender-transition-related interventions. It found that, in contrast to the guidelines for blood-borne infections, those related to gender transition were “lower quality” and “tended to lack methodological rigour and rely on patchier, lower-quality primary research.” The review singled out the WPATH guidelines, noting that they are produced by a “special-interest association” and “cannot be considered ‘gold standard.’” It warned that these guidelines are “linked to a weak evidence base.”³⁷

64. Before these reviews were published, clinicians associated with WPATH may have honestly believed that the use of puberty blockers, cross-sex hormones, and surgery was a well-supported treatment for gender dysphoria.³⁸ But that certainly cannot be maintained now, as these five reviews demonstrate.³⁹

³⁷ Dahlen, S., Connolly, D., Arif, I., Junejo, M. H., Bewley, S., & Meads, C. (2021). International clinical practice guidelines for gender minority/trans people: systematic review and quality assessment. *BMJ open*, 11(4), e048943. <https://doi.org/10.1136/bmjopen-2021-048943>

³⁸ A review that was limited to puberty blockers and purported to show few adverse outcomes and many potential positive outcomes was subsequently shown to suffer from serious flaws in the same journal that published it. See A. Clayton, W. Malone, P. Clarke, J. Mason, R. D’Angelo (2021), The Signal and the Noise—Questioning the Benefits of Puberty Blockers for Youth with Gender Dysphoria—a Commentary on Rew et al. (2021), *Child and Adolescent Mental Health*, <https://doi.org/10.1111/camh.12533>

³⁹ It is worth noting that a sixth review in the United States, by the Centers for Medicare & Medicaid Services, rejected a nationwide coverage mandate for adult sex-reassignment surgery, T. Jensen, J. Chin, J. Rollins, E. Koller, L. Gousis, and K. Szarama, Gender Dysphoria and Gender Reassignment Surgery, *Centers for Medicare & Medicaid Services* (August 13, 2016), <https://www.cms.gov/medicare-coverage-database/view/ncacal-decision-memo.aspx?proposed=N&NCAId=282>

65. WPATH-affiliated psychiatrists and mental health professionals who advocate for “affirmative” approaches have largely been taught to entertain a set of beliefs that is not evidence-based but ideology- and opinion-based. Plaintiffs and their witnesses make evident that they are in thrall to this set of beliefs, which includes the following:

- a. A transgender identity is immutable;
- b. Transgender identities are primarily caused by biological forces;
- c. Gender identity and orientation are distinct, stable dimensions of identity;
- d. All gender identities are normal;
- e. Psychotherapy cannot cure, ameliorate, or assist with gender identity-body incongruence;
- f. Social transition, cross-sex hormones, and surgery (if desired) improves patients’ mental health and social function;
- g. “Affirmative” treatment reduces the rates of suicidal ideation and suicide;
- h. Young teens can give informed consent for puberty blockers and cross-sex hormones because they know best what will make them happy now and in the future; and

(“Based on an extensive assessment . . . there is not enough high quality evidence to determine whether gender reassignment surgery improves health outcomes for Medicare beneficiaries with gender dysphoria and whether patients most likely to benefit from these types of surgical intervention can be identified prospectively.”).

- i. Associated psychopathology is primarily due to “minority stress.”

These nine assumptions are highly controversial and unsupported—even contradicted—by the evidence.

66. Two crucial questions must be addressed to ensure that “affirmative” procedures (i.e., social transition, puberty blockers, cross-sex hormones, and surgery) are not doing harm to young people: First, what is the evidence that gender dysphoria is cured or ameliorated by it? Second, what is the evidence of the long-term impact these procedures have on young patients’ ability to enjoy a satisfying social and romantic life, maintain a livelihood and a career, and function on other quality-of-life measures?

67. There is simply not good evidence that these procedures improve mental health or quality of life, as I explain in my principal report. The plaintiffs’ witnesses’ selective reference to low-quality studies that deal with only a snapshot in time cannot show that any benefits outweigh the harms (only some of which are known) of these procedures. That is especially the case when the evidence is evaluated (as it must be) from a perspective that takes into account a young person’s long-term life course. The consequences of treatment for young people must be conceived in terms of what happens in the long run. They simply cannot be determined within 12, 18, or 24 months after treatment commences—before hormone-fueled euphoria subsides, before patients realize that modifying their body does not ameliorate their gender dysphoria, before they begin to appreciate the significance of the fact that the hormone- or

surgically-wrought changes to their body have robbed them of the ability to be sexually responsive, before they develop the desire for children (which they typically are unable to have), and before long-term side effects (both physical and psychosocial) become impossible to ignore. It is startling that many of these “affirmative” interventions have occurred before the adolescents have fallen in love with another person who has acknowledged falling in love with them. Have “affirmative” providers forgotten about the power of such an intimate experience to rearrange the sense of self and to hasten maturation?

68. Dr. Karasic, does not claim that the evidence *taken as a whole* shows that puberty blockers and cross-sex hormones improve the quality of life or mental health of adolescents with gender dysphoria. Rather, he makes only the limited, more opaque claim that there is “substantial evidence” for his view. It would be possible to rigorously review the scientific literature to demonstrate that the data does not support claims that puberty blockers, cross-sex hormones, or surgery improve quality of life or mental health. But that is not feasible in this rebuttal report. Fortunately, it is not necessary either—because others have recently done precisely that, as explained below.

69. The plaintiffs and their witnesses rely on opaque euphemisms at crucial points—assertions that puberty blockers, cross-sex hormones, and surgery are, for example, “substantial[ly] evidence[d],” “widely accepted,” “best practices,” and “medically necessary.” This is rhetorical cover for the scientific dubiousness of their claims.

70. The plaintiffs and their witnesses also make much of the purported consensus of various American professional and advocacy organizations. Two points are important to note here. First, the associations they cite are out of step with medical authorities in the rest of the world. The conclusions drawn by the Swedish, Finnish, and British reviews—not to mention those published by Cochrane, the *British Medical Journal*, and the U.S. Centers for Medicare and Medicaid Services—might as well not even exist. Unlike in these countries, which have centralized health care systems, adolescents in the United States are not typically followed after they age out of pediatrics. So long-term data for American patients is sorely lacking.

71. Second, it would certainly be comforting to believe that a consensus of experts could produce reliable treatment recommendations for helping children and adolescents with gender dysphoria to flourish. Unfortunately, we now know that is unlikely to be the case. Although basing treatments on expert consensus might have been considered a best practice in 1980, the rise of evidence-based medicine in the 1990s cast doubt on the reliability of consensus-seeking forms of decision making.

72. It has been noted that consensus seeking often produces *worse* decisions as a result of well-recognized phenomena that render group deliberation unreliable, such as polarization, anchoring, and groupthink.⁴⁰ As an example, one might

⁴⁰ K. Kendler and M. Solomon (2016), Expert Consensus v. Evidence-based Approaches in the Revision of the DSM, *Psychological Medicine* 46, doi:10.1017/S003329171600074X

point to a subcommittee of the American Psychiatric Association, which in 2010 declared without evidence that the diverse transgender identities were not associated with any inherent limitation of capacity and represented only normal variations in gender identity development. Other organizations followed this compassionate attempt to remove stigma from public opinion and to prevent transgender persons from a negative self-view and issued similar statements. The problem is that these well-intentioned pronouncements ignored the previous and subsequent data showing the significantly higher rates of associated psychiatric problems—and the consequent need for mental-health treatments.

73. Fortunately, in the past 30 years, methods far more reliable than expert consensus for determining treatment recommendation have been developed. The medical community has increasingly come to depend on systematic reviews, which more reliably evaluate both the quality and quantity of the evidence. The high-quality reviews described above—all of which conclude that there is a lack of evidence to support the use of puberty blockers, hormones, and surgery—are precisely the kind of evidence-based authorities that should be heeded. Not the opinions of experts, which, as I explain in my principal report, is the least reliable form of “knowledge.” (Kendler and Solomon, *Expert Consensus v. Evidence-based Approaches*, at 2258 (“Evidence hierarchies typically rank expert consensus at the bottom.”)).

74. Dr. Karasic does not seem to know that I started transgender care for prisoners beginning in 2006. In fact, in 2007 and since I have organized the transgender care program for prisoners in Massachusetts. Dr. Karasic knows nothing about my work in Massachusetts. Dr. Karasic is confusing scientific skepticism and clinical caution with being a critic of the poor scientific and ethical basis of transgender care for youth.

75. When Dhejne et al publishes a study, other scholars are allowed to form their opinions. This group found that the suicide rate was 19.1 times the control groups. It is interesting to note how Dr. Karasic has managed to minimize this finding. But the Swedish study is 12 years old. Its value was based on a sample of every patient given SRS over 30 years. It was published before the 7th edition was published which gave the finding short shrift after ignoring them entirely at first. Now we have a 2023 study from the UK that demonstrates a decided increase in mortality in the transgender group. Let's not minimize the significance of young people committing to a medical process that four studies have recognized leads to a shortened life span, including the Dhejne study.

76. My "wholly unsupported claim" of romantic patterns is in fact referenced in my original report. See Levine declaration paragraph 194, citing Levine 2017, at 5, 13; Levine 2013, at 40.

77. WPATH intended to have a section on detransition when it conceptualized the 8th edition according to Coleman, but there is no such section, despite addressing the subject in some forums and conferences.

78. It seems logical that the stronger the cross-gender identity of a grade school aged child the more likely he or she is to persist in cross-gender identity in adolescence. However, it is uncertain how to measure strength of this identity. It is usually done by parent and clinician judgments with a questionnaire sometimes used. Follow up data indicated that even some of the most intensely identified children desisted when not socially transitioned. Thus, what is clinically judged to be intense does not guarantee persistence. This has been recognized in Holland and Canada (Steensma et al, 2013, Singh et al, 2012). In 2019, Rae et al published a study that recognized the absence of objective valid means of making such assessments. They found that the strongest identities had a 48% probability of transitioning in two years whereas those with a lower intensity had a 30% probability of transitioning. This study is extraordinarily complex in its statistical methods. The authors' conclusions emphasize the strength of identity predicts persistence but it is clear that this is not an absolute. This was a two year only study so that the 36 who transitioned may have detransitioned later and the 49 who did not transition may have later transitioned. Rae et al recognized the need to repeat the study for confirmation of its results.⁴¹ Such complexities have not been mentioned by Dr. Karasic.

⁴¹ Rae, J. R., Gulig, S., Durwood, L., DeMeules, M., Lowe, R., Lindquist, G., & Olson, K. R. (2019). Predicting early-childhood gender transitions. *Psychological Science*, 30(5), 669–681, <https://doi.org/10.1177/0956797619830649>.

79. In paragraph 38, Karasic warns about the dire consequences of not providing treatment. The specific consequences are generally listed as exactly those that are often present prior to affirmative care. The 2018 Owen-Smith retrospective survey of trans patients in 2.5 states (just southern California) of over 2100 patients had 697 trans persons who participated. The “no treatment” group had poorer outcomes on measures of body incongruence and more anxiety and depression. The more affirmative care the better the cross-sectional one-time subject estimates were. It is interesting to note how inconsistent this sample has been with other studies that separate bodily satisfaction with functional aspects of mental health. Such surveys have no means of ascertaining the accuracy of the patient reports and no convincing explanation for why the majority of those invited declined to participate. It is a legitimate concern, and an answered question, about what happens to treated patients. To assume that untreated patients fare worse in the most relevant functional patterns of mental health is simply based on ignoring what is not actually known.

80. In my original expert opinion report, I distinguished suicide from suicidality and manipulative and seriously intended non-fatal suicide attempts. I pointed out that the promise that affirmative care prevented death by suicide was not born out by the elevated suicide rates at every stage of cross-sex hormonal and surgical transition. I emphasized that suicidality is common in these youth and adults, and that various retrospective studies did not find an absence of suicidality among those treated, only a reduction in percentage in some but not

each parameter measured. The suicide rates appear to be equal to those with serious mental illness, particularly among natal females, all the more reason to treat these co-morbidities when the young person appears for some assistance (deGraff et al, 2022). I am not downplaying the risk of persistent suicidality, episodes of depression, panic attacks, substance abuse, and loneliness all of which likely play a role in suicide. I am, however, not equating short term relief of suicidality upon getting the hormonal or surgical treatment that one fervently desires with preventing ultimate suicide as Plaintiffs' experts imply.⁴²

81. I don't think I deserve attack for my role in presiding over the committee that issued the 5th edition of the Standards of Care for the Harry Benjamin International Gender Dysphoria Association (subsequently renamed as WPATH). I had 7 other members who agree with its consensus recommendations. I did not appoint the committee; that was done by the executive board to reflect both mental health, endocrine and surgical expertise. There was no great effort to review existing literature. It was assumed we knew what had been published in our respective disciplines. "Roundly criticized" actually was the response of the president, Richard Green, MD, who

⁴² de Graaf NM, Steensma TD, Carmichael P, VanderLaan DP, Aitken M, Cohen-Kettenis PT, de Vries ALC, Kreukels BPC, Wasserman L, Wood H, Zucker KJ. Suicidality in clinic-referred transgender adolescents. *Eur Child Adolesc Psychiatry*. 2022 Jan;31(1):67-83. doi: 10.1007/s00787-020-01663-9. Epub 2020 Nov 9. PMID: 33165650.

long before felt that the field should move patients quickly forward to surgeries because of one published study from England. He was perturbed by our recommendations for psychiatric evaluation and even some degree of psychotherapy. He immediately appointed a new committee which produced largely the same short document in the 2002 6th edition. Considering the absence of Evidence-Based Medicine principles in the 5th and subsequent standards of care, the 5th edition only reflected 8 well-intentioned professionals trying to update and clarify the dimensions of care giving, none of whom understood the issues as we do today. Even the current 8th edition has been recognized as having profound scientific limitations and bias that depart from Evidence-Based Medicine standards. The 7th and 8th editions have grown in their length considerably, however, reflecting the growing awareness of the complexities of the issues of this care. Dr. Karasic's opinions do not reflect the known complexities that other apologists have recognized. It is not scientifically acceptable to reduce this arena of care as scientifically decided upon.

I declare, pursuant to 28 U.S.C. § 1746, under penalty of perjury that the foregoing is true and correct.

Executed this 26 the day of June, 2023.

A handwritten signature in cursive script, reading "Stephen B. Levine" followed by a stylized flourish or "v" mark. The signature is written in dark ink on a white background.

Stephen B. Levine, M.D.

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF KENTUCKY
LOUISIVLLE DIVISION

Electronically filed

DOE 1, *et al.*
Plaintiffs

v.

Civil Action No. 3:23-CV-00230-DJH

THORNBURY, *et al.*
Defendants

and

COMMONWEALTH OF KENTUCKY,
ex rel. ATTORNEY GENERAL DANIEL
CAMERON
Intervening Defendant

REBUTTAL DECLARATION OF GEETA NANGIA, M.D.

I, Geeta Nangia, M.D., hereby declare and state as follows:

1. I am over 18 years of age, and of sound mind, and competent to testify.
2. I have been retained by counsel as an expert in connection with the above captioned litigation.
3. The opinions expressed in this declaration are my own and do not express the views of opinions of others.
4. I have actual knowledge of the matters stated herein.
5. If I am called to testify in this matter, I would do so truthfully and based on my expert opinion.

6. My background and qualifications, review of prior testimony, and compensation have been previously provided in my expert report. The curriculum vitae attached to my initial expert report remains true, correct and up to date.
7. I previously submitted an Expert Declaration in the above-captioned litigation (Doc. 47-12). After the filing of my declaration, the plaintiffs retained two new experts who rendered opinions critical of the opinions expressed in my declaration.
8. I have reviewed the declarations of Kenneth Goodman, PhD, FACMI, FACE, and Dan H. Karasic, M.D.
9. In preparing this rebuttal report, I have relied on my training and clinical experience, as set out in my curriculum vitae attached to my original report; the materials listed in the bibliography attached to my original report; and the additional materials listed in the supplemental bibliography attached to this rebuttal report.
10. I reserve the right to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including because of new scientific research or publications or in response to statements and issues that may arise in my area of expertise. I may also further supplement these opinions in response to information produced by Plaintiffs in discovery and in response to additional information from Plaintiffs' designated experts.
11. I submit this rebuttal declaration to respond to the expert declarations of Drs. Dan Karasic and Kenneth Goodman.

**The Core Issue in Gender Bans is Neurological, Psychosocial, and Cognitive
Development as it Pertains to Minor Decision Making and Informed Consent**

12. As a child psychiatrist, I believe that the most fundamental problem with medical and surgical transition in minors is that informed consent cannot be attained by the minor. Parental consent with child assent is not sufficient for medical or surgical gender transition, as these treatments violate bodily integrity and are non-emergent and medically unnecessary in the growing minor who stands to experience very serious and potentially irreversible medical and psychological side effects. Furthermore, parental consent in lieu of minor informed consent presents a challenge to the future autonomy of the growing adolescent who cannot psychologically grasp the potential ramifications of these treatments ten or twenty years down the road.
13. Plaintiffs' expert states that there are "rigorous informed consent protocols" for transition related care. (Karasic ¶ 28 ¶ 36)
14. I am very familiar with procedures for informed consent to gender affirming care. I simply assert that minors are unable to provide informed consent for medical and surgical transition regardless of any procedure that is utilized.
15. It concerns me that any physician would assert that any minor, at any time, would be able to have the capacity to understand and appreciate a consequence like infertility.
16. Infertility is one of the most severe and highly likely consequences for the minor who is administered cross sex hormones. It is beyond reason to state that minors can understand the psychological impact of this. I have treated many individuals who have suffered from infertility over the course of my career. The psychological burden of infertility cannot be underestimated. It affects all areas of an individual's life. Having worked with children

and adolescents for over twenty years, and having worked with a significant group of adolescents who have gender dysphoria, I cannot conceptualize a situation in which a minor can understand or appreciate that burden. A resource document from The American Psychiatric Association states that the “psychological impact of being unable to conceive is a profound loss and significant life crisis.” (Kohan 2015; Becker 2019) In addition to profound sadness and grief, it can create relationship struggles, anger with self for a failure to be able to procreate, an associated decrease in sexual desire, loss of sexual satisfaction, social exclusion, negative stigma, anxiety, depression, impaired quality of life, and a significantly higher risk of suicidal ideation. (Marci 2012; Ergin 2018; Shani 2016; Kjaer 2011)

17. Examples of other such potential consequences of cross sex hormones that minors, in my opinion, cannot conceptualize are: myocardial infarction, ischemic stroke, venous thromboembolism, inability to breastfeed, inflammation of the liver, prolactinomas, gallbladder disease, and heightened risk of breast cancer. (Dahl 2015)
18. My declaration highlights the fundamental problems with informed consent in minor gender transition:
 - a. Gender dysphoria is a condition involving distress and most youth who struggle with it describe feeling affected by their peer experiences. The best neurodevelopmental research and brain imaging available to physicians today shows that the prefrontal cortex (planning center) lags in development when compared to the amygdala and ventral striatum (reward centers) in adolescence. (Steinberg 2013) This translates to minors being impulsive and reward driven in their decision making, particularly in emotionally laden situations and in the

presence of peer influence. (Casey 2008a; Casey 2008b; Casey 2010; Casey 2013; Chein 2011) Psychosocial and cognitive development models also support this. Hence, decision making capacity in minors with gender dysphoria is problematic when considering medical and surgical gender transition.

- b. Minors lack the ability to provide informed consent to medical or surgical gender transition treatments given their complex side effect profiles and long-term risk potential, including (but not at all limited to) loss of fertility, which they cannot begin to understand, reason through, or appreciate until they are older and neurodevelopmentally able to do so.
- c. Minors lack the ability to provide informed consent to medical or surgical gender transition treatments given their inability to comprehend and appreciate the current debate. Plaintiffs' experts assert that their recommended treatment approach is accepted widely in the medical community by numerous organizations. However, their assertion does not effectively negate the existence of the ongoing debate over medical and surgical transition in minors and the fact that this debate has recently changed the course of recommendations in other countries. The ongoing debates are over the quality of studies, the safety and efficacy of the treatments themselves, their outcomes, their possible long-term side effects (i.e. on bone growth, brain maturation, endocrine and metabolic function, reproductive capacity, and psychological outcomes), and the matter of minor informed consent. Minors can't comprehend and appreciate the content of this debate that is highly relevant to the outcomes they may face with medical and surgical transition.

19. Therein, when the neurodevelopmental tasks required for decision making capacity cannot be met, informed consent cannot be obtained from the minor. Further, when treatments are non-emergent and medically unnecessary, and have serious and potentially irreversible consequences such as (but not at all limited to) infertility, they place the minor at extraordinary and unfair risk for long term psychological ramifications that the minor is unable to even understand. Parental consent with child assent therefore is not sufficient.

Plaintiffs' Expert Appears to Question Defense Experts' Understanding of Gender Dysphoria Diagnosis, Prevalence, and Treatment

20. Plaintiffs' Expert appears to question defense experts' understanding and appreciation of gender dysphoria and its prevalence. Plaintiffs' Expert also suggests that defense experts do not offer effective treatment alternatives for gender dysphoria. Plaintiffs' Expert also refers to Defense Experts as "outliers". (Karasic ¶¶ 27, 42, 52-57)

21. I have outlined my experience with gender dysphoria in my main report. I am educated and well informed of the diagnosis of gender dysphoria, how to make it, its treatment, present guidelines, the recent changes to recommendations for puberty blockers and cross sex hormones in countries abroad, the issues of informed consent, and the present debate here in the United States. There is no misunderstanding or lack of familiarity with diagnosis or understanding of gender dysphoria, as Plaintiffs' expert implies. In fact, the criteria, while broad, are far from esoteric in the DSM 5- TR, and the WPATH Guidelines are indeed quite clear. (Coleman 2022)

22. As a community based Child and Adolescent Psychiatrist, I have the benefit of seeing children with a broad range of psychiatric disorders. In many ways, this has allowed me the opportunity to observe gender dysphoria presenting or evolving in patients of all

backgrounds who are simultaneously dealing with various psychiatric conditions and/or stressors. I have come to understand and appreciate gender dysphoria more thoroughly because of this context. The number of minors with gender dysphoria has dramatically risen in recent years in my clinical practice. I base my assertions regarding what seems to be contributing to this rise on my clinical experience and on what my patients directly report to me in the process of evaluation and psychotherapy.

23. I assert that psychotherapy is a compassionate and safer treatment alternative to medical and surgical transition. I have effectively treated gender dysphoria in adolescents with psychodynamic therapy (both individual and family) that addresses their life systems and circumstances (i.e., family, school, home, peer groups, stressors, past trauma, mental health histories). In having done so, most patients have experienced a resolution of gender dysphoria. Those who have persisted in experiencing gender dysphoria have felt supported through the therapeutic process and have benefitted from it.

24. Much of the rhetoric from the Plaintiffs' experts is exactly why other physicians and mental health providers who have had experiences like mine are reluctant to share their opinions. The dialogue that should be taking place within the medical community over the issue of gender transition in minors is derailed and stifled by such language, that only serves to attack those of us who have highly relevant experiences to share in order to help our patients who are suffering from gender dysphoria. Despite attempts to state that defense experts' claims are "implausible", "do not reflect common views of others in the field", or reflect those of "outliers", I've stepped forward to share my clinical experiences. Plaintiffs' experts' attempts to devalue or debase my clinical experiences may serve their purpose of advancing the gender affirming care model, but it does not serve the field of medicine well,

nor our patients, to provide a one-sided perspective without consideration of what other providers in community settings are seeing in their patient populations. Proper scientific dialogue does not simply entail aligning our views with others. We owe it to our patients and to ourselves to share our different opinions and experiences for the sake of improving our patients' well-being and contributing to the field of medicine.

Plaintiffs' Expert Mischaracterizes Defense Experts' Opinion Regarding Gender Affirming Care and Mental Health Evaluations

25. Plaintiffs' expert states that defense experts are ignoring the mental health care that gender affirming teams provide. (Karasic ¶¶ 42-59) Plaintiffs' experts also suggest that I have asserted that certain transgender youth are being misdiagnosed with gender dysphoria because of comorbidities.

26. First, I understand that mental health experts are a part of gender affirming teams.

27. However, the issue is that the WPATH itself states that only one comprehensive psychological evaluation is necessary for medical transition. (Coleman 2022). I assert that this is far from what a mental health expert needs to determine that a minor's gender dysphoria is not impacted by mental health or other issues in the minor's life. In my experience, it often isn't until a minor has been in therapy for an extensive period, that the issues that impact the child's gender dysphoria become clear. Hence, merely having a mental health professional on the gender affirming care team to do a comprehensive assessment, or to provide support, does not equate to an understanding that a patient needs far more than one evaluation to understand the factor(s) that may be influencing and contributing to gender dysphoria, such that addressing the factor(s) may lead to its' resolution or betterment.

28.Regarding trauma, I assert that trauma screening or initial evaluation is simply not enough.

Trauma is not generally disclosed during a first psychological evaluation. It can take months, and even years, for patients to disclose a history of trauma. As cited in my declaration, a recent study showed that 56 percent of patients with gender dysphoria have experienced four or more forms of trauma, compared to 3 percent in the control group. (Gionvanardi 2018) Another study reported similar findings. (Schnarrs 2019)

29.Hence, no screening process or initial evaluation is sufficient to truly assess whether a patient has dealt with trauma that has influenced, contributed to, or caused gender dysphoria. Minor patients benefit from an ongoing process of assessment and psychotherapy, a relationship with supportive mental health staff, and support from their family as they develop.

30.Secondly, I have not asserted that youth are misdiagnosed with gender dysphoria.

31.Rather, I asserted that in my experience, gender dysphoria is most often influenced by issues and stressors in the patient's life systems (i.e., school, family, community, peer group), gender role perceptions, online exposures, other mental health conditions (i.e., trauma, autism, depression, anxiety), vulnerability, and search for belonging. I have observed that when these matters have been dealt with in psychotherapy, gender dysphoria has resolved in most cases.

Plaintiffs' Expert's Assertions Undermine the Influence of Social Media on Youth

32.Plaintiffs' expert ignores the importance of the effect of social media on the rapid rise in rates of gender dysphoria. (Karasic ¶ 57)

33.Social media provides a forum for support for youth, but also is a tremendous and powerful vehicle of influence.

34.Plaintiffs’ expert’s assertion that social media is not a primary contributor to youth experiencing gender dysphoria lacks any support.

35.It would be illogical to state that social media does not influence the ideology, self-concept, and identity of youth today.

Plaintiffs’ Expert Mischaracterizes Psychotherapy as “Conversion Therapy”

36.The Plaintiffs’ expert falsely assumes that the goal of psychotherapy is conversion to a cis-gender identity. (Karasic ¶ 39)

37.Nowhere in my declaration have I stated that I engage in conversion therapy. In fact, I have stated that I do not engage in this practice and find it detrimental. Furthermore, I stated that I had a patient who underwent conversion therapy and found it to be a highly negative experience.

38.Psychotherapy should not be conducted with the therapist having a preconceived end goal that is subjective in any capacity. It is the client who determines their own goals within the therapeutic process, and the therapist facilitates the journey through therapy objectively and without bias. This is therapeutic neutrality. (Simon 1992)

39.The Plaintiffs’ Expert falsely makes this assumption, presumably because I stated that in my experience:

- a. Gender dysphoria has resolved with time and maturation in the children I’ve evaluated and treated.
- b. Gender dysphoria in my own adolescent patients has most often resolved with individual and family psychodynamic psychotherapy, added support, and maturation. I have found adolescents in my care to have at least one of the following co-occurring issues upon evaluation: 1) a history of trauma 2) a history

of an autism spectrum disorder 3) a history of anxiety (often social anxiety) or depression 4) a history of disrupted attachment 5) complex family dynamics that have shaped perception of gender roles 6) exposure to peer groups and/or social media that influenced their self-concept and feeling of gender incongruence, and 7) a feeling of vulnerability amongst peers and of “not belonging” followed by a search to belong with others who feel similarly. In the majority of adolescent cases, when patients were able to process and explore these issues in the context of their life "systems" (i.e. family, school, peers, community, stressors) through exploratory (psychodynamic) therapy, gender dysphoria resolved and the adolescents became comfortable with their natal sex.

- c. In cases wherein gender discordance persisted, individuals were better suited to make decisions about medical and surgical transition once they were able to provide informed consent as adults and had undergone therapy to process relevant issues in their lives, thus lowering their risk of future regret post transition.

40. Psychotherapy is effective and helpful for minors with gender dysphoria to help them to navigate their mental health and stressors. The risk is low, and the benefit can be tremendous. The goal is not conversion to cis-gender identity as Plaintiffs’ expert states. Rather, most patients I have worked with who have gender dysphoria decide that their goals are to be more mindful, find out more about themselves, process their stressors (usually related to family, peers, prior trauma, school, mental health), and secure better support and have better relationships with people they love. Most realign with their natal sex in the process of therapy, despite no pre-existing agenda to do so. It happens when other aspects of their lives fall into place through resolution of various unconscious conflicts, treatment

of past trauma, processing of past experiences, exploration of relationships, improvement of family dynamics, and simple age maturation.

41. Psychotherapy is a compassionate and low risk approach that helps minors to bridge the course of their own development by harnessing proper support, helping them gain a better understanding of themselves, working through their own stressors and unique life circumstances, and gaining clarity so that their medical decisions can be more certain and well informed when they reach adulthood.

Plaintiffs' Expert Fails to Mention the Lack of Quality Data on Suicide Risk in De-Transitioners and the Lack of Services that are Afforded to Them

42. Plaintiffs' expert cites the risk of suicide in patients with gender dysphoria, and the concern that bans on medical and surgical transition will lead to an increase in the risk of suicide. (Karasic ¶ 34, 38, 39, 73-75, 84-85, 99)

43. Several problems exist with the studies assessing suicide risk in patients with gender dysphoria. I agree with Dr. Cantor's assessment of these studies.

44. It is concerning that Plaintiffs' expert does not address the lack of data on de-transitioners and the suicidal thoughts that they may deal with, the intense regret they face, and the psychological impact of realizing that transitioning may have been the wrong choice.

45. Further, Plaintiffs' expert does not discuss that de-transitioners have difficulty finding support and services for medical and mental health care.

Plaintiffs' Expert Minimizes and Does Not Acknowledge Critical Issues Pertaining to Gender Dysphoria Treatment, Creating Concern for the Informed Consent Process

46. Plaintiffs' expert reports that defense experts have created a "straw man" and then attacked it. (Karasic ¶ 28, ¶ 29)

47. There is very clear concern about the fact that Plaintiffs' experts do not acknowledge, or they minimize the following: 1) the lack of proper research on psychotherapy outcomes in patients with gender dysphoria (D'Angelo 2021), including research which takes into account therapeutic modality, direction, and content, and stratifies minors according to historical risk factors (stressors, exposures, co-occurring conditions), 2) the lack of data on de-transitioners and their rates of suicide, 3) the ongoing debates over the quality of studies that are used to support medical and surgical transition, 4) the ongoing debate over the safety, efficacy, and outcomes of gender transition treatments and matters of informed consent, and 5) the discussion of the changes in regulations and recommendations in other countries that have come as a result of these debates.

48. Hence, the defense experts have not created a "straw man". It is very reasonable to assume that Plaintiffs' experts discuss a risk of suicide with patients and their parents, given that this is a continual concern that they voice in their declarations. It is also reasonable to assume that the lack of acknowledgement or minimization of the above five issues in their declarations may translate into a lack of full disclosure with parents and patients. The discussion of the risk of suicide with parents is a conversation that places a tremendous emotional burden on them. Telling parents that their child may have a risk of suicide if they are not affirmed in their gender or permitted to transition is very concerning from an ethical standpoint if all the other issues above are not also given their due acknowledgment and merit in the same discussion. A lack of full disclosure would present additional concerns about the informed consent process.

Conclusion

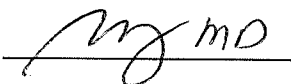
49. Informed Consent is not attainable for medical or surgical transition in minors based upon their lack of ability to complete the neurodevelopmental tasks required for decision making capacity. Parental informed consent with minor assent is not sufficient given that treatments on the medical transition trajectory are non-emergent, medically unnecessary, carry highly significant potential consequences (such as infertility), and therein challenge the future autonomy of the growing minor who cannot appreciate such outcomes nor the debate surrounding them.

50. A better and more compassionate approach to gender dysphoria in minors is the provision of therapy until adulthood, when informed consent can be provided.

51. Quality research is necessary to assess alternative forms of treatment.

52. The experience of de-transitioners is due acknowledgment, merit, and study.

53. SB 150 appropriately protects minors.

A handwritten signature in black ink, appearing to read "G. Nangia MD", is written over a horizontal line.

Dr. Geeta Nangia

June 26, 2023

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