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Toward a Standard of Medical Care: Why Medical Professionals Can Refuse to Prescribe Puberty Blockers

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That a standard of medical care must outline services that benefit the patient is relatively uncontroversial. However, one must determine *how* the practices outlined in a medical standard of care should benefit the patient. I will argue that practices outlined in a standard of medical care must not detract from the patient's well-functioning and that clinicians can refuse to provide services that do. This paper, therefore, will advance the following two claims: (1) a standard of medical care must not cause dysfunction, and (2) if a physician is medically rational to not provide some service which fails to meet the above condition (i.e. fails to be a standard of medical care), then she may refuse to do so. I then apply my thesis to the prescription of puberty blockers to children with gender dysphoria.

KEYWORDS Medical refusals, Decision theory, Health, Puberty blockers, Standard of care

1. Introduction

That a standard of medical care must outline practices that benefit the patient is relatively uncontroversial. However, this assumption must be disambiguated; one must determine *how* the practices outlined in a medical standard of care should benefit the patient. I will argue that practices outlined in a standard of medical care must not detract from the patient's physiological and psychological well-functioning.

If, further, practices outlined in a standard of medical care must not detract from physiological and psychological well-functioning, it is not obvious that prescribing puberty blockers (from here on, PBs) should be considered a standard of medical care. After briefly surveying some relevant studies which demonstrate that neither the short nor long-term effects of PBs are clearly conducive to the patient's physiological or psychological well-functioning, I argue that clinicians can refuse to provide such services, since they would be medically rational to not prescribe such

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treatment due to its possible failure to qualify as a standard of medical care. This paper, therefore, will advance the following two claims: (1) a standard of medical care must not cause dysfunction, and (2) if a physician is medically rational to *not* provide some service which fails to meet the above condition (i.e. fails to be a standard of medical care), then she may refuse to do so. I then argue that a physician would be medically rational to refuse to prescribe PBs because she is rational to believe that such treatment does not meet a standard of medical care and, as a result, may refuse to provide that service.

2. An argument against conscientious objection

Here, I will outline an argument presented by prominent ethicists to bar conscientious objection in liberal democracies, as a condition of employment, which can then be readily applied to conscientious objections to PBs prescribed to individuals experiencing gender dysphoria. In short, Savulescu (2006), Schuklenk and Smalling (2017), Schuklenk and Savulescu (2017), and Schuklenk (2015, 2019) argue that, so long as a service is legal and in the patient's interests, then the physician should not be allowed to refuse to provide that service.

The crux of the argument advanced by Savulescu, Schuklenk, and Smalling is as follows: Because physician's duties are to serve the interest of the patient, it is wrong to deny those services to which they are legally entitled. Schuklenk and Smalling (2017) write: 'This attitude is quite the opposite of what it means to be a professional, where a promise is made to serve the public good and to serve patient interests first and foremost.' Schuklenk (2019) later emphasizes this sentiment: 'The patient is supposed to come first – this promise is central to what it means to be a health care professional.' Thus, to be a healthcare professional is to serve the interests of the patient. One plausible way of understanding how Savulescu, Schuklenk, and Smalling understand patient interest is what the patient believes, all-things-considered, will best aid her to pursue her version of the good life. I will assume that this is a plausible interpretation of their view throughout the paper.

But it would be too quick to suppose that medical professional ought to provide *every* service to patients; the services provided must be *legal*. Conscientious refusals provide an obstacle to 'medical services that [patients] are legally entitled to' (Schuklenk and Smalling 2017). Savulescu (2006) emphasizes that the services, access to which conscientious refusals hinder, are legal services. Schuklenk (2019) concurs: 'The procedures in question are legal, they are requested by eligible patients, and they are part and parcel of modern medical practice.' Since the sorts of practices are legal and are in the patient's interest, 'societies ought not to prioritize individual ideological commitments of some healthcare professionals over patients' rights to receive professional care in a timely and hassle free fashion' (Schuklenk 2015).

This position would seem to bar, as a condition of employment, conscientious refusals with regard to PBs for individuals who struggle with gender dysphoria. First, if one assumes that by 'interest' Savulescu, Schuklenk, and Smalling have in mind 'the patient's all things considered belief about what will help her pursue

the good life,' there is no question that some patients have an interest in taking PBs. The fact that people are requesting such services is evidence enough for this claim.[1] It is also clear that prescribing PB is legal. If we assume that by a patient being 'legally entitled to' a service Savulescu, Schuklenk, and Smalling have in mind 'not illegal,' then patients are clearly entitled to PB to mitigate the negative effects of gender dysphoria.[2] Teelin, Shubkin, and Brown (2022) demonstrate that prescribing PBs is a common way to treat gender dysphoria. On the assumption that I have presented a correct disambiguation of what Savulescu, Schuklenk, and Smalling mean by 'interest' and 'entitlement,' it is clear that their view would bar conscientious refusals to prescribing PB.[3]

3. Well-being, well-Functioning, and a standard of care

My response Savulescu, Schuklenk, and Smalling advances the two claims outlined in the introduction. In this section, I will argue for claim (1) in the introduction: (1) a standard of medical care must not cause dysfunction. The modern notion of a standard of medical care finds its origins in relatively recent legal cases. The 1985 case of *Hall v. Hilbum*, for instance, was one of the first cases to set a precedent for how the standard of medical care should be understood (Moffett and Moore 2011). In that case, Chief Justice C.J. Robertson stated that, although a physician had no obligation to guarantee outcomes of treatment, she does have a responsibility to provide minimally competent care (Moffett and Moore 2011). Other legal cases, such as *McCourt v. Abernathy* and *Johnson v. St. Francis Medical Center*, followed and reinforced the precedent set by the 1985 case. The result of these cases is the present understanding of a standard of medical care: some practice is a standard of medical care when that practice is 'that which a minimally competent physician in the same field would do under similar circumstances' (Moffett and Moore 2011; See also: Rich 2015). Now, it is not the goal of this paper to challenge this understanding of a standard of medical care or attempt to expound upon what is meant by 'minimally competent,' 'similar circumstances,' or other ambiguous terms. The goal, rather, is to make explicit what has been left implicit in the above definition: that standards of medical care are meant to be practices which are *beneficial* to the patient in some way. Part of the goal of specifying whether or not a practice is a standard of medical care is to have legal grounds for holding physicians accountable for when some practice results in a harm to

[1] For different interpretations of 'interest' in this context, see: Kulesa (2022).

[2] These authors also present arguments against conscientious objection based on its idiosyncratic nature (Savulescu 2006; Schuklenk 2015), the unprovability of religious claims (ibid.; Schuklenk and Smalling 2017), and possible negative outcomes of denying services (ibid). Yet, all of these other arguments seem contingent on the success of the argument I have reconstructed here since, if it is not essential to the medical profession to provide legal services in the patient's interest, then none of these other arguments carry weight. I focus on this argument since it is most central to their position.

[3] Savulescu, Schuklenk, and Smalling also seem at points to implicitly assume as a further condition that a practice must be standard medical care (e.g., these services are 'part and parcel of modern medical practice' Schuklenk (2015)). As the next section points out, the most obvious reading of this condition would be the legal reading, where some service is a standard of care if another (minimally) competent physician would provide that service under similar circumstances. Making this implicit condition explicit will not change the above verdict concerning their view since some (minimally) competent physicians would prescribe puberty blockers in similar situations.

the patient. In order to achieve this goal, the standard of medical care for any given procedure must be beneficial to the patient. Yet, this existing definition does not specify *what sort* of benefit a standard of care must provide to the patient, and it is the goal of this section to provide one necessary condition that must be met for a practice to be considered a standard of medical care.

3.1. Well-being alone cannot determine a standard of medical care

First, however, I will argue that an increase in well-being, as a condition added to the definition provided above, is *not sufficient* for a practice to be considered a standard of medical care.[4] The promotion of patient well-being is taken as one of the principal values of the medical profession.[5] A standard of medical care is, I will assume, meant to help facilitate this core value. Since a standard of medical care is meant to help bring about patient well-being, it seems like a natural extension to make an increase in well-being a sufficient condition for some practice to be a standard of medical care. One might use the concept to illuminate a notion of a standard of care as follows:

> If some practice is designed to increase the well-being of the patient, then that practice is a standard of medical care.

This simple first pass, however, fails to outline a sufficient condition for some practice to be considered a standard of care for the simple reason that many, clearly non-medical practices would also increase well-being. Providing financial services and completing household chores for patients would also increase their well-being, but are clearly not within the scope of a standard of *medical* care. So, a second pass might attempt to specify what sorts of practices provide the benefit characteristic of a standard of medical care by explicitly stating that it is through medical means that patients' well-being is increased:

> If some practice is (i) designed to increase the well-being of the patient and (ii) is provided via medical technology, then that practice is a standard of medical care.

This revised condition, however, does not fare much better because an increase in well-being brought about by medical means is not sufficient for a practice's inclusion in a standard of medical care. Suppose pharmaceutical companies develop a drug much like that of Soma in *A Brave New World*. Imagine, further, that such drugs are prescribed by physicians; it would meet condition (ii) by acting similar to a drug that is prescribed for illnesses. Yet, say that this drug is not used to treat any diagnosable illness, but is merely prescribed to boost one's self-image. All patients given the Soma have no physiologically or psychologically problematic condition, so the proposed low self-esteem is not the byproduct of an underlying mental pathology. The drug does not treat any biological malfunction,

[4] Thus, in what follows, it should be understood that the proposed condition of an increase in well-being must be jointly sufficient with the earlier definition to be considered a standard of medical care.

[5] For the purposes of this paper, one can understand well-being according to any of the major three classes of theories of well-being: hedonistic theories, desire-satisfaction theories, or objective list theories.

but increases patient well-being by mitigating negative emotions associated with normal and uncomfortable situations. In such a case, both conditions are met, but it would be wrong to include this Soma-like drug as a standard of medical care, since normal yet uncomfortable states of affairs are not pathological.

To give a more practical example, suppose that societal pressures make one's circumstances such that they would benefit from a physiologically harmful procedure, such as female genital mutilation. What increases one's well-being will be partially culturally dependent. In some societies, female genital mutilation is viewed as esthetically pleasing (Einstein 2008). Undergoing the procedure is often the only way to gain land, marry, and societal acceptance (Kulesa 2022). There is, further, a push to shift the practice from a traditional and local circumcision setting to a medical setting (Refaat 2009; Shell-Duncan *et al.* 2017). While medical instruments and techniques are used to perform the procedure, it would be inappropriate to label this practice a standard of medical care even though the procedure may, in some cases, plausibly increase one's well-being.

Take another example: in some important ways, sterilization of the mentally handicapped may increase her well-being. The courts often justified forced sterilization of these women because it would be in their best interest (Roy *et al.* 2012). Roy *et al.* (2012) write: 'Hysterectomy was seen as a reasonable means of fertility control because of the benefits in terms of personal hygiene, emotional outbursts, behavior problems, and seizure activity in people with intellectual disability and epilepsy.' It was also justified on the grounds that these individuals ought to avoid pregnancy. In the United States, the constitutionality of laws permitting sterilization of these women was established by the court's decision in *Buck v Bell* in 1927. Yet, it would be inappropriate to label such treatments as standards of medical care because these women do not have reproductive pathologies. Providing a hysterectomy for individuals with no reproductive pathologies is not standard medical care because it induces a dysfunction. Even if one could increase an individual's well-being by sterilizing her, that does not mean it should be classified as a standard of medical care.[6]

3.2. A necessary condition for a standard of medical care

Requiring that a service not detract from physiological and psychological well-functioning in order to be a standard of medical care effectively excludes possibly harmful practices from being categorized as a standard of medical care. If standards of medical care could induce dysfunction, then it would be possible for female genital mutilation, forced sterilizations, and other similar clearly non-medical or harmful procedures to be considered standards of medical care. As a result, I propose the following necessary condition of a standard of medical care:

> Some practice is a standard of medical care only if it does not detract from proper physiological and psychological well-functioning.[7]

[6] Savulescu (2001) makes a similar claim about reproductive care.

[7] The 'does not detract from proper functioning' should be understood as *all-things-considered* proper functioning. Clearly, chemotherapy detracts from proper functioning but, all-things-considered, the goal of chemotherapy is to eventually *restore* proper functioning.

I propose adopting the notion of dysfunction, essential to both naturalist and harmful dysfunction accounts of health, for this condition because such an addition precludes physiologically harmful procedures (which could increase well-being) as standards of medical care. Thus, here I will understand physiological and psychological well-functioning as the absence of dysfunction in the sense used by Boorse (1977, 2014) or Wakefield (1992). On their accounts of dysfunction, functions are parts or processes of biological organisms which provide causal contributions to survival and reproduction. On Boorse's account, dysfunction is both necessary and sufficient for a condition to be considered pathological; on Wakefield's account, dysfunction is necessary, but not sufficient for a condition to be considered pathological. Either account of pathologies will suffice for the present purposes, since I only claim that a standard of medical care not bring about a dysfunction; whether or not some dysfunction is also pathological is irrelevant.

Here I will pause to consider a possible concern: that I am committing my account to a naturalistic conception of health such as that proposed by Boorse (1977). It's important to note that my proposed necessary condition for a standard of medical care does not commit me to any one understanding of health for two reasons. First, I am only claiming that dysfunction is *necessary* for a condition to be considered pathological. As a result, the proposal above for a necessary condition of a standard of medical care is compatible with naturalistic accounts of health (e.g. Boorse 1977) as well as harmful dysfunction accounts (e.g. Wakefield 1992), and the reader is free to fill in the details of her preferred account. Such accounts intend to also encompass mental dysfunction; so, a psychological state is dysfunctional only if it substantially takes away from optimal contribution of a psychological process' contribution to survival and reproduction.

Second, the proposed condition is only necessary for a *standard of medical care*, not health. Say, for instance, that Wakefield's harmful dysfunction account is right. Suppose, also, that Soma-like pills, female genital cutting, or forced sterilization are not *harmful* dysfunctions, i.e. not unhealthy. Even if these are not unhealthy procedures, I suspect that it is plausible to exclude these items as standards of medical care. Thus, even given such an account, it can still be true that standards of medical care must not bring about dysfunction. By requiring that a standard of medical care not induce dysfunction, one has a principled reason to rule out problematic cases of medical practices that should not be considered standards of medical care.[8] Therefore, my proposal is not committed one view of health.

[8] A reviewer helpfully has noted that my proposal entails that some controversial practices do not count as standards of medical care. Some practices which would not be considered standard medical care, given this proposal, include elective abortions, infanticide, physician assisted suicide, euthanasia, torture, and female genital mutilation. On the other hand, this means that any practice which does not detract from the patient's proper functioning is eligible to be considered (but not necessarily) a standard of medical care, such as aborting a fetus to save the mother's life. This condition will be relevant for conscientious objection since, if we only protect refusals of procedures which violate a standard of medical care, then practices which prevent, reduce the severity of, or mitigate the bad effects of pathologies, will not be open to conscientious objection. For other cases of (sometimes) protected conscientious objections that this proposal would affect, see Rich (2015).

4. Standards of medical care and medically rational decisions

In this section, I will motivate claim (2) of my thesis, which I will refer to for shorthand as the following principle:

> RATIONAL REFUSAL (from here on, RR): if a physician is medically rational to *not* provide some service which may fail to meet the necessary condition for a standard of medical care, then she may refuse to do so.[9]

I argue that RR is quite plausible due to its explanatory power; specifically, its ability to explain why it is clear that physicians ought to be able to refuse to provide services like FMG and sterilizations. If we take as a baseline the idea that physicians ought to be able to refuse to provide such services, then we need to provide an explanation as to why. The explanation here is intuitive and simple. It is medically rational not to provide such services. One would be medically rational not to provide such services because they induce a dysfunctional condition, thereby failing to meet the necessary condition for a standard of medical care. Put another way, RR explains why clinicians should be able to refuse to provide services which are intuitively non-standard practices.

Consider another example (as an addition to FGM and sterilization cases) which lends more support to RR. Imagine a woman who visits a cosmetic surgeon to undergo a breast reduction surgery because she does not like the appearance of her breasts. This patient is a heavy smoker. There is strong evidence that performing this surgery on individuals who are heavy smokers exacerbates heart problems. Say, further, that this patient has a problematic heart condition, so the surgeon believes heart problems will likely be exacerbated. Intuitively the physician, by refusing to provide the procedure which will very likely worsen the patient's heart condition, is not violating the standard of medical care. RR explains why this physician has in fact not violated a standard of medical care: it is medically rational for her not to provide the service.

It's not clear that the view espoused by Savulescu, Schuklenk, and Smalling, as outlined in section 2, share the same explanatory power. Take the case just presented. If the woman is seeking legal care which she deems is in her best interest, then it's not clear that their view would allow the physician to refuse to provide this risky surgery. Similar points can be made with the other examples outlined in the previous section. For instance, as Kulesa (2022) has argued, it seems that their position bars medical refusals in the case of FGM as well. These services are (or were) unquestionably legal, and it does seem that, given their action of interests, it seems that one could plausibly say that such a service is in the patient's interest. It is part of these example that the patient thinks it is how she can pursue her best life all-things-considered. If what I have said here is right about their view of patient interest, then it is not clear how Savulescu, Schuklenk, and Smalling will account for these counterexamples.

[9] This claim places my view close that of Card (2017) and Eberl (2019), but differs in at least one crucial aspect: my position focuses on the reasonability of medical refusals based on the likelihood that a practice is conducive to proper functioning.

Prima facie, RR provides explanatory power not shared by the popular alternative that I have considered here. Therefore, a desirable consequence of RR is that it provides an explanation of why medical professionals can refuse to administer treatments which are pretheoretically considered non-standard treatments. I do not take this section to have *proved* RR, but I do think these considerations provide strong motivation to adopt the principle.

5. Medical rationality

But RATIONAL REFUSAL requires an account of rationality, to which I now turn. Intuitively, a choice is rational only when it is directed at bringing about the desired effect. When providing a standard of medical care, the clinician should not, I have argued, induce dysfunctional conditions. However, that some service not detract from proper functioning is not the only requirement for medical rationality; the *probability* of inducing dysfunctional conditions matters for rational decision making. Recently, contemporary decision theory has embodied this balance between the quality of an outcome and the probability that some action will bring about that outcome through *expected utility* formulas. As a result, I will use basic tenants of decision theory to determine whether or not an action can be considered medically rational. In causal decision theory, an action is rational if and only if it maximizes expected utility given the causal decision theoretic formula for expected utility:

$$EU(A) = \sum_i U(A \,\&\, S_i)\, P(A \rightarrow S_i)$$

where $U(A \,\&\, S_i)$ is the utility value assigned to the agent's performing some action, A, and some state, S_i, coming about and $P(A \rightarrow S_i)$ is the probability assignment given by the agent that A causes S_i to come about (Weirich 2020). The basic idea is that one is rational to select an option, given a set of choices, if and only if that option has the greatest expected utility.

I will use the example from the last section to provide an illustration of how decision theory might be applied in the medical setting where one can weigh the expected utility of the following two decisions: provide the surgery or refuse to provide surgery. Recall that the woman, who is a heavy smoker, requests a breast reduction surgery. The physician has strong reason to believe that this woman's heart condition will be problematically exacerbated by the surgery. Plausibly, it is a dangerous surgery for her to undergo.

The first step in decision making is to determine the utility of some act. Since a necessary condition of a standard of medical care is to not induce dysfunctions, the physician ought to consider *medical* utility in her decision making. I will use the term 'medical utility' to denote the restoration of proper functioning brought about through a standard of medical care. So, we first ask: what is the medical utility of providing the surgery? Supposing the surgery is successful, the medical utility is 0. The patient is not healthier and the physician has not brought about

a worsened dysfunctional condition. On the other hand, in the case where the surgery is not successful and heart complications do arise, the medical utility of the surgery will be less than 0. One then sets up utility values for the medial utility of the alternative action; in this case, refusing to perform the surgery. The medical utility value of not performing the surgery will be 0 because no change in the patient's functional abilities would have occurred.

Second, one must consider the *probability* of these effects coming about as a result of the physician's actions. The physician has good reason to believe that the probability of heart complications occurring is high; let's stipulate that the chance of complication is greater than %50. On the other hand, the chance of complication if the surgery is not performed is %0. This gives us the following decision calculation:

$$EU(B) = U(x < 0)\ P(B \rightarrow C) + (0)\ P(B \rightarrow \neg C)$$

$$EU(\neg B) = U(0)\ P(\neg B \rightarrow C) + (0)\ P(\neg B \rightarrow \neg C)$$

This first line, the expected medical utility of performing the surgery, can be read as follows: the expected medical utility of performing the surgery is the sum of the following two products: (1) the medical utility of complications occurring from the surgery multiplied by the probability of the complications occurring and (2) the medical utility of no complications occurring from the surgery multiplied by the probability that no complications occur.

Given that there is over a %50 chance of complications occurring, the expected medical utility of providing the surgery will be negative. The second line, the expected medical utility of not performing the surgery, reads the same way with the relevant values plugged in from Table 1. Given these values, the expected medical utility of not performing the surgery is higher than that of performing the surgery. As a result, the physician is medically rational to not provide the surgery.[10]

Yet, in the medical profession, there is often inconclusive or conflicting research on which services are more likely to induce dysfunction; in other words, selecting the probability values in these decision problems is not always so easy. A historical example will help illustrate this point. Fisher (1973), in his systematic review of the research available on the effectiveness of various breast cancer treatments during the 1970s, demonstrates the state of uncertainty of medical care on offer in early cancer research. At the time, there had been at least two major studies that compared the effectiveness of radical mastectomy and less invasive procedures (tylectomy and simple mastectomy). One study conducted in Cambridge concluded that there was no difference in 10-year survival or recurrence rates for individuals with stage II cancer who underwent radical mastectomy or simple mastectomy

[10] I only intend this expected medical utility calculation to compare procedures where at least one of them seems to induce a dysfunction. This is because the paper is not making a claim about deciding between two procedures where neither procedure induces a dysfunction (as both may turn out to be a standard of medical care). Nonetheless, medical professionals ought to consider comparing services which induce dysfunctions because standards of medical care are only required not to detract from all-things-considered proper functioning.

TABLE 1.

MODEL DECISION VALUES FOR MEDICAL PROFESSIONALS AND COSMETIC SURGERY.

	C (Complications)	¬C (No complications)
B (Surgery)	$x < 0$	0
¬B (No Surgery)	0	0

where 'B' stands for 'the surgery was performed, '¬B' that the surgery was not performed, 'C' that some complication occurs, and '¬C' that no complication occurs.

(removal of the breast tissue). Another study conducted in London, however, concluded that those who underwent tylectomy (removal of the tumor) had a better 10-year survival rate and higher rate of recurrence than those who underwent a radical mastectomy. As a result, it is unclear which procedure is more likely to restore function and, therefore, which one is more likely to induce dysfunction; in other words, it is unclear what probability values should be assigned to each procedure's bringing about a worse dysfunctional condition than the other.

It is important to note that both studies were conducted with similar rigor – similar sample size, similar trial duration, similar methods (e.g. both used radiation therapy following treatment), etc. It would be rational for a clinician to assign a lower probability to the less invasive procedure bringing about dysfunction because the London study is just as credible as the Cambridge study. Yet, if this choice of probability would be rational, it would also be rational for a clinician to assign the *same* probability of effectiveness to both procedures for the same reason. This idea can be expressed explicitly in the following principle:

> RANGE: If there is a set, $\{P_1, P_2 \ldots P_n\}$, of nearly equally plausible probability values, an agent is rational to perform an action which maximizes medical utility given any P_n in that set.

In the case of medical examples, whether or not particular probability values are 'equally plausible' with regard to likelihood of induced dysfunction/restoration of function relies on the sort of available evidence of the effectiveness of a particular treatment. Suppose that there is a wide range of studies most of which are of similar quality – e.g. randomized control trials with a sufficiently large number of participants – each of which suggest different probability values for the success of a particular treatment; in such a case, RANGE allows for a physician to choose any of those probability values. Thus, equally rigorous studies, whatever the level of rigor, provide similar weight to the strength of certain probability values being true of some state's coming about.[11]

In sum, I have presented the following picture of the connection between rational decision making, refusals, and a standard of medical care: if some procedure likely

[11] This is just an example of how similar quality of research could be determined, even though randomized control trials are impossible to study the efficacy of PBs on psychological well-being.

does not meet a standard of medical care – i.e. it likely introduces a dysfunctional condition (to a greater extent than the alternatives) – then a clinician would be medically rational to not provide that service. Further, if a clinician is medically rational to not provide that service, then she can refuse to provide that service.[12]

Given this framework for medical decision making and medical refusals, one must consider each component of the causal decision theoretic formula for expected utility when determining whether or not a procedure is medically rational: the probability of some state coming about and the medical utility value the agent assigns to that state coming about.

5.1. State of the research on puberty blockers

For the rest of this essay, I apply this theory of medical refusals to GnRH analogs (puberty blockers or PBs). In order to do this, I must provide some overview of the state of the research on the effectiveness of prescribing PBs. It is to this survey I now turn.

First, the evidence for the effectiveness of prescribing PBs is very limited: the short – and long-term effects of prescribing PBs are largely unknown, and the few published studies have many limitations, e.g. vulnerability to bias, small sample sizes, etc. (Hruz 2020; Biggs 2022; Mahfouda *et al.* 2019; Laidlaw *et al.* 2019). Biggs (2022) provides a comprehensive overview of the history of, and serious lack of current evidence for, the effectiveness of prescribing such therapy.[13] Finally, there is emerging evidence that suggests there is no increase in psychological functioning of children and adolescents who underwent PB therapy (Carmichael *et al.* 2021).

Other studies have found that such therapies may have harmful consequences. Chew *et al.* (2018) found that the use of GnRH analogues 'was associated with a significant reduction in [bone mineral density]' (see also: Klink *et al.* 2015). Further, there is a concern that fertility may be hindered with PB and hormone therapies, but studies are still inconclusive (Cheng *et al.* 2019; Laidlaw *et al.* 2019; Hruz 2020). Since there is a near guaranteed hindrance of normal biological function and growth, the medical utility of prescribing PBs will be lower than were these negative physiological effects absent. Baron and Dierckxsens (2022) and Richards *et al* (2019) suggest that PBs might also have negative effects on brain development due to puberty's integral role in proper brain development. This worry is supplemented by some studies which indicate that there is a notable decrease in IQ subsequent to treatment (Biggs 2022).[14]

On the other hand, there have been studies which suggest that PBs are conducive to psychological well-being as well as health. One study suggests that PB therapies result in a decrease in depression and anxiety (de Vries *et al.* 2014). This suggestion is supported by a recent systematic survey of much of the relevant literature (Chew

[12] This places my view close to conscientious objection based on an internal morality of medicine (Pellegrino 2001; Hershenov 2020, 2021). One way my account differs from, or advances the claims of, such views is the emphasis on rational decision making.

[13] I'm grateful to an anonymous review for pointing me to this comprehensive overview in Biggs (2022).

[14] It's also not clear to what extent children are able to consent to a medical intervention which has potentially far reaching and long-lasting effects (see: Latham 2022).

et al. 2018).[15] Likewise, Mahfouda *et al*. (2019) and Costa *et al*. (2015) suggest that those who use PBs have increased global functioning and Mahfouda *et al*. (2019) suggests a decrease in disordered eating psychopathology.

Yet, it is also plausible that an individual's functioning improves *in the absence of PBs* for two reasons. First, many who struggle with gender dysphoria or discomfort may become more comfortable in their birth sex as time progresses. For instance, there is evidence that the majority of prepubescent individuals who suffer from gender dysphoria will eventually become comfortable with their biological sex (Ristori and Steensma 2016; Laidlaw *et al*. 2019; Latham 2022). Richards *et al* (2019) note that '73%–88% of prepubertal GD clinic attenders, who receive no intervention, eventually lose their desire to identify with the non-birth sex. Our concern is that the use of puberty blockers may prevent some young people with GD from finally becoming comfortable with the birth sex.' It is reasonable, then, that not prescribing PBs is at least as effective in restoring proper functioning as the alternative.

Second, other non-medical interventions may be effective as well. It is important to note that I am *not* saying that we should not compare the expected utility of prescribing PBs and other therapies, e.g. psychological therapy. When I say that the expected utility of prescribing PBs is lower than not prescribing them, I leave open that the prescription of PBs is lower than other, non-medical treatments – e.g. psychological therapy – which do not involve the prescription of PBs. So, I leave it open that *non-medical* interventions have a higher utility value than the prescription of PBs. Multiple studies support the idea that non-medical interventions are just as effective as prescribing PBs. There is recent evidence that social and familial support correlates with increased psychological well-functioning: "… our study found that, social support in general (from family and peers), but not necessarily in terms of affirming one's child gender status, plays a role for the psychological outcomes. This finding is in line with previous studies assessing similar relationships with psychological functioning." (Becker-Hebly *et al*. 2021).

Costa *et al*. (2015) compared the increase of psychological functioning between those who received only psychological support and those who also received PBs. After one year of treatment, those who received only psychological support saw nearly identical increases in psychological functioning; there was no statistically significant difference between the two groups (Biggs 2022).[16] Thus, psychological, societal, and familiar interventions can provide avenues, other than the prescription of PBs, to increase the psychological well-functioning of children struggling with gender dysphoria.

[15] Contrary to de Vries *et al* (2014), Chew *et al* (2018) found that 'the effects of GnRHas on anger and anxiety remain unclear with conflicting results' (ibid). Another study found that prescribing GnRH analogues lowered the probability that individuals would entertain suicidal thoughts (Turban *et al*. 2020). Other studies conclude that global functioning increases for those who undergo treatment with GnRH analogues (Costa *et al*. 2015). However, this recent research is problematic. Biggs (2020) argues that Turban *et al* (2020), without any measures of psychological problems prior to the study, cannot establish any causal connection between puberty blockers and reduction in suicidal thoughts. Second, Costa *et al* (2015) finds no statistically significant evidence that prescribing this therapy actually does increase global functioning (Biggs 2019).

[16] I'm grateful to Paul Hruz for conversation on this point.

5.2. Medical professionals can refuse to prescribe puberty blockers

Given this survey, in order to determine if it would be rational to prescribe PBs, one must consider both the medical utility of the intervention as well as the probability that the desired outcome occurs. To figure out if it is rational to prescribe PBs according to causal decision theory, the physician must assign values to the formula outlined earlier:

$$EU(A) = \sum_i U(A \,\&\, S_i)\, P(A \rightarrow S_i)$$

In other words, she must assign values to certain states coming about as well as the probability that such a state comes about as a result of that intervention.

First, I will argue that one can reasonably assign lower *medical utility* value to prescribing PBs to those who struggle with gender dysphoria than alternatives (e.g. psychological therapy). To see why, one must consider the medical utility of not prescribing PBs to adolescents. Call the act of prescribing the therapy $\neg A$ and the state of affairs of alleviating the dysphoria S_1. The physician then wants to assign a value to $(\neg A \,\&\, S_1)$, i.e. the medical utility of not prescribing PBs *and* the alleviation of dysphoria as a result. The physician then assigns some arbitrary value to the state of the dysphoria being alleviated without the prescription of PBs (but perhaps with other non-medical interventions). The physician must then assign some medical utility value to $(A \,\&\, S_1)$, i.e. the state of the individual's dysphoria being alleviated due to medical intervention. Notice that in both states the dysphoria is alleviated. Yet, this does not mean they ought to be assigned the same medical utility value. The medical utility is automatically lower for alleviation with PBs than without them due to the fact that PBs will detract from proper functioning. Since there is evidence that PBs have negative health side effects, one could very well assign a lower medical utility value to the state in which the individual's condition improves but at the expense of possible negative side effects than the state in which the individual's condition improves but without the risk of inducing any dysfunctional conditions. Such an assignment would also be appropriate due to the near guarantee of proper physiological functioning. As a result, one is free to assign a lower medical utility value to the state where the individual is relieved of gender dysphoria via PBs than the state where the individual is relieved of gender dysphoria without PBs (this conclusion corresponds to value of states x and y in Table 2, where $x < y$).

Now, onto the probability. If the research is as inconclusive as the present survey suggests, then clinicians can reasonably choose from a fairly large range of probability values according to RANGE in their decision to prescribe PBs. Given the current state of research, medical professionals can reasonably assign a low probability value to the effectiveness of prescribing PBs because recent studies have shown that such intervention may not result in any increase of psychological functioning (Carmichael *et al.* 2021). Since, further, there is emerging evidence that other interventions are just as or more effective (Costa *et al.* 2015; Becker-Hebly *et al.* 2021), alongside the fact that many individuals who struggle with gender dysphoria may become comfortable with his/her birth sex over time (Ristori and

TABLE 2.

MODEL DECISION VALUES FOR MEDICAL PROFESSIONALS AND GNRHAS.

	S_1 (Symptom alleviation)	$\neg S_1$ (No symptom alleviation)
A (Puberty blockers)	*X*	0
¬A (No puberty blockers)	*Y*	0

where $x < y$, 0 represents no change, A is the prescribing of PBs, and S_1 is an increase in medical utility. The boxes in the rightmost column are labeled 0 because, if there is no change in functioning, there is no medical utility of prescribing PBs. Symptom alleviation via puberty blockers (x), further, is less than symptom alleviation without puberty blockers (y) in terms of medical utility because the consequences of prescribing PBs almost certainly detract from physiological well-functioning. As some research suggests, it is also plausible that non-medical interventions are conducive to psychological well-functioning. If such interventions are taken, the medical utility value of y will increase. The low probability value of restoration of proper functioning assigned to prescribing PBs multiplied by the low medical utility value will yield a fairly low expected medical utility value. The consequence of this calculation is that the functional benefits of prescribing PBs will have to be significantly larger to outweigh the negative side effects.

Steensma 2016; Laidlaw *et al.* 2019; Richards *et al.* 2019), she can assign an equal or higher probability to the patient's functioning improving when she *does not* prescribe such therapies (all this added to the fact that there is very little evidence at all for the effectiveness of such therapy to begin with (Biggs 2022)). Perhaps social and familiar interventions are more effective without the negative dysfunctional effects. So, a medical professional can adopt the following utility values for her decision to refuse to prescribe PBs:

$$EU(A) = U(x)\ P(A \rightarrow S_1) + (0)\ P(A \rightarrow \neg S_1)$$

$$EU(\neg A) = U(y)\ P(\neg A \rightarrow S_1) + (0)\ P(\neg A \rightarrow \neg S_1)$$

where $U(x) < U(y)$ and $P(A \rightarrow S_1) \leq P(\neg A \rightarrow S_1)$. Given these value assignments, it is medically rational for this medical professional to *not* prescribe PBs. RATIONAL REFUSAL (RR) stated that, if it is medically rational for a clinician to not provide some service, then she can refuse to provide that service. Given RR and the assigned values, medical professionals should be allowed to refuse to prescribe PBs.[17]

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[17] Notice, given my account, it does not follow from a clinician's being rational when she does not prescribe PBs that another clinician is *irrational* if she *does* prescribe such therapy. Given RANGE and the inconclusiveness of studies to date, another clinician may perfectly well assign a higher probability value to PBs alleviating dysphoria. She may cite those studies that suggest PBs are conducive to well-functioning. Thus, given RANGE and some relevant data suggesting that PBs contribute to well-functioning, a clinician can be rational when she does prescribe PBs. The flexibility provided by my account, I believe, effectively captures a range of actions clinicians can pursue in an area of medicine where results are still inconclusive or conflicting.

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