SUBMISSION OF THE WILBERFORCE FOUNDATION TO THE HEALTH, COMMUNITIES, DISABILITY SERVICES AND DOMESTIC AND FAMILY VIOLENCE PREVENTION COMMITTEE OF THE QUEENSLAND PARLIAMENT IN RELATION TO THE *HEALTH LEGISLATION AMENDMENT BILL 2019* (BILL)

Introduction

1. The Wilberforce Foundation is a coalition of lawyers and legal academics committed to the preservation and advancement of the moral foundation of the common law, rights and freedoms.
2. The Wilberforce Foundation proffers this submission in relation to Part 5 of the Bill. That part is founded on ideology and is contrary to science particularly in relation to gender identity issues. It will cause significant harm to the proper care of people.
3. Part 5 is so poorly and broadly drafted that it will seriously and negatively impact:
    a. Health practitioners in the performance of their practices;
    b. people of faith in their proclamation of the doctrines of their faith in relation to issues of sexuality and gender and will significantly impact on the fundamental human right of the freedom to hold and practice religion.
4. The Part should be abandoned.

Science

5. The best summary of the science in relation to issues of sexuality and gender is found in the New Atlantis compendious research review. To assist the Committee,, we quote the Executive Summary[1] in full:

Executive Summary

This report presents a careful summary and an up-to-date explanation of research — from the biological, psychological, and social sciences — related to sexual orientation and gender identity. It is offered in the hope that such an exposition can contribute to our capacity as physicians, scientists, and citizens to address health issues faced by LGBT populations within our society.

Some key findings:

Part One: Sexual Orientation

● The understanding of sexual orientation as an innate, biologically fixed property of human beings − the idea that people are "born that way" − is not supported by scientific evidence. ● While there is evidence that biological factors such as genes and hormones are associated with sexual behaviors and attractions, there are no compelling causal biological explanations for human sexual orientation. While minor differences in the brain structures and brain activity between homosexual and heterosexual individuals have been identified by researchers, such neurobiological findings do not demonstrate whether

[1] https://www.thenewatlantis.com/publications/executive-summary-sexuality-and-gender accessed 20 December 2012. The full report is in the Fall 2016 issue of New Atlantis and may be accessed from the above link.

these differences are innate or are the result of environmental and psychological factors. ● Longitudinal studies of adolescents suggest that sexual orientation may be quite fluid over the life course for some people, with one study estimating that as many as 80% of male adolescents who report same-sex attractions no longer do so as adults (although the extent to which this figure reflects actual changes in same-sex attractions and not just artifacts of the survey process has been contested by some researchers). ● Compared to heterosexuals, non-heterosexuals are about two to three times as likely to have experienced childhood sexual abuse.

Part Two: Sexuality, Mental Health Outcomes, and Social Stress

● Compared to the general population, non-heterosexual subpopulations are at an elevated risk for a variety of adverse health and mental health outcomes. ● Members of the non-heterosexual population are estimated to have about 1.5 times higher risk of experiencing anxiety disorders than members of the heterosexual population, as well as roughly double the risk of depression, 1.5 times the risk of substance abuse, and nearly 2.5 times the risk of suicide. ● Members of the transgender population are also at higher risk of a variety of mental health problems compared to members of the non-transgender population. Especially alarmingly, the rate of lifetime suicide attempts across all ages of transgender individuals is estimated at 41%, compared to under 5% in the overall U.S. population. ● There is evidence, albeit limited, that social stressors such as discrimination and stigma contribute to the elevated risk of poor mental health outcomes for non-heterosexual and transgender populations. More high-quality longitudinal studies are necessary for the "social stress model" to be a useful tool for understanding public health concerns.

Part Three: Gender Identity

● The hypothesis that gender identity is an innate, fixed property of human beings that is independent of biological sex – that a person might be "a man trapped in a woman's body" or "a woman trapped in a man's body" – is not supported by scientific evidence. ● According to a recent estimate, about 0.6% of U.S. adults identify as a gender that does not correspond to their biological sex. ● Studies comparing the brain structures of transgender and non-transgender individuals have demonstrated weak correlations between brain structure and cross-gender identification. These correlations do not provide any evidence for a neurobiological basis for cross-gender identification. ● Compared to the general population, adults who have undergone sex-reassignment surgery continue to have a higher risk of experiencing poor mental health outcomes. One study found that, compared to controls, sex-reassigned individuals were about 5 times more likely to attempt suicide and about 19 times more likely to die by suicide. ● Children are a special case when addressing transgender issues. Only a minority of children who experience cross-gender identification will continue to do so into adolescence or adulthood. ● There is little scientific evidence for the therapeutic value of interventions that delay puberty or modify the secondary sex characteristics of adolescents, although some children may have improved psychological well-being if they are encouraged and supported in their cross-gender identification.

There is no evidence that all children who express gender-atypical thoughts or behavior should be encouraged to become transgender

6. These findings alone show that Part B is fundamentally misconceived. Even if there is debate about the findings no parliament should legislate in the manner proposed in the face of these findings unless and until there has been a properly funded Royal Commission into the issue of Gender Identity and treatment.
7. The conclusions of the New Atlantis review are now echoed in many places. The Journal of Law and Medicine this year urged caution in relation to gender reassignment treatment.[2]
8. Swedish health practitioners have written of that the gender treatment which is mandated by Part 5 is against good medical ethics. That paper and an English translation is attached.
9. On 4 October 2019 27 doctors wrote the Federal Health Minister calling for a parliamentary inquiry into the treatment of gender dysphoria in children. A copy of that letter is attached.
10. Part B flies in the face of this growing volume of evidence and must be abandoned.

Effect on Health Practitioners

11. In a highly controversial area of medical practice Part B seeks to require skilled health practitioners to offer one form of treatment only in relation to matters of sexuality and gender. This is unprecedented in health law.
12. Debates and alternative treatments such as those suggested in the attached materials will be made illegal.
13. The proper progress of scientific knowledge in this area will be barred by legislation.
14. Part 5 must be abandoned.

Effect on Religious Freedom

15. The binary nature of human beings is a fundamental tenet of Christianity, Islam, Judaism an, Sikhism, Hinduism and Buddhism.[3]
16. The Bill is so widely drafted that a pastor or an imam telling people of the Bible or Koranic view of sexuality and gender may be in breach of the law. The Bill also inevitably says that the Bible and Koran and the teachings of the Hindu and Sikh scriptures are wrong in these areas.
17. The Bill should not be proceeded with unless all faith groups are properly apprised of the effect of the Bill on their practices.

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[2] In the Footsteps of Teiresias: Treatment of Gender Dysphoria in Children and the Role of the Courts (2019) *Journal of Law and Medicine* 149.

[3] Genesis 1 makes clear the binary nature of human beings and is accepted by Christians, Muslims and Jews. The position in relation to Sikhism, Hinduism and Buddhism is similar: *Howard, Veena (2017). Dharma: The Hindu, Jain, Buddhist and Sikh Traditions of India. I.B.Tauris. ISBN 9781786722126.*

Conclusion

18. Part 5 must be abandoned.
19. The Wilberforce Foundation is happy to appear before the Committee to provide further evidence.

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Executive Summary

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Some key findings:

Part One: Sexual Orientation

- The understanding of sexual orientation as an innate, biologically fixed property of human beings—the idea that people are "born that way"—is not supported by scientific evidence.

- While there is evidence that biological factors such as genes and hormones are associated with sexual behaviors and attractions, there are no compelling causal biological explanations for human sexual orientation. While minor differences in the brain structures and brain activity between homosexual and heterosexual individuals have been identified by researchers, such neurobiological findings do not demonstrate whether these differences are innate or are the result of environmental and psychological factors.

- Longitudinal studies of adolescents suggest that sexual orientation may be quite fluid over the life course for some people, with one study estimating that as many as 80% of male adolescents who report same-sex attractions no longer do so as adults (although the extent to which this figure reflects actual changes in same-sex attractions and not just artifacts of the survey process has been contested by some researchers).

- Compared to heterosexuals, non-heterosexuals are about two to three times as likely to have experienced childhood sexual abuse.

Part Two: Sexuality, Mental Health Outcomes, and Social Stress

- Compared to the general population, non-heterosexual subpopulations are at an elevated risk for a variety of adverse health and mental health outcomes.

- Members of the non-heterosexual population are estimated to have about 1.5 times higher risk of experiencing anxiety disorders than members of the heterosexual population, as well as roughly double the risk of depression, 1.5 times the risk of substance abuse, and nearly 2.5 times the risk of suicide.

- Members of the transgender population are also at higher risk of a variety of mental health problems compared to members of the non-transgender population. Especially alarmingly, the rate of lifetime suicide attempts across all ages of transgender individuals is estimated at 41%, compared to under 5% in the overall U.S. population.

- There is evidence, albeit limited, that social stressors such as discrimination and stigma contribute to the elevated risk of poor mental health outcomes for non-heterosexual and transgender populations. More high-quality longitudinal studies are necessary for the "social stress model" to be a useful tool for understanding public health concerns.

Part Three: Gender Identity

- The hypothesis that gender identity is an innate, fixed property of human beings that is independent of biological sex—that a person might be "a man trapped in a woman's body" or "a woman trapped in a man's body"—is not supported by scientific evidence.

- According to a recent estimate, about 0.6% of U.S. adults identify as a gender that does not correspond to their biological sex.

- Studies comparing the brain structures of transgender and non-transgender individuals have demonstrated weak correlations between brain structure and cross-gender identification. These correlations do not provide any evidence for a neurobiological basis for cross-gender identification.

- Compared to the general population, adults who have undergone sex-reassignment surgery continue to have a higher risk of experiencing poor mental health outcomes. One study found that, compared to controls, sex-reassigned individuals were about 5 times more likely to attempt suicide and about 19 times more likely to die by suicide.

- Children are a special case when addressing transgender issues. Only a minority of children who experience cross-gender identification will continue to do so into adolescence or adulthood.

- There is little scientific evidence for the therapeutic value of interventions that delay puberty or modify the secondary sex characteristics of adolescents, although some children may have improved psychological well-being if they are encouraged and supported in their cross-gender identification. There is no evidence that all children who express gender-atypical thoughts or behavior should be encouraged to become transgender.

Request for review of treatment of gender dysphoria in i.e. Stockholm County Council and from the Medical Knowledge Support Centre for the Good Care of Transsexual Children, Adolescents and Adults

We are a group of professionals and close associates - doctors, researchers, political scientists, teachers, etc. - of young people with a sudden onset of sexual dysphoria, who are seriously concerned about the treatment that medical centers and hospitals in, among others, the Stockholm County Council area offers to our closely related children and young people. In our opinion, it is not in accordance with science and proven experience, and thus not compatible with good medical ethics, to immediately offer gender-affirming treatment to the extent that is currently being done in for instance KID and ANOVA clinics in the Stockholm County Council area.

Our concern is first and foremost
- that the massive increase in adolescents with gender dysphoria (the cases that debut during puberty and young adulthood) that are accounted for as previously undetected “dark figures” without questioning
- that the increasing incidence of "regrets" are denied or neglected
- that the investigations are going too fast
- that the investigations are not comprehensive enough
- that the voices of relatives are excluded from the anamnesis
- that treatment does not reduce patients' mental distress
- that the treatment lacks scientific evidence and proven experience, and thus can be compared with experimental treatment
- that the grounds for informed consent are undefined
- that the information about the treatment side effects given to the individuals who undergo these treatments is incomplete and not adapted to age and developmental level

We therefore request that the National Board of Health and Welfare examines the treatment of young people with gender dysphoria in, among other things, Stockholm County Council based on the scientific support available, and also makes an assessment of the extent to which there is reason to change today's treatment recommendations.

The massive increase in adolescents with gender dysphoria (the cases that debut during puberty and young adulthood) that are accounted for as previously undetected “dark figures” without questioning.

In large parts of the western world, those seeking treatment for gender dysphoria have increased massivley in the last five years, and the proportion of biological girls is even higher. The number of annual referrals for gender dysphoria to Astrid Lindgren's Children's Hospital has doubled between 2011 and 2016[1]. Previously, almost twice as many men wanted to change their sex and now as many men as women are seeking care. In addition, women are younger.[2]

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There is no clear explanation for the phenomenon, although social dissemination by many experts in the field is believed to be part of the explanation.[3]

A recent study[4] among parents of newly debuted young people with gender dysphoria concludes that it is in many cases a social contagion: “The onset of gender dysphoria seems to occur in conjunction with belonging to the same group where one or more friends have simultaneously begun to experience gender dysphoria and identify as transgender ”. There is also a new Canadian study which, in addition to the large increase in girls experiencing gender dysphoria, reports a strong underrepresentation of ethnic minorities.[5]

It cannot be ruled out that gender dysphoria can "infect" in the same way as eating disorders and other self-harm behaviors. Increased information and access to care for trans people is basically positive. However, we must be aware that there is a risk that, in addition to "genuine" transgender people, there may also be young people who find and attract a solution to their problems that are not right in the long run. With mental illness being a growing problem for young people, combined with a widespread flow of information on the Internet, it cannot be ruled out that more people are searching for and finding an explanation for their mental illness or their exclusion in gender dysphoria, without that being the true reason. The risks of the rapid medical treatment of young people with sudden onset of sexual dysphoria should therefore not be considered acceptable.

Swedish Television recently reported[6] on the 2014 National Institute of Public Health's report, in which one in a hundred people between 22 and 29 years had thoughts on gender corrective care. If it is a dark figure that comes to light, it would mean that there are 100,000 people in Sweden who are thinking about their gender identity. It can be questioned if this means that all of these would feel better by a medical gender correction. It seems more likely that a large number of people today live a reasonably happy life despite reflections on gender identity in young years. It is then a highly relevant question to healthcare how they work to distinguish those who will really feel better about medical gender correction from those who feel better about being supported in accepting their body as it is, but still living that way and with the attributes you want.

To uncritically accept the large increase in people who want to undergo gender corrective treatment, thinking it is a dark figure that comes to light, is dangerous. The risk is that the proportion of people who after a few years will no longer feel that they are in the wrong sex will be significantly greater than two percent. No one can possibly wish for a situation where, in five to ten years, we wonder how the medical profession could carry out so many irreversible treatments of young, mentally fragile people.

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Through contacts with Norwegian parents of transgender people, we know that the Norwegian national hospital with main responsibility for gender dysphoria treatment (NBTS) has gone out in Norwegian media[7] with the message that due to the extremely increase in a short time, extremely caution is needed in relations to affirmative treatment of young girls . The Harry Benjamin Resource Center, a Norwegian patient organization for people with gender dysphoria, also warns against too rapid investigations of young people[8]. It is also striking that the UK's National Gender Service's only gender identity service for children is now launching a review of its own activities, following claims that it failed to adequately determine the psychological and social reasons behind young people's desire to change their sex[9]. It would be desirable for Swedish healthcare to apply the same precautionary principle.

The increasing incidence of "regrets" are denied or neglected

The risk of regret is low, according to the departmental memorandum[10] that forms the basis for the proposed amending law on certain surgical procedures in the genitals. The proportion of undoers has fallen during the period measured (1960–2010). However, we can note that the survey ends in 2010, i.e. before the explosive increase of young women applying for treatment began. It also counts only those who have applied to change the gender affiliation, i.e. not those who for example committed suicide or for various reasons do not want to have renewed contact with transgender medical care-system. The attitude of the medical care system is thus that those who change their mind are so few that they can be neglected.

However, according to the people we have met that have changed their minds, there are - at least - some twenty young people in Sweden who have regretted and returned to their original sex in recent years. It is also extremely frustrating for those of us who are close to the “regretter” that trans-care completely relinquishes responsibility for their continued mental health.

A dilemma in the assessment of the number of regrets is that they do not like to make themselves known to the health service. For some of them, contact with the trans care system is anxiety-ridden, and they just want to live their lives as best they can. They are also exposed to digital mockery and threats of violence from the trans-world they left, and it does not make it any easier. It is therefore serious that healthcare does not make any more effort to monitor and follow up on its patients. If it is possible and reasonable to do five-year and ten-year follow-ups of cancer patients - wouldn't that also be the case for people undergoing gender correction?

Investigations are going too fast

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A number of scientific reports describe that gender dysphoria in a large majority of children who show signs of gender dysphoria at an early age ceases to do so when they reach adulthood. For this reason, the treatment recommendation has long been "wait and see". What we are experiencing now is the opposite: a tendency to want to use puberty inhibitors, gender control hormones and surgical treatment faster and earlier. We can see this in the fact that referrals of puberty blockers and testosterone “off label” to teenagers has increased in recent years.

In our experience, the investigations today consist of only two conversations with psychiatrists and three with a psychologist. This means that the time from the first meeting to the start of hormone therapy can be as short as a few months.

In recent years, the number of teenagers (especially young women) who experience gender dysphoria has increased massively. The international literature mentions that this is a new phenomenon, Rapid Onset Gender Dysphoria (ROGD)[11] [12]. At the same time, an increasing number of "detransitioners" or "regrets" have emerged. In a self-reported survey[13] among just over 200 people who regretted their gender correction, it appears that most people have taken about four years to find that they were not actually transsexual and that the treatment they had undergone had not made them feel better. We see this as an indication that investigations should be allowed to take at least as long (four years) as possible, in order to avoid that fertility and / or irreversible treatments are done before one is completely sure of one's gender identity.

We see it as a great gain that society has gone from condemning homosexuals and transgender people to acceptance and respectful treatment. It is a great advance that in many countries it has been concluded that sexuality cannot be the cause of any form of discrimination. On the other hand, we are seriously concerned that it is not at all questioned, above all, of young, emotionally immature people's suddenly emerging view of themselves. Obviously, it is not desirable to be denied the treatment you need, but it is a veritable disaster to have received an irreversible treatment, which you later find out, was completely wrong. This risk must be taken seriously, and it is perfectly reasonable to wait for medical correction for several years after first contact with health care.

The investigations are not comprehensive enough

In our experience, investigations of cases of gender dysphoria are based on a unilateral affirmative attitude. Comorbidity is not investigated at all or not sufficiently taken into account. This is very serious, as we know that there is significant co-variation between gender dysphoria and severe mental illnesses

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such as anorexia nervosa, autism and other neuropsychiatric disorders[14]. It cannot be ruled out that proper investigation, treatment and stabilization of these would reduce or completely eliminate the need for medical gender correction for a significant number of patients.

International guidelines[15] are clear that investigative psychiatrists must have a good knowledge of these diagnoses, but we are aware of several cases where individuals with schizophrenia and autism have had to undergo medical gender correction - and later regretted it.

Several scientific studies have indicated an overrepresentation of symptoms suggestive of autism among people with gender dysphoria. A new Dutch study[16] has therefore looked at children, teenagers and adults with AST, who reported a desire to be the second gender. Significantly more teens (6.5%) and adults (11.4%) with autism reported a feeling of having the wrong sex compared with control groups without autism (3-5%). Among teens, it was mainly girls who reported feelings of gender dysphoria to a greater extent.

There are no major cohorts described by individuals with neuropsychiatric conditions and gender dysphoria, but it has been reported that 4 out of 10 individuals with gender dysphoria and autism have “regretted” within two years of follow-up[17].

It is now well known that autism brings with it special interests (gender dysphoria may be one of them) and that autism means that you follow instructions carefully. Both autism and ADHD, anorexia nervosa and some other neuropsychiatric conditions also make you feel different, which is especially stressful when you are a teenager. It is a well-known phenomenon that there are internet groups and social media that quickly validate young people's thoughts about gender dysphoria and encourage "everyone" to come out.

Many psychiatric diagnoses have symptoms that overlap. It is therefore risky to have children and adolescents undergo medical gender correction due to a mental illness that may have their root cause in several other types of basic problems. We see it as imperative to carefully investigate mental illness / neuropsychiatric problems in adolescents such as differential diagnosis, and treat such conditions before proceeding with medical and surgical treatments[18].

Relatives' voices are excluded from medical history

There are few, if any, parents who do not wish for the well-being and happiness of their children in life. Parents and siblings are also usually the ones who know their family members best. Although of course they cannot read the thoughts of

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their children / siblings, as with other mental and somatic diseases, they have lifelong information about the affected individual that is valuable for the care to know in the assessment of the patient.

This is especially important because on the Internet, much advice is circulating to identity-seeking people about what to say and claim to be confirmed as transsexual, often accompanied by calls to lie if needed. We have personal experience of not being given the opportunity to correct pure lies about events or circumstances of our loved ones. It is inconceivable for us that these lies can then form the basis for a decision on totally irreversible treatment.

The treatment does not reduce the patients' mental distress

The most important reason for healthcare to treat transgender people and people with gender dysphoria is the desire to reduce their suffering. The health care representative today also claims that "life gets a little brighter" for those who undergo medical gender correction[19].

There is no clinical evidence or proven experience whatsoever that indicates that sex-controlled hormones and / or surgical gender correction make life better for children or for those who first experienced problems with their sexuality during puberty. There is no research on how these people feel after undergoing medical and / or surgical change. Older studies (focusing primarily on the group of biological men with gender dysphoria, i.e. MtF) have a large dropout of individuals who have responded to follow-up forms, and there are no control groups, i.e. people who chose not to undergo medical treatments are not included in these studies[20]. The National Board of Health and Welfare's National Knowledge Support of 2015[21] states that the scientific basis for most of the recommendations in the knowledge support is of low or very low quality. We also note that Stefan Arver, Head of Operations at Anova, in a Norwegian report[22] from 2015 signs that "There is little evidence-based knowledge regarding the effect of health care for people who have complaints and discomfort from gender dysphoria."

Nevertheless, puberty inhibitors as well as sex-controlled hormones and surgical treatment are recommended in the Swedish recommendations. In light of the fact that the majority of children who show signs of gender dysphoria later land in their biological sex - but none of the ones who get puberty inhibitors[23] do - we see this as incomprehensible.

A common reason stated for both hormonal and surgical treatment is the increased suicide risk in people with gender dysphoria. Here too, scientific

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support is poor or non-existent. The above-mentioned Swedish study[24] showed that people with transsexualism who have undergone gender correction have significantly higher psychiatric morbidity than the general population. In a recent study[25], Italian researcher R D'Angelo reviewed all follow-up studies from 2005 onwards that describe the psychosocial effects of surgical sex change.

D'Angelo believes that the studies that report positive results are of poor quality, partly because of the low response rate, and that the more robust studies show that the treatment can cause poor mental health and, in the worst case, lead to suicide.

It is also questionable what scientific support exists for gender-affirming surgery to lead to increased well-being in patients. In 2004, The Guardian referenced a meta-study by the University of Birmingham's Professional Statistical Center, ARIF, in which 100 studies of the effect of gender correction were compiled. The study found that the scientific support for gender correction gives the expected psychological result is weak. Many of the studies that claimed to show positive results of surgery were methodologically poor, and showed clear bias in the authors. The criticism also concerned that questionnaires were sent out too early and that the response rate was troublesome.

The American Academy of Pediatrics recommendation that immediate confirmatory treatment be preferred over a more cautious stance; has been strongly criticized. However, a review[26] of the foundations of the association's new policy shows that the basis for the recommendation is extremely weak, and that wait-and-see should still be the first option. A recent meta-study[27] on the results of hormone therapy of adolescents between 1946 and 2017 published by AAP has concluded that there is no data of good quality to demonstrate any psychosocial impact of hormone therapy of young transgender people.

It may also be worth mentioning that American psychiatrist Paul McHugh at The Johns Hopkins University School of Medicine changed his approach to the treatment of transsexuals. John Hopkins was the first to do gender correction operations in the United States, and McHugh has been investigating and referring for 40 years. He now writes in a debate article in the Wall Street Journal[28] that "Transgender Surgery isn't the Solution". The motive is the doubtful positive long-term effects. Johns Hopkins University School of Medicine has now decided to curb gender-corrective treatment.

From the above cited questionnaire among regretters, we can also see that three out of four respondents state that they feel better after stopping the change than before it. 60% state that they found other ways to deal with their problems. This

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also points to the importance of trying alternative treatment methods before irreversible treatment is initiated.

The treatment is in practice experimental

Up until a few years ago, transsexualism was something that mainly men in adulthood sought treatment for. It is therefore primarily this patient group that is reflected in most of the studies that have been conducted, and which form the basis of most of the clinical experience that the specialists have gained over the years. There are no natural long-term studies on the new, rapidly growing group of young women who experience gender dysphoria, and thus no scientific evidence or proven experience that medical and surgical treatment is long-term effective.

Since the rapidly growing group of young people with sudden onset / reported sexual dysphoria is biologically female (as opposed to the groups previously studied), their treatment - according to the old guidelines - must by definition be considered experimental. It should then be extra important to closely monitor the group, both in terms of treatment outcomes and side effects (in the short and long term) of the medication. To our knowledge, there are no ethical applications at EPN Stockholm for such studies at the Karolinska Institutet or the Karolinska University Hospital regarding transsexual children and adolescents.

Experience of puberty inhibitors has existed since 2007, and on a small group of children who had premature puberty. Studies of these individuals show that they lose 8-10 points in their WISC scale compared to themselves before starting medication[29]. Reportedly, the FDA in the United States reports that one of the most common puberty inhibitors leprorelin has been reported to have 22667 side effects and associated with 660 deaths[30]. Among the side effects of puberty blockers (GnRh agonists), hot flushes, headaches, obesity, osteoporosis and depression are common[31]. Other known side effects from puberty blockers include decreased IQ[32] and impaired executive function[33]. Recently, French pharmaceutical regulatory authorities have noted that the association between the use of luprone and interstitial lung disease cannot be ruled out, and therefore required that drug information for preparations containing leuprorelin be supplemented with "lung disease" as a side effect[34].

Premature insertion of these puberty blockers leads to inhibited growth of ovaries and testicles, and thus to future infertility of the treated individuals. The fact that puberty-blocking treatment gives individuals more time for reflection does not agree with the studies from Amsterdam, which show that all children treated with puberty inhibited sexually controlled hormones, while 90% of

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children not treated with puberty and had their usual puberty, changed and decided to live with her biological sex[35].

At the time of writing, there are no studies in PUBMED that show the risks of long testosterone therapy in young women. The data from which they are based are from women with polycystic ovarian syndrome (PCOS)[36]. We know from eastern European studies of testosterone treatment of women (doping) that it is far from side-effect free. In addition to the desired results (masculinization in the form of increased hair growth, increased muscle mass, altered voice), side effects such as acne, depression, muscle cramps, osteoporosis and infertility can also be noted. There are also studies on adult transgender women (female to male) that indicate an increased risk of blood clots, stroke, heart attack and atherosclerosis.[37]

We are also very concerned that the use of sex-controlled hormones has not been adequately preceded by animal testing. This is also something the healthcare provider is aware of: In an application to the Ethics Review Board on the physiological effects of hormone therapy of transsexual[38], Associate Professor Thomas Gustafsson at Karolinska Institutet's Department of Laboratory Medicine (together with, among others, Anova's Director Stefan Arver) explicitly states that "Effects of completely changing sex hormone not studied in animal studies ".

According to the Swedish Medicines Agency's PM on the use of medicines outside what is approved[39], in individual cases, medicines can be prescribed outside approved indications, provided that the treatment is based on science. In the absence of science and proven experience, use should be in the form of clinical studies, and in the case of more extensive use outside the regulatory approval, the Swedish Medicines Agency emphasizes the importance of adequate safety follow-up, e.g. via records, and suspected adverse reactions are reported. Off-label use of testosterone for young women / pubertal girls is extensive. In 2017, more women than men between the ages of 15 and 19 were prescribed testosterone[40].

As far as we have been able to assess, it is also unclear whether the drug insurance applies to off-label prescriptions to the extent currently available. We therefore believe that an adequate risk assessment of off-label use should be carried out immediately, where scientific data on possible risks with sex-controlled hormones over a lifetime are compiled. Such risk assessment should also take into account adequate animal data, given that no clinical studies are conducted on ANOVA or KID. The risks include that testosterone is classified as a

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possible human carcinogen by IARC[41], and as a dependent inducer of FDA[42]. For example, puberty blockers have been shown to cause long-term impaired spatial memory and other cognitive functions in sheep[43] [44], and appear to lead to a conservative sense of gender dysphoria. British researchers also note that those who have received puberty blockers go on to sex change, while the absolute majority of those who do not get puberty blockers go back to their birth gender[45]. A thorough risk assessment is therefore urgent, so that all these risks are adequately weighed against the potential benefit of the treatment.

We also see it as a shortcoming that there is no author specified for the National Board of Health Information material[46] aimed at people with gender dysphoria and those who should care for them. This makes it more difficult to review and critically question the content.

The grounds for informed consent are too loose

In the contacts we have had with the KID and ANOVA clinics, we have explained that the patients gave their informed consent to the treatments. However, we think that it is questionable whether these young, often mentally fragile, people really understand and are able to access the information they receive.
Our experience is that the information at KID and ANOVA in Stockholm is provided orally without written documentation. They do not disclose the potentially negative consequences of treatment. No consideration is given to age or brain maturity, nor to any comorbid neuropsychiatric conditions - which in itself implies uneven mental development - or history of, for example, severe anorexia, autism or psychosis.

At KID, a simple aptitude test is sufficient to clarify the youth's ability to understand the consequences of the treatment. This is completely insufficient[47]. Biologically, neuropsychiatric conditions mean uneven mental development. This means that the individual's degree of talent can be age-appropriate, while other functions such as abstract thinking and impact assessment ability lie several years after the chronological age. It would be reasonable to make decisions in such cases after very nuanced pediatric psychiatric assessment, in consultation with the patient's regular child psychiatrist and the family who knows the patient well.

Precisely the risk of regret is the reason why an age limit of 25 years was introduced in the sterilization law in 1975. The motive was that it is only at that age that sufficient emotional and sexual maturity to decide on sterilization exists. Recent brain research has in no way concluded that this maturity now occurs

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earlier. Rather, it is the opposite. We know today with great certainty48 that the human brain is not fully developed until the age of 25, and that the frontal lobe, where reasoning, planning and risk assessment, takes place last.

Children with neuropsychiatric diagnoses over 15 years of age are considered autonomous by the transplant, regardless of any neuropsychiatric diagnoses. Their decision-making autonomy is equated with that of healthy individuals. Given that as a person under the age of 18 in Sweden you do not even have the right to tattoo or hold a driver's license, we find it particularly remarkable that one can decide completely autonomously beforehand on sexually abusive treatment. We doubt whether people even under the age of 25 really have the ability to overlook the consequences of gender corrective treatment.

Summary

According to Hippocrates medical advice, care should never hurt, if possible cure, often relieve, always comfort. With this in mind, a clearer precautionary principle must apply in dealing with the large group of young, rapidly debuting people with gender dysphoria.

We do not question that there are people who are really helped by medical gender correction, and who live long and happy lives in a different gender than they were born to. On the other hand, we believe that the massive increase in the number of young people (especially women) with gender dysphoria must be interpreted with great caution, and wish that the National Board of Health and Welfare examines the care and treatment that is currently being offered in, among other places, Stockholm County Council, based on it.

The Honourable Greg Hunt MP
Minister for Health
Parliament House
Canberra

Friday 4th October 2019

Dear Minister Hunt,

We write as Australian doctors to support Professor John Whitehall's call for a formal Parliamentary Inquiry into "the rapid rise of childhood gender dysphoria in Australia and the lack of scientific basis for current medical treatment."

We agree with Dr Whitehall, as stated in his letter to you of September 4th: "It seems that public policy and medical 'best practice' is being declared in haste without a sufficient foundation of fact and reflection, and a formal Parliamentary Inquiry could provide that foundation."

We appreciate your concern for this matter, as evidenced by your referring it to the RACP for consideration, but we note Dr Whitehall's observation that, "the RACP is ill-fitted for such an investigation. It is, after all, an organisation primarily dedicated to the education of physicians. Interpretation of ethical issues that transcend the activities of physicians and involve participatory social workers, psychologists, psychiatrists and surgeons are beyond its purview."

The College has itself confirmed, in response to your invitation, that "the RACP is primarily an educational institution and does not conduct inquiries". The College also confirmed that it "strongly supports" the type of treatment guidelines published by the gender service at the Royal Children's Hospital in Melbourne, a commitment that seems to preclude rigorous critique of such guidelines.

We appeal to you to establish a Parliamentary Inquiry into this deeply troubling matter, where parents, teachers and lawyers as well as doctors and others may bring their concerns to our elected representatives for thorough consideration.

The 257 Australian doctors below signed their support for Dr Whitehall's proposal in a period of just 4 days at the website www.GenderInquiry.com, which was supervised by six of the signatories. This list includes some very senior Australian professors and paediatricians, among many other concerned specialists and GPs.

Thank you for your consideration of this expression of professional concern, and for your consideration of Professor Whitehall's request.

Yours faithfully,

Dr Rob Pollnitz **paediatrician and spokesman for the signatories**

Professor Emeritus Graeme Clark AC
Professor Emeritus Anthony Radford AM
Professor Kim Oates AM **Child & Adolescent Health**
Professor Gary Geelhoed **paediatrician**
A/Professor Patrina Caldwell **paediatrician**

Dr David Strong	**paediatrician**
Dr George Liangas	**child psychiatrist**
Dr Robert Chazan	**child psychiatrist**
Dr Graham Hocking	**child psychiatrist**
Dr Joan Haliburn	**child psychiatrist**
Dr Robert Hardwick	**paediatrician**
Dr Tyler Schofield	**adolescent mental health**
Dr Richard Lennon	**paediatrician**
Dr George Halasz	**child psychiatrist**
Dr Joseph Dezordi	**paediatrician**
Dr Elizabeth Ravenscroft	**paediatrician**
A/Professor Greg Hockings	**endocrinologist**
A/Professor Aniello Iannuzzi	**GP**
Professor Peter Smith	**physician**
A/Professor Michael Monsour	**urologist**
Dr Michael Greenbaum	**psychiatrist**
Dr Margaret Graham	**psychiatrist**
Dr Jennifer Williams	**psychiatrist**
Dr Chili Naparstek	**psychiatrist**
Dr Kuruvilla George	**psychiatrist**
Dr John Buchanan	**psychiatrist**
Dr Jacqueline Condon	**psychiatrist**
Dr Carolyn Little	**psychiatrist**
Dr Patrick Clarke	**psychiatrist**
Dr Vivienne Elton	**psychiatrist**
Dr Ilana Nayman	**psychiatrist**
Dr Catherine Tutton	**psychiatrist**
Dr Richard Prytula	**psychiatrist**
Professor Peter Ravenscroft	**physician**
Professor Graeme Hughes	**gynaecologist**
Professor Gerald Fogerty	**oncologist**
Professor Keith Burgess	**physician**
Professor Guy van Hazel	**oncologist**
A/Professor Michael Sladden	**dermatology**
A/Prof Christopher Benness	**gynaecologist**
A/Prof Robert Kearney OAM	**opthalmologist**
A/Professor Luke Torre	**physician**
A/Professor Philip Carson	**surgeon**
A/Professor Russell Clark AM	**physician**
A/Professor Thomas Lam	**reconstructive surgeon**
A/Professor Julia Harrison	**physician**
Dr Jullian Collins	**GP**
Dr Susan du Plessis	**GP**
Dr Catherine Smyth	**anaesthetist**
Dr Eugene Khoo	**GP**
Dr Paul Yates	**GP**
Dr Jovina James	**GP**
Dr Bethany Nelson	**GP**
Dr Fiona McDonald	**GP**
Dr Graham Poole	**GP**
Dr Marelise Pretorius	**GP**
Dr Thekla Kokkinos	**psychiatry CMO**

Dr Janene Dalrymple	**RMO**
Dr Irmgard Pascoe	**GP**
Dr Colin Smyth	**GP**
Dr Keith Wong	**radiologist**
Dr Charles Jansz	**GP**
Dr Michele Brown	**GP**
Dr Cholm Williams	**reconstructive surgeon**
Dr Pansy Lai	**GP**
Dr Horatiu Selagea	**psychiatry registrar**
Dr Nathan Combs	**GP Registrar**
Dr Mary Walsh	**GP**
Dr Lisa Crotty	**GP**
Dr Les Sands	**GP**
Dr Michael Tong	**GP**
Dr Ian Holthouse	**GP**
Dr Paul Truscott	**obstetrics & gynaecology**
Dr Ron Muratore	**physician**
Dr Bronwyn Carson	**GP**
Dr Alon Barnes	**Medical registrar**
Dr Naomi Hunter	**GP**
Dr Angela Wang	**GP**
Dr Christopher Halloway	**obstetrics & gynaecology**
Dr Antonia Turnbull	**GP**
Dr Ashraf Saleh	**GP**
Dr Vincent Chappel	**obstetrics & gynaecology**
Dr Nadia Low	**GP**
Dr Paul de Jong	**GP**
Dr Paul Allison	**surgeon**
Dr Ian Letson	**anaesthetist**
Dr John Oakley	**GP**
Dr Elaine Harrington	**GP**
Dr Ian Truscott	**GP**
Dr Brian Ambrose	**GP / anaesthetics**
Dr James Kokkinos	**neurologist**
Dr Michael Ayling	**anaesthetist**
Dr Michael Allam	**anaesthetist**
Dr Jeremy Beckett	**GP**
Dr Peter Coleman	**GP**
Dr Michael Plunkett	**GP**
Dr Han Liem	**surgeon**
Dr Ai Tran	**rheumatologist**
Dr Eleanor Yeo	**GP**
Dr John Anderson	**GP**
Dr Wilson Chong	**GP**
Dr David Chee	**GP**
Dr Louise Eastaugh	**GP**
Dr Gabriel James	**obstetrics & gynaecology**
Dr John Stokes	**physician**
Dr Olivia Perrottet	**GP**
Dr Dawn Reeler	**GP**
Dr Jodie Trautman	**surgeon**
Dr Manda Brits	**GP**

Dr Thomas Morgan	**physician**
Dr Andrew Orr	**GP**
Dr Bishoy Marcus	**GP**
Dr Romney Newman	**physician**
Dr Michaelia Verbeek	**GP**
Dr Dirk Ludwig	**obstetrics & gynaecology**
Dr Ivan Ling	**physician**
Dr Amanda Lamont	**GP**
Dr Wayne Martin	**GP**
Dr Mark Morton	**physician**
Dr Sergey Bromberg	**GP**
Dr Gerard Purcell	**GP**
Dr Ian Denness	**GP**
Dr Ann Tokura	**GP**
Dr Robert Murdoch	**GP**
Dr Lindsay Sherriff	**GP**
Dr Mel Cusi	**physician**
Dr Nathan Lowe	**GP**
Dr Basil Psarommatis	**GP**
Dr James Wei	**GP**
Dr Preshy Varghese	**GP**
Dr Mark Strelnikov	**GP**
Dr Mervyn Cross	**surgeon**
Dr Gunanathan Pratheepan	**physician**
Dr Michael Chong	**GP**
Dr Tom Sing	**radiologist**
Dr Kerri Barnes	**GP**
Dr Elvis Seman	**gynaecologist**
Dr Katie Willis	**surgical assistant**
Dr Felicity Wild	**GP**
Dr Antoinette Torre	**GP**
Dr Christopher Middleton	**physician**
Dr Robert Claxton	**surgeon**
Dr Judith McEniery	**palliative medicine**
Dr Lynn Hayes	**GP**
Dr Serge Lubicz	**surgeon**
Dr Wladyslaw Smolilo	**GP**
Dr Simon Wei	**physician**
Dr Gary Champion	**rheumatologist**
Dr Raymond Yeow	**GP**
Dr Jeremy Lim	**radiologist**
Dr Ian Petersen	**general medicine**
Dr Effie Parakilas	**GP**
Dr Philip Godden	**GP**
Dr Gregory Smith	**anaesthetist**
Dr Ciara Ross	**GP**
Dr Sean Leow	**surgical registrar**
Dr John Obeid	**physician**
Dr Jereth Kok	**GP**
Dr Jim Hare	**GP**
Dr Bruce Hayes	**GP**
Dr Laurence Ries	**GP**

Dr Ruth Highman	**rural generalist**
Dr Michael Smith	**GP**
Dr Philip Selden	**GP**
Dr Julene Haack	**GP**
Dr Sherif Francis	**GP**
Dr Philip Dawson	**GP**
Dr Andrew Robinson	**GP**
Dr Pieter Pretorius	**GP**
Dr George Wilson	**GP**
Dr David Campbell	**radiologist**
Dr Christine Campbell	**nuclear medicine**
Dr Anthony Evans	**GP**
Dr Emma Vieira	**GP**
Dr Jade Shroers	**medical regisrar**
Dr Douglas Randell	**GP**
Dr Brett Hurley	**medical officer**
Dr Geoffrey Masters	**GP**
Dr Lachlan Dunjey	**GP**
Dr Martin Hanson	**surgeon**
Dr Richard Wee	**GP**
Dr Katrina Ison	**GP**
Dr Mark Hurworth	**surgeon**
Dr Vincent Keane	**public health physician**
Dr Lara Wieland	**GP**
Dr Francis Hughes	**GP**
Dr Michael Kerrigan	**rural GP**
Dr Darryn Rennie	**GP**
Dr Belinda Bahari	**clinical research**
Dr Yong Yau Chia	**physician**
Dr Lawrence Wong	**GP**
Dr Mike Lambros	**anaesthetist**
Dr Con Kafataris	**physician**
Dr David van Gend	**GP**
Dr Emmanuel Philip	**GP**
Dr Yee Kwan Wong	**GP**
Dr Andrew Hughes	**GP / SMO**
Dr David McKinnon	**physician**
Dr John Carson	**retired**
Dr Madeline Wong	**GP**
Dr Gavin Wong	**GP**
Dr Eleanor Hitchen	**medical registrar**
Mr Mark Allison	**reconstructive surgeon**
Rev Dr Mark Gilbert	**GP**
Dr Peter Hales	**surgeon**
Dr Peter Byrne	**surgeon**

Plus 50 additional registered Australian medical practitioners. Details supplied.

For any questions, please contact Dr Rob Pollnitz on [redacted]

In the Footsteps of Teiresias: Treatment for Gender Dysphoria in Children and the Role of the Courts

Mike O'Connor and Bill Madden*

The Family Court of Australia has stepped back from a previously perceived need for involvement in the approval of stage 1 and stage 2 treatments, for children requiring gender transformation. At present those children and their families who are in agreement need not seek authorisation of the Family Court to undertake either Stage 1 (pubarche blockade with gonadotrophin-releasing hormone agonists) or Stage 2 treatment (cross-hormone therapy such as oestrogen for transgender males). Stage 1 treatment to suppress pubarche would nowadays be commenced at Tanner stage 2 which commences as early as 9.96 years in girls and 10.14 years in boys. Suppression of puberty continues until the age of 16 years when cross hormonal treatment commences. This article questions the assertion that suppression of puberty by GnRH analogues either in cases of precocious puberty or gender dysphoria is "safe and reversible" and argues that it warrants ongoing caution, despite the Family Court having broadly accepted that assertion.

Keywords: *Gender Dysphoria; children; suppression of puberty; parens patriae*

I. Introduction

In Greek mythology Teiresias was a man who was transformed into a woman for 7 years but then reverted back to a male. On reflection he claimed that:

> *Of ten parts a man enjoys one only but a woman enjoys the full ten parts in her heart.*[1]

Teiresias suggested that his experience as a woman was totally fulfilling but it was temporary. Furthermore, his transformation was not by choice and no independent tribunal such as a court exercising its parens patriae jurisdiction was required to give its approval. The position remains the same today in Australia, in that the courts have no oversight role for adults with capacity who seek medical treatment with a view to adjustment of features of their gender.[2]

An oversight role did exist for minors and those without capacity, but it has shifted in recent years in line with changes in the medical evidence adduced before the courts. In respect of gender dysphoria (GD) treatment for minors, the recent trend has been away from oversight where the views of the minor, the parents and the medical practitioners align. However, an oversight role would appear to continue where there is a lack of unanimity in views.

The swing away from oversight by the courts may warrant some reversal, given the subtleties of the medical evidence on the effects of GD treatment upon which a determination of the best interests of a child is based.

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Conflict of interest declaration: None.

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[1] Greek Mythology, *Teiresias* <https://www.greekmythology.com/Myths/Figures/Teiresias/teiresias.html>.

[2] F Bell and A Bell, "Legal and Medical Aspects of Diverse Gender Identity in Childhood" (2017) 25 JLM 229.

II. When Does the Law Require Judicial Oversight for Medical Treatment?

Discussion of the oversight role for certain forms of medical treatment has as its starting point the leading decision of *Secretary, Department of Health & Community Services v B* (*Marion's Case*).[3]

The parents of a 14-year-old girl with an intellectual disability applied to the Family Court of Australia for an order authorising performance of a hysterectomy and an ovariectomy (oophorectomy) on Marion; alternatively, they sought a declaration that it was lawful for them to consent to the performance of those procedures. The Court was first required to consider whether those procedures were outside the scope of the parental power to consent on behalf of his or her child.

Following *Marion's case*, the first layer of the Court's consideration appears to be whether the proposed procedure is therapeutic or non-therapeutic, with the former (ignoring for the moment its imprecision) not being outside of the parental power to consent and therefore not requiring parental approval. The plurality judgment stated:

> But first it is necessary to make clear that, in speaking of sterilisation in this context, we are not referring to sterilisation which is a by-product of surgery appropriately carried out to treat some malfunction or disease. We hesitate to use the expressions "therapeutic" and "non-therapeutic", because of their uncertainty. But it is necessary to make the distinction, however unclear the dividing line may be.[4]

The second layer appears to require a court to focus on elements relevant to the risk of a wrong decision being made.

> Court authorisation is required, first, because of the significant risk of making the wrong decision, either as to a child's present or future capacity to consent or about what are the best interests of a child who cannot consent, and secondly, because the consequences of a wrong decision are particularly grave.[5]

The factors which contribute to the significant risk of a wrong decision being made were said to be:

- The complexity of the question of consent, in particular informed consent;
- The medical profession very often plays a central role in the decision to sterilise as well as in the procedure itself, such that the decision had been "medicalised" to a great degree; and
- The decision by a parent that an intellectually disabled child be sterilised may involve not only the interests of the child, but also the independent and possibly conflicting (though legitimate) interests of the parents and other family members.[6]

It may be relevant, in the context of GD treatment discussed below, to note that in *Marion's case* the Court did not hold that there was under the common law a fundamental right to reproduce, which is independent of the right to personal inviolability.[7] If such a fundamental right to reproduce had been recognised, it may have been seen as a factor militating against some aspects of GD treatment.

The question of whether the procedure was in the best interests of Marion was not directly before the High Court, but the need for the application of the best interests test was not questioned.[8]

III. Diagnosis of Gender Dysphoria in Childhood

Before examining three key decisions of the Full Court of the Family Court regarding GD treatment, it is helpful to summarise the condition and the nature of treatment offered.

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[3] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218.

[4] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218, [48] (Mason CJ, Dawson Toohey and Gaudron JJ).

[5] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218, [49] (Mason CJ, Dawson, Toohey and Gaudron JJ).

[6] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218, [50] (Mason CJ, Dawson, Toohey & Gaudron JJ).

[7] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218, [55] (Mason CJ, Dawson, Toohey & Gaudron JJ).

[8] *Secretary, Department of Health & Community Services v B* (1992) 175 CLR 218, [49] (plurality judgment).

GD remains a psychiatric diagnosis as outlined in *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5)[9] although there are pressures[10] to class it as a normal behavioural variant and the World Health Organisation removed GD as a mental illness in June 2018.[11]

The American Psychiatric Association's DSM-5,[12] defines GD as involving a conflict between a person's physical or assigned gender and the gender with which he/she/they identify. Two crucial aspects of GD are that it must be of at least six months' duration and must be causing significant emotional distress.[13]

Forty-three percent of children and adolescents seen in gender identity clinics suffer from major psychopathology.[14] In children a diagnosis of GD under DSM-5 requires at least six of the following as well as significant associated distress or impairment in function, lasting at least six months:

- A strong desire to be of the other gender or an insistence that one is the other gender;
- A strong preference for wearing clothes typical of the opposite gender;
- A strong preference for cross-gender roles in make-believe play or fantasy play;
- A strong preference for the toys, games or activities stereotypically used or engaged in by the other gender;
- A strong preference for playmates of the other gender;
- A strong rejection of toys, games and activities typical of one's assigned gender;
- A strong dislike of one's sexual anatomy; and
- A strong desire for the physical sex characteristics that match one's experienced gender.

The expression of GD may commence as early as the age of two years, at a time when children usually display some gender orientation. One retrospective online study[15] of 121 adult transgender persons indicated that the mean age of realisation of gender variance was 7.9 years with a mode of five years of age. The study reported that only 4% realised they had gender variance at or after the age of 18 years.

However, childhood GD does not generally persist into adolescence. In a 2008 Canadian study by Zucker, only 12% of 25 girls first seen in childhood seemed to have persistent GD when they were older.[16] Children who are more persistent, insistent and consistent with their cross-gender statements and behaviours are more likely to enter adult life as transgendered persons.[17]

The DSM-5 stipulation about persistence is understandable given that up to 80% of children "desist" at puberty.[18]

Worldwide approximately 10% of GD individuals also suffer from Autism Spectrum Disorder[19] (ASD) and this may test the ability of clinicians to determine the bona fides of such claimants. The main treatment centre for GD in the Netherlands reported the co-occurrence of Gender Identity Disorder (GID) – previously the term for GD – and ASDs in a study of children and adolescents (115 boys and 89 girls,

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[9] *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (American Psychiatric Association, 5th ed, 2013).

[10] RR Ginker, "Being Trans is not a Mental Disorder" (New York Times, 6 December 2018).

[11] JH Hale, "The World Health Organization Will No Longer Classify Gender Dysphoria as a Mental Illness" (Bustle, 23 June 2018) <https://www.bustle.com/p/the-world-health-organization-will-no-longer-classify-gender-dysphoria-as-a-mental-illness-9557139>.

[12] *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)*, n 9.

[13] American Psychiatric Association, *What is Gender Dysphoria?* (February 2016) <https://www.psychiatry.org/patients-families/gender-dysphoria/what-is-gender-dysphoria>.

[14] B Meyenburg, "Gender Dysphoria in Adolescents: Difficulties in Treatment" (2014) 63 *Prax Kinderpsychol Kinderpsychiatr* 510.

[15] N Kennedy and M Hellen, "Transgender Children: More than a Theoretical Challenge" (2010) 7(2) *Graduate J Social Science* 25.

[16] KJ Zucker, "Children with Gender Identity Disorder: Is There a Best Practice?" (2008) 56 *Neuropsychiatry* 358.

[17] I Sherer et al, "Affirming Gender: Caring for Gender-atypical Children and Adolescents" (2015) 32(1) *Contemporary Pediatrics* 16.

[18] LJJJ Vrovenraets and MC de Vries, "Gender Dysphoria: The Dutch Protocol", *Contemporary Ob/Gyn* (9 June 2016) <http://www.contemporaryobgyn.net/obstetrics-gynecology-womens-health/gender-dysphoria-dutch-protocol>.

[19] D Gidden et al, "Gender Dysphoria and Autism Spectrum Disorder: A Systematic Review of the Literature" (2016) 4(1) *Sexual Medicine Reviews* 3.

mean age 10.8 years). The incidence of ASD was 7.8%. The authors recommended acquiring a greater awareness "of co-occurring ASD and GID and the challenges it generates in clinical management".[20] The higher prevalence of GD in ASD could be due to associated social cognitive impairments which may reduce awareness of the societal pressures against gender non-conformity.[21]

GD is estimated to be as prevalent as 1.2% in Australian[22] and New Zealand[23] adolescents, and appears to be increasing internationally in the United States, Canada and the Netherlands.[24] Overall the estimated prevalence of GD in the United States is approximately 1/30,000 male gender at birth (cis males)[25] and 1/100,000 female gender at birth (cis females). In the Netherlands the clinic which manages 95% of all requests from that jurisdiction estimates the national rate to be 1/10,000 males (0.0001%) and 1/30,000 females (0.00003%)[26] but these were essentially those in whom GD persisted beyond adolescence.

In both Canada and the Netherlands, the ratio of teenage female to male requests has increased from 32%:41% before 2006 to 63:64% in 2006–2013.[27] One explanation for this increase in declared cases of GD may be "peer contagion", as has been demonstrated with eating disorders such as anorexia nervosa.[28]

Given that 80% of pre-pubertal children expressing GD views revoke their earlier stated belief (≡ "desist") at puberty[29] (nowadays at about the age of 10 years), then an estimated core of persistent Australasian transgender individuals would be of the order of 0.24% or 2.4/1000.

There are inherent difficulties with the diagnosis of GD as it relies on a self-declaration rather than any objective biological test. At present there is no definitive biological test which can differentiate short-term from long-term GD. However, there are neuroanatomical and genetic differences in male to female (MtF) and female to male (FtM) transgender individuals, as outlined below:

Differences in Neuroanatomy

There are differences in the size of the bed nucleus of the stria terminalis[30] (BSTc) in the brains of transsexuals:[31] those natal females aspiring to be male (FtM) have a larger than normal BSTc similar to normal (cisgender) male dimensions and those males aspiring to be female (MtF) have a BSTc which is more like a female's size. The stria terminalis (or terminal stria) is a structure in the brain consisting of a band of fibres running along the lateral margin of the ventricular surface of the thalamus. The BSTc is

[20] R Fitzgibbons, "Transsexual Attractions and Sexual Reassignment Surgery: Risks and Potential Risks" (2015) 82(4) *The Linacre Quarterly* 337.

[21] JF Strang et al, "Increased Gender Variance in Autism Spectrum Disorders and Attention Deficit Hyperactivity Disorder" (2014) 43(8) *Archives of Sexual Behavior* 1525.

[22] MM Telfer et al, "Australian Standards of Care and Treatment Guidelines for Transgender and Gender Diverse Children and Adolescents" (2018) 209(3) *The Medical Journal of Australia* 132.

[23] TC Clark et al, "The Health and Well-being of Transgender High School Students: Results from the New Zealand Adolescent Health Survey (Youth 12)" (2014) 55 *Journal of Adolescent Health* 93.

[24] CM Wiepjes et al, "The Amsterdam Cohort of Gender Dysphoria Study (1972–2015): Trends in Prevalence, Treatment, and Regrets" (2018) 15(4) *The Journal of Sexual Medicine* 582.

[25] *Cisgender: An Individual Whose Physical and Behavioural Gender Matches the Gender Assigned at Birth* <https://medical-dictionary.thefreedictionary.com/cisgender>.

[26] PJ van Kesteren, LJ Gooren and JA Megens, "An Epidemiological and Demographic Study of Transsexuals in The Netherlands" (1996) 25(6) *Archives of Sexual Behavior* 589.

[27] M Aitken et al, "Evidence for an Altered Sex Ratio in Clinic-referred Adolescents with Gender Dysphoria" (2015) 12(3) *Journal of Sexual Medicine* 756.

[28] L Littman, "Rapid-onset Gender Dysphoria in Adolescents and Young Adults: A Study of Parental Reports" (2018) 13(8) *PLoS One* e202330.

[29] Vrovenraets and de Vries, n 18.

[30] <http://sitn.hms.harvard.edu/flash/2016/gender-lines-science-transgender-identity/>.

[31] JN Zhou et al, "A Sex Difference in the Human Brain and Its Relation to Transsexuality" (1995) 378 *Nature* 68; FPM Kruijver, "Male-to-female Transsexuals Have Female Neuron Numbers in a Limbic Nucleus" (2000) 85(5) *Journal of Clinical Endocrinology & Metabolism* 2034.

important in a range of behaviours such as: the stress response, extended duration fear states and social attachment behaviours, which include aggressive behaviours, initiation of mating and offspring and parental bonding. This circuit is also important in the stimulation of the hypothalamic–pituitary–adrenal axis.[32]

A Swedish study from the Karolinska Institute demonstrated that MtF patients compared with cis males and cis females had reduced thalamus and putamen volumes and elevated grey matter volumes in the right insular and inferior frontal cortex and an area covering the right angular gyrus.[33]

A study by Burke et al in 2014[34] showed different cerebral activation patterns in GD adolescents. Using a positron emission tomography (PET) scan while subjects inhaled an odiferous steroid (4, 16-androstadien-3-one: a metabolite of testosterone), the hypothalamic response of gender dysphoric adolescent boys and girls was sex-atypical: their responses resembled those of the controls of the desired sex.

The central nucleus of the BSTc cannot be visualized by magnetic resonance imaging (MRI) since it is not surrounded by white matter so functional MRI[35] or functional PET scans are unlikely to identify permanent GD subjects at an early stage.[36]

Differences in Hormone Receptor Genes

A study of GD[37] among 23 identical and 21 non-identical sets of twins demonstrated a 39% concordance in identical twins whereas in non-identical twins no set of twins shared a GD (p=0.005). This suggests a biological causation.

NR3C4 receptor gene which binds testosterone and di-hydro-testosterone and influences male primary and secondary sexual characteristics is a longer version in MtF subjects which binds less well to androgens thus reducing the expression of male characteristics.[38]

CYP17 gene which binds progesterone and pregnenolone has a female-specific CYP17 T-34 C allele which is missing in FtM transsexuals.

Unfortunately, the variants of NR3C4 and CYP17 are no more than risk factors for the presence of GD.[39]

It is therefore clear that at the present time no objective biological test is available to support the diagnosis of GD.

IV. Treatment Strategies for Gender Dysphoria in Childhood

A. Conservative Treatment for Gender Dysphoria Includes Affirmation, Mental Health Support and Social Transition

1. Affirmation

This involves a positive family response to the child with declared GD. It involves limited acceptance of the child's desire to transform accepting that the pre-pubertal child may not continue with these desires

[32] MA Lebow and A Chen, "Overshadowed by the Amygdala: The Bed Nucleus of the Stria Terminalis Emerges as Key to Psychiatric Disorders" (2016) 21 *Molecular Psychiatry* 450.

[33] I Savic and S Arver, "Sex Dimorphism of the Brain in Male-to-female Transsexuals" (2011) 21(11) *Cerebral Cortex* 2525.

[34] SM Burke et al, "Hypothalamic Response to the Chemo-signal Androstadienone in Gender Dysphoric Children and Adolescents" (2014) 5 *Front Endocrinol (Lausanne)* 60.

[35] SN Avery, JA Clauss and JU Blackford, "The Human BNST: Functional Role in Anxiety and Addiction" (2015) 41 *Neuropsychopharmacology* 126.

[36] Dick Swaab, Personal Communication (18 January 2019).

[37] G Heylens et al, "Gender Identity Disorder in Twins: A Review of the Case Report Literature" (2012) 9 *The Journal of Sexual Medicine* 751.

[38] L Hare et al, "Androgen Receptor Repeat Length Polymorphism Associated with Male-to-female Transsexualism" (2009) 65(1) *Biological Psychiatry* 93.

[39] Swaab, n 36.

beyond pubarche.[40] An affirming approach rejects the assertion that GD is a mental illness.[41] In young children it may mean that cross-dressing and cross-gender behaviour are limited to the safety and privacy of the family home.

2. Mental Health Support

This may be indicated where GD children are experiencing co-existing anxiety, depression, or suicidality, or significant interpersonal conflicts with peers (eg, bullying) or parents.[42]

3. Social Transition

A reversible option for children with GD is to allow a social change whereby the child or adolescent lives partially or completely in the preferred gender role by adapting hairstyle, clothing, pronouns, and possibly assuming a new name.[43] The risks and benefits of social transition to the opposite gender are weighed up individually.[44]

B. Medical Treatments

The three current limbs of medical treatment in childhood and adolescence include:

- Stage one: Suppression of Puberty;
- Stage two: Cross hormone therapy; and
- Stage three: Sexual Reassignment Surgery (SRS).

This is described as the "Dutch Protocol" and has been adopted by the Endocrine Society.[45] Its implementation requires the willing participation of a mental health professional as well as an endocrinologist.

Stage 3 SRS is usually not undertaken until at least the age of 18 years; however, there are reports that SRS has been undertaken between 15 and 16 years of age in Thailand and Germany.[46]

The Endocrine Society states that medical intervention for transgender individuals (including both hormone therapy and medically indicated surgery) is effective, relatively safe (when appropriately monitored), and has been established as the standard of care.[47]

Treatment of Non-Binary Gender Dysphoria

GD may not involve a clear-cut wish to transform to the opposite binary gender (eg male to female or female to male). It may be manifested as a desire to be "agender", "bigender", "gender fluid", "gender queer", "gender blender", or something else entirely. That group of children and adolescents requires skilled counsellors to assist them to define their social transition as well as possible hormonal treatment

[40] DB Hill and E Menvielle, "'You Have to Give Them a Place Where They Feel Protected and Safe and Loved': The Views of Parents Who Have Gender-variant Children and Adolescents" (2009) 6 *Journal of LGBT Youth* 243.

[41] J Olsen-Kennedy and M Forcier, "Management of Transgender and Gender-diverse Children and Adolescents", *UpToDate*, 6 November 2018.

[42] Olsen-Kennedy and Forcier, n 41.

[43] Olsen-Kennedy and Forcier, n 41.

[44] J Olson, C Forbes and M Belzer, "Management of the Transgender Adolescent" (2011) 165(2) *Archives of Pediatrics and Adolescent Medicine* 171.

[45] WC Hembree et al, "Endocrine Society Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline" (2009) 94(9) *The Journal of Clinical Endocrinology and Metabolism* 3132.

[46] The Telegraph.co.uk, *World's Youngest Sex-change Operation* (2009) <https://www.telegraph.co.uk/news/worldnews/europe/germany/4511986/Worlds-youngest-sex-change-operation.html>; S Winter, "Thai Transgenders in Focus: Demographics, Transitions and Identities" (2006) 9 *International Journal of Transgenderism* 15; C Milrod, "How Young is Too Young: Ethical Concerns in Genital Surgery of the Transgender MTF Adolescent" (2014) 11 *Journal of Sexual Medicine* 338.

[47] WC Hembree et al, "Endocrine Treatment of Gender-dysphoric/Gender-incongruent Persons: An Endocrine Society Clinical Practice Guideline" (2017) 102(11) *The Journal of Clinical Endocrinology and Metabolism* 3869.

and some surgery.[48] Some require testosterone suppression and male chest reconstruction.[49] Mental health disorders and suicidality are prominent issues for this group.[50]

V. Application of Marion's Case to Gender Dysphoria Treatment over Time: Re Jamie (2013) and Re Kelvin (2017)

In 2013, the Full Court of the Family Court of Australia delivered its reasons for judgment in *Re Jamie*.[51] It primarily concerned stage one (puberty-suppressant hormones) treatment.

The child concerned, "Jamie", aged almost 11 years at the time of hearing, was diagnosed as having childhood GID. At first instance, the parents asked the Court to authorise them to consent to treatment on behalf of Jamie under the guidance of Jamie's treating medical practitioners, for the administration of particular drugs designed to achieve suppression of certain hormones affecting the development of male features and particularly the onset of male puberty.

The appeal was noted by the Court to be of importance because it had potential relevance for a much wider range of children than just Jamie. This is because the main issue was whether the treatment (proceeding in two stages) was a medical procedure for which consent lies outside the bounds of parental authority and required the imprimatur of the court in accordance with *Marion's case*.[52]

The Court held in relation to stage one treatment and noted:

> [S]tage one treatment of childhood gender identity disorder is reversible, is not attended by grave risk if a wrong decision is made, and is for the treatment of a malfunction or disease, being a psychological rather than physiological disease. As such, and absent controversy, it falls within the wide ambit of parental responsibility reposing in parents when a child is not yet able to make his or her own decisions about treatment.[53]

That conclusion was substantially based on the medical experts who supported the parents' application for Jamie to undertake the "stage one" administration of puberty-suppressant hormones such as implants of Zoladex (a GnRH agonist[54]) at intervals and at a dosage as may be determined necessary to achieve suppression of gonadotropins and testosterone to pre-pubertal levels under the guidance of Jamie's treating practitioners including but not limited to his endocrinologist and his psychiatrist.[55]

The Court did consider (but ultimately did not accept) a submission that stage one treatment fell within *Marion's case* because there was a significant risk of making the wrong decision.[56] The public authority had submitted that a limited focus on whether a procedure is invasive or reversible does not address the potential factors arising out of various domains that may contribute to a medical procedure being special as required by the special medical procedure test.[57]

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[48] JE Lykens, AJ LeBlanc and WO Bockting, "Healthcare Experiences among Young Adults Who Identify as Genderqueer or Nonbinary" (2018) 5(3) *LGBT Health* 191.

[49] Olsen-Kennedy and Forcier, n 41.

[50] J Harrison, J Grant and JL Herman, "A Gender Not Listed Here: Genderqueers, Gender Rebels, and Otherwise in the National Transgender Discrimination Survey" (2011) 2 *LGBTQ Policy Journal of Harvard Kennedy School* 13.

[51] *Re Jamie* (2013) 278 FLR 155; [2013] FamCAFC 110.

[52] *Re Jamie* (2013) 278 FLR 155, [5]; [2013] FamCAFC 110.

[53] *Re Jamie* (2013) 278 FLR 155, [108]; [2013] FamCAFC 110.

[54] GNRH : A substance that keeps the testicles and ovaries from making sex hormones by blocking other hormones that are needed to make them. In men, GnRH agonists cause the testicles to stop making testosterone. Also abbreviated GNRHa, 16 September 2019 <https://www.cancer.gov/publications/dictionaries/cancer-terms/def/gnrh-agonist>.

[55] *Re Jamie* (2013) 278 FLR 155, [11]; [2013] FamCAFC 110.

[56] *Re Jamie* (2013) 278 FLR 155, [100]; [2013] FamCAFC 110.

[57] *Re Jamie* (2013) 278 FLR 155, [103]; [2013] FamCAFC 110.

However, the Court's conclusion appears to have been based on a finding that the expert medical evidence "is clear that stage one is a reversible process" and therefore could not be described as "invasive, permanent and irreversible", as was the situation in *Marion's case*.[58]

Although the Court in *Re Jamie* went on to discuss stage two treatment, that discussion was largely overtaken by the later decision of *Re Kelvin*.[59] Again, the primacy of the expert medical evidence can be seen easily, with the Court referring to advances in medical science regarding the purpose for which the treatment was provided, the nature of the treatment, and the risks involved in undergoing, withholding, or delaying treatment.

The case stated arose from an application by the applicant father concerning the administration of stage two medical treatment for GD for his then 16-year-old child, "Kelvin". Given the age of the minor, the issue of *Gillick* competence[60] was clearly a factor.

In *Re Kelvin*, the Court stepped further back from an oversight role in GD treatment, even in respect of stage two treatment. It said that (for minors who are not *Gillick* competent) the treatment could no longer be considered a medical procedure for which consent lies outside the bounds of parental authority so as to require the imprimatur of the Court.[61] That statement of principle assumes, however, the existence of unanimity on the part of the child, parents and the medical practitioners. Absent that unanimity, the picture is a different one:

> [W]e are not saying anything about the need for court authorisation where the child in question is under the care of a State Government Department. Nor, are we saying anything about the need for court authorisation where there is a genuine dispute or controversy as to whether the treatment should be administered; eg, if the parents, or the medical professionals are unable to agree. There is no doubt that the Court has the jurisdiction and the power to address issues such as those.[62]

Turning finally to the position regarding stage two treatment for a child who is *Gillick* competent, that gives rise to a secondary question as to who should determine the question of *Gillick* competence. Is it the medical doctors, or is it necessary for an application to the court to be made for an assessment as to whether the child is competent to give informed consent to the procedure? The Court held that as the nature of the treatment no longer justifies court authorisation, then there was also no longer a basis for the Court to determine *Gillick* competence.[63]

A broader question, flowing from *Marion's case*, was that of whether the constraints on parental power to authorise medical procedures discussed in Marion's case were limited to non-therapeutic procedures. In *Re Kelvin*, the Court said that any uncertainty in that regard was dispelled in *P v P*.[64] The Court in *Re Kelvin* stated quite bluntly that factors such as the gravity of the medical intervention only arise for consideration if the proposed treatment is non-therapeutic.

Some parallels may be drawn from *Re Carla*[65] which concerned a five-year-old child born with a sexual development disorder, 17 beta hydroxysteroid dehydrogenase 3 deficiency. Carla had minimum in-utero exposure to androgens and because such exposure is required for the development of the male internal and external genitalia, it meant that at birth Carla was markedly under-virilised for a genetic male. Although having no female reproductive organs, Carla was born with the external appearance of a female child, but with male gonads not contained within a scrotum. The parents sought court approval for the bilateral removal of Carla's male gonads. Given the positioning of Carla's gonads in the intra-abdominal cavity, if the procedure did not take place there was a 28% risk of transformation into germ

[58] *Re Jamie* (2013) 278 FLR 155, [88]; [2013] FamCAFC 110.

[59] *Re Kelvin* (2017) 327 FLR 15; [2017] FamCAFC 258.

[60] *Gillick v West Norfolk and Wisbech Area Health Authority* [1986] AC 112; [1985] UKHL 7.

[61] *Re Kelvin* (2017) 327 FLR 15, [164]; [2017] FamCAFC 258.

[62] *Re Kelvin* (2017) 327 FLR 15, [167]; [2017] FamCAFC 258.

[63] *Re Kelvin* (2017) 327 FLR 15, [182]; [2017] FamCAFC 258.

[64] *Re Kelvin* (2017) 327 FLR 15, [197]; [2017] FamCAFC 258; *P v P* (1994) 181 CLR 583.

[65] *Re Carla* [2016] FamCA 7.

cell malignancy in the short, medium and long term. The Court ultimately held that the case was one where the medical procedures proposed for Carla did not fall outside the bounds of permissible parental authority as determined by the High Court in *Marion's Case*.[66]

VI. The Justification for Treating GD Children

Telfer et al, 2018[67] state that the indication for GnRHa treatment is significant distress with the onset or progression of pubertal development. The authors point to an overall estimated nearly 80% rate of self-harm and a 48% rate of attempted suicide in Australian transgender and gender diverse children and adolescents. In North America and Europe, 40–50% of adolescents presenting to gender identity clinics have significant psychopathology.[68] A meta-analysis of 42 North American studies concludes that the rate of attempted suicide among transgender individuals including adults was 22 times greater than that of the general public.[69] Stewart[70] has opined that "Gender Identity Disorder" is real and requires therapy in the same way that other psychiatric and non-psychiatric conditions need to be treated. The American Medical Association stated in a submission for funding health care that mental health care, hormone therapy and sex-reassignment therapy are a "medical necessity" for many people with GD.[71]

What is less clear is whether the morbidity and mortality associated with untreated GD is substantially reduced by special treatments such as suppression of puberty, cross-hormone therapy, and SRS (the "Dutch protocol"). Murad et al[72] in 2010 used a random effects meta-analysis to assess prognosis of individuals with GID receiving hormonal therapy as part of sex reassignment. They found 28 eligible studies involving 1833 participants (1091 MtF and 801 FtM) of which 78% reported significant improvement in psychological symptoms and 80% reported significant improvement in quality of life. Most of the studies were observational and most lacked controls. Only two of the studies involved GD subjects in their teenage years. The authors concluded that there was "very low quality evidence" to suggest that sex reassignment which includes hormonal intervention improves GD. Bauer et al 2013 suggest that the high rate of depression among transgender individuals in Ontario (61% for MtF and 69% for FtM) is related to the immediate social environment of these highly stigmatised individuals who experience frequent and substantial threats to their wellbeing: bullying, harassment, violence, and police brutality, discrimination in housing and employment and poverty. These factors are not necessarily reversed to any significant degree by medical therapy.

A small longitudinal study of 60 adolescents undergoing Stage 1 treatment in the Netherlands[73] noted significant reductions after 12 months in symptoms of depression, as assessed by the Beck Depression Inventory,[74] from a mean of 8.31 (SD 7.12) to 4.95 (6.72; p=0.004). The typical score for mild depression is 14–19[75] – well above the mean scores measured in this study at the commencement of treatment and

[66] *Re Carla* [2016] FamCA 7, [53].

[67] Telfer et al, n 22, 132–136.

[68] R Kaltiala-Heino et al, "Gender Dysphoria in Adolescence: Current Perspectives" (2018) 9 *Adolescent Health, Medicine and Therapeutics* 31.

[69] N Adams, M Hitomi and C Moody, "Varied Reports of Adult Transgender Suicidality: Synthesizing and Describing the Peer-reviewed and Gray Literature" (2017) 2(1) *Transgender Health* 60.

[70] C Stewart, "Treatment of Gender Dysphoria in Children, Leave to Intervene: Re Jamie [2012] FamCAFC 8" (2012) 9(3) *Journal of Bioethical Inquiry* 235.

[71] *American Medical Association* (2008) "Removing Financial Barriers to Care for Transgender Patients Resolution" 122(A-08) <http://www.tgender.net/taw/ama_resolutions.pdf>. AA Kon, "Transgender Children and Adolescents" (2014) 14(1) *The American Journal of Bioethics* 48.

[72] MH Murad et al, "Hormonal Therapy and Sex Reassignment: A Systematic Review and Meta-analysis of Quality of Life and Psychosocial Outcomes" (2010) 72(2) *Clinical Endocrinology* 214.

[73] AL de Vries et al, "Young Adult Psychological Outcome after Puberty Suppression and Gender Reassignment" (2014) 134(4) *Pediatrics* 696.

[74] de Vries , n 73.

[75] Beck Depression Inventory (2016) 66 *Occupational Medicine* 174. In those diagnosed with depression, scores of 0–13 indicate minimal depression, 14–19 (mild depression), 20–28 (moderate depression) and 29–63 (severe depression).

after the first year of treatment. This calls into question whether this study group was representative of typical Australian adolescents with GD who have an 80% prevalence of self-harm and a 48% prevalence of attempted suicide.[76] Global functioning in the treated Dutch children, as assessed by the Children's Global 820 Assessment Scale, 69 had also significantly improved from a mean of 70.24 (10.12) to 73.90 (9.63; p=0.005). The proportion of adolescents scoring in the clinical range on the internalising and externalising subscales of the Child Behaviour Checklist 70 decreased substantially (from 44% to 22%), although measures of anxiety and anger remained unchanged.[77] Marinkovic and Newfield from San Diego's Rady Children's Hospital reported their preliminary results on 38 GD children, seven of whom had GnRHa treatment and 32 had cross-hormone treatment. They suggested that there were significant reductions in self-harm and depression once treatment was commenced: depression, self-cutting or anxiety fell from 26 (62%) to three patients on self-report. Before commencement 27% of patients had additional psychiatric diagnoses such as attention deficit hyperactivity disorder, ASD or bipolar disease.[78] This study, however, was preliminary and the majority of the teenagers (mean age >15 years) did not receive GnRHas. Furthermore, the validation these children received from their paediatricians may have had an impact on the improved rates of depression and self-cutting. Janssen (2018[79]) was unable to detect significant change in 22 Belgian adolescents aged 14 years to 18 years when assessed for psychological wellbeing and self-image who were tested before treatment and after four months. The treatment included eight participants on no medications, one on cyproterone, eleven on lynestranol – a progestagen; one on lynestranol + testosterone and one on an unspecified medication. There was no reduction in GD after treatment was initiated and there was no amelioration of body image satisfaction, self-worth feelings, or psychological wellbeing after treatment.[80]

Even when transgender individuals have undergone SRS (=Stage 3 of the Dutch protocol), there is still strong evidence of psychopathology from a comprehensive Danish survey of 98% of all cases of SRS in Denmark. Overall 27.9% of the 104 Danish preoperative patients and 21.1% of postoperative patients were diagnosed with serious psychiatric conditions.[81]

VII. Stage One Treatment: The Consequences of Suppressing Puberty

The Court in *Re Jamie* concluded from the medical evidence that stage one treatment of childhood GID is reversible, is not attended by grave risk if a wrong decision is made, and is for the treatment of a malfunction or disease, being a psychological rather than physiological disease.[82] Does the medical evidence remain the same today?

Bell and Bell (2017) claimed that the use of GnRH analogues (GnRHas=Stage 1 treatment) was "safe and reversible".[83] This was based on the larger experience with central precocious puberty (CPP). Bell and Bell approved the decision of the Full Court of the Family Court in *Re Jamie*, stating that the growing medical consensus, *the absence of alternative viewpoints* and evidence in the reported cases

[76] Telfer et al, n 22, 132–136.

[77] S Mahfouda et al, "Puberty Suppression in Transgender Children and Adolescents" (2017) 5(10) *The Lancet Diabetes & Endocrinology* 816.

[78] M Marinkovic and R Newfield, "Gender Management Clinic (GeM) for Children and Adolescents in San Diego: A Growing Experience" (Abstract Endocrine Society ASM, San Diego, 2015) <https://plan.core-apps.com/tristar_endo15/abstract/40de03293d8278e9769c06db90a24e76>.

[79] J Janssen, "Psychological Well-being and Self-image in Children and Adolescents with Gender Dysphoria in Relation to the Transition Process" (Unpublished Master's Thesis, University of Ghent, Ghent, Belgium, 2018) <https://lib.ugent.be/fulltxt/RUG01/002/479/824/RUG01-002479824_2018_0001_AC.pdf>.

[80] J Janssen, n 79.

[81] RK Simonsen et al, "Long-term Follow-up of Individuals undergoing Sex Reassignment Surgery: Psychiatric Morbidity and Mortality" (2016) 70(4) *Nordic Journal of Psychiatry* 241.

[82] *Re Jamie* (2013) 278 FLR 155, [108]; [2013] FamCAFC 110.

[83] Bell and Bell, n 2, 229–247.

as well as the established serious risks of harm to children who are not able to access treatment militate against the court continuing to play any role in determining whether treatment can proceed.[84]

Although reversible,[85] concerns have been expressed that these treatments can affect physical development and interfere with the natural trajectory of gender expression.[86]

The Psychological Effects of Delayed Puberty

In CPP (similar to Stage 1 management) the aim of treatment is to delay the onset of puberty until an appropriate normal age (say 11 years) so that these children grow to a normal height and in order to relieve them of psychosocial stress such as the distress in girls caused by early menstruation when all their peers remain free of such concerns.[87] Treatment therefore has the effect of realigning these children with their unaffected peers. This differs from GnRHa treatment of GD children where the aim of treatment is to delay the onset of puberty until the age of 16 years in order to postpone "definite decisions on gender reassignment without the distress of developing secondary sexual characteristics".[88] This might then entail a treatment continuing over 6–7 years. GnRH treatment used in this way potentially retards the physical and psychological development of GD children allowing their peers to overtake them in many aspects of development. Meanwhile the suppressed pre-pubertal GD children "freeze(s) … in a prolonged childhood" "secluding them from certain aspects of reality and isolating them from peer groups".[89]

The effects of delayed puberty are well described. These include negative interactions with peers, decreased self-esteem and anxiety about growth rate or body habitus.[90] Lemma[91] has opined that the effect of delaying puberty in GD children might be to threaten the adaptation and integration of identity following gender transition.

Although the aim of GnRHa treatment is, amongst other things, to remove the anxiety of GD children who view the physical changes of puberty with alarm and to normalise their psychological state[92] there may be alternate psychological stress which is precipitated by the stark differences in physical appearance and psychological attitudes between cis-gendered school children and the GD child undergoing pubertal suppression. It therefore may require a value judgment as to which is the greater harm: delaying puberty or alleviating the stress of continuing dysphoria.

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[84] S Strickland, "To Treat or Not to Treat: Legal Responses to Transgender Young People Revisited" (Association of Family and Conciliation Courts 51st annual conference Navigating the Waters of Shared Parenting: Guidance from the Harbour Toronto, Canada, May 28–31, 2014) <http://www.familycourt.gov.au/wps/wcm/connect/af23685e-3f1e-4295-a8b4-d0458cd96ec0/Speech-Strickland-Transgender+Young.pdf?MOD=AJPERES&CONVERT_TO=url&CACHEID=ROOTWORKSPACE-af23685e-3f1e-4295-a8b4-d0458cd96ec0-lNSbDkf>.

[85] E Coleman et al, "Standards of Care for the Health of Transsexual, Transgender, and Gender-nonconforming People, Version 7" (2012) 13 *International Journal of Transgenderism* 165.

[86] Mahfouda et al, n 77.

[87] J Harrington and MR Palmert, "Treatment of precocious puberty", *UpToDate*, 12 December 2017.

[88] TD Steensma et al, "Factors Associated with Desistence and Persistence of Childhood Gender Dysphoria: A Quantitative Follow-up Study" (2013) 52(6) *Journal of American Academy of Child & Adolescent Psychiatry* 582.

[89] G Giovanardi, "Buying Time or Arresting Development? The Dilemma of Administering Hormone Blockers in Trans Children and Adolescents" (2017) 2(5) *Porto Biomedical Journal* 153.

[90] MR Palmert and L Dunkel, "Delayed Puberty" (2012) 366 *New England Journal of Medicine* 443; Given the importance of peer congruence during the high-school years, it is reasonable to assume that a 16-year-old with the sexual development of a 10-year-old may suffer some psychologic distress – although this has not been formally evaluated in clinical studies; Observational studies suggest that constitutional delay of growth and puberty is associated with adverse psychosocial effects, including incompetence and vulnerability, impaired self-esteem, reluctance to participate in athletic activities, social isolation, impaired academic performance, substance abuse and disruptive and suicide behavior; RA Richman and LR Kirsch, "Testosterone Treatment in Adolescent Boys with Constitutional Delay in Growth and Development" (1988) 319(24) *The New England Journal of Medicine* 1563.

[91] A Lemma, "The Body One Has and the Body One Is: Understanding the Transsexual's Need to be Seen" (2013) 94 *The International Journal of Psychoanalysis* 277.

[92] M Telfer, M Tollit and D Feldman, "Transformation of Health-care and Legal Systems for the Transgender Population: A Need for Change in Australia" (2015) 51(11) *Journal of Paediatrics and Child Health* 1051.

At a personal level the treated GD child must contend with possible delay in adolescent "developmental tasks"[93] – interactions between physical development, personal attributes and societal expectations.[94] These include acceptance of one's body, adopting a gender role in society, securing emotional independence from parents, developing close relations with peers of both genders and preparing for later roles as a parent, spouse and employee.[95]

Adverse Cognitive Effects of GnRH Analogues (GnRHas)

The impact of long-term GnRHa treatment on hippocampus-dependent cognitive functions, such as spatial orientation, learning and memory, is not well studied, particularly when treatment encompasses a critical window of development such as during puberty.[96] Androgen receptors exist in areas of the brain which are essential for memory and higher order cognition.[97] The function of GNRHa in prostate cancer is to deprive men of androgenic effects. A study by Cherrier et al (2018)[98] demonstrated that after nine months of GnRHa treatment regional cerebral glucose metabolism in the cerebellum, posterior cingulate, and medial thalamus decreased bilaterally. These changes were associated with variation in mood, verbal memory, and spatial performance. The experience with GnRHas in men with prostate cancer has indicated that some men suffer significant deleterious cognitive effects. Among 48 prostate cancer male patients treated with androgen ablation, 47% to 69% experienced a decline in at least one cognitive area, most commonly visuospatial abilities and executive function[99] and there was a greater overall disparity in overall impairment in cognitive functioning versus comparison subjects (42% of patients versus 19% of comparison subjects, $p < 0.05$). These are probably caused by the reduced levels of testosterone which has a role in mediating cognitive ability.[100] The pattern of deficit was more noticeable for tasks measuring spatial ability and spatial memory.[101]

Few studies are available on cognitive defects in children treated with GNRHas for precocious puberty, although one case report[102] observed that after 22 months of pubertal suppression, operational memory dropped nine points and remained stable after 28 months of follow-up. A similar reduction of executive functions was noted by Staphorsius et al[103] whereby in GD patients undergoing suppression of puberty with GNRHas the suppressed MtFs had significantly lower accuracy scores than the control groups and the untreated FtMs.

GnRH receptors are expressed outside the reproductive axis, for example brain areas such as the hippocampus which is crucial for learning and memory processes.[104] A recent paper studying girls treated

[93] RJ Havighurst, *Developmental Tasks and Education* (University of Chicago Press, 1948).

[94] Kaltiala-Heino, n 68, 31–41.

[95] Kaltiala-Heino, n 68, 31–41.

[96] D Hough et al, "A Reduction in Long-term Spatial Memory Persists after Discontinuation of Peripubertal GnRH Agonist Treatment in Sheep" (2017) 77 *Psychoneuroendocrinology* 1.

[97] B Gunlusoy et al, "Cognitive Effects of Androgen Deprivation Therapy in Men with Advanced Prostate Cancer" (2017) 103 *Urology* 167.

[98] MM Cherrier et al, "Changes in Cerebral Metabolic Activity in Men undergoing Androgen Deprivation Therapy for Non-metastatic Prostate Cancer" (2018) 21 *Prostate Cancer and Prostatic Diseases* 394.

[99] HS Jim et al, "Cognitive Impairment in Men Treated with Luteinizing Hormone-releasing Hormone Agonists for Prostate Cancer: A Controlled Comparison" (2009) 18 *Supportive Care in Cancer* 21.

[100] V Jenkins et al, "Does Neoadjuvant Hormone Therapy for Early Prostate Cancer Affect Cognition? Results from a Pilot Study" (2005) 96 *British Journal of Urology* 48.

[101] Jenkins et al, n 100, 48.

[102] MA Schneider et al, "Brain Maturation, Cognition and Voice Pattern in a Gender Dysphoria Case under Pubertal Suppression" (2017) 11 *Frontiers in Human Neuroscience* 528.

[103] AS Staphorsius et al,. "Puberty Suppression and Executive Functioning: An fMRI-study in Adolescents with Gender Dysphoria" (2015) 56 *Psychoneuroendocrinology* 190.

[104] Hough et al, n 96, 1–8.

with GnRHas for precocious puberty[105] using the Wechsler Intelligence Scale for Children III showed a lower IQ (94) compared with age-matched controls (102) although it did not reach a level of statistical significance.[106] In 1989, a study of girls treated for precocious puberty with GNRHas showed a global IQ decrease (WISC-III) in a longitudinal follow-up.[107] Impairment of verbal skills was also found among GnRHa-treated children with precocious puberty in a study by Costa et al, 2015.[108]

Giovanardi[109] (2017) has expressed similar concerns about the safety of GnRHas based on the limited data available on brain development while undergoing puberty suppression.

It would seem from the above that there is no justification for asserting that GnRHas are "safe and reversible" for children undergoing long-term suppression of puberty with up to 6 years of continuous treatment.

Decreased Bone Mineral Density

This is a known risk with all patients undergoing GnRHa treatment and that is an important reason for limiting most GnRHa treatment to six months. Reassuringly, studies in children with precocious puberty treated with GnRHa, suggest that bone mineralisation returns to normal after cessation of treatment.[110]

Genital Atrophy and Later Difficulties with Stage 3 Treatment

One unintended effect of GnRHa treatment is that genital atrophy may reduce the volume of genital tissue available for future stage 3 genital reconstructive surgery in both FtM & MtF patients.[111]

VIII. Stage Two Treatment: The Consequences of Cross-hormone Therapy

This is usually commenced at age 16 years.[112] In the case of MtF, the aims of oestrogen are breast development (irreversible except by mastectomy), change to a female distribution of fat, skin softening, maintenance of a high-pitched voice, suppression of male hair growth and decrease in testicular size.[113] In the case of FtM individuals, the aims of treatment with testosterone include suppression of menstruation and breast development (reversible), clitoral enlargement (irreversible except by clitoridectomy), deepening of the voice (irreversible), development of male pattern body and facial hair (partially reversible), and increase in lean muscle mass (reversible).

Treatment with high-dose oestrogen for MtF and testosterone for FtM individuals is associated with well-known risks:[114]

[105] S Wojniusz et al, "Cognitive, Emotional, and Psychosocial Functioning of Girls Treated with Pharmacological Puberty Blockage for Idiopathic Central Precocious Puberty" (2016) 7 *Frontiers in Psychology* 1.

[106] P Hayes, "Commentary: Cognitive, Emotional, and Psychosocial Functioning of Girls Treated with Pharmacological Puberty Blockage for Idiopathic Central Precocious Puberty" (2017) 8 *Frontiers in Psychology* 44.

[107] JM Schuerger and AC Witt, "The Temporal Stability of Individuality Tests Intelligence" (1989) 45 *Journal of Clinical Psychology* 249.

[108] R Costa et al, "Psychological Support, Puberty Suppression, and Psychosocial Functioning in Adolescents with Gender Dysphoria" (2015) 12 *The Journal of Sexual Medicine* 2206.

[109] Giovanardi, n 89, 153–156.

[110] HK Park et al, "The Effect of Gonadotrophin-releasing Hormone Agonist Treatment over 3 Years on Bone Mineral Density and Body Composition in Girls with Central Precocious Puberty" (2012) 77(5) *Clinical Endocrinology (Oxf)* 743.

[111] C Elder, "Surgery for Transgender Individuals" (2018) 20(4) *O&G Magazine* 36.

[112] JK Hewitt et al, "Hormone Treatment of Gender Identity Disorder in a Cohort of Children and Adolescents" (2012) 196(9) *The Medical Journal of Australia* 578.

[113] Olsen-Kennedy and Forcier, n 41.

[114] Olsen-Kennedy and Forcier, n 41.

Risks of Oestrogen for natal males

These include permanent breast development, thromboembolic events (20 times the general population[115]), stroke (10 times greater than the general population[116]) and permanent sterility (this may be overcome by sperm collection and cryo-storage before treatment).

Risks of Testosterone for natal females.

These include acne, male pattern baldness, mild dyslipidaemia, mood swings,[117] increased body mass index, decreased high density lipoproteins, increased haemoglobin and haematocrit.[118]

IX. Concluding Remarks

In 1992 *Marion's case* distinguished between treatment seen as therapeutic (where no court intervention is required) and "non-therapeutic" treatment, where court approval is necessary for certain types of treatment, which are grave (encompassing irreversible) in nature and where there is a significant risk of making a wrong decision.

The Family Court decisions discussed above display a trend away from requiring, what was described in *Marion's case* as, the safeguard of a court's participation in the context of stage 1 and stage 2 treatments for GD in children.

The decisions have not yet been done so by an identification of stage 1 and stage 2 treatments for GD as purely therapeutic. Rather, the decisions have relied on changing medical opinion evidence as to whether stage 1 and stage 2 treatments are grave (encompassing irreversible) in nature and perhaps to a lesser extent whether there is a significant risk of making a wrong decision, with the best interests of the child being assessed (at least in part) on evidence as to the risk of self-harm or suicide in children not offered such treatment.

The decision to allow Stage 1 treatment which arose in *Re Jamie* was made because the trial judge held that the treatment was fully reversible. However, as has been described above, while the treatment is reversible, the psychological and cognitive effects of six or seven years of delayed puberty may "freeze" adolescent changes at a crucial time of teenage development and may give rise to serious educational disadvantage and peer victimisation. Furthermore, if up to 80% of children "desist" at puberty then there is potential for many children to be commenced on GnRHas unnecessarily. Few major medical therapies would be approved for treatment where four out of every five patients will resolve spontaneously without treatment.

With respect to Stage 2 treatment, the position of the Court in *Re Kelvin* appears to have been informed by reassuring evidence about the safety of such treatment and perhaps recognises a desire to remove barriers to young transgender Australians seeking transition. Of course, Stage 2 treatment has irreversible consequences, especially permanent sterility.

Unfortunately, it is doubtful whether there are any well-designed studies which show that childhood treatments for GD reduce the risk of self-harm or suicide. Even SRS surgery (Stage 3) appears to have little effect on psychiatric morbidity.

The court decisions, as in other areas, have followed medical evidence applications where there appears to have been no contrary opinion argued for. It would perhaps be helpful for a matter to come before the courts where a contrary opinion may be fully ventilated – for example, where the parents of a child had different views (supported by appropriate expert evidence) on the merits of Stage 1 and or Stage 2 treatment in a particular case. The current relative ease by which gender dysphoric children

[115] LJ Seal, "A Review of the Physical and Metabolic Effects of Cross-sex Hormonal Therapy in the Treatment of Gender Dysphoria" (2016) 53(1) *Annals of Clinical Biochemistry: International Journal of Laboratory Medicine* 10.

[116] D Getahun et al, "Cross-sex Hormones and Acute Cardiovascular Events in Transgender Persons: A Cohort Study" (2018) 169(4) *Annals of Internal Medicine* 205–213.

[117] K Khatchadourian, S Amed and DL Metzger, "Clinical Management of Youth with Gender Dysphoria in Vancouver" (2014) 164(4) *The Journal of Pediatrics* 906.

[118] J Jarin et al, "Cross-sex Hormones and Metabolic Parameters in Adolescents with Gender Dysphoria" (2017) 139(5) *Pediatrics* e20163173 <https://pediatrics.aappublications.org/content/139/5/e20163173>.

undergo serious and possibly irreversible treatment may then be judicially questioned in order to avoid a Teiresian-like tragedy.

In the meantime, the process of informed consent to Stages 1 and 2 of the Dutch protocol should include an understanding by the child (if competent) and their parents that this treatment remains to some extent experimental, with permanent effects including sterility, breast development in MtF patients as well as increased risks of thromboembolic phenomena and stroke.