CHAPTER TWO

BRITAIN'S EXPERIMENT WITH PUBERTY BLOCKERS

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In 1994 a 16-year-old girl who wanted to be a boy, known to us as B, entered the Amsterdam Gender Clinic. She was unique for having her sexual development halted at the age of 13, because an adventurous paediatric endocrinologist had given her a Gonadotropin-Releasing Hormone agonist (GnRHa). Originally developed to treat prostate cancer, these drugs are also used to delay puberty when it develops abnormally early: in girls younger than 8, and in boys younger than 9. The innovation was to take the drugs to stop normal puberty altogether, in order to prevent the development of unwanted sexual characteristics—with the aim of administering cross-sex hormones in later adolescence. Dutch clinicians used B's case to create a new protocol for transgendering children, which enabled physical intervention at an age much earlier than the accepted age of consent (Cohen-Kettenis & Goozen, 1998).

The Dutch protocol promised to create a more passable simulacrum of the opposite sex than could be achieved by transition in adulthood. It was therefore embraced by trans-identified children and their parents, by older transgender activists, and by some clinicians specializing in gender dysphoria. The Gender Identity Development Service (GIDS), part of the Tavistock and Portman NHS Foundation Trust, treats children with gender dysphoria from England, Wales, and Northern Ireland. It launched an experimental study of 'puberty blockers'—the friendlier term for GnRHa when administered to children with gender dysphoria—in 2010. Fifty children were injected with triptorelin, for at least two years. This chapter describes the origins and conduct of this study and scrutinizes the evidence on its outcomes. It draws on information obtained by requests under the Freedom of Information Act to Tavistock Trust, to the NHS Health Research Authority, and to University College London (UCL). I will argue that the experimental study did not properly inform children and their

parents of the risks of triptorelin. I will also demonstrate that the study's preliminary results were more negative than positive, and that the single article using data from the study is fatally flawed by a statistical fallacy. My conclusion is that GIDS and their collaborators at UCL have either ignored or suppressed negative evidence. Therefore, GIDS had no justification for introducing the Dutch protocol as general policy in 2014.

Origins

GnRHa drugs have never been licensed for treating children suffering from gender dysphoria. The particular drug used in Britain, as in the Netherlands, is triptorelin, which is licensed to treat advanced prostate cancer and sexual deviance in men; endometriosis and uterine fibroids in women (for no longer than six months); and precocious puberty in children (Electronic Medicines Compendium, 2019). Using GnRHa to treat gender dysphoria is 'a momentous step in the dark', for it is 'presumptuous to extrapolate observations from an intervention that suppresses pathologically premature puberty to one that suppresses normal puberty' (Richards et al., 2018). Therefore, the origins of Tavistock's experiment need some explanation.

The Dutch protocol became well known in Britain before the first scientific article was published. A television documentary showed trans-identified girls travelling to meet their peers in the Netherlands, who were taking GnRHa as young as 13 (Channel 4, 1996). This inspired Stephen Whittle—who led the transgender campaigning organization Press for Change—to argue for a legal right to access 'pubertal suppression'; doctors who failed to provide drugs could be vulnerable to litigation (Whittle & Downs, 2000; Wren, 2000, p.224). This argument was first advanced at a conference at Oxford in 1998, where the keynote speaker was the head of the Amsterdam Gender Clinic. There was little movement, however, over the next few years. Guidelines issued by the British Society for Paediatric Endocrinology and Diabetes (BSPED) in 2005 still insisted that children had to reach full sexual development (known as Tanner Stage 5)—around the age of 15—before being prescribed GnRHa drugs.

A crucial role was played by organizations that campaign for the transgendering of children: the Gender Identity Research and Education Society (GIRES) and Mermaids. GIRES organized a symposium in London in 2005 to develop 'guidelines for endocrinological intervention'. Additional funding came from Mermaids, two medical charities—the Nuffield Foundation and the King's Fund—and the Servite Sisters Charitable Trust Fund. This brought together the creators of the Dutch

protocol, American clinicians like Norman Spack in Boston, and key British figures such as Domenico Di Ceglie, the Director of GIDS, and Polly Carmichael and Russell Viner, both at Great Ormond Street Hospital. (The latter two were to lead the 2010 experiment.) Some of the participants lobbied for the Dutch protocol. Veronica Sharp from Mermaids 'described users' and parents' views of the available treatments, and the anguish they may experience when hormone blocking is delayed' (GIRES, 2005). The symposium ended with an agreement to push for amendments to guidance from bodies like BSPED, and to conduct collaborative research between London, Amsterdam, and Boston. There was another meeting in Amsterdam the following year, but the collaborative research did not eventuate.

International developments did enable parents to circumvent the NHS. GIRES (2006) warned that 'those who can in any way afford to do so have to consider taking their children to the USA'. The first was Susie Green, who later became the chief executive of Mermaids. In 2007 she took her son Jackie, aged 12, to Boston, to purchase a prescription for GnRHa drugs from Spack; the drugs were supplied by an online Canadian pharmacy (Sloan, 2011). A presentation at Mermaids, presumably by Green, instructed parents in this medical tourism (Mermaids, 2007). Spack treated a further seven British children over the next few years (Glass, 2012).

By 2008, GIRES was more strident in criticizing British clinicians. One of its founders, Terry Reed, denounced them as 'transphobic':

> They are hoping that during puberty the natural hormones themselves will act on the brain to 'cure' these trans teenagers. What we do know is what happens if you don't offer hormone blockers. You are stuck with unwanted secondary sex characteristics in the long term and in the short term these teenagers end up suicidal. (Groskop, 2008)

Reed was clearly drawing on the experience of her own child, who had transitioned two decades before. This feature article in the *Guardian* signalled how the controversy was becoming newsworthy. GIRES objected to the fact that the Royal Society of Medicine's conference on gender dysphoria in adolescents had invited too few advocates for the Dutch protocol. The conference was noteworthy as the occasion for a rare public protest by transgender activists (Brown, 2018, p.311). The target was Kenneth Zucker from Toronto, a leading authority on gender dysphoria, who was denounced as a 'transphobic doctor who supports repression and torture of gender-variant children' (Kennedy, 2008). Activists were not the only critics. A medical ethicist at the University of

Manchester (who had attended the 2005 symposium) denounced Viner's caution about the risks of GnRHa, on the grounds that 'anything is better than life in an alien body' (Giordano, 2008, p.583). As the decade drew to a close, the demand for puberty blockers was irresistible.

Experiment

GIDS decided to frame the concession as research, undertaken in collaboration with scientists at UCL. Viner was the chief investigator; co-investigators included Carmichael, who had taken over as the Director of GIDS, and Di Ceglie, who had become the Director of Training, Development, and Research. The first proposal was rejected by the NHS Research Ethics Committee, on the grounds that it was not a proper randomized trial and therefore could not yield valid results (Young Minds, 2010). The second proposal—'Early pubertal suppression in a carefully selected group of adolescents with gender identity disorder' (Viner, 2010)—was no more rigorous. There was no random allocation of patients into control and treatment groups, and no double blinding of patients and medics. Nevertheless, the proposal was approved. It was not designed to maximize information on the effects of GnRHa. For example, children were asked to consent to complete questionnaires only until they were 16. If they had been asked to give consent for the researchers to access their medical records in perpetuity, then GIDS would have been able to analyze effects of the drugs over the long term. Although the proposal called this a 'study', I prefer the word 'experiment' to convey the fact that it was using a drug that was not licensed for this condition.

The research proposal provided a comprehensive review of the potential benefits and risks of GnRHa. 'It is not clear what the long term effects of early suppression may be on bone development, height, sex organ development, and body shape and their reversibility if treatment is stopped during pubertal development' (Viner, 2010, p.7). Viner spoke frankly in a later newspaper interview:

> If you suppress puberty for three years the bones do not get any stronger at a time when they should be, and we really don't know what suppressing puberty does to your brain development. We are dealing with unknowns. (Bracchi, 2012)

This caution echoed previous comments by Carmichael: 'the debate revolves around the reversibility of this intervention—physical and also psychological, in terms of the possible influence of sex hormones on brain and identity development' (Carmichael & Davidson, 2009, p.917).

When Tavistock Trust announced the study, however, it claimed that GnRHa treatment 'is deemed reversible' (Tavistock and Portman, 2011). More disturbing is the fact that the Patient Information Sheet provided to children when they gave consent also minimized or concealed the risks acknowledged in the research proposal.[1] Although the sheet ran to four pages, it omitted the fact that GnRHa drugs have never been certified as safe and effective for treating gender dysphoria. The words 'experiment' or 'trial' did not appear. Under 'the possible benefits of taking part' came this astonishing statement:

> If you decide to stop the hormone blockers early your physical development will return as usual in your biological gender [sic]. The hormone blockers will not harm your physical or psychological development.

This directly contradicted the chief investigator's own statements.

As for side effects, there was a vague warning that the drug 'could affect your memory, concentration and the way you feel'. The triptorelin formulations used by GIDS—Gonapeptyl® Depot and Decapeptyl® SR—carry detailed warnings of side effects. Depression is common, affecting between 1% and 10% of patients (Ferring Pharmaceuticals, 2016), and 'may be severe' (Ipsen, 2017). Other side effects affecting up to 10% of children treated for precocious puberty include 'pain in abdomen, pain bruising, redness and swelling at injection site, headache, hot flushes, weight gain, acne, hypersensitivity reactions' (Ipsen, 2017). None of these are mentioned in the Patient Information Sheet.

One further absence deserves emphasis. The 2005 Symposium had already noted the paradox that blocking a boy's puberty left him with stunted genitalia, which were then not sufficient to transform into a pseudo-vagina. 'Although there are surgical means to deal [with] this difficulty, the patient and her parents or guardians should be fully informed about its implications' (GIRES, 2005). The Patient Information Sheet failed to mention this.

All these omissions might be explained by the input of parents who saw GnRHa as an elixir that would enable their child to change sex. 'The wording … was agreed with a number of families with whom the draft had been discussed' (Di Ceglie, 2019, p.149). Whatever the cause, GIDS and UCL gave children and parents incomplete and misleading information,

[1] Version 1.0, 4 November 2010, obtained from University College London under the Freedom of Information Act. One portion is reproduced by Di Ceglie (2019, p.149).

which contradicted the research proposal. Whether they could provide informed consent, in such circumstances, is open to serious question.

The course of the experiment can be gleaned from a conference presentation and a published abstract (Gunn et al., 2015a; Gunn et al., 2015b). From May 2010 to July 2014, 61 children were recruited, with a slight preponderance of boys.[2] GnRHa was administered to 50 of them; the others were too young, too thin, or had insufficient bone density. Under the Dutch protocol, children became eligible around age 12 (Tanner Stage 2 or 3). The age at which these subjects started the drug ranged from 10 to 16. None of the children started on the drug had ceased after two years.

Results

Before the final patient was enrolled, Carmichael announced success to the tabloid press. 'Now we've done the study and the results thus far have been positive we've decided to continue with it' (Manning & Adams, 2014). Her statement was misleading, at best. Six months earlier, Carmichael had already stated that she planned to continue the experiment indefinitely (Leake, 2013). Then the sole justification was the large number of parents demanding the drugs. At that point, only 23 children had taken triptorelin, so the trial was not even halfway through. These pronouncements make a mockery of Carmichael's earlier bromide: 'as professionals we need to be looking at the long term and making sure this treatment is safe' (Alleyne, 2011).

Where are these 'positive' results?[3] The current GIDS webpage on the evidence base for puberty blockers states that 'research evidence for the effectiveness of any particular treatment offered is still limited' (GIDS, 2019). There is no mention of its own experiment; it cites only research from the Netherlands. Di Ceglie stated last year that the 'project is ongoing and the results are yet to be published' (Di Ceglie, 2018, p.14).

Diligent searching does, however, uncover unpublished results. Most revealing is an appendix to Carmichael's report to Tavistock's Board of Directors (GIDS, 2015).[4] It tracks the first 44 children on triptorelin,

[2] Ethical permission was granted only in December 2010. Presumably, children who entered earlier waited for this permission to be granted before being injected with triptorelin. A cryptic graph implies that only 2 children were referred in 2010; 22 were referred in 2014 (Gunn et al., 2015a).

[3] I emailed the address listed on the webpage announcing the study (communications@tavi-port.nhs.uk) on 1 February 2018, inquiring after the results. There was no reply.

[4] My annotated version is available at

measuring changes after one year of the drug regime. The text is sometimes internally inconsistent and occasionally contradicts the tabulated figures, suggesting that the appendix was prepared in haste. But we can summarize those changes that were reported as statistically significant (p-value < .05). Only one change was positive: 'according to their parents, the young people experience less internalizing behavioural problems' (as measured by the Child Behavior Checklist). There were three negative changes. 'Natal girls showed a significant increase in behavioural and emotional problems', according to their parents (also from the Child Behavior Checklist, contradicting the only positive result). One dimension of the Health Related Quality of Life scale, completed by parents, 'showed a significant decrease in [the] Physical well-being of their child'. What is most disturbing is that, after a year on blockers, 'a significant increase was found in the first item 'I deliberately try to hurt or kill self'' (in the Youth Self Report questionnaire). Astonishingly, the increased risk of self-harm attracted no comment in Carmichael's report. Given that puberty blockers are prescribed to treat gender dysphoria, it is paradoxical that 'the suppression of puberty does not impact positively on the experience of gender dysphoria' (measured by the Body Image Scale). When differentiated by sex, the impact was positive for boys on one aspect of body image, but negative for girls on two aspects.

These preliminary results (44 children after one year on triptorelin) also appear in an abstract for the World Professional Association for Transgender Health:

> For the children who commenced the blocker, feeling happier and more confident with their gender identity was a dominant theme that emerged during the semi-structured interviews at 6 months. However, the quantitative outcomes for these children at 1 years time suggest that they also continue to report an *increase in internalising problems and body dissatisfaction* [my emphasis], especially natal girls. (Carmichael et al., 2016)

These findings pertain to 44 out of 50 of the children in the experiment. It is exceedingly unlikely that they would be altered by the inclusion of the last 6 subjects. Moreover, children and parents had a clear bias towards reporting favourable outcomes; after all, they had enrolled in the experiment because they viewed GnRHa drugs as beneficial. This positive bias increases the probative value of negative evidence. Why were these negative results never published?

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http://users.ox.ac.uk/~sfos0060/Annotated_GIDS_results.pdf.

One article on the outcome of puberty blockers, coauthored by Carmichael, apparently includes some data from the experiment (Costa et al., 2015). The article discusses 101 children given GnRHa drugs at GIDS, starting at ages ranging from 13 to 17. Given the date of publication, most or all of those children who started at ages 13 and 14 (and perhaps 15?) must have been part of the 2010–14 experiment. But the age range also indicates the exclusion of some of the experiment's children: those who commenced GnRHa from ages 10 to 12. Excluding some subjects without justification is poor practice and raises the suspicion of cherry picking. Nevertheless, we could consider this article as having some bearing on the 2010–14 experiment.

The abstract proclaims that 'adolescents receiving also puberty suppression had significantly better psychosocial functioning after 12 months of GnRHa … compared with when they had received only psychological support' (Costa et al., 2015, p.2206). The article is treated in the literature as providing evidence in favour of puberty blockers (e.g. Butler et al., 2018; Heneghan & Jefferson, 2019). But the abstract is misleading: the analysis actually *failed to detect any difference* between children who were given blockers and those who were not. To understand this, we need to scrutinize the article in detail. (Statistically minded readers will recognize the fallacy described by Gelman & Stern, 2006.)

The analysis starts with 201 adolescents diagnosed with gender dysphoria. The children were divided into two groups: those deemed eligible for puberty blockers immediately, and those who needed more time due to 'comorbid psychiatric problems and/or psychological difficulties'. This second group did not receive any physical intervention during the time of analysis, and so serves as a comparison group. Both groups received psychological support. The article chooses one outcome: psychosocial functioning as measured by the Children's Global Assessment Scale (CGAS). This scale was administered at the outset, and then after six, twelve, and eighteen months. It is suspicious that the article omits all the outcomes that were negative in the preliminary results of the 2010–14 experiment: the Child Behavior Checklist, the Youth Self Report Questionnaire, the Health Related Quality of Life scale, and the Body Image Scale.

The authors graph the CGAS results, but without confidence intervals—which indicate the extent of random statistical variation or noise. (The graph is redrawn with confidence intervals in Biggs, 2019.) The smaller the sample, the greater this noise. These samples shrank over time: after eighteen months, the group getting drugs numbered only 35, and the comparison group 36. The article does not explain why two thirds

of the subjects disappeared. Presumably they did not stop the medication, because all the children in the 2010–14 experiment continued the drug regime for two years (Gunn et al., 2015b).

The group given puberty blockers from six months onwards showed improvement at eighteen months: the average CGAS score had increased from 61 to 67. This improvement is statistically significant, and it is the one that the authors chose to highlight. However, these children also received psychological support, and so attributing this improvement to medical intervention is unjustified. The crucial comparison is between the group receiving blockers and the comparison group. The latter's average CGAS score after eighteen months was lower, 63 compared to 67. This is hardly surprising because the comparison group was composed of children with more serious psychological problems. Anyway, this difference is *not statistically significant*: a two-tailed *t*-test for the difference between group means yields a *p*-value of .14, far beyond the conventional .05 threshold. In other words, the samples were so small, and there was such wide variation in scores within each group, that we can draw no conclusions. There is no evidence that puberty blockers improve psychosocial functioning. No wonder that GIDS' own webpage on the evidence for medical intervention does not cite this article (GIDS, 2019).

The failure to fully publish the results of the experiment—for all 50 children given triptorelin, on all the outcomes that the study measured—suggests that it was a pretext to administer unlicensed drugs rather than an attempt to gain scientific knowledge.

Consequences

The failure to publish comprehensive results would be serious even if the unlicensed use of triptorelin had been confined to the 50 experimental subjects. However, the Director of GIDS took part in a BBC television documentary—aimed at children aged 6 to 12—broadcast in November 2014. It followed a trans-identified girl aged 13, Leo, who was one of the experimental subjects. Carmichael appears talking to Leo in reassuring tones:

> The blocker is an injection that someone has every month which pauses the body and stops it from carrying on to grow up into a man or a woman. … And the good thing about it is, if you stop the injections, it's like pressing a start button and the body just carries on developing as it would if you hadn't taken the injection. (BBC, 2014)

To emphasize this point for the juvenile audience, the film superimposes a pause button on the screen. Viner's earlier comment bears repeating: 'If you suppress puberty for three years the bones do not get any stronger at a time when they should be, and we really don't know what suppressing puberty does to your brain development' (Bracchi, 2012). Needless to say, Carmichael does not tell Leo that children in the experiment were more likely to self-harm after a year on triptorelin, nor that girls experienced greater dysphoria.

Tavistock Trust then embraced the Dutch protocol with enthusiasm. Three years later, GIDS (and its satellite operation in Leeds) had prescribed puberty blockers for a total of 800 adolescents under 18, including 230 children under 14 (Manning, 2017). By 2018, new prescriptions were running at 300 per year (BBC News, 2018). Freedom of Information requests have failed to elicit more recent figures because GIDS does not collate basic data on this experimental treatment—nor does the University College London Hospitals NHS Foundation Trust, which provides its endocrinology services. Apparently 'work is currently in progress to manually enter all hormone blocker prescription data onto a database, pending future meetings with UCLH and LGI [Leeds General Infirmary] to ascertain who is collecting this info and how it is to be reported.'[5]

The abstract describing the baseline characteristics of the children in the experiment concluded: 'Assessment of growth, bone health and psychological outcomes will be important to assess the medium and *long-term safety and effectiveness* of early intervention' (Gunn et al., 2015b, A198, my emphasis). This aspiration was never implemented. GIDS recently acknowledged that it loses track of its patients after they turn 18, blaming 'the frequent change in nominal and legal identity, including NHS number in those referred on to adult services'—'to date they have not been able to be followed up' (Butler et al., 2018, p.635).[6] By contrast, the Amsterdam clinic carefully tracks its patients over time. The pioneer, B, has been followed to the age of 35. He did not regret transition, but scored high on the measure for depression. Owing to 'shame about his genital appearance and his feelings of inadequacy in sexual matters', he could not sustain a romantic relationship (Cohen-Kettenis et al., 2011, p.845). To the clinicians, however, this case exemplifies the success of the Dutch protocol.

[5] Internal Review of Freedom of Information request (18-19312) submitted by Susan Matthews to Tavistock Trust, 24 February 2019.

[6] Transgender activists successfully lobbied the NHS to provide new numbers to patients as well as to change the sex on their medical records (Birch, 2014).

Conclusion

GIDS and UCL launched an experiment in 2010 to use GnRHa drugs to stop puberty. The impetus for this unlicensed treatment came from children and parents, along with transgender activists and some clinicians, who seized on the notion that blocking puberty was akin to alchemy—it would enable a child to change sex, as long as he or she started young. Given the unrelenting pressure from Mermaids and GIRES, supported by the climate of opinion among the *Guardian*-reading classes, Tavistock arguably had to concede to the demand for GnRHa below the age of 16. From the outset, however, the experiment was flawed. The Patient Information Sheet understated the risks of this unlicensed treatment, despite those risks being acknowledged explicitly in the research proposal. Worse was to come. Before the experiment had run its course, Carmichael claimed 'that the results thus far have been positive' in order to justify what must have been a premeditated decision to incorporate the Dutch protocol into the policy of GIDS. She even appeared on children's television to promote GnRHa drugs.

In fact, the experiment showed predominantly negative outcomes (GIDS, 2015). After a year on triptorelin, children reported greater self-harm; girls also experienced more behavioural and emotional problems and expressed greater dissatisfaction with their body—so drugs exacerbated gender dysphoria. The fact that these outcomes have never been published is a serious indictment of Carmichael, Viner (now President of the Royal College of Paediatrics and Child Health), Di Ceglie, and the other scientists who proposed the research.[7] The failure can be highlighted by comparing another use of triptorelin: the treatment of hypersexuality in men, for which it is licensed. The chemical castration of seven dangerous sex offenders in Broadmoor Hospital resulted in a report spanning two pages, which detailed the adverse side effects experienced by three patients (Ho et al., 2012). The use of triptorelin on 50 adolescents—off license—produced only a half-page published abstract (Gunn et al., 2015b). Some of the experimental subjects were apparently included with older adolescents from GIDS in one published analysis (Costa et al., 2015). It examines a single outcome measure—notably not one of the measures that yielded negative effects in the preliminary results. This article misrepresents its finding. Properly analyzed, it shows no evidence for the effectiveness of the drugs: there was no statistically

[7] Names were redacted in the copy obtained from the Health Research Authority.

significant difference in psychosocial functioning between the group given triptorelin and the comparison group given only psychological support.

My critique has evaluated Tavistock's experiment in accord with its own aims, as laid out in the 2010 research proposal. For reasons of space, this chapter has not discussed three additional problems attending the use of GnRHa drugs to block puberty. The Dutch protocol was originally touted as a diagnostic aid as well as a treatment; it would give the child time to ponder her or his gender identity (Cohen-Kettenis, 1998). In fact, however, children given GnRHa drugs almost invariably progress to cross-sex hormones. The 2010–14 experiment was typical insofar as none of the children stopped the drug regime within two years. (GIDS never revealed the proportion who went on to cross-sex hormones.) Before the introduction of puberty blockers, around four fifths of young children with gender dysphoria would grow out of it naturally, typically becoming gay, lesbian, or bisexual adults (e.g. Zucker, 2018). Using GnRHa drugs to block puberty does not mean pressing a pause button, as Carmichael asserted—it is more like pressing fast forward into cross-sex hormones and ultimately surgery.

The second problem is obvious. Blocking puberty effectively destroys the individual's ability to have children. If the adolescent stops taking GnRHa, fertility should recover, but as we have seen, stopping is exceptional. The third problem is rarely admitted. Blocking puberty impedes the development of sexual functioning; some children given GnRHa drugs never develop the capacity for orgasm (Jontry, 2018). There is a strong taboo against mentioning this. The word did not appear in the proposal for the 2010–14 experiment, and never appears on the GIDS website. When the endocrinologist at GIDS, Gary Butler, was asked about the effect of GnRHa on the ability to orgasm, he refused to answer.[8]

When Tavistock Trust was presented with my critique (Biggs, 2019), it failed to address any of the specific charges. It claimed that 'GIDS is actively contributing to the evidence base to inform the best way to support gender-diverse young people' (Tominey & Walsh, 2019). Yet GIDS' own webpage on the evidence base for GnRHa drugs does not mention its own experiment, nor does it cite its own article. The Trust also boasted of winning '£1.3 million to conduct research with the University College London and the Universities of Liverpool and Cambridge into the long-term outcomes for young people who use the service.' There can be no confidence in the ability of GIDS to track its own patients over the long

[8] The question was posed by Susan Matthews after Butler's talk to the European Society for Paediatric Endocrinology's symposium on the Science of Gender, London, 19 October 2018.

term—recall that it cannot keep a tally of the number of children on triptorelin—let alone to publish the results. Tavistock Trust has failed not just the scientific community, but more importantly the children in its care.

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