Gender-affirming hormone in children and adolescents

Posted on 25th February 2019

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How big a problem is gender dysphoria?

Prevalence estimates suggest male-to-female cases outnumber female-to-male cases, with 1 per 10,000 males and 1 per 27,000 females affected by gender dysphoria, although estimates vary depending on the setting. These rates would qualify for orphan designation status (defined by the European Union as less than 5 in 10,000 of the general population).

We know higher rates are observed in Western Europe and America, but the exact prevalence is difficult to estimate because the number of children and adolescents referred to services is still rising. As an example, UK referrals to the national Gender Identity Development Service (GIDs) has risen exponentially since 2011.

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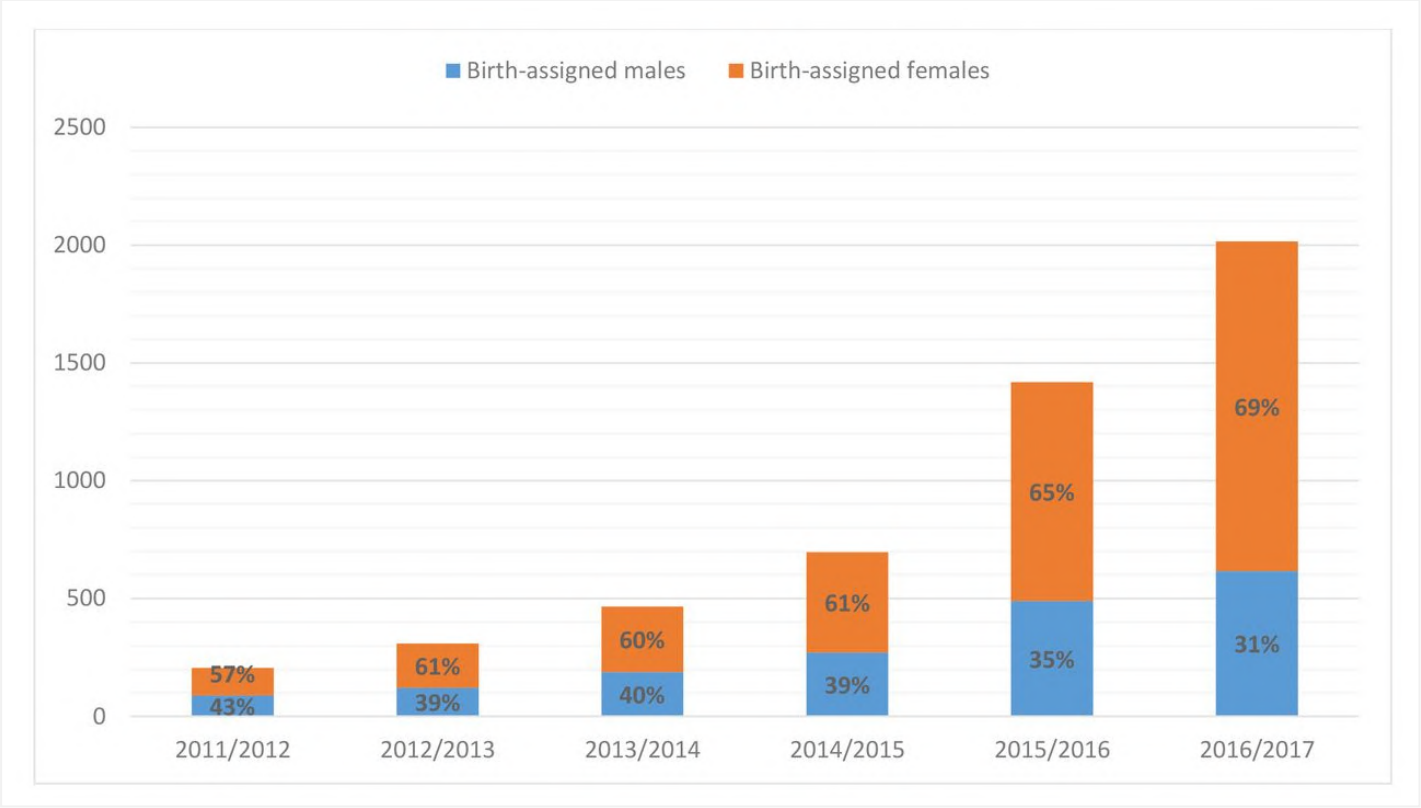

Reference: Referrals to UK GID services: Assessment and support of children and adolescents with gender dysphoria. Arch Dis Child 2018;103:631–6. doi:10.1136/archdischild-2018-314992

Treatments options for Gender Dysphoria

The World Professional Association for Transgender Health (WPATH) Guidelines, on the clinical care of transgender adolescent, set out three stages of gender-affirming interventions with progressive levels of irreversibility:

- **Stage 1,** puberty suppression
- **Stage 2,** gender-affirming hormones
- **Stage 3,** gender-affirming surgery

Guidelines require puberty to have begun (Tanner stage 2, when pubic hair and breast buds appear) before any intervention is agreed. This is because gender dysphoria may resolve once puberty begins. In 2008 the Endocrine Society approved puberty blockers for transgender adolescents as young as 12 years old.

To find the evidence for treatment options we first searched for systematic reviews. We used PubMed Clinical Queries to search for the reviews (see here). We found two up to date reviews with overlapping trial results:

1. Hormonal Treatment in Young People With Gender Dysphoria: A Systematic Review. Chew D, Anderson J, Williams K, May T, Pang K. Pediatrics. 2018 Apr;141(4). doi: 10.1542/peds.2017-37422.
2. Gender-affirming hormones and surgery in transgender children and adolescents. Mahfouda S, Moore JK, Siafarikas A, Hewitt T, Ganti U, Lin A, Zepf FD. Lancet Diabetes Endocrinol. 2018 Dec 6. doi: 10.1016/S2213-8587(18)30305-X.

There are other reviews you might want to take a look at, such as The effect of cross-sex hormonal treatment on gender dysphoria individuals' mental health: a systematic review, and a Systematic Review of the Effects of Hormone Therapy on Psychological Functioning and Quality of Life in Transgender Individuals.

We focused on the latest reviews in children and adolescents that reported a range of clinical outcome to inform decision making. The first review Hormonal Treatment in Young People With Gender Dysphoria [1], searched Medline, Embase, and PubMed to June 10, 2017, and assessed risk of bias using a modified version of the Quality in Prognosis Studies, and published a protocol registered at PROSPERO (CRD42017056670). The second, Gender-affirming hormones and surgery in transgender children and adolescents [2], searched MedLine and Embase, included studies when the mean or median age of the sample was below 18 years, reported information on the limitations of each study and set out research recommendations.

Together these reviews included 16 studies with 1,132 participants (transgender males (54%); transgender females (37%) and (7.6%) control subjects reported. Controls were not matched for important confounders, which means caution should be applied to any conclusions drawn. We found no randomized controlled trials or controlled trials.

Stage 1, Puberty suppression treatments

Gonadotrophin-releasing hormone agonists (GnRHa) acts on GnRH receptors to suppress gonadotropin release. In females GnRHa reduces the secretion of LH and FSH; in males, it shuts down gonadal testosterone production. For this reason, they are often referred to as puberty blockers. Little is known about the safety profile in the context of gender dysphoria, particularly the long-term effects, and use is based largely on the effects of treatment of central precocious puberty.

The clinically used GnRH agonists are available in the following formulations:

- Short-acting injection: buserelin, histrelin, leuprorelin, triptorelin
- A long-acting depot injection or injected pellet: leuprorelin, triptorelin
- Injected implant: buserelin, goserelin, leuprorelin
- Surgically implanted pellet: histrelin, leuprorelin
- Nasal spray: buserelin, nafarelin

Some evidence suggests that children will change their minds as they age: just under three-quarters of pre-pubescent children attending gender identity clinics may not want to change their gender once puberty starts: a prospective study of 77 gender dysphoric children (59 boys, 18 girls; mean age 8.4 years, range 5–12 years) referred to one clinic found that after 3.4 years of follow-up 27% remained gender dysphoric.

Ten studies analysed the effects of puberty blockers: the median age of starting in transgender males in these trials was 15.0 years (median range 13.5 to 15.8 years), and in females, 15.1 years (range 13.6 to 16.5 years).

Vlot 2017 reported the lowest median age in boys of 13.5 years; Schagen 2016, funded by an unrestricted grant from Ferring the makers of the study drug triptorelin, reported a median age of 13.6 years in transgender females for starting treatment. Six studies were funded by industry: 4 received funding from Ferring (Delemarre-van de Waal 2006, Staphorsius (2015), Schagen 2016 and Hannema 2017).

The numbers in the ten studies are small and most are retrospective case reports or small case series. Many are done in single clinics and lack long term longitudinal outcomes on the effects (both benefits and harms) of puberty blockers. It is also hard to disentangle effects from the use of gender affirming hormones. We found four studies reporting on the use of GnHRa alone: Schagen 2016; Staphorsius 2015; Costa 2015and Delemarre-van de Waal 2006.

Schagen 2016 studied the effects of Triptorelin in gender dysphoric adolescents and reported that 'treatment did not have to be adjusted because of insufficient suppression in any subject.' They concluded further studies should evaluate whether the effects on height and body composition can be reversed during subsequent GAH treatment. Costa 2015 reported that global functioning after psychological support and puberty suppression was improved. Delemarre-van de Waal 2006 reported GnRHa treatment appeared to be important for the management of gender identity in transsexual adolescents. Finally, Staphorsius 2015, determined whether the performance on the Tower of London task cognitive task was altered with GnRHa and found no significant effects on task scores.

Problems within these studies, however, make it difficult to assess whether early pubertal changes regress under GnRHa treatment and whether prolonged puberty suppression is safe. For example, there is a lack of controls, and in one study that included controls, these were inadequate as relatives and friends of the participants were asked to participate, serving as age-matched controls. A lack of blinding was also problematic. One study (Costa 2015) that focused on a measure of psychosocial well-being highlighted that getting older has previously been positively associated with maturity and well-being (see Getting older, getting better? Personal strivings and psychological maturity across the life span.)

Stage 2, Gender-affirming cross-sex hormone hormones (CSHs)

Oestrogens and testosterone induce masculine or feminine physical characteristics, and should only be taken in the context of medical supervision to monitor risks (e.g., polycythaemia in transgender males, venous thromboembolism in transgender females).

For transgender females, oestrogen therapy alone is often insufficient to produce the desired feminising effects. Other treatments are therefore used in an off label manner. For example spironolactone, an aldosterone antagonist with weak oestrogenic properties is commonly used to support oestrogen therapy – off label. Cyproterone acetate has progestational and antiandrogenic properties, but it can lead to hepatic toxicity including jaundice, hepatitis. Hepatic failure has also been reported (fatalities reported, usually after several months, at dosages of 100 mg and above).

Specific effects of gender affirming hormones

Psychological effects

Young transgender people may have mental health problems, including anxiety, and suicidal ideation. De Vries 2014 (n =55**)** assessed gender dysphoria, body satisfaction, at baseline, puberty suppression, and in adulthood. De Vries 2011 reported on the original cohort (n=70) that showed that emotional problems and depressive symptoms decreased, while general functioning improved significantly during puberty suppression. High levels of bias with study participation mean the results should be treated with caution. The study found a decrease in gender dysphoria after surgery. However, it was not possible to disentangle the psychological benefits of hormone treatments from surgical interventions.

Cognitive and brain-related effects

Neuroimaging studies suggest CSHs affect brain structure and circuitries, ventricular volume and thickness, hypothalamic neuroplasticity, and functional connectivity. One study, Burke (2016) (n=62) investigated GAHs and brain function in adolescents, and reported that testosterone therapy in transgender males (n=21 mean age 16.1) was associated with altered cognitive processes, as assessed by the mental rotation task (MRT), a measure of visuospatial working memory that elicits cognitive sex differences. The study concluded that transgender males have atypical sexual differentiation of brain areas involved in visuospatial cognitive functioning.

Bone development

Klink 2015 found that lumbar spine bone mineral density scores fell during puberty suppression with GnRHa for transgender adolescent females but did not increase following oestrogen treatment. Endocrine Society Guidelines state monitoring BMD parameters in transgender adolescents is recommended both prior to and during gender-affirming hormonal treatment.

Haematological variables

Testosterone therapies stimulate erythropoiesis, and increases in haemoglobin and haematocrit are an anticipated physiological response. Jarin 2017 (n =116) reported that testosterone therapy in transgender males was associated with significant elevations in mean haemoglobin and haematocrit. Tack 2016 reported haemoglobin and haematocrit concentration variables increased but stabilised at six months. In transgender adolescent females estradiol. Olson-Kennedy 2018 report a significant decline in Hb concentrations after a 2-year course of estradiol.

Cardiovascular Health

Tack 2016; Jarin 2017 report no changes in LDL or triglycerides in the short term for transgender adolescent males. Olson-Kennedy 2018 report significant increases in triglyceride concentrations and HDL after two years of oestrogen treatment. None of the studies showed significant changes in mean total cholesterol concentrations. Olson-Kennedy 2018 report elevations in systolic and diastolic blood pressure with testosterone treatment after two years. Jarin 2017 reports no change in BP at six months. Jarin 2017, Olson-Kennedy 2018 and Tack 2016 report no changes in HbA, glucose, or insulin.

Conclusions

There are significant problems with how the evidence for Gender-affirming cross-sex hormone has been collected and analysed that prevents definitive conclusions to be drawn. Similar to puberty blockers, the evidence is limited by small sample sizes; retrospective methods, and loss of considerable numbers of patients in the follow-up period. The majority of studies also lack a control group (only two studies used controls). Interventions have heterogeneous treatment regimes complicating comparisons between studies. Also, adherence to the interventions is either not reported or inconsistent. Subjective outcomes, which are highly prevalent in the studies, are also prone to bias due to lack of blinding.

An Archive of Diseases in Childhood letter referred to GnRHa treatment as a momentous step in the dark. It set out three main concerns: 1) young people are left in a state of 'developmental limbo' without secondary sexual characteristics that might consolidate gender identity; 2) use is likely to threaten the maturation of the adolescent mind, and 3) puberty blockers are being used in the context of profound scientific ignorance.

The development of these interventions should, therefore, occur in the context of research, and treatments for under 18 gender dysphoric children and adolescents remain largely experimental. There are a large number of unanswered questions that include the age at start, reversibility; adverse events, long term effects

on mental health, quality of life, bone mineral density, osteoporosis in later life and cognition. We wonder whether off label use is appropriate and justified for drugs such as spironolactone which can cause substantial harms and even death. We are also ignorant of the long-term safety profiles of the different GAH regimens. The current evidence base does not support informed decision making and safe practice in children.

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This post was updated on the 30th March, the 13th of April and the conflicts of Interest disclosures were added in full on the 21st May 2019. The full references to the systematic review articles were added as there was an error in the link to one of the reviews. The statement on Schagen 2016 was corrected to 'treatment did not have to be adjusted because of insufficient suppression in any subject.'

[1] Hormonal Treatment in Young People With Gender Dysphoria: A Systematic Review. Chew D, Anderson J, Williams K, May T, Pang K. Pediatrics. 2018 Apr;141(4). doi: 10.1542/peds.2017-3742

[2] Gender-affirming hormones and surgery in transgender children and adolescents. Mahfouda S, Moore JK, Siafarikas A, Hewitt T, Ganti U, Lin A, Zepf FD. Lancet Diabetes Endocrinol. 2018 Dec 6. doi: 10.1016/S2213-8587(18)30305-X.

Competing interests

This evidence review was performed as part of a BBC Panorama documentary: Trans Kids: Why Medicine Matters, release date: 27 February 2019.

Carl has received expenses and fees for his media work (including payments from BBC Radio 4 Inside Health). He has received expenses from the WHO, FDA, and holds grant funding from the NIHR, the NIHR School of Primary Care Research, The NIHR BRC Oxford and previously the WHO. He has received financial remuneration from an asbestos case and given free legal advice on mesh cases. He has also received income from the publication of a series of toolkit books published by Blackwells. On occasion, he receives expenses for teaching EBM and is also paid for his GP work in NHS out of hours (contract with Oxford Health NHS Foundation Trust). He is Director of CEBM, which jointly runs the EvidenceLive Conference with the BMJ and the Overdiagnosis Conference with international partners, based on a non-profit making model. He is Editor in Chief of BMJ Evidence-Based Medicine and is an NIHR Senior Investigator. Full disclosure here. TJ received a fee from the BBC for this work. TJ was a co-recipient of a UK National Institute for Health Research grant (HTA

– 10/80/01 Update and amalgamation of two Cochrane reviews: neuraminidase inhibitors for preventing and treating influenza in healthy adults and children; https://www.journalslibrary.nihr.ac.uk/programmes/hta/108001/). TJ was also in receipt of a Cochrane Methods Innovations Fund grant to develop guidance on the use of regulatory data in Cochrane reviews. TJ is occasionally interviewed by market research companies about phase I or II pharmaceutical products. In 2011–2014, TJ acted as an expert witness in a litigation case related to the antiviral oseltamivir, in two litigation cases on potential vaccine-related damage and in a labour case on influenza vaccines in healthcare workers in Canada. He has acted as a consultant for Roche (1997–1999), GSK (2001–2002), Sanofi-Synthelabo (2003) and IMS Health (2013). In 2014–2016, TJ was a member of three advisory boards for Boehringer Ingelheim. TJ was a member of an independent data monitoring committee for a Sanofi Pasteur clinical trial on an influenza vaccine, and has a potential financial conflict of interest on the drug oseltamivir. TJ is co-holder of a Laura and John Arnold Foundation grant for the development of a RIAT support centre (2017-2020) and Jean Monnet Network Grant, 2017-2020 for The Jean Monnet Health Law and Policy Network. TJ is an unpaid collaborator to the project *Beyond Transparency in Pharmaceutical Research and Regulation* led by Dalhousie University and funded by the Canadian Institutes of Health Research (2018-2022). Full disclosure here.

DISCLAIMER

Other content recommended for you

Gender-affirming hormone in children and adolescents
BMJ, BMJ EBM Spotlight blog, 2019

Medically assisted gender affirmation: when children and parents disagree
Samuel Dubin et al., J Med Ethics, 2020

G431(P) Gender dysphoria – a description of the changes in prevalence, demographics and the clinical care provided by a paediatric endocrinology department
S McCallion et al., Archives of Disease in Childhood, 2020

Puberty blocking in gender dysphoria: suitable for all?
Gary Butler et al., Archives of Disease in Childhood, 2019

Helpful Additional Observational Data on Adolescents with Gender Dysphoria
Armand H. Matheny Antommaria et al., AAP Blogs, 2021

Transgender and Nonbinary Adolescents: The Role of Voice and Communication Therapy
Meredith R. Russell et al., SIG Perspectives, 2019

Study: Blocking puberty in transgender teens linked to lower likelihood of suicidal thoughts
Melissa Jenco et al., AAP News, 2020

Rates of Fertility Preservation Use Among Transgender Adolescents
Kenneth C. Pang et al., JAMA Pediatrics, 2020

Testosterone and Transgender Athletic Performance : Finding a path for inclusion for transgender athletes
BJSM, BJSM Blog, 2021

Effect of Zuranolone vs Placebo in Postpartum Depression
Kristina M. Deligiannidis et al., JAMA Psychiatry, 2021

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IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

HUNTINGTON DIVISION

Christopher Fain, individually and on behalf of all others similarly situated, et al.,

Plaintiffs,

vs. CIVIL ACTION NO. 3:20-cv-00740

William Crouch, et al.,

Defendants.

REMOTE DEPOSITION OF COMMISSIONER CYNTHIA BEANE

DATE: March 29, 2022

TIME: 8:00 a.m. CST

PLACE: Veritext Virtual Videoconference

REPORTED BY: KELLEY E. ZILLES, RPR (Via Videoconference)

JOB NUMBER: 5096149

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NOTE: The original deposition transcript will be delivered to Tara Borelli, Esq., as the taking attorney.

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EXHIBITS MARKED AND REFERRED TO:

(Original exhibits attached to original transcript. Copies attached to transcript copies.)

COMMISSIONER CYNTHIA BEANE,

duly sworn, was examined and testified as follows:

EXAMINATION

BY MS. BORELLI:

Q. Good morning, Commissioner Beane. Thank you for your time today. My name is Tara Borelli, I'm an attorney with Lambda Legal and I use she/her pronouns, I represent the plaintiffs in this matter. Can you confirm that your pronouns are she/her?

A. Yes, they are.

Q. Let me explain some ground rules so the court reporter can create a clean transcript today. Because we're not in the same room, I need to know if you refer to any documents in front of you or if you look at any documents on your computer. Can you agree?

A. I agree.

Q. Is there anyone else in the same room as you?

A. No, there is not.

Q. If anyone enters the room while we're on the record will you agree to let me know?

A. I will. But I have posted a sign on my door, so nobody should come in, but in case somebody barges in, I will let you know.

Q. That sounds great. Thank you. If your counsel objects you will still need to answer my questions today

unless your counsel specifically instructs you not to answer. Do you understand?

A. Yes.

Q. And if you don't understand a question that I ask, please let me know and I'm happy to try to rephrase it or make it clearer for you. If you answer I will assume that you understood. Is that agreeable?

A. Yes.

Q. We can take a break today whenever you need, however, if I have asked a question or if I'm in the middle of a line of questions, you will need to provide an answer before we take a break. Do you understand?

A. Yes.

Q. And let's do our best today not to speak over each other, I think we're doing a great job so far. And please use verbal answers so that the court reporter can transcribe your answers accurately. Nodding or shaking your head cannot be captured by the court reporter. Do you agree?

A. Yes.

Q. Do you understand that you are testifying under oath today just as if you were testifying in court?

A. Yes.

Q. Is there anything that would prevent you from testifying truthfully today?

A. No, there is nothing preventing me from telling the truth.

Q. Is there any reason that would prevent you from completely and accurately answering my questions?

A. No, there is no reason that I would not completely and accurately answer the question.

Q. Do you understand that you're giving deposition testimony today in a case called Fain versus Crouch?

A. Yes.

Q. Are you familiar with what this lawsuit is about?

A. Yes.

Q. What is your understanding of what the lawsuit is about?

A. The lawsuit is about the coverage of transgender services.

Q. I'd like to make sure that we're using some common vocabulary for some of the questions I'll be asking you today. We'll be talking today about the West Virginia Department of Health and Human Resources, if I refer to that entity as DHHR, will you know what I mean?

A. Yes.

Q. We'll also be talking about the Bureau for Medical Services within DHHR. If I refer to that entity as BMS, will you know what I mean?

A. Yes.

Q. We'll also be discussing managed care organizations today. What is a managed care organization?

A. Managed care organization is an insurance organization that Medicaid uses to help manage our population and the clients enroll into the managed care organization to, to administer their benefits.

Q. If I refer to a managed care organization by the abbreviation MCO, will you know what I mean?

A. Yes.

Q. We'll also be talking today about the exclusion of care in the West Virginia Medicaid program for transgender people. Are you familiar with the exclusion being challenged in this case?

A. Yes.

Q. What's your understanding of that exclusion?

A. We only exclude the surgery. We cover other transgender services such as the hormones, the counseling that we do, it excludes the transgender surgery.

Q. If I refer to that as exclusion throughout the day today, will you know what I mean?

A. Yes, if you say exclusion of transgender services, I'm going to assume you're talking about the

surgery.

Q. Thank you. I'm also going to ask you questions today about medical treatment that transgender people receive for the purpose of treating gender dysphoria. If I refer to that as gender confirming care or gender affirming care, will you understand what I'm referring to?

A. Yes.

Q. We're here to take your deposition in two capacities, the first is your deposition as an individually named defendant in this case, do you understand that?

A. Yes.

Q. Second we're here to take a deposition of an organizational representative for BMS, do you understand that?

A. Yes.

Q. And you've been designated as the organizational representative to give testimony on certain topics that we're going to discuss today. Do you understand that you've been designated for particular topics?

A. I do.

Q. I'll do my best to make clear when I'm asking you questions in your individual capacity versus your organizational representative capacity or both. If that

distinction is important to your answers, will you agree to clarify that for me?

A. Yes.

Q. In this next set of questions I'll be asking about your professional background for purposes of your individual testimony and as an organizational representative for BMS. What is your current job title?

A. I'm the commissioner for the Bureau of Medical Services.

Q. How long have you held that position?

A. I've been in this position fully appointed since 2017 and before that I was acting commissioner for a couple years.

Q. Did you begin serving as acting commissioner in approximately July 2014?

A. Yeah, I guess I did.

Q. Okay. LinkedIn is a helpful thing. You mentioned being appointed to this role. Let's start with your acting commissioner role beginning in 2014. Were you appointed as acting commissioner?

A. At the time the commissioner had left abruptly and I was a deputy commissioner and I was asked to take the acting role and I did so.

Q. Who asked you to take that role?

A. Deputy Secretary Jeremiah Samples.

Q. And then in 2017 you became the commissioner. Were you appointed to the role of commissioner in 2017?

A. Appointed probably is not maybe the correct word I should have used. I was asked to take the role fully in 2017 by then Secretary Crouch and to come out of the acting role. And the significance of that was it's whether or not you're covered by Civil Service. And so at the time when the commissioner had left abruptly before we were, we get new governors every four years, and so I was kind of like not sure if I wanted to take it knowing that there was a possibility I would not be the chosen commissioner in a year and a half or so.

Q. I see. And so when you were asked to become commissioner by Secretary Crouch you agreed in 2017?

A. Yes.

Q. And you referred to the prior commissioner leaving abruptly. Can you confirm that that didn't have anything to do with the subject of this case?

A. That had nothing to do with the subject of this case.

Q. Prior to becoming commissioner have you held other roles within BMS or DHHR?

A. Yes. I have been with the Department since 2000. Prior to becoming the acting commissioner I was deputy commissioner and then for a number of years prior

to that I was what we call a program manager 2 which I was over several programs here in our home and community based areas and different policy areas. And when I first came to Medicaid I managed several grants for Medicaid and before I came to Medicaid I was with the department, but it was the Department of Behavioral Health Services. That's kind of my history at the department.

Q. That's helpful. Thank you. I would like to see if we can put approximate time frames, this isn't a memory test, and so just do your best to remember the time frames, but if we can establish just a rough chronology for those roles. Is it most helpful to go backwards in time or is it more --

A. Probably backwards since we've already gotten like the commissioner down. So I was acting till 2017, I think I was probably asked to be acting around the 2014 area. Prior to that I would have been deputy, so deputy at least probably three years maybe, I think 2010, 2011 to 2014 I was deputy. And then, and then I was program manager for about a year, year and a half, so that would have taken us to maybe 2009, 2008. And then I was, like I said, I was over some grants for about a year and then prior to that I was at the Bureau for Behavioral Health from like 2000 to 2007 I think.

Q. Okay. That's helpful. Which of these roles -- I'm trying to think of an efficient way to ask about this. Why don't we do them one by one. I'm going to start at the Department of Behavioral Health Services, what were your duties in that role?

A. Yeah, so when I went to the Bureau for Behavioral Health I was with the IDD division, the Developmental Disabilities Division, and I worked a lot with waivers. There was an IDD waiver program that covers a lot of services for individuals with developmental disabilities, I also surveyed day treatment programs in partnership with the Bureau for Medical Services. I also went, at the time the state was in a class action called Hartley and I went with the court monitor around to different facilities in the state that individuals were institutionalized in and offered them fee based services. Those were the main roles I did in the Department of Behavioral Health.

Q. In the Department of Behavioral Health --

A. I mean it's a bureau, I'm sorry, the Bureau of Behavioral Health.

MS. CYRUS: Commissioner Beane, if I could just remind you to wait and try to not speak when someone else is speaking.

THE WITNESS: I'm sorry.

MS. CYRUS: That's okay, I know you're just trying to be helpful and answer.

BY MS. BORELLI:

Q. And I will work on doing the same, so thank you for the corrections. But Bureau of Behavioral Health Services, and is that housed within DHHR or BMS?

A. Within DHHR.

Q. Okay. And you referred to working with waiver services I believe in that role. What are waiver services?

A. That particular waiver program is called the Title XIX waiver program, it's a 1915(c) program and it waives institutional care. So the individuals still need care that you would receive like if you were institutionalized, but in their home and community based setting. So rather than somebody with a developmental disability growing up in an institution, they could grow up in a home with their family that have services and support that come into the home.

Q. I see. And then in the role you described when you were managing grants, can you talk a little bit more about your duties in that role?

A. At the time when I came to Medicaid there were, they were called Real Choice Grants and they were grants that offered opportunities for Medicaid to strengthen

their home and community based services. They were transformation grants, I can't remember now the exact number, but I think we maybe had $60 million worth of grants that provided different opportunities for us to strengthen those services with additional services like offering a self-direct component to our waiver programs was like one of the big grants that we have.

Q. And you just referred to something called self-direct, what was that exactly?

A. So a self-directed option in our waiver programs means, so let's say on the individuals we have three waiver programs, an aged and disabled waiver, a developmental disability waiver, and a TBI waiver at the time. And so you had the right if you self-direct to basically take your waiver budgets and hire and fire your own employees versus them coming through an agency. And then we use a fiscal intermediary that helps you with things such as payroll, taxes, hiring and firing, those types of things that are more difficult for somebody who's not a business, but also wants to direct their own care and have their attendant services be someone that they possibly know, it could be like a friend or a neighbor, that kind of a thing.

Q. And then you also described serving in a capacity as a program manager. What department or

bureau was that for?

A. So that would still have been with the Bureau for Medical Services. So after I was down here for a while with grants I moved up into a different position where some of those grants that I was over where they directed some of those waiver programs, I had more of a role in developing and directing some of those home and community based services versus just doing the grant work to support.

Q. I see. And then in your role as deputy commissioner, what were your duties as deputy commissioner?

A. So as deputy commissioner I was over kind of like all of the different policy units that we would have, the pharmacy unit was under me as deputy commissioner. At one time in my, right before I became acting commissioner the MCO unit was moved under me. And that's about it.

Q. And all of the roles we just discussed were within the DHHR or BMS, correct?

A. Yes.

Q. Did you hold any professional positions prior to working at BMS and/or DHHR?

A. Yes, I was a rehab counselor for the Division of Rehab Services, that was my first foray in state

government, and I think I was there about eight months starting up until the end of '99. And as my role as a rehab counselor at the time I started up a traumatic brain injury, spinal cord injury program.

Q. And what was the government entity that employed you in that role?

A. The Division of Rehab Services.

Q. And is that, is that housed within any other entity within Virginia state government?

A. It's a division of its own, it has its own cabinet secretary.

Q. I see. And did you hold any other professional positions prior to that?

A. Prior to coming to work for the state I worked for a large community behavioral health center, it was called Shawnee Hills at the time, it no longer exists, it was, I can't remember, it went bankrupt at some time, and then it is now called Prestera Services, but they covered Kanawha, Putnam and Clay County for comprehensive community behavioral health services.

Q. And what was the approximate time frame that you worked for that agency?

A. '94 till coming to the state in '99.

Q. And did you have any professional positions prior to that?

A. I taught school for nine months following finishing my education degree at Marshall.

Q. And you have a master's of social work degree, correct?

A. Correct.

Q. Do you have any other graduate school degrees?

A. That is my only graduate school degree.

Q. What year did you obtain your master's of social work degree?

A. '98.

Q. And where did you obtain that degree, I think you may have said it a moment ago, but can you repeat it for clarity?

A. The social work degree through West Virginia University.

Q. And where did you graduate from college?

A. My bachelor's degree is from Marshall University.

Q. And what was your bachelor's degree, give me more details about what kind of bachelor's degree it was and what your major was?

A. It was education and I was secondary education, I was a history teacher.

Q. And what year did you graduate from college?

A. '92.

Q. And you are also a licensed clinical social worker, correct?

A. Correct.

Q. And is your license active?

A. Yes.

Q. When did you become a licensed clinical social worker?

A. So it was, once you get your degree you can test for the licensed graduate social worker test, so I did that. So I finished that degree in '98, I would have taken the test, and then you have to be an LGSW for two years before you can test for the LCSW. After my two years I tested for the LCSW, so probably around 2000 I was an LCSW.

Q. And you referred to the acronym LGSW, what does that stand for?

A. It's called licensed graduate social worker. That means that you have a graduate, like a master's level degree of social work, but you haven't had enough experience to test for the higher level of social work certification, which is the LCSW. So you have to do some level of social work for two years before you test for the LCSW.

Q. During the two years that you had to do social work, is it correct that that was a requirement to

complete licensure hours?

A. Yes. It's, it's not the same, there's another level of license that I do not have which is called the LCISW, and those are specifically for therapy if you want to be a therapist. So I do not have that level of, of social work license, I just have the LCSW.

Q. While you were working towards becoming an LCSW did you specialize in working with any particular population?

A. I worked with a variety of populations. I did a lot of work with the developmentally disabled population and then I did some work with youth sex offenders as well.

Q. Do you have any other professional licenses?

A. I do not.

Q. Have you been deposed before?

A. I have.

Q. How many times have you been deposed?

A. Can I ask a clarifying question on that?

Q. Yes, please.

A. And this is my ignorance of the legal proceedings. So I've testified actually like in a hearing before, is that the same as the deposition?

Q. Was that hearing part of a legislative process?

A. No, this is a different type of court hearing.

So any time you testify is that called being deposed I guess is my answer, because I've had like this remote thing a couple times now, and so I'm just trying to figure out if it's the same thing.

Q. It may be different.

A. Okay.

Q. For the proceeding that you were referring to, was there a judge or judicial officer of any kind present?

A. A judge.

Q. A judge, okay. So that would be a different kind of proceeding, and we will also talk about times that you have been part of official court proceedings with a judge. Setting aside proceedings that involve judicial officers, have you been deposed, meaning have you been part of another proceeding where you were giving answers to questions under oath in connection with a legal case?

A. Yes, I've had other proceedings like this.

Q. How many times have you been deposed?

A. I believe two other times other than this time in this type of a situation.

Q. Let's go through both of those individually, and let's start with the first time that you were deposed. When did that first deposition take place?

A. The first one would have been prior to COVID, maybe a year or so, or maybe two years prior to COVID, so maybe 2018, 2019. I'm not for sure of the date.

Q. That's okay. What was the nature of that case?

A. It was a case around the opioid epidemic and the suits around drug manufacturers.

Q. I see. What was your role in that case, were you a party in that case?

A. Medicaid was not a party, but they were wanting to know the effects of the drug epidemic and what Medicaid's role was with regards to coverage of opioids and coverage of services for people with substance use disorder.

Q. And let's talk now about the second time you were deposed, when did that occur?

A. That occurred during COVID, so. And it was kind of in the beginning stages of COVID, so I'm -- in summer of 2020 probably.

Q. And what was the nature of that case?

A. That was also a drug opioid epidemic case. I believe that case was more around a different drug manufacturer or perhaps one of the city suits around that, I don't remember which one it was.

Q. And what was your role in that case where you were a party or witness?

A. Again, we were not a party, it was to find out Medicaid's role with the coverage of opioids and coverage of services for people with substance use disorder.

Q. Now let's turn to the proceedings where you testified in a court hearing of any kind, so these would be proceedings where a judicial officer was present. How many times have you testified in a judicial proceeding?

A. I believe it's been three times.

Q. And starting with the first time, when did you give that testimony?

A. I can't remember exactly. I was working for the Bureau for Medical Services and I had not been here a long time, so maybe 2009, 2010, but I'm not for sure, but it's around that time.

Q. Do you remember what court that case was in?

A. I don't know the name of the court, I know it was Judge Bloom and I know he's over Circuit Court, but I don't know anything beyond that.

Q. Okay. That sounds like a State Court proceeding, does that make sense to you?

A. Yes, it was State Court.

Q. And what was the nature of that case?

A. That was a long-standing court action called

Hartley, a class action suit that the state was in, I think the state was in that class action for around 30 years.

Q. That's quite long running even for the ordinary case.

A. It was one of the longest in the country I do believe.

Q. That wouldn't surprise me. And what was that case about?

A. It was originally around services for individuals with mental illness, noninstitutional services for those individuals, and then it just kind of grew year after year. What I was specifically testifying about was services for individuals with traumatic brain injury.

Q. Let's talk about the second time that you gave testimony in a judicial proceeding. When did you give testimony in a second judicial proceeding?

A. I believe it was about a year after I first testified with Judge Bloom, and again, it was about the same services, we were starting up newer services for persons with traumatic brain injury.

Q. I see. Also in State Court?

A. Yes.

Q. And what about the third time you testified in a

judicial proceeding, when was that testimony given?

A. That was later, I don't remember when that would have been, maybe 2015, 2016. This was also State Court and this was, we had a suit around, at the time we were carving in services to our managed care benefit and there was a question as to whether or not the state should be doing competitive bidding for our managed care entities versus at the time we were, any required entity could apply and if they met the requirements they could come into our state and be in managed care. And so, and so it was determined that we did need to be, put those contracts out for bid versus allowing any qualified vendor be a managed care entity in the state of West Virginia.

Q. Thank you. That's helpful. Have you given any other testimony under oath that we have not already discussed?

A. So I've been in mediations before, but I don't recall whether or not they swore us in for those. And I've also testified at the legislature and legislative committee meetings and hearings and they do swear us in now when we testify at the legislature.

Q. Have you ever testified at a legislature relating to the subject of this lawsuit?

A. I have not.

Q. And have any of the mediations that you've participated in been related to the subject of this lawsuit?

A. No, they have not.

Q. Let me make one clarification. When I say relating to the subject of this lawsuit, what I mean is relating to care for transgender people. Do your answers remain the same with that clarification?

A. My answer would remain the same.

Q. I'd like to turn to some additional questions that will relate to both your individual capacity as a named defendant in this case and as an organizational representative for BMS, is that agreeable?

A. Yes.

Q. What responsibilities fall within your role as commissioner of BMS?

A. So as commissioner of BMS I'm over a large number of state employees that administer the Medicaid program and we have to assure that the budgets are adequate, the policies, the services, access to services, and administer our state plan and administer our waiver programs and assure our policies and procedures are meeting federal guidelines. I also have to be able to communicate all of our services with our stakeholders and be available for legislative requests

and be the spokesperson for Medicaid services in West Virginia.

Q. Is it fair to say that you administer the Medicaid program?

A. Yes.

Q. Do you recall any other duties or responsibilities in your current role?

A. I believe the answer I gave are a very broad brush of all the things that I do here at Medicaid, you know, all the leadership reports to me and there are several different divisions under that and lots of nuances when it comes to Medicaid, but yes, I make sure we're administering the Medicaid program. Medicaid is a state and federal partnership. West Virginia has a very good rate when it comes to what our federal match is, and so I make sure that we are not putting that federal match at risk.

Q. How do you perform the function of making sure that the federal match is not being put at risk?

A. Pretty much we follow CMS guidelines. If CMS directs us to do something, they mandate us to do something, we make sure that we do it. We update our state plan as needed. If we are to add a service, if the legislature gives us additional monies to add a service, we make sure before we do that that we have

CMS's permission to do it before we are collecting the match for the services.

Q. Who do you report to?

A. I report to Deputy Secretary Samples and Secretary Crouch.

Q. Are there any others that you report to?

A. Those two gentlemen are it.

Q. Let me make sure that I get the name of the, Secretary Crouch, can you repeat the other, the title and the name of the other individual?

A. Deputy Secretary Jeremiah Samples and Secretary Crouch, Bill Crouch.

Q. Thank you. How often do you report on your work to Secretary Crouch?

A. Secretary Crouch has meetings, they've been a little bit different since COVID just because things just got kind of crazy busy with the pandemic, but he has like weekly leadership meetings where all the commissioners are there. But then of course if I need something from Secretary Crouch, for example, yesterday I needed to make sure he signed something and so I, you know, called him and, you know, made sure that he saw that on his desk and signed it. So the formal meetings, about once a week.

Q. And how often do you report on your work to

Deputy Secretary Samples?

A. Deputy Secretary Samples is also in those leadership commissioner meetings as well and then Deputy Secretary Samples is probably a little bit more in the weeds with regards to some of the day-to-day services just because, you know, that's his role to be more in the weeds than the secretary with regards to some of the day-to-day services. And so I would say I talk to Deputy Secretary Samples at least weekly.

Q. Thank you. How many people work for BMS?

A. So currently we have about 85 positions filled, but we have a number of vacancies right now as well.

Q. Do you have an approximate sense of how many vacancies you have?

A. Probably about 20.

Q. How many BMS employees do you supervise?

A. Five direct supervision.

Q. Okay. And how many BMS employees report directly to you?

A. That's five report directly to me that I have direct supervision over.

Q. And what are the titles and names of those five individuals?

A. Becky Manning, she's my deputy of finance; Sarah Young, she's my deputy of policy; Fred Lewis, he's my

deputy of my managed care units and department of integrity and pharmacy; Riley Romeo is my general counsel; and Kim O'Brien is my assistant to the commissioner, kind of support staff.

Q. And what are the responsibilities of Ms. Manning?

A. She's my deputy of finance, she's the one who's in charge of our six-year budget, anything financial goes through the finance department. Her department is making sure that, you know, claims are getting paid, the systems are working with regards to that and payments are going out accordingly and anything finance related.

Q. And what are the responsibilities of Ms. Young?

A. She is my deputy commissioner of policy, she has all the different policy units, whether it be, you know, inpatient to outpatient to home and community based and also is currently over some of our systems information as well, meaning like our claims systems and different systems. And then, and then she also helps assist with the human resources area, even though we have another manager that reports to her and that helps with that as well.

Q. And what are the responsibilities of Mr. Lewis?

A. He is over our quality units, our department of integrity units, our pharmacy units, and our managed

care units.

Q. Are you aware that you have an online biography on the BMS Website?

A. I'm aware that something is up there, yes.

Q. All right. Give me a moment to get our first exhibit marked.

A. It's been quite a while since I've read it, so.

Q. That tends to happen with biographies.

A. Am I supposed to be pulling up something or doing something?

Q. No.

MS. BORELLI: Actually, let's go off the record briefly.

(A break was taken at 8:46 a.m.)

(Exhibit 1 marked for identification.)

BY MS. BORELLI:

Q. All right. Commissioner Beane, please click on the marked exhibits folder in Exhibit Share and open the document that has been marked as Plaintiff's Exhibit 1. Let me know when you're able to open the document.

A. So after, my apologies, I'm clicking on the folder that says marked exhibits, it doesn't appear that anything is happening. Should I click this downward button?

MS. CYRUS: I'm not seeing anything either,

Tara.

MS. BORELLI: All right. Let's go off the record again.

(A break was taken at 8:48 a.m.)

BY MS. BORELLI:

Q. Commissioner Beane, please take a moment to review this document.

A. Okay.

Q. Is this on the BMS Website?

A. Yes, I believe it is.

Q. I'm going to read from the paragraph at the bottom of the first page. It states that you have, "Led policy implementation or changes under the Affordable Care Act (ACA) which enable approximately 165,000 West Virginians to have healthcare coverage." Did I read that correctly?

A. You did.

Q. Is that an accurate description of your responsibilities?

A. Yes.

Q. And if I refer to the ACA, will you understand that I'm referring to the Affordable Care Act?

A. Yes.

Q. Does the sentence that I read from your biography mean that BMS made policy changes to comply

with the ACA?

A. Yes.

Q. What changes do you recall being implemented to comply with the ACA?

A. There was a requirement with the ACA around an alternative benefit plan, what your benefit plan was going to be through your expansion calculation. There was also mandated coverage in the ACA around your tobacco cessation program and to assure that you were offering full coverage of tobacco cessation, both the, the pharmacist from a pharmacy benefit of tobacco cessation as well as the counseling.

Q. Apart from the alternative benefits for expansion and the tobacco cessation, were there any other changes that you recall being implemented to comply with the ACA?

A. There were lots of systems changes that we had to make to comply with the ACA so we could enroll individuals with the expanded benefit of enrolling individuals at a different poverty level, up to 165 percent of the poverty level versus where we were prior, that's what has caused the major expansion. Those are the broader brush areas in expanding for the ACA.

Q. And as we discussed, your biography states that you led policy implementation for changes under the

Affordable Care Act, ACA. What kind of work did you do to lead policy implementation for changes under the ACA?

A. One of the key areas that I was in charge of was getting our alternative benefit plan approved by CMS. So in your alternative benefit plan you had to decide whether your benefit plan was going to mirror your state plan for your expansion adults or look a little bit differently, and still make the requirements that CMS required for the alternative benefit plan. So and then our state did use some co-pays for alternative benefit in our expansion and we added some co-pays as well.

Q. And what was your role in implementing the changes you just described?

A. So I along with consultants that we use, Cole Barry Dunn and myself had weekly calls with CMS and went over our alternative benefit state plan and to assure what we were submitting was meeting all the requirements of the ACA. And then after having several weekly calls around the alternative benefit plan, we did a formal submission and received approval from CMS around our benefits.

Q. And did you have any kind of unique role in the work that you just described?

A. Unique in meaning how, like I'm not sure if I understand your question.

Q. Let me rephrase. Were you ultimately responsible for the work that you just described, implementing those policy changes under the ACA?

A. Yes.

Q. Your biography also refers to enabling approximately 165,000 West Virginians to have healthcare coverage through Medicaid. Are those West Virginians covered by Medicaid expansion under the ACA?

A. Correct.

Q. Can you explain what Medicaid expansion is?

A. So expansion is what I was talking about and these are the individuals that would have the alternative benefit plan. These are adults 19 through 64 and your financial eligibility is raised prior to that. Adults are, I don't know recall our exact federal poverty level that we had, you know, after expansion. I believe, and I might have this wrong, I think it's 165 percent now the federal poverty level, it's been a long time since I looked at it, but I believe it's 165, we go up to 165 percent of the federal poverty level for expansion adults.

Q. So is it fair to say then that prior to the ACA there were certain poverty level requirements to qualify for Medicaid and after the ACA, the poverty level requirements were raised so that individuals or families

could have more income and still qualify for Medicaid, is that a fair description?

A. Fair description.

Q. Okay. How many total participants are there in West Virginia Medicaid?

A. Currently our totals are continuing to go up. Because we are under the pandemic requirements we are not able to, during the pandemic you're not allowed to dis-enroll anybody off the Medicaid rolls. And typically on Medicaid you have turn where people turn off yearly, you know, they don't turn in their paperwork or they might, you know, seek employment and no longer meet that federal poverty level guideline or for a number of reasons they might fall off our rolls. During the pandemic you are not allowed to take anybody off your rolls, even if they no longer qualify. So last time I looked our numbers are up to around 615,000. Typically we're around, prior to the pandemic around 520,000, 525,000, there's always some fluctuation.

Q. And the 615,000 figure that you just mentioned, does that include the 165,000 current participants covered through Medicaid expansion under the ACA?

A. That would include our expansion of adults as well. So when you say 165,000, it's always a rolling kind of number, you know, people come on, they come off.

So when we expanded there were some predictions of how many people we thought were possibly out there in West Virginia that could qualify, but they ended up being around 165,000 individuals that ended up coming onto our rolls. That kind of stabilized afterwards, so.

Q. And so is 165,000 approximately the current number of Medicaid participants who are eligible through Medicaid expansion under the ACA?

A. I don't have a report in front of me that shows my MAGI participants. I would say it's larger than that right now because of the pandemic, I would say our numbers are larger than 165, but I don't have that enrollment report in front of me to tell me for sure.

Q. Understood. For purposes of the 165 figure mentioned in your biography, at the time that was written that referred to Medicaid expansion participants, correct?

A. Correct.

Q. And you referenced an acronym a moment ago, MAGI, is that correct?

A. Yes.

Q. And what does that stand for?

A. It is your gross income modified, I'm not going to remember the MA, but it's like your gross income. So it's like your income that is counted towards your FPL

in order to qualify for that benefit, and I can't remember what MA is.

Q. And you just used another acronym. I just wanted to help make sure the transcript is clear. I know it's hard not to talk in acronyms because we all do that frequently, but if it's possible to avoid that, that would be great. And what was the second acronym you just mentioned, FPL?

A. The federal poverty level.

Q. Great. Thank you so much. And so the MAGI figure that you referenced, does that refer to Medicaid expansion participants?

A. Yes.

Q. So going back to what's been marked as Plaintiff's Exhibit 1. The same paragraph that we were reviewing previously also states, "Cindy also manages and oversees project development, implementation of health policies, and assures compliance with federal/state regulation while creating innovative healthcare services to address the needs of West Virginians." Did I read that correctly?

A. Yes, you did.

Q. And does Cindy refer to you?

A. Yes.

Q. This states that you manage and oversee

implementation of health policies. How do you perform those duties?

A. So when we have policy changes I'm informed of what those policy changes are, I will typically read the updated policy manuals before they are published or put online for comment, and I definitely read and sometimes help develop the state plan amendments or waiver applications that we would have to submit to CMS and review before we did the submission.

Q. Does your responsibility to manage and oversee implementation of health policies include the exclusion for gender affirming care?

A. It is in one of our policy manuals, I can't remember which manual it is in, but it is in one of our policy manuals.

Q. And is ensuring compliance with that exclusion part of your responsibilities?

A. What exactly do you mean by ensuring compliance with the exclusion?

Q. Let me phrase this another way. Do you have any duties or responsibilities with respect to making sure that exclusions are complied with?

A. So for items that are excluded, we make sure that our system is set up not to pay for excluded codes. So an example would be, you know, hearing aids, for

example, we don't cover hearing aids, we make sure that those codes are not covered. And we also, the MCO's know that that is not a covered benefit as well, so they will not cover it. However, the MCO's have the authority to cover additional services that are not in our benefit if they choose to cover them as a value added service.

Q. If Medicaid began covering gender affirming care in the future, would you oversee in any capacity the implementation of that policy?

MS. CYRUS: Object to the extent it calls for speculation. But if you know, you can answer.

A. So we do cover gender affirming care with regards to counseling and hormone therapy, we just don't cover the surgery.

Q. And if the West Virginia Medicaid program were to begin covering gender affirming surgery in the future, would you have any oversight over that policy change?

MS. CYRUS: Same objection. But you can answer if you know.

A. If we would cover in the future then I would review the policy before it went up for public comment and then, and then, you know, approve the policy and then confirm with CMS whether or not it would require a

state plan change before we began the coverage.

Q. Thank you. This paragraph also states that you ensure compliance with federal regulations. Do your responsibilities in that capacity include ensuring compliance with the Affordable Care Act?

A. Yes.

Q. Do your responsibilities also include ensuring compliance with the Medicaid Act?

A. Yes.

Q. Okay. I'm at a potential breaking point, but would be happy to keep going if you would like to continue. Commissioner Beane, would you like a break or would you like to press on for a while?

A. I'm fine for a little while. Probably in about a half hour my coffee will start calling, so I can probably go for a little while longer.

Q. Great, let's do that. I'd now like to turn to your testimony in your capacity as the organizational representative for BMS. At what point were you notified that you would be giving testimony as BMS's organizational representative?

A. I can't remember the day that, I mean, I honestly don't remember the date that we were notified of the suit, whenever the suit came up and I was notified, I don't remember the date.

Q. I'm going to go ahead and mark our next exhibit.

MS. CYRUS: I think she misunderstood the question if you wanted to ask her again. I thought your question was when did she become aware that she would be a 30(b) representative for the deposition, is that what your question was?

MS. BORELLI: Yes. Thank you, Lou Ann, I appreciate that, and I realize I wasn't listening carefully enough.

BY MS. BORELLI:

Q. Commissioner Beane, do you recall when you were notified that you would be testifying at a deposition as the 30(b)(6) representative for BMS?

A. It's been a couple months ago, whenever we turned in, I don't know what those documents were called, we were deciding, you know, who would be the experts in the different areas.

Q. So we're going to go ahead and mark our next exhibit. I'll let you know when it's available in the folder. And it actually should be available now. So, Commissioner Beane, please click on the marked exhibits folder and open the document that's been marked as Plaintiff's Exhibit 2.

(Exhibit 2 marked for identification.)

A. Got it.

Q. Please take a moment to review that document briefly and let me know when you have.

A. I've reviewed it.

Q. Do you see the title in bold lettering on the first page that says, "Plaintiffs' second amended notice of 30(b)(6) deposition"?

A. I do.

Q. Can you walk me through what you've done to prepare as BMS's organizational representative for today's testimony?

A. So I've met with the attorneys on a couple of occasions, I've talked briefly with Dr. Becker around the subject, I have talked with a friend of mine that's in the LGBTQ community around the subject, and I've read some documents in the, mainly the expert testimony document around the subject as well.

Q. You mentioned that you spoke with Dr. Becker, is that correct?

A. Yes.

Q. Were the attorneys present for the conversation with Dr. Becker?

A. No.

Q. Did you speak with him on one occasion or more than one occasion?

A. Just the one occasion and it was about when's

your deposition, when's my deposition and have you read the expert testimony yet, I mean, it was a short conversation.

Q. Do you recall anything else from that conversation?

A. We just discussed, you know, where the line is with regards to the, the transgender surgeries and that it is beyond just what I think a lot of people initially think with regards to the surgery, it can be multiple surgeries including like facial surgeries and different surgeries other than just perhaps some surgeries that people would normally think about it when they think about transgender surgeries.

Q. Can you say a little bit more about what you mean when you say we discussed where the line is with different surgeries?

A. We discussed like where would you be able to say, you know, this is cosmetic versus this is something that is due to your gender dysmorphia diagnosis.

Q. And what do you recall about that specific conversation?

A. Dr. Becker said there were several surgeries and even said that there was a facial surgery that some individuals might want.

Q. Do you recall him saying anything about, I think

you described a line between surgery for gender dysphoria versus cosmetic surgery, did I capture that correctly?

A. You did.

Q. And what did he say about where the line is for surgery for gender dysphoria versus cosmetic surgery?

A. Neither of us really said like where the line is, we were just saying that it's, that it is, that the request can be beyond what somebody, a layperson would think of when they think of transgender surgery. It could be beyond just like a breast augmentation or the other augmentation, I don't know the, I don't know the scientific word for it.

Q. Does that mean that some surgeries are -- I want to make sure that I use your words to help make this understandable. When you talk about there's a line between surgeries where some of them are for gender dysphoria, did I capture that correctly?

A. I think we were saying all of them could be for gender dysmorphia, but which ones, which ones would somebody consider cosmetic versus for that. And so I don't believe that neither of us have an idea of when is it just for gender dysmorphia or when is it perhaps more cosmetic.

Q. Are some surgeries for gender dysphoria not

cosmetic?

MS. CYRUS: I'm going to object, it calls for expert opinion. If you know, you can answer.

A. I don't know.

Q. You mentioned that you also spoke with a friend in the LGBTQ community, is that correct?

A. Correct.

Q. What's the name of the individual?

A. Jimmy Dowden.

Q. And did you speak with that friend on one occasion or more than one occasion?

A. Just one.

Q. And what do you remember about that conversation?

A. He said that you would be surprised because of my stance on this issue because I assumed that he would be somebody that would want or be advocating for Medicaid coverage for the surgery and he just told me you would be surprised by my stance, that I know individuals that have had this and have regrets.

Q. And is this friend of yours a medical doctor?

A. No, he is not.

Q. Is he a medical professional of any kind?

A. No, he is not.

Q. Is he transgender?

A. No, he is not.

Q. Let's see. You said you also reviewed documents to prepare for your testimony as the organizational representative. Do you recall which documents you reviewed?

A. So the expert testimony document, and then I also reviewed some of the emails that was pulled from my, from my email accounts that will probably be used as exhibits. And I can't remember anything else other than things that would have been used already as exhibits, those were the main documents that I looked at.

Q. As the organizational representative did you meet with any transgender Medicaid participants to prepare for today?

A. I have not met with any transgender Medicaid participants.

Q. As the organizational representative did you meet with any mental health providers who specialize in care for transgender people to prepare for today?

A. I have not.

Q. As the organizational representative did you meet with any medical providers who specialize in care for transgender people to prepare for today?

A. I have not.

Q. As the organizational representative did you

meet with any mental health providers who provide any care to transgender people, even if they do not specialize in that care?

A. Not to prepare for this.

Q. And as the organizational representative did you meet with any medical providers who provide any care to transgender people, even if they don't specialize in providing that care?

A. Not to, I have not met with them to prepare for this.

Q. You also mentioned reviewing expert testimony in connection with preparing to testify as the organizational representative. Do you recall the name of the expert whose report you reviewed?

A. I honestly do not recall the name, but it is, I'm assuming it is an exhibit that you probably already have, but I honestly don't remember the name of the doctor, it's just escaping me.

Q. Was it Dr. Steven Levine, by any chance?

A. Yes.

Q. And did you read any other expert materials from the case to prepare for your testimony as organizational representative today?

A. I did not.

Q. And when was the first time that you reviewed

the report of Dr. Steven Levine?

A. Last week.

Q. Okay. Have you ever spoken with Dr. Levine?

A. I have not.

Q. Does BMS have one or more medical directors?

A. One.

Q. And who is that medical director?

A. Dr. Becker.

Q. Are there any other medical professionals, for example, nurse practitioners within BMS?

A. Yes, we have several nurses that work for BMS.

Q. And did you speak with any of those nurses in order to prepare to testify as the organizational representative today?

A. I have not spoke to them, but some of them have pulled some of the information that I think is being used as different exhibits in evidence.

Q. And did you review that information that they pulled?

A. Yes, I reviewed some of the exhibits, yes.

Q. All right. I'd like to ask you actually a quick follow-up question. Do you remember which ones you reviewed?

A. Which -- well, I remember we had a pull with regards to how many individuals with gender dysmorphia

or a diagnosis such as that that we've had ever, like the last five years, I remember, you know, reviewing that document and one of our nurses was the one who helped pull that information together.

Q. Do you remember any other documents that you reviewed?

A. Nothing other than maybe some of the emails and then I think there was some other exhibits around the ACA that we felt might come up.

Q. What was the name of the nurse practitioner who pulled the information that you've been referring to?

A. I believe she's a registered nurse and Jennifer Myers.

Q. Thank you. Also, just for clarity today, I think I have been hearing you refer to gender dysmorphia. When you use that phrase are you intending to refer to gender dysphoria?

A. Yes, I apologize.

Q. That's fine, I just want to make sure the record is clear. Can we have a standing agreement that if you use the term gender dysmorphia, we will know that you mean gender dysphoria for your testimony today?

A. Yes. And again, I apologize.

Q. It's fine. So I'd like to ask you to turn back to Plaintiff's Exhibit 2, which we were just reviewing

as the 30(b)(6) notice in this case, and turn to Page 4. You've been designated to testify about Topic 18. Let me know as soon as you're at Page 4 and see Topic 18.

A. Okay.

Q. Topic 18 reads, "Your choice to participate in the Medicaid program." Did I read that correctly?

MS. CYRUS: Topic 18?

A. Yeah, it's all interrogatory requests.

MS. CYRUS: I think that was No. 3, Topic No. 3.

MS. BORELLI: Thank you for the clarification, you are correct. All right.

MS. CYRUS: But you're correct, she is designated to testify on that topic.

MS. BORELLI: Give me just a minute. Let's go off the record, give me just a moment, I need to clarify my notes.

MS. CYRUS: Sure. If you want to take a break, maybe this would be a good time to do that.

MS. BORELLI: That sounds like a wonderful idea. Why don't we go off the record and do that.

(A break was taken at 9:23 a.m.)

BY MS. BORELLI:

Q. So turning back to what has been marked as Plaintiff's Exhibit 2, which is the deposition notice in

this case. I just want to establish quickly your understanding that you've been designated to testify to certain discovery requests in this case, we'll discuss them throughout the day. So if you can scroll with me please to Page 4. You should see a No. 18 at the bottom of that page.

A. Yes.

Q. And that topic reads, "All interrogatory requests, requests for admission, and requests for production of documents directed to Defendants William Crouch, Cynthia Beane and West Virginia Department of Health and Human Resources, Bureau for Medical Services, and any discovery responsive documents, filings or productions by or on behalf of Defendants William Crouch, Cynthia Beane and West Virginia Department of Health and Human Resources, Bureau for Medical Services." Did I read that correctly?

A. You are correct.

Q. I will ask you about particular discovery responses throughout the day and I will explain very clearly what they are at the relevant times, but can you confirm that you are prepared to discuss certain discovery responses today as the organizational representative?

A. Yes.

Q. Great. And we will deal with them again as they come up today. Let's go back to the same exhibit, Plaintiff's Exhibit 2, and please scroll to Page 3 for me, and in particular look for Topic 3 at the top of the page.

A. Yes.

Q. Thank you. Topic 3 is, "Your choice to participate in the Medicaid program." Did I read that correctly?

A. You did.

Q. Are you prepared to testify about this topic?

A. Yes.

Q. With respect to Topic 3 specifically, what did you do to prepare to testify today?

A. I just recognize the history of the Medicaid program and then my work experience and knowledge helps me prepare for Topic 3.

Q. Thank you. When was BMS originally formed as an agency?

A. West Virginia has participated in the Medicaid program since its inception, and that was a little over 50 years ago. So Medicaid has been in West Virginia since Medicaid was offered as a federal/state partnership.

Q. And when was BMS formed as an agency, was it

formed when West Virginia began participating in Medicaid approximately 50 years ago?

A. I do not know the exact year that the Bureau for Medical Services was called a bureau on its own. My assumption might be that it was soon after they started participating in the Medicaid program.

Q. And you said that West Virginia has been participating since the inception of the Medicaid program. My understanding is that the Social Security Act title authorizing Medicaid was enacted in 1965. Does 1965 sound like the approximate year or time frame that West Virginia began participating in Medicaid?

A. Yes.

Q. Do you know why West Virginia initially decided to participate in the Medicaid program?

A. To serve our most vulnerable citizens and be a part of the federal/state partnership with regards to covering healthcare.

Q. Why does West Virginia currently participate in the Medicaid program?

A. To serve our most vulnerable citizens and to take advantage of the federal/state partnership of assuring healthcare access to the most vulnerable West Virginians.

Q. And do those reasons also apply to transgender

people?

A. Yes.

Q. I'd like to go ahead and introduce our next exhibit. I'll let you know when to click on the folder to pull it up.

(Exhibit 3 marked for identification.)

Q. All right. Commissioner Beane, if you click on the marked exhibits folder you should be able to open the document that has been marked now as Plaintiff's Exhibit 3. Let me know when you've had an opportunity to open that document.

A. I have it open.

Q. You can see the title on the first page that says, "Medicaid 101"?

A. Yes.

Q. Do you recognize this document?

A. Yes, I do.

Q. Is this a publication of BMS?

A. Yes.

Q. Please turn to Page 3 as indicated in the lower left-hand corner of the document.

A. I'm there.

Q. I'm going to read the first paragraph on that page, please read along with me, "State Medicaid programs are often seen as low-hanging fruit when

financially strapped states are forced to make budget cuts, however, thanks to the FMAP" --

A. Wait, hold on, I'm sorry, I don't know where you're at. Okay, I'm sorry, I was at a different part of the page. I'm with you now.

Q. Okay. Perfect. I'm going to start again just for clarity, "State Medicaid programs are often seen as low-hanging fruit when financially strapped states are forced to make budget cuts, however, thanks to the FMAP" --

MS. BORELLI: And for the court reporter, that's an abbreviation, an acronym that is F-M-A-P.

Q. "However, thanks to the FMAP, Medicaid spending acts as a tremendous financial boom for the state. The Kaiser Commission on Medicaid and the uninsured recently compiled findings from 20 million different studies examining the economic impact of Medicaid spending and found that in all studies examined Medicaid spending had a positive impact on local economies. These studies also found that Medicaid spending generates economic activity within the state by providing jobs, personal income and state tax revenues. While most state government expenditures reallocate spending from one sector to another, Medicaid is one of the few state government spending opportunities that guarantee to pull

in money from outside the state and directly benefit the local economy." Did I read that correctly?

A. Yes, you did.

Q. Does that accurately describe the benefits of participating in Medicaid?

A. That is one of the benefits of participating in the Medicaid program.

Q. What are the other benefits of participating in the Medicaid program?

A. It provides access to healthcare to individuals who otherwise would have no healthcare.

Q. Are there any other benefits you can think of?

A. Those are the two big ones.

Q. Does West Virginia decide on an annual basis to continue participating in Medicaid?

A. There is no annual attestation or anything to CMS around participating, we just continue our participation.

Q. Does West Virginia have to take any steps on an annual basis to continue its participation?

A. We have to consistently report and do all the things that CMS requests us to do in order to continue our participation in the Medicaid program, and accounting for funds is one of the big reports that we do.

Q. Does participating in the Medicaid program entitle West Virginia Medicaid to federal funding through the U.S. Department of Health and Human Services?

A. Yes.

Q. Is West Virginia required to enter a contract with the federal government for its receipt of federal funding?

A. So we are required to have our state plan approved and we are required to report our expenditures in accordance to the state plan and we are required to account for those expenditures on what is called the 64 report and there are --

Q. What is the 64 -- please finish.

A. And then there are other reports that we are required to submit in order to keep different funding streams that are coming from the federal government consistent. So other than the 64 there are also reports called the 372 reports that also have financial implications and then we also have a cost allocation plan for our administrative activities that we are required to update, and then we are also required to report on any advanced planning documents we have and account for those funds as well.

Q. You mentioned a 64 report, what is that?

A. It's the financial reporting, it's just the name of the financial report that all states do, it's a requirement from CMS.

Q. And what are the 372 reports?

A. They are also financial reporting around your, your 1915(c) waiver services.

Q. And then did I hear you mention advanced planning?

A. Mm-hmm. Those documents are for around some of the technology that it takes to, and the intricacies around technology in order to run the Medicaid program with regards to claims and data solutions and those documents are approved by CMS in order to obtain the match for those different large technology systems that we use.

Q. Is receipt of federal funding through the U.S. Department of Health and Human Services conditioned on any nondiscrimination requirements?

A. Yes, I mean, Medicaid, we are not allowed to discriminate with regards to our services.

Q. Is compliance with Section 1557 of the ACA one of the nondiscrimination requirements that West Virginia Medicaid must adhere to as a condition of receiving federal funding?

A. I don't know the specific section, but we do

have to comply with the ACA in order to receive our funding because we are an expansion state in order to cover our expansion population.

Q. And does that compliance require adhering to the nondiscrimination requirements of the ACA?

MS. CYRUS: Objection, calls for a legal conclusion. But if you know, you can answer.

A. We do not discriminate.

Q. And is that a, is that a requirement that comes with the federal funding you receive?

MS. CYRUS: Same objection. But you can answer.

A. I don't believe that the federal government would allow for us to discriminate.

Q. So I'd like to turn back now to the deposition notice which has been marked as Plaintiff's Exhibit 2, and we're looking again at Page 3 and Topic No. 4.

A. Okay.

Q. So Topic 4 reads, "The development, creation and/or use of the Medicaid plan." Did I read that correctly?

A. You did.

Q. Are you prepared to testify about this topic today?

A. I am.

Q. With respect to Topic 4 specifically, what did you do to prepare to testify today?

A. Reviewed the question and determined what the answer would be based on my knowledge and history and experience with the Medicaid program.

Q. What is the Medicaid plan?

A. So with Medicaid because it is a state and federal partnership, we are required to submit state plans with regards to how we're going to cover the services for Medicaid. Medicaid has mandatory services that states in order to be a participant in the Medicaid program you have to cover, and then we have the option to cover some optional services as well. But all of those services require approval from CMS, whether that be in a state plan amendment or in a waiver approval, and those waivers could be 1915(c) waivers, 1915(b) waivers and 1115 waivers.

Q. Let's go through those waivers. I'm afraid I didn't get them down as you were saying them, so I'll need your help remembering what each one was. But I think you just referred to three different waivers, can you describe what each of those three waivers is?

A. So a 1915(c) waiver is a waiver for community based services, so you're waiving some kind of institutional care. Our 1915(b) waiver is a waiver for

in order for you to have managed care services and it allows you to have managed care companies, which we do here in West Virginia, help you administer your program. 1115 waiver is a demonstration waiver which allows you to go and develop new services to demonstrate that by covering these new services for a particular population you can have a unique set of services that will in turn be cost neutral and provide additional access to healthcare and demonstrate health effectiveness and quality outcomes in healthcare for individuals that you're serving.

Q. Does the Medicaid plan describe the nature and scope of the Medicaid program?

A. Yes, very detailed and long. And there are some state plans that have been there for years and years and years and there are newer state plans that have been updated.

Q. Does the Medicaid plan also outline eligibility standards for participants in Medicaid?

A. I'm sorry, there was some sirens in the background, I think you asked about eligibility, but can you repeat it just so I can make sure.

Q. Yes. Does the Medicaid plan outline eligibility standards for participants in Medicaid?

A. Yes, particularly around financial eligibility.

Q. And does the Medicaid plan outline policies to ensure the state Medicaid program receives matching federal funds through CMS?

A. Yes. So the state plan not only has the policy pages, but it also has like the financial pages with each state plan as well that kind of outlines what the predicted costs will be and sometimes, sometimes it will have actually the rates or sometimes it will just be a rate methodology.

Q. Just to make sure I clarify one more abbreviation for the record because I can't recall if we have previously, does the abbreviation CMS refer to the United States Centers for Medicare and Medicaid Services?

A. Yes.

Q. Does the Medicaid plan outline how the Medicaid program is implemented in West Virginia?

A. Yes, it gives you a broad outline of implementation, but then we also have policy manuals that give you a more detailed view. If you're a provider, more than likely you're going to look at the policy manual and be able to see versus the state plan just because how it's laid out, the policy being more directed towards what providers need to know with regards to, you know, how to bill, you know, what codes

are covered and some more of the details are in the policy manuals. The state plan gives you the authority to be able to publish those details.

Q. And are those policy manuals considered to be part of the state plan or are they considered to be separate documents?

A. They're separate, but they have to follow your state plan, meaning I can't have a policy manual for us to cover acupuncture because I don't have a state plan saying that I'm approved to cover acupuncture.

Q. Does BMS prepare the Medicaid plan?

A. Yes, we prepare the state plans.

Q. And did you approve the Medicaid plan?

A. I have not approved every state plan because, as I said, they're historical. So, for example, before I came to BMS, inpatient hospitalization is a state plan that has been there for years and so, but as we update or make changes, those would be the things that I would be approving.

Q. And does Secretary Crouch also approve those updates or changes to the Medicaid plan?

A. Once we do a state plan, which would require a public notice, public comment, we also go through our medical advisory council, they are advisory in nature, but we give the state plans to them and they take a

vote. To my knowledge we have never submitted a state plan that they have not agreed to as an advisory council. Then it routes for the secretary's signature and then if required it would go to the governor as well. Some state plans are required for a governor's signature and some are not.

Q. When are state plans required to be signed by the governor?

A. I think the majority of state plans have the governor sign off, but during the pandemic the emergency state plans did not require that. And then I believe if there's not a cost, if it's cost neutral I don't believe that we necessarily have had governor's signature if it's a state plan that has no cost to it.

Q. How was the West Virginia Medicaid plan initially created?

A. State plans are kind of, it's almost like a piecemeal puzzle, and so every state is a little bit different. People will say if you've seen one Medicaid state plan, you've seen one Medicaid state plan.

So as the Medicaid agency started, very nuance with, you know, these are the services you have to cover, states, you know, started covering more and more services. As states get institutionalized they added additional services.

So as the state plan evolves and as you have more money in order to offer additional healthcare services and as healthcare has changed in the last 50 years as well, different state plans become submitted. So the state plan will have pages from literally the 1970s and '80s if you look at our state plan to most recent pages in the 2000s. And so as we add services that were not thought of 50 years ago, so we add new additional state plan pages.

Q. And are the pages in the state plan that you're referring to which bear different dates, are those different pages generally organized by the service provider?

A. Yeah, so they're, they're like, the state plan has pages, like the 419 pages are more your service pages, then there are a different section for financial pages, and then there are some other sections when they're really talking about some of the eligibility pages. And then they'll have different pages for like your, for the most recent with the ACA, your alternative benefit plans and those pages. So it's all there, it's a very thick convoluted document, I'm not going to sugarcoat it.

Q. And changes are periodically made to the Medicaid plan, correct?

A. Yes.

Q. What kinds of circumstances would lead to a change in the Medicaid plan?

A. If we were to add a service, if CMS would mandate a service. So our most recent state plan changes that we made, CMS has recently said states will cover all forms of medication assisted treatment, they directed us on where in the state plan they wanted that, and so we had to submit a new state plan amendment to assure compliance with MAT services.

Q. And you just started describing this, but can you walk me through the process for how changes are made to the Medicaid plan?

A. Okay. So we'll just stick with that since I started with it. So for that particular example we got a State Health Officer letter that said you must cover, you know, these services and they must be spelled out in your state plan, then we drafted the state plan. We typically, you don't have to do this, but we have a fairly positive relationship with our federal partner, so what we do is we'll share the draft with them before the formal submission so we can kind of get off the record kind of feedback from them if, you know, if something is in the wrong place or, you know, or if it's a preprint and they want us to use a specific format,

something like that.

And then after that back and forth and then, you know, they seem to like what we've got and we're assured that it's ready to go, then we'll have what we call like a medical fund advisory council. Typically those typically have met once a quarter before the pandemic. Once the pandemic happened everything kind of went crazy and we weren't meeting with that group. But typically during normal times when there's not a pandemic that group would review the state plan, we would have to put the state plan up for public comment, and then after that it routes over to the secretary and then for his sign-off, governor's sign-off and submission.

Q. Thank you. So do all changes to the Medicaid plan require CMS approval?

A. Yes, yes. In order to get the federal match, because they're not going to give you federal match for services if they haven't approved.

Q. And who would you describe as having the authority to negotiate these changes to the state plan with CMS?

A. That would be my office.

Q. Okay. And does that include you as well individually?

A. Yes, yes.

Q. When the Medicaid program began covering hormone therapy for gender confirming care, did that require a change to the Medicaid plan?

A. That did not require a change because we already covered those drugs. This removed the gender edit.

Q. I see. So because hormone therapy was already covered for non-transgender people, allowing coverage for gender confirming care didn't require a change to the Medicaid plan, is that correct?

MS. CYRUS: Object to the form of the question. But you can answer, go ahead.

A. We have a pharmacy benefit and so we already cover, you know, all those medications in our pharmacy benefit, it was just a simple removing an edit based on gender, and the pharmacy benefit is already approved by CMS.

Q. And when the gender edit was removed so that, so that hormone therapy could be received for gender affirming care, did that require approval from CMS?

A. No, because we were already approving, we already had approval to cover that medication, we just removed the gender edit.

Q. And a follow-up question to our discussion a little bit earlier. What happens when West Virginia Medicaid wants to initiate a plan, a change to the

Medicaid plan on its own, separate and apart from a directive like a State Health Officer letter?

A. First we see the cost is always something that we, we have a flat neutral budget and so cost is the big thing that we look at, how much is it going to cost or is it going to be cost savings, sometimes your state plan can actually save money. And so if it's a cost we need to make sure we have an allocation or have the funds in the budget to cover the cost. And so that's kind of like the first step.

Usually if we're deciding to cover something new it's usually something that has been advocated for or a lot of times a bill will be run in the legislature to direct us to apply to CMS for this coverage. The most recent of those I believe is adult dental, we had no adult dental benefit. A couple years ago the legislature basically directed us to do a limited adult dental benefit of $1,000 dental benefit for our adults a year annually. Before the only dental benefit we had for adults is if you needed an extraction we would do that for health reasons, but beyond that there would be like no, no cleaning or fills or anything like that.

Q. Tell me a little bit about how the Medicaid plan is maintained. Is the Medicaid plan reviewed regularly?

A. I wouldn't say like all pages of the Medicaid

plan are reviewed regularly. We review things as they come up, meaning as waivers, you know, those have to be renewed every five years. As there's different directives or changes in healthcare or things that we have to cover that we had not covered previously, you know, we'll make changes to the state plan.

As things change in healthcare we'll review to see if it requires a state plan. So right now we're in the process of reviewing if it will be required for us to add pages for us to continue telehealth post pandemic because during the pandemic we brought in our use of telehealth in order for individuals to have access to care when everybody was kind of like sheltered in. And it's, you know, proven to be positive, so we would want to cover that post pandemic and so we're discussing with CMS whether or not that will require additional state plan changes or if it can just be a policy change because the services are the same, it's just how they're delivered.

Q. Could the Medicaid plan remain operative until there are changes or does it need to be readopted on a regular basis to remain in effect?

A. So the Medicaid plan like stays in effect until there's a change to that plan or that plan's page. When you submit a SPA to CMS, so say, for example, in your

behavioral health pages this happened to us, we added, years ago we added a service called ACT, it was called assertive community treatment for individuals with severe mental illness. There were other services on that page or on the attaching pages that once you open your state plan CMS has the authority to review anything that's on that page or anything on the attaching pages.

So even though they might have approved a service in 1970 on an attaching page, if now they have a problem with that approval or how you're doing it, then they have the authority to question and ask you to update how you're doing those types of services perhaps, or question whether or not that would be still be approved because as different administrations come in to CMS, different regulations are interpreted differently as well.

Q. I want to go back and clarify one quick thing about the scope of coverage for gender confirming care which you described at the beginning of the day. So I believe you testified that coverage for gender affirming hormone therapy is provided and coverage for counseling is provided, am I capturing your testimony correctly?

A. You are.

Q. And so to clarify, if a request for coverage of hormone therapy was submitted and the only diagnosis

code on that claim was gender dysphoria, would that request still be covered?

A. Yes. For pharmacy? I'm sorry, I just want to make sure I heard your question.

Q. Sorry. Did you hear what I asked before you answered?

A. I'm not sure. If you could ask it again just to make sure I'm answering it right.

Q. Of course. So if a request for coverage of hormone therapy were submitted and the only diagnosis attached to that request was gender dysphoria, would that request still be approved?

A. Yes.

Q. And if a request for coverage of counseling were submitted and the only diagnosis attached to that request was gender dysphoria, would that request be approved?

A. Yes.

Q. Thank you for the clarification. So I'd now like to move us to another topic in the notice. So I'm going to ask you to please turn back to Plaintiff's Exhibit 2, which is our deposition notice, and let me know when you've turned to Page 4.

A. Okay.

Q. And Topic 15 reads, "As to healthcare coverage

for West Virginia Medicaid participants, your organizational structure, including its units, divisions and departments." Did I read that correctly?

A. Yes.

Q. Are you prepared to testify about this topic?

A. Yes.

Q. With respect to Topic 15 specifically, what did you do to prepare to testify today?

A. I just went over in my head the organizational chart.

Q. And you testified that Medicaid is a joint federal and state program, correct?

A. Correct.

Q. Can you explain what that means?

A. Meaning that all of our dollars are matched by the federal match. And so right now our match due to the pandemic is around 81 percent, so, you know, you can look at it for every $0.19 that the state of West Virginia puts in, the federal government puts in $0.81. Typically our match is around this, you know, 74, 75, so it's like a 3 to 1 match.

Q. That's helpful. Is BMS a single state agency authorized to administer the Medicaid program in West Virginia?

A. Yes.

Q. What does that mean?

A. It means we're the agency designated to operate and be in partnership with Medicaid with regards to administering of the Medicaid program. We are like the Medicaid program, even though some states will like delegate out certain pieces of their Medicaid program, meaning in some states they will like if you have an IDD waiver, some states let their behavioral health bureau manage that waiver that the single state agencies are ultimately responsible if something goes wrong or it's mismanaged, however, we manage our program in-house, we don't necessarily farm out pieses of the program, except for eligibility. And in that case our Bureau for Financial Management in our county offices assist members to come in and do their application for financial eligibility for the Medicaid program.

Q. Is BMS's role as a single state agency authorized to administer the Medicaid program in West Virginia reflected in the state code?

A. I do not believe it is in state code, I don't think it's in state code.

Q. Is that role reflected in the Medicaid plan?

A. Yes, I'm sure it is, yes.

Q. Do you have anything else to add to your answer?

A. No.

Q. Does BMS serve any other purpose?
A. Other than to enact the Medicaid program, no.
Q. And would you describe BMS as having a mission?
A. Yes.
Q. And how would you describe the mission of BMS?
A. The mission of BMS, and this is probably not going to totally match the mission statement that's online if you're going to pull it up later, but the mission of BMS is to assure quality healthcare and access to healthcare to West Virginians and to be good stewards of the state dollar and be good stake, and be a good partner with all our stakeholders.
Q. Does West Virginia Medicaid offer coverage on a fee for service basis?
A. We do.
Q. What does that mean?
A. So the Medicaid program right now, about 85 percent of all of our members are with a managed care organization, meaning that managed care organization that they sign up for and they get to choose which one they want will help them with their benefits, will help assist them, will pay their claims and will make sure that they have access to all the Medicaid services and help them with access if they have problems like finding a doctor or something like that.

And then our long-term care services and some of our other services, our pharmacy services, is carved out in a fee for service environment. A fee for service environment is an environment of Medicaid where you go to the doctor and Medicaid simply pays that claim on a fee for service basis. If you're in managed care what a Medicaid agency does is we have actuarially sound rates that we pay the managed care companies, like a per member per month rate in order to manage all your care and then they have to pay the claim on more of the fee for service basis or whatever arrangement they have made with that provider.

Q. Is it fair to say then that fee for service care results in the medical provider being paid directly by the state?

A. Yes. The fee for service care, your contract is directly with the Medicaid agency and your claim is being paid through our fiscal agent right now is Gainwell.

Q. Whereas for members who are enrolled in an MCO, their medical providers get paid through the MCO, is that correct?

A. Correct.

Q. And does the state enter contracts with those MCO's to provide Medicaid benefits to participants

enrolled through the MCO?

A. We do.

Q. And are those contracts entered annually?

A. Yes.

Q. Is Mountain Health Trust the name of West Virginia's, a West Virginia Medicaid's managed care program?

A. Yes.

Q. So Mountain Health Trust is distinct from fee for service, correct?

A. Yes.

Q. And the MCO's within the managed care program include UniCare, The Health Plan of West Virginia, and Aetna Better Health of West Virginia, correct?

A. Yes.

Q. Are there any other MCO's besides the three that I've just named?

A. We only have the three MCO's currently.

Q. You testified that BMS enters into contracts with the MCO's to provide care to Medicaid participants, correct?

A. Correct.

Q. Do those contracts require the MCO's to exclude gender affirming care?

MS. CYRUS: Object to the form of the

question. But you can answer.

A. I do not believe that it requires them to exclude it, however, it would not be considered in their rate. And so one of the things with managed care is a managed care company can choose to cover things that are not necessarily in the Medicaid benefit, meaning managed care companies can cover things that we don't cover.

So, for example, at one time one of the managed care companies, and they might still be doing this, I honestly can't remember, was covering eyeglasses. We currently don't cover eyeglasses for people with like farsighted, nearsighted, we refer them to, you know, other areas like a Lions Club or something like that for coverage. And so one of the MCO's at one time was advertising that that was like one of their value added services, so, you know, choose us as your managed care company and here's an additional service that we might be able to provide you.

Q. Are you aware of any MCO's offering as additional services outside of their Medicaid reimbursable care gender affirming surgery?

A. I do not believe so.

Q. I'm going to have us take a moment now to look at our next exhibit. So if you can click on the marked exhibits folder and open the document that has been

marked as Plaintiff's Exhibit 4.

(Exhibit 4 marked for identification.)

A. I have it pulled up.

Q. Great. Please take a moment to briefly familiarize yourself with the document and let me know when you're finished.

A. It appears to be one of the MCO's contracts.

Q. Do you see a Bates stamp in the lower right-hand corner of the first page numbered DHHRBMS001121?

A. Yes.

Q. And do you see a date towards the top of the page of May 6, 2021?

A. Yes.

Q. Does this appear to be a letter from the chief executive officer of Aetna Better Health of West Virginia to BMS?

A. Yes.

Q. And does the first paragraph state Aetna's acceptance of the term in the 2021 model purchase of service provider agreement for Mountain Health Trust?

A. Yes.

Q. Please scroll to the next page Bates stamped DHHRBMS001122.

A. Okay.

Q. Do you see that Bates stamp?

A. Yes.

Q. Does this appear to be an attached copy of the 2021 model purchase of service provider agreement between BMS and Aetna?

A. Yes.

Q. Please scroll now down to Page 65 of the document, that's Page 73 of the pdf, Page 65 based on the document's internal numbering.

A. I'm on 65 internal number.

Q. And you should see a Bates number in the lower right-hand corner that reads DHHRBMS001193. Do you see that?

A. I do.

Q. Towards the bottom of the page is a heading that reads, "1.4, noncovered services," do you see that?

A. Yes.

Q. Right below that it says, "MCO's are not permitted to provide Medicaid excluded services that include, but are not limited to, the following." Do you see that?

A. Yes.

Q. And if you scroll to the next page. Let me know if you see a Bates stamp DHHRBMS001194, do you see that?

A. Yes.

Q. And do you see language on that page that says,

"No. 6, sex transformation procedures and hormone therapy associated with sex transformation procedures"?

A. Yes.

Q. Does this indicate that BMS's contract with Aetna requires Aetna to exclude gender affirming care?

A. It is excluded as far as a service that is considered in your rates.

Q. Can you explain what that means?

A. So, for example, No. 1 says, "All nonmedically necessary services." We know that MCO's sometimes provide services that are not medically necessary, but it might be an incentive. So they might give you a $20 gift card if you went to all of your well checks or you had your baby do all of your well checks. That's not, that's not a medically necessary service, but we allow the MCO's to do those value added services.

Q. And so does that indicate that if the MCO's cover this care, gender affirming care, they will not receive any reimbursement from the Medicaid program?

A. It means that that service was not in their rates. So when we do the rates for the MCO's we have our benefits and what we cover. This is a service we don't cover. So when the actuaries look at all the history and everything in their rates and they come up with an adult member gets a $400 a month PMPM, that

surgery would not be considered in that rate, but once I give that money over to the MCO and they have that $400 a month, they have to cover all the benefits that are required, but if they want to cover additional benefits that we don't cover here, they wouldn't be penalized other than it's not in their current rate, they would have to say they're going to do it based on their management of the program.

Q. So in other words, BMS will not cover what this document refers to as sex transformation procedures, correct?

MS. CYRUS: Object to the question. But go ahead.

A. Correct.

Q. And if the MCO's did want to cover that care, specifically gender affirming surgery, they would have to come up with their own money to do so, is that correct?

A. Yes. It would, it would be within the rates that we give them, but it would not constitute what, what the actuaries use to bill their rate.

Q. Let me make sure I'm understanding what you're saying. So let me go back to first principles. I think I heard you say gender affirming surgery is a noncovered service for BMS, correct?

A. Correct.

Q. And so when BMS negotiates with the MCO's for the amount of money that they will receive from BMS to cover all of the required care, that calculation does not include any money to cover gender affirming surgeries, correct?

A. Correct.

Q. And if the MCO's wanted to cover gender affirming surgeries, they would need to come up with their own money, correct?

A. Yes, they would use their own money. So can I give like an example --

Q. Sure.

A. -- what this would be? So I'm going to use like two examples. So we don't cover acupuncture, it's not a benefit in our state plan that we cover, it would not be in the rates. But let's say the MCO saw a benefit and covered acupuncture, that if we cover acupuncture we're not going to have to do as many back surgeries and in the long run it's going to be a cost-saving to us, which in the end a managed care company is going to look at that financial obligation in their businesses, so they're going to try to make as much money as they can with regards to still providing the services they have to provide, but also any cost savings that they have up

to a certain point then they can use as profit. So if they determine that by covering acupuncture, even though it's not something that is in our rate, will benefit us and actually save us money, they can do that.

So for gender affirming care the assumption would be, perhaps, I don't know, if they wanted to cover the surgery and maybe this person wouldn't require as much counseling later, then they might decide to do that. I do not believe any of them have.

Q. Correct. So to your knowledge none of the MCO's are in fact covering gender affirming surgery using their own funds?

A. Correct.

Q. Okay. Why does the exclusion that we reviewed together refer to hormone therapy when West Virginia Medicaid provides access to that care?

A. I believe that that was a historical thing that was in there at one time. Our MCO's did cover the pharmacy benefit, they have not covered our pharmacy benefit for a number of years now, and so I just believe it's something in the, it's a very long contract that just wasn't caught when we were renewing the contracts and had them signed off year after year.

Q. That's helpful. What I'd like to do is really quickly see if we can establish that there are similar

contracts with the other two MCO's. We just reviewed the contract for Aetna. Does BMS also have a contract with UniCare providing its provision of services to Medicaid participants?

A. Yes.

Q. And does BMS have a contract with The Health Plan providing its provision of services to Medicaid participants?

A. Yes.

Q. Do you know if the contracts with UniCare and The Health Plan have a similar provision to the one that we reviewed in the Aetna contract providing that BMS will not cover gender affirming surgery?

A. I'm sure they do, I'm sure they're identical.

Q. Okay. What I'd like to do is really quickly have you take a look at those contracts just to confirm that we are looking at the correct document. So we will go ahead and mark the next exhibit, this will be the contract with UniCare. This will take a little longer because the files are rather large.

A. Okay.

(Exhibit 5 marked for identification.)

Q. Okay. If you click on the exhibits folder you should see what's been marked now as Plaintiff's Exhibit 5.

A. I found it. Do you want me to go to 65 again?

Q. No, I think that won't be necessary. Can you just confirm for me that you see a Bates stamp in the lower right-hand corner of the first page that reads DHHRBMS001682?

A. I do.

Q. And does this appear to be the 2021 BMS contract with UniCare?

A. It does.

Q. Can you just quickly look at the document and confirm that the document is what you believe it to be?

A. It does appear to be the contract.

Q. With UniCare, correct?

A. With UniCare.

Q. Thank you. And we'll go ahead now and mark the next exhibit. And I will let you know when it's loaded.

(Exhibit 6 marked for identification.)

Q. Go ahead and click on that exhibits folder and you should now see what's been marked as Plaintiff's Exhibit 6.

A. I have it up.

Q. And do you see a Bates stamp in the lower right-hand corner that reads DHHRBMS002212?

A. I do.

Q. And can you review this document and let me know

once you've familiarized yourself with what it is?

A. It appears to be the contract with The Health Plan.

Q. So this is the 2021 BMS contract with The Health Plan, correct?

A. Correct.

Q. Sorry, was that a yes?

A. Yes. I'm sorry, I said correct. Can you all hear me again, am I mumbling?

Q. Every once in a while the volume gets lower, which I do as well, so we'll both try and speak up. But thank you, Commissioner Beane. So we just reviewed three contracts I believe all dated 2021. Are there contracts in place right now for the year 2022 with Aetna, UniCare and The Health Plan?

A. I'm sure there are. There's usually a delay in signatures, so, but of course we have contracts.

Q. And would those contracts contain the same provisions that we reviewed in the 2021 Aetna contract providing that BMS will not cover gender affirming surgery?

A. I believe so.

Q. Apart from the fee for service option, the managed care option, those are two -- let me say that again more clearly. Apart from the fee for service

option and the managed care option, are there any other options for managed care participants to receive care?

A. No, those are our two delivery systems to pay claims.

Q. And can you remind me, I think you may have said this earlier, but the current percentage to your best approximation of Medicaid participants that are enrolled in a managed care program versus a fee for service program?

A. It's approximately 85 percent of managed care. Our fee for services are our long-term care population that would be in some of those 1915(c) waivers, our nursing home population, and then our dual population which would be individuals who have Medicare and Medicaid.

Q. Thank you. Are you familiar with the abbreviation EPSDT?

A. I am.

Q. What does that stand for?

A. Early periodic screening diagnostic and treatment I believe.

Q. Well done. It's a lot of acronyms, I don't always remember what all of your acronyms stand for. What population does the EPSDT program apply to?

A. Children.

Q. And is there a specific age range for the children covered by that program?

A. 21 and under, under 21.

Q. Are the coverage standards different under the EPSDT program?

A. EPSDT, that coverage standard is different. Under EPSDT the law is anything that can, I'm probably going to butcher it, not only care, but can ameliorate the condition. So an example would be, you know, a child might require extensive physical therapy just so not to lose movement maybe in their legs or something like that, even though they might never have full movement in their legs, they might be, they need continued physical therapy just to maintain what they do have would be an example.

Q. You referred to a standard of anything that can ameliorate a condition as a standard for coverage under EPSDT. Is that a broader standard than the one that applies to Medicaid participants in fee for service or MCO plans?

A. So EPSDT would be, it's still delivered through your fee for service or your managed care vehicle, it's just that the, usually it's the pediatrician, it's usually the pediatrician has recommended through their EPSDT check that the child needs the special service

that's not covered. For example, a child might need a modified car seat that has special padding or something, that would be something that typically the Medicaid program would not cover, but this child needs it in order to maintain the, their health the best they can when they're being transported would be an example of something from EPSDT.

Q. So the coverage standards under EPSDT can be more generous than for adults, is that correct?

A. That is correct.

Q. How does the exclusion apply to services covered through the EPSDT program?

A. To my knowledge we've never had an EPSDT request for gender surgery.

Q. Is gender affirming hormone therapy approved under the EPSDT program?

A. It could be if somebody requested it through EPSDT.

Q. What about puberty delaying treatment for gender affirming care?

A. If it was requested through EPSDT, we could cover it.

Q. Thank you. Let's turn now to the Rational Drug Therapy Program. What is the Rational Drug Therapy Program?

A. Rational Drug Therapy is the vendor that we use to do our utilization management for our pharmacy benefit. So if your doctor prescribes you something and he's asking for like 90 milligrams in a painkiller that is way over what we would normally use then it would flag and then they would have to have your doctor submit additional information as to why you would need that, you know, off label use before they would approve something like that.

Q. How does the Rational Drug Therapy Program fit within the Medicaid program?

A. It's a vendor that we use to help us manage our pharmacy benefits. So I believe they're based out of Morgantown. They have the call center and they, like they're the ones that are talking to the pharmacists, because if you recall, like I have 85 staff. So West Virginia Medicaid is highly reliant on our various vendors. Some Medicaid programs in the other states have, for example, Virginia, which Virginia population wise is larger, but they have 400 state staff, so they do some of their work in-house where we vend a lot of our work out to various vendors to perform the services for us.

So Rational Drug Therapy is one of those vendors who have pharmacies, not pharmacies, pharmacists that

will talk to the other pharmacists about why this was flagged or if the pharmacist is trying to fill a prescription and it's not going through, they can call Rational Drug Therapy, why is this not going through, what's the problem, and they'll let them know this is what's going on with that prescription or what's going on with that member's medical card.

Q. And does the vendor Rational Drug Therapy Program provide those services for fee for service and MCO and EPSDT participants?

A. Yes. So I just want to correct you on the EPSDT. Like an EPSDT participant isn't separate from Medicaid, managed care or fee for service. EPSDT is just that, that screening, and then a doctor has done that assessment and based on that assessment they're asking to do that. So you can be an EPSDT, you can have an EPSDT request in a fee for service and a managed care, it's not a separate program for say any child. In fact, we want all of our children to get the EPSDT screening and checks.

Q. Thank you. That's helpful. And as soon as it came out of my mouth, I thought that doesn't sound right. I really appreciate the clarification. Okay. So it sounds like then in terms of the two pathways to delivery of services being fee for service and MCO, the

Rational Drug Therapy Program provides pharmacy services for both pathways, correct?

A. Correct.

Q. And I assume there's an annual contract that BMS enters with the Rational Drug Therapy to provide those services, correct?

A. Correct.

Q. What is the West Virginia Children's Health Insurance Program?

A. That's CHIP. CHIP is another program for children that historically has not been under the purview of Medicaid in West Virginia. Legislation was run this session that, actually I don't believe the governor has signed it unless he signed it today while we've been in here, that would move CHIP under the Medicaid program with regards to administration.

Q. That's helpful. So until and unless the bill is approved, the CHIP program is not a Medicaid program currently?

A. Not in West Virginia.

Q. Okay. And do you know if the bill that you just described were to be signed, when would the effective date be in terms of moving CHIP to be within the Medicaid program?

A. I believe it is 90 days from passage of the bill

after the governor signs it. And so we are working on the assumption that the governor is going to sign the bill and we're targeting a July 1st.

Q. What is Mountain Health Promise?

A. That is our managed care contract for our children who are in either our foster care environment, they have an open Bureau for Social Services case or post adoptive care, meaning that they were previously in Social Services and now they've been adopted. So it's a, a lot of people will say it's like the foster care managed care program.

Q. Does the exclusion apply to Mountain Health Promise?

A. I am sure that it is probably in their contract, but I would have to look to make sure.

Q. And if a child through adolescence covered through Mountain Health Promise received a recommendation through an EPSDT screening for a particular form of care, that care might still be, that gender affirming care might still be approved even if it were otherwise excluded, is that correct?

A. Yes. To my knowledge I don't think we've had that for any type of surgery, but yes, they would have to look at the EPSDT request.

Q. Okay. And it's conceivable it could be covered

through the EPSDT request?

A. Correct.

Q. We talked I think earlier about FMAP, and let's just review that again briefly to make sure that we understand what it is. What is the Federal Medical Assistance Percentage?

A. It is the match rate, meaning the percentage of federal dollar that we get with regards to what the state rate is. So when we talked earlier, and I'm rounding, but we're usually around this percentage, it's usually like a 3 to 1. But it does vary, you know, sometimes it's 74.19 one year, sometimes it might be 75.20, you know, so it's around that usually for West Virginia Medicaid.

There are times when the FMAP is different. The FMAP for the expansion population is a 90/10 FMAP according to -- and that was in the ACA. So when we first expanded that was actually at 100 percent and it went down at 30 years and it levels out at a 90/10 match for your expansion population. But right now because of the pandemic in general I'm around an 81 percent of FMAP because there's an enhanced FMAP right now due to the pandemic and the inability, it's to help pay for all the extra people that are on the Medicaid rolls that are not screened off.

Q. Did your description just now, does that fully describe how FMAP is calculated or are there other things that go into how FMAP is calculated?

A. So on the federal side the FMAP is calculated based on how well your state is doing financially. So unfortunately our FMAP is high because financially West Virginia is considered kind of a poor state economically, but even states that are doing very well financially, the lowest your FMAP can go is a 50/50.

Q. I want to talk briefly about Medicaid expansion just to round out our discussion earlier. Does Medicaid expansion under the Affordable Care Act affect the benefits that the participants receive or does that simply refer to expanding the eligibility for coverage?

A. So it's, it's both. You expand eligibility, but then CMS has to approve your alternative benefit plan if your plan is not exactly mirrored to your state plan, where our plan has some little nuances, they had to approve our alternative benefit plan.

Q. And is the alternative benefit plan separate from fee for service and MCO care or are the expansion participants covered through either fee for service or MCO's?

A. So our expansion members are in our MCO's, however, when you first come on with Medicaid you have a

choice period. I can't remember, it's escaping me if it's 30 or 60 days, my apologies, but for that short period you're in fee for service, then you choose your MCO. And let's say I chose Aetna, and then for the next month one I would be in Aetna. Depending on when I choose is when I roll over into Aetna. If I choose after the 15th of the month I'm going to be in fee for service an extra month, if I choose before the 15th of the month, then my next month will be in Aetna.

Q. I see. And is there any plan for Medicaid expansion participants that is not subject to the exclusion?

A. No.

Q. Are there any units or divisions or departments within BMS that we have not yet discussed?

A. I don't believe so. I mean, I think we talked about, honestly I can't remember if I went over, I think I listed all of the different units of BMS at one time was one of the questions, but I can't remember.

Q. Would you mind doing that again because I similarly can't remember and I want to make sure we have it. Would you please go ahead and list them. Did you say all the units or divisions or what are they called, is BMS organized into units or divisions or departments, how do you describe that?

A. So we have the different deputies cover kind of all the different, I guess I can't remember what we call them, divisions or units, divisions. And so, you know, we have a legal division, I think I did do this, we have department of integrity, we have quality, we have MCO, we have pharmacy, policy, waiver, institutional facility, finance and systems. So I think I probably did cover it now that I'm saying it again.

Q. Okay. And are those all considered departments or divisions?

A. They're like units or divisions. I mean, some people, I mean, I don't, I can't remember what we say in the organizational chart but, you know, there's a director of their unit or division, I can't remember if we call them units or divisions.

Q. Thank you. And let me make sure that we've got a complete list on the record. So those, I'll call them units, include program integrity, quality, pharmacy, policy, waiver, finance and institutional facility. Did we get that correct?

A. Yeah. Behavioral health is in there, my apologies.

Q. Okay.

A. And I didn't say it.

Q. No problem. So we add behavioral health to the

list and then that list would be complete, right?

A. Yes. And you said finance and legal?

Q. And legal should go on that list as well, okay, we'll add legal to the list. Great. Anything else that we've missed or is that it?

A. I think that's it.

Q. Okay. And are there any other significant aspects of the West Virginia Medicaid program structure that we have not discussed?

A. I feel like we've hit all of it.

Q. Great. All right. Let's do a time check. I'd be happy to keep going if you would like to continue or if you would like a break we can break now.

A. A break would be fine.

MS. CYRUS: I don't know what, I'm not sure how long you plan to go today, Tara, and as long as you need to go, of course is fine, but if you think we're going late into the afternoon, I would suggest we might consider a short lunch break, like 30 minutes.

MS. BORELLI: Yes. In fact, why don't we go off the record.

(Lunch break taken from 10:57 a.m. to 11:34 a.m.)

AFTERNOON SESSION

BY MS. BORELLI:

Q. Commissioner Beane, I'd like to refer you back to Plaintiff's Exhibit 2, this is our deposition notice. And please let me know when you've pulled that up and reached Page 4.

A. Okay.

Q. And I'm going to refer you to Topic 16 which reads, "The number of Medicaid participants who are transgender and/or have sought any form of care for the treatment of gender dysphoria." Did I read that correctly?

A. You did.

Q. And are you prepared to testify about this topic?

A. I am.

Q. With respect to Topic 16 specifically, what did you do to prepare to testify today?

A. We ran reports for the discovery to kind of show through the years the number of people with a diagnosis of gender dysphoria. And then we also I believe ran a pharmacy report to see how many individuals we had on hormone therapy for the reasons of transgender.

Q. Thank you. Now before we talk further about the number of transgender participants who sought care, I'd like to revisit a number we discussed earlier relating to the total number of West Virginia Medicaid

participants. So you provided the approximation I think of 615,000 currently, is that correct?

A. That is correct.

Q. Thank you. I will remember to let you respond. And what I'd like to do is look at a couple of specific documents that were provided to us, these may be the ones that you were referring to earlier. So we're going to go ahead and mark our next exhibit and I will let you know as soon as it's loaded.

(Exhibit 7 marked for identification.)

Q. All right. Commissioner Beane, this document should be available now if you click the exhibits folder and you should see what has been marked as Plaintiff's Exhibit 7. Let me know when you open that document.

A. I have it opened.

Q. Great. Have you seen this document before?

A. I have.

Q. Did you review it in connection with your testimony as BMS's organizational representative today?

A. I did.

Q. You've been designated to testify about the response to request for production No. 1. On the first page you'll see text that reads, "No. 1, documents sufficient to show the total annual number of West Virginia Medicaid participants." Did I read that

correctly?

A. Correct.

Q. And the response reads, "Supplemental response. The managed care and fee for service monthly enrollment report 2021, attached as Exhibit 126, Bates number DHHRBMS020684, and managed care and fee for service monthly enrollment 2022 through March, attached as Exhibit 127, Bates numbered DHHRBMS020685." Did I read that correctly?

A. Yes.

Q. Okay. Are you prepared to testify about this request?

A. Yes.

Q. All right. And we're going to go ahead and mark another exhibit now.

(Exhibit 8 marked for identification.)

Q. All right. Click on the exhibit that has Plaintiff's Exhibit 8.

A. Yes.

Q. On the lower right-hand corner of the first page the document has a Bates stamp DHHRBMS020684. Do you see that?

A. Yes.

Q. Do you recognize this document?

A. Yes.

Q. What is this document?
A. It shows our enrollment.
Q. So does it appear to be a table from 2021 showing the number of Medicaid members by month?
A. Yes.
Q. And the table shows the number of members in each of the MCO's, in the Mountain Health Promise, and in the fee for service program, correct?
A. Correct.
Q. And the column at the bottom of the table shows the total number of members enrolled in all Medicaid plans by month, correct?
A. Correct.
Q. So in December 2021 there were a total of 618,691 members, is that right?
A. Correct.
Q. We're now going to mark another exhibit and we'll tell you when it's loaded.
(Exhibit 9 marked for identification.)
Q. All right. The exhibit should be loaded now. Please open what's been marked as Plaintiff's Exhibit 9 and let me know when you've been able to open the document.
A. I have it.
Q. In the lower right-hand corner of the first page

the document has the Bates stamp DHHRBMS020685. Do you see that?

A. Yes.

Q. And do you recognize this document?

A. Yes.

Q. Does it appear to be a table showing the monthly number of Medicaid members for 2022?

A. Yes.

Q. And does this appear to be formatted in a similar table to the one that we just reviewed?

A. Yes.

Q. And does this table indicate that in March of 2022 there were a total number of 628,825 Medicaid members?

A. Yes.

Q. And based on the numbers that you just reviewed, your best estimate of the current number of Medicaid participants is still 615,000 approximately, is that correct?

A. It looks like I was a little off, it's 628.

Q. So 628. And I recognize we're still in the month of March, I'm not sure if there's much fluctuation within a month or not, but is the number in this chart for March of 2022, to your knowledge does that remain accurate for the approximate number of total Medicaid

members?

A. Right. So if you look at those charts, you're trending up each month. And so until the PHE hits, you know, is taken off, we'll continue to trend up. Once the PHE is taken off, we estimate there's probably 90 to 100,000 individuals that will eventually roll off of the Medicaid rolls.

Q. And what is PHE?

A. The public health emergency.

Q. And is that the rule that provides that members cannot be rolled off of Medicaid during the pandemic?

A. Correct. That's why our numbers are going up and up and up.

Q. Understood. Let's turn back to Topic 16 which we reviewed in the deposition notice which is Plaintiff's Exhibit 2. That topic as a reminder is, "The number of Medicaid participants who are transgender and/or have sought any form of care for the treatment of gender dysphoria." To help us discuss this topic I would like to refer to a discovery response that we received from BMS. We're going to mark our next exhibit and I will tell you when it's loaded.

(Exhibit 10 marked for identification.)

Q. All right. The exhibit is loaded. Go ahead and let me know when you've been able to open and review

Plaintiff's Exhibit 10.

A. I've opened it.

Q. Okay. Do you see a title on the first page that reads, "Defendants' response to plaintiffs' second set of interrogatories to Defendants William Crouch, Cynthia Beane and West Virginia Department of Health and Human Resources, Bureau of Medical Services interrogatories"?

A. Correct.

Q. Please scroll down to Page 3 where you will see a request No. 11.

A. Yes.

Q. The first sentence reads, "Taking necessary steps to comply with applicable privacy laws for each year since 2016 to the present, identify the number of health plan participants who have submitted one or more claims with a diagnosis code for gender dysphoria or gender incongruence." Did I read that correctly?

A. Yes.

Q. And the response on the second page is a series of numbers by year, do you see that?

A. Yes.

Q. For example, it lists 602 members for 2020, correct?

A. Yes.

Q. And 686 members for September 30th of 2021,

correct?

A. Correct.

Q. Does that mean, for example, that a total of 602 separate members that have claimed the treatment of gender dysphoria in 2020?

A. Correct.

Q. Do you have any information about how many of these members sought coverage for counseling?

A. I do not have that information.

Q. Similarly, do you have any information about how many of those members sought coverage for hormone therapy or surgery?

A. I do not have that information. I don't recall. We might have pulled a pharmacy report on the hormone therapy, I just can't remember.

MS. CYRUS: Tara, just let me note an objection to the extent, and maybe you're asking her this as a fact witness as opposed to a 30(b), but that particular response was not one that we identified Commissioner Beane to testify to, just to be clear, I don't believe.

MS. BORELLI: Okay.

MS. CYRUS: That's for production 11 is not on -- let's see, let me get back.

MS. BORELLI: This is interrogatory 11, you

might have to go back.

MS. CYRUS: Yeah, we have interrogatory No. 2 was her only interrogatory.

MS. BORELLI: I see, okay. I think in order to help aid some of the organizational testimony, we've pulled relevant discovery responses to see if it would help get us through a fairly technical discussion here. But let's note for the record that she was not designated as the organizational representative to talk about this discovery response. And thank you for the information to help us understand what, how to read that response.

MS. CYRUS: Sure.

BY MS. BORELLI:

Q. So let's go ahead and take a look at another exhibit. So we're going to go ahead and mark that now and I will let you know when it's loaded.

(Exhibit 11 marked for identification.)

Q. All right. Go ahead and click on the marked exhibits folder, you should see something marked as Plaintiff's Exhibit 11. Let me know when you've had a chance to open that document.

A. I have it open.

Q. Do you see a Bates stamp in the lower right-hand corner numbered DHHRBMS021563?

A. I do.
Q. Have you seen this document before?
A. I have.
Q. And what is this document?
A. It shows the number of members that are receiving hormones for gender care.
Q. And just to clarify, does this document refer to transgender people?
A. I would assume that they would be receiving the hormones due to the transgender, the gender dysphoria condition.
Q. And so to clarify, the reference at the top left to males on estrogen, does that refer to transgender women?
A. Yes. I had to think about it for a minute, I'm sorry.
Q. And so the reference to female testosterone, that refers to transgender men?
A. Yes.
Q. Am I understanding this document correctly if in the final column is showing that in 2021 --
A. I'm sorry, I'm having a hard time hearing you.
Q. I will try to speak up. Thank you. Am I understanding this document correctly if I read the final column that showing that in 2021 there were 114

transgender women receiving estrogen?

A. Yes.

Q. And there were 139 transgender men receiving --

A. I'm sorry, did you cut out?

Q. I must have.

MS. CYRUS: You froze for just a second.

Q. Oh, I'm sure it's my Internet. Let me give that another try. I'll start over just to make sure this is clear. So final column shows that in 2021 there were 114 transgender women receiving estrogen, correct?

A. Correct.

Q. And there were 139 transgender men receiving testosterone in 2021, correct?

A. It's, the 139 also includes, I'm going to butcher it, the Oxandrolone, I don't know how to say that.

Q. Let me review the document with you. The Oxandrolone, I don't know how to pronounce it either, do you know what that drug is?

A. I'm assuming it's a drug like a testosterone, I'm assuming it's a hormone like testosterone, but I don't know exactly the difference.

Q. I see. Okay. And so 139 refers to transgender men receiving testosterone including Oxandrolone, and 121 refers to the number of transgender men receiving

testosterone excluding Oxandrolone, is that correct?

A. Correct.

Q. Okay. Thank you. Does West Virginia Medicaid know which of its participants are transgender?

A. Meaning that have had the surgery?

Q. Not necessarily that have had surgery. Does West Virginia Medicaid track in any way whether a member is transgender?

A. We do not. We didn't even like have all these numbers pulled until the request from the state.

Q. Okay. So West Virginia Medicaid doesn't collect as a demographic matter information about a participant's transgender status?

A. No.

Q. Does West Virginia use any kind of code or modifier in its system to identify transgender members?

A. We don't, but we do. So I know that sounds weird. So I think we don't have anything in the system, but I do know that there was a case where we had someone who was identifying as male and was male in our system that was pregnant. So we had to put a modifier on that to get those, because we of course wanted to cover the pregnancy, in order to get those pregnancy codes covered we put a modifier on that person so we could provide their healthcare.

Q. So the modifier facilitates access to the pregnancy related care, correct?

A. Correct. I believe that's how we got those claims to pay, to go through in order to, you know, of course we didn't not want to cover their healthcare, but it was flagging as noncovered because it looked like a male pregnancy versus, you know, a transgender pregnancy.

Q. And is a modifier used to facilitate access to any other forms of care?

A. I mean, we use modifiers all the time for various reasons in the West Virginia Medicaid program. So we have modifiers to show the services at a facility versus maybe in the home, we have modifiers that have rate differentials. And so there's numerous reasons that you would put a modifier on a code or in order to make sure that the individuals are accessing the care, we're paying the claim.

Q. Does BMS use a modifier for transgender members to facilitate access to any care besides pregnancy related care?

A. No.

Q. And then to confirm, the modifier facilitates access to pregnancy related care only, correct?

A. I believe we've only had one case that that has

occurred in West Virginia and we put a modifier on so we can get those claims paid.

Q. Does BMS track a gender marker for its members?

A. Meaning male, female?

Q. Correct, including male and female. Does BMS have a gender marker of male or female or any other kind of gender marker on each member?

A. Yes, when you apply for Medicaid you say whether you're male or female, that's in the system.

Q. And just to go back to our questions a moment ago about that modifier. So the modifier doesn't, there's no modifier that's attached to transgender members generally, it sounds like that modifier that we were discussing uses one kind to refer access to pregnancy care of a transgender man, is that correct?

A. You are correct.

Q. So back to gender markers. You testified that each Medicaid member has to designate a marker of male or female when they apply for Medicaid, is that correct?

A. Correct.

Q. And can members change that gender marker at any time after they have originally designated it?

A. I would assume so. I don't think we have anything stopping that, but I would, I honestly don't know if that's occurring or if that's happening. I

think you can go back and modify your application, but I honestly am not 100 percent sure.

Q. And so would you have any sense of what would be required of the member to modify their gender marker in the BMS system?

A. I do not know, but I do know we had the one case of the male pregnancy, so it was marked as male in the system, but was pregnant, so that would be somebody who had obviously either had applied for Medicaid while he was already male or had changed his designation in the system.

Q. And then going back to the modifier we discussed before. Do you happen to know what that modifier is?

A. I have no idea what modifier code they used. Sometimes it's like a U1, U2, I mean, it's just a code, you know. Sometimes it's like, you know, an AW, I mean, and I don't know what modifier they used.

Q. Thank you. We're now going to look at another exhibit and I will let you know when it's loaded.

(Exhibit 12 marked for identification.)

Q. Okay. Go ahead and click on that exhibits folder and you should see a document that's been introduced as Plaintiff's Exhibit 12. This document is an Excel spreadsheet. And in order to be able to interact with the document you will need to download it

and the way to download it is to right click over the document and you should see an option to download. Do you see that?

A. I must be doing something wrong. The document is open though, but I still need to download it?

Q. Well, I'd like to see if we can get through the questions without the need for you to click through it. I think the only issue is that when Excel documents are opened in the system without being downloaded a person can't interact with the elements of the Excel document.

A. Right clicking it's saying copy and sort, it's not -- maybe I'm right clicking over the wrong area.

Q. Let's see if you can answer based on the view of the document, and if we need to make another arrangement we can take a quick break and get a copy over to you.

A. There is a download button up here at the top right-hand of the screen, it looks like a little cloud. Do you want me to click that?

Q. Yes, go ahead and select the box next to Exhibit 12 and download it. Thank you. We must have slightly different, I must have different permissions with the right click.

A. Okay, it downloaded.

Q. Thank you. I will represent to you that this document was produced to us as DHHRBMS016178. Do you

recognize this document?

A. I don't believe I previously reviewed this document in detail but, I mean, I can tell what the document is by reviewing it now that it's an Excel sheet of claims that have been paid or denied and with diagnosis.

Q. So you would know generally how to interpret this spreadsheet?

A. Yes.

Q. All right. I'd like you to hold onto that document and we're going to take a look at another exhibit now in conjunction with this document. So I'm going to go ahead and have the next exhibit introduced.

(Exhibit 13 marked for identification.)

Q. All right. And if you click on the exhibits folder you should see Plaintiff's Exhibit 13. Let me know when you've opened that document.

A. I have it open.

Q. Have you seen this document before?

A. I have.

Q. And what we're going to do is look at a portion of this document that I believe explains the spreadsheet that we just opened. So do you see the title on the first page of Plaintiff's Exhibit 13 that says, "Defendants William Crouch, Cynthia Beane and West

Virginia Department of Health and Human Resources, Bureau of Medical Services' third supplemental responses to plaintiffs' second set of production of documents and things." Did I read that correctly?

A. You did.

Q. And please scroll down to Page 2 and I'm going to read what is labeled, "Supplemental response." It reads, "Please see the spreadsheet attached that is Exhibit 950, Bates No. DHHRBMS016178 containing claims for diagnosis codes F64.0, F64.2, F64.8 and F64.9. Please note that for all MCO claims as reflected in column A, an entry of denied in column X simply means that such claim was presented to MCO and BMS does not have information about the outcome of that claim and it would need to be obtained from the particular MCO. BMS only has for outcomes for claims that are fee for service as indicated as FFS in column A." Did I read that correctly?

A. You did.

Q. Do the codes referenced in that answer, specifically F64.0, F64.2, F64.8, F64.9, refer to treatment for gender dysphoria?

A. Yes, I think those are diagnosis codes related to that diagnosis.

Q. Thank you. Let's turn back to the spreadsheet,

I believe that's Plaintiff's Exhibit 12.

A. Okay.

Q. Does each row in that spreadsheet refer to a separate claim?

A. Yes, it appears that each row is referring to a separate claim.

Q. And if you click on the 2021 tab and scroll to column W, you'll see the words paid, denied and reversed, do you see that?

A. Yes.

Q. What does reversed mean?

A. So --

MS. CYRUS: Excuse me. Let me place an objection on the record to the extent it hasn't been established that Commissioner Beane prepared this. And we do have someone else designated to testify about this. But at any rate, you can ask, she can answer what she knows about it.

MS. BORELLI: Thank you, Lou Ann.

MS. CYRUS: Sorry. Thank you.

BY MS. BORELLI:

Q. What does reverse mean?

A. Reverse means usually the provider comes in and they've done a duplicate claim or they'll reverse the claim and then resubmit the claim at a later date with

maybe additional codes or additional services. Those are the main reasons people reverse a claim.

Q. And where a row indicates the claim has been denied, is that on the basis of the exclusion?

MS. CYRUS: I'm going to object to the form of the question. If you know, you can answer.

A. No. So there are a lot of reasons claims deny. So it could be that it's a duplicate claim, it could be that the member doesn't have eligibility that day, it could be NCCI edit which means like some of those edits if you get this service from your doctor, then this service isn't paid because it should all be encompassed in the medical visit. So there are a lot of reasons claims deny other than being denied because of a diagnosis code.

Q. We reviewed earlier Plaintiff's Exhibit 10 which indicated the number of Medicaid participants who have submitted one or more claims with the diagnosis code for gender dysphoria or gender incongruence. You may recall that, for example, 686 members were identified through September 30th, 2021 having submitted one or more claims for treatment of gender dysphoria.

My question for you is, in light of the numbers you reviewed earlier, do you know why this spreadsheet has more than 10,000 rows in it for 2021? If you hit

the control and end button simultaneously it will take you to the end of Tab 2021 and you will see that there are more than 10,000 rows with data.

MS. CYRUS: Object to the form of the question. But if you know, you can answer.

A. I don't believe, you know, I didn't pull this sheet, but I don't believe it's based on this, you know, individual. So like it looks like all claims. So I might, and like I said, I didn't pull it, but this edit, I don't see where it's by individual. So I might have, you know, 200 claims, but I'm only one person.

Q. All right. Thank you for that. What I'd like to do now is turn back to Plaintiff's Exhibit 2 which is the deposition notice in this case. Let me know when you have that pulled up and scroll to Page 4 of Plaintiff's Exhibit 2.

A. I'm on Page 4.

Q. And you should see a No. 17. Do you see that?

A. I do.

Q. No. 17 reads, "All lawsuits, counterclaims, arbitrations, complaints or judicial, quasi-judicial actions brought or threatened against you related to the denial of gender confirming care." Did I read that correctly?

A. You did.

Q. Are you prepared to testify about this topic?
A. I am.
Q. And with respect to Topic 17 specifically, what did you do to prepare to testify today?
A. I just have knowledge of what lawsuits have been brought against me pertaining to this topic.
Q. Thank you. We'll go through these categories one by one. Let's start with lawsuits. Aside from this case, have any other lawsuits been brought against BMS relating to gender confirming care?
A. Not to my knowledge.
Q. Have any other lawsuits been threatened against BMS relating to gender confirming care?
A. Not to my knowledge.
Q. Let's move to counterclaims. Have any counterclaims been brought against BMS relating to gender confirming care?
A. I'm sorry, can you define like counterclaims.
Q. Sure. So counterclaim might be raised in a lawsuit where one party sues another party and then the party that got sued brings a counterclaim against the original party. So a claim in a lawsuit is another way you can think about it. Were you aware of any such claims or lawsuits against BMS or threatened against BMS related to gender confirming care?

A. Not to my knowledge.

Q. Turning to arbitrations. Has BMS participated in any arbitrations related to gender confirming care?

A. No, not to my knowledge.

Q. Has anyone threatened to seek an arbitration against BMS relating to gender confirming care?

A. I don't believe so.

Q. I'm going to turn now to complaints. Apart from the complaint in this case, have any complaints been filed against BMS relating to gender confirming care?

A. Not that I'm aware of.

Q. And has anyone threatened to bring a complaint against BMS related to gender confirming care?

A. Not that I'm aware of.

Q. Aside from this case, have any other judicial actions been brought against BMS related to gender confirming care?

A. Not that I'm aware of.

Q. And have any other judicial actions been threatened against BMS related to gender confirming care?

A. Not that I'm aware of.

Q. Are those answers the same for quasi-judicial actions?

A. What is a quasi-judicial?

Q. So I'm trying to think of a good example. Sometimes it's an administrative complaint would be an example, a complaint perhaps brought through an agency?

A. Not that I'm aware of.

Q. Okay. So you're not aware of any quasi-judicial actions brought against BMS relating to gender confirming care?

A. I'm not aware of any.

Q. And no quasi-judicial actions threatened against BMS?

A. Not that I'm aware of.

Q. Is there anything we haven't discussed that relates to somebody having any form of complaint against BMS, formal or informal, related to gender confirming care?

MS. CYRUS: Object to the form of the question. You can answer.

A. We've had requests that we've denied, but I don't know if that's necessarily what I would call a complaint, but we have had a request that I can recall that was denied.

Q. And was there an appeal of that request?

A. Not that I'm aware of.

Q. Okay. All right. We're going to go ahead and mark our next exhibit and I will tell you when it's

loaded.

(Exhibit 14 marked for identification.)

Q. Okay. Go ahead and click on the exhibit folder and you should see what's been introduced as Plaintiff's Exhibit 14.

A. I have it up.

Q. All right. Please take a moment to familiarize yourself with this document and tell me if you're familiar with it?

A. I have.

Q. All right. Have you seen this document before?

A. I have.

Q. And did you review this document in connection with your preparation to provide organizational representative testimony today?

A. Yes, I've reviewed this document.

Q. Do you see a title in the first page that reads, "Defendants' second supplemental response to plaintiffs' first set of interrogatories to Defendants William Crouch, Cynthia Beane and West Virginia Department of Heath and Human Services, Bureau for Medical Services"?

A. Yes.

Q. And do you see the word interrogatories below it?

A. Yes.

Q. Okay. Let me pause just a moment. Okay. And do you see below that a request No. 1 that reads, "Identify all persons with involvement in or knowledge of the creation, review and maintenance of the exclusion of coverage for gender confirming care in the health plans offered through West Virginia's Medicaid program"?

MS. CYRUS: Let me state an objection on the record to the extent that she has not been designated to testify to that interrogatory as a 30(b) witness, but of course you can ask her as a fact witness.

MS. BORELLI: Thank you, Lou Ann.

Q. Did I read that correctly?

A. Yes.

Q. And if you scroll to Page 2, do you see that you've been identified as somebody knowledgeable on that topic?

A. Yes.

Q. When was the exclusion first created?

A. I do not know when it was first created. I know that it has been here ever since I've been at Medicaid and I believe in researching all this I think the earliest we found it was maybe in a policy back in 2004.

Q. Okay. Do you know why the exclusion was created?

A. I do not know, I wasn't here. I think it's, I think it's in a policy manual listed with a bunch of different exclusions.

Q. Are you aware of anyone who would know why the exclusion was created?

A. There is no one here that would know. Our turnover in staff does not allow for people to have been here that long pretty much, but no, I don't know anybody that would know.

Q. So you aren't familiar with the process that led to the creation of the exclusion?

A. I'm not.

Q. And are you familiar with what might have been considered at the time the exclusion was created?

A. I don't know. It would just be speculation that they were just going down a list of services that were not covered at the time.

Q. And has BMS reviewed whether to maintain the exclusion since it was created?

A. I'm sorry, I can't hear your question.

Q. Has BMS reviewed whether to maintain the exclusion since it was created?

A. We have not reviewed that particular policy.

Q. So can you then tell me a little bit about how exclusions work. Do exclusions remain in the Medicaid

plan unless and until a review or affirmative step is taken to change them?

A. So they're in our policy manual, so that's different than the Medicaid plan. And so if we decided to cover something and that was an exclusion, so I'm guessing acupuncture is on that list as well, without looking at it I'm not sure if we listed it, but I'm sure it is, but in order to cover that our first step would be to do a state plan to get CMS's approval and then we would change it in the policy manual once we got CMS's approval.

Q. And BMS has not undertaken that process with respect to the exclusion for gender affirming care since 2004, correct?

A. Yeah, we have not taken that step of the process of covering that surgery since 2004, it has not been looked at.

Q. Okay. I'm going to ask you to go ahead and turn back to, we're very familiar with the document by this point, Plaintiff's Exhibit 2, the deposition notice in this case.

A. Okay.

Q. And please scroll to Page 4 and let me know when you can see Topic 11.

A. I see it.

Q. Topic 11 reads, "Any governmental interest that you contend supports the exclusion and their factual bases." Did I read that correctly?

A. You did.

Q. Are you prepared to testify about this topic?

A. I am.

Q. And with respect to Topic 11 specifically, what did you do to prepare to testify today?

A. Made sure we didn't have any directive from CMS directing us to cover the service.

Q. And when you did that review did you find anything from CMS directing BMS not to cover gender affirming surgery?

A. I didn't find anything telling us that it was a mandatory service.

Q. And did you find anything telling BMS to exclude the care?

A. No.

Q. My understanding from your counsel is that you would be addressing Topic 11 as it relates to CMS, while your colleague Becky Manning will address the request as it relates to the budget. Is that your understanding as well?

A. That I'm going to address it as it relates to CMS, yeah, sure, yes.

Q. And you also have been designated to give testimony as the organizational representative for the discovery request on the same topic. So I want to turn to that next, and for the sake of efficiency I'll ask you questions about these related topics at the same time. Is that agreeable?

A. Yes.

Q. All right. Give us a moment to load the next exhibit and I will tell you when it's available.

(Exhibit 15 marked for identification.)

Q. All right. Go ahead and click on the exhibit folder and you should see what has been marked as Plaintiff's Exhibit 15. Let me know once you've had a chance to open and review the document.

A. Is this in a pdf? The computer is like asking me what to open it in, or is it Word?

MS. CYRUS: Yeah, I got the same message. Is it Adobe?

MS. BORELLI: You know what, I'm having the same issue myself. Given that we've been going not quite an hour, why don't we go ahead and take a break and we'll resolve the exhibit issue on our end and then we can come back and talk about it further, how does that sound?

MS. CYRUS: Sure. By the way, so while I

said that, I did click on Adobe and it did open it, if it's plaintiffs' response to first set of interrogatories, if that's what it is, Exhibit 15, it did open it, just FYI.

MS. BORELLI: Okay.

BY MS. BORELLI:

Q. Commissioner Beane, are you able to do the same thing?

A. Okay. Mine opened down here on my laptop for some reason, I can't get my mouse down there. Hold on.

MS. CYRUS: That's weird.

A. Why did it not open up there.

Q. It downloaded directly on my laptop as well. I'm not sure what about the file format caused it to do that, but are you able to view it as a downloaded file on your laptop?

A. Let me see if it will let me. Hold on. I can't get the mouse to go over here to the laptop screen, why can't I do that.

Q. All right.

MS. BORELLI: How about this, let's go off the record and go ahead and take that break.

(A break was taken at 12:27 p.m.)

(Exhibit 16 marked for identification.)

BY MS. BORELLI:

Q. So just before a break we were having a technical issue with the document that was introduced as Plaintiff's Exhibit 15. We think we have resolved the issue by uploading a duplicate of the same document, which should now be in your exhibits folder as Plaintiff's 16. So the record will reflect that the documents are the same and that exhibit appears twice as 15 and 16 because of this technical issue.

Commissioner Beane, are you now able to open up what's marked as Plaintiff's Exhibit 16?

A. I have opened it.

Q. Please take a moment to review the document and let me know when you are done.

A. I've looked at it.

Q. Have you seen this document before?

A. I have.

Q. Did you review it in connection with your testimony as BMS's organizational representative today?

A. I did.

Q. You've been designated to testify about the response to interrogatory No. 2. Please turn to Page 2 of the document. In approximately the middle of the page you'll see text that reads, "No. 2, describe in detail the factual basis for each governmental interest that defendants contend supports the exclusion." Did I

read that correctly?

A. You did.

Q. And the response reads, "These defendants state that they provide coverage that is mandated for coverage by the Centers of Medicare and Medicaid Services (CMS). These defendants are constrained by budgetary/cost considerations." Did I read that correctly?

A. You did.

Q. And are you prepared to testify about this interrogatory as the organizational representative for BMS?

A. I am.

Q. With respect to interrogatory 2 specifically, what did you do to prepare to testify today?

A. I went back and made sure we didn't have a SHO letter, a State Health Officer letter, mandating us to cover the service and, and reviewed our budget to make sure that, well, to make sure that I was aware of when we were going into our budget deficient.

Q. So referring to the response to interrogatory 2 that I read a moment ago, is that an accurate description of the governmental interest in the exclusion?

A. I'm sorry, what?

Q. Were you having trouble hearing me or is it that

you would --

A. Can you say the question again, I was having trouble hearing you.

Q. No problem. I'll repeat. Referring again to the response to interrogatory 2 that I read a moment ago, is that an accurate description of the governmental interest in the exclusion?

A. Yes, we have no mandate from CMS to provide the coverage.

Q. And does that response to interrogatory 2 constitute a complete description of all of the governmental interest being claimed in the exclusion, it does, correct?

A. Correct.

Q. What is the factual basis for the statement in response to interrogatory 2 that defendants, "Provide coverage that is mandated for coverage by the Centers for Medicare and Medicaid Services"? Let me repeat, what is the factual basis for that assertion?

A. So Medicaid has mandated coverages that CMS assured that we have state plans for and that we are covering those services. And so if there's a service that they are mandating all 50 states and territories to cover that not all 50 states and territories are covering, they will send out what's called the State

Health Officer letter and it will direct us to add that coverage.

Q. I think you said a moment ago that you looked to see if there was a SHO letter, I assume that's the abbreviation S-H-O, correct?

A. Correct.

Q. And that abbreviation refers to State Health Officer letter?

A. Correct.

Q. And a SHO letter is a letter that's sent by CMS, is that correct?

A. Correct.

Q. And you said a SHO letter might be sent if there's a mandated service that a state Medicaid program is not covering, correct?

A. Correct. So the most recent example that we have of that, which is fairly recent because sometimes you can go quite a while without having it, is the medication assisted treatment services. Every state is mandated to cover all forms of MAT services, and so if your state was not previously covering all those services, you had to do a state plan. Or if you were covering these services but they were not outlined correctly in your state plan, you had to revise your state plan to assure CMS that you were covering those

services without any kind of restrictions that would not allow individuals to receive those MAT services.

Q. And did you just use the abbreviation MAT?

A. Yeah, that's medication assisted treatment services, it's services for persons who are with substance use disorder.

Q. Understood. So you said in connection with preparing to testify as the organizational representative today you looked to see if CMS had sent a SHO letter to BMS about gender affirming surgery, is that correct?

A. Correct.

Q. And did you find any such letter?

A. I did not.

Q. Are there any other facts that you're aware of that support the governmental interest, which is again, to quote, "Defendants state that they provide coverage that's mandated for coverage by CMS," are there any other facts that support that governmental interest?

A. I cannot find any directive from CMS telling me I have to cover this service. If there was, we would have to cover the service or lose billions of dollars, and we would not be able to put that at risk.

Q. Understood. And are there any other facts that you're aware of that are related to that interest?

A. Not that I'm aware of.

Q. So I think you testified earlier that counseling is covered for treatment of gender dysphoria through the Medicaid program, is that right?

A. Correct.

Q. Do you have knowledge of why counseling is covered for gender dysphoria?

A. We do not have a restriction on the diagnosis code of why you might seek counseling, it might be for situational depression, it might be for schizophrenia, it could be for gender dysphoria, it could be for a variety of reasons.

Q. And who made the decision to allow coverage for counseling even if the only diagnosis code for the counseling is gender dysphoria, was it BMS that decided to do that?

A. BMS has decided not to edit based on diagnosis for counseling, meaning if your doctor, your therapist thinks you need some counseling because of whatever reason, we don't have an edit that says you can only get counseling for these five diagnoses. You can receive counseling initially for any diagnosis.

What will come into play is if you're going to counseling and you've been going for a few months and there's no progress and you want to continue to go to

counseling every week, then utilization management might look and see, you know, why are you going, you know, why does this person need to continue to go to counseling, because you usually go to counseling and then come back off of it. We don't edit for diagnosis, but just edit for progress, making sure that the counseling is helping you.

Q. And so when you refer to an edit and say you don't edit for diagnosis, does that mean that BMS does not currently place any restriction on access to counseling based on the diagnosis?

A. Correct.

Q. Edit means we don't limit access to that care, when you say we don't have an edit, that's what that means?

A. Right. So when I say edit, I'm thinking about like my system, and there's edits in the system. And so, for example, an example that has come up from my testimony is we had an edit for not paying pregnancy codes if the individual in the system was male, and so that was an edit that we had to work around in order to pay those codes.

Q. Thank you. Has BMS ever had to give approval of the coverage for counseling even when it's only indicated by a gender dysphoria diagnosis code?

A. No, because our state plan is written for counseling. I'd have to go back to review it, but I think it's any kind of behavioral health diagnosis. We don't have it specified out with regard to what kind of behavioral health diagnosis you might have.

Q. And are there any restrictions ongoing using the federal funding that West Virginia Medicaid receives to pay for counseling received for a diagnosis of gender dysphoria?

A. No, we receive FMAP for that.

Q. So you can use those matching federal dollars to provide counseling for gender dysphoria, correct?

A. Yes. All of our counseling is a behavioral health service that is matched by the federal government.

Q. And as we discussed earlier, hormone therapy for the treatment of gender dysphoria is covered through the Medicaid program, correct?

A. Correct.

Q. BMS previously excluded coverage of hormone therapy for gender dysphoria, is that right?

A. You are correct.

Q. And when did BMS first exclude coverage for hormone therapy?

A. I do not know when we first did it. I believe

we took the edit off in 2017.

Q. Does it ring a bell if I ask whether BMS would have first started excluding coverage in 2011?

A. Is that when the MCO's had the pharmacy benefit?

Q. I'm not sure of the answer to that, and it sounds like that doesn't ring a bell. So I think your testimony is you are unsure when the edit first, or when hormone therapy was first excluded for gender dysphoria, but a decision was made in 2017 to allow coverage for hormone therapy for gender dysphoria, correct?

A. Correct.

Q. And do you have knowledge of why hormone therapy is covered for gender dysphoria?

A. I believe the pharmacy director at the time, I think then it was Vicki Cunningham, recognized some of the denial of the claims and, and worked with the team to remove the edit.

Q. And who was the decision-maker about providing that coverage?

A. She would have asked me like is it okay if I do this.

Q. And did you approve when she asked that question?

A. I did.

Q. Did BMS have to approve the change to begin

covering hormone therapy for gender dysphoria?

A. We did not have to do a state plan for that.

Q. And why did you not have to get BMS approval to do a state plan for coverage of hormone therapy for gender dysphoria?

MS. CYRUS: Objection, asked and answered. But you can answer again.

A. We were already covering hormones, so it was just resubmitting the edit.

Q. And are there any restrictions on using the federal funding that West Virginia Medicaid receives to pay for hormone therapy for gender dysphoria?

A. No.

Q. So BMS can use the federal funding it receives to help pay for hormone therapy for gender dysphoria, correct?

A. Yes.

Q. We're going to go ahead and introduce our next exhibit and I will tell you when it's loaded.

(Exhibit 17 marked for identification.)

Q. Okay. Go ahead and click on that folder and I believe you should see what's been marked as Plaintiff's Exhibit 17.

A. I see it.

Q. Great. Please take a moment to review this

document and let me know when you have.

A. I've reviewed it.

Q. In the lower right-hand corner of the document do you see the Bates stamp DHHRBMS012594?

A. Yes.

Q. And do you recognize this document?

A. It looks like an email that I've been copied on.

Q. And please scroll to the email at the bottom of this chain dated October 24, 2016 from Vicki Cunningham.

A. Yes.

Q. And who is she?

A. She was my pharmacy director at the time.

Q. Okay. So Vicki writes, and I'm going to read her text out loud, "All, we have had many questions from other states about covering estrogen for gender dysphoria plan members. At this time we are not covering it, but CMS has made it clear that we can and get match on the drug." Did I read that correctly?

A. You did.

Q. Do you have any knowledge about the communications with CMS that she's describing in that email?

A. I don't have direct knowledge, but I do know as the pharmacy director she had contacts with CMS particularly around our pharmacy benefit that she would

call, you know, and bounce things off of much like CMS the way they're structured, they have different individuals that have expertise in different things, so she's talking to somebody at CMS who is knowledgeable around the pharmacy benefit and that would have been her main contact at CMS.

Q. So if the Medicaid program were to approve coverage for gender confirming surgery, would CMS have to approve that coverage?

A. Yes.

Q. So, for example, let's say if the Medicaid program began covering hysterectomies for gender confirming care, would CMS have to approve performing a hysterectomy for gender dysphoria?

MS. CYRUS: Objection, calls for speculation. If you know, you can answer.

A. I don't know if they would have to for the hysterectomy because we already cover hysterectomy much like we already cover the hormones, so that would just be a technical assistance question just to ask to make sure, kind of like Vicki asked here to make sure. And we might be able to cover a hysterectomy without the state plan because that's a surgery that's already covered in our state plan.

Q. Thank you. And then is it generally true, I

think as you described with counseling and hormone therapy and hysterectomies, that if a service is one already offered by BMS, that allowing that service for an additional diagnosis doesn't necessarily require any approval from CMS?

MS. CYRUS: Object to the form of the question. But if you know, you can answer.

A. Yeah, I think what we would do in those cases, we would always, because much like Vicki did here, we always double check with CMS and then CMS would tell us whether or not it would require a state change.

Q. You were saying for a hysterectomy, however, just to stick with that particular example, the Medicaid plan currently provides hysterectomy procedures for other diagnoses, correct?

A. Correct.

Q. And ordinarily if BMS were to approve a surgery that's already providing for any additional diagnosis, that ordinarily wouldn't require a change to the Medicaid plan, correct?

A. Honestly, we might have covered a hysterectomy out there for this reason and I would not know for sure if we did or not.

Q. And do you have a sense of how that might come to pass?

MS. CYRUS: Object, calls for speculation. If you know, you can answer.

A. I mean, people get hysterectomies all the time and so, you know, if it's a female requesting a hysterectomy, depending on what the doctor put on the prior authorization, there could be a number of reasons, and that might be one of the reasons in addition to other reasons that they are getting a hysterectomy.

Q. And has BMS ever had any communication with CMS about gender affirming surgeries?

A. Not that I'm aware of.

Q. So BMS has never inquired whether expanding access to surgeries that are already covered for other diagnoses would be approved for purposes of treating gender dysphoria?

MS. CYRUS: Object to the form of the question. But you can answer.

A. Not that I'm aware of.

Q. Is puberty delaying treatment for gender dysphoria ever covered through the Medicaid program?

A. I don't believe we've ever covered it, but I can't tell you 100 percent. I mean, I do not think we've covered it.

Q. But it might be covered through the EPSDT process, correct?

A. Maybe.

Q. And just to clarify, so have you ever covered puberty delaying treatment or the treatment for precocious puberty?

A. I'm sorry, what?

Q. Have you ever covered puberty delaying treatment for precocious puberty?

MS. CYRUS: Object to the form of the question. If you know, you can answer.

A. I don't know if I know that answer, I don't know if I know what that even means.

Q. Okay. Give me just one moment to look over my notes. All right. We're going to introduce our next exhibit. I will let you know when it's loaded.

(Exhibit 18 marked for identification.)

Q. All right. Go ahead and click on the exhibits folder and you should see a document marked as Plaintiff's Exhibit 18. Let me know when you've had a moment to open the document and familiarize yourself with it.

A. I have familiarized myself with it.

Q. In the lower right-hand corner the first page of the document has a Bates stamp DHHRBMS012319. Do you see that?

A. It's 319, did you say 311?

Q. If I did, I misspoke, it should be DHHRBMS012319, is that correct?

A. Yes.

Q. Do you recognize this document?

A. Yes.

Q. And what is it?

A. It's an email trail around a specific case of a request for I believe it was an 11-year-old who wanted to delay puberty.

Q. Okay. Please go to Page 2 of the pdf, and that should be Bates stamped DHHRBMS012320. Do you see that?

A. Yes.

Q. And do you see an email from Dr. James Becker dated October 7, 2020?

A. Yes.

Q. He states, "Cindy, I'm still considering the appeal that is on my desk today. I was able to review the recommendations of the American Academy of Pediatrics in regard to treatment of TGD. They do support the use of medication to delay pubertal development. The guidelines is filled with precautions about side effects and possible future consequences. They make the point that the effect of these medications is reversible if the medication is stopped. They argue that this approach may give providers and counselors a

chance to ensure that the patient is fully committed to this change and understands what they are choosing. I think on the basis of that information, I am inclined to approve the treatment with a host of warnings about provider responsibility for monitoring safety and efficacy." Did I read that correctly?

A. Yes.

Q. Referring again to that page, did you respond the same day to say, "Please hold on the approval and let me discuss with leadership"?

A. Correct.

Q. Who were you referring to when you referenced leadership in that email?

A. My guess is I probably ran this by Deputy Secretary Samples.

Q. Do you think you might have conferred with anyone else or likely just Deputy Secretary Samples?

A. I remember this case being discussed with Deputy Secretary Samples and then we also had a call on this case with Dr. Becker and internal individuals here at BMS, I believe Jennifer Myers was on the call, and then I also think we discussed it in our leadership team which consisted of the people on this email along with Brad is not on the email, but he would have been on the leadership team when Dr. Becker brought it up.

Q. So it sounds like one of the consultations that you would have done was with Deputy Secretary Samples, is that correct?

A. Correct.

Q. And do you recall what he said when you consulted with him?

A. I don't recall. I'm pretty sure I outreached and just asked him his thoughts and I don't recall that he gave an answer either way. He probably pushed it back in our court as to make the decision.

Q. And then it sounds like it was also discussed with what you described as the leadership team, is that correct?

A. Correct.

Q. And that included the people that are on this email chain.

A. So Dr. Becker would bring issues like this to the leadership team, and so it would be the three deputies, Dr. Becker and Riley Romeo who is my general counsel who makes up the BMS leadership team, and myself.

Q. And who are the three deputies?

A. Fred Lewis, Sarah Young and Becky Manning.

Q. And do you recall what the discussion was with the leadership team about this particular case?

MS. CYRUS: I'm going to object to the extent that if Riley Romeo was involved, and he's general counsel for BMS and if he gave legal advice, I'm going to object to attorney-client privilege. But beyond that, you can answer.

A. Honestly, I don't recall what was all discussed other than Dr. Becker probably brought it up as an issue that we need to be figuring out what we're going to do with this individual case that was laid on his desk.

Q. And was a decision eventually made about this individual case?

A. Yes.

Q. And do you recall who made the decision about this case?

A. I did.

Q. And what was the, what was your decision about this case?

A. We did not cover -- I believe it ended up not being a pharmaceutical, but a device perhaps, and we did not cover, we did not cover the request to delay puberty.

Q. And when you made that decision, what was the basis for your decision?

A. Just the discussions with Dr. Becker and the nurses and the concern about the age of the individual

being 11 years old and whether or not they were able to make such a decision for themselves.

Q. And what do you recall substantively being shared with you that led you to that decision?

A. Dr. Becker basically, you know, told me both sides of the situation. Initially concerns that, well, maybe it's okay, and then concerns. And so if Dr. Becker is not 100 percent sure and has, you know, some concerns, then I didn't think it was a good path for us to follow to cover something.

Q. And did you do any research of your own before making a decision?

A. I rely on Dr. Becker and the nurses to do that.

Q. So the information that you considered in making the decision would have come from Dr. Becker and the nurses and that would have been the information you considered, correct?

MS. CYRUS: Object to the form of the question.

A. Correct.

Q. And what were the names of the nurses that you consulted with?

A. I believe on the call was Jennifer Myers. I do not recall if Carrie Mallory was on the call or not, but she would typically be another nurse that Dr. Becker

works with that does research for Dr. Becker, and I know that Dr. Becker was on the call.

Q. So on a slightly different topic, are you familiar with what social transition refers to?

A. I'm sorry, did you say -- I can't hear you.

Q. Are you familiar with what social transition refers to?

A. I am not.

Q. So that would mean BMS does not have a position on whether transgender children should be prevented from socially transitioning, correct?

A. I don't believe we have a position. I'm not even sure what it is.

Q. And are you familiar with what is sometimes referred to as conversion therapy?

A. For someone who is gay, like pray the gay away?

Q. Yes, it can be referred to that. And for purposes of this question, assume that it's applying that principle to be transgender, so assume --

A. Yes, I have heard of that.

Q. Does BMS have a position on whether transgender children should be subjected to conversion therapy?

A. No one should be subjected to that therapy.

Q. Thank you. All right. If you are good to keep going for a little while, then I think I'll turn to our

next topic.

A. Okay.

Q. Great. We will go ahead and introduce our next exhibit and I will tell you when it's loaded.

(Exhibit 19 marked for identification.)

Q. All right. Go ahead and click on the exhibit folder and you should see what's been marked as Plaintiff's Exhibit 19.

A. I have it up.

Q. Have you familiarized yourself with the document?

A. Yes.

Q. Have you seen this document before?

A. I believe so.

Q. Did you review this document in connection with the testimony as BMS's organizational representative?

A. Yes, I believe so.

Q. You've been designated to testify about the response to request for production No. 7. Please turn to Page 3 and we'll review it together.

A. Okay.

Q. Towards the bottom of the page you'll see text that reads, "No. 7. If defendants contend that the exclusion of gender confirming care is supported by any governmental interest not encompassed in the requests

above, all documents supporting that contention." Did I read that correctly?

A. Yes.

Q. And the response reads, "Supplemental response. Please see information and communications from CMS regarding mandatory coverage which does not include gender confirming care marked as Exhibit 96, Bates No. DHHRBMS016179 through 016223." Did I read that correctly?

A. You did.

Q. Similar to before, my understanding from your counsel is that you will address request for production No. 7 as it relates to communications from CMS while your colleague Becky Manning will address this request as it refers to budget documents, is that your understanding as well?

A. Yes.

Q. Are you prepared to testify about this request?

A. Yes.

Q. With respect to request for production 7 specifically, what did you do to testify today?

A. Made sure that we didn't have any communications from CMS telling us that this was a required coverage.

Q. And apart from the discovery response I just read which identifies certain documents, are you aware

of any other responsive documents to this request?

A. I don't believe so.

Q. We'll go ahead and pull up our next exhibit then. I'll tell you when it's ready.

(Exhibit 20 marked for identification.)

Q. All right. Go ahead and click on the exhibit folder and you should see the exhibit marked as Plaintiff's Exhibit 20. Let me know when you've had a chance to review the document.

A. I have the document pulled up.

Q. And in the lower right-hand corner the first page of the document has the Bates stamp DHHRBMS016179. Do you see that?

A. Yes.

Q. Do you recognize this document?

A. I do.

Q. And what is this document?

A. Answer to our question from earlier, this document is a State Health Official letter, a SHO letter, and it's telling us about how we do the MAGI based or the expansion based income methodology for qualifying for Medicaid.

Q. And if you take a moment to scroll through the document, does it appear to be a collection of more than one memo from CMS state Medicaid health officials?

A. It's all about how we, how we do the eligibility based on MAGI income, but different components of MAGI income of what you can exclude and include in order for individuals to be eligible for the expansion.

Q. Thank you. That's helpful. Please scroll down to Page 42 out of 45 of the pdf.

A. My apologies, I didn't scroll down enough on the first one, and so this is another, it starts another letter here. What page am I on here? Sorry. It's on Page 19 started another letter.

Q. That's helpful. Thank you for the clarification. And scroll with me, if you will, to Page 42 of the pdf. And in case the system doesn't tell you what page you're on as you scroll, you'll be looking for a page that has a Bates ending with the numbers 220.

A. Okay, I'm there.

Q. And do you see a title at the -- actually, for clarity, let me make sure I've got the complete Bates stamp. The complete Bates stamp on this page is DHHRBMS016220. Do you see a title at the top of the page that says, "Mandatory and optional Medicaid benefits"?

A. I do.

Q. Is that followed by a listing of mandatory benefits?

A. It is.

Q. And can you describe again what mandatory benefits are?

A. Those are benefits that CMS says you have to cover this benefit in order to participate in the Medicaid program.

Q. And does this look to you like an accurate and complete list of the mandatory benefits required by CMS?

MS. CYRUS: Object to the form of the question. If you know, you can answer.

A. It does, it looks like what's probably on CMS's Website.

Q. And then below that list do you see a list of optional benefits?

A. I do.

Q. And these are optional benefits provided by BMS, correct?

A. By BMS?

Q. Yes.

A. No. These are just optional benefits that the state can choose to provide, these are not necessarily West Virginia BMS optional benefits.

Q. And you testified that BMS does provide a number of optional benefits, correct?

A. We do.

Q. Which benefits on this list do you recognize as optional benefits that BMS provides?

A. Well, we definitely provide prescription drugs. The clinic services, I would have to look at how they're defining that because we have a number of clinics, but I would like to make sure that it's not a clinic that we wouldn't cover, I'm not sure what the definition of that is on this particular Website.

We do physical therapy, occupational therapy, speech and hearing. We do have respiratory care, we do have a number of screening and preventative services, we do cover podiatry. We have a limited optometry benefit, we have a limited adult dental benefit, we do not cover eyeglasses, we do have a chiropractic service, we do have private duty nursing, we do have personal care, we do have hospice.

I would have to see the definition of this case management, but we do have a targeted case management service. We do have ID services, we do have ICF, IMD services. We do not have 1915(i) services, we do not have 1915(j) services, we do not have 1915(k) services. I do not believe we have TB related services, I'm not sure what those, I mean, I know what it is, but I'm not sure of what services they're talking about there. We do cover inpatient psychiatric care for individuals that

are 21, and we do have health home services.

Q. And are you aware of any other optional services that BMS provides that you haven't just listed?

A. They do not have -- we have 1915(c) home and community based waivers and I don't believe they have the 1915(c) services on this list, and we also have a 1115 demonstration waiver for SUD, substance use disorder services as well, and neither of those are on this list.

Q. Is counseling including counseling for gender dysphoria, would that follow one of the services under the mandatory list or under the optional list of benefits?

A. It would be both. So our, under your mandatory list you'll see federally qualified health centers. Our FQHC's also provide behavioral health and they receive a separate encounter for behavioral health, so they could be receiving those services under, the counseling under the mandatory there.

And then under optional benefits, let's see, where was that. They would receive it mainly through our diagnostic screening, preventative and rehab services. And so rehab services, a lot of your behavioral health services are considered rehabilitative in nature and they're under the rehab part of your state

plan, so that would be another area that they could receive them.

And let me see if there was any other. And then we have other practitioner services, and so they can definitely probably receive them there as we like enroll psychologists, counselors, an ICSW to provide counseling.

Q. That's helpful. Are the optional services also known as waiver services?

A. Not all the optional services are waiver services, a lot of these are state plan services. So our pharmacy benefit is a state plan service, physical therapy, occupational therapy, speech are state plan services. But we do have those waivers, the 1915(c) waivers and the 1115 that are also waiver services. But a lot of these services that you'll see here, private duty nurse is a state plan, personal care is a state plan, hospice is a state plan. Do you want me to go down the entire list?

Q. No, that's sufficient. Thank you. So we talked earlier about the example of hysterectomy. Is that ever considered part of the mandatory services required by CMS?

A. I don't think the specific procedure perhaps but, you know, it is -- actually, maybe because it's, I

don't know how they would do hysterectomy as a mandatory. Of course we cover -- I'm thinking it through in my head. I don't think CMS takes it down to the procedure code of level of different procedures with regard to that. I would have to honestly ask CMS if that would be considered a part of your diagnostic that in treating it, you know, that you're in the hospital, can you get it. Honestly, I think I would have to ask CMS if hysterectomy is mandatory because they don't, they don't go down to that level.

Q. And you said they don't go down to that level. Is another way of describing that that when we look at this list of the mandatory benefits it includes broad categories without specifying specific kinds of surgical procedures, for example, is that right?

A. It does, but I do know like when we, the last noncovered surgical procedure that we had to cover did require a state plan and it was something, it was years ago and this was a suit, we were sued, and after we were sued we started covering the service and it required a state plan for us to do it, from what I recall, and that was a specific surgical procedure.

Q. What kind of surgical procedure was that?

A. It was a bariatric surgery. We were not covering bariatric surgeries, and then it's been many,

many years ago, and we were sued and then after that we did a state plan. I don't recall, I wasn't in the position I'm in now and so when that happened I don't recall if it was a settlement or if we lost or, but I do know we did a state plan to cover those surgeries.

Q. And that meant that state plan had to be approved by CMS, correct?

A. Correct.

Q. All right. So just to clarify one more thing. You said in preparing for your testimony today you were looking at various documents by CMS and that were transmitted to BMS, and you didn't see any documents prohibiting or requiring coverage for gender confirming care, correct?

A. I do not believe there are any documents that prohibit it, but I do not believe there are any documents that mandate it either.

Q. Okay. So the decision to not cover the care resides with BMS, correct?

MS. CYRUS: Object to the form of the question.

A. Yes.

Q. Was that correct?

A. Correct.

Q. All right. I think we're going to turn now to

another exhibit. So we'll go ahead and get that marked and I will tell you when it's available.

(Exhibit 21 marked for identification.)

Q. And just to set the stage for this, so I'm essentially returning now to Topic 18 in the plaintiffs' 30(b)(6) deposition notice. This is the topic we reviewed earlier today which relates to certain discovery requests. So I'll now be asking you about some additional discovery requests pursuant to that Topic 18.

All right. Go ahead and click on the exhibit folder and you should be able to open Plaintiff's Exhibit 21. Let me know when you've had a chance to review that document.

A. I've reviewed it, I've seen it.

Q. You've seen this document before?

A. Yes.

Q. Did you review it in connection with your testimony as BMS's organizational representative today?

A. Yes.

Q. You've been designated to testify about the response to request for admission 7 pursuant to Topic 18 in the 30(b)(6) notice of deposition. Please turn to Page 2 so we can review it together.

A. Okay.

Q. Towards the bottom of the page you'll see text that reads, "No. 7, admit that the Medicaid plan only covers care that is medically necessary." Did I read that correctly?

A. Correct.

Q. And the response reads, "Response. Admitted, however, these defendants deny any suggestion that Medicaid covers all care as medically necessary." Did I read that correctly?

A. You are correct.

Q. Are you prepared to testify about this request?

A. Yes.

Q. With respect to your request for admission specifically, what did you do to prepare to testify today?

A. I'm familiar with what services we cover and do not cover.

Q. To make sure that I understand this response, can you confirm that in order for care to be covered by Medicaid it must be medically necessary?

A. Yes, we cover medically necessary services.

Q. In other words, if coverage is covered by Medicaid, the care has been deemed medically necessary, correct?

A. Correct.

Q. And if the care is not medically necessary it would not qualify for coverage under Medicaid, correct?

A. Correct. The one exception to that would be an EPSDT 4-4 plus over on ameliorating the condition, that's a little bit broader term of medically necessary. But in the end it's still medically necessary to ameliorate the condition, it's just a little bit broader.

Q. That's helpful. Based on the exclusion for gender affirming surgery from the Medicaid plan, is gender affirming surgery excluded regardless of whether it's medically necessary for a specific member?

MS. CYRUS: Object to the form of the question. If you know, you can answer.

A. We do not cover that surgery regardless of whether or not there's a physician or a review team saying it's medically necessary.

Q. We can move on now to another exhibit. So we'll go ahead and look at it when it's ready.

(Exhibit 22 marked for identification.)

Q. Okay. Go ahead and click on the exhibit folder and you should be able to open what's been marked as Plaintiff's Exhibit 22.

A. I have it open.

Q. Please take a moment to review the document and

let me know when you have.

A. I've looked at the document.

Q. Have you seen this document before?

A. I believe so.

Q. Did you review it in connection with your testimony as BMS's organizational representative today?

A. I believe so.

Q. You've been designated to testify about the response to request for production 16. Please turn to Page 9 of the document and let me know when you see No. 16.

A. I'm there.

Q. And that reads, "No. 16, all statements of witnesses or potential witnesses or persons interviewed in connection with this lawsuit." Did I read that correctly?

A. You did.

Q. The response reads, "Response. Please see affidavits of Brian Thompson, Angela," how do I pronounce that last name?

A. Wowczuk, I don't know.

Q. Okay. Let me start this response again.

MS. BORELLI: Before I do, for the benefit of the court reporter I will spell the last name, W-O-W-C-Z-U-K. And then there's a first name that I

will read after that, Tadd, it's spelled T-A-D-D.

Q. So I'll read this response again in its entirety, "Response. Please see affidavits of Brian Thompson, Angela Wowczuk."

MS. CYRUS: I think it's Wowczuk, by the way. Excuse me.

MS. BORELLI: Thank you, Lou Ann.

Q. Okay. Let me read that again, "Response. Please see affidavits of Brian Thompson, Angela Wowczuk and Tadd Haynes, Exhibit 2, Bates No. DHHRBMS000006-12." Did I read that correctly?

A. Yes.

Q. Okay. Are you prepared to testify about this topic?

A. Yes.

Q. With respect to your request for production 16 specifically, what did you do to testify today?

A. I believe that I quickly reviewed the affidavits of Tadd and Brian and Angela.

Q. Are you aware of any other statements of witnesses upon which defendants intend to rely in this lawsuit?

A. Not that I'm aware of.

Q. Are you aware of any other statements of potential witnesses upon which defendants intend to rely

in this lawsuit?

A. Not that I'm aware of.

Q. Are you aware of any other persons interviewed in connection with this lawsuit apart from Brian, Angela and Tadd?

A. Not that I'm aware of.

Q. We're going to move on to our next exhibit then. I will tell you when it's available to review.

(Exhibit 23 marked for identification.)

Q. Okay. Go ahead and click on the exhibits folder and let me know when you've been able to open and review the document marked as Plaintiff's Exhibit 23.

A. Got it.

Q. Have you seen this document before?

A. Yes.

Q. Did you review it in connection with your testimony as BMS's organizational representative today?

A. I believe so.

Q. You've been designated to testify about the response to request for production 17. Please turn to Page 3.

A. Okay.

Q. And you'll see there text that reads, "No. 17, documents obtained from third parties as a result of authorizations, releases and/or subpoenas relating to

the subject matter of this lawsuit." Did I read that correctly?

A. You did.

Q. And the response reads, "Supplemental response. See Exhibit 125 which consists of documents provided by Aetna regarding Plaintiff Anderson. See also documents provided by UniCare regarding Plaintiff Fain previously produced and marked as Exhibits 93 and 94." Did I read that correctly?

A. You did.

Q. Are you prepared to testify about this topic?

A. Yes.

Q. With respect to request for production 17 specifically, what did you do to prepare to testify today?

A. Just reviewed this with the attorneys.

Q. And apart from the documents identified in the response to request for production 17 that I just read, are you aware of other documents obtained by defendants from third parties related to this suit?

A. Not that I'm aware of.

Q. Are you aware of other documents obtained through a subpoena related to this suit?

A. Not that I'm aware of.

Q. Okay. If you'll give me just a couple of

moments to confer with my co-counsel, I will be right back and I can give you a sense of how much more we might have for today.

A. Okay.

(A break was taken at 1:44 p.m.)

BY MS. BORELLI:

Q. Commissioner Beane, we do not have any further questions for you today. Thank you for your time.

A. Thank you for no more questions.

EXAMINATION

BY MS. CYRUS:

Q. Well, wait a minute, not so fast. Commissioner Beane, I just have a couple follow-up I wanted to ask you before we finish up.

A. Okay, Lou Ann.

Q. Well, I just wanted to follow up on a couple of areas, I just wanted to make sure your testimony was clear. You were asked about the emails with Dr. Becker about the 11-year-old child who was seeking something that would delay puberty, do you recall that?

A. I do.

Q. Okay. And I wanted to ask you, was it your understanding that what was being sought turned out to be a device and not a pharmaceutical?

A. Yes.

Q. Okay. And was that the reason it was not covered was because it was not a pharmaceutical?

A. We did not cover the device.

Q. Okay. Was it going to have to be implanted as far as you understood?

A. That's my understanding.

Q. Okay.

A. And I have a very limited understanding of it, but yes.

Q. Was it your understanding that that was considered a surgery implanting the device?

A. I'm assuming that is a surgery to implant the device, yes.

Q. Okay. But are you, but you are aware it was not a pharmaceutical?

A. It was not a pharmaceutical.

Q. Okay. Then regardless of the questions on whether it was appropriate to delay puberty in a 11-year-old, if I understand your testimony correctly, that wasn't the deciding factor as to whether or not it was covered, it was not covered because it was not a pharmaceutical, is that correct?

MS. BORELLI: Objection, object to form.

A. What am I supposed to do, I'm sorry?

Q. You can answer. She's objecting for the record,

just like I objected.

A. Oh, okay. I'm sorry, Lou Ann, can you say it again.

Q. Yes. You talked about, you had questions about whether it was appropriate or safe to delay puberty in an 11-year-old. I'm just asking you, regardless of those questions, was a deciding factor whether it was not covered the fact that it was not a pharmaceutical?

MS. BORELLI: Object to form.

A. I think it was both, it was not a pharmaceutical and there was a concern about the age.

Q. Okay. And you also were asked about whether BMS prohibited, I'm sorry, whether CMS prohibited BMS from covering transgender surgery or gender affirming surgery. And one reason you testified about was that that surgery is not mandated by CMS. And we have another witness who's going to testify about the budget, but is the other reason that it's not covered is due to budgetary constrictions, the constraints on the Medicaid budget, if you know?

MS. BORELLI: Object to form.

A. Yes. So anything that grows my budget, I really have to have, you know, approval or have extra money in the chaffers to cover it.

So a perfect example, because I think people can

look at the Medicaid budget and see that it's a $4.5 billion budget, and even if every individual that we've identified in the suit requested the surgery, how much would that really cost in such a large budget. But even this session we had a bill to cover blood pressure cuffs for individuals with uncontrolled blood pressure. And so we have, so when bills go through our legislature you have to do a fiscal note. And so our state share of that coverage was going to be right around $500,000 and it fell due to the fiscal note, the legislature didn't want to increase the Medicaid budget at all. So we have to be very aware of where our budget is at all times and knowing that our deficit is coming, we are not spending any extra dollars if at all possible.

MS. BORELLI: I just want to object to this line of questioning because in the communications sent to plaintiffs' counsel it was communicated to us that a different witness would be addressing the budgetary interests that have been invoked by defendants in support of the exclusion, so I would object to this entire line of questioning.

MS. CYRUS: Sure. And I'm asking her this as a fact witness since you designated it for purposes of both and I think it completes her testimony, but the objection is noted.

Q. You said the legislature rejected an opportunity to provide blood pressure cuffs this session that would have cost around $500,000?

A. It was a little over 500,000, I can't remember the exact number, Lou Ann, but it was 500 and change, maybe 520, something like that.

Q. Okay. And what is the status of Medicaid's budget, you made reference to it earlier?

A. We currently have actually -- sorry, it's late in the day. We currently have a surplus, but we are predicting that we will be in the red in two years from now.

Q. Okay. And what does that mean that you will be in the red in two years?

A. We will have a budget deficit.

Q. Would that indicate that BMS would have to cut existing services?

MS. BORELLI: Object to form.

A. We would either have to cut existing services or receive additional appropriations from the legislature to continue services of this.

Q. Based on the existing budget, would Medicaid have to add funds to cover transgender surgeries?

MS. BORELLI: Object to form.

A. We would have to add dollars in order to cover

it ongoing. We have a surplus this year, but for it to be ongoing services, because services don't end, they're not one-time services, we would have to add dollars.

Q. Okay. And does Medicaid have funds to add those dollars ongoing?

MS. BORELLI: Object to form.

A. We do not have the extra funds for that right now, no.

Q. Okay. Now let me ask you this, if CMS were to mandate the coverage of the transgender surgeries, do you know whether CMS would then provide some federal dollars to assist with those surgeries?

MS. BORELLI: Object to form.

A. They would provide the FMAP which we've discussed which is like the 3 to 1 match, you know, because it would be a mandated service and it's a partnership, so typically, you know, we'll come up with a quarter, they'll give us the 75.

Q. So if CMS mandated coverage for the transgender surgery, it's your understanding that CMS would provide 75 percent of the cost of that and the state would only pay a quarter of that?

MS. BORELLI: Object to form.

A. Correct, and that's based on our FMAP.

Q. All right. Thank you. That's all the questions

I have.

MS. BORELLI: And we will now take another break and confer and just see if we have any follow-up questions based on those lines of questioning.

MS. CYRUS: Okay.

MS. BORELLI: Let's take ten minutes, be back in ten.

MS. CYRUS: Sure thing.

MS. BORELLI: Thank you.

(A break was taken at 2:03 p.m.)

FURTHER EXAMINATION

BY MS. BORELLI:

Q. Commissioner Beane, I have just a few additional questions for you based on the last line of questions that you were asked. You've testified today that there was litigation over bariatric surgery, the coverage under the Medicaid program, correct?

A. Correct.

Q. And did you testify that as a result of that litigation coverage was provided for bariatric surgery through Medicaid?

A. Yes. I believe that there was a state plan submitted and approved and we started covering bariatric surgery procedures.

Q. Do you know how that coverage for bariatric

surgery was funded?

MS. CYRUS: Object to the form of the question. If you know, you can answer.

A. I'm sure once the SPA was approved, then it's funded like our other medical services with the state and federal match.

Q. Have you ever performed research about the cost of gender affirming surgery?

A. I have not.

Q. Have you ever reviewed research about the cost of gender affirming surgery?

A. I at one time asked Dr. Becker if he could look into like how much the states that are covering this, how much their spend was, but I don't recall ever receiving anything from him with regards to it.

Q. Are you aware of anyone else within BMS who has researched the cost of gender affirming surgery?

A. Not that I'm aware of.

Q. And is there anything you considered related to the cost of gender affirming surgery that we haven't discussed?

A. I don't believe so.

Q. All right. I think those are all the questions we have for the moment, preserving our right to ask further questions if Lou Ann has additional questions

for you now.

MS. CYRUS: I don't have any further questions and we will have her read.

(Proceedings concluded for the day at 2:21 p.m., 03-29-2022)

REPORTER'S CERTIFICATE

STATE OF MINNESOTA)
) ss.
COUNTY OF WASHINGTON)

I hereby certify that I reported the Zoom deposition of Commissioner Cynthia Beane on the 29th day of March 2022, and that the witness was by me first duly sworn to tell the whole truth;

That the testimony was transcribed by me and is a true record of the testimony of the witness;

That the cost of the original has been charged to the party who noticed the deposition, and that all parties who ordered copies have been charged at the same rate for such copies;

That I am not a relative or employee or attorney or counsel of any of the parties, or a relative or employee of such attorney or counsel;

That I am not financially interested in the action and have no contract with the parties, attorneys, or persons with an interest in the action that affects or has a substantial tendency to affect my impartiality;

That the right to read and sign the deposition by the witness was reserved.

WITNESS MY HAND AND SEAL THIS 29th day of March 2022.

Kelley E. Zilles, RPR
Notary Public, Washington County, Minnesota
My commission expires 1-31-2025

Veritext Legal Solutions
1100 Superior Ave
Suite 1820
Cleveland, Ohio 44114
Phone: 216-523-1313

April 11, 2022

To: Ms. Cyrus

Case Name: Fain, Christopher Et Al. v. Crouch, William Et Al.

Veritext Reference Number: 5096149

Witness: Commissioner Cynthia Beane Deposition Date: 3/29/2022

Dear Sir/Madam:

Enclosed please find a deposition transcript. Please have the witness review the transcript and note any changes or corrections on the included errata sheet, indicating the page, line number, change, and the reason for the change. Have the witness' signature notarized and forward the completed page(s) back to us at the Production address shown

above, or email to production-midwest@veritext.com.

If the errata is not returned within thirty days of your receipt of this letter, the reading and signing will be deemed waived.

Sincerely,

Production Department

NO NOTARY REQUIRED IN CA

DEPOSITION REVIEW
CERTIFICATION OF WITNESS

ASSIGNMENT REFERENCE NO: 5096149
CASE NAME: Fain, Christopher Et Al. v. Crouch, William Et Al.
DATE OF DEPOSITION: 3/29/2022
WITNESS' NAME: Commissioner Cynthia Beane
In accordance with the Rules of Civil Procedure, I have read the entire transcript of my testimony or it has been read to me.
I have made no changes to the testimony as transcribed by the court reporter.

_____ _____
Date Commissioner Cynthia Beane

Sworn to and subscribed before me, a Notary Public in and for the State and County, the referenced witness did personally appear and acknowledge that:

They have read the transcript;
They signed the foregoing Sworn Statement; and
Their execution of this Statement is of their free act and deed.

I have affixed my name and official seal

this _____ day of_____, 20____.

_____
Notary Public

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Commission Expiration Date

DEPOSITION REVIEW
CERTIFICATION OF WITNESS

ASSIGNMENT REFERENCE NO: 5096149
CASE NAME: Fain, Christopher Et Al. v. Crouch, William Et Al.
DATE OF DEPOSITION: 3/29/2022
WITNESS' NAME: Commissioner Cynthia Beane

In accordance with the Rules of Civil Procedure, I have read the entire transcript of my testimony or it has been read to me.

I have listed my changes on the attached Errata Sheet, listing page and line numbers as well as the reason(s) for the change(s).

I request that these changes be entered as part of the record of my testimony.

I have executed the Errata Sheet, as well as this Certificate, and request and authorize that both be appended to the transcript of my testimony and be incorporated therein.

_____ _____
Date Commissioner Cynthia Beane

Sworn to and subscribed before me, a Notary Public in and for the State and County, the referenced witness did personally appear and acknowledge that:

They have read the transcript;

They have listed all of their corrections in the appended Errata Sheet;

They signed the foregoing Sworn Statement; and

Their execution of this Statement is of their free act and deed.

I have affixed my name and official seal this _____ day of_____, 20____.

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Notary Public

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Commission Expiration Date

ERRATA SHEET

VERITEXT LEGAL SOLUTIONS MIDWEST

ASSIGNMENT NO: 5096149

PAGE/LINE(S) / CHANGE /REASON

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Date Commissioner Cynthia Beane

SUBSCRIBED AND SWORN TO BEFORE ME THIS _____

DAY OF _____, 20_____ .

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Notary Public

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Commission Expiration Date

d

West Virginia Rules of Civil Procedure

Part V. Depositions and Discovery

Rule 30

(e) Review by Witness; Changes; Signing. If requested by the deponent or a party before completion of the deposition, the deponent shall have 30 days after being notified by the officer that the transcript or recording is available in which to review the transcript or recording and, if there are changes in form or substance, to sign a statement reciting such changes and the reasons given by the deponent for making them. The officer shall indicate in the certificate prescribed by subdivision (f)(1) whether any review was requested and, if so, shall append any changes made by the deponent during the period allowed.

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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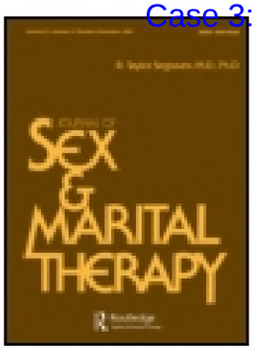

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Transgender and Gender Diverse Children and Adolescents: Fact-Checking of AAP Policy

James M. Cantor

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Transgender and Gender Diverse Children and Adolescents: Fact-Checking of AAP Policy

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ABSTRACT

The American Academy of Pediatrics (AAP) recently published a policy statement: *Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents*. Although almost all clinics and professional associations in the world use what's called the *watchful waiting* approach to helping gender diverse (GD) children, the AAP statement instead rejected that consensus, endorsing *gender affirmation* as the only acceptable approach. Remarkably, not only did the AAP statement fail to include any of the actual outcomes literature on such cases, but it also misrepresented the contents of its citations, which repeatedly said the very opposite of what AAP attributed to them.

The American Academy of Pediatrics (AAP) recently published a policy statement entitled, *Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents* (Rafferty, AAP Committee on Psychosocial Aspects of Child and Family Health, AAP Committee on Adolescence, AAP Section on Lesbian, Gay, Bisexual, and Transgender Health and Wellness, 2018). These are children who manifest discontent with the sex they were born as and desire to live as the other sex (or as some alternative gender role). The policy was quite a remarkable document: Although almost all clinics and professional associations in the world use what's called the *watchful waiting* approach to helping transgender and gender diverse (GD) children, the AAP statement rejected that consensus, endorsing only *gender affirmation*. That is, where the consensus is to delay any transitions after the onset of puberty, AAP instead rejected waiting before transition. With AAP taking such a dramatic departure from other professional associations, I was immediately curious about what evidence led them to that conclusion. As I read the works on which they based their policy, however, I was pretty surprised—rather alarmed, actually: These documents simply did not say what AAP claimed they did. In fact, the references that AAP cited as the basis of their policy instead outright contradicted that policy, repeatedly endorsing *watchful waiting*.

The AAP statement was also remarkable in what it left out—namely, the actual outcomes research on GD children. In total, there have been 11 follow-up studies of GD children, of which AAP cited one (Wallien & Cohen-Kettenis, 2008), doing so without actually mentioning the outcome data it contained. The literature on outcomes was neither reviewed, summarized, nor subjected to meta-analysis to be considered in the aggregate—It was merely disappeared. (The list of all existing studies appears in the appendix.) As they make clear, *every* follow-up study of GD children, without exception, found the same thing: Over puberty, the majority of GD children cease to want to transition. AAP is, of course, free to establish whatever policy it likes on

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whatever basis it likes. But any assertion that their policy is based on evidence is demonstrably false, as detailed below.

AAP divided clinical approaches into three types—conversion therapy, watchful waiting, and gender affirmation. It rejected the first two and endorsed *gender affirmation* as the only acceptable alternative. Most readers will likely be familiar already with attempts to use conversion therapy to change sexual orientation. With regard to gender identity, AAP wrote:

> "[C]onversion" or "reparative" treatment models are used to prevent children and adolescents from identifying as transgender or to dissuade them from exhibiting gender-diverse expressions. … Reparative approaches have been proven to be not only unsuccessful[38] but also deleterious and are considered outside the mainstream of traditional medical practice.[29,39–42]

The citations were:

38. Haldeman DC. The practice and ethics of sexual orientation conversion therapy. *J Consult Clin Psychol.* 1994;62(2):221–227.

29. Adelson SL; American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter on gay, lesbian, or bisexual sexual orientation, gender nonconformity, and gender discordance in children and adolescents. *J Am Acad Child Adolesc Psychiatry.* 2012;51(9):957–974.

39. Byne W. Regulations restrict practice of conversion therapy. *LGBT Health.* 2016;3(2):97–99.

40. Cohen-Kettenis PT, Delemarrevan de Waal HA, Gooren LJ. The treatment of adolescent transsexuals: changing insights. *J Sex Med.* 2008;5(8):1892–1897.

41. Bryant K. Making gender identity disorder of childhood: historical lessons for contemporary debates. *Sex Res Soc Policy.* 2006;3(3):23–39.

42. World Professional Association for Transgender Health. *WPATH De-Psychopathologisation Statement.* Minneapolis, MN: World Professional Association for Transgender Health; 2010.

AAP's claims struck me as odd because *there are no studies of conversion therapy for gender identity.* Studies of conversion therapy have been limited to *sexual orientation,* and, moreover, to the sexual orientation *of adults,* not to gender identity and not of children in any case. The article AAP cited to support their claim (reference number 38) is indeed a classic and well-known review, but it is a review of sexual orientation research *only.* Neither gender identity, nor even children, received a single mention in it. Indeed, the narrower scope of that article should be clear to anyone reading even just its title: "The practice and ethics of *sexual orientation* conversion therapy" [italics added].

AAP continued, saying that conversion approaches for GD children have already been rejected by medical consensus, citing five sources. This claim struck me as just as odd, however—I recalled associations banning conversion therapy for sexual orientation, but not for gender identity, exactly because there is no evidence for generalizing from adult sexual orientation to childhood gender identity. So, I started checking AAP's citations for that, and these sources too pertained only to sexual orientation, not gender identity (specifics below). What AAP's sources *did* repeatedly emphasize was that:

A. Sexual orientation of adults is unaffected by conversion therapy and any other [known] intervention;
B. Gender dysphoria in childhood before puberty desists in the majority of cases, becoming (cis-gendered) homosexuality in adulthood, again regardless of any [known] intervention; and
C. Gender dysphoria in childhood persisting after puberty tends to persist entirely.

That is, in the context of GD children, it simply makes no sense to refer to externally induced "conversion": The majority of children "convert" to cisgender or "desist" from transgender

regardless of any attempt to change them. "Conversion" only makes sense with regard to adult sexual orientation because (unlike childhood gender identity), adult homosexuality never or nearly never spontaneously changes to heterosexuality. Although gender identity and sexual orientation may often be analogous and discussed together with regard to social or political values and to civil rights, they are nonetheless distinct—with distinct origins, needs, and responses to medical and mental health care choices. Although AAP emphasized to the reader that "gender identity is not synonymous with 'sexual orientation'" (Rafferty et al., 2018, p. 3), they went ahead to treat them as such nonetheless.

To return to checking AAP's fidelity to its sources: Reference 29 was a practice guideline from the Committee on Quality Issues of the American Academy of Child and Adolescent Psychiatry (AACAP). Despite AAP applying this source to *gender identity,* AACAP was quite unambiguous regarding their intent to speak to sexual orientation and *only* to sexual orientation: "Principle 6. Clinicians should be aware that there is no evidence that *sexual orientation* can be altered through therapy, and that attempts to do so may be harmful. There is no established evidence that change in a predominant, enduring *homosexual* pattern of development is possible. Although sexual fantasies can, to some degree, be suppressed or repressed by those who are ashamed of or in conflict about them, sexual desire is not a choice. However, behavior, social role, and—to a degree—identity and self-acceptance are. Although operant conditioning modifies sexual fetishes, it does not alter *homosexuality*. Psychiatric efforts to alter *sexual orientation* through 'reparative therapy' *in adults* have found little or no change in *sexual orientation,* while causing significant risk of harm to self-esteem" (AACAP, 2012, p. 967, italics added).

Whereas AAP cites AACAP to support gender affirmation as the only alternative for treating GD children, AACAP's actual view was decidedly neutral, noting the lack of evidence: "Given the lack of empirical evidence from randomized, controlled trials of the efficacy of treatment aimed at eliminating gender discordance, the potential risks of treatment, and longitudinal evidence that gender discordance persists in only a small minority of untreated cases arising in childhood, further research is needed on predictors of persistence and desistence of childhood gender discordance as well as the long-term risks and benefits of intervention before any treatment to eliminate gender discordance can be endorsed" (AACAP, 2012, p. 969). Moreover, whereas AAP rejected watchful waiting, what AACAP recommended was: "In general, it is desirable to help adolescents who may be experiencing gender distress and dysphoria to defer sex reassignment until adulthood" (AACAP, 2012, p. 969). So, not only did AAP attribute to AACAP something AACAP never said, but also AAP withheld from readers AACAP's actual view.

Next, in reference 39, Byne (2016) also addressed only sexual orientation, doing so very clearly: "Reparative therapy is a subset of conversion therapies based on the premise that *same-sex attraction* are reparations for childhood trauma. Thus, practitioners of reparative therapy believe that exploring, isolating, and repairing these childhood emotional wounds will often result in reducing *same-sex attractions*" (Byne, 2016, p. 97). Byne does not say this of gender identity, as the AAP statement misrepresents.

In AAP reference 40, Cohen-Kettenis et al. (2008) did finally pertain to gender identity; however, this article never mentions conversion therapy. (!) Rather, in this study, the authors presented that clinic's lowering of their minimum age for cross-sex hormone treatment from age 18 to 16, which they did on the basis of a series of studies showing the high rates of success with this age group. Although it did strike me as odd that AAP picked as support against conversion therapy an article that did not mention conversion therapy, I could imagine AAP cited the article as an example of what the "mainstream of traditional medical practice" consists of (the logic being that conversion therapy falls outside what an 'ideal' clinic like this one provides). However, what this clinic provides is the very *watchful waiting* approach that AAP rejected. The approach

espoused by Cohen-Kettenis (and the other clinics mentioned in the source—Gent, Boston, Oslo, and now formerly, Toronto) is to make puberty-halting interventions available at age 12 because: "[P]ubertal suppression may give adolescents, together with the attending health professional, more time to explore their gender identity, without the distress of the developing secondary sex characteristics. The precision of the diagnosis may thus be improved" (Cohen-Kettenis et al., 2008, p. 1894).

Reference 41 presented a very interesting history spanning the 1960s–1990s about how feminine boys and tomboyish girls came to be recognized as mostly pre-homosexual, and how that status came to be entered into the DSM at the same time as homosexuality was being *removed* from the DSM. Conversion therapy is never mentioned. Indeed, to the extent that Bryant mentions treatment at all, it is to say that treatment is entirely irrelevant to his analysis: "An important omission from the *DSM* is a discussion of the kinds of treatment that GIDC children should receive. (This omission is a general orientation of the DSM and not unique to GIDC)" (Bryant, 2006, p. 35). How this article supports AAP's claim is a mystery. Moreover, how AAP could cite a 2006 history discussing events of the 1990s and earlier to support a claim about the *current* consensus in this quickly evolving discussion remains all the more unfathomable.

Cited last in this section was a one-paragraph press release from the World Professional Association for Transgender Health. Written during the early stages of the American Psychiatric Association's (APA's) update of the DSM, the statement asserted simply that "The WPATH Board of Directors strongly urges the de-psychopathologisation of gender variance worldwide." Very reasonable debate can (and should) be had regarding whether gender dysphoria should be removed from the DSM as homosexuality was, and WPATH was well within its purview to assert that it should. Now that the DSM revision process is years completed however, history has seen that APA ultimately retained the diagnostic categories, rejecting WPATH's urging. This makes AAP's logic entirely backwards: That WPATH's request to depathologize gender dysphoria was *rejected* suggests that it is *WPATH's* view—and therefore the AAP policy—which fall "outside the mainstream of traditional medical practice." (!)

AAP based this entire line of reasoning on their belief that conversion therapy is being used "to prevent children and adolescents from identifying as transgender" (Rafferty et al., 2018, p. 4). That claim is left without citation or support. In contrast, what is said by AAP's sources is "delaying affirmation should *not* be construed as conversion therapy or an attempt to change gender identity" in the first place (Byne, 2016, p. 2). Nonetheless, AAP seems to be doing exactly that: simply relabeling any alternative approach as equivalent to conversion therapy.

Although AAP (and anyone else) may reject (what they label to be) conversion therapy purely on the basis of political or personal values, there is no evidence to back the AAP's stated claim about the existing science on gender identity at all, never mind gender identity of children.

AAP also dismissed the watchful waiting approach out of hand, not citing any evidence, but repeatedly calling it "outdated." The criticisms AAP provided, however, again defied the existing evidence, with even its own sources repeatedly calling watchful waiting the current standard. According to AAP:

> [G]ender affirmation is in contrast to the outdated approach in which a child's gender-diverse assertions are held as "possibly true" until an arbitrary age (often after pubertal onset) when they can be considered valid, an approach that authors of the literature have termed "watchful waiting." This outdated approach does not serve the child because critical support is withheld. Watchful waiting is based on binary notions of gender in which gender diversity and fluidity is pathologized; in watchful waiting, it is also assumed that notions of gender identity become fixed at a certain age. The approach is also influenced by a group of early studies with validity concerns, methodologic flaws, and limited follow-up on children who identified as TGD and, by adolescence, did not seek further treatment ("desisters").[45,47]

The citations from AAP's reference list are:

45. Ehrensaft D, Giammattei SV, Storck K, Tishelman AC, Keo-Meier C. Prepubertal social gender transitions: what we know; what we can learn—a view from a gender affirmative lens. *Int J Transgend.* 2018;19(2):251–268

47. Olson KR. Prepubescent transgender children: what we do and do not know. *J Am Acad Child Adolesc Psychiatry.* 2016;55(3):155–156.e3

I was surprised first by the AAP's claim that watchful waiting's delay to puberty was somehow "arbitrary." The literature, including AAP's sources, repeatedly indicated the pivotal importance of puberty, noting that outcomes strongly diverge at that point. According to AAP reference 29, in "*prepubertal* boys with gender discordance—including many without any mental health treatment—the cross gender wishes usually fade over time and do not persist into adulthood, with only 2.2% to 11.9% continuing to experience gender discordance" (Adelson & AACAP, 2012, p. 963, italics added), whereas "when gender variance with the desire to be the other sex is present *in adolescence,* this desire usually does persist through adulthood" (Adelson & AACAP, 2012, p. 964, italics added). Similarly, according to AAP reference 40, "Symptoms of GID *at prepubertal ages* decrease or even disappear in a considerable percentage of children (estimates range from 80–95%). Therefore, any intervention in childhood would seem premature and inappropriate. However, GID persisting *into early puberty* appears to be highly persistent" (Cohen-Kettenis et al., 2008, p. 1895, italics added). That follow-up studies of prepubertal transition differ from postpubertal transition is the very meaning of non-arbitrary. AAP gave readers exactly the reverse of what was contained in its own sources. If AAP were correct in saying that puberty is an arbitrarily selected age, then AAP will be able to offer another point to wait for with as much empirical backing as puberty has.

Next, it was not clear on what basis AAP could say that watchful waiting withholds support—AAP cited no support for its claim. The people in such programs often receive substantial support during this period. Also unclear is on what basis AAP could already know exactly which treatments are "critical" and which are not—Answering that question is the very purpose of this entire endeavor. Indeed, the logic of AAP's claim appears entirely circular: It is only if one were already pre-convinced that gender affirmation is the only acceptable alternative that would make watchful waiting seem to withhold critical support—What it delays is gender affirmation, the method one has already decided to be critical.

Although AAP's next claim did not have a citation appearing at the end of its sentence, binary notions of gender were mentioned both in references 45 and 47. Specifically, both pointed out that existing outcome studies have been about people transitioning from one sex to the other, rather than from one sex to an in-between status or a combination of masculine/feminine features. Neither reference presented this as a reason to reject the results from the existing studies of complete transition however (which is how AAP cast it). Although it is indeed true that the outcome data have been about complete transition, some future study showing that partial transition shows a different outcome would not invalidate what is known about complete transition. Indeed, data showing that partial transition gives better outcomes than complete transition would, once again, support the watchful waiting approach which AAP rejected.

Next was a vague reference alleging concerns and criticisms about early studies. Had AAP indicated what those alleged concerns and flaws were (or which studies they were), then it would be possible to evaluate or address them. Nonetheless, the argument is a red herring: Because all of the later studies showed the same result as did the early studies, any such allegation is necessarily moot.

Reference 47 was a one-and-a-half page commentary in which the author off-handedly mentions criticisms previously made of three of the eleven outcome studies of GD children, but does not provide any analysis or discussion. The only specific claim was that studies (whether early or late) had limited follow-up periods—the logic being that had outcome researchers lengthened the follow-up period, then people who seemed to have desisted might have returned to the clinic as

cases of "persistence-after-interruption." Although one could debate the merits of that prediction, AAP instead simply withheld from the reader the result from the original researchers having tested that very prediction directly: Steensma and Cohen-Kettenis (2015) conducted another analysis of their cohort, by then ages 19–28 (mean age 25.9 years), and found that 3.3% (5 people of the sample of 150) later returned. That is, in long-term follow-up, the childhood sample showed 66.7% desistence instead of 70.0% desistance.

Reference 45 did not support the claim that watchful-waiting is "outdated" either. Indeed, that source said the very opposite, explicitly referring to watchful waiting as the *current* approach: "Put another way, if clinicians are straying from SOC 7 guidelines for social transitions, not abiding by the watchful waiting model *favored by the standards,* we will have adolescents who have been consistently living in their affirmed gender since age 3, 4, or 5" (Ehrensaft et al., 2018, p. 255). Moreover, Ehrensaft et al. said there are cases in which they too would still use watchful waiting: "When a child's gender identity is unclear, the watchful waiting approach can give the child and their family time to develop a clearer understanding and is not necessarily in contrast to the needs of the child" (p. 259). Ehrensaft et al. are indeed critical of the watchful waiting model (which they feel is applied too conservatively), but they do not come close to the position the AAP policy espouses. Where Ehrensaft summaries the potential benefits and potential risks both to transitioning and not transitioning, the AAP presents an ironically binary narrative.

In its policy statement, AAP told neither the truth nor the whole truth, committing sins both of commission and of omission, asserting claims easily falsified by anyone caring to do any fact-checking at all. AAP claimed, "This policy statement is focused specifically on children and youth that identify as TGD rather than the larger LGBTQ population"; however, much of that evidence was about sexual orientation, not gender identity. AAP claimed, "Current available research and expert opinion from clinical and research leaders … will serve as the basis for recommendations" (pp. 1–2); however, they provided recommendations entirely unsupported and even in direct opposition to that research and opinion.

AAP is advocating for something far in excess of mainstream practice and medical consensus. In the presence of compelling evidence, that is just what is called for. The problems with Rafferty, however, do not constitute merely a misquote, a misinterpretation of an ambiguous statement, or a missing reference or two. Rather, AAP's statement is a systematic exclusion and misrepresentation of entire literatures. Not only did AAP fail to provide compelling evidence, it failed to provide the evidence at all. Indeed, AAP's recommendations are *despite* the existing evidence.

Disclosure statement

No potential conflict of interest was reported by the author.

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Wallien, M. S. C., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child and Adolescent Psychiatry*, *47*, 1413–1423. doi:10.1097/CHI.0b013e31818956b9

Appendix

Count	Group	Study
2/16 4/16 10/16	gay* trans-/crossdress straight*/uncertain	Lebovitz, P. S. (1972). Feminine behavior in boys: Aspects of its outcome. *American Journal of Psychiatry, 128,* 1283–1289.
2/16 2/16 12/16	trans- uncertain gay	Zuger, B. (1978). Effeminate behavior present in boys from childhood: Ten additional years of follow-up. *Comprehensive Psychiatry, 19,* 363–369.
0/9 9/9	trans- gay	Money, J., & Russo, A. J. (1979). Homosexual outcome of discordant gender identity/role: Longitudinal follow-up. *Journal of Pediatric Psychology, 4,* 29–41.
2/45 10/45 33/45	trans-/crossdress uncertain gay	Zuger, B. (1984). Early effeminate behavior in boys: Outcome and significance for homosexuality. *Journal of Nervous and Mental Disease, 172,* 90–97.
1/10 2/10 3/10 4/10	trans- gay uncertain straight	Davenport, C. W. (1986). A follow-up study of 10 feminine boys. *Archives of Sexual Behavior, 15,* 511–517.
1/44 43/44	trans- cis-	Green, R. (1987). *The "sissy boy syndrome" and the development of homosexuality*. New Haven, CT: Yale University Press.
0/8 8/8	trans- cis-	Kosky, R. J. (1987). Gender-disordered children: Does inpatient treatment help? *Medical Journal of Australia, 146,* 565–569.
21/54 33/54	trans- cis-	Wallien, M. S. C., & Cohen-Kettenis, P. T. (2008). Psychosexual outcome of gender-dysphoric children. *Journal of the American Academy of Child and Adolescent Psychiatry, 47,* 1413–1423.
3/25 6/25 16/25	trans- lesbian/bi- straight	Drummond, K. D., Bradley, S. J., Badali-Peterson, M., & Zucker, K. J. (2008). A follow-up study of girls with gender identity disorder. *Developmental Psychology, 44*, 34–45.
17/139 122/139	trans- cis-	Singh, D. (2012). *A follow-up study of boys with gender identity disorder*. Unpublished doctoral dissertation, University of Toronto.
47/127 80/127	trans- cis-	Steensma, T. D., McGuire, J. K., Kreukels, B. P. C., Beekman, A. J., & Cohen-Kettenis, P. T. (2013). Factors associated with desistence and persistence of childhood gender dysphoria: A quantitative follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 52,* 582–590.

*For brevity, the list uses "gay" for "gay and cis-", "straight" for "straight and cis-", etc.

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ORIGINAL RESEARCH
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Exhibit
SL 24

A Follow-Up Study of Boys With Gender Identity Disorder

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This study reports follow-up data on the largest sample to date of boys clinic-referred for gender dysphoria (n = 139) with regard to gender identity and sexual orientation. In childhood, the boys were assessed at a mean age of 7.49 years (range, 3.33–12.99) at a mean year of 1989 and followed-up at a mean age of 20.58 years (range, 13.07–39.15) at a mean year of 2002. In childhood, 88 (63.3%) of the boys met the DSM-III, III-R, or IV criteria for gender identity disorder; the remaining 51 (36.7%) boys were subthreshold for the criteria. At follow-up, gender identity/dysphoria was assessed via multiple methods and the participants were classified as either persisters or desisters. Sexual orientation was ascertained for both fantasy and behavior and then dichotomized as either biphilic/androphilic or gynephilic. Of the 139 participants, 17 (12.2%) were classified as persisters and the remaining 122 (87.8%) were classified as desisters. Data on sexual orientation in fantasy were available for 129 participants: 82 (63.6%) were classified as biphilic/androphilic, 43 (33.3%) were classified as gynephilic, and 4 (3.1%) reported no sexual fantasies. For sexual orientation in behavior, data were available for 108 participants: 51 (47.2%) were classified as biphilic/androphilic, 29 (26.9%) were classified as gynephilic, and 28 (25.9%) reported no sexual behaviors. Multinomial logistic regression examined predictors of outcome for the biphilic/androphilic persisters and the gynephilic desisters, with the biphilic/androphilic desisters as the reference group. Compared to the reference group, the biphilic/androphilic persisters tended to be older at the time of the assessment in childhood, were from a lower social class background, and, on a dimensional composite of sex-typed behavior in childhood were more gender-variant. The biphilic/androphilic desisters were more gender-variant compared to the gynephilic desisters. Boys clinic-referred for gender identity concerns in childhood had a high rate of desistance and a high rate of a biphilic/androphilic sexual orientation. The implications of the data for current models of care for the treatment of gender dysphoria in children are discussed.

Keywords: gender dysphoria, gender identity disorder, gender non-conformity, sexual orientation, DSM-5

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INTRODUCTION

Gender identity is considered to be, for most people, a central aspect of one's sense of self (1–6).[1] By around 3 years of age, if not earlier, most children can self-label themselves as either a boy or a girl (11–14) although cognitive-developmental gender theory suggests that the understanding of gender as an "invariant" aspect of the self does not occur until early to middle childhood, with the achievement of concreate operational thought (12, 15, 16). Gender differences in the adoption of gender role behavior, i.e., behavior associated with cultural definitions of masculinity and femininity, also emerge during the preschool years, if not earlier. These behaviors span various domains, including peer, toy, role play, and activity preferences [e.g., (3, 17, 18)]. Normative developmental research has long documented that, on average, both gender identity and gender role behaviors show significant and substantial between-sex differences (19–21). Later in development, sexual orientation also shows a substantial between-sex difference, i.e., most males are sexually attracted to females and most females are sexually attracted to males (19, 22).

In the 1950s and 1960s, a small clinical literature began to describe the phenomenology of children who displayed marked gender-variant behavior, including the strong desire to be of the other gender [e.g., (23–27)]. Subsequent volumes by Stoller (28) and Green (29) provided more comprehensive descriptions of such children. These early works were the sequel to the introduction of the diagnostic term Gender Identity Disorder (GID) of Childhood to the psychiatric nomenclature in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders* [DSM-III; (30)], currently termed Gender Dysphoria (GD) in the DSM-5 (31). Since 1980, empirical research has examined a number of parameters pertaining to GID/GD: epidemiology, diagnostic and assessment methods, associated psychopathology, causal mechanisms, and therapeutic approaches [for reviews, see, e.g., (32–39)].

An additional parameter (the focus of the present study) pertains to the developmental course of GID in children. In the early literature, it was posited by some that pervasive gender-variant behavior in children might be a predictor of GID in adulthood (termed Transsexualism in the DSM-III) [e.g., (26, 40)]. At the same time, it was also recognized that gender-variant behavior in childhood was associated with sexual orientation (in males, androphilia, i.e., sexual attraction to men; in females, gynephilia, i.e., sexual attraction to women), but without co-occurring gender dysphoria [see, e.g., (41, 42); for a meta-analytic review, see (43)].

To date, there have been at least 10 follow-up studies of children whose behavior was consistent with the DSM diagnosis of GID (or GD per DSM-5) (44–53). Across these studies, the year at the time of first evaluation in childhood ranged from 1952 (49) to 2008 (51). For the 9 studies that included boys, the sample sizes (excluding those lost to follow-up) ranged from 6 to 79 (Mean age, 26 years). Most of these studies also provided the age at the time of first evaluation in childhood, which ranged from a mean of 7 years (47) to a mean of 9 years (48), with an age range from 4 to 12 years.

At the time of follow-up, using different metrics (e.g., clinical interview, maternal report, dimensional measurement of gender dysphoria, a DSM diagnosis of GID, etc.), these studies provided information on the percentage of boys who continued to have gender dysphoria (herein termed "persisters") and the percentage of boys who did not (herein termed "desisters").[2] Of the 53 boys culled from the relatively small sample size studies (Bakwin, Davenport, Kosky, Lebovitz, Money and Russo, Zuger), the percentage classified as persisters was 9.4% (age range at follow-up, 13–30 years). In Green (47), the percentage of persisters was 2% (total $n = 44$; Mean age at follow-up, 19 years; range, 14–24); in Wallien and Cohen-Kettenis (52), the percentage of persisters was 20.3% (total $n = 59$; Mean age at follow-up, 19.4 years; range, 16–28); and in Steensma et al. (51), the percentage of persisters was 29.1% (total $n = 79$; Mean age at follow-up, 16.1 years; range, 15–19). Across all studies, the percentage of persisters was 17.4% (total $N = 235$), with a range from 0 to 29.1%.[3]

These studies also provided information on the sexual orientation of the boys at the time of follow-up. In the early studies, sexual orientation was ascertained from various sources (e.g., open-ended interviews with the patient, parent-report, chart information, etc.). In the more recent studies, sexual orientation was assessed in a more systematic manner, such as the use of a structured interview to assign a Kinsey-based rating of sexual orientation in fantasy and a rating of sexual orientation in behavior, dummy coded where a 0 = gynephilia and a 6 = androphilia [e.g., (47)].

Of the 53 boys culled from the relatively small sample size studies (op. cit.), 13 (34.2%) of the patients were classified as gynephilic and 25 (65.8%) were classified as biphilic/androphilic.[4] In the remaining 15 patients (28.3% of the combined samples), their sexual orientation was either uncertain or unknown.

[1]In one study, Turner and Brown (7) found that school-age children rarely mentioned their gender when providing open-ended self-descriptions; the most frequent descriptor pertained to activities and preferences. Turner and Brown suggested that it might be the case that gender is so central to one's self-concept that it "goes without saying" (p. 709). In contemporary times in the West, a very small number of parents choose to not "gender" their children ("theybies") by not referring to them as boys or girls (and, at times, not even announcing to others the child's biological sex), dressing them in gender-neutral ways, etc. Little is known about the gender identity and gender role patterns of these children (8–10).

[2]The terms persistence and desistance have been used for a long time in clinical developmental psychiatry and psychology [e.g., (54)]. Zucker (55) was the first to apply these terms to describe the developmental psychosexual trajectories of children diagnosed with GID.

[3]The percentages provided here differ somewhat from other summary reviews [(39), pp. 285–286, (56, 57)] because we have excluded patients who were seen for the first time in adolescence [for this reason, data from Zuger (58) are also not included]. One other follow-up study was conducted by Nakamura (59). Unfortunately, this dissertation is not available for purchase at ProQuest (Ann Arbor, MI) and is only available for loan at the University of Essex library. Due to COVID-19 restrictions, it is currently inaccessible (K. Clarke, personal communication to G. Rieger, June 15, 2020). The director of the clinic at the time when the data were collected does not have a copy of the dissertation (D. Di Ceglie, personal communication, June 15, 2020).

[4]As pointed out by Reviewer 1, biphilic is a dubious neologism, combining Latin and Greek derivatives. Diphilic would be the more accurate derivative. However, introducing this term would probably confuse many readers, so we have retained the term biphilic (see https://en.wikipedia.org/wiki/Androphilia_and_gynephilia).

In Green's (47) study, 11 (25%) of the boys were classified as gynephilic (Kinsey ratings of 0–1) and 33 (75%) were classified as biphilic/androphilic in fantasy (Kinsey ratings of 2–6). For behavior, 6 (20%) were classified as gynephilic and 24 (80.0%) were classified as biphilic/androphilic. The remaining 14 boys (31.8% of the total sample) could not be classified with regard to behavior because they had had no interpersonal sexual experiences. In Green's study, the sexual orientation of a comparison group of boys, who had been recruited from the community, was also assessed: 100% of these boys ($n = 35$) were classified as gynephilic in fantasy and 96% ($n = 25$) were classified as gynephilic in behavior.

In the Wallien and Cohen-Kettenis (52) study, sexual orientation was assessed for attraction (2 items), fantasy (2 items), behavior (4 items), and sexual identity (1 item) using a self-developed Sexual Orientation Questionnaire. As in Green, Kinsey-type ratings were used in the analysis. Depending on the metric, data on sexual orientation were not available for anywhere between 22 and 40 (27.2–67.7%) patients. For attraction, 32% were classified as gynephilic and 68% were classified as androphilic (total $N = 37$); for fantasy, 19% were classified as gynephilic, 19% were classified as biphilic, and 62% were classified as androphilic (total $N = 21$); for behavior, 21% were classified as gynephilic, 16% were classified as biphilic, and 63% were classified as androphilic (total $N = 19$); lastly, for sexual identity, 19% were classified as gynephilic ("heterosexual"), 19% were classified as biphilic ("bisexual"), and 62% were classified as androphilic ("homosexual") (total $N = 27$). Steensma et al. (51) used the same metrics as Wallien and Cohen-Kettenis. Depending on the metric, data on sexual orientation were not available for anywhere between 25 and 40 (31.6%-50.6%) patients. For attraction, 19.2% were classified as gynephilic, 15.4% were classified as biphilic, and 65.4% were classified as androphilic (total $N = 52$); for fantasy, 14% were classified as gynephilic, 22% were classified as biphilic, and 64% were classified as androphilic (total $N = 50$); for behavior, 35.9% were classified as gynephilic, 12.8 were classified as biphilic, and 51.3% were classified as androphilic (total $N = 39$); lastly, for sexual identity, 13% were classified as gynephilic ("heterosexual"), 27.8% were classified as biphilic ("bisexual"), and 59.3% were classified as androphilic ("homosexual") (total $N = 54$).

In recent years, there have been various criticisms of these follow-up studies [see, e.g., (60–63); for a rebuttal, see (64)], particularly with regard to the putatively high percentage of desistance. It has been questioned, for example, to what extent the patients in these studies truly had GID/GD. For example, in the early studies, prior to the publication of DSM-III, one could reasonably argue that the diagnostic status of the patients was unclear because there were no formal diagnostic criteria to rely upon. However, one could argue in return that the behavior of these boys was phenomenologically consistent with the subsequent DSM criteria.

Consider, for example, the systematic study by Green [(47), Figure 1.2]. Green reported that 15% of the feminine boys, per parent-report, had "never" expressed the desire to be a girl or a woman at the time of the baseline assessment, 60% "occasionally" had such a desire, and only 25% had such a desire "frequently." Thus, a conservative critic might argue that only the last group would have met one of the key indicators for the GID/GD diagnosis in the DSM.[5] On the other hand, suppose a boy "occasionally" voiced the desire to be a girl over a period of several years. One might want to make the case that this would be consistent with the DSM descriptors of "persistently" or "repeatedly," etc. Of course, one could debate what would genuinely count as "occasionally" (in Green's trichotomous metric, it would be anything more than "never" and less than "frequently"). In any case, it is probably reasonable to argue that, in Green's study, some boys were threshold and some boys were subthreshold for the equivalent of a DSM diagnosis. Given that in Green's study only one boy persisted with gender dysphoria at the time of follow-up, the threshold-subthreshold distinction would not really matter.

Studies that employed DSM criteria for GID/GD allow for a more formal examination of the "No True Scotsman" argument (https://en.wikipedia.org/wiki/No_true_Scotsman).

In the Wallien and Cohen-Kettenis (52) study, the DSM-III-R criteria were used to diagnose GID. Of the 12 persisters, all met the criteria for GID at the time of the baseline assessment; in contrast, only 68% of the 47 desisters met the criteria for GID; the remainder were deemed subthreshold for the diagnosis. Thus, in their study, the threshold-subthreshold distinction appears to have been an important one in predicting outcome; nonetheless, it should be noted that 68% of the desisters had been threshold for the diagnosis in childhood—perhaps a strong rebuttal to the No True Scotsman argument. In Steensma et al. (51), the DSM-IV-TR criteria were used. Of the 23 persisters, 21 (91.3%) met the criteria for GID; in contrast, only 22 (39.3%) of the 56 desisters were threshold for the diagnosis, suggesting an even more substantial difference in the threshold-subthreshold distinction than was found in Wallien and Cohen-Kettenis. Although the latter percentage was lower than what was found in Wallien and Cohen-Kettenis, that almost 40% of the desisters met the criteria for GID in childhood still argues in favor that the children were desisting from something.[6]

From Wallien and Cohen-Kettenis (52) and Steensma et al. (51), one predictor of outcome, therefore, was the distinction between being threshold or subthreshold for the GID diagnosis in childhood. Dimensional measures of gender-variant behavior have also proven useful. In both Wallien and Cohen-Kettenis and Steensma et al., dimensional measures of sex-typed behavior in childhood also significantly discriminated between the persisters and desisters, with the former group having, on average, more severe gender-variant behavior at the time of the childhood

[5]The situation is compounded even further because in the DSM-IV, unlike in the DSM-III and DSM-III-R (65), the stated desire to be of the other gender was not a necessary criterion for the diagnosis [for the rationale, see (66), pp. 483–486]. In DSM-5, the desire to be of the other gender does not require explicit verbalization; the clinician is allowed leeway in drawing inferences based on other sources of information [see (67), pp. 904–905].

[6]In the follow-up study by Drummond et al. (46) of 25 girls from our clinic, the desistance rate was 88%. Of the 22 desisters, 13 (59.0%) met the DSM-III, III-R or IV criteria for GID. In Wallien and Cohen-Kettenis (52), of the 9 girls who desisted, 55.5% met the DSM-III-R criteria for GID. In Steensma et al. (51), of the 24 girls who desisted, 58.3% met the DSM-IV criteria for GID.

assessment. Steensma et al. found two other predictors of persistence: boys who were assessed at an older age and boys who had made either a partial or complete gender "social transition" [see (68–70)]. Of the 12 boys who had partially or completely transitioned prior to puberty, 10 (83.3%) were classified as persisters. In contrast, of the 67 boys who had not socially transitioned, only 13 (19.4%) were classified as persisters.

In the present study, we provide follow-up data with regard to both gender identity (persistence vs. desistance) and sexual orientation (gynephilia vs. biphilia/androphilia) on the largest sample of boys studied to date. Apart from providing percentage data on these two variables, which will be discussed in a comparative perspective in relation to the prior studies and the epidemiological literature, we also examine the predictors of outcome in relation to both demographic and sex-typed behavior measures (including whether or not the boys were threshold or subthreshold for GID) collected at the time of the baseline assessment in childhood.

METHOD

Participants

The participants were 139 boys ("birth-assigned males")[7] who, in childhood, had been referred to and then assessed in the Gender Identity Service, Child, Youth, and Family Program at the Centre for Addiction and Mental Health (CAMH) in Toronto, Ontario between 1975 and 2009 (Mean year of assessment, 1989.36) and were adolescents or adults at follow-up (Mean year at follow-up, 2002.35).[8]

Participants entered the follow-up study through two methods of recruitment. The majority of participants (77%) were recruited for research follow-up. There were two main waves of participant recruitment through research contact, from 1986 to 1993 (n = 32) and then from 2009 to 2011 (n = 71). During the period of data collection, 32 patients re-contacted the service for clinical reasons (eight for gender dysphoria, six for sexual orientation, and 18 for heterogeneous concerns) [for details, see (77), Appendix E]. They were informed about the opportunity to participate in the follow-up study and subsequently completed the study protocol. The majority of the patient-initiated participants had contacted the clinic between the two main waves of research recruitment. Thus, from 1994 to 2008, the participants who entered the study were primarily those who had contacted the service for clinical reasons.

In the early wave of follow-up, a lower-bound age for participation was set at 14 years, but by the mid-1990s this was changed to a lower-bound age of 16 years. In total, 110 (79.1%) participants were at least 16 years of age and 29 (20.9%) were younger than 16. Across the entire period of data collection, eligible participants, after review of the medical chart, were contacted at random (other than the participants who had returned to the service for clinical reasons). Due to lack of study resources and time constraints, contact with 162 other eligible participants was not attempted.

In total, 145 patients were approached about the follow-up study, either through research contact (n = 113) or following their clinical involvement with the Gender Identity Service (n = 32). Six patients declined, which yielded a participation rate of 95.9%. For those recruited for research purposes, initial contact, by telephone, letter or email, was first made with the parents because the patients were minors at the time of the childhood assessment and may have had no recollection of their clinic attendance. A total of 19 (14.3%) potential participants could not be reached/traced through previous addresses, registrars, and personal contacts.

Of the 139 participants, 110 were seen for a face-to-face assessment. For various reasons, the remaining 29 patients could not be seen for the face-to-face assessment (e.g., lived in another province or country, "too busy," severe mental health issues). For some patients, they provided some information over the phone or information was provided by the parents; thus, for these patients, it was possible to obtain some follow-up data about their gender identity and sexual orientation.

The demographic characteristics of the participants, including their age at assessment in childhood and at the time of follow-up, are shown in **Table 1**. The GID diagnosis in childhood was based on the DSM-III (n = 53), DSM-III-R (n = 46), or DSM-IV (n = 40) criteria applicable at the time of assessment.[9] A total of 88 (63.3%) boys met complete DSM criteria for GID in childhood. The remaining 51 (36.7%) boys were subthreshold for a DSM diagnosis, but all had some indicators of GID, and, based on the historical information provided during the assessment, some would have met the complete DSM criteria at some point in their lives prior to their assessment in childhood.[10] The percentage who met the complete DSM criteria for GID did not differ significantly as a function of DSM edition, $\chi^2_{(2)} < 1$.

Procedure

The majority of participants who completed the face-to-face assessment were evaluated on a single day. Three participants were seen twice. In these instances, the participants completed the self-report measures during their second visit as the complexity of their clinical presentation extended the duration of the assessment. Participants were provided a stipend for their participation in the follow-up assessment and reimbursement for travel expenses. For participants followed-up prior to 2009 (n = 68), the data were collected by the third author; for those followed-up between 2009 and 2011, the data were collected

[7]Two reviewers asked why we chose to use the noun "boys" instead of the noun "males." In our view, the question was reasonable but also a matter of semantics and taste. The third edition of *The Oxford Dictionary of Current English* (71) defines boy as "a male child..." Thus, we believe that the two words can be used synonymously. Males can refer to any age in the life-span whereas boys connote childhood. The participants in our study were coded as male at the time of their birth in the hospital delivery record, of which we had the actual birth records for the majority of the participants in the current study (72). As per Bouman et al. (73), one would say that the participants were "assigned male at birth" and then declared socially to be "boys" (74).

[8]The clinic was established in 1975 at the Clarke Institute of Psychiatry (75, 76), which became part of the CAMH in 1998.

[9]For boys seen prior to the publication of DSM-III in 1980, the draft criteria were used.

[10]In DSM-III, termed Atypical Gender Identity Disorder; in DSM-III-R and DSM-IV, termed Gender Identity Disorder Not Otherwise Specified.

TABLE 1 | Demographic characteristics ($N = 139$).

Characteristic	*M*	*SD*	Range	%
From childhood				
Age (in years)	7.49	2.66	3.33–12.99	
Year of birth	1981.87	7.50	1966–1996	
Year of assessment	1989.36	7.50	1975–2004	
IQ[a]	105.93	15.47	69–138	
Social class[b]	40.74	15.15	8.0–66.0	
Marital status[c]				
Two-parent family				64.7
Other				35.3
Caucasian				84.9
At follow-up				
Age (in years)	20.58	5.22	13.07–39.15	
Year of follow-up	2002.35	9.08	1986–2011	
Follow-up interval (in years)[d]	12.88	6.07	2.77–29.29	
IQ[e,f]	105.88	16.03	65–138	

[a] *Full-Scale IQ was obtained with age-appropriate Wechsler intelligence scales.*
[b] *Hollingshead's (78) Four Factor Index of Social Status (absolute range, 8–66).*
[c] *Other included the following family constellations: single parent, separated, divorced, living with relatives, or in the care of a child protection agency.*
[d] *Interval denotes the time between childhood assessment and follow-up assessment.*
[e] *Full Scale IQ estimated using four subtests: Vocabulary, Comprehension, Block Design, and Object Assembly.*
[f] *An IQ score was available only for participants who completed the face-to-face assessment. Of these, scores were not available for one participant.*

by the first author ($n = 71$). The study was approved by the Institutional Review Boards at the Clarke Institute of Psychiatry (subsequently the Centre for Addiction and Mental Health; Protocol #198/2008–2011) and the University of Toronto.

Measures

Below, we describe the measures from assessment and follow-up of relevance for this article. A list of all measures used in the follow-up study can be found in Singh [(77), Table 4].

Childhood Assessment

Cognitive Functioning

Based on the child's age at the time of assessment, the appropriate version of the Wechsler Intelligence Scale for Children was administered (WPPSI-R or the WISC-R/WISC-III/WISC-IV). Full scale IQ scores were used to characterize level of cognitive functioning.

Behavioral and Emotional Problems

Parents completed the Child Behavior Checklist (CBCL), a measure of behavioral and emotional problems (79). Although not the focus of the present study, it is noted here because we used three CBCL indices (sum of all behavior problems and Internalizing and Externalizing *T* scores) as part of an internal validity analysis when comparing participants vs. non-participants (see Results).

Sex-Typed Behavior

Five child informant and two parent informant measures were used to assess the participants' sex-typed behavior in childhood: (1) Draw-a-Person [DAP] test (80); (2) a free-play task (81); (3) the Playmate and Playstyle Preferences Structured Interview (PPPSI) (82, 83); (4) sex-typed responses on the Rorschach test (84); (5) the Gender Identity Interview for Children (GIIC) (85–87); (6) the Gender Identity Questionnaire for Children (GIQC) (88–90); and (7) a measure of activity level/extraversion [(39); see also (91)]. These child and parent informant measures all have established discriminant validity, that is, they significantly differentiated the boys clinic-referred for gender identity concerns from control boys [for reviews, see (18, 92)]. A Childhood Sex-Typed Behavior Composite was subsequently computed for each participant (see below).

Follow-Up Assessment

Cognitive Functioning

Four subtests from the age-appropriate version of the Wechsler Intelligence Scales were administered (Vocabulary, Comprehension, Block Design, and Object Assembly). The standard scores from the subtests were averaged to form a prorated IQ score for cognitive functioning (93).

Concurrent Gender Identity

Concurrent gender identity was evaluated using a semi-structured interview and self-report questionnaires. During an audiotaped interview, each participant was asked to describe their current feelings about being a biological male. They were also asked to describe positive and negative aspects about their gender identity. For example, participants who reported a "male" gender identity were asked to describe positive and negative aspects of being male. The semi-structured interview also included questions based on the adolescent and adult GID criteria outlined in the DSM-III-R or DSM-IV (65, 94). Participants were asked to respond to these questions according to the last 12 months with *No, Sometimes,* or *Yes* [for details, see (77), Appendix G].

Two self-report measures were also used to assess current gender identity and gender dysphoria: (1) The Gender Identity/Gender Dysphoria Questionnaire for Adolescents and Adults (GIDYQ-AA) (95–97) or (2) the Gender Dysphoria/Identification questionnaire (GDIQ) (98). The GDIQ was developed prior to the GIDYQ-AA. As such, the GIDYQ-AA was introduced to the protocol subsequent to the GDIQ and, as a result, the more recent participants completed the GIDYQ-AA while earlier participants completed the GDIQ.

The male version of the GIDYQ-AA was completed. This 27-item questionnaire measures gender identity and gender dysphoria in adolescents or adults; participants over the age of 17 completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words "man" and "woman" are used instead of "boy" and "girl." Each item was rated on a 1–5 point response scale with verbal anchor points ranging from *Never* to *Always* based on a time frame of the past 12 months. Coding was such that a "lower" score signified more gender dysphoria. Item examples include the following:

"In the past 12 months, have you felt unhappy about being a man?" and "In the past 12 months, have you had the wish or desire to be a woman?" Principal axis factor analysis identified a one-factor solution that accounted for 61.3% of the variance. All factor loadings were ≥0.30 (median, 0.86; range, 0.34–0.96). The GIDYQ-AA has strong evidence for discriminant validity and a high threshold for specificity (i.e., low false positive rate for non-GID individuals) [see (95, 96, 99–102)].

The GDIQ (98) contains 8 items pertaining to gender identity and gender dysphoria. Factor analysis identified two factors, accounting for 31.4 and 12.5% of the variance, respectively (all factor loadings ≥0.45). Factor 1 consisted of five items pertaining to gender dysphoria and Factor 2 consisted of three items pertaining to gender role identification. For the present study, only the questions for Factor 1 were used. Each item was rated on a 3-point or 5-point scale for the past 12 months (see **Appendix 1** in **Supplementary Material**).

Participants were classified as having persistent gender dysphoria if their mean score on the GIDYQ-AA was ≤3.00, in line with sensitivity and specificity analyses from other data sets (95, 96). For participants who did not complete the GIDYQ-AA, the GDIQ was used. A participant was classified as a persister if two or more of the following five items on the GDIQ were endorsed: wish to have been born a girl (Item 1), wish to have surgery to change body (Item 2), feel more like a girl than a boy (Item 3), wonder if would be happier as a girl (Item 4), and somewhat or very dissatisfied with being a boy (Item 5).

Information regarding participants' gender identity/gender dysphoria was also obtained during the semi-structured clinical interview and, therefore, allowed for cross-validation of these questionnaire data. For those participants who did not complete the face-to-face interview, clinical information regarding gender identity/gender dysphoria was obtained through self- or parent-report or chart review. Across the entire sample, the GIDYQ-AA was used to classify persistence or desistence for 64 participants, the GDIQ for 42 participants, and interview/chart data/parent report for 33 cases.

Sexual Orientation

Sexual orientation in fantasy was assessed with specific questions from an audiotaped face-to-face interview and the self-report Erotic Response and Orientation Scale (EROS) (103).

The interview asked about four types of sexual fantasy over the past 12 months: (1) crushes on other people; (2) sexual arousal to visual stimuli (e.g., acquaintances, partners, and individuals from movies, television, etc.); (3) sexual content of night dreams; and (4) sexual content of masturbation fantasies. During the interview, participants were not asked directly about the gender of the person or persons who elicited sexual arousal, thus allowing time for the participant to provide this information spontaneously. Directed questions about the gender of the person(s) who elicited sexual arousal were asked only if the participant did not volunteer specific information about whether their arousal was directed to same-sex or opposite-sex individuals, or both. By the end of the interview, each participant provided information about sexual arousal to both same-sex and opposite-sex individuals. Using the Kinsey scale criteria (104), the interviewer assigned Kinsey ratings that ranged from 0 (exclusively gynephilic in fantasy) to 6 (exclusively androphilic in fantasy) for each question. A dummy score of 7 denoted that the participant did not experience or report any fantasies. A global fantasy score was also derived based on ratings from the four questions. Kinsey ratings for sexual orientation in fantasy were available for 129 participants.

Inter-rater reliability on Kinsey ratings for sexual orientation in fantasy was examined for 29 participants, selected at random. The second scorer listened to the audio recordings of the semi-structured interview, with specific attention to the information collected on sexual orientation. The inter-rater agreement on the Kinsey global fantasy rating was very good (kappa = 0.95) and the kappa values for the four specific components ranged from 0.81 to 1.00.

The EROS is a 16-item self-report measure assessing sexual orientation in fantasy over the past 12 months. Half of the questions pertained to gynephilic fantasy (e.g., "How often have you noticed that you had sexual feelings [even the slightest] while looking at a woman?") and the other half pertained to androphilic fantasy (e.g., "How often have you noticed that you had sexual feelings [even the slightest] while looking at a man?"). Participants who were 18 years and older completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words "man" and "woman" were used instead of "boy" and "girl." Each item was rated on a 5-point scale for frequency of occurrence, ranging from 1 ("none") to 5 ("almost every day"). Mean androphilic and gynephilic fantasy scores were derived for each participant. In the present study, we calculated a difference score between the participants' mean androphilic and gynephilic scores. Previous use of the EROS has shown good evidence of discriminant validity (98, 101).

Sexual orientation in behavior was assessed with specific questions during the face-to-face interview and with a modified version of the Sexual History Questionnaire (SHQ) (105). In the interview, questions asked about five types of sexual behavior: (1) dating; (2) holding hands in a romantic manner; (3) kissing; (4) genital fondling or touching a woman on the breasts, and (5) intercourse (penile-vaginal and anal). Kinsey ratings for behavior in the past 12 months were made in the same manner as fantasy ratings. Kinsey ratings for sexual orientation in behavior were available for 108 participants. Inter-rater reliability on Kinsey ratings for sexual orientation in behavior was examined for the same 29 participants. There was perfect inter-rater agreement on the Kinsey global behavior rating (kappa = 1.0) and the kappa values for the five specific components ranged from 0.91 to 1.00.

The modified SHQ consists of 20 questions. Ten questions pertained to gynephilic experiences (e.g., "How many women have you kissed on the lips in a romantic way?") and 10 questions pertained to androphilic experiences (e.g., "How many men have you kissed on the lips in a romantic way?"). Participants who were 18 years and older completed the adult version and younger participants completed the adolescent version. The adolescent and adult versions are identical except that, in the adult version, the words "man" and "woman" were used instead of "boy" and "girl." Each item was rated on a 5-point scale for frequency

of occurrence, ranging from 1 ("none") to 5 ("11 or more"), based on a time frame of the past 12 months. Mean total scores for gynephilic and androphilic experiences were derived. In the present study, we calculated a difference score between the participants' mean androphilic and gynephilic scores.

On the basis of Kinsey ratings, participants who completed the face-to-face interview were classified, similar to Green (47), into the following three sexual orientation groups for both fantasy and behavior: (1) gynephilic (Kinsey global ratings of 0–1); (2) biphilic/androphilic (Kinsey global ratings of 2–6), and (3) no sexual fantasy or behavior.

Social Desirability

Social desirability refers to the desire to cast a favorable impression on others. It can threaten the validity of self-report scales if in answering questions respondents seek social approval or try to represent themselves in a favorable manner (106). People scoring high on social desirability tend to provide socially acceptable answers regardless if their response accurately describes them. Participants 18 years and older completed the Marlow-Crowne Social Desirability Scale (M-CSDS) (107), which consists of 33 true-false items. The scale contains 18 culturally acceptable but unlikely statements keyed in the true direction and 15 socially undesirable but probable statements keyed in the false direction for a maximum possible score of 33. Participants 17 years and under were given a shorter version of the M-CSDS (108), containing 20 items that consist of 12 culturally acceptable but improbable statements keyed in the true direction and eight socially undesirable but probable statements keyed in the false direction for a maximum possible score of 20. For the present study, the percentage of endorsed socially desirable items was calculated for each participant. In order to integrate the data from both versions of the M-CSDS, participants' percentage score on each measure was converted to a proportion score which ranged from 0 to 1, which was used in all analyses. A higher proportion score indicates a greater propensity to give socially desirable responses. Several studies have found that the MCSDS is a reliable and valid measure of social desirability (107, 109, 110).

RESULTS

Preliminary Analyses

Participants vs. Non-participants

Given that not all eligible participants were seen for follow-up, it is important to see to what extent the participants vs. non-participants were similar with regard to baseline characteristics, in part to gauge the internal validity of the sample (111).

The non-participants consisted of three subgroups: (1) patients who were eligible to participate in the study but were not contacted ($n = 163$), (2) patients who declined to participate ($n = 6$), and (3) patients who were not successfully traced ($n = 19$). Two sets of analyses were conducted to compare study participants vs. non-participants. First, the participants were compared to the patients who were eligible but not contacted. Second, the participants were compared to those who declined to participate and to those where contact was attempted but not successfully traced. Group comparisons were conducted on five demographic variables (age at assessment in childhood, IQ, ethnicity, and parents' marital status and social class), parent-report of behavior problems on the CBCL (three indices), and nine measures of childhood sex-typed behavior.

Of these 17 variables, there was only one significant difference between the 139 boys in the study compared to the 163 boys who were eligible to participate but were not contacted: participants had a higher IQ than non-participants, $t_{(289)} = 2.01$, $p = 0.046$.[11] The effect size for this comparison was small (unpooled $d = 0.22$) [for details, see (77), Tables 5, 6]. When compared to the six cases where participation in the study was declined and to the 19 cases where the families could not be traced, there was also only one significant difference: parent's marital status, $\chi^2_{(2)} = 9.02$, $p = 0.011$. The participants did not differ significantly from the non-participants who refused; however, they differed significantly from the cases that could not be traced, $\chi^2_{(1)} = 6.39$, $p = 0.012$. The participants were more likely to have originated within a two-parent household than those who could not be traced. The comparison between the non-participants who refused and those who could not be traced approached significance ($p = 0.056$, Fisher's exact test). Again, the non-participants who could not be traced were more likely to have come from a family composition that was not two-parent. A further summary of comparisons between the participants and those who declined or could not be traced can be found in the **Supplementary Material**.

Participants: Method of Recruitment

Using *t*-tests or chi-square tests, the 107 participants who entered the study through research contact were compared to the 32 participants who were recruited into the study after they had re-contacted the clinic for clinical reasons on the demographic variables, CBCL behavior problems in childhood, and the measures of childhood sex-typed behavior. There were no significant differences between the two groups on the demographic variables of age at assessment, ethnicity or parents' social class and marital status (*p*s > 0.05). The comparison on childhood IQ approached significance, $t_{(137)} = 1.97$, $p = 0.051$, with the research entry participants having, on average, a higher IQ than the clinical entry participants. On the CBCL, there was a significant difference on Internalizing problems only, $t_{(137)} = -2.02$, $p = 0.046$, with the clinical entry participants rated by their parents as having more internalizing problems compared to the research entry participants. Of the nine measures of childhood sex-typed behavior, the two groups differed significantly on three: (1) free play, $t_{(119)} = -2.11$, $p = 0.037$, (2) the Gender Identity Interview for Children, $t_{(83)} = -2.09$, $p = 0.04$, and (3) the Gender Identity Questionnaire for Children, $t_{(95)} = 2.39$, $p = 0.019$, with the clinical entry participants having, on average, more childhood cross-gender behavior than the research entry participants. The percentage of clinical entry participants who were threshold for the diagnosis of GID in childhood did not differ significantly from the research entry participants (75.8 vs. 59.8%), $\chi^2_{(1)} = 1.83$. Of the 32 clinical entry participants, 8 had re-contacted the clinic because

[11]IQ data were not available for 11 of the 163 boys who were eligible for the study but were not contacted.

of gender dysphoria. The above-described comparisons were repeated to compare the research and clinical entry participants but with these 8 participants excluded. With the eight participants who contacted the clinic for gender dysphoria removed, there were no significant group differences on demographic variables, CBCL behavior problems, and measures of childhood sex-typed behavior (all $ps > 0.05$).

Gender Identity at Follow-Up

Appendix 2 in Supplementary Material shows the follow-up data for gender identity and sexual orientation for each participant. Of the 139 participants, 17 (12%) were classified as persisters and the remaining 122 (88%) were classified as desisters. The age at the time of follow-up did not differ significantly between the persisters (Mean, 20.12 years; SD = 5.54) and desisters (Mean, 20.64 years; SD = 5.19), $t_{(137)} < 1$. Of the 107 participants who, for research purposes only, were contacted for the follow-up study, 10 (9%) were classified as persisters; of the 32 participants who were recruited into the study after they were seen for some type of clinical concern, 7 (22%) were classified as persisters. The difference in persistence rate as a function of recruitment entry type was not significant, $\chi^2_{(1)} = 2.53$, $p = 0.112$. The difference in persistence rate between those patients seen for the face-to-face assessment vs. those who were not (14.5 vs. 3.4%) was also not significant, $\chi^2_{(1)} = 1.70$, $p = 0.192$. **Supplementary Table 1** summarizes information on some domains of gender role outcome for the 17 participants classified as having persistent gender dysphoria.

For the 42 participants where the GDIQ was used to determine gender identity status at follow-up, four were classified as persisters and 38 were classified as desisters. Of the 38 desisters, three endorsed one item and the remainder endorsed none of the items.[12] The four participants classified as persisters endorsed between three and five items.

For the 64 participants where the GIDYQ-AA was used to determine gender identity status at follow-up, 12 were classified as persisters and 52 were classified as desisters. All 52 desisters had a mean score >3.00 on the GIDYQ-AA. Of the 12 persisters, 10 had a mean score ≤3.00 and two had mean scores that were >3.00. In spite of having mean scores on the GIDYQ-AA that were above the recommended cutoff for caseness (95), these two participants were considered persisters because their clinical interview data indicated that they were experiencing significant gender dysphoria. Thus, clinical judgment was used to make the final classification for these two participants.

For the remaining 33 participants, clinical interview, parent-report or chart data were used to classify the percentage who were persisters ($n = 1$; 3%) or desisters ($n = 32$; 97%).

The persistence rate of gender dysphoria was examined as a function of participants' GID diagnostic status in childhood (threshold vs. subthreshold). Of the 88 participants who met the full diagnostic criteria for GID in childhood, 12 (13.6%) were classified as persisters and the remaining 76 (86.4%) were not. Of the 51 participants who were subthreshold for the GID diagnosis in childhood, 5 (9.8%) were classified as persisters and the remaining 46 (90.2%) were not. A chi-square analysis indicated that the rate of persistence did not differ significantly between the threshold and subthreshold groups, $\chi^2_{(1)} < 1$.

Over the years, prevalence rates for gender dysphoria in adults have varied considerably. The variation is likely a function of many factors, including definition, time period, and source of ascertainment. For example, in the Standards of Care of the World Professional Association for Transgender Health (112), probably relying on an estimate given in the DSM-IV-TR, the prevalence of gender dysphoria in adult males was estimated to be 1 in 30,000. In the meta-analysis by Arcelus et al. (113), the prevalence in adult males was estimated at 1 in 14,705. Lastly, Zhang et al.'s (114) review of recent population-based surveys estimated the prevalence of a self-reported transgender identity in adults to range between 0.33 and 0.53% (males and females combined). Regardless of which base rate figure one might choose to use as a point of comparison, the persistence rate of 12% (while low in an absolute sense) would be considerably higher than what one would detect in the general population.

Sexual Orientation at Follow-Up

Table 2 shows the Kinsey ratings for sexual orientation in fantasy. Data were not available for 10 participants, all of whom were desisters with regard to gender dysphoria. Based on the global rating for sexual orientation in fantasy, 43 (33.3%) participants were classified as gynephilic in fantasy and 82 (63.6%) were classified as biphilic/androphilic in fantasy. In the remaining four (3.1%) cases, the participants were classified as having no sexual fantasies and, therefore, a Kinsey rating could not be assigned.[13] In all four cases, the participants were desisters. Of the 17 participants classified as persisters, 1 (5.9%) was gynephilic in fantasy and 16 (94.1%) were biphilic/androphilic in fantasy. For participants assigned a Kinsey rating between 0 and 6 in fantasy, we correlated the interviewer's Kinsey rating with the participants' responses on the EROS in which their mean gynephilic score was subtracted from their mean androphilic score. This yielded an $r(101) = 0.86$, $p < 0.001$.

Table 2 also shows the Kinsey ratings for sexual orientation in behavior. Data were available for 108 participants. Based on the global rating for sexual orientation in behavior, 29 (26.9%) participants were classified as gynephilic and 51 (47.2%) were classified as biphilic/androphilic. The remaining 28 (25.9%) participants did not report any sexual behaviors in the 12 months preceding the follow-up assessment. For participants assigned a Kinsey rating between 0 and 6 in behavior, we correlated the

[12]By "endorsed," we mean that the participants answered other than "never" on Items 1–4 or response options d-e for Item 5 (see **Appendix 1** in Supplementary Material).

[13]For 104 participants, the Kinsey rating in fantasy was based on the information provided in the face-to-face interview. For 21 other participants, the Kinsey rating in fantasy was based on self-report (by telephone), information available in the participant's health record, or parent-report. Participants were assigned a Kinsey rating of 6 if the participant self-identified as "gay" or if the health record indicated that the patient was "homosexual" or gay, etc. Participants were assigned a Kinsey rating of 0 if the patient self-identified as "straight" or "heterosexual," etc. A chi-square test showed that the percentage of participants who were classified as Kinsey 0–1 vs. 2–6 did not differ significantly as a function sexual orientation ascertainment method, $\chi^2_{(1)} = 1.49$.

TABLE 2 | Kinsey ratings for sexual orientation in fantasy and behavior.

Variable	Kinsey rating (fantasy)[a]															
	0		1		2		3		4		5		6		No fantasy	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Crush	36	36.7	0	0	2	2.0	4	4.1	2	2.0	11	11.2	29	29.6	14	14.3
Visual	31	31.6	1	1.0	2	2.0	10	10.2	3	3.1	12	12.2	29	29.6	10	10.2
Dreams	13	13.3	1	1.0	1	1.0	4	4.1	3	3.1	3	3.1	27	27.6	46	46.9
Masturbation	21	21.9	2	2.1	3	3.1	6	6.3	2	2.1	7	7.3	33	34.4	22	22.9
Global fantasy rating	40	31.0	3	2.3	3	2.3	8	6.2	2	1.6	14	10.9	55	42.6	4	3.1
	Kinsey rating (behavior)[a]															
	0		1		2		3		4		5		6		No sexual behavior	
	N	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%	*N*	%
Holding hands	26	26.3	0	0	0	0	5	5.1	1	1.0	1	1.0	35	35.4	31	31.3
Kissing	21	21.2	0	0	0	0	6	6.1	2	2.0	2	2.0	34	24.3	34	34.3
Genital/breast contact	13	13.1	0	0	0	0	3	3.0	2	2.0	1	1.0	35	35.4	45	45.5
Intercourse	8	8.2	0	0	0	0	3	3.1	2	2.0	0	0	27	27.6	58	59.2
Global behavior rating	28	25.9	1	0.9	0	0	4	3.7	3	2.8	1	0.9	43	39.8	28	25.9

[a] *0 = Exclusively gynephilic to 6 = Exclusively androphilic.*

interviewer's Kinsey rating with the participants' responses on the SHQ in which their mean gynephilic score was subtracted from their mean androphilic score. This yielded an $r(75) = 0.79$, $p < 0.001$.

For those participants who could be assigned a Kinsey rating (i.e., excluding those participants who did not report any sexual fantasies or behavior or for whom data were not available), the correlation between Kinsey global fantasy and global behavior ratings was very strong, $r(78) = 0.92$, $p < 0.001$.

Group Classification as a Function of Gender Identity and Sexual Orientation in Fantasy at Follow-Up[14]

Combining gender identity (i.e., persister or desister) and sexual orientation in fantasy (i.e., gynephilic or biphilic/androphilic) at follow-up, the participants were classified into one of four outcome groups (for which we had all of the relevant data): (1) persistence of gender dysphoria with a biphilic/androphilic sexual orientation ($n = 16$); (2) desistance of gender dysphoria with a biphilic/androphilic sexual orientation ($n = 66$); (3) desistance of gender dysphoria with a gynephilic sexual orientation ($n = 42$); and (4) persistence of gender dysphoria with a gynephilic sexual orientation ($n = 1$). The participants who reported no sexual fantasies ($n = 4$) could not be included in this outcome classification. Given that only one participant was classified as gender dysphoric with a co-occurring gynephilic sexual orientation (Group 4), this category was excluded from subsequent analyses that compared these outcome groups.

[14]Given the strong correlation between Kinsey fantasy and behavior ratings and that there were fewer missing data on the Kinsey fantasy variable, participants were classified into one of the four outcome groups based on their fantasy ratings.

Demographic Characteristics in Childhood as a Function of Gender Identity and Sexual Orientation in Fantasy

Table 3 shows the demographic variables in childhood as a function of group. One-way ANOVAs and chi-square were conducted to evaluate whether the outcome groups differed on these variables. The groups differed significantly on four of the five childhood demographic variables. Duncan's multiple range test for unequal Ns showed that the biphilic/androphilic persisters were, on average, significantly older at the time of the childhood assessment than both the gynephilic desisters and the biphilic/androphilic desisters, who did not differ significantly from each other. The biphilic/androphilic desisters had, on average, a higher IQ than the biphilic/androphilic persisters but did not differ significantly from the gynephilic desisters. There was no significant difference in childhood IQ score between biphilic/androphilic persisters and gynephilic desisters. The biphilic/androphilic persisters were significantly more likely to come from a lower social class background compared to the gynephilic desisters and the biphilic/androphilic desisters, who did not differ significantly from each other (see also **Figure 1**). The biphilic/androphilic desisters were more likely to be living with both parents compared to the biphilic/androphilic persisters. There was no significant difference on marital status between the two desister groups.

The demographic variables from childhood on which the three groups differed–age at assessment, IQ, social class, and marital status–were significantly correlated (*r*s ranged from |0.32–0.58|) [see Table 12 in (77)]. To evaluate the predictive status of these variables on group outcome at follow-up, a multinomial logistic regression was performed. **Table 4** shows the results. For these analyses, the biphilic/androphilic desisters served as the reference

TABLE 3 | Demographic characteristics as a function of group.

Variable		Group			*F* or χ^2	*p*	η^2 or Cramer's V
		Persisters Biphilic/ Androphilic (*n* = 16)	Desisters Biphilic/ Androphilic (*n* = 66)	Desisters Gynephilic (*n* = 42)			
Childhood							
Age (in years)	*M*	8.85	6.96	7.49	3.57	0.031	0.06
	SD	1.67	2.69	2.62			
IQ[a]	*M*	101.63	110.20	103.18	3.77	0.026	0.06
	SD	14.81	14.56	15.16			
Social class[b]	*M*	23.76	44.97	39.44	15.30	<0.001	0.20
	SD	10.22	13.64	15.91			
Marital status[c]							
Two-parent	*N* (%)	7 (43.8)	49 (74.2)	24 (57.1)	6.74	0.034	0.23
Other	*N* (%)	9 (56.3)	17 (25.8)	18 (42.9)			
Ethnicity							
Caucasian	*N* (%)	14 (87.5)	58 (87.9)	32 (76.2)	2.77	0.250	0.14
Other	*N* (%)	2 (12.5)	8 (12.1)	10 (23.8)			
Follow-up							
Age at follow-up (in years)[d]	*M*	20.32	22.13	17.85	10.41	<0.001	0.15
	SD	5.67	4.97	3.95			
IQ at follow-up[a,e,f]	*M*	99.07	110.47	104.19	3.82	0.025	0.07
	SD	16.29	13.54	17.50			
Follow-up interval (in years)	*M*	11.47	15.17	10.36	9.63	<0.001	0.04
	SD	6.77	6.03	4.85			
Social desirability[g]	*M*	0.44	0.43	0.52	3.07	0.051	0.07
	SD	0.17	0.18	0.19			

[a] *Full-Scale IQ was obtained with age-appropriate Wechsler intelligence scales.*
[b] *Hollingshead's (78) Four Factor Index of Social Status (absolute range, 8–66).*
[c] *Other included the following family constellations: single parent, separated, divorced, living with relatives, or in the care of a child protection agency.*
[d] *Interval denotes the time between childhood assessment and follow-up assessment.*
[e] *Full Scale IQ was estimated using four subtests: Vocabulary, Comprehension, Block Design, and Object Assembly.*
[f] *An IQ score was available only for participants who completed the face-to-face assessment.*
[g] *Absolute range, 0.00–1.00. Higher score indicates a greater propensity to give socially desirable responses. Age at follow-up, IQ at follow-up, social class, and parent's marital status were co-varied.*

group. Each coefficient, *B*, represents the change in the log odds for Group for a 1-unit increase in the corresponding predictor, controlling for all other predictors in the model. The next column presents the standard error (SE) for each *B*. The Wald statistic was the quantity used to determine the significance level of each predictor variable. The quantity, e^B, is the multiplicative change in the odds of being classified as a biphilic/androphilic persister (Model 1) or a gynephilic desister (Model 2) for a 1-unit increase in the corresponding predictor, and thus $100 \times (e^B - 1)$ represents the percentage change in the odds ratio for a 1-unit increase in that predictor (115).

It can be seen from **Table 4** that only social class had a significant contribution to the prediction of group outcome at follow-up (see also **Figure 1**). The biphilic/androphilic persisters had a 13% increase in odds of coming from a lower social class background compared to the biphilic/androphilic desisters. However, social class did not predict outcome when the two desister groups were compared.

Table 3 also shows the variables of age, IQ, and social desirability scores at follow-up as a function of group. One-way ANOVAs revealed that both age and IQ differed significantly among the three groups ($ps < 0.01$), but social desirability scores did not. Duncan's multiple range test for unequal Ns showed that the gynephilic desisters were, on average, younger than both the biphilic/androphilic persisters and the biphilic/androphilic desisters (both $ps < 0.05$), who did not differ significantly from each other. Regarding IQ at follow-up, the results were similar to those for IQ in childhood. The biphilic/androphilic desisters had, on average, a higher IQ than the biphilic/androphilic persisters ($p < 0.05$) but did not differ significantly from the gynephilic desisters. There was no significant difference in IQ between the biphilic/androphilic persisters and the gynephilic desisters.

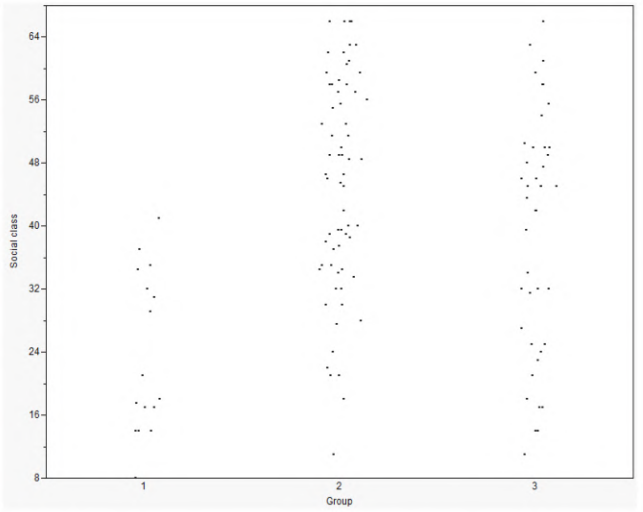

FIGURE 1 | Distribution of social class for the outcome groups at follow-up. 1 = Biphilic/androphilic persisters ($n = 16$; $M = 23.76$, $SD = 10.22$). 2 = Biphilic/androphilic desisters ($n = 66$; $M = 44.97$, $SD = 13.64$). 3 = Gynephilic desisters ($n = 42$; $M = 39.44$, $SD = 15.91$).

Childhood Sex-Typed Behavior as a Function of Gender Identity and Sexual Orientation at Follow-Up

Supplementary Table 2 shows the means or percentage scores (for dichotomous measures) of the nine sex-typed measures obtained at the assessment in childhood as a function of the three outcome groups. ANCOVAs (with age at assessment, IQ, social class, and marital status covaried) or chi-square were used to examine whether the groups differed on any of these variables.[15] There was a significant difference between the groups on four child-report measures (first drawn person on the Draw-a-Person, free play, Gender Identity Interview, and cross-sex peer preference on the Playmate and Play Style Preferences Structured Interview, and one parent-report measure (Gender Identity Questionnaire for Children). A statistical summary of these individual measures can be found in the **Supplementary Text** and the data are shown in **Supplementary Table 2**.

The childhood sex-typed behavior measures on which the groups differed were all significantly correlated (*r*s ranged from |0.30–0.76|) [reported in (77), Table 15].[16] From these six measures (first drawn person on the Draw-a-Person, free play, Gender Identity Interview, cross-sex peer preference on the Playmate and Play Style Preferences Structured Interview, cross-sex toy preference on the Playmate and Play Style Preferences Structured Interview, and the Gender Identity Questionnaire for Children), a composite score of childhood sex-typed behavior was derived for each participant by taking the average of the six variables (each expressed as *z*-scores).[17] A higher composite *z*-score indicates more cross-gender behavior at the assessment in childhood.

To evaluate the influence of childhood sex-typed behavior and demographic variables on group outcome at follow-up, a multinomial logistic regression was performed using the composite score and the demographic variables on which the groups differed–age at assessment, IQ, and social class–as predictor variables. It can be seen from **Table 5** that both social class and the composite score of childhood sex-typed behavior were significant predictors of group outcome at follow-up in the first model, which compared the biphilic/androphilic persisters to the biphilic/androphilic desisters.

The biphilic/androphilic persisters had a 274% increase in odds of having a higher composite score (i.e., more childhood cross-gender behavior) and an 11% reduction in the odds of coming from a higher social class compared to the biphilic/androphilic desisters. Age at childhood assessment and IQ did not have a significant effect on group outcome (both *p*s > 0.05). In the second model, which compared the gynephilic desisters to the biphilic/androphilic desisters, the only significant predictor of group outcome was the composite measures of sex-typed behavior. The biphilic/androphilic desisters had a 48% increase in odds of having a higher composite score compared to the gynephilic desisters.

DISCUSSION

Methodological Issues

We were not able to recruit into the study all eligible patients; however, our analyses which compared the participants vs. the non-participants did not show any substantive or pervasive differences with regard to the baseline assessment characteristics, suggesting that the internal validity of the sample was not grossly compromised (111). The majority of follow-up participants were recruited for research purposes; however, a minority entered the study after having been seen in adolescence for some clinical issue. There was some evidence that the patients who were enrolled in the study after recontacting the clinic were, on average, more extreme in their gender-variant behavior in childhood; however, the percentage who were threshold for the GID diagnosis in childhood did not differ significantly between the two subgroups. Although the percentage of persisters was higher in the subgroup that had recontacted the clinic than the subgroup recruited for research purposes only (22% vs. 9%), the difference was also not statistically significant. If anything, the direction of the difference would suggest that the overall rate of persistence may have been slightly overestimated had we relied entirely on a "research-only" follow-up sample.

Another methodological issue is that we relied on different metrics to assess gender identity and gender dysphoria at follow-up. For example, we replaced the GDIQ with the GIDYQ-AA as we viewed the latter as a better measure; in some instances,

[15]The ANCOVA model was adjusted to accommodate a categorical covariate.

[16]Although the groups did not differ significantly on cross-sex toy preference on the PPPSI, this measure is included here because there was a trend in the direction of a significant group difference.

[17]For some participants, data were not available on all six measures. In these cases, the composite score was the average of the number of variables for which there were data.

TABLE 4 | Multinomial logistic regression of group outcome at follow-up.

Predictor	Biphilic/Androphilic persisters					Gynephilic desisters				
	B	SE	Wald	*p*	e^B	*B*	SE	Wald	*p*	e^B
Age at assessment	0.11	0.14	0.62	0.433	1.12	−0.02	0.09	0.03	0.856	0.98
IQ	0.02	0.03	0.85	0.358	1.02	−0.02	0.02	1.91	0.167	0.98
Social class	−0.14	0.04	13.66	<0.001	0.87	−0.01	0.02	0.13	0.716	0.99
Marital status	0.76	0.80	0.88	0.349	0.47	−0.43	0.52	0.70	0.402	1.54

Reference group is the Biphilic/Androphilic Desisters. This group was chosen as the reference because it had the largest group size.

TABLE 5 | Multinomial logistic regression predicting group outcome at follow-up.

Predictor	Biphilic/Androphilic persisters					Gynephilic desisters				
	B	SE	Wald	*p*	e^B	*B*	SE	Wald	*p*	e^B
Age at assessment	0.26	0.16	2.90	0.09	1.30	−0.14	0.11	1.55	0.21	0.87
IQ	0.02	0.03	0.58	0.45	1.02	−0.03	0.01	2.77	0.10	0.97
Social class	−0.12	0.03	12.28	<0.001	0.89	−0.01	0.01	0.51	0.47	0.99
Composite *z*-score	1.32	0.55	5.82	0.02	3.74	−0.66	0.31	4.38	0.04	0.52

Reference group is the Biphilic/Androphilic Desisters. This group was chosen as the reference because it had the largest group size. A preliminary analysis with marital status included as a predictor variable showed that it did not have a significant effect and was, therefore, excluded in the final regression model. As suggested by Reviewer 3, per Benjamin et al. (116), for the "discovery of new effects," p-values between 0.05 and 0.005 should be viewed as "suggestive" (i.e., informative, but cautiously interpreted), and p-values < 0.005 as "significant" (i.e., stronger evidence for the implausibility of a difference merely by chance).

we relied solely on interview data or information available in the patient's medical chart. However, we did not detect any substantive difference in the percentage of persisters across these different sources of information and thus do not believe that such method variance challenges the validity of the findings.

Although a minority of participants were seen on more than one occasion for follow-up, the majority were not. Thus, our results and interpretation of the follow-up data are largely limited to one "moment in time," at a mean age of 20.58 years. It would, of course, be of value to have additional follow-up of the patients as they move further into adulthood in order to assess the stability (or lack thereof) of the data with regard to both gender identity and sexual orientation. In our own clinical experience, for example, we have observed that some of the patients seen during adolescence "fluctuated" between self-identifying as transgender and self-identifying as gay. Others have noted that a small number of apparent or presumed desisters during adolescence subsequently identified as transgender when seen at a later point in time (117).

Summary of Key Findings

The present study provided follow-up data with regard to gender identity and sexual orientation in boys referred clinically for gender dysphoria. There were three key findings: (1) the persistence of gender dysphoria was relatively low (at 12%), but obviously higher than what one would expect from base rates in the general population; (2) the percentage who had a biphilic/androphilic sexual orientation was very high (in fantasy: 65.6% after excluding those who did not report any sexual fantasies; in behavior: 63.7% after excluding those who did not have any interpersonal sexual experiences), markedly higher than what one would expect from base rates in the general population; (3) we identified some predictors (from childhood) of long-term outcome when contrasting the persisters with a biphilic/androphilic sexual orientation with the desisters with a biphilic/androphilic sexual orientation and when contrasting the desisters with a biphilic/androphilic sexual orientation and the desisters with a gynephilic sexual orientation.

The 12% persistence rate was somewhat lower than the overall persistence rate of 17.4% from the prior follow-up studies of boys combined. When compared to the three most methodologically sound follow-up studies, the persistence rate was higher than the 2.2% rate found by Green (47), but lower than the 20.3% rate found by Wallien and Cohen-Kettenis (52) and the 29.1% rate found by Steensma et al. (51). There is one methodological caveat regarding the Steensma et al. study that is worth noting. In their study, the mean interval between assessment and follow-up was relatively short (7.21 years). The patients were eligible for follow-up if they were at least 15 years of age. Given the relatively short interval between the assessment in childhood and the follow-up assessment in adolescence, this meant that patients who had been assessed at younger ages in childhood would not have been old enough to participate in the follow-up assessment. Given that Steensma et al. found that (older) age at the time of the assessment in childhood was a significant predictor of persistence, it is conceivable that their persistence rate was an overestimate. Nonetheless, in the broadest sense, our data were quite consistent with the general finding from the prior follow-up studies that desistance from gender dysphoria is by far the more common outcome.

In our study, we did not find that persistence was more common among boys who were threshold for the diagnosis of GID when compared to the boys who were subthreshold (13.6% vs. 9.8%) although the pattern was in the same direction

as that found by Wallien and Cohen-Kettenis (52) and Steensma et al. (51). We would, therefore, argue that the threshold-subthreshold distinction should not be abandoned in future follow-up studies although such studies might profit from using a symptom count of DSM indicators in addition to the dichotomous coding of the diagnosis as threshold vs. subthreshold. Consistent with both Wallien and Cohen-Kettenis and Steensma et al., our composite measure of sex-typed behavior in childhood was a significant predictor of outcome in that the patients classified as persisters with a biphilic/androphilic sexual orientation had more severe gender-variant behavior than the patients classified as desisters with a biphilic/androphilic sexual orientation; in addition, desisters with a biphilic/androphilic sexual orientation had more gender-variant behavior than the desisters with a gynephilic sexual orientation. Thus, dimensional measurement of gender identity and gender role behaviors from childhood provides added nuance in characterizing longer term trajectories with regard to both gender identity and sexual orientation.

With regard to sexual orientation at follow-up, the percentage of patients with a biphilic/androphilic sexual orientation in either fantasy or behavior was reasonably similar to those reported on in the prior follow-up studies which included standardized assessment measures (47, 51, 52). This finding also converges with three representative, general population prospective studies (118–120) and many retrospective studies (43) which document a significant association between patterns of gender-typed behavior in childhood and later sexual orientation.

The multinomial logistic regression analysis (**Table 4**) also showed a trend for the persisters with a biphilic/androphilic sexual orientation to be older at the time of the assessment in childhood compared to the desisters with a biphilic/androphilic sexual orientation; however, when the composite measure of sex-typed behavior in childhood was added to the equation (**Table 5**), age at assessment in childhood no longer showed such a trend [cf. Steensma et al. (51)]. In our smaller study of girls with GID (46), the persisters were, on average, 2.5 years older than the desisters at the time of the assessment in childhood (11.08 vs. 8.59 years) although the difference was not significant. It is our view that age at the time of a childhood assessment in relation to long-term outcome should continue to be examined in future follow-up studies.

Social class was a significant predictor of outcome: the persisters with a biphilic/androphilic sexual orientation were from a lower social class background compared to the desisters with a biphilic/androphilic sexual orientation (even after controlling for the other demographic variables). Why might this be the case? Because we had not made formal a priori predictions of outcome regarding any of our demographic variables, it is, of course, important to see whether or not it will be replicated in new follow-up studies. At present, our interpretation of the social class effect reflects on its relationship to other literatures.

One possibility pertains to the notion that acceptance of a gay or homosexual sexual identity is less in "working class" subculture (121). If this is, in fact, the case, it has been argued that transitioning from male to female—the so-called "homophobic" hypothesis with regard to gender dysphoria in adults (122)–would allow an androphilic sexual orientation to be more acceptable. Future studies would need to systematically examine whether boys with persistent GID first attempt to live as gay men before transitioning to the female gender role and whether or not this temporal sequence, when it occurs, is related to social class background.

In the present study, it could be hypothesized that the parents of persisters held less favorable views of androphilia (homosexuality) compared to the desisters and thus predisposed to persistence in order to "normalize" one's sexual orientation. However, this is simply a conjecture as parental attitudes toward homosexuality were not measured in the study sample. Indeed, none of the follow-up studies to date on boys with gender dysphoria have specifically examined attitudes toward homosexuality as a predictor of outcome.

Social class could also be a proxy for other explanatory factors. For example, in the present study, a lower social class background was significantly correlated with age at assessment in childhood ($r = 0.44$) and families where there had been a separation/divorce, etc. ($r = 0.58$). If one wanted to make the case that a later age at assessment might be associated with persistence (for a variety of reasons), perhaps social class is associated with a "delay" in seeking out an assessment and possible treatment (e.g., family stress, various other mental health challenges in the child and/or the family, etc.). In one study comparing the demographic characteristics of children vs. adolescents clinic-referred for gender dysphoria, it was found that the adolescents were more likely than the children to come from a lower social class background and from families in which there had been a separation/divorce, etc. (123).

Clinical Implications

What clinical implications might be drawn from our data on the persistence and desistence rates of gender dysphoria in children? First, it should be recognized that the boys in the current study were seen during a period of time when treatment recommendations, if such were made, often aimed to reduce the gender dysphoria between the child's felt gender identity and biological sex. If one peruses the treatment literature, such recommendations were carried out using many therapeutic modalities: psychotherapy or psychoanalysis, behavior therapy, group therapy, parent-counseling, and interventions in the naturalistic environment, such as encouragement of same-sex peer relations [see, e.g., (124–126); for reviews, see (127, 128)].[18]

[18]This "broad stroke" summary of therapeutic goals is not meant to minimize the complexity of ethical issues regarding how treatment has been conceptualized over the years [see, e.g., (129–133)]. In the early years, treatment recommendations included other goals: for example, Bakwin (44) wrote that "Suggestions for management…[were]…designed to encourage gender appropriate behavior *and* to prevent homosexuality" [p. 620, emphasis added; see also (134)]. Rekers (135) was subsequently quite transparent regarding the influence of his own religious beliefs in formulating treatment goals, sometimes congruent with parents' religious beliefs (see p. 131). Prayer appears to have guided Rekers' selection of behavior therapy as a treatment modality for the treatment of his patients with childhood GID (p. 131). Money and Russo (50) wondered what the course of psychosexual differentiation might be if "a group of boys with discordance of gender identity/role [were] transferred from the home of origin to, say, a children's recovery center or foster home…as happens in the case of child-abuse dwarfism…" (p. 40). In our own clinic, although some parents might have desired or requested that treatment be designed in order to prevent homosexuality, this was a goal that we never endorsed [see (136), pp. 391–393]. Over the years, many secular-minded

In our own sample, the kinds of treatments that the boys received, if any, were quite variable but it is beyond the scope of this article to describe them in general [however, for examples, see (136, 140, 141)]. It can, however, be said with certainty that the vast majority of boys were seen during a particular period of time when the therapeutic approach of recommending or supporting a gender social transition prior to puberty was not made. Indeed, in the current study, there was only one patient who had socially transitioned prior to puberty (at the suggestion and support of the professionals involved in this individual's care) and this particular patient was one of the persisters with a biphilic/androphilic sexual orientation. Second, it should also be recognized that, for the boys seen in the current study, none who were in late childhood and had (likely) entered puberty (Tanner Stage 2) had received puberty-blocking hormone treatment (GnRH analogs) to suppress somatic masculinization (142, 143) until sometime during adolescence.

In contrast, in recent years, it has become more common for some clinicians to recommend a gender social transition prior to puberty [e.g., (69, 144–147); for discussion, see (148–150)]. It has also become more common for parents to have already implemented a gender social transition on their own, without any formal input from a health professional (151). As argued by Zucker (64, 152), this is a very different type of psychosocial treatment designed to reduce gender dysphoria when compared to the other kinds of treatments noted above that have been recommended over the years.

The study by Steensma et al. (51), which found the highest rate of persistence, included some patients who had made a partial or complete gender social transition prior to puberty and this variable proved to be a unique predictor of persistence (see the Introduction). Rae et al. (153) recruited from a variety of community groups a sample of 85 markedly gender non-conforming children (Mean age, 7.5 years), none of whom had socially transitioned at a baseline assessment. At the time of follow-up, at a mean of 2.1 years later, 36 (42.3%) had socially transitioned and 49 (57.6%) had not. Using a composite of various metrics of gender identity and gender role behaviors, Rae et al. found that those who subsequently socially transitioned had more extreme gender-variant behavior at baseline than those who had not. Thus, this short-term follow-up study was consistent with the longer-term findings reported on by Wallien and Cohen-Kettenis (52), Steensma et al. (51), and the present study.

To date, however, there are no long-term follow-up studies of clinic-referred samples of children who had all socially transitioned prior to puberty. Future follow-up studies should be able to capture a much larger subgroup of such children and compared to those who have not with regard to long-term outcome with regard to persistence and desistance [e.g., (154)]. The persistence-desistance rates found in this study and the ones preceding it can be used as a comparative benchmark for samples in which a social transition took place prior to puberty.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The research protocol was reviewed and approved by Clarke Institute of Psychiatry (subsequently the Centre for Addiction and Mental Health) and the University of Toronto. All participants who completed the face-to-face assessment gave written informed consent.

AUTHOR CONTRIBUTIONS

DS contributed to the conceptualization, data collection, data analysis, interpretation, and writing of the paper. SB contributed to the conceptualization and interpretation of the study. KZ contributed to the conceptualization, data collection, data analysis, interpretation, and writing of the paper. All authors contributed to the article and approved the submitted version.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpsyt.2021.632784/full#supplementary-material

clinicians–although clearly opposed to any type of preventive efforts with regard to sexual orientation–argued in favor of reducing gender dysphoria vis-à-vis natal sex, if that was feasible. Meyer-Bahlburg (125), for example, wrote: "…we cannot rule out the possibility that early successful treatment of childhood GID will diminish the role of a continuation of GID into adulthood. If so, successful treatment would also reduce the need for the long and difficult process of sex reassignment which includes hormonal and surgical procedures with substantial medical risks and complications" (p. 362). Along similar lines, Cohen-Kettenis and Pfäfflin (33) remarked: "Relatively little dispute exists regarding the prevention of transsexualism, though evidence about the effectiveness of treatment in preventing adult transsexualism is also virtually nonexistent" (p. 120). In more recent years, what the best-practice should be for the treatment of gender dysphoria in children has been widely discussed and debated, which highlight the various limitations of treatment effectiveness studies (137–139).

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REVIEW ARTICLE

Gender dysphoria in childhood

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ABSTRACT

Gender dysphoria (GD) in childhood is a complex phenomenon characterized by clinically significant distress due to the incongruence between assigned gender at birth and experienced gender. The clinical presentation of children who present with gender identity issues can be highly variable; the psychosexual development and future psychosexual outcome can be unclear, and consensus about the best clinical practice is currently under debate.

In this paper a clinical picture is provided of children who are referred to gender identity clinics. The clinical criteria are described including what is known about the prevalence of childhood GD. In addition, an overview is presented of the literature on the psychological functioning of children with GD, the current knowledge on the psychosexual development and factors associated with the persistence of GD, and explanatory models for psychopathology in children with GD together with other co-existing problems that are characteristic for children referred for their gender. In light of this, currently used treatment and counselling approaches are summarized and discussed, including the integration of the literature detailed above.

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Introduction

Children can vary in the extent to which they show gender role expressions, behaviours, interests, and preferences. For most children these expressions are largely congruent with their experience of being male or female – their gender identity – and in line with the gender assigned at birth. This is in contrast to children who experience gender dysphoria (GD). These children show extreme and enduring forms of gender nonconforming/gender variant behaviours, preferences, and interests because they do not identify with their birth-assigned gender. Because of the incongruence between their assigned gender and experienced gender, these children may experience clinically significant distress and are consequently often in need of clinical attention (American Psychiatric Association, 2013).

Although there has been much opposition against diagnosing GD in prepubescent children, primarily due to the stigmatizing effect of having a mental disorder (e.g. Drescher, 2013), the condition is included in the current edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5) (American Psychiatric Association, 2013) as well as in the *International Classification of Diseases* (ICD-10; World Health Organization, 1992). The World Health Organization (WHO) is, however, in the process of revising the tenth version of the ICD; but instead of removal of the childhood diagnosis the terminology will most likely be changed from 'gender identity disorder of childhood' into 'gender incongruence of childhood' (Drescher, Cohen-Kettenis, & Winter, 2012).

According to the DSM-5, a diagnosis of GD of childhood can be made if a child experiences a marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by six out of eight criteria. One *sine qua non* criterion must be the experience of a strong desire to be of another gender or an insistence to be another gender. In addition to this, there are two criteria focusing on anatomic dysphoria; a dislike of one's sexual anatomy and the desire for primary/secondary sex characteristics of the experienced gender. In addition there are five behavioural criteria. The behavioural criteria concern the preference for cross-dressing; adopting cross-gender roles in fantasy play; a strong preference for toys, games and activities of the other gender; a preference for playmates of the other gender; and a strong aversion or rejection of typically gender congruent roles, interests, preferences and behaviours. Furthermore, the condition is associated with clinically

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significant distress or impairment in social, school, or other important areas of functioning (American Psychiatric Association, 2013).

Valid information on the prevalence of childhood GD is not available yet due to the absence of formal prevalence studies. An estimate of the prevalence of gender nonconforming/gender variant behaviours can, however, be made on the basis of studies where the Child Behavior Checklist (CBCL) (Achenbach & Edelbrock, 1983) was used. On the CBCL – a parent-report questionnaire on behavioural problems – two items are related to gender variance: Item 5 ('Behaves like opposite sex') and item 110 ('Wishes to be of opposite sex'). Information from the Dutch normative sample of the CBCL shows that in children, both items are more frequently endorsed by parents of girls than of boys; 'Behaves like opposite sex' in 2.6% of the boys and 5.0% of the girls, 'Wishes to be of opposite sex' in 1.4% of the boys and 2.0% of the girls (Verhulst, van der Ende, & Koot, 1996). These findings are in concordance with data from the normative sample of the CBCL in North-America (Achenbach & Edelbrock, 1981; Zucker, Bradley, & Sanikhani, 1997), and are largely replicated in a study of Dutch twins (N = 23,393) at ages 7 and 10 (Van Beijsterveldt, Hudziak, & Boomsma, 2006). Therefore, gender variance/gender nonconformity seems to be present in a small percentage of children and is more prominent in girls than in boys.

Interestingly, from what we know about the referrals to specialized gender identity clinics, the sex ratios for referred prepubescent children have always been in favour of natal men, which may be a direct effect of a difference in increased acceptance of masculinity in girls compared to femininity in boys (e.g. Blakemore, 2003; Cohen-Kettenis et al., 2003; Steensma et al., 2014; Wallien, Veenstra, Kreukels, & Cohen-Kettenis, 2010; Zucker, Wilson-Smith, Kurita, & Stern, 1995). Over the last decades the reported sex ratios have, however, gradually changed. For example, in the period before 2000 the ratio between boys and girls was 5.75:1 in Canada and 2.93:1 in the Netherlands (Cohen-Kettenis et al., 2003). In the period after 2000, the sex ratios decreased in Canada to 3.41:1 (2008–2011) for boys and girls respectively (Wood et al., 2013); and a similar pattern was observed in the Netherlands with a sex ratio of 1.68:1 between 2008 and 2011 (Steensma, 2013). For both countries this change in ratios is caused by fewer referrals of boys. Although empirical evidence is currently not available, the decrease of referrals in boys may indicate an increasing tolerance over time towards gender nonconforming behaviours in both countries.

Psychological functioning, social tolerance, and other co-existing problems

Besides the gender nonconforming presentation, children with GD who are referred to clinical settings have been shown to be more psychologically vulnerable in comparison to non-referred controls (Bates, Bentler, & Thompson, 1973, 1979) and in comparison to the general population (e.g. Cohen-Kettenis et al., 2003; Singh, Bradley, & Zucker, 2011; Steensma et al., 2014). Furthermore, these studies show that these psychological problems are more of an internalized nature (such as depression, social withdrawal, and anxiety), instead of an externalizing nature (such as aggression) (Bates et al., 1973, 1979; Coates & Person, 1985; Rekers & Morey, 1989; Zucker & Bradley, 1995; Cohen-Kettenis et al., 2003; Steensma et al., 2014). However, as Zucker, Wood, and VanderLaan (2014) recently concluded from their summary of studies reporting on the psychological functioning of gender-referred children, there is a considerable variability across the different studies. For example, the percentage of clinical-range cases reported in studies using the total behaviour problem score of the CBCL, ranged from 12.5% up to 84% of the described children over the different studies (for an overview see Zucker et al., 2014).

To understand this association between GD and the variability of psychological functioning within the population of children with GD, the empirical literature indicates the effect is largely mediated through social (in)tolerance towards gender nonconformity/gender variance. Indeed, a wide range of studies in children from the general population showed that gender nonconforming behaviour is often evaluated negatively by other children (e.g. Carter & McCloskey, 1984; Levy, Taylor, & Gelman, 1995; Ruble et al., 2007; Signorella, Bigler, & Liben, 1993; Stoddart & Turiel, 1985). Peer relations in general are therefore poorer for clinically referred children with GD than for non-referred children/youth (e.g. Cohen-Kettenis et al., 2003; Zucker et al., 1997, 2012); and, as we might expect, poor peer relations are associated with a negative well-being and poor psychological functioning in children with GD (e.g. Cohen-Kettenis et al. 2003; Steensma et al., 2014). Consequently the variability in psychological functioning detailed within the literature is likely inversely correlated with the intensity of social intolerance experienced by the children with GD. For example, a cross-national study between children referred for their gender from Canada and from the Netherlands showed a much higher prevalence of emotional and behavioural problems in the Canadian children than in the Dutch children. Interestingly, quality of peer relations rather

than IQ, parental social class, marital status, or ethnicity, turned out to be the strongest predictor in both countries. Furthermore, the quality of peer relations was lower in Canada than in the Netherlands. This indicates that psychological functioning is highly dependent upon how gender nonconformity is accepted within a certain culture or environment (Steensma et al., 2014).

However, this may not be the only factor that results in poorer psychological functioning. Over the years other models postulated in the literature focused, for example, upon generic risk factors for psychopathology and behavioural problems (such as parental psychopathology, social class background) in relation to GD; and considered them as an inherent cause of psychological problems in children with GD. Evidence for these relations is, however, still scarce and both models are under-studied in comparison to other factors such as social (in)tolerance (Zucker et al., 2014).

As far as co-occurring problems in children with GD are concerned, the relationship between Autistic Spectrum Disorders (ASD) and GD is important to mention. Although there are few studies investigating the relationship between the two, one study by de Vries, Noens, Cohen-Kettenis, van Berckelaer-Onnes, & Doreleijers (2010) showed that in a sample of 108 gender-referred children ASD was present in 6.4% of the children. This is significantly higher than the prevalence of 0.6–1% of ASD in the general population (Fombonne, 2005). Corresponding with these findings, a study by VanderLaan et al. (2015) of children referred for gender studied obsessional interests – which may be an indication of ASD – and showed that obsessions were more frequently reported by children referred for their gender in comparison with the general population. With regard to how ASD and GD are related, the question arises as to whether GD is an expression of ASD, or whether ASD is a symptom of GD; alternatively, of course, the two may be present without being related to each other (see van der Miessen et al., this issue).

Psychosexual development and related factors for persistence of GD

A central question in the counselling of children with GD is what their psychosexual outcome will be. Will the child grow up and identify as a gay man, lesbian woman, bisexual man or woman, or heterosexual man or woman without experiencing feelings of gender incongruence which require any intervention; or will the child need medical treatment in the future because the gender dysphoric feelings will persist and further intensify?

To date, there are 10 prospective follow-up studies described in the literature, together reporting on 317 gender nonconforming children who were followed-up in adolescence or early adulthood. The follow-up information in Zucker & Bradley (1995) is not included in this summary. In personal correspondence with Dr. Zucker it became clear that the 45 cases described are also included in the samples of Drummond, Bradley, Peterson-Badali, & Zucker (2008) (5 natal girls) and Singh (2012) (40 natal boys).

The conclusion from these studies is that childhood GD is strongly associated with a lesbian, gay, or bisexual outcome and that for the majority of the children (85.2%; 270 out of 317) the gender dysphoric feelings remitted around or after puberty (see Table 1).

However, there may be a number of arguments to nuance this high percentage of desistence. As is shown in Table 1 there is much variation in the reported persistence rates between the studies, ranging from 2% to 39%. Interestingly the studies before the year 2000 reported much lower persistence rates in comparison to the more recent studies after the year 2000. Furthermore, the persistence rates reported in two Canadian studies (Drummond et al., 2008; Singh, 2012) were identical (12%) but clearly lower in comparison to the follow-up study by Wallien & Cohen-Kettenis (2008) from the Netherlands. The explanation for these differences may be threefold:

First, the variation in intensity of GD in the children included differs across studies: The lower persistence rates in the earlier studies, compared to the more recent studies after 2000, may be the result of the inclusion of less extreme cases in the earlier studies than in later studies. For example, before the publication of DSM-III in 1980 there was no formal diagnosis of GD for children (Drescher, 2014). It could therefore be that the children included in the studies before 1980 would in retrospect not meet the full criteria for a diagnosis. Also, the recent

Table 1. Follow-up studies in children with GD.

Study	Sample	Age at follow-up (range)	Persistence rate
Bakwin (1968) Lebovitz (1972) Zuger (1984) Money & Russo (1979) Davenport (1986) Kosky (1987)	55 natal boys	(13–36)	9% (5 out of 55)
Green (1987)	44 natal boys	19 (14–24)	2% (1 out of 44)
Drummond et al. (2008)	25 natal girls	23 (15–37)	12% (3 out of 25)
Wallien & Cohen-Kettenis (2008)	40 natal boys 14 natal girls	19 (16–28)	39% (21 out of 54)
Singh (2012)	139 natal boys	21 (13–39)	12% (17 out of 139)

studies consisted of clinically referred samples of children, which was not the case for the earlier studies. For example, in the study by Green (1987) the sample of feminine boys was recruited through advertisement.

Secondly, and in line with the intensity explanation, there are possible cultural differences in referral: As described earlier, the sex ratios of child referrals in Canada are historically in greater favour of boys than girls as compared to the Netherlands. This may indicate that femininity in boys is experienced as more problematic in Canada –resulting in more referrals of boys with less extreme GD than in the Netherlands. As a result, the persistence rates are higher in the Netherlands compared to Canada.

Thirdly, we can consider the time of follow-up: As can be seen in Table 1, the time of follow-up differed across the studies and one could hypothesize that the studies with a later follow-up age (of older adolescents or adults) and those having a longer follow-up time, would report higher persistence rates than the studies where the follow-up took place at a younger age (i.e. shorter follow-up time). This trend is however not observed over the reported studies. To test this hypothesis, Steensma & Cohen-Kettenis (2015) recently published a report on the first 150 childhood cases from Amsterdam, the Netherlands, and checked whether a longer follow-up period would result in higher persistence rates. The children were at the time of first assessment – between 5 to 12 years old and between 19 to 38 years of age at the time of follow-up. Out of the 150 cases, 40 re-entered the clinic during adolescence (12–18 years of age) and turned out to be persisters (26.7%). However, after checking the files of the adult clinic (which sees nearly all adults with gender dysphoria in the Netherlands), it appeared that five individuals applied for treatment after the age of 18, raising the persistence rate to 30% and showing the importance of long-term follow-ups. Based on this information, it seems reasonable to conclude that the persistence of GD may well be higher than 15%. However, desistence of GD still seems to be the case in the majority of children with GD.

Two other clinically relevant questions are (1) whether we know anything with regard to the factors that are associated with the persistence or desistence of childhood GD and (2) how the process of persistence or desistence is experienced.

As to the factors associated with the persistence of GD, knowledge is still limited but fortunately slowly increasing. A central finding from all quantitative studies focusing on the topic is that the persistence of GD is most closely linked to the intensity of the GD in childhood and the amount of reported cross-gendered behaviour; in other words the more intense GD is in childhood, and the more cross-gendered behaviour is reported by parents or through self-report, the higher the chance that the GD persists (Drummond et al., 2008; Singh, 2012; Steensma, McGuire, Kreukels, Beekman, & Cohen-Kettenis, 2013; Wallien & Cohen-Kettenis, 2008). In addition to this, several other factors are linked to persistence of GD: For example, Steensma et al. (2013) and Wallien & Cohen-Kettenis (2008) showed that the persistence rate is generally higher in natal girls than in natal boys; And Steensma et al. (2013) and Singh (2012) found that the assessment age in childhood was higher in children where the GD persisted than for desisters; Further, Singh (2012) reported a higher social class in the parents of desisters compared to the parents of persisters.

In addition, Steensma et al. (2013) found that a social transition in childhood, especially in natal boys, and verbal identification with the desired/experienced gender was predictive for the persistence of GD. Interestingly, the identification finding was reported in an earlier qualitative study by Steensma, Biemond, de Boer & Cohen-Kettenis (2011) who observed differences in reported experiences of GD between persisters and desisters who were interviewed. For example, the persisters explicitly indicated that they felt they *were* the 'other' sex and the desisters indicated that they only *wished* they were the 'other' sex. The primary aim of the Steensma et al. (2011) study was to get a better understanding of the processes that contribute to the persistence and desistence of childhood GD. By interviewing adolescents (14 persisters, 11 desisters) who all fulfilled the DSM-IV or DSM-IV-TR criteria of a gender identity diagnosis in childhood (APA, 1994, 2000), it became clear that the period between 10 and 13 years was considered crucial. Both persisters and desisters stated that the changes in their social environment, the anticipated and actual feminization or masculinization of their bodies, and the first experiences of falling in love and sexual attraction in this period, contributed to an increase (in the persisters) or decrease (in the desisters) of their gender related interests, behaviours, and feelings of gender discomfort.

Treatment and counselling of children with GD

Over the last decade, the care for prepubescent children with GD has been rapidly changing and there is a growing number of specialized gender clinics for young people (Hsieh & Leininger, 2014; Khatchadourian, Ahmed, & Metzger, 2014; Riittakerttu, Sumia, Työläjärvi, & Lindberg, 2015). Best clinical practice in gender referred children is still controversial and raises debates among dedicated professionals. General agreement does, however, exist that the care for children with

GD should be focused on reducing the child's distress related to their GD; on help with other psychological difficulties; and optimizing psychological adjustment and wellbeing (e.g. Byne et al., 2012; Coleman et al., 2011). As for the counselling of the gender dysphoric feelings in children with GD; empirical treatment models do not exist and general consensus between clinicians is not always easy to obtain (Byne et al., 2012). In the current professional literature, three treatment models for the care of gender variant children can be distinguished (e.g. Byne et al., 2012; Drescher, 2013) and it is these to which we now turn.

The first approach focuses on working with the child and caregivers to lessen cross-gender behaviour and identification, to persuade the child that the 'right gender' is the one assigned at birth (Giordano, 2012), to decrease the likelihood that GD will persist into adolescence, and prevent adult transsexualism. Critics of this approach have linked it to 'reparative therapy', a term more commonly used to describe efforts to change same sex attraction to heterosexuality in gay adults or 'pre-homosexual' children (Drescher, 2013). In the past, such behavioural and psychodynamic therapies to lessen the GD have been largely used in children with GD with overall unsatisfactory results (Byne et al., 2012; Möller, Schreier, Li, & Romer, 2009). Instead, children often seem to become distressed if their preferences and/or behaviours are blocked (Richardson, 1999). At present, interventions aimed to lessen GD are referred to as unethical by the World Professional Association for Transgendered Health (WPATH: Coleman et al., 2011) and many other international professional organizations. The American Academy of Child & Adolescent Psychiatry, for example, has explicitly formulated their position against any psychological treatment aimed to change gender nonconforming behaviours (Adelson, 2012).

The second approach is focused on dealing with the potential social risks for the child (Byne et al., 2012). Because its aim is to allow the progress of the GD in the child to unfold in a natural way, it is often referred to as 'watchful waiting' (Drescher, 2013). Counselling based on this approach may include interventions that focus on the co-existing problems of the child and/or the family; helping parents and the child to bear the uncertainty of the child's psychosexual outcome; and providing psycho-education to help the child and the family to make balanced decisions regarding topics such as the child's coming out, early social transitioning, and/or how to handle peer rejection or social ostracism. In practice, the child and parents are encouraged to find a balance between an accepting and supportive attitude toward GD, while at the same time protecting the child against any negative reactions and remaining realistic about the chance that GD feelings may desist in the future. Parents are encouraged to provide enough space for their child to explore their gender dysphoric feelings, while at the same time keeping all future outcomes open (e.g., de Vries & Cohen-Kettenis, 2012; Di Ceglie, 1998, 2014).

The third approach is focused on affirming the child's (trans)gender identification and helps the child to build a positive self-identity and gender resilience. In particular, the child is supported in transitioning to the desired/experienced gender role. The rationale for supporting social transition before puberty is that children can revert to their originally assigned gender if necessary since the transition is solely at a social level and without medical intervention (e.g. Byne et al., 2012; Drescher, 2013; Hill, Menvielle, Sica, & Johnson, 2010). Critics of this approach believe that supporting gender transition in childhood may indeed be relieving for children with GD but question the effect on future development. The debate thereby focuses on whether a transition may increase the likelihood of persistence because, for example, a child may 'forget' how to live in the original gender role and therefore will no longer be able to feel the desire to change back; or that transitioned children may repress doubts about the transition out of fear that they have to go through the process of making their desire to socially (re)transition public for a second time (Steensma, 2013). The fact that transitioning for a second time can be difficult was indeed shown in the qualitative study by Steensma et al. (2011) where children who transitioned early in childhood reported a struggle with changing back to their original gender role when their feelings desisted, with the fear of being teased or excluded by their peers reported as the main reason for this.

Unfortunately, empirical answers about the best way to counsel children with GD and their caregivers are currently not available. The WPATH have therefore formulated a balanced position in their Standards of Care (Coleman et al., 2011), where clinicians are encouraged to help families by providing information about what is known about the development of children with GD and to help them to make decisions where the potential benefits and challenges of particular choices are weighted.

Conclusion

According to the DSM-5 diagnostic criteria for gender dysphoria, children with GD experience clinically significant distress because of the incongruence between their assigned gender at birth and experienced gender (APA, 2013). The clinical presentation of children who

present with gender identity issues is characterized by gender-nonconformity and a vulnerability to having psychological problems – primarily of an internalized nature (e.g. Cohen-Kettenis et al., 2003; Steensma et al., 2014), and an increased likelihood of ASD symptomatology (de Vries et al., 2010; VanderLaan et al., 2015). The extent and intensity of all three characteristics can be variable.

When considering the development of children with GD; studies show that gender dysphoric feelings eventually desist for the majority of children with GD, and that their psychosexual outcome is strongly associated with a lesbian, gay, or bisexual sexuality which does not require any medical intervention, instead of an outcome where medical intervention is required (e.g. Drummond et al., 2008; Wallien & Cohen-Kettenis, 2008; Singh, 2012). Factors predictive for the persistence of GD have been identified on a group level, with higher intensity of GD in childhood identified as the strongest predictor for a future gender dysphoric outcome (Steensma et al., 2013). The predictive value of the identified factors for persistence are, however, on an individual level less clear cut, and the clinical utility of currently identified factors is low.

Taken together this shows that there can be a great variability with regard to presentation of children with GD and their psychosexual outcome. The counselling of children with GD can therefore be complex and clinically challenging. To date, there is general agreement that the care for children with GD should not be aimed at avoiding adult same sex attraction or transsexualism; that no medical intervention should be provided in childhood (before puberty); that counselling should therefore be focused on reducing the child's distress related to the GD, on help with other psychological difficulties, and on optimizing psychological adjustment and wellbeing (e.g. Byne et al., 2012; Coleman et al., 2011).

However, besides these basic clinical values, there is currently no general consensus about the best approach to dealing with the (uncertain) future development of children with GD, and making decisions that may influence the functioning and/or development of the child – such as a social transition. Different clinical approaches are presented in the literature, and indeed taking the variability in presentation of children with GD into account, it seems important to underline that a 'one size fits all' approach is not best practice for children with GD. Therefore, different kinds of treatment options should be available which respect the unique needs of every child. In particular, the child's clinical psychological profile and gender development, as well as the contextual psychosocial characteristics of the child's family (e.g. belief system, supportive behaviours, access to health care) should always be taken into account in order to make balanced decisions. Currently, the limited empirical evidence in favour of a particular treatment makes treatment of teenagers with GD a controversial issue that raises intense, and often polarized, debate. Therefore, studies comparing different psychological treatment options are needed as well as research which aims to identify the factors involved in the persistence process of GD on an individual level. The primary goal is therefore to determine the safest and most efficacious mental and medical approach for the individual child with GD.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

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