GENDER-AFFIRMATIVE CARE: A DATA-DRIVEN REVIEW OF RELEVANT ACADEMIC LITERATURE

Written By:

Riley Grace Roshong, Dual J.D./M.P.P. Candidate, University of Maryland

Justin Gibson, M.S., University of Kentucky

Elton Högklint, B.S. Candidate, University of Amsterdam

Scott Oatley, Ph.D. Candidate, University of Edinburgh

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Eric Luedtke, Chief Legislative Officer for the Moore-Miller Administration

Connor Shinn, Policy Advisor for Wes Moore, Governor of Maryland

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Contact: rileygraceroshong@gmail.com

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EXECUTIVE SUMMARY

A. Problem Statement

Gender-affirmative (GAC) care for transgender people has become a major focus of recent legislative efforts. Opponents to LGBT+ rights commonly focus on this as a culture war issue to argue that doctors are surgically mutilating children and that transgender people are mentally ill. While proponents of LGBT+ rights are often able to recognize that this is part-and-parcel for untrustworthy anti-LGBT+ propaganda, they often lack the resources to push back.

Part of this has to do with a lack of infrastructure. At the federal level of government, legislators can enlist the help of the Library of Congress and/or the Office of Government Accountability to weigh in on complicated political issues with authoritative academic literature. State-level governments often lack the infrastructure to call upon a similar entity to provide comprehensive and unbiased research on topics of interest. Consequently, state-level legislators often have to turn to interest groups to provide the information they need. Unfortunately, many of these groups are primarily motivated by an interest in furthering their missions–not necessarily by an interest in the truth–so much of their research is done by lobbyists who do not have training or backgrounds in academia.

This is why earlier in 2022, the Yale School of Medicine's Dean's Advisory Council on Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Affairs had to intervene. With so many states currently attempting (and sometimes succeeding) to restrict access to GAC based on rampant misinformation, the Yale School of Medicine created and submitted reports responding to some of the most blatant examples of misinformation, including the 2022 Opinion by Texas Attorney General Ken Paxton[1] and the 2022 Florida Medicaid Report.[2] While these are great summaries and responses to the most blatant misinformation on GAC, they are not great resources to advise states who want to *help* transgender people access GAC.

That is what this report seeks to do. By conducting: (1) a comprehensive legislative analysis that determined the primary arguments and themes that witnesses focused on in previous legislation, and (2) a subsequent review of the relevant academic literature and scientific evidence on those arguments, the following report summarizes the academic literature on the most relevant subjects related to GAC for transgender people. Using this information, we make recommendations for states who want to help this population.

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[1] Susan Boulware et al., *Biased Science in Texas & Alabama*, Yale School of Medicine (2022), https://medicine.yale.edu/lgbtqi/research/gender-affirming-care/biased-science/ (last visited Feb 9, 2023).

[2] Anne Alstott et al., *Flawed Medicaid Report in Florida*, Yale School of Medicine, https://medicine.yale.edu/lgbtqi/research/gender-affirming-care/florida-medicaid/ (last visited Feb 9, 2023).

B. Summary of Legislative Analysis

GAC is a highly partisan issue. Republicans introduced nearly all the bills that would reduce access to GAC during the 2022 legislative session in majority-Republican legislatures. Conversely, Democrats introduced nearly all the bills that would increase access to GAC in majority-Democratic legislatures.

Legislators introduced 53 bills in 2022 that would either increase or decrease access to GAC. The majority of these bills (66%) sought to reduce access to GAC. But, only 5.7% of the bills that would decrease access to GAC were signed into law. Comparatively, the bills that would increase access to GAC were signed into law 16.5% more often, for a total of 22.2%.

Only 4.5% of witnesses who submitted written testimony in Maryland last year opposed expanding access to GAC. This is likely because Maryland has a supermajority-Democratic legislature, which may discourage opponents from testifying. We analyzed written testimony from a bill which took an opposite stance on the same issue in Ohio to better account for opponent views.

Within the data from Maryland and Ohio, it was 29.3% more common for medical or scientific experts to testify in favor of expanding access to GAC. But, it was 3.5% more common for witnesses who testified against expanding access to GAC to cite peer-reviewed sources or books from reputable publishers. This suggests that while it was more common for opponents to expanding access to GAC to cite peer-reviewed literature, it was less likely that those witnesses had the relevant expertise to fully understand and/or explain those sources. It was also more than twice as common for witnesses who either currently or formerly identified as transgender to testify in favor of expanding access to GAC.

The two subjects that proponents and opponents discussed in their written testimony the most overall were: (1) the Effects of Gender-Affirmative Care on Mental and Physical Health (which witnesses discussed the most overall, appearing in 84.7% of all the written testimony), and (2) the Modern Medical Standards for Gender-Affirmative Care (which witnesses discussed the second-most overall, appearing in 70.4% of all the written testimony). Otherwise, proponents and opponents tended to focus either minimally on similar subjects or on completely different subjects altogether.

Notably, the three main subjects that opponents focused on in their written testimony were: (1) the Capability of Transgender Youth to Provide Informed Consent (which was discussed in 90.0% of opponent testimony); (2) Satisfaction, Regret, & Reversibility of Gender-Affirmative Care (which was discussed in 86.7% of opponent testimony); and (3) Whether Being Trans is an Intrinsic Quality (which was discussed in 83.3% of opponent testimony). While opponents primarily focused on the application of GAC to transgender youth,

many of their arguments extend beyond youth to also apply to transgender adults. It is therefore reasonable to infer that many opponents of expanding access to GAC are ultimately interested in criminalizing access to all forms of GAC, regardless of age.

C. Summary of Literature Review

This report summarizes the current state of the academic literature on each subject that we identified. We summarize our findings below, which are best incorporated into either a bill and/or an executive order in the following format:

WHEREAS, Overall, the current academic literature on Gender-Affirmative Care (GAC) shows that: (1) GAC has very positive effects on the mental health of transgender people and successfully alleviates their gender dysphoria; (2) GAC has few or no negative effects on physical health; and (3) any side effects that do exist are typically offset by an overall higher quality of life.

WHEREAS, The World Professional Organization for Transgender Health (WPATH) Standards of Care (SoC) for the Health of Transgender and Gender Diverse People have been subject to rigorous peer review and widely used as the medical standards of care for transgender people for decades.

WHEREAS, GAC is medically-necessary healthcare because: (1) it is administered for the treatment of gender dysphoria or gender incongruence pursuant to the ICD-11; (2) it is administered consistent with the WPATH SoC; and (3) transgender patients who pursue GAC are assessed by medical professionals who meet the requirements set out by the WPATH SoC.

WHEREAS, Transgender people are often unable to access GAC due to: (1) costs, (2) lack of available providers, (3) lack of provider training, and (4) discrimination by providers.

WHEREAS, Overall, the current literature shows that: (1) not all forms of GAC are irreversible, and (2) that transgender people are generally satisfied with the GAC they receive. To the extent that GAC causes sterility, transgender people can still achieve reproduction by pursuing fertility cryopreservation before beginning GAC.

WHEREAS, GAC is also important to alleviate the minority stress faced by

transgender people as a highly stigmatized and discriminated minority, which can have a significant impact on other areas of their life such as reducing their risk of suicide and increasing their overall well-being.

WHEREAS, While transgender identity was historically regarded as a mental disease or defect, this is now out-of-date with current medical practice which regards transgender identity as an intrinsic quality, due in part to several factors: (1) the historic failure of Gender Identity Change Efforts (GICE), (2) the growing body of literature suggesting a biological basis for gender identity, and (3) the World Health Organization (WHO) now classifying gender dysphoria as a physical condition by recognizing that affirming transgender conceptions of one's body leads to the best health outcomes for transgender people.

WHEREAS, Medical intervention is not recommended under the WPATH SoC until adolescence (i.e., the beginning of puberty) and is only recommended for adolescents who–along with their parents or guardians–are able to demonstrate to a medical professional that they are capable of providing informed consent. Current academic literature demonstrates also that transgender adolescents are capable of providing informed consent to receive GAC.

WHEREAS, Current literature demonstrates that the costs associated with expanding access to GAC for state Medicaid programs are minimal.

WHEREAS, The quality of peer-reviewed evidence used to make recommendations on GAC is of comparable quality to evidence used to make other similar forms of healthcare recommendations.

WHEREAS, Off-label medications (such as puberty blockers) are already used by many medical professionals to safely and effectively treat children in a wide variety of medical practices.

WHEREAS, There is no consistent or credible basis for the argument opponents commonly make that there are high "desistance" rates of transgender youth identifying as cisgender later in life, and most current literature shows the opposite: that transgender youth who

strongly identify with the opposite sex earlier in life are very likely to continue identifying as transgender later in life.

WHEREAS, Pursuant to Section 1557 of the Affordable Care Act, failing to provide comprehensive GAC could result in HHS withholding federal funds, especially once the Biden Administration rule is finalized.

D. Summary of Recommendations

We recommend that an administration that wants to act on this information issue an executive order that accomplishes two things: (1) affirms that their state is safe for transgender people to move to and pursue GAC, and that transgender people who visit their state to receive GAC from states which criminalize that care–as well as in-state providers who serve them–will not be subject to criminal punishment; and (2) reaffirms and recognizes the current academic literature on GAC.

We also recommend signing legislation to bring state Medicaid coverage in-line with modern medical standards for GAC. This can be accomplished by signing legislation that either: (1) directs the state Department of Health (DoH) to promulgate a rule to expand coverage for GAC based on the current WPATH SoC; or (2) directly incorporates specific forms of GAC into state Medicaid coverage that are in-line with the current WPATH SoC. Proponents will tend to favor the latter option since there is concern that deferring to an agency may mean that not everything that is considered as medically necessary under WPATH will be covered under Medicaid. We prefer the former option because it gives a longer shelf life to any signed legislation since you can direct the DoH to promulgate a new rule whenever WPATH releases a new SoC.

Finally, we would recommend the creation of a fund to increase the number of healthcare professionals that provide GAC. This fund would increase the number of healthcare professionals that provide GAC by funding two kinds of training through public-private partnerships: (1) training by qualified medical professionals so that interested clinics' practices are in-line with modern medical standards for GAC; and (2) training by LGBT+ community organizations on best practices for treating and interacting with transgender patients to help them feel affirmed and encourage them to seek medical care. We also may recommend pursuing legislation in the future which would reevaluate state law for when a transgender adolescent could pursue GAC when transphobic or otherwise unaccepting parents object to the provision of that care despite the recommendation(s) of healthcare professionals. This is something we wish to research and discuss more in a future version of this report.

I. GENDER-AFFIRMATIVE CARE, LEGISLATIVE ANALYSIS

A. Methods for Collecting Nationwide Data

Since legislative trackers are normally maintained by either one or a handful of employees, we used several of the most comprehensive LGBT+ legislative trackers to triangulate all the legislation that was introduced during the 2022 legislative session related to GAC. The legislative trackers we used include:

- The National Center for Transgender Equality (NCTE) State Action Center[3]
- The American Civil Liberties Union (ACLU) Legislative Tracker[4]
- The Freedom for All Americans LGBTQ Legislative Tracker[5]
- The Equality Federation State Legislation Tracker[6]

We looked through each legislative tracker and identified each bill that would either: (1) increase access to GAC (ex: through increasing state Medicaid coverage for GAC), or (2) decrease access to GAC (ex: through criminalizing some or all access to GAC). After identifying all the legislation that was introduced last year on this issue, we collected general data on each bill that included: (1) what state the bill was introduced in; (2) the majority party of the legislature that the bill was introduced in; (3) what the party(s) of the sponsor(s) of the bill was; (4) whether the bill would either expand or reduce access to GAC; (5) the bill's current status (which included: (a) whether the bill was passed by the legislature and signed by the governor into law, (b) whether the bill was passed by the legislature but is waiting to be signed by the governor, (c) whether the bill is still in committee, or (d) whether the bill is dead); and (6) whether the state legislature website has online records of written and/or testimony for that bill. This data can be accessed below, along with the other data we collected for our legislative analysis.[7]

B. Descriptive Statistics, Nationwide Data

Legislators introduced 53 bills during 2022 in state legislatures that would either expand or reduce access to GAC. 35 (or 66.0%) of these bills sought to reduce access to GAC. 18 (or 34.0%) of these bills sought to increase access to GAC.

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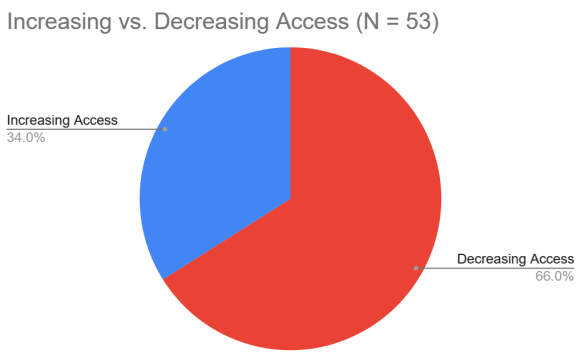
[3] State Action Center, National Center for Transgender Equality (2021), https://transequality.org/state-action-center (last visited Feb 9, 2023).

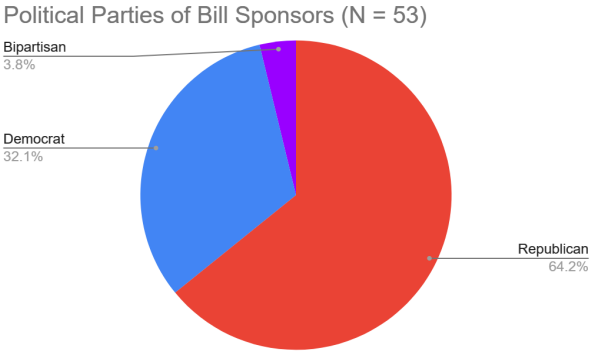
[4] Mapping Attacks on LGBTQ Rights in U.S. State Legislature, American Civil Liberties Union, https://www.aclu.org/legislative-attacks-on-lgbtq-rights (last visited Feb 9, 2023).

[5] Legislative Tracker, Freedom for All Americans, https://freedomforallamericans.org/legislative-tracker/ (last visited Feb 9, 2023).

[6] State Legislation, Equality Federation, https://www.equalityfederation.org/state-legislation (last visited Feb 9, 2023).

[7] Riley Roshong, Justin Gibson & Scott Oatley, *Gender-Affirmative Care 2022 Legislative Data*, Google Docs, https://docs.google.com/spreadsheets/d/18tPiFgOZ84cVlwSm02XaxBPYSivT_K7Kfa00Fh3t4Xc/edit?usp=sharing (last visited Feb 9, 2023).





Our nationwide data findings on final legislative outcomes are listed in Table 1. 43 (or 81.1%) of the 53 bills died. This includes 31 (or 88.6%) of the 35 bills that would have reduced access to GAC and 12 (or 66.7%) of the 18 bills that would have increased access to GAC.

6 (or 11.3%) of the 53 bills were signed by their state governor and passed into law. This includes 2 (or 5.7%) of the 35 bills that sought to reduce access to GAC (which were in Alabama (SB0184)[8] and Arizona (SB1138)) and 4 (or 22.2%) of the 18 bills that sought to increase access to GAC (which were in California (AB2521, SB0107, and SB0923) and Hawaii (SB2405)).

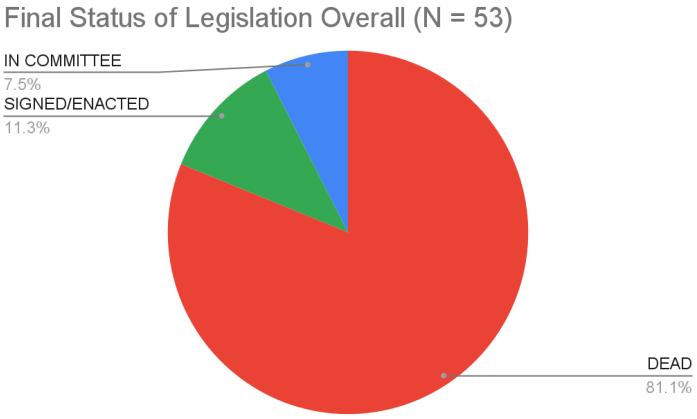
4 (or 7.5%) of the 53 bills are still in committee. This includes 2 (or 5.7%) of the 35 bills that sought to reduce access to GAC (which are in North Carolina (SB0514) and Ohio (HB0454)) and 2 (or 11.1%) of the 18 bills that sought to increase access to GAC (which are both in New Jersey (A3146/S1168 and S1494).

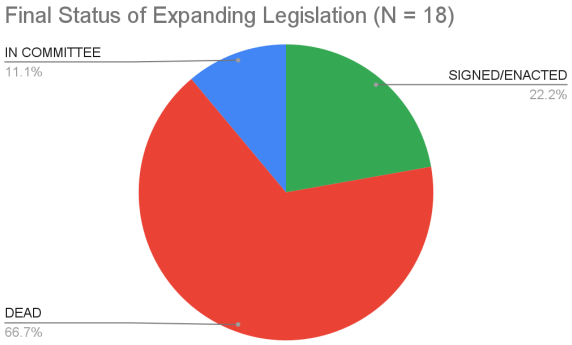
Table 1. Nationwide Legislative Data

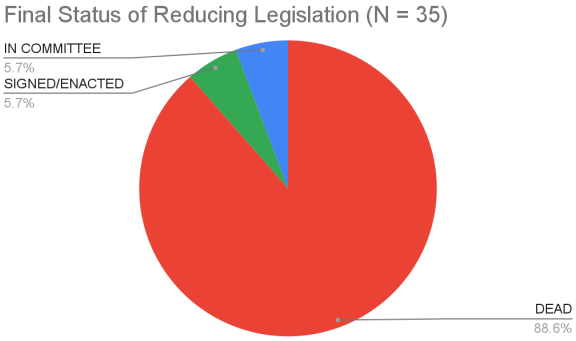
Bill Status	Pro-GAC (N = 18)	Anti-GAC (N = 35)	Overall (N = 53)
Dead	12 (**66.7%**)	31 (**88.6%**)	43 (**81.1%**)
Signed Into Law	4 (**22.2%**)	2 (**5.7%**)	6 (**11.3%**)
Still In Committee	2 (**11.1%**)	2 (**5.7%**)	4 (**7.5%**)

Color Categories: 0.01% - 30.0%; 30.01% - 60.00%; 60.01% - 99.99%

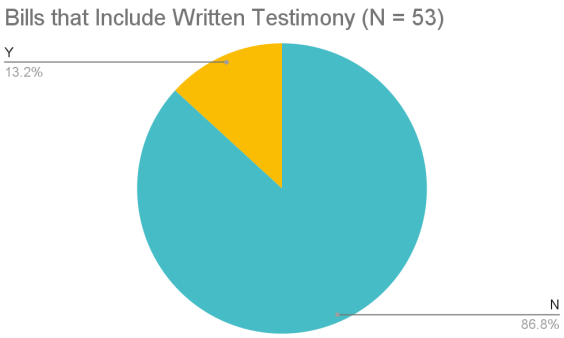
[8] A federal judge has blocked this law, arguing that there is a substantial likelihood that the law violates the Equal Protection Clause. *Eknes-Tucker et al. v. Marshall*, 2022 WL 1521889 (M.D. Ala. May 13, 2022).

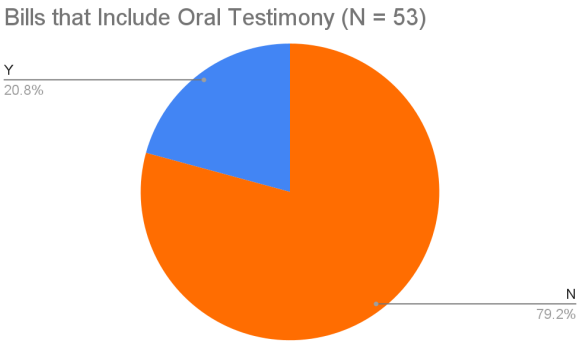






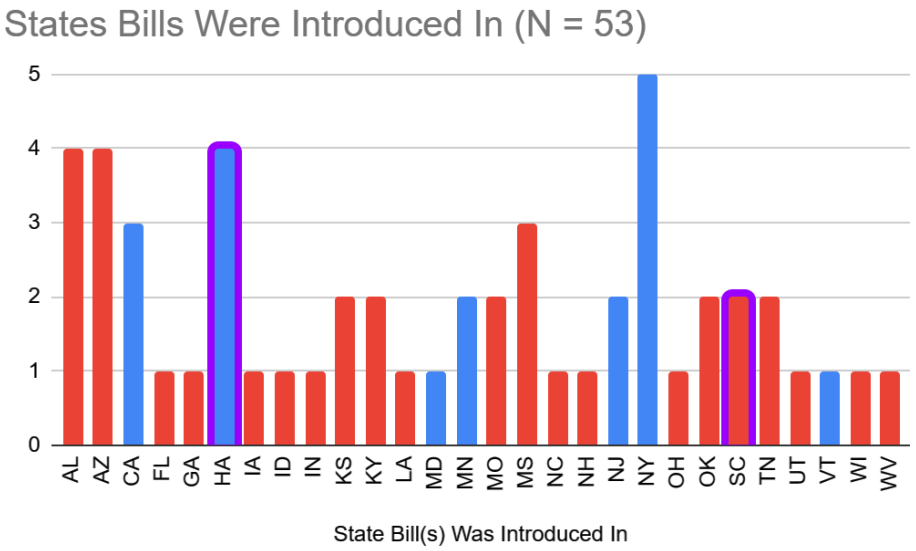
Only 7 (or 13.2%) of the 53 bills have online records of written testimony on their state legislature websites, and only 11 (or 20.8%) of the 53 bills have online records of oral testimony available on their state legislature websites. Of all 53 bills, only 6 (or 11.3%) have online records of both written and oral testimony available on their legislature websites. These bills were in three states: Maryland (HB0746/SB0682), Ohio (HB0454), and Hawaii (HB0285, HB2405, SB0752, and SB2835).





C. Discussion of Nationwide Data

All the bills that sought to reduce access to GAC were introduced in majority-Republican legislatures, whereas all of the bills that sought to increase access to GAC were introduced in majority-Democratic legislatures. Moreover, only one Democrat co-sponsored legislation that sought to reduce access to GAC (SC HB4047) and only one Republican co-sponsored legislation that sought to increase access to GAC (HA HB2405). This is represented in the graph below and tells us that this issue is highly partisan.



Despite the fact that all the legislation that sought to reduce access to gender-affirming care was introduced in majority-Republican legislatures, very few of those bills were signed into law. This tells us that–although every bill reducing access to GAC was introduced by a Republican–many Republicans do not agree with these policies. Comparatively, the bills that sought to increase access to GAC were signed into law 16.5% more often than those that sought to decrease access to GAC. This tells us that there has been more success convincing Democratic legislators to support increasing access to GAC (though they still need convincing).

Most records maintained on state legislature websites of their oral and/or written testimony for these bills are either poor or nonexistent. Fortunately, Maryland has some of the highest-quality records of both written and oral testimony on its bill from last year available on its state legislature website. This gives us a comprehensive source of data on the kinds of witnesses, evidence, and arguments presented to support expanding access to GAC. Unfortunately (for research purposes), there was very little testimony submitted by witnesses who did not support expanding access to GAC in Maryland (more specific data on this below). This means that the written testimony submitted in Maryland is insufficient to give us an

adequate understanding of the kinds of witnesses, evidence, and arguments that opponents make on this issue. The only legislation introduced during the past year that sought to reduce access to GAC and that has online records of both written and oral testimony available on its state legislature website is HB0454 from Ohio. For the purposes of this project, we will use the written testimony submitted in Ohio as a supplement so we can better account for the kinds of witnesses, evidence, and arguments that are cited by opponents to expanding access to GAC.

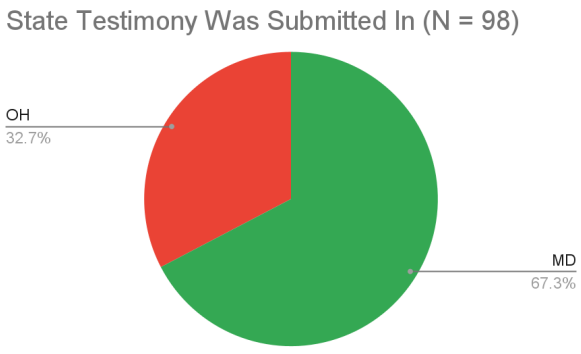
D. Descriptive Statistics, Written Testimony Data

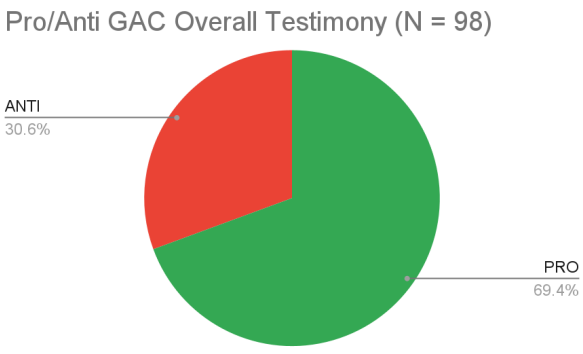
Our findings on the positions of witnesses who submitted written testimony in Maryland and Ohio on whether to increase or decrease access to GAC are reported below in Table 2. 98 witnesses submitted written testimony on the bills in Maryland and Ohio last year. 66 (or 67.3%) of those witnesses submitted testimony in Maryland and 32 (or 32.7%) of those witnesses submitted written testimony in Ohio. 63 (95.5%) of the 66 witnesses that submitted written testimony in Maryland testified in favor of expanding access to GAC and 3 (4.5%) of the 66 witnesses were not in favor. 27 (84.4%) of the 32 witnesses that submitted written testimony in Ohio testified in favor of reducing access to GAC and 5 (15.6%) of the 32 witnesses were not in favor.

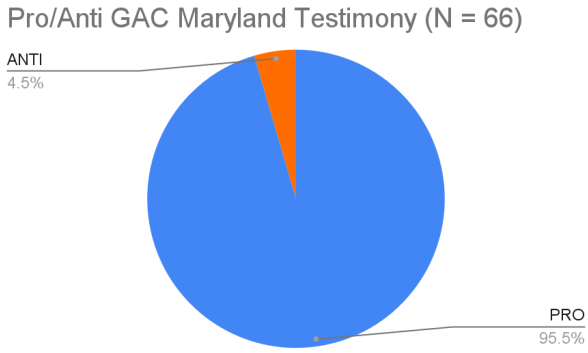
Table 2. Written Testimony Position Data

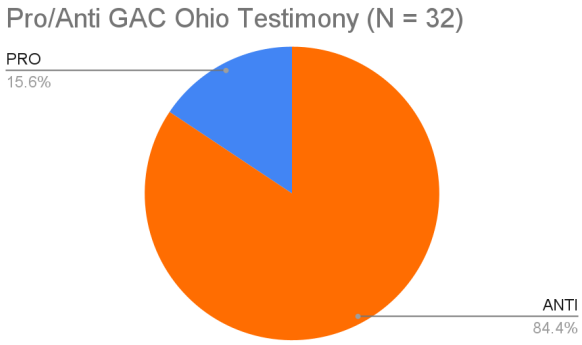
Position	MD HB0746/SB0682 (N = 66) (**67.3%**)	OH HB0454 (N = 32) (**32.7%**)	Total (N = 98)
Pro-GAC	63 (**95.5%**)	5 (**15.6%**)	68 (**69.4%**)
Anti-GAC	3 (**4.5%**)	27 (**84.4%**)	30 (**30.6%**)

Color Categories: 0.01% - 30.0%; 30.01% - 60.00%; 60.01% - 99.99%









This means that the majority of witnesses in each state took opposite stances on GAC. The reasons for this are likely that: (1) the Maryland General Assembly is a supermajority Democratic body, whereas the Ohio State Legislature is a majority Republican body, and (2) witnesses were probably more inclined to submit testimony that aligned in substance with their personal positions on GAC.

Since this issue is highly partisan, witnesses who would not want to increase access to GAC may be discouraged from testifying in a majority-Democratic legislature, and vice-versa. This is important because it may suggest that at least some Maryland voters share some of the positions that are raised by the witnesses who testified in Ohio and that we may not see those positions represented in the written testimony that was submitted in Maryland because detractors were disincentivized from participating. This creates a substantial risk for populist political outsiders to potentially capitalize on a voting population that feels alienated from the current political establishment.

E. Expertise & Evidence, Qualitative Data Analysis

Our findings on the credibility of witnesses who submitted written testimony in Maryland and Ohio are reported below in Table 3. To collect this data, we created and utilized the following categories to measure how credible a witness's written testimony is in certain respects:

- **Medical/Scientific Expert**: If the witness in the testimony: (a) has a relevant medical or scientific degree, (b) has first-hand experience providing relevant medical treatment, or (c) is representing an organization that is explicitly medical or scientific in nature and that engages primarily in medical or scientific work.
- **Cited Peer-Reviewed Sources or Books from Reputable Publishers**: If the testimony includes citations to either: (a) peer-reviewed sources, or (b) books from reputable publishers.
- **Legal Expert**: If the witness in the testimony: (a) has a law degree, or (b) is representing an organization that is explicitly legal in nature and engages in primarily legal work.

- **Cited Legal Sources**: If the testimony includes explicit citations to: (a) statutes, (b) court decisions, (c) administrative law, (d) legislation, (e) legal briefs, or (f) law review articles.
- **Trans-Identified or Former Trans-Identified Witness**: If the testimony includes any indication that the witness has previously identified as transgender.
- **Cited Other Sources**: If the testimony includes any citations that are not included in the previous categories.

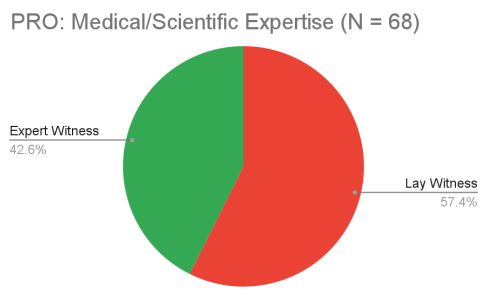
Table 3. Expertise & Evidence Data

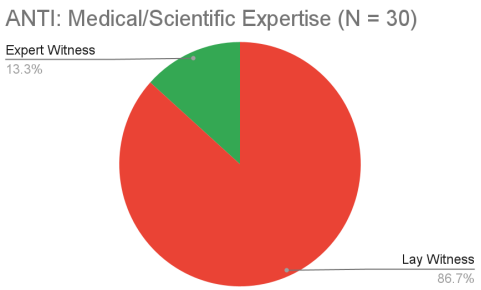
Type of Data	Pro-GAC (N = 68)	Anti-GAC (N = 30)	Total (N = 98)
Medical/Scientific Expert	29 (**42.6%**)	4 (**13.3%**)	33 (**33.7%**)
Cited Peer-Reviewed Sources or Books from Reputable Publishers	18 (**26.5%**)	9 (**30.0%**)	27 (**27.6%**)
Legal Expert	7 (**10.3%**)	2 (**6.7%**)	9 (**9.2%**)
Cited Legal Sources	8 (**11.8%**)	5 (**16.7%**)	13 (**13.3%**)
Trans-Identified or Former Trans-Identified Witness	19 (**27.9%**)	4 (**13.3%**)	23 (**23.5%**)
Cited Other Sources	22 (**32.4%**)	11 (**36.7%**)	33 (**33.7%**)

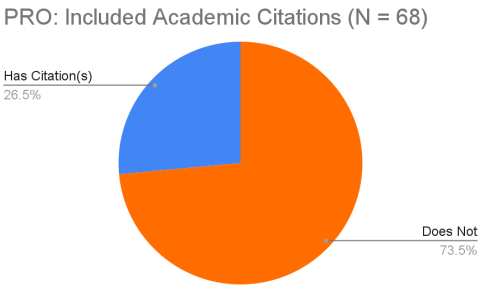
Color Categories: 0.01% - 17.00%; 17.01% - 34.00%; 34.01% - 50.00%

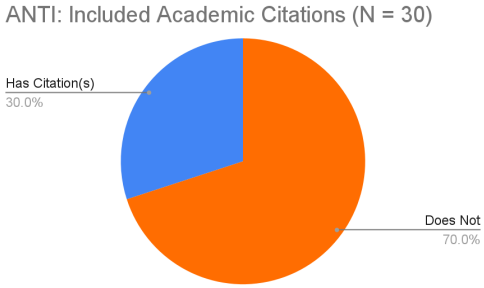
F. Discussion, Expertise & Evidence Qualitative Data Analysis

We found that it was 29.3% more common for medical or scientific experts to testify in favor of expanding access to GAC. But, it was 3.5% more common for witnesses who testified against expanding access to GAC to cite peer-reviewed articles or books from reputable publishers. This suggests that while it was slightly more common for witnesses who were against expanding access to GAC to cite peer-reviewed literature or books from reputable publishers, it was less likely that evidence was cited by witnesses with the requisite expertise to fully understand and explain those sources.



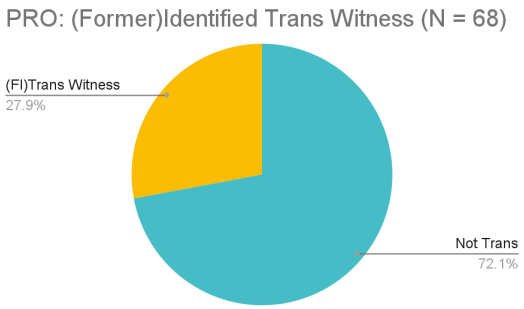


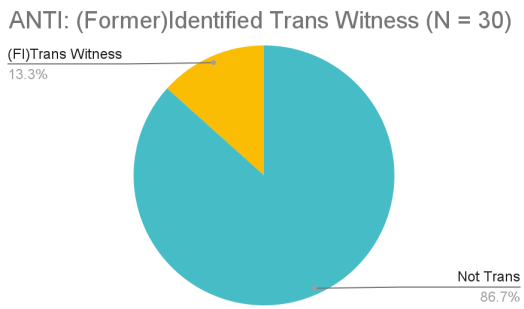




We also found that it was 3.6% more common for legal experts to testify in favor of expanding access to GAC. But, it was 4.9% more common for witnesses who testified against expanding access to GAC to cite legal sources. This similarly suggests that while it was more common for witnesses who were against expanding access to GAC to cite legal sources, it was less likely that evidence was cited by witnesses with the requisite expertise to fully understand and explain those sources.

Finally, we found that it was 14.6% more common for witnesses who either currently identified as transgender or formerly identified as transgender to testify in favor of expanding access to GAC. People who either currently or previously identified as transgender constituted 27.9% of all the witnesses who testified in favor of expanding access to GAC, which is more than double the 13.3% of the witnesses who either currently or previously identified as transgender who opposed expanding access to GAC. This is especially significant considering that this is the population of witnesses who are most directly affected by this issue.





G. Methods for Collecting Written Testimony Subject Matter Data

Riley Roshong and Justin Gibson collectively read through every piece of written testimony from MD HB0746/SB0682 and OH HB0454 and developed and utilized categories for determining whether certain language in written testimony was making an argument on a certain subject (ex: whether someone was making an argument on the effects of GAC on mental and physical health). Then, after one researcher read through the testimony and made an evaluation of whether certain testimony focused on certain subjects or not, the other would go through the same testimony to indicate whether they agreed with the initial assessment. If the other researcher did not agree with the initial assessment, they would mark it as such on the data sheet to indicate to whoever initially reviewed the testimony to review it again. If the initial researcher re-reviewed the data entry and still did not agree with the second researcher's assessment, then they marked to indicate that the two of them are in mutually-understood disagreement on that data entry. Lastly, both researchers discussed each mutually-understood disagreement on the data sheet to see if we could come to agreements on how to categorize the testimony data entries.

At the end of our qualitative analysis, both researchers only had mutually-understood disagreements on 4 data entries. The standard for inter-reviewer reliability is to agree on more than 70% of assessments, so we are meeting industry standards for internal validity. We also did not review data entries for when one of us believed that written testimony did not make an argument on a certain subject. This was for two reasons: (1) it saved us time, since this would otherwise have required each of us to read through the entirety of every piece of written testimony (compared to only reading the excerpts the initial researcher pulled from the testimony to justify their data entries), and (2) it would mean that our results are more cautious since there may be some data entries where we say that a certain witness did not make an argument on a certain subject when they either did or were trying to. This increases the certainty of our categorizations.

H. Qualitative Analysis & Results, Subject Matter

We created and utilized categories for the 18 subjects that witnesses made arguments on in their written testimony either in favor or against expanding access to GAC.[9] These subject matter categories are derived from the arguments that proponents and opponents primarily made on that subject and how often those subjects were discussed in proponent and opponent written testimony. Our findings are reported below, as well as in Tables 4 and 5. Results are organized below by how often witnesses discussed the subjects in written testimony overall:

[9] It should go without saying that these do not reflect the perspectives of the researchers on this project. These are meant to accurately capture the perspectives of the witnesses who testified on the bills we analyzed.

- **Effects of Gender-Affirmative Care on Mental and Physical Health** [**84.7%** | **1st Overall**]
    - **Pro-GAC** [**88.2%** | **1st**]: If GAC increases mental and/or physical well-being, then we should increase access on that basis.
    - **Anti-GAC** [**76.7%** | **4th**]: If GAC either does nothing or decreases mental and/or physical well-being, then we shouldn't increase access on that basis.

- **Modern Medical Standards for Gender-Affirmative Care** [**70.4%** | **2nd Overall**]
    - **Pro-GAC** [**70.6%** | **4th**]: If current Medicaid coverage for GAC is out of line with modern medical standards of care, then we should increase access on that basis to bring it into alignment.
    - **Anti-GAC** [**70.0%** | **5th**]: If current Medicaid coverage for GAC is out of line with modern medical standards of care, then we should not increase access on that basis because modern standards are bad/biased/etc. and we should reject them (ex: due to financial incentive).

- **Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.)** [**59.2%** | **3rd Overall**]
    - **Pro-GAC** [**79.4%** | **3rd**]: If covering GAC is in-line with at least one (alleged) purpose of Medicaid (ex: ensuring equitable access to medically-necessary healthcare, increasing bodily autonomy, etc.), then we should increase access to it on that basis.[10]
    - **Anti-GAC** [**13.3%** | **10th (TIE)**]: If covering GAC is not in-line with at least one (alleged) purpose of Medicaid (ex: ensuring access to medically-necessary healthcare, increasing bodily autonomy, etc.), then we should not increase access to it on that basis.

- **Cost & Similar Barriers to Gender-Affirmative Care** [**58.2%** | **4th Overall**]
    - **Pro-GAC** [**83.8%** | **2nd**]: If trans people cannot access GAC on their own due to cost or other similar barriers, then we should increase access to it on that basis.
    - **Anti-GAC** [**0.0%** | **18th**]: If trans people either can or should pay for GAC, then we should not increase access to it on that basis.

[10] The purpose of this language is to capture the fact that some witnesses seemed to assert different purposes of Medicaid coverage. For example, many witnesses discussed the importance of bodily autonomy in relation to expanding access to Medicaid. We will discuss this more in a later section.

- **Satisfaction, Regret, & Reversibility of Gender-Affirmative Care** [**44.9%** | **5th Overall**]
    - **Pro-GAC** [**26.5%** | **8th**]: If trans people are generally satisfied with GAC and/or the effects of GAC are generally reversible, then we should increase access to it on that basis.
    - **Anti-GAC** [**86.7%** | **2nd**]: If trans people are generally unsatisfied with GAC or otherwise regret receiving that care and the effects of GAC are generally irreversible, then we should not increase access to it on that basis.

- **Minority Stress & Effects of Gender-Affirmative Care on How Trans People are Treated in Society** [**42.9%** | **6th Overall**]
    - **Pro-GAC** [**57.4%** | **5th**]: If GAC helps trans people to be treated better in society–which is relevant for healthcare purposes since it can alleviate minority stress that arises from discrimination–then we should increase access on that basis.
    - **Anti-GAC** [**10.0%** | **13th**]: If GAC either doesn't impact how trans people are treated in society or makes them worse off, then we shouldn't increase access on that basis.

- **Other States/Health Insurance Policies on Gender-Affirmative Care** [**36.7%** | **7th Overall**]
    - **Pro-GAC** [**45.6%** | **6th**]: If other forms of health insurance cover types of GAC that we do not, then we should increase Medicaid coverage on that basis.
    - **Anti-GAC** [**16.7%** | **9th**]: Either: (1) other forms of health insurance don’t cover GAC, so we shouldn't increase Medicaid coverage on that basis, or (2) other forms of health insurance are wrong to cover it, so we shouldn't increase coverage on that basis.

- **Whether Being Trans is an Intrinsic Quality** [**32.7%** | **8th Overall**]
    - **Pro-GAC** [**10.3%** | **13th**]: If being trans is an intrinsic quality, we should increase access to GAC on that basis to make it easier for people to live as trans since it is impossible for them to be cis.
    - **Anti-GAC** [**83.3%** | **3rd**]: If being trans is not an intrinsic quality–whether due to "social contagion," some other form of pathologization, or "grooming"–then not only is it unnecessary to expand access to GAC on that basis, but gender identity change efforts (GICE) are also justified.

- **Capability of Trans Youth to Provide Informed Consent** [**31.6%** | **9th Overall**]
    - **Pro-GAC** [**5.9%** | **14th**]: If trans youth are mentally capable of providing informed consent for certain forms of GAC, then we should increase access to it on that basis to the extent they can provide informed consent.
    - **Anti-GAC** [**90.0%** | **1st**]: If trans youth are not mentally capable of providing informed consent for any forms of GAC, then we should not increase access to it on that basis.

- **Costs of Medicaid Expansion for the Government** [**29.6%** | **10th Overall (TIE)**]
    - **Pro-GAC** [**39.7%** | **7th**]: If covering GAC is affordable overall and/or worth the cost, then we should increase access to it on that basis.
    - **Anti-GAC** [**6.7%** | **14th (TIE)**]: If covering GAC is expensive overall and/or not worth the cost, then we should not increase access to it on that basis.

- **Quality of Evidence Concerning Gender-Affirmative Care** [**29.6%** | **10th Overall (TIE)**]
    - **Pro-GAC** [**17.6%** | **11th**]: If the prevailing evidence on GAC is of high enough quality that we should be able to trust it, then we should rely on it to justify expanding access to GAC.
    - **Anti-GAC** [**56.7%** | **6th**]: If the prevailing evidence on GAC is not high enough quality that we should be able to trust it, then we should not rely on it to justify expanding access to GAC because to do so would be "experimentation."

- **State Role in Overseeing the Wellbeing of Trans Youth** [**18.4%** | **12th Overall**]
    - **Pro-GAC** [**13.2%** | **12th**]: If either: (1) it is the role of the state to oversee the wellbeing of trans youth in the event that parents are incapable of acting in their best interest, or (2) if medical decisions should be left between patients and their doctors, then we should increase access to GAC on that basis.
    - **Anti-GAC** [**30.0%** | **8th**]: If either: (1) it is not the role of the state to oversee the wellbeing of trans youth in the event that parents are incapable of acting in their best interests, or (2) the state should interfere between medical decisions between patients and doctors, then we should not increase access to GAC on that basis.

- **Position of the FDA** [**17.3%** | **13th Overall**]
    - **Pro-GAC** [**19.1%** | **9th (TIE)**]: If the FDA approves of GAC (and/or authorizes its reimbursement), then we should increase access to it on that basis.
    - **Anti-GAC** [**13.3%** | **10th (TIE)**]: If the FDA does not approve of GAC (and/or does not authorize its reimbursement), then we should not increase access to it on that basis.

- **Coverage for Non-Binary Trans People** [**14.3%** | **14th Overall (TIE)**]
    - **Pro-GAC** [**19.1%** | **9th (TIE)**]: Current Medicaid coverage does not cover GAC for non-binary trans people, so we should increase access to GAC on that basis.
    - **Anti-GAC** [**3.3%** | **16th (TIE)**]: Either: (1) only binary trans people are valid, so we should not increase access to include coverage for non-binary trans people on that basis; or (2) no trans people are valid–especially non-binary people–so we should not increase access to GAC at all on that basis.

- **Desistance & Detransition Rates of Transgender Youth** [**14.3%** | **14th Overall (TIE)**]
    - **Pro-GAC** [**1.5%** | **17th**]: If desistance and/or detransition rates of transgender youth are relatively low, then that should not be a basis to deny increasing access to permanent forms of GAC.
    - **Anti-GAC** [**43.3%** | **7th**]: If desistance and/or detransition rates of transgender youth are relatively high, then that should be a basis to deny increasing access to permanent forms of GAC.

- **Federal & State Law Applications to Gender-Affirmative Care** [**6.1%** | **16th Overall**]
    - **Pro-GAC** [**2.9%** | **15th (TIE)**]: If it is legally permissible to expand access to GAC, then this should not be an objection to expanding access to it under Medicaid.
    - **Anti-GAC** [**13.3%** | **10th (TIE)**]: If it is not legally permissible to expand access to GAC, then this should be an objection to expanding access to it under Medicaid.

- **Coverage for Cis People** [**4.1%** | **17th Overall**]
    - **Pro-GAC** [**2.9%** | **15th (TIE)**]: If forms of GAC are already covered under Medicaid for cis people, then we should increase access to that same care for trans people.
    - **Anti-GAC** [**6.7%** | **14th (TIE)**]: If forms of GAC are not already covered under Medicaid for cis people, then we should not increase access to that same care for trans people.

- **Survey Data on the General Population** [**1.0%** | **18th Overall**]
    - **Pro-GAC** [**0.0%** | **18th**]: If survey data show that most people generally support expanding access to GAC, then we should increase access on that basis.
    - **Anti-GAC** [**3.3%** | **16th (TIE)**]: If survey data shows that most people generally are either indifferent or do not support expanding access to GAC, then we should not increase access on that basis.

Table 4. Written Testimony Subject Matter Data

Subject Matter	Total & Rank (N = 98)	Pro-GAC (N = 68)	Anti-GAC (N = 30)
Effects of Gender-Affirmative Care on Mental & Physical Health	83 (**84.7%**)	60 (**88.2%**)	23 (**76.7%**)
Modern Medical Standards for Gender-Affirmative Care	69 (**70.4%**)	48 (**70.6%**)	21 (**70.0%**)
Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.)	58 (**59.2%**)	54 (**79.4%**)	4 (**13.3%**)
Cost & Similar Barriers to Gender-Affirmative Care	57 (**58.2%**)	57 (**83.8%**)	0 (**0.0%**)
Satisfaction, Regret, & Reversibility of Gender-Affirmative Care	44 (**44.9%**)	18 (**26.5%**)	26 (**86.7%**)
Minority Stress & Effects of Gender-Affirmative Care on How Trans People Are Treated in Society	42 (**42.9%**)	39 (**57.4%**)	3 (**10.0%**)
Other States/Health Insurance Policies on Gender-Affirmative Care	36 (**36.7%**)	31 (**45.6%**)	5 (**16.7%**)
Whether Being Trans is an Intrinsic Quality	32 (**32.7%**)	7 (**10.3%**)	25 (**83.3%**)
Capability of Trans Youth to Provide Informed Consent	31 (**31.6%**)	4 (**5.9%**)	27 (**90.0%**)
Cost of Medicaid Expansion for the Government	29 (**29.6%**)	27 (**39.7%**)	2 (**6.7%**)
Quality of Evidence Concerning Gender-Affirmative Care	29 (**29.6%**)	12 (**17.6%**)	17 (**56.7%**)
State Role in Overseeing the Wellbeing of Trans Youth	18 (**18.4%**)	9 (**13.2%**)	9 (**30.0%**)
Position of the FDA	17 (**17.3%**)	13 (**19.1%**)	4 (**13.3%**)
Coverage for Non-Binary Trans People	14 (**14.3%**)	13 (**19.1%**)	1 (**3.3%**)
Desistance & Detransition Rates of Transgender Youth	14 (**14.3%**)	1 (**1.5%**)	13 (**43.3%**)
Federal & State Law Applications to Gender-Affirmative Care	6 (**6.1%**)	2 (**2.9%**)	4 (**13.3%**)
Coverage for Cis People	4 (**4.1%**)	2 (**2.9%**)	2 (**6.7%**)
Survey Data on the General Population	1 (**1.0%**)	0 (**0.0%**)	1 (**3.3%**)

Color Categories: 0.00%; 0.01% - 30.0%; 30.01% - 60.00%; 60.01% - 99.99%

Table 5. Written Testimony Subject Matter Priority Ranking

Rank	Overall	Pro-GAC	Anti-GAC
1st	Effects of Gender-Affirmative Care on Mental & Physical Health (84.7%)	Effects of Gender-Affirmative Care on Mental & Physical Health (88.2%)	Capability of Trans Youth to Provide Informed Consent (90.0%)
2nd	Modern Medical Standards for Gender-Affirmative Care (70.4%)	Costs & Similar Barriers to Gender-Affirmative Care (83.8%)	Satisfaction, Regret, & Reversibility of Gender-Affirmative Care (86.7%)
3rd	Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.) (59.2%)	Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.) (79.4%)	Whether Being Trans is an Intrinsic Quality (83.3%)
4th	Costs & Similar Barriers to Gender-Affirmative Care (58.2%)	Modern Medical Standards for Gender-Affirmative Care (70.6%)	Effects of Gender-Affirmative Care on Mental & Physical Health (76.7%)
5th	Satisfaction, Regret, & Reversibility of Gender-Affirmative Care (44.9%)	Minority Stress & Effects of Gender-Affirmative Care on How Trans People Are Treated in Society (57.4%)	Modern Medical Standards for Gender-Affirmative Care (70.0%)
6th	Minority Stress & Effects of Gender-Affirmative Care on How Trans People Are Treated in Society (42.9%)	Other States/Health Insurance Policies on Gender-Affirmative Care (45.6%)	Quality of Evidence Concerning Gender-Affirmative Care (56.7%)
7th	Other States/Health Insurance Policies on Gender-Affirmative Care (36.7%)	Cost of Medicaid Expansion for the Government (39.7%)	Desistance & Detransition Rates of Transgender Youth (43.3%)
8th	Whether Being Trans is an Intrinsic Quality (32.7%)	Satisfaction, Regret, & Reversibility of Gender-Affirmative Care (26.5%)	State Role in Overseeing the Wellbeing of Trans Youth (30.0%)
9th	Capability of Trans Youth	Position of the FDA	Other States/Health

	to Provide Informed Consent (31.6%)	(19.1%) (**TIE, 9th**)	Insurance Policies on Gender-Affirmative Care (16.7%)
10th	Cost of Medicaid Expansion for the Government (29.6%) (**TIE, 10th**)	Coverage for Non-Binary Trans People (19.1%) (**TIE, 9th**)	Federal & State Law Applications to Gender-Affirmative Care (13.3%) (**TIE, 10th**)
11th	Quality of Evidence Concerning Gender-Affirmative Care (29.6%) (**TIE, 10th**)	Quality of Evidence Concerning Gender-Affirmative Care (17.6%)	Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.) (13.3%) (**TIE, 10th**)
12th	State Role in Overseeing the Wellbeing of Trans Youth (18.4%)	State Role in Overseeing the Wellbeing of Trans Youth (13.2%)	Position of the FDA (13.3%) (**TIE, 10th**)
13th	Position of the FDA (17.3%)	Whether Being Trans is an Intrinsic Quality (10.3%)	Minority Stress & Effects of Gender-Affirmative Care on How Trans People Are Treated in Society (10.0%)
14th	Coverage for Non-Binary Trans People (14.3%) (**TIE, 14th**)	Capability of Trans Youth to Provide Informed Consent (5.9%)	Cost of Medicaid Expansion for the Government (6.7%) (**TIE, 14th**)
15th	Desistance & Detransition Rates of Transgender Youth (14.3%) (**TIE, 14th**)	Federal & State Law Applications to Gender-Affirmative Care (2.9%) (**TIE, 15th**)	Coverage for Cis People (6.7%) (**TIE, 14th**)
16th	Federal & State Law Applications to Gender-Affirmative Care (6.1%)	Coverage for Cis People (2.9%) (**TIE, 15th**)	Coverage for Non-Binary Trans People (3.3%) (**TIE, 16th**)
17th	Coverage for Cis People (4.1%)	Desistance & Detransition Rates of Transgender Youth (1.5%)	Survey Data on the General Population (3.3%) (**TIE, 16th**)
18th	Survey Data on the General Population (1.0%)	Survey Data on the General Population (0.0%)	Costs & Similar Barriers to Gender-Affirmative Care (0.0%)

Color Categories: 0.00%; 0.01% - 30.0%; 30.01% - 60.00%; 60.01% - 99.99%

I. Discussion of Subject Matter Findings

Since 68% of the written testimony we analyzed was from Maryland, any subject that was discussed more than 68% of the time overall is likely especially important. Looking at Tables 4 and 5, the only two subjects discussed more than 68% of the time overall were: (1) the Effects of Gender-Affirmative Care on Mental and Physical Health (which was discussed the most overall, appearing in 84.7% of all written testimony), and (2) the Modern Medical Standards for Gender-Affirmative Care (which was discussed the second-most overall, appearing in 70.4% of all written testimony).

These are the only two subjects that were discussed extensively by both proponents and opponents of expanding access to GAC. The Effects of Gender-Affirmative Care on Mental and Physical Health were discussed in 88.2% of all proponent testimony (making it the most discussed subject in proponent testimony) and in 76.7% of all opponent testimony (making it the fourth-most discussed subject in opponent testimony). Similarly, the Modern Medical Standards for Gender-Affirmative Care were discussed in 70.6% of all proponent testimony (making it the fourth-most discussed subject in proponent testimony) and in 70.0% of all opponent testimony (making it the fifth-most discussed subject in opponent testimony).

Looking at Table 4, proponents and opponents of expanding access to GAC otherwise tended to focus minimally on similar subjects or on completely different subjects altogether. For example, we see in Table 5 that the second-most discussed subject in proponent testimony was Cost & Similar Barriers to Gender-Affirmative Care, which was discussed in 83.8% of all proponent testimony. Despite the fact this is such an important issue for proponents of GAC, we see in Tables 4 and 5 that this issue was discussed in none of the opponent testimony using our current coding structure.

On the other hand, we see in Table 5 that the third-most discussed subject in opponent testimony was Whether Being Trans is an Intrinsic Quality, which was discussed in 83.3% of all opposition testimony. Not only was this subject addressed in only 10.3% of all proponent testimony, but for many of the opposition witnesses, this was the main subject of their testimony. Many of the civilians (and several of the experts) who were not in favor of expanding access to GAC made their arguments primarily on the basis that trans identity ought to be pathologized and treated as a mental disease or defect. Furthermore, many of the arguments that opponents made on this subject focused on personal anecdotes or stories (ex: stories from detransitioners or parents of transgender children who disapproved of their childrens' actions).

This is an area where proponents would benefit from discussing the history of GAC, since it actually used to be the standard medical practice to pathologize trans identity and treat it as a mental disease or defect. Discussing why this is no longer standard practice (which has much to do with the failure of Gender Identity Change Efforts (GICE), commonly referred to as

conversion therapy) would directly address many of the arguments that are made by opponents which are currently going unaddressed. This will be the focus of this paper in a later section.

Lastly, one of the most significant takeaways from Table 5 is that the top three subjects opponents focused on in their testimony arguably lay out the core of the anti-GAC position. The top three subjects that opponents focused on were: (1) the Capability of Transgender Youth to Provide Informed Consent (which opponents discussed in 90.0% of their written testimony); (2) Satisfaction, Regret, & Reversibility of Gender-Affirmative Care (which opponents discussed in 86.7% of their written testimony); and (3) Whether Being Trans is an Intrinsic Quality (which opponents discussed in 83.3% of their written testimony). Based on this data, the core of their position can be laid out as follows:

(1) The State should not allow transgender youth to transition because they cannot provide adequate informed consent to receive GAC.
(2) Additionally, the State should not allow transgender people to transition generally because they are likely to regret receiving GAC, regardless of their age.
(3) Finally, the State should not affirm transgender identity at all because it is a mental disease or defect, rather than any intrinsic quality.

This is important because, while opponents focus the most on the application of GAC to transgender youth, it is clear that many of the arguments they are making apply beyond youth to also include transgender adults. This means that the main goal for many opponents is likely the full criminalization of GAC, regardless of how much they may try to shift this discussion to the potential impacts on children (as opponents to LGBT+ rights have done for decades). This is why it is important for states that are interested in helping the transgender population to also inform themselves on subjects relating to transgender youth. Even if they are mainly trying to increase access to GAC for transgender adults, opponents are very likely to raise objections based on potential applications to transgender youth. Similarly, states that are considering reducing access to GAC for *only* transgender youth should not only consider the relevant academic literature that we discuss below, but should also recognize that these efforts are likely going to lead to further attempts to criminalize access to GAC for transgender adults if the former legislative efforts prove to be successful.

This data is also relevant because it highlights the importance of this report. Despite these three subjects laying out the core of the anti-GAC position, very little pro-GAC testimony focused on these subjects at all. This helps to explain why pro-GAC legislators may run into difficulties responding to these arguments, since advocates and experts may not be providing them adequate support or advice. Conversely, opponents to GAC acting in good faith may feel that their arguments are not being heard or adequately responded to. This report aims to address these issues by informing proponents and opponents on the relevant academic literature on these and other subjects that both or either side focused on in their congressional testimony.

II. GENDER-AFFIRMATIVE CARE, REVIEW OF ACADEMIC LITERATURE

A. Methods for Reviewing Relevant Academic Literature

The purpose of this section is to review the relevant academic literature on each subject that we identified in our qualitative analysis of legislative testimony. For the purposes of this section, "academic literature" refers to: (1) peer-reviewed journal articles, and (2) books from reputable publishers. This is standard practice because–although these processes are not perfect–the process of peer review (and similar processes involved in seeking publication by a reputable publisher) are the best processes we have to: (1) protect against bias, and (2) guarantee a baseline level of academic rigor and credibility.

We used several methods for determining whether academic literature was relevant for the purposes of our analysis. First, we looked at every piece of academic literature that was cited in the written testimony we reviewed, since these would be the sources that legislators have had the greatest exposure to. Second, we looked at sources from relevant secondary sources. These included amicus briefs, public comments on proposed administrative rules, statements from credible academic and medical organizations, reports from credible nonprofits, and other secondary sources on the subjects discussed in the testimony we analyzed as time permitted. Third, after collecting this relevant academic literature through the two methods we described, we used the ResearchRabbit.ai program to identify any missing academic literature based on what we had already collected as time permitted. We discuss each subject below in the same priority ranking as observed in the written testimony overall.

For sections which required legal analysis, we looked at: (1) relevant statutes, (2) case law, and (3) regulations. We used a similar set of methods for determining whether legal sources were relevant for our analysis, such as looking at the legal sources that were cited in the testimony we reviewed and using secondary sources as time permitted.

B. Limitations for Reviewing Relevant Academic Literature

The primary purpose of this section is not to make new evaluations on existing academic literature, but rather to report on the state of the current literature as a whole. We make several evaluations as time permits on especially relevant literature, but doing this for every piece of relevant academic literature would increase the scope of this project beyond current capacity and time constraints. We plan on expanding our scope in future versions of this report.

There are also some subjects we were not able to address in this version of the report due to time constraints and lack of available literature. For example, witnesses did not cite much (if any) academic literature on Coverage for Cis People, Coverage for Non-Binary Trans People, and Survey Data on the General Population. Furthermore, subjects like Coverage for Non-Binary Trans People are primarily philosophical, so those are best addressed at a future date

when we can recruit researchers with the expertise and capacity to help with those subjects. We also did not address the State's Role in Overseeing the Wellbeing of Trans Youth in this version because it involves an intersection of philosophy and family law that we would need more time to research. Finally, we did not address Other States/Health Insurance Policies on Gender-Affirmative Care because, while there is a fair amount of secondary literature aggregating this information, there is very little peer-reviewed literature on the subject. In a future version of this report, we would like to aggregate this information with citations to primary sources and relevant state and federal law.[11]

We also did not address sources that were cited which are not subject to peer review or a comparable alternative. This is because to do so: (1) would increase the scope of this project far beyond what is practical, and (2) would require that we evaluate each of those sources for the influence of bias and the quality of their methods.[12] For this project, we report on differences in the relevant academic literature without making substantive evaluations unless in areas where the differences are so significant that it would be impractical for us to leave them unaddressed. We would like to discuss any unaddressed differences in relevant literature more in future versions of this report.

Lastly, the arguments we used for representing proponent and opponent views on each subject are based on our qualitative analysis of the written testimony. This means that they may not be perfect representations of how every proponent or opponent argued on each subject, since every witness will use slight variations of the same core arguments on each subject. Our characterizations of the arguments are our best attempts to aggregate and represent the arguments made by each side in the light most favorable to their position and which are the most internally-consistent.

C. Effects of Gender-Affirmative Care on Mental & Physical Health

This subject was discussed the most overall (84.7%) in the written testimony we analyzed. It was also the most-discussed subject in proponent testimony (88.2%) and the fourth-most discussed subject in opponent testimony (76.7%). Proponents argued that if GAC increases mental and/or physical well-being, then we should increase access on that basis. Opponents argued that if GAC either does nothing or decreases mental and/or physical well-being, then we shouldn't increase access on that basis.

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[11] In the meanwhile, this Williams Institute Report from 2022 is a relatively comprehensive accounting of what states' Medicaid programs cover GAC: Christy Mallory & William Tentindo, *MEDICAID COVERAGE FOR GENDER-AFFIRMING CARE*, (2019), https://williamsinstitute.law.ucla.edu/wp-content/uploads/Medicaid-Gender-Care-Oct-2019.pdf.

[12] That being said, we include some citations to non-peer reviewed sources if they were especially relevant to discussing primary literature we discuss in this report (ex: if the author of a study had an interview to address any confusion about her findings).

The findings of most contemporary literature demonstrate that GAC has significant mental health benefits for transgender and gender diverse (TGD) people.[13] Gender affirming care such as cross-sex hormonal treatment has been shown to reduce gender dysphoria and symptoms of anxiety and dissociation,[14] as well as improve quality of life in both male-to-female and male-to-female individuals.[15] Longitudinal studies consistently report a positive association between hormonal treatment and improved mental health in general.[16] However, there is some difference between outcomes for female-to-male and male-to-female patients. The latter sees generally positive effects upon emotional functioning compared to mixed effects in the former.[17]

The general improvement in mental health of those that undergo GAC also translates to elements of suicidality.[18] Rates of lifetime prevalence of suicide attempts for transgender people vary from study to study, but the 2015 study by Perez-Brumer et al. found that for the U.S. population, the rate for attempted suicided for transgender people is estimated at 41% (compared to 9% for the general U.S. population).[19] The main predictive factors for this rate are internalized transphobia, ethnic minority status, and lower levels of educational attainment.[20] A 2022 12-month follow up study conducted by Tordoff et al. also found that individuals are at 73% lower odds of suicidality after starting on forms of GAC like puberty blockers and hormones.[21] Other studies like the 2014 study by de Vries et al. demonstrate after receiving hormone therapy, transgender young adult well-being was similar to or better than the general population.[22]

A meta-analysis of 28 studies concluded that there were positive mental health benefits from surgical gender affirmation.[23] As mentioned previously, the majority of this evidence is "low-quality," meaning that they are observational studies (as opposed to randomized control

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[13] Anthony N. Almazan & Alex S. Keuroghlian, *Association Between Gender-Affirming Surgeries and Mental Health Outcomes*, 156 JAMA Surg 611 (2021); Rosalia Costa & Marco Colizzi, *The effect of cross-sex hormonal treatment on gender dysphoria individuals' mental health: a systematic review*, 12 NDT 1953 (2016); Amaya Perez-Brumer et al., *Individual- and Structural-Level Risk Factors for Suicide Attempts Among Transgender Adults*, 41 Behavioral Medicine 164 (2015).

[14] Mohammad Hassan Murad et al., *Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes*, 72 Clin Endocrinol (Oxf) 214 (2010).

[15] Rosalia Costa & Marco Colizzi, *The effect of cross-sex hormonal treatment on gender dysphoria individuals' mental health: a systematic review*, 12 NDT 1953 (2016).

[16] *Id.*

[17] *Id.* at 1963.

[18] Amaya Perez-Brumer et al., *Individual- and Structural-Level Risk Factors for Suicide Attempts Among Transgender Adults*, 41 Behavioral Medicine 164 (2015).

[19] *Id.*

[20] *Id.* at 169.

[21] Diana M. Tordoff et al., *Mental Health Outcomes in Transgender and Nonbinary Youths Receiving Gender-Affirming Care*, 5 JAMA Network Open e220978 (2022).

[22] Annelou L. C. de Vries et al., *Young adult psychological outcome after puberty suppression and gender reassignment*, 134 Pediatrics 696 (2014).

[23] Mohammad Hassan Murad et al., *Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes*, 72 Clin Endocrinol (Oxf) 214 (2010).

trials). This is not necessarily an issue and is discussed more at-length later in this report. Almazan and Keuroghlian conducted a 2021 study with higher-quality data that re-affirms much of the existing consensus on mental health outcomes: TGD people who pursue at least one form of gender-affirming surgeries were 42% less likely to experience psychological distress than the control group of those that want gender-affirming surgeries but have not undergone any such surgeries.[24]

Several studies have been conducted to look into the long term follow ups of gender affirming care and mental and physical health outcomes. For example, a 2015 study by Ruppin and Pfafflin followed 71 trans people over 10-24 years (with a mean of 13.8 years) after sex reassignment surgery and reported that, in the long term, they saw a reduction in gender dysphoria.[25] Echoing this, a 2010 study by Johansson et al. reported that all 60 participants in their 5 year follow up did not regret receiving gender affirming care and that over 90% were stable or improved in respect to their work situation, partner relations, and sex life.[26]

The main study cited by opponents to argue that GAC has a negative relationship with mental health for transgender people is the 2015 study by Dhejne et al., "Long-term follow-up of transsexual persons undergoing sex reassignment surgery: cohort study in Sweden."[27] Often referred to as the "Sweden study," opponents cite this to argue that receiving gender-affirmative surgery increases the risk of suicide for transgender people. This misrepresents the findings of the study, which compared post-gender-affirmation transgender individuals with cisgender individuals from the general population, as opposed to transgender individuals who did not receive gender-affirming care.[28] This is why the study's author explicitly cautions that it is impossible to conclude from this data that gender-affirming procedures were a causative factor in suicidality for transgender individuals:

> It is therefore important to note that the current study is only informative with respect to [transgender] persons' health after sex reassignment; *no inferences can be drawn as to the effectiveness of sex reassignment as a treatment for transsexualism*. In other words, the results should not be interpreted such as sex reassignment per se increases morbidity and mortality. Things might have been even worse without sex reassignment.[29]

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[24] Anthony N. Almazan & Alex S. Keuroghlian, *Association Between Gender-Affirming Surgeries and Mental Health Outcomes*, 156 JAMA Surg 611 (2021).

[25] Ulrike Ruppin & Friedemann Pfäfflin, *Long-Term Follow-Up of Adults with Gender Identity Disorder*, 44 Arch Sex Behav 1321 (2015).

[26] Annika Johansson et al., *A Five-Year Follow-Up Study of Swedish Adults with Gender Identity Disorder*, 39 Arch Sex Behav 1429 (2010).

[27] Cecilia Dhejne et al., *Long-term follow-up of transsexual persons undergoing sex reassignment surgery: cohort study in Sweden*, 6 PLoS One e16885 (2011).

[28] *Id.*

[29] *Id.* at 7.

Rather, the study shows only that transgender adults were more likely to experience suicidal ideation/attempts and risky behavior when compared to the general population in Sweden between 1973 and 2003.[30] Furthermore, the Dhejne study is not generalizable to a modern population. During the study period, Swedish law required that individuals seeking gender-affirming surgery need to be sterilized.[31] The presence of this law alone might account for the higher risk of suicide attempts and risky behavior in the transgender population compared to the cisgender population at the time.

In addition to discussing the implications that GAC has for mental health, it is also important to discuss their implications for the physical health of TGD people. The relevant literature on the impacts of GAC on physical health can be divided into three areas: (1) cardiovascular disease, (2) pubertal suppression, and (3) bone density.

The transgender population is found to have a higher reported history of myocardial infarction (heart attack) in comparison to the cisgender population, except for transgender women compared with cisgender men.[32] Increases in ischemic stroke rates among transfeminine persons are also not consistent with those observed in cisgender women, demonstrating a need to identify and closely study vascular side effects of cross-sex estrogen.[33]

One of the most politically controversial elements of GAC is the notion of pubertal suppression in TGD youth. The use of gonadotropin releasing hormone analogues (GnRHa) is used with the intention of delaying irreversible and unwanted pubertal body changes via secondary sex characteristics. When implemented during the youth phase, other more invasive surgeries can sometimes be avoided (ex: mastectomies).[34] There is no evidence that the use of GnRHa's has any effect on negative psychological function.[35] While preliminary evidence suggests pubertal suppression improves mental health, there is little to no evidence to suggest this treatment impacts neurodevelopment.[36] Also, while certain studies[37] have raised important

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[30] *Id.*

[31] Rebecca Nelson, *Transgender People in Sweden No Longer Face Forced Sterilization*, Time, Jan. 2013, https://newsfeed.time.com/2013/01/14/transgender-people-in-sweden-no-longer-face-forced-sterilization/ (last visited Feb 9, 2023).

[32] Talal Alzahrani et al., *Cardiovascular Disease Risk Factors and Myocardial Infarction in the Transgender Population*, 12 Circ Cardiovasc Qual Outcomes e005597 (2019).

[33] Darios Getahun et al., *Cross-sex Hormones and Acute Cardiovascular Events in Transgender Persons: A Cohort Study*, 169 Ann Intern Med 205 (2018).

[34] Tim C. van de Grift et al., *Timing of Puberty Suppression and Surgical Options for Transgender Youth*, 146 Pediatrics e20193653 (2020).

[35] Polly Carmichael et al., *Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK*, 16 PLOS ONE e0243894 (2021).

[36] Diane Chen et al., *Consensus Parameter: Research Methodologies to Evaluate Neurodevelopmental Effects of Pubertal Suppression in Transgender Youth*, 5 Transgend Health 246, 247 (2020).

[37] Peggy T. Cohen-Kettenis et al., *Puberty Suppression in a Gender-Dysphoric Adolescent: A 22-Year Follow-Up*, 40 Arch Sex Behav 843 (2011).

questions that need to be studied further, there is little to no evidence to suggest that these questions are anything more than that.

There are reported side-effects from using GnRHa's, with one 2012 study by Gallagher et al. showing 80% of patients reporting side effects lasting less than 6 months.[38] Despite these side effects (some of which include memory loss, insomnia, and hot flashes) two thirds of people would recommend it to others.[39] Another 2021 study by Luo et al. found that implantable GnRHa's provide a 97.1% satisfaction rate (though 39.8% of patients described challenges about affordability and insurance denials).[40] Although more research still needs to be conducted, what can be stated with certainty is that girls treated in childhood with GnRHa have normal BMI, BMD, body composition, and overall ovarian function in early adulthood.[41]

Overall, in their 2008 article, Giordano argues that "suspension of puberty is not only not unethical: if it is likely to improve the child's quality of life and even save his or her life, then it is indeed unethical to defer treatment."[42] The Amsterdam Gender Identity Clinic–one of the only centers that has treated a sufficient number of adolescents to assess effects of treatment–recommends the use of GnRHa's as an appropriate intervention.[43] The World Professional Association for Transgender Health (WPATH) concurs with this, arguing that GnRHa's should be used to suspend puberty for transgender adolescents.[44]

Another common theme underpinning the effects of GAC on physical health is a focus on bone health and density in transgender patients. A 2022 study by Giacomelli and Meriggiola found that prior to gender-affirming hormone treatment, transgender women tend to have lower bone mineral density (BMD) than cisgender men.[45] In their 2020 article, Lee et al. argues this is due to external factors (ex: such as less physical activity compared to cisgender counterparts).[46] There is some evidence that the use of GnRHa's in adolescents may also cause lower bone

[38] Jenny Sadler Gallagher et al., *Long-Term Effects of Gonadotropin-Releasing Hormone Agonists and Add-Back in Adolescent Endometriosis*, 31 J Pediatr Adolesc Gynecol 376 (2018).

[39] *Id.*

[40] Xiaoping Luo et al., *Long‐term efficacy and safety of gonadotropin‐releasing hormone analog treatment in children with idiopathic central precocious puberty: A systematic review and meta‐analysis*, 94 Clin Endocrinol (Oxf) 786 (2021).

[41] Maria Alexandra Magiakou et al., *The Efficacy and Safety of Gonadotropin-Releasing Hormone Analog Treatment in Childhood and Adolescence: A Single Center, Long-Term Follow-Up Study*, 95 The Journal of Clinical Endocrinology & Metabolism 109 (2010).

[42] S. Giordano, *Lives in a chiaroscuro. Should we suspend the puberty of children with gender identity disorder?*, 34 Journal of Medical Ethics 580 (2008).

[43] Baudewijntje P. C. Kreukels & Peggy T. Cohen-Kettenis, *Puberty suppression in gender identity disorder: the Amsterdam experience*, 7 Nat Rev Endocrinol 466 (2011).

[44] Simone Mahfouda et al., *Puberty suppression in transgender children and adolescents*, 5 The Lancet Diabetes & Endocrinology 816 (2017).

[45] Giulia Giacomelli & Maria Cristina Meriggiola, *Bone health in transgender people: a narrative review*, 13 Therapeutic Advances in Endocrinology 20420188221099344 (2022).

[46] Janet Y Lee et al., *Low Bone Mineral Density in Early Pubertal Transgender/Gender Diverse Youth: Findings From the Trans Youth Care Study*, 4 Journal of the Endocrine Society bvaa065 (2020).

density,[47] though the addition of gender affirming hormone treatment helps alleviate this issue.[48] Echoing this, the 1999 article by Heger et al. finds that while bone density may be impacted, the usage of GnRHa is associated with normal body proportions.[49] The 2021 article by Navabi et al. concurs, finding that while GnRHa's are negatively associated with bone mineral density, adolescent subjects' body fat distribution was consistent with their affirmed gender, evidence of increased fractures or changes in BMI score has not been substantiated thus far, and that Vitamin D supplements can alleviate these issues.[50]

Finally, there is no evidence that supports the view that there is an adverse impact of hormone therapy on cognitive function.[51]

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During a hearing on the bill in front of the Maryland House Health and Government Operations Committee, Delegate Heather Bagnall (D-33C) asked what are the mental and physical health outcomes for transgender people who receive GAC.[52] The best available evidence tells us that overall: (1) GAC has very positive effects on the mental health of transgender people and has shown to alleviate their gender dysphoria; (2) GAC has few or no negative effects on physical health; and (3) any side effects that do exist are typically offset by an overall higher quality of life.

D. Modern Medical Standards for Gender-Affirmative Care

This subject was discussed the second-most overall (70.4%) in the written testimony we analyzed. It was also the fourth-most discussed subject in proponent testimony (70.6%) and the fifth-most discussed subject in opponent testimony (70.0%). Proponents argued that if current Medicaid coverage for GAC is out of line with modern medical standards of care, then we should increase access on that basis to bring it into alignment. Opponents argued that if current

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[47] Daniel Klink et al., *Bone mass in young adulthood following gonadotropin-releasing hormone analog treatment and cross-sex hormone treatment in adolescents with gender dysphoria*, 100 J Clin Endocrinol Metab E270 (2015).

[48] Giulia Giacomelli & Maria Cristina Meriggiola, *Bone health in transgender people: a narrative review*, 13 Therapeutic Advances in Endocrinology 20420188221099344 (2022).

[49] S. Heger, C. J. Partsch & W. G. Sippell, *Long-term outcome after depot gonadotropin-releasing hormone agonist treatment of central precocious puberty: final height, body proportions, body composition, bone mineral density, and reproductive function*, 84 J Clin Endocrinol Metab 4583 (1999).

[50] Behdad Navabi et al., *Pubertal Suppression, Bone Mass, and Body Composition in Youth With Gender Dysphoria*, 148 Pediatrics e2020039339 (2021). *See also* Sebastian E. E. Schagen et al., *Bone Development in Transgender Adolescents Treated With GnRH Analogues and Subsequent Gender-Affirming Hormones*, 105 J Clin Endocrinol Metab dgaa604 (2020).

[51] Maria A. Karalexi et al., *Gender-affirming hormone treatment and cognitive function in transgender young adults: a systematic review and meta-analysis*, 119 Psychoneuroendocrinology 104721 (2020).

[52] HGO 3.2.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/bb1c84fe3b9e4dcd8f1c81d9c6251b8c1d (last visited Feb 9, 2023).

Medicaid coverage for GAC is out of line with modern medical standards of care, then we should not increase access on that basis because modern standards are bad/biased/etc. and we should reject them (ex: due to financial incentive).

The modern medical standards for gender-affirmative medical care are: (1) the World Professional Organization for Transgender Health (WPATH) Standards of Care (SoC) for the Health of Transgender and Gender Diverse People, Version 8;[53] and (2) the Endocrine Society Clinical Practice Guidelines.[54] Here, we will primarily consider the WPATH SoC, which have been used by clinicians for decades. WPATH issued its initial guidelines in 1979 and has updated them in 1980, 1981, 1990, 1998, 2001, and 2012. The current version incorporated systematic literature reviews and ample opportunities for peer review and revision. For the purposes of this report, the relevant guidelines can be broken down into three areas: (1) adults (people above the legal age of majority), (2) adolescents (youth who have begun puberty), and (3) children (youth who have not begun puberty).

Under Section 5.1 of the WPATH SoC Version 8, it is recommended that healthcare professionals assessing transgender and gender diverse adults for physical treatments:

(a) are licensed by their statutory body and hold, at minimum, a master's degree or equivalent training in a clinical field relevant to this role and granted by a nationally accredited statutory institution;
(b) are competent using the latest edition of the World Health Organization's International Classification of Diseases (ICD)[55] for countries requiring diagnosis for access to care (and to make efforts to utilize the latest ICD in countries that have not implemented the latest ICD as soon as practicable);
(c) are able to identify co-existing mental health or other psychological concerns and distinguish these from gender dysphoria, incongruence, and diversity;
(d) are able to assess capacity to consent for treatment;
(e) have experience or be qualified to assess clinical aspects of gender dysphoria, incongruence, and diversity; and
(f) undergo continuing education in health care relating to gender dysphoria, incongruence, and diversity.[56]

[53] E. Coleman et al., *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8*, 23 International Journal of Transgender Health S1 (2022).

[54] Wylie C Hembree et al., *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline*, 102 The Journal of Clinical Endocrinology & Metabolism 3869 (2017).

[55] ICD-11, World Health Organization, https://icd.who.int/en (last visited Feb 9, 2023).

[56] E. Coleman et al., *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8*, 23 International Journal of Transgender Health S1, S32 (2022).

Under Section 5.3, it is recommended that all healthcare professionals assessing transgender and gender diverse adults for gender-affirming medical and surgical treatment:

(a) only recommend gender-affirming medical treatment requested by a transgender person when the experience of gender incongruence is marked and sustained;
(b) ensure fulfillment of diagnostic criteria prior to initiating gender-affirming treatments in regions where a diagnosis is necessary to access health care;
(c) identify and exclude other possible causes of apparent gender incongruence prior to the initiation of gender-affirming treatments;
(d) ensure that any mental health conditions that could negatively impact the outcome of gender-affirming medical treatments are assessed, with risks and benefits discussed, before a decision is made regarding treatment;
(e) ensure that any physical health conditions that could negatively impact the outcome of gender-affirming medical treatments are assessed, with risks and benefits discussed, before a decision is made regarding treatment;
(f) assess the capacity to consent for the specific physical treatment prior to the initiation of this treatment; and
(g) assess the capacity of the transgender or gender diverse adult to understand the effect of gender-affirming treatment on reproduction and explore reproductive options with the individual prior to the initiation of gender-affirming treatment.[57]

Under Section 5.6, it is recommended that healthcare professionals assessing transgender and gender diverse adults seeking gonadectomy (i.e., the surgical removal of either testes or ovaries) consider a minimum of six months of hormone therapy as appropriate before recommending irreversible surgical intervention (unless hormones are not clinically indicated for the individual).[58] Then, under Section 5.5, it is recommended that transgender and gender diverse adults who fulfill the criteria for gender-affirming medical and surgical treatment require a single opinion for the initiation of this treatment from a professional who has competencies in the assessment of transgender and gender diverse people pursuing gender-related medical and surgical treatment.[59]

Under Section 6.1, it is recommended that healthcare professionals working with gender diverse adolescents:

(a) are licensed by their statutory body and hold a postgraduate degree or its equivalent in a clinical field relevant to this role granted by a nationally accredited statutory institution;
(b) receive theoretical and evidence-based training and develop expertise in general child, adolescent, and family mental health across the development spectrum;

[57] *Id.*
[58] *Id.*
[59] *Id.*

(c) receive training and have expertise in gender identity development, gender diversity in children and adolescents, have the ability to assess capacity/consent, and possess general knowledge of gender diversity across the life span;
(d) receive training and have expertise in autism spectrum disorders and other neurodevelopmental presentations or collaborate with a developmental disability expert when working with autistic/neurodivergent gender diverse adolescents; and
(e) continue engaging in professional development in all areas relevant to gender diverse children, adolescents, and families.[60]

Additionally, under Section 6.10, it is recommended that healthcare professionals working with transgender and gender diverse adolescents requesting gender-affirming medical or surgical treatments inform them, prior to initiating treatment, of the potential effects it could have on reproductive capacity (including potential loss of fertility).[61] It is also recommended to discuss available options to preserve fertility within the context of the youth's stage of pubertal development.[62]

Under Section 6.11, it is recommended that when gender-affirming medical or surgical treatments are indicated for adolescents, that healthcare professionals working with transgender and gender diverse adolescents should involve parents and/or guardians in the assessment and treatment process (unless their involvement is determined to be harmful to the adolescent or not feasible). Under Section 6.12, health care professionals assessing transgender and gender diverse adolescents should *only* recommend gender-affirming medical or surgical treatments requested by the patient when:

(a) the adolescent meets the diagnostic criteria of gender incongruence as per the ICD-11 for countries requiring diagnosis for access to care (and to make efforts to utilize the latest ICD in countries that have not implemented the latest ICD as soon as practicable);
(b) the experience of gender diversity/incongruence is marked and sustained over time;
(c) the adolescent demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment;
(d) the adolescent's mental health concerns (if any) that may interfere with diagnostic clarity, capacity to consent, and gender-affirming medical treatments have been addressed;
(e) the adolescent has been informed of the reproductive effects, including the potential loss of fertility and the available options to preserve fertility (as well that these have been discussed in the context of the adolescent's current stage of pubertal development);
(f) for the purposes of receiving pubertal suppression, the adolescent has reached tanner stage 2 of puberty; and

[60] *Id.* at S48.
[61] *Id.*
[62] *Id.*

(g) for the purposes of considering gender-affirming surgery (including breast augmentation, orchiectomy, vaginoplasty, hysterectomy, phalloplasty, metoidioplasty, and facial surgery), the adolescent has had at least 12 months of gender-affirming hormone therapy prior or longer (unless hormone therapy is either not desired or is medically contraindicated).[63]

Importantly, this *does* mean that adolescents can pursue gender-affirming surgery if they meet the above criteria under the current standards. This is a significant departure from the previous WPATH SoC Version 7, which only permitted adolescents to begin partially-reversible hormone therapy at the age of majority and irreversible surgeries at 18 or older (except for chest "masculinizing" mastectomy, which had an age minimum of 16 years).[64] Of these factors, the one that opponents will likely focus on the most is the ability for transgender adolescents to provide informed consent. This is discussed in a later section of this report.

Comparatively, no medical interventions are recommended for pre-pubertal children. Under Sections 7.13 and 7.14, it is recommended that professionals discuss the potential benefits and risks of a social transition with families who are considering it, and to otherwise provide support to children to continue to explore their gender throughout their pre-pubescent years regardless of social transition.[65] Under Sections 7.1-7.4, it is recommended that healthcare professionals working with gender diverse children receive several kinds of training:

(a) training and expertise in gender development and gender diversity in children and possess a general knowledge of gender diversity across the life span;
(b) theoretical and evidence-based training and develop expertise in general child and family mental health across the developmental spectrum;
(c) training and expertise in autism spectrum disorders and other neurodiversity or collaborate with an expert with relevant expertise when working with autistic/neurodivergent, gender diverse children; and
(d) continuing education related to gender diverse children and families.[66]

Under Appendix E,[67] these are the specific gender-affirming surgical procedures that are deemed as medically-necessary, in addition to the use of puberty blockers and hormonal treatment:

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[63] *Id.*
[64] E. Coleman et al., *Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7*, 13 International Journal of Transgenderism 165 (2012).
[65] E. Coleman et al., *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8*, 23 International Journal of Transgender Health S1, S69 (2022).
[66] *Id.*
[67] *Id.* at S260.

Table 6. Facial Surgery

Brow	Brow reduction
	Brow augmentation
	Brow Lift
Hairline advancement and/or hair transplant	
Facelift/mid-face lift (following alteration of the underlying skeletal structures)	Platysmaplasty
Blepharoplasty	Lipofilling
Rhinoplasty (+/- fillers)	
Cheek	Implant
	Lipofilling
Lip	Upper lip shortening
	Lip augmentation (includes autologous and non-autologous)
Lower jaw	Reduction of mandibular angle
	Augmentation
Chin reshaping	Osteoplastic
	Alloplastic (implant-based)
Chondrolaryngoplasty	Vocal cord surgery

Table 7. Breast/Chest Surgery

Mastectomy	Mastectomy with nipple-areola preservation/reconstruction as determined medically necessary for the specific patient
	Mastectomy without nipple-areola preservation/reconstruction as determined medically necessary for the specific patient
Liposuction	

Breast reconstruction (augmentation)	Implant and/or tissue expander
	Autologous (includes flap-based and lipofilling)

Table 8. Genital Surgery

Phalloplasty (with/without scrotoplasty)	With/without urethral lengthening
	With/without prosthesis (penile and/or testicular)
	With/without colpectomy/colpocleisis
Metoidioplasty (with/without scrotoplasty)	With/without urethral lengthening
	With/without prosthesis (penile and/or testicular)
	With/without colpectomy/colpocleisis
Vaginoplasty (inversion, peritoneal, intestinal)	May include retention of penis and/or testicle
Vulvoplasty	May include procedures described as “flat front”

Table 9. Gonadectomy

Orchiectomy	
Hysterectomy and/or salpingo-oophorectomy	

Table 10. Body Contouring

Liposuction	
Lipofilling	
Implants	Pectoral, hip, gluteal, calf
Monsplasty/mons reduction	

Table 11. Additional Procedures

Hair removal: Hair removal from the face, body, and genital areas for gender affirmation or as part of a preoperative preparation process. (see statement 15.14 regarding hair removal)	Electrolysis
	Laser epilation
Tattoo (i.e., nipple-areola)	
Uterine transplantation	
Penile transplantation	

It is important to note that the WPATH SoC Version 8 also specifies that this list is non-exhaustive.[68] This is due to the continuing development of technology and understanding in this field, which allows for additional treatments that are not listed. This is also important due to the often lengthy time periods between WPATH SoC versions, during which new evolutions in understanding and treatment may occur. The WPATH SoC also specifies that "the criteria put forth in this document for gender affirming interventions are clinical guidelines; individual health care professionals and programs, in consultation with the TGD person, may modify them" due to the particular circumstances of individual cases.[69]

The reasons these standards are trustworthy is because they: (1) have been subject to a rigorous process of peer-review, (2) incorporate systematic literature reviews, and (3) have been used as the medical standards for GAC for decades.[70] For people who want further information about their methods, WPATH publishes its methodology for public review on its website.[71] As stated previously, while the process is not perfect, subjecting a publication for peer review is the best process we have to: (1) protect against bias, and (2) guarantee a baseline level of academic rigor and credibility. Unless opponents are able to present more substantial evidence or methodological critique to suggest that the standards are not credible, they have not met their burden of proof to suggest that the modern standards should not be trusted.

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During a

[68] *Id.*

[69] *Id.* at S256.

[70] Anne Alstott et al., *Flawed Medicaid Report in Florida*, Yale School of Medicine (2022), https://medicine.yale.edu/lgbtqi/research/gender-affirming-care/florida-medicaid/ (last visited Feb 9, 2023) ("These longstanding clinical practice guidelines have been used by clinicians for decades. WPATH issued its initial guidelines in 1979 and updated them in 1980, 1981, 1990, 1998, 2001, and 2012. The eighth version remains in process, and it incorporates systematic literature reviews and ample opportunities for peer review and revision.").

[71] Methodology for the Development of SOC8, World Professional Association for Transgender Health, https://www.wpath.org/soc8/Methodology (last visited Feb 9, 2023).

hearing on the bill in front of the Maryland House Health and Government Operations Committee, Delegate Lisa M. Belcastro (D-11) asked how parents play a role in the decisions to provide GAC to transgender youth.[72] During another bill hearing in front of the same committee, Chairwoman Joseline A. Pena-Melnyk (D-21) asked whether receiving this care requires a diagnosis or recommendation by a doctor or medical professional, similar to the diagnosis of any other condition in accordance with modern medical standards.[73] Finally, during a hearing on the bill in front of the Maryland Senate Finance Committee, Senator Justin Ready (R-5) asked what are the criteria for doctors to provide GAC.[74]

The information in this section responds to all of these questions. Under Section 6.11 of the latest WPATH guidelines, it is recommended that healthcare professionals working with transgender and gender diverse adolescents should involve parents and/or guardians in the assessment and treatment process (unless their involvement is determined to be harmful to the adolescent or not feasible). Under Sections 5.1 and 6.1, it is recommended that healthcare professionals assessing transgender and gender diverse adults for physical treatments are licensed by their statutory body and hold, at minimum, a master's degree or equivalent training in a clinical field relevant to this role and granted by a nationally accredited statutory institution, and that healthcare professionals working with gender diverse adolescents meet the same criteria as well as hold a postgraduate degree or its equivalent in a clinical field relevant to this role granted by a nationally accredited statutory institution. Finally, patients who are pursuing GAC must satisfy the requirements set out in Sections 5.3, 5.6, 6.10, 6.11, and 6.12 of the WPATH guidelines. Importantly, these guidelines require that medical professionals: (a) only recommend gender-affirming medical treatment requested by a transgender person when the experience of gender incongruence is marked and sustained; (b) identify and exclude other possible causes of apparent gender incongruence prior to the initiation of gender-affirming treatments; (c) ensure that any mental or physical health conditions that could negatively impact treatment outcomes are assessed, with risk and benefits discussed; (d) assess the capacity to consent for the specific physical treatment prior to initiating this treatment; and (e) assess the capacity of the patient to understand the effects this treatment may have on their fertility.

E. Alleged Purpose(s) of Medicaid (Ex: Medical Necessity, Bodily Autonomy, etc.)

This subject was discussed the third-most overall (59.2%) in the written testimony we analyzed. It was also the third-most discussed subject in proponent testimony (79.4%) and the tenth-most discussed subject in opponent testimony (13.3%, TIE). Proponents argued that if

[72] HGO 3.2.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/bb1c84fe3b9e4dcd8f1c81d9c6251b8c1d (last visited Feb 9, 2023).

[73] HGO 3.24.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/184a5876f7c94cc3a4a8b7924bea84821d (last visited Feb 9, 2023).

[74] FIN 2.22.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/2b38ee8906b54042a2ec5d051930b2901d (last visited Feb 9, 2023).

covering GAC is in-line with at least one (alleged) purpose of Medicaid (ex: ensuring equitable access to medically-necessary healthcare, increasing bodily autonomy, etc.), then we should increase access to it on that basis. Opponents argued that if covering GAC is not in-line with at least one (alleged) purpose of Medicaid, then we should not increase access to it on that basis.

The likely reason why people argued that GAC was in-line with different alleged purposes of Medicaid is that the federal Medicaid statute is actually silent on the actual definition of "medical necessity." The baseline requirements set out under federal law for state Medicaid Programs are: (1) the Availability Provision, which requires states to provide medical assistance to all categorically needy individuals in sufficient "amount, duration, and scope"; and (2) the Comparability Provision, which requires assistance to be provided equally among individuals within beneficiary groups.[75] We will address these more in a later section.

Beyond those requirements, Medicaid regulations allow states to place appropriate limits on a service based on criteria such as medical necessity, but does not define what that means.[76] That being said, one of the main Congressional intents of the federal Medicaid program was to leave the decision of whether to cover a particular treatment as medically necessary to a patient's treating physician:

> The Committee's bill provides that the *physician* is to be the key figure in determining utilization of health services and provides that it is a physician who is to decide upon admission to a hospital, order tests, drugs, and treatments, and determine the length of stay.[77]

Consistent with this, several federal courts have focused on the involvement of physicians when looking at whether certain forms of healthcare ought to be considered as medically necessary.[78] Furthermore, the Supreme Court has implied, but not held, that the Medicaid Act requires states to provide medically necessary care.[79]

Maryland law defines medical necessity as:

(a) directly related to diagnostic, preventive, curative, palliative, rehabilitative, or

[75] 42 C.F.R. § 440.230.

[76] 42 C.F.R. § 440.230(d).

[77] S. Rep. No. 404, 89th Cong., 1st Sess., *reprinted in* 1965 U.S.C.C.A.N. 1943, 1986.

[78] *See Pinneke v. Preisser*, 623 F.2d 546, 550 (8th Cir. 1980) (recognizing that "the decision of whether or not certain treatment or a particular type of treatment is 'medically necessary' rests with the individual recipient's physician and not with clerical personnel or government officials"); *Hope Med. Group for Women v. Edwards*, 860 F. Supp. 1149, 1151 (E.D. La. 1994) (holding that "[e]ach state's Medicaid plan must cover those mandatory covered services which an individual patient's physician certifies as 'medically necessary.'"); Preterm v. Dukakis, 591 F.2d 121 (1st Cir. 1979) (describing two levels of judgment as to medical necessity: macrodecisions of the legislature that only certain services are covered and micro-decisions of a physician that a patient needs a covered service).

[79] *See Beal v. Doe*, 432 U.S. 438, 444, 97 S. Ct. 2366, 53 L. Ed. 2d 464 (1977) ("[S]erious statutory questions might be presented if a state Medicaid plan excluded necessary medical treatment from its coverage.").

ameliorative treatment of an illness, injury, disability, or health condition;
(b) consistent with current accepted standards of good medical practice;
(c) the most cost efficient service that can be provided without sacrificing effectiveness or access to care; and
(d) not primarily for the convenience of the consumer, family, or provider.[80]

Although Maryland law is silent on the involvement of a medical professional, it does define medically necessary care as "consistent with current accepted standards of good medical practice." The modern medical standards for GAC are the WPATH SoC, which are discussed in the previous section. The WPATH SoC sets out requirements for healthcare professionals who treat transgender patients and recommends that GAC be administered based on their assessments.

While medical necessity is not necessarily the main consideration for whether healthcare qualifies for coverage under Medicaid, it is one of the main factors that people consider generally and is one of the main considerations under Maryland law. We also see this in the 2022 Maryland Medical Assistance Program Professional Services Provider Manual, which says on page 16 that one of the main considerations for whether to cover surgical procedures is whether that procedure is considered medically necessary.[81]

Generally, the main factors we look at in determining whether certain healthcare is medically necessary are:

(1) whether that care is directly related to the treatment of an illness, injury, disability, or health condition;
(2) whether that care is consistent with modern medical standards; and
(3) whether that care is determined to be medically necessary by a relevant medical professional.

GAC that is administered consistent with the WPATH SoC is medically necessary under these criteria. The WPATH SoC are widely regarded as the modern medical standards for the care of transgender people and have been used by clinicians for decades. The WPATH SoC recommends that transgender people who are seeking GAC be assessed by a qualified medical professional with relevant experience in that field of practice. Finally, GAC is administered for the treatment of gender dysphoria or gender incongruence under the ICD-11.

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During

[80] COMAR 10.09.02.01(11).
[81] Professional Services Provider Manual, Maryland Medical Assistance Program (2022), https://health.maryland.gov/mmcp/Documents/Professional%20Services%20Provider%20Manual%202022%20web.pdf (last visited Feb 9, 2023).

hearings on the bill in front of the Maryland House Health and Government Operations Committee and the Senate Finance Committee, Former Delegate Sid A. Saab (R-33) and Senator Justin Ready (R-11) asked about why the procedures in this bill are considered medically necessary when they believed many of them seemed to be cosmetic.[82] Additionally, during the same hearing in front of the Maryland House Health and Government Operations Committee, Delegate Terri L. Hill (D-12A) and Former Vice-Chair (now current Chair) Joseline A. Peña-Melnyk (D-21) asked about whether the determination of medical necessity is made on a case-by-case basis by a medical professional.[83] The reason why these forms of healthcare are medically necessary is because they satisfy the conventional criteria we look at for evaluating medical necessity: (1) they are administered for the treatment of a health condition (gender dysphoria or gender incongruence under the ICD-11); (2) they are consistent with modern medical standards (the WPATH SoC); and (3) transgender patients are assessed on a case-by-case basis by medical professionals who satisfy the WPATH requirements.

While we address the importance of medical necessity in this section, we do not address the importance of bodily autonomy in terms of determining Medicaid coverage. As stated previously, federal law gives states wide latitude to set their own parameters for how they set their Medicaid coverage. Although bodily autonomy is not referenced in the 2022 Maryland Medical Assistance Program Professional Services Provider Manual,[84] we would like to investigate the importance of bodily autonomy and other asserted purposes for making these determinations in a future version of this report.

F. Costs & Similar Barriers to Gender-Affirmative Care

This subject was discussed the fourth-most overall (58.2%) in the written testimony we analyzed. It was also the second-most discussed subject in proponent testimony (83.8%) and was not discussed at all in opponent testimony. Proponents argued that if trans people cannot access GAC on their own due to cost or other similar barriers, then we should increase access to it on that basis. Although opponents did not discuss this subject in their written testimony, the opposing argument would be: if trans people either can or should pay for GAC, then we should

[82] HGO 3.2.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/bb1c84fe3b9e4dcd8f1c81d9c6251b8c1d (last visited Feb 9, 2023); FIN 2.22.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/2b38ee8906b54042a2ec5d051930b2901d (last visited Feb 9, 2023).

[83] HGO 3.2.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/bb1c84fe3b9e4dcd8f1c81d9c6251b8c1d (last visited Feb 9, 2023).

[84] Professional Services Provider Manual, Maryland Medical Assistance Program (2022), https://health.maryland.gov/mmcp/Documents/Professional%20Services%20Provider%20Manual%202022%20web.pdf (last visited Feb 9, 2023).

not increase access to it on that basis.[85]

Transgender people have historically and currently face significant barriers to accessing medically-necessary GAC that are not faced as much by cisgender people.[86] Four of the main barriers are: (1) cost, (2) lack of available providers, (3) lack of provider training, and (4) discrimination by providers.

Many providers currently exclude forms of GAC that are considered to be medically-necessary by modern medical standards because they classify them as "cosmetic." One example is facial feminization/masculinization surgery. Since facial feminization/ masculinization surgery is often not covered under insurance, many transgender people are cost-prohibited from accessing this kind of healthcare since it is often very costly.[87] Other forms of GAC are also often cost-prohibited when transgender people have to travel out of state to receive that care since they have to pay for additional expenses.[88] This is relevant since transgender people often have to travel out of state to receive procedures such as vaginoplasty or phalloplasty.[89] Transgender people are also often unable to afford certain forms of care like fertility preservation because, while such treatments are often covered for cisgender people, insurance often does not cover it for transgender people pursuing GAC.[90]

Transgender people are also prevented from accessing GAC due to a lack of existing and accessible providers. A 2020 study by Terris-Feldman et al. found that even for transgender people who qualify for insurance coverage for genital gender-affirming surgery, access is still significantly limited by the small number of current providers and their uneven geographic distribution across the United States.[91] A 2016 study by White Hughto et al. also showed that certain demographic factors (such as being older, trans feminine, Native American, multiracial or being another racial/ethnic minority, and having low income) are positively associated with

[85] One argument we did not code for that may fall under this category is whether opponents believed that there are not currently significant barriers to accessing GAC. It is possible that some opponents made this argument and were not captured in our qualitative analysis. This is because grouping this argument with this subject occurred to us well after we finished our qualitative analysis. We would like to re-review the testimony to focus on how often opponents made this argument in future versions of this report.

[86] Alexandra Terris-Feldman et al., *How Accessible Is Genital Gender-Affirming Surgery for Transgender Patients With Commercial and Public Health Insurance in the United States? Results of a Patient-Modeled Search for Services and a Survey of Providers*, 8 Sex Med 664 (2020).

[87] lex Dubov & Liana Fraenkel, *Facial Feminization Surgery: The Ethics of Gatekeeping in Transgender Health*, 18 Am J Bioeth 3 (2018).

[88] Jae Downing et al., *Spending and Out-of-Pocket Costs for Genital Gender-Affirming Surgery in the US*, 157 JAMA Surgery 799 (2022).

[89] *Id.*

[90] Shira Baram et al., *Fertility preservation for transgender adolescents and young adults: a systematic review*, 25 Hum Reprod Update 694 (2019).

[91] Alexandra Terris-Feldman et al., *How Accessible Is Genital Gender-Affirming Surgery for Transgender Patients With Commercial and Public Health Insurance in the United States? Results of a Patient-Modeled Search for Services and a Survey of Providers*, 8 Sex Med 664 (2020).

refusal by care providers.[92] Adjusting for demographic factors found that variation was observed across the U.S., with transgender people in Southern and Western states being at increased risk of experiencing refusal by care providers.[93] Adjusting for state-level factors also found that the percentage of the state population voting Republican was positively associated with providers refusing care to transgender people.[94]

Additionally, even if transgender people can access providers who are willing to treat them, they often encounter issues where providers have not been provided adequate training on GAC. Non-exhaustive anecdotal evidence demonstrates that clinicians may fail to provide cancer screenings and counseling to transgender people based on misconceptions about a patient's anatomy.[95] Additionally, a 2017 study by Davidge-Pitts et al. found that in a survey of 411 practicing endocrinological clinicians, almost 80% had treated transgender patients, but 80.6% had never received training on providing care to transgender patients (although 77.1% reported being either very or somewhat confident in terms of definitions and 64.8% reported being very or somewhat confident in prescribing hormones).[96]

Finally, transgender people are often unable to access medically-necessary gender-affirmative healthcare due to discrimination in healthcare settings. For example, a 2016 longitudinal study by Macapagal et al. that used questionnaire results from 206 LGBTQ adults from 2012 to 2013 found that, "while most participants did not report having negative experiences in healthcare settings related to their LGBTQ identity, transgender patients were more likely to delay care and report negative effects of disclosure[, such as discrimination, invalidation, or harassment,] to their provider compared with cisgender patients."[97] Another study by Casey et al. in 2019 based on a national, probability-based survey, found that 18% of LGBT+ people reported having avoided pursuing medically-necessary healthcare due to perceived discrimination.[98] Furthermore, a 2015 study by Kattari et al. found that transgender and gender-nonconforming people of color experience higher levels of antitransgender

[92] Jaclyn M. White Hughto et al., *Geographic and Individual Differences in Healthcare Access for U.S. Transgender Adults: A Multilevel Analysis*, 3 LGBT Health 424 (2016).

[93] *Id.*

[94] *Id.*

[95] Joshua Sterling & Maurice M. Garcia, *Cancer screening in the transgender population: a review of current guidelines, best practices, and a proposed care model*, 9 Transl Androl Urol 2771 (2020).

[96] Caroline Davidge-Pitts et al., *Transgender Health in Endocrinology: Current Status of Endocrinology Fellowship Programs and Practicing Clinicians*, 102 The Journal of Clinical Endocrinology & Metabolism 1286 (2017).

[97] Kathryn Macapagal, Ramona Bhatia & George J. Greene, *Differences in Healthcare Access, Use, and Experiences Within a Community Sample of Racially Diverse Lesbian, Gay, Bisexual, Transgender, and Questioning Emerging Adults*, 3 LGBT Health 434 (2016).

[98] Logan S. Casey et al., *Discrimination in the United States: Experiences of lesbian, gay, bisexual, transgender, and queer Americans*, 54 Health Services Research 1454 (2019).

discrimination in many healthcare settings.[99]

These barriers prevent transgender people from alleviating their gender dysphoria or presenting in their desired gender roles and leads to problems throughout their lives.[100] To support this, a 2018 study by Rider et al. found that transgender and gender nonconforming youth "whose gender presentation was very congruent with their birth-assigned sex were less likely to report poorer health and long-term mental health problems compared with those with other gender presentations."[101] This relates to issues of minority stress, which are discussed at-length in another section. Compounding this issue is the fact that experiencing discrimination in healthcare settings can cause LGBT+ people to be hypervigilant and expect to be treated negatively for seeking treatment, which can discourage them from seeking necessary care beyond the aforementioned issues and can lead them to consider unsafe alternatives.[102] Consequently, these systemic barriers in accessing medically-necessary healthcare for the transgender community results in transgender people being more likely to report that their health is fair or poor than cisgender people.[103]

G. Satisfaction, Regret, & Reversibility of Gender-Affirmative Care

This subject was discussed the fifth-most overall (44.9%) in the written testimony we analyzed. It was also the eighth-most discussed subject in proponent testimony (26.5%) and was the second-most discussed subject in opponent testimony (86.7%). Proponents argued that if trans people are generally satisfied with GAC and/or the effects of GAC are generally reversible, then we should increase access to it on that basis. Opponents argued that if trans people are generally unsatisfied with GAC or otherwise regret receiving that care and the effects of GAC are generally irreversible, then we should not increase access to it on that basis.

There is a wide body of literature that explores satisfaction and regret with different forms of GAC. This literature can be broken down into three areas: (1) puberty blockers, (2) hormone therapy, and (3) surgery.

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[99] Shanna K. Kattari et al., *Racial and Ethnic Differences in Experiences of Discrimination in Accessing Health Services Among Transgender People in the United States*, 16 International Journal of Transgenderism 68 (2015).

[100] Henriette A. Delemarre-van de Waal & Peggy T. Cohen-Kettenis, *Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects*, 155 European Journal of Endocrinology S131 (2006).

[101] G. Nicole Rider et al., *Health and Care Utilization of Transgender and Gender Nonconforming Youth: A Population-Based Study*, 141 Pediatrics e20171683 (2018).

[102] Ilan H. Meyer, *Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence*, 129 Psychological Bulletin 674 (2003); Jennifer L. Glick et al., *"Tiptoeing Around the System": Alternative Healthcare Navigation Among Gender Minorities in New Orleans*, 3 Transgend Health 118 (2018).

[103] Ethan C. Cicero et al., *The health status of transgender and gender nonbinary adults in the United States*, 15 PLOS ONE e0228765 (2020); Jaimie F. Veale et al., *The mental health of Canadian transgender youth compared with the Canadian population*, 60 J Adolesc Health 44 (2017).

The existing literature shows that transgender adolescents are generally satisfied with using puberty blockers. For example, a 2021 study by Carmichael et al. of adolescents with gender dysphoria who were treated with gonadotropin releasing hormone analogues (GnRHa's, or "puberty blockers") showed that overall participant experience of changes on GnRHa treatment was positive.[104] Another 2020 study by Brik et al. showed that among 143 transgender adolescents who were receiving GnRHa's, 127 (or 87%) of them started gender-affirming hormones after a median of 0.8 years.[105] Only nine (or 6% of) adolescents discontinued GnRHa's, and only five (or 3.5%) of whom no longer wished to receive gender-affirming treatment.[106] A similar 2022 study by van der Loos et al. using data from the Amsterdam Cohort of Gender Dysphoria (ACOG) found that 98% of people who started gender-affirming medical treatment in adolescence (with a median age of 14.1 years for people assigned male at birth and 16.0 years for those assigned female at birth) continued to use gender-affirming hormones at follow-up (with a median age of 20.2 years for people assigned male at birth and 19.2 years for those assigned female at birth).[107]

The existing literature also shows that transgender patients are generally satisfied with hormone therapy.[108] For example, a 2021 study by Grannis et al. evaluating the effects of testosterone treatment on transmasculine adolescents who had spent an average of 13 months on hormone replacement therapy, found that testosterone treatment was associated with greater body satisfaction.[109] Another 2021 study by Nieder et al. using data from a clinical cohort sample of 75 adolescents and young adults diagnosed with gender dysphoria showed that patients who underwent hormone treatment showed overall high satisfaction with the treatment they received.[110] No adolescents in this sample regretted undergoing treatment at follow-up, which occurred on average of 2 years after treatment.[111] Another 2020 study by Kuper et al. that specifically collected data on and controlled for psychotherapy and use of psychiatric medications found that gender-affirming hormone therapy not only improved symptoms of

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[104] Polly Carmichael et al., *Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK*, 16 PLOS ONE e0243894 (2021).

[105] Tessa Brik et al., *Trajectories of Adolescents Treated with Gonadotropin-Releasing Hormone Analogues for Gender Dysphoria*, 49 Arch Sex Behav 2611 (2020).

[106] *Id.*

[107] Maria Anna Theodora Catharina van der Loos et al., *Continuation of gender-affirming hormones in transgender people starting puberty suppression in adolescence: a cohort study in the Netherlands*, 6 The Lancet Child & Adolescent Health 869 (2022).

[108] *See also* Carla Pelusi et al., *Effects of three different testosterone formulations in female-to-male transsexual persons*, 11 J Sex Med 3002 (2014); Mohammad Hassan Murad et al., *Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes*, 72 Clin Endocrinol (Oxf) 214 (2010).

[109] Connor Grannis et al., *Testosterone treatment, internalizing symptoms, and body image dissatisfaction in transgender boys*, 132 Psychoneuroendocrinology 105358 (2021).

[110] T. O. Nieder et al., *Individual Treatment Progress Predicts Satisfaction With Transition-Related Care for Youth With Gender Dysphoria: A Prospective Clinical Cohort Study*, 18 The Journal of Sexual Medicine 632 (2021).

[111] *Id.*

depression and anxiety, but that it made significant improvements in alleviating adolescents' body-related stress.[112] Finally, a 2017 study by van de Grift et al. of 201 transgender patients who applied for gender-affirming interventions from 2007 to 2009 found that hormone-based interventions were associated with improvements in body satisfaction.[113]

Lastly, a wide body of existing literature shows that transgender patients are generally satisfied with surgical outcomes and rarely experience regret with gender-affirming surgery.[114] For example, a 2022 study by Tang et al. evaluating the satisfaction and regret of adolescents who received gender-affirming mastectomies found that of 209 patients with a median age of 16 (range of 12-17), only two patients (0.95%) had documented postoperative regret (but did not undergo reversal surgery at follow-up of three and seven years postoperatively).[115] A 2021 systematic review and meta analysis of regret after gender-affirmation surgery by Bustos et al. found that regret was only expressed by one percent or fewer of transgender patients who underwent gender-affirming surgery.[116] The aforementioned 2021 study by Nieder et al. also found that adolescents and young adults who underwent gender-affirming surgery showed

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[112] Laura E. Kuper et al., *Body Dissatisfaction and Mental Health Outcomes of Youth on Gender-Affirming Hormone Therapy*, 145 Pediatrics e20193006 (2020).

[113] Tim C. van de Grift et al., *Effects of Medical Interventions on Gender Dysphoria and Body Image: A Follow-Up Study*, 79 Psychosom Med 815 (2017).

[114] *See also* Mehrdad Eftekhar Ardebili et al., *Quality of life in people with transsexuality after surgery: a systematic review and meta-analysis*, 18 Health and Quality of Life Outcomes 264 (2020); Sara Danker et al., *Abstract: A Survey Study of Surgeons' Experience with Regret and/or Reversal of Gender-Confirmation Surgeries* , 6 Plast Reconstr Surg Glob Open 189 (2018); Johanna Olson-Kennedy et al., *Chest Reconstruction and Chest Dysphoria in Transmasculine Minors and Young Adults: Comparisons of Nonsurgical and Postsurgical Cohorts*, 172 JAMA Pediatrics 431 (2018); Chantal M. Wiepjes et al., *The Amsterdam Cohort of Gender Dysphoria Study (1972-2015): Trends in Prevalence, Treatment, and Regrets*, 15 J Sex Med 582 (2018); Tim C. van de Grift et al., *Effects of Medical Interventions on Gender Dysphoria and Body Image: A Follow-Up Study*, 79 Psychosom Med 815 (2017); Jochen Hess et al., *Satisfaction With Male-to-Female Gender Reassignment Surgery*, 111 Dtsch Arztebl Int 795 (2014); Annika Johansson et al., *A Five-Year Follow-Up Study of Swedish Adults with Gender Identity Disorder*, 39 Arch Sex Behav 1429 (2010); Tiffiny A. Ainsworth & Jeffrey H. Spiegel, *Quality of life of individuals with and without facial feminization surgery or gender reassignment surgery*, 19 Qual Life Res 1019 (2010); Mohammad Hassan Murad et al., *Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes*, 72 Clin Endocrinol (Oxf) 214 (2010); Luk Gijs & Anne Brewaeys, *Surgical Treatment of Gender Dysphoria in Adults and Adolescents: Recent Developments, Effectiveness, and Challenges*, 18 Annual Review of Sex Research 178 (2007); Yolanda L. S. Smith et al., *Sex reassignment: outcomes and predictors of treatment for adolescent and adult transsexuals*, 35 Psychol Med 89 (2005); Anne A. Lawrence, *Factors Associated with Satisfaction or Regret Following Male-to-Female Sex Reassignment Surgery*, 32 Arch Sex Behav 299 (2003); M. Landén et al., *Factors predictive of regret in sex reassignment*, 97 Acta Psychiatrica Scandinavica 284 (1998); P. T. Cohen-Kettenis & S. H. van Goozen, *Sex reassignment of adolescent transsexuals: a follow-up study*, 36 J Am Acad Child Adolesc Psychiatry 263 (1997); Richard Green & Davis T. Fleming, *Transsexual Surgery Follow-Up: Status in the 1990s*, 1 Annual Review of Sex Research 163 (1990). *But see* Annette Kuhn et al., *Quality of life 15 years after sex reassignment surgery for transsexualism*, 92 Fertility and Sterility 1685 (2009).

[115] Annie Tang et al., *Gender-Affirming Mastectomy Trends and Surgical Outcomes in Adolescents*, 88 Ann Plast Surg S325 (2022).

[116] Valeria P. Bustos et al., *Regret after Gender-affirmation Surgery: A Systematic Review and Meta-analysis of Prevalence*, 9 Plast Reconstr Surg Glob Open e3477 (2021).

overall high satisfaction with the treatment they received.[117] Another 2020 study by Morrison et al. evaluating the quality of life of 66 transgender women after receiving facial feminization surgery showed that mean satisfaction at follow-up was excellent and patients achieved significantly-more feminine appearances.[118] Lastly, a 2014 study by Dhejne et al. looking at incidence and prevalence of applications in Sweden for legal and surgical sex reassignment over a 50 year period between 1960 and 2010 found that only 2.2% of applicants filed for regret applications and that there was a significant decline in regrets over the time period.[119] While the data from this study is older, it is useful because (1) it shows that regret associated with gender-affirming surgery has declined over time as surgical techniques have improved, and (2) it is authored by the same researcher as the "Sweden study" that many opponents cite (incorrectly) to argue that gender-affirmative surgery increases the risk of suicidality of trans people who receive it.[120] We discuss this study more in an earlier section.

One of the major reasons why it is important whether transgender people are generally satisfied or unsatisfied with the care they receive is because some (but not all) forms of GAC are irreversible. Opponents focus on this to argue that if GAC is likely to lead to regret, then we should not allow transgender people to pursue forms of GAC if that care is not reversible. Opponents mainly focus on the potential impact(s) that GAC can have on reproductive capacity. If the care is reversible, then if someone does regret receiving that care, then they can undo whatever changes it causes, so possible regret becomes a weaker objection to increasing access to that care.

Possible regret is also a weaker argument if we are talking about providing care to adults above the age of majority. Provided that they are capable of providing informed consent to whatever risks are associated with an irreversible procedure, the fact that adults may come to regret going through an irreversible procedure is not enough by itself to criminalize that procedure. Adults can currently get any design tattooed anywhere on their body. The fact that some people may come to regret getting certain tattoos does not mean that tattoos should be illegal.[121] When we are talking about reversibility of GAC as an area of concern, we are mainly talking about the application to transgender adolescents. This is because the State has a unique

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[117] T. O. Nieder et al., *Individual Treatment Progress Predicts Satisfaction With Transition-Related Care for Youth With Gender Dysphoria: A Prospective Clinical Cohort Study*, 18 The Journal of Sexual Medicine 632 (2021).

[118] Shane D. Morrison et al., *Prospective Quality-of-Life Outcomes after Facial Feminization Surgery: An International Multicenter Study*, 145 Plastic and Reconstructive Surgery 1499 (2020).

[119] Cecilia Dhejne et al., *An analysis of all applications for sex reassignment surgery in Sweden, 1960-2010: prevalence, incidence, and regrets*, 43 Arch Sex Behav 1535 (2014).

[120] Cecilia Dhejne et al., *Long-term follow-up of transsexual persons undergoing sex reassignment surgery: cohort study in Sweden*, 6 PLoS One e16885 (2011).

[121] Granted, this is more concerned with arguing against the criminalization of permanent forms of GAC rather than arguing affirmatively for its coverage under Medicaid. We would like to explore other forms of healthcare with relatively permanent effects that could result in regret which are covered under Medicaid in a future version of this report.

legal interest in "protecting the physical and psychological wellbeing of minors."[122]

The existing literature shows that puberty blockers do not impact reproductive capacity.[123] For example, a 2022 study by de Nie et al. showed that transfeminine patients who were treated with GnRHa's starting at the onset of pubertal development were shown to have normal-appearing, immature sperm-producing cells in the testes, suggesting that those individuals retained fertility potential.[124] There is also a long history of puberty blockers being used to safely treat cisgender adolescents with central precocious puberty (CPP).[125] For example, a long-term 2018 study by Gallagher et al. of 51 female adolescents with surgically confirmed endometriosis found that there were no abnormalities in reproductive function after GnRHa discontinuation.[126] A 2014 literature review by Thorton et al. also found that published reports on puberty suppression in adolescents with central precocious puberty (CPP) confirm the reversibility of puberty suppression after cessation of GnHRa therapy, with no significant differences being found between adolescents who received GnHRa therapy compared to those that didn't.[127]

The existing literature also shows that transfeminine patients are capable of achieving reproductive capacity after starting estrogen therapy (although results vary) and that transmasculine patients often still have normal reproductive capacity after starting testosterone

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[122] *Sable Communications of Cal., Inc. v. FCC*, 492 U.S. 115, 126 (1989).

[123] *See also* Kanthi Bangalore Krishna et al., *Use of Gonadotropin-Releasing Hormone Analogs in Children: Update by an International Consortium*, 91 HRP 357 (2019); Maria Alexandra Magiakou et al., *The Efficacy and Safety of Gonadotropin-Releasing Hormone Analog Treatment in Childhood and Adolescence: A Single Center, Long-Term Follow-Up Study*, 95 The Journal of Clinical Endocrinology & Metabolism 109 (2010). But see Philip J. Cheng et al., *Fertility concerns of the transgender patient*, 8 Transl Androl Urol 209 (2019).

[124] I. de Nie et al., *Histological study on the influence of puberty suppression and hormonal treatment on developing germ cells in transgender women*, 37 Hum Reprod 297 (2022).

[125] *See also* E. Kirk Neely et al., *Leuprolide acetate 1-month depot for central precocious puberty: hormonal suppression and recovery*, 2010 Int J Pediatr Endocrinol 398639 (2010); Anna Pasquino et al., *Long-Term Observation of 87 Girls with Idiopathic Central Precocious Puberty Treated with Gonadotropin-Releasing Hormone Analogs: Impact on Adult Height, Body Mass Index, Bone Mineral Content, and Reproductive Function*, 93 The Journal of clinical endocrinology and metabolism 190 (2008); Sabine Heger et al., *Long-term GnRH agonist treatment for female central precocious puberty does not impair reproductive function*, 254–255 Molecular and Cellular Endocrinology 217 (2006); S. Heger, C. J. Partsch & W. G. Sippell, *Long-term outcome after depot gonadotropin-releasing hormone agonist treatment of central precocious puberty: final height, body proportions, body composition, bone mineral density, and reproductive function*, 84 J Clin Endocrinol Metab 4583 (1999); P. P. Feuillan et al., *Reproductive axis after discontinuation of gonadotropin-releasing hormone analog treatment of girls with precocious puberty: long term follow-up comparing girls with hypothalamic hamartoma to those with idiopathic precocious puberty*, 84 J Clin Endocrinol Metab 44 (1999); N. Jay et al., *Ovulation and menstrual function of adolescent girls with central precocious puberty after therapy with gonadotropin-releasing hormone agonists*, 75 J Clin Endocrinol Metab 890 (1992).

[126] Jenny Sadler Gallagher et al., *Long-Term Effects of Gonadotropin-Releasing Hormone Agonists and Add-Back in Adolescent Endometriosis*, 31 J Pediatr Adolesc Gynecol 376 (2018).

[127] Paul Thornton et al., *Review of outcomes after cessation of gonadotropin-releasing hormone agonist treatment of girls with precocious puberty*, 11 Pediatr Endocrinol Rev 306 (2014).

therapy.[128] For example, the aforementioned 2022 study by de Nie et al. found that while neither the cessation of hormone replacement therapy nor the length of the hormone replacement therapy before testing affected the presence of germ cells or their maturation stage, 88.3% of patients who were treated with testosterone suppression therapies had normal-appearing, immature sperm-producing cells in the testes, again suggesting that those individuals retained fertility potential.[129] A 2017 literature review by Schneider et al. also reported that three publications described a marked reduction in the spermatogenic level in all transfeminine hormone replacement therapy patients examined, but eight other publications reported inconsistent results.[130] Concerning transmasculine patients, a 2019 study by Leung et al. found that of 26 transgender men who had already initiated testosterone therapy, seven had fresh or frozen oocyte transfers, with all achieving live births.[131] Another 2014 study by Light et al. found that 25 out of 41 (or 61% of) transgender men were using testosterone before beginning pregnancy and that 88% of the oocytes (n=36) came from the patients' own ovaries.[132]

There is little academic literature on the effects of gender-affirming surgery on the fertility of transgender patients, likely because it is undisputed that hysterectomy and oophorectomy in transgender men and orchiectomy in transgender women results in permanent sterility.[133] That being said, transgender patients can still pursue fertility cryopreservation before gender-affirming hormonal therapy or surgery and therefore have a biological child through a surrogate or a sexually intimate partner.[134]

Opponents have also argued that puberty blockers cause other forms of irreversible damage to adolescents, such as decreasing bone density or inhibiting regular puberty development if discontinued. The existing literature suggests that while there is some basis for this concern, it is relatively minimal.[135] For example, the aforementioned 2018 study by

[128] *See also* Jenna Gale et al., *Oocyte cryopreservation in a transgender man on long-term testosterone therapy: a case report*, 2 F S Rep 249 (2021); Florian Schneider et al., *Testicular Functions and Clinical Characterization of Patients with Gender Dysphoria (GD) Undergoing Sex Reassignment Surgery (SRS)*, 12 J Sex Med 2190 (2015); Sumer Allensworth Wallace, Kiara L. Blough & Laxmi A. Kondapalli, *Fertility preservation in the transgender patient: expanding oncofertility care beyond cancer*, 30 Gynecol Endocrinol 868 (2014). But see Philip J. Cheng et al., *Fertility concerns of the transgender patient*, 8 Transl Androl Urol 209 (2019).

[129] I. de Nie et al., *Histological study on the influence of puberty suppression and hormonal treatment on developing germ cells in transgender women*, 37 Hum Reprod 297 (2022).

[130] F. Schneider et al., *Andrology of male-to-female transsexuals: influence of cross-sex hormone therapy on testicular function*, 5 Andrology 873 (2017).

[131] Angela Leung et al., *Assisted reproductive technology outcomes in female-to-male transgender patients compared with cisgender patients: a new frontier in reproductive medicine*, 112 Fertil Steril 858 (2019).

[132] Alexis D. Light et al., *Transgender men who experienced pregnancy after female-to-male gender transitioning*, 124 Obstet Gynecol 1120 (2014).

[133] Philip J. Cheng et al., *Fertility concerns of the transgender patient*, 8 Transl Androl Urol 209 (2019).

[134] Susan Maxwell et al., *Pregnancy Outcomes After Fertility Preservation in Transgender Men*, 129 Obstet Gynecol 1031 (2017); F. Schneider et al., *Andrology of male-to-female transsexuals: influence of cross-sex hormone therapy on testicular function*, 5 Andrology 873 (2017).

[135] *See also* Silvano Bertelloni & Dick Mul, *Treatment of central precocious puberty by GnRH analogs: long-term outcome in men*, 10 Asian J Androl 525 (2008); Anna Pasquino et al., *Long-Term Observation of 87 Girls*

Gallagher et al. found that while bone mineral density decreases through GnRHa treatment, it recovers to normal after discontinuation.[136] The aforementioned 2014 study by Thorton et al. also found that GnRHA therapy "does not appear to induce polycystic ovary syndrome or have long-term negative repercussions on either bone mineral density or body composition."[137] Furthermore, a 2010 study by Neely et al. of 55 cisgender adolescents found that after several years of puberty suppression, all patients achieved a pubertal hormonal response within one year after discontinuing puberty suppression and no impairment of reproductive function was observed in adulthood.[138]

Lastly, it should be noted that while opponents argue that using puberty blockers can cause irreversible damage to transgender adolescents, the primary reason that transgender adolescents are prescribed puberty blockers is in order to prevent the irreversible changes that are brought on by an incorrect puberty, meaning that "watchful waiting" is not a neutral option.[139] Instead, what puberty suppression does is give transgender adolescents additional time for gender exploration without the pressure of ongoing pubertal development.[140] Furthermore, puberty suppression also makes follow up care–such as hormone replacement therapy–more effective, as well as reduces the need for certain surgical interventions such as facial feminisation surgery. Suffering from gender dysphoria without being able to stop the development of secondary sex characteristics also usually leads to problems throughout the lives of transgender adolescents.[141]

Not only are transgender adolescents overwhelmingly satisfied with using puberty

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with Idiopathic Central Precocious Puberty Treated with Gonadotropin-Releasing Hormone Analogs: Impact on Adult Height, Body Mass Index, Bone Mineral Content, and Reproductive Function, 93 The Journal of clinical endocrinology and metabolism 190 (2008); S. Heger, C. J. Partsch & W. G. Sippell, *Long-term outcome after depot gonadotropin-releasing hormone agonist treatment of central precocious puberty: final height, body proportions, body composition, bone mineral density, and reproductive function*, 84 J Clin Endocrinol Metab 4583 (1999); P. K. Manasco et al., *Resumption of puberty after long term luteinizing hormone-releasing hormone agonist treatment of central precocious puberty*, 67 J Clin Endocrinol Metab 368 (1988). But see Xiaoping Luo et al., *Long‐term efficacy and safety of gonadotropin‐releasing hormone analog treatment in children with idiopathic central precocious puberty: A systematic review and meta‐analysis*, 94 Clin Endocrinol (Oxf) 786 (2021).

[136] Jenny Sadler Gallagher et al., *Long-Term Effects of Gonadotropin-Releasing Hormone Agonists and Add-Back in Adolescent Endometriosis*, 31 J Pediatr Adolesc Gynecol 376 (2018). See also S. Bertelloni et al., *Final height, gonadal function and bone mineral density of adolescent males with central precocious puberty after therapy with gonadotropin-releasing hormone analogues*, 159 Eur J Pediatr 369 (2000).

[137] Paul Thornton et al., *Review of outcomes after cessation of gonadotropin-releasing hormone agonist treatment of girls with precocious puberty*, 11 Pediatr Endocrinol Rev 306 (2014).

[138] E. Kirk Neely et al., *Leuprolide acetate 1-month depot for central precocious puberty: hormonal suppression and recovery*, 2010 Int J Pediatr Endocrinol 398639 (2010).

[139] Stephen M. Rosenthal, *Challenges in the care of transgender and gender-diverse youth: an endocrinologist's view*, 17 Nat Rev Endocrinol 581 (2021).

[140] Stephen M. Rosenthal, *Transgender youth: current concepts*, 21 Ann Pediatr Endocrinol Metab 185 (2016); Wylie C. Hembree, *Management of juvenile gender dysphoria*, 20 Curr Opin Endocrinol Diabetes Obes 559 (2013).

[141] Henriette A. Delemarre-van de Waal & Peggy T. Cohen-Kettenis, *Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects*, 155 European Journal of Endocrinology S131 (2006).

blockers, and not only are their effects reversible if one discontinues their use, but they are specifically used to prevent irreversible harm to transgender adolescents by giving them more time to consider their gender and work with professionals regarding what medical steps to take in the future.

This information is especially useful because in addition to seeing this subject come up in written testimony, it came up in oral testimony on MD HB0746/SB0682. During a hearing in front of the Maryland Senate Finance Committee, Senator Justin Ready (R-5) asked whether puberty blockers are reversible.[142] The best available evidence suggests that they are reversible, which is why they are recommended by medical organizations to be used to delay the onset of an irreversible puberty.

H. Minority Stress & Effects of Gender-Affirmative Care on How Trans People are Treated in Society

This subject was discussed the sixth-most overall (42.9%) in the written testimony we analyzed. It was also the fifth-most discussed subject in proponent testimony (57.4%) and the thirteenth-most discussed subject in opponent testimony (10.0%). Proponents argued that if GAC helps trans people to be treated better in society–which is relevant for healthcare purposes since it can alleviate minority stress that arises from discrimination–then we should increase access on that basis. Opponents argued that if GAC either doesn't impact how trans people are treated in society or makes them worse off, then we shouldn't increase access on that basis.

LGBT+ people are frequently discriminated against in the United States. A 2019 study using national probability-based survey data by Casey et al. found that experiences of interpersonal discrimination were common for LGBT+ adults.[143] Specifically, they found that 57% of LGBT+ adults reported being called slurs, 53% reported being victims of microaggressions, 51% reported being victims of sexual harassment, 51% reported being victims of physical violence, and 34% reported being harassed regarding bathroom use.[144] LGBT+ racial and ethnic minorities also reported a higher likelihood of experiencing discrimination than white LGBT+ people when applying for jobs, when trying to vote or participate in politics, and interacting with the legal system.[145]

There is also specific literature looking at the discrimination that transgender people in particular face in the United States. A 2009 study by Rebecca L. Stozer reviewed the three primary sources of data in the United States for discerning the rates and types of violence that

[142] FIN 2.22.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/2b38ee8906b54042a2ec5d051930b2901d (last visited Feb 9, 2023).

[143] Logan S. Casey et al., *Discrimination in the United States: Experiences of lesbian, gay, bisexual, transgender, and queer Americans*, 54 Health Services Research 1454 (2019).

[144] *Id.*

[145] *Id.*

transgender people face: (1) self-report surveys and needs assessments, (2) hot-line call and social service records, and (3) police reports.[146] Stozer found that "[a]ll three sources indicate that violence against transgender people starts early in life, that transgender people are at risk for multiple types and incidences of violence, and that this threat lasts throughout their lives[,]" as well as that transgender people are at a "particularly high risk for sexual violence."[147]

GAC is important not only to alleviate gender dysphoria (which we discussed earlier in this report), but also so that transgender people can integrate into society and "pass" as the gender they identify with. Several examples include subcutaneous mastectomies and facial feminization or masculinization surgery. These surgical interventions can often have a greater practical significance in a patient's daily life than reconstruction of their genitals because they influence all of their interactions with other people.[148]

This has important implications for healthcare because there is a wide body of literature demonstrating that gender-related bias, victimization, criminalization, and forced-gender conformity experienced by transgender people commonly causes minority stress.[149] This is

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[146] Rebecca L. Stotzer, *Violence against transgender people: A review of United States data*, 14 Aggression and Violent Behavior 170 (2009).

[147] *Id.*

[148] Randi Ettner, Stan Monstrey & A. Evan Eyler, Principles of transgender medicine and surgery (2007), http://catdir.loc.gov/catdir/toc/ecip0711/2007007362.html (last visited Dec 14, 2022).

[149] Michael L. Hendricks & Rylan J. Testa, *A conceptual framework for clinical work with transgender and gender nonconforming clients: An adaptation of the Minority Stress Model.*, 43 Professional Psychology: Research and Practice 460 (20120813); Stephen T. Russell et al., *Adolescent Health and Harassment Based on Discriminatory Bias*, 102 Am J Public Health 493 (2012); Walter Bockting et al., *Adult development and quality of life of transgender and gender nonconforming people*, 23 Curr Opin Endocrinol Diabetes Obes 188 (2016); Russell B. Toomey et al., *Gender-nonconforming lesbian, gay, bisexual, and transgender youth: School victimization and young adult psychosocial adjustment*, 1 Psychology of Sexual Orientation and Gender Diversity 71 (2013); Sari L. Reisner et al., *Global Health Burden and Needs of Transgender Populations: A Review*, 388 Lancet 412 (2016); Lore M. Dickey et al., *Health disparities in the transgender community: Exploring differences in insurance coverage*, 3 Psychology of Sexual Orientation and Gender Diversity 275 (2016); Kevin L. Nadal, Avy Skolnik & Yinglee Wong, *Interpersonal and Systemic Microaggressions Toward Transgender People: Implications for Counseling*, 6 Journal of LGBT Issues in Counseling 55 (2012); Ilan H. Meyer, *Resilience in the study of minority stress and health of sexual and gender minorities*, 2 Psychology of Sexual Orientation and Gender Diversity 209 (2015); Ilan H. Meyer, Sharon Schwartz & David M. Frost, *Social patterning of stress and coping: Does disadvantaged social statuses confer more stress and fewer coping resources?*, 67 Social Science & Medicine 368 (2008); Walter O. Bockting et al., *Stigma, Mental Health, and Resilience in an Online Sample of the US Transgender Population*, 103 Am J Public Health 943 (2013); Jack L. Turban et al., *Timing of Social Transition for Transgender and Gender Diverse Youth, K-12 Harassment, and Adult Mental Health Outcomes*, 69 Journal of Adolescent Health 991 (2021); Sari L. Reisner et al., *Psychiatric Diagnoses and Comorbidities in a Diverse, Multicity Cohort of Young Transgender Women: Baseline Findings From Project LifeSkills*, 170 JAMA Pediatrics 481 (2016). *See also* Vickie M. Mays & Susan D. Cochran, *Mental Health Correlates of Perceived Discrimination Among Lesbian, Gay, and Bisexual Adults in the United States*, 91 Am J Public Health 1869 (2001); I. H. Meyer, *Minority stress and mental health in gay men*, 36 J Health Soc Behav 38 (1995); Mark L. Hatzenbuehler, Susan Nolen-Hoeksema & Sarah J. Erickson, *Minority stress predictors of HIV risk behavior, substance use, and depressive symptoms: Results from a prospective study of bereaved gay men*, 27 Health Psychology 455 (2008); Mark L. Hatzenbuehler, *Structural Stigma and the Health of Lesbian, Gay, and Bisexual Populations*, 23 Current Directions in Psychological Science 127 (2014).

where the stress associated with experiencing mistreatment on the basis of belonging to a class of people can result in heightened psychological distress, compromised overall wellbeing, and disparities across various contexts.[150] This is important because many opponents argue that behavioral health disorders cause gender dysphoria when it is well-established that the opposite is true: that being transgender tends to lead to mental health concerns because of the social stress and discrimination of being transgender in a society that is strongly cisnormative and transphobic.[151] According to the American Academy of Pediatrics, this is also why gender affirmation among adolescents with gender dysphoria helps them lead healthier lives:

> Gender affirmation among adolescents with gender dysphoria often reduces the emphasis on gender in their lives, allowing them to attend to other developmental tasks to attend to other developmental tasks, such as academic success, relationship building, and future-oriented planning.[152]

This is especially important because minority stress has been shown to be one of the primary predictors of suicidality in transgender people. According to a 2016 study by Klein and Golub, 42.3% of respondents from the National Transgender Discrimination Survey (6,456 participants overall and 3,458 respondents who provided complete data on study variables) reported a suicide attempt in their lifetime and 26.3% reported misusing drugs or alcohol to cope with transgender-related discrimination.[153] After controlling for age, race/ethnicity, sex assigned at birth, binary gender identity, income, education, and employment status, family rejection was associated with increased risk of both behaviors and risks increased significantly with increasing levels of family rejection.[154]

Several other studies also show that minority stress is a strong predictor of suicidality in transgender people.[155] For example, a 2018 study by Zeluf et al. of 796 transgender people from an online survey in Sweden found that 37% of respondents reported having seriously considered

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[150] *Id.*

[151] Rylan J. Testa et al., *Development of the Gender Minority Stress and Resilience Measure*, 2 Psychology of Sexual Orientation and Gender Diversity 65 (2015).

[152] Jason Rafferty et al., *Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents*, 142 Pediatrics e20182162 (2018).

[153] Augustus Klein & Sarit A. Golub, *Family Rejection as a Predictor of Suicide Attempts and Substance Misuse Among Transgender and Gender Nonconforming Adults*, 3 LGBT Health 193 (2016). This statistic has sometimes been used to suggest that GAC does not help reduce the risk of suicide for transgender people. This is a misrepresentation of this statistic, because even if transgender people pursued GAC and it did reduce their risk of suicide, they may still have answered "Yes" to the question since it asked about whether they had *ever* reported a suicide attempt in their lifetime. The exact question posed was "Have you ever attempted suicide?" with dichotomized responses of Yes/No.

[154] *Id.*

[155] *See also* Arnold H. Grossman, Jung Yeon Park & Stephen T. Russell, *Transgender Youth and Suicidal Behaviors: Applying the Interpersonal Psychological Theory of Suicide*, 20 J Gay Lesbian Ment Health 329 (2016); Sari L. Reisner et al., *Psychiatric Diagnoses and Comorbidities in a Diverse, Multicity Cohort of Young Transgender Women: Baseline Findings From Project LifeSkills*, 170 JAMA Pediatrics 481 (2016).

suicide during the previous 12 months and 32% had ever attempted suicide.[156] Within this study, offensive treatment during the previous three months and lifetime exposure to trans-related violence were significantly-associated with suicidality.[157] Another example is a 2017 study by Trujillo et al. of 78 transgender participants as part of a national online survey.[158] A series of simultaneous multiple regressions found that discrimination was a positive predictor of poor mental health symptoms and suicidal ideation.[159] This study also found that discrimination predicted suicidal ideation most strongly when participants had low social support from a significant other (in comparison to moderate or high support).[160] Another example is a 2015 study by Perez-Brumer et al. which found that lower levels of state-level structural stigma (including aggregated public opinion toward homosexuality) was associated with fewer lifetime suicide attempts among trans people.[161] Finally, a 2016 meta analysis by Virupaksha et al. found that while the suicide attempt rate among transgender persons ranged from 32% to 50% across countries, the main contributing factors were gender-based victimization, discrimination, bullying, violence, being rejected (by family, friends, and community), harassment (by intimate partners, family members, police, and the public), discrimination, and mistreatment within healthcare systems.[162]

This literature demonstrates that it is not true that transgender identification itself is what leads to higher rates of suicidality for transgender people, but rather that the main cause is the discrimination that transgender people experience on the basis of their transgender identity. Therefore, increasing access to GAC is important for healthcare purposes in order to alleviate the minority stress common in transgender people that arises from being members of a vulnerable and highly stigmatized group.

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During a hearing on the bill in front of the Maryland House Health and Government Operations Committee, Senator Mary Washington (D-43) discussed how the discussion on GAC is similar to the history of dental care insofar as how it used to be considered "cosmetic," but is now considered medically-necessary care because dental care addresses many comorbidities.[163] Not

[156] Galit Zeluf et al., *Targeted Victimization and Suicidality Among Trans People: A Web-Based Survey*, 5 LGBT Health 180 (2018).

[157] *Id.*

[158] Michael A. Trujillo et al., *The buffering role of social support on the associations among discrimination, mental health, and suicidality in a transgender sample*, 18 Int J Transgend 39 (2017).

[159] *Id.*

[160] *Id.*

[161] Amaya Perez-Brumer et al., *Individual- and Structural-Level Risk Factors for Suicide Attempts Among Transgender Adults*, 41 Behavioral Medicine 164 (2015).

[162] H. G. Virupaksha, Daliboyina Muralidhar & Jayashree Ramakrishna, *Suicide and Suicidal Behavior among Transgender Persons*, 38 Indian J Psychol Med 505 (2016).

[163] HGO 3.24.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/184a5876f7c94cc3a4a8b7924bea84821d (last visited Feb 9, 2023).

only does GAC alleviate gender dysphoria, but it can also address issues like minority stress. Both of these effects improve the overall quality of life for transgender patients, which can help address other comorbidities in their lives.

I. Whether Being Trans is an Intrinsic Quality

This subject was discussed the eighth-most overall (32.7%) in the written testimony we analyzed. It was also the thirteenth-most discussed subject in proponent testimony (10.3%) and the third-most discussed subject in opponent testimony (83.3%). Proponents argued that if being trans is an intrinsic quality, we should increase access to GAC on that basis to make it easier for people to live as trans since it is impossible for them to be cis. Opponents argued that if being trans is not an intrinsic quality–whether due to "social contagion," some other form of pathologization, or "grooming"–then not only is it unnecessary to expand access to GAC on that basis, but gender identity change efforts are also justified.

The 20th century onwards is dominated by three particular terms: transvestite, transexual, and transgender. The term transvestite was coined in 1910 by Magnus Hirschfield to mean: "the urge to present and conduct oneself in the outer raiment of the sex to which a person does not belong-as regards the visible sexual organs."[164] In contemporary contexts, the term transvestite has fallen out of fashion and the term "cross-dresser" is more commonly used to describe people dressing and presenting as the opposite sex typically for short term periods. The term transvestite does not fully cover modern conceptualizations of trans identity, the main reason being since it fails to recognize the innateness of the desire to change one's body to better suit how they believe it ought to be in respect to biological sex. Concepts related to cross-dressing are thus less to do with modern notions of transness and more related to aspects of queerness and activities such as drag.

It was the work of Hirschfield that led in 1919 to the opening of the Institut fur Sexualwissenschaft in Berlin that led pioneering work in the study of trans identity. Much of the research, practices, and data collected was destroyed in 1933 with it being burned to the ground by the Nazi seizure of power–the famous pictures of book burnings in Germany were actually the books and research related to this institute. Following the war, trans related studies began to increase once more, however the sexological approach of Hirschfield et al. was rapidly replaced with the forensic psychology approach to trans studies. This became the era of psychiatrization of transness, whereby there was an increased desire to pathologize trans identity and treat it as an illness. This is where the second term of the century was coined: transexual. The term itself developed out of Hirschfeld's successful gender reassignment surgeries of the 1920s where he

[164] Farah Naz Khan, *A History of Transgender and Gender Diverse Health Care: From Medical Mistreatment to Gender-Affirmative Health Care*, *in* Transgender and Gender Diverse Health Care: The Fenway Guide (Alex S. Keuroghlian, Jennifer Potter, & Sari L. Reisner eds., 2022), accessmedicine.mhmedical.com/content.aspx?aid=1184175720 (last visited Jan 8, 2023).

coined the term "transexualismus," whereby David Oliver Caudwell introduced the English term "transexual" in 1950.[165] This is also the first documentation of the belief that those that are transexual held a desire to change their physiological sex and was coupled with the (now debunked) Freudian based beliefs that transsexualism was connected to an over-familiarity of a boy with their mother or a girl with their father.[166] Nevertheless, the concept of transsexualism was connected to an idea that medical intervention was a requirement to be sought out.

The term "transgender" was coined in 1965 by John Oliven.[167] As a concept, it encompassed a more holistic approach that did not demand of every person a specific, uniform surgical route. Some transgender people undergo as much gender affirming care and surgeries as possible; others undergo some, and others still undergo none. This is reflected in recent estimates that only around 20-40 percent of transgender individuals seek gender affirming surgery (though these estimates are based on convenience samples).[168]

Modern Gender Critical (otherwise known as Trans Exclusionary Radical Feminist) views and beliefs stem from a rejection of contemporary science post-1965 related to the adoption of modern terms such as "transgender" and instead focus upon pre-1965 science that worked within a psychiatric and primarily pathological model to recognize trans identity as an "illness" that should be cured.

One of the most recent examples of this is the novel "rapid-onset gender dysphoria" (ROGD) pathology proposed by Lisa Littman in her paper originally titled: "Rapid-onset gender dysphoria in adolescents and young adults: A study of parental reports."[169] This theory, based only on surveying parents from antitransgender websites who had become aware that their child was transgender after the child reached adolescence, proposed that adolescents who identified as transgender did not do so due to any innate sense of gender identity, but due primarily to peer influence.[170]

This article has come under serious methodological critique since it was published, such that the publishing journal required Littman to republish the article with a new title and substantial correction.[171] This is an unusual step that is taken only when a panel of experts, in

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[165] Joanne Meyerowitz, How Sex Changed: A History of Transsexuality in the United States (New Ed edition ed. 2004).

[166] *Id.*

[167] Dana Jennett Bevan Ph.D, The Psychobiology of Transsexualism and Transgenderism: A New View Based on Scientific Evidence: A New View Based on Scientific Evidence (2014).

[168] Joseph K. Canner et al., *Temporal Trends in Gender-Affirming Surgery Among Transgender Patients in the United States*, 153 JAMA Surgery 609, 610 (2018).

[169] Lisa Littman, *Rapid-onset gender dysphoria in adolescents and young adults: A study of parental reports*, 13 PLoS ONE e0202330 (2018).

[170] *Id.*

[171] Lisa Littman, *Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria*, 13 PLOS ONE e0202330 (2018). *See also* Arjee Javellana Restar, *Methodological Critique of*

retrospect, recognized that it would be unscientific to allow the originally published findings to stand.[172] The corrected version of the study, titled "Parent reports of adolescents and young adults perceived to show signs of rapid onset gender dysphoria," more strongly conveys that this was a study of parent perceptions rather than youth behavior or development.[173] Accompanying this corrected version of Littman's article was a public apology in which the journal's editor-in-chief stated:

> I would also like to apologize in particular to the trans and gender variant community for oversights that occurred during the original assessment of the study. . . . [The corrected article] now provides a better context of the work, as a report of parental observations, but not a clinically validated phenomenon or a diagnostic guideline.[174]

Additionally, recent studies have found no evidence of a new type of gender dysphoria driven by social media or social contagion. For example, a 2022 study by Bauer et al. analyzing 173 youth presenting to a Canadian gender clinic found no correlations between teens who had more recently begun identifying as transgender and online support/engagement from their peers for their gender identity.[175] On the contrary, the study found that teens with more recent awareness of being transgender were not significantly more likely to have gender-supportive online friends, general support from online friends or transgender friends, or gender support from parents.[176]

This is a primary example why attempts to pathologize trans identity as a mental disease or defect that ought to be cured have not held up to scientific scrutiny. Another example is the historical failure of gender identity change efforts (GICE). Several studies demonstrate that not only are GICE almost never successful at actually changing one's perception of their own gender or sexuality, but they often worsen mental health issues for LGBT+ people. For example, a 2020 study by Turban et al. of 27,715 survey respondents found that "lifetime and childhood exposure to GICE are associated with adverse mental health outcomes in adulthood[,]" including higher odds of lifetime suicide attempts.[177] Another example is a 2020 study by Green et al. that used a large online sample of LGBT+ young people to find that those who reported experiencing GICE were more than twice as likely to report having attempted suicide and having multiple suicide

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Littman's (2018) Parental-Respondents Accounts of "Rapid-Onset Gender Dysphoria," 49 Arch Sex Behav 61 (2020).

[172] *Id.*

[173] *Id.*

[174] Juanita Baker, *Correcting the scientific record on gender incongruence – and an apology*, EveryONE (2019), https://everyone.plos.org/2019/03/19/correcting-the-scientific-record-and-an-apology/ (last visited Feb 9, 2023).

[175] Greta R. Bauer et al., *Do Clinical Data from Transgender Adolescents Support the Phenomenon of "Rapid Onset Gender Dysphoria"?*, 243 J Pediatr 224 (2022).

[176] *Id.*

[177] Jack L. Turban et al., *Association Between Recalled Exposure to Gender Identity Conversion Efforts and Psychological Distress and Suicide Attempts Among Transgender Adults*, 77 JAMA Psychiatry 68 (2020).

attempts as those who did not experience change efforts.[178] It is for these and similar reasons that it is the modern medical consensus that GICE do not work because gender identity and sexual orientation are innate aspects of one's identity:

> We reiterate the prevailing science confirming that variations in sexual orientation and gender identity represent normal expressions of human diversity and cannot be changed at will. We affirm the contemporary scientific agreement that being lesbian, gay, bisexual, or transgender (LGBT) is not a mental illness or disorder and should not be pathologized.[179]

Additionally, there is a substantial body of literature demonstrating there is a durable biological element to gender identity.[180] In addition to the aforementioned literature on the failure of GICE, there is also literature demonstrating: (a) identical twins (who share the exact same genetic background) are more likely to both experience transgender identity as compared to fraternal (non-identical) twins;[181] (b) among individuals with XX chromosomes, rates of male gender identity are higher for those exposed to higher levels of androgens *in utero* compared to those without such exposure, and individuals with XY chromosomes with complete androgen insensitivity syndrome typically have female gender identity;[182] and (c) there are associations of

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[178] Amy E. Green et al., *Self-Reported Conversion Efforts and Suicidality Among US LGBTQ Youths and Young Adults, 2018*, 110 Am J Public Health 1221 (2020).

[179] Declaration on the Impropriety and Dangers of Sexual Orientation and Gender Identity Change Efforts, http://assets2.hrc.org/files/assets/resources/National_Orgs_Letter_in_Support_of_Legislative_Efforts_to_End_Conversion_Therapy.pdf?_ga=2.127699982.246403592.1558460063-2112112692.1535393527 (last visited Feb 9, 2023).

[180] Aruna Saraswat, Jamie D. Weinand & Joshua D. Safer, *Evidence supporting the biologic nature of gender identity*, 21 Endocr Pract 199 (2015); Stephen M. Rosenthal, *Approach to the Patient: Transgender Youth: Endocrine Considerations*, 99 The Journal of Clinical Endocrinology & Metabolism 4379 (2014). *See also* Hillary B. Nguyen et al., *What has sex got to do with it? The role of hormones in the transgender brain*, 44 Neuropsychopharmacol 22 (2019); C. E. Roselli, *Neurobiology of gender identity and sexual orientation*, 30 J Neuroendocrinol e12562 (2018); Tinca J. C. Polderman et al., *The Biological Contributions to Gender Identity and Gender Diversity: Bringing Data to the Table*, 48 Behav Genet 95 (2018); Elke Stefanie Smith et al., *The transsexual brain – A review of findings on the neural basis of transsexualism*, 59 Neuroscience & Biobehavioral Reviews 251 (2015). *But see* Michael V. Lombardo et al., *Fetal Testosterone Influences Sexually Dimorphic Gray Matter in the Human Brain*, 32 J. Neurosci. 674 (2012); E. Santarnecchi et al., *Intrinsic Cerebral Connectivity Analysis in an Untreated Female-to-Male Transsexual Subject: A First Attempt Using Resting-State fMRI*, 96 NEN 188 (2012); H. Berglund et al., *Male-to-Female Transsexuals Show Sex-Atypical Hypothalamus Activation When Smelling Odorous Steroids*, 18 Cerebral Cortex 1900 (2008); Meredith L. Chivers & J. Michael Bailey, *Sexual Orientation of Female-to-Male Transsexuals: A Comparison of Homosexual and Nonhomosexual Types*, 29 Arch Sex Behav 259 (2000).

[181] Gunter Heylens et al., *Gender identity disorder in twins: a review of the case report literature*, 9 J Sex Med 751 (2012).

[182] Arianne B. Dessens, Froukje M. E. Slijper & Stenvert L. S. Drop, *Gender dysphoria and gender change in chromosomal females with congenital adrenal hyperplasia*, 34 Arch Sex Behav 389 (2005).

certain brain scan or staining patterns with gender identity rather than external genitalia or chromosomes.[183]

Because trans identity is now predominantly conceptualized as an innate quality, the World Health Organization (WHO) categorizes gender dysphoria as a physical condition in the International Classification of Diseases 11th Revision (ICD-11).[184] Consequently, the treatment of gender dysphoria is different from the treatment of mental conditions since the form of treatment that leads to the best outcomes for patients overall is to *affirm* the beliefs of the patient about their own body (as opposed to trying to correct or change those beliefs).

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During a hearing on the bill in front of the Maryland Senate Finance Committee, Senator Justin Ready (R-5) argued that providing this kind of care sounds like transgender people are "conforming to a gender stereotype" that is more reflective of sex stereotypes than any innate sense of self.[185] Not only is there a wide body of evidence demonstrating a durable biological element to gender identity, but due to the historic failure of gender identity change efforts (GICE), it is the academic consensus that sexual orientation and gender identity are innate aspects of one's self that cannot be changed at will. Transgender people would likely pursue GAC regardless of how much they are affected by social issues such as sex stereotypes.

J. Capability of Trans Youth to Provide Informed Consent

This subject was discussed the ninth-most overall (31.6%) in the written testimony we analyzed. It was also the fourteenth-most discussed subject in proponent testimony (5.9%) and the most discussed subject in opponent testimony (90.0%). Proponents argued that if trans youth are mentally capable of providing informed consent for certain forms of GAC, then we should increase access to it on that basis to the extent they can provide informed consent. Opponents argued that if trans youth are not mentally capable of providing informed consent for any forms of GAC, then we should not increase access to it on that basis.

The WPATH SoC recommends only non-physical interventions for prepubertal children suffering from gender dysphoria.[186] For example, for the treatment of prepubertal children, the

[183] Aruna Saraswat, Jamie D. Weinand & Joshua D. Safer, *Evidence supporting the biologic nature of gender identity*, 21 Endocr Pract 199 (2015); Stephen M. Rosenthal, *Approach to the Patient: Transgender Youth: Endocrine Considerations*, 99 The Journal of Clinical Endocrinology & Metabolism 4379 (2014).

[184] ICD-11, World Health Organization, https://icd.who.int/en (last visited Feb 9, 2023).

[185] FIN 2.22.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/2b38ee8906b54042a2ec5d051930b2901d (last visited Feb 9, 2023).

[186] E. Coleman et al., *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8*, 23 International Journal of Transgender Health S1, S69 (2022); Wylie C Hembree et al., *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline*, 102 The Journal of Clinical Endocrinology & Metabolism 3869 (2017).

WPATH SoC provides for mental healthcare, support for the children and their family, and social transition (which is entirely reversible; ex: wearing clothing and using a name that is consistent with a child's stated gender identity).[187] The WPATH SoC does not recommend any physical interventions (such as medications or surgery) for prepubertal children with gender dysphoria.[188] This is relevant because opponents commonly argue that irreversible gender-affirmative surgeries (specifically genital surgeries) are currently being carried out on children.

Under the WPATH SoC Version 8, gender-affirming medical interventions are only recommended after transgender youth begin adolescence.[189] The specific criteria to qualify for medical interventions are discussed in the earlier section on the modern medical standards for gender-affirming care. Here, we discuss the academic literature evaluating youth awareness of their gender or sexuality and their assessed capability to provide informed consent to receive GAC.

Gender identity is common to all people, is developed in early childhood, and is thought to be firmly established in most people–transgender or not–by age four.[190] Furthermore, there is long standing evidence that some LGBT+ children become aware of their atypical gender or sexual orientation by early adolescence.[191] For example, a 2015 study by Olson et al. found that "transgender children clearly viewed themselves in terms of their expressed gender and showed preferences for their expressed gender, with response patterns mirroring those of two cisgender (nontransgender) control groups."[192] This provided evidence that "early in development, transgender youth are statistically indistinguishable from cisgender children of the same gender identity," meaning that "they showed a clear preference for peers and objects endorsed by peers who shared their expressed gender, an explicit and implicit identity that aligned with their expressed gender, and a strong implicit preference for their expressed gender."[193] That being said, some children and adolescents may experience a long period of questioning their sexual orientation or gender identity, which can cause them to experience stress, confusion, fluidity, or complexity in their feelings and social identities.[194]

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[187] *Id.*

[188] *Id.*

[189] *Id.* at S48.

[190] Edward L. Schor, Caring for Your School Age Child: Ages 5-12 (Revised edition ed. 1999); Kenneth J. Zucker, *Gender identity development and issues*, 13 Child and Adolescent Psychiatric Clinics 551 (2004); Principles of transgender medicine and surgery, (Randi Ettner, Stan Monstrey, & Eli Coleman eds., Second edition ed. 2016).

[191] Richard R. Troiden, *Homosexual identity development*, 9 Journal of Adolescent Health Care 105 (1988).

[192] Kristina R. Olson, Aidan C. Key & Nicholas R. Eaton, *Gender Cognition in Transgender Children*, 26 Psychol Sci 467 (2015).

[193] *Id.*

[194] Gary Remafedi et al., *Demography of Sexual Orientation in Adolescents*, 89 Pediatrics 714 (1992); Principles of transgender medicine and surgery, (Randi Ettner, Stan Monstrey, & Eli Coleman eds., Second edition ed. 2016); Gary Hollander, *Questioning Youths: Challenges to Working with Youths Forming Identities*, 29 School Psychology Review 173 (2000).

Several studies have evaluated the capability of adolescents to provide informed consent to receive GAC. For example, a 2021 study by Vrouenraets et al. found that 89.2% of the transgender adolescents they evaluated were assessed competent to consent for starting puberty blockers when evaluated by the MacArthur Competence Assessment Tool for Treatment (MacCAT-T), and 93.2% were found to be when using clinicians' assessments.[195] The MacCAT-T has also been shown to effectively evaluate treatment decision-making capacity in children and adolescents when they have severe mental disorders.[196] Another 2021 study by Clark and Virani using a qualitative content analysis of interviews with trans youth, parents, and healthcare providers found that "trans youth demonstrated the understandings and abilities characteristic of the capacity to consent to hormone therapy and that they did consent to hormone therapy with positive outcomes."[197] With guidance from mental health providers, parents, and physicians, adolescents can competently participate in a process that helps them explore their identity and make nuanced decisions about the benefits and risks of GAC.[198]

This information is especially useful because in addition to seeing this subject come up in written testimony, it also came up in the oral testimony on MD HB0746/SB0682. During a hearing on the bill in front of the Maryland House Health and Government Operations Committee, former Delegate Lisa M. Belcastro (D-11) asked what the importance this bill has for transgender children, as well as how parents play a role in these medical decisions.[199] Not only is it recommended that parents are involved in medical decisions involving their transgender children, but also: (a) medical interventions are only recommended for adolescents who have begun puberty; (b) the purpose of this care is to give adolescents more time to consider whether to pursue a full medical transition without having to worry about the threat of an irreversible puberty; and (c) recent evidence suggests that, with guidance from parents and medical professionals, transgender adolescents can competently make decisions on whether to receive GAC.

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[195] Lieke J. J. J. Vrouenraets et al., *Assessing Medical Decision-Making Competence in Transgender Youth*, 148 Pediatrics e2020049643 (2021).

[196] Gabriele Mandarelli et al., *Treatment Decision-Making Capacity in Children and Adolescents Hospitalized for an Acute Mental Disorder: The Role of Cognitive Functioning and Psychiatric Symptoms*, 27 Journal of Child and Adolescent Psychopharmacology 462 (2017).

[197] Beth A. Clark & Alice Virani, *"This Wasn't a Split-Second Decision": An Empirical Ethical Analysis of Transgender Youth Capacity, Rights, and Authority to Consent to Hormone Therapy*, 18 J Bioeth Inq 151 (2021).

[198] Megan S. O'Brien et al., *Critical Issues for Psychiatric Medication Shared Decision Making with Youth and Families*, 92 Families in Society 310 (2011); Lieke Josephina Jeanne Johanna Vrouenraets et al., *Dealing with Moral Challenges in Treatment of Transgender Children and Adolescents: Evaluating the Role of Moral Case Deliberation*, 49 Arch Sex Behav 2619 (2020); Beth A. Clark & Alice Virani, *"This Wasn't a Split-Second Decision": An Empirical Ethical Analysis of Transgender Youth Capacity, Rights, and Authority to Consent to Hormone Therapy*, 18 J Bioeth Inq 151 (2021).

[199] HGO 3.2.2022 Bill Hearing, Maryland General Assembly, https://mgahouse.maryland.gov/mga/Play/bb1c84fe3b9e4dcd8f1c81d9c6251b8c1d (last visited Feb 9, 2023).

K. Costs of Medicaid Expansion for the Government

This subject was discussed the tenth-most overall (29.6%, TIE) in the written testimony we analyzed. It was also the seventh-most discussed subject in proponent testimony (39.7%) and the fourteenth-most discussed subject in opponent testimony (6.7%, TIE). Proponents argued that if covering GAC is affordable overall and/or worth the cost, then we should increase access to it on that basis. Opponents argued that if covering GAC is expensive overall and/or not worth the cost, then we should not increase access to it on that basis.

A 2016 study by Padula et al. evaluating the cost-effectiveness of insurance coverage for gender-affirmative healthcare (specifically including hormone replacement therapy, mastectomy, abdominoplasty, hysterectomy, genital reconstruction, and other related services) determined the incremental cost-effectiveness ratio (ICER) of covering these services to be less than $8,000 per quality-adjusted life year (QALY) gained over a ten-year period.[200] This is far below the standard "willingness to pay" threshold of $100,000 per QALY.[201]

Additionally, not all transgender patients who seek care at gender clinics receive medical interventions. For example, a 2018 study by Wiepjes et al. showed that, while the number of people with gender identity issues seeking professional help has increased dramatically in recent decades, the percentage of those patients who have actually started hormone therapy within five years after their first visit has decreased over time, with almost 90% of patients seeking that care in 1980 and only 65% of patients seeking that care in 2010.[202]

Lastly, eliminating barriers to GAC could have positive downstream economic effects. By increasing access to GAC, this can help alleviate minority stress and other comorbidities that arise from untreated gender dysphoria, which can decrease costs for medical care for transgender people in other areas.[203]

L. Quality of Evidence Concerning Gender-Affirmative Care

This subject was discussed the tenth-most overall (29.6%, TIE) in the written testimony we analyzed. It was also the eleventh-most discussed subject in proponent testimony (17.6%) and the sixth-most discussed subject in opponent testimony (56.7%). Proponents argued that if the prevailing evidence on GAC is of high enough quality that we should be able to trust it, then we should rely on it to justify expanding access to GAC. Opponents argued that if the prevailing

[200] William V. Padula, Shiona Heru & Jonathan D. Campbell, *Societal Implications of Health Insurance Coverage for Medically Necessary Services in the U.S. Transgender Population: A Cost-Effectiveness Analysis*, 31 J GEN INTERN MED 394 (2016).

[201] David Cameron, Jasper Ubels & Fredrik Norström, *On what basis are medical cost-effectiveness thresholds set? Clashing opinions and an absence of data: a systematic review*, 11 Glob Health Action 1447828 (2018).

[202] Chantal M. Wiepjes et al., *The Amsterdam Cohort of Gender Dysphoria Study (1972-2015): Trends in Prevalence, Treatment, and Regrets*, 15 J Sex Med 582 (2018).

[203] Kellan E. Baker, *The Future of Transgender Coverage*, 376 N Engl J Med 1801 (2017).

evidence on GAC is not high enough quality that we should be able to trust it, then we should not rely on it to justify expanding access to GAC because to do so would be "experimentation."

The internationally-recognized standardS for evaluating the quality of medical literature for purposes of making healthcare recommendations are the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guidelines.[204] Using this system, opponents have criticized the prevailing literature on the efficacy of GAC to argue that it should not be relied upon to expand access to GAC (and even that it should be banned) since it is predominantly "low-quality" under the GRADE guidelines.

This is misleading, because the terms "low-quality" and "high-quality" under the GRADE guidelines are highly technical terms of art. Generally, only randomized controlled trials (RCTs) are coded as "high-quality" evidence according to the GRADE guidelines.[205] A randomized controlled trial is a study that randomly divides patients into a control group that receives no treatment and a test group that receives the treatment. In contrast, most of the medical studies on GAC consist of observational studies, which record information about patients in a real-world setting (ex: a cohort of patients seen at a clinic). Under the GRADE criteria, observational studies are coded as "low-quality."[206]

The term "low-quality" does not mean that the underlying studies in a set of recommendations are poorly-conducted or unreliable. The GRADE guidelines specifically note that they should *not* be used to dismiss observational studies or to give absolute priority to RCTs:

> Although higher quality evidence is more likely to be associated with stronger recommendations than lower quality evidence, a particular level of quality does not imply a particular strength of recommendations. *Sometimes, low or very low quality evidence can lead to a strong recommendation.*[207]

It is therefore incorrect to assert that the absence of RCTs from a body of medical literature means that it cannot be relied upon to make consensus recommendations. Instead, the GRADE criteria requires that researchers evaluate the design and conduct of specific observational studies and to do so with an awareness of the clinical context.[208]

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[204] Gordon Guyatt et al., *GRADE guidelines: 1. Introduction—GRADE evidence profiles and summary of findings tables*, 64 Journal of Clinical Epidemiology 383 (2011); Gordon H. Guyatt et al., *GRADE: an emerging consensus on rating quality of evidence and strength of recommendations*, 336 BMJ 924 (2008).

[205] Howard Balshem et al., *GRADE guidelines: 3. Rating the quality of evidence*, 64 J Clin Epidemiol 401 (2011).

[206] *Id.*

[207] *Id.* at 141.

[208] Howard Balshem et al., *GRADE guidelines: 3. Rating the quality of evidence*, 64 J Clin Epidemiol 401 (2011). ("[W] e caution against a mechanistic approach toward the application of the criteria for rating the quality of the evidence up or down.... Fundamentally, the assessment of evidence quality is a subjective process, and GRADE

The main reason why consensus recommendations may be based primarily, or in large part, on observational studies is that there are ethical and/or practical limitations to conducting RCTs to evaluate gender-affirming treatment. For example, the standard practice that children should not be given aspirin for fevers is based on observational studies that showed an association between aspirin treatment during viral illnesses and the development of Reye's syndrome (a rapid and progressive disease of neurological dysfunction that can be fatal). Conducting "higher-quality" studies on this issue would necessitate violating ethical principles since it would require giving aspirin to children and risk exposing them to serious harm.[209] In this case, conducting an RCT on the effectiveness of GAC would require denying medically-necessary treatment to transgender people.

Many consensus recommendations for surgical procedures are also based on "low-quality" evidence since it can be impossible to randomly assign test subjects to categories without their knowing. For example, the main body of literature on minimally invasive gallbladder surgery consists of mainly observational studies.[210] Here, it would be impossible to provide a "placebo" surgery for testing the effectiveness of genital-related surgery and other forms of gender-affirmative surgery.

The fact of the matter is that clinical practice guidelines are often supported only by "low-quality" (but respected) observational studies. For example, the famous Framingham Heart Study was an observational study that provided the framework for clinical practice guidelines that support the use of statins, a cholesterol-lowering drug that is effective in preventing cardiovascular death and is currently prescribed to 28% of all adults over the age of 40.[211] In 2013, the American College of Cardiology and the American Heart Association issued updated clinical practice guidelines on the treatment of cholesterol to reduce heart disease risk in adults based not only on RCTs, but also on many observational studies that would technically be ranked as "low-quality" under the GRADE guidelines.[212] The authors of the Cholesterol Guidelines are very careful to grade their evidence (like the Endocrine Society and WPATH authors), but they base their recommendations on a holistic evaluation of the existing evidence, as opposed to a mechanical assessment of technical quality of existing evidence.[213]

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should not be seen as obviating the need for or minimizing the importance of judgment or as suggesting that quality can be objectively determined").

[209] Howard Balshem et al., *GRADE guidelines: 3. Rating the quality of evidence*, 64 J Clin Epidemiol 401, 403 (2011).

[210] *Id.*

[211] Neil J. Stone et al., *2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines*, 129 Circulation S1 (2014).

[212] *Id.*

[213] Syed S. Mahmood et al., *The Framingham Heart Study and the epidemiology of cardiovascular disease: a historical perspective*, 383 Lancet 999 (2014).

M. Position of the FDA

This subject was discussed the thirteenth-most overall (17.3%) in the written testimony we analyzed. It was also the ninth-most discussed subject in proponent testimony (19.1%, TIE) and the tenth-most discussed subject in opponent testimony (13.3%, TIE). Proponents argued that if the FDA approves of GAC (and/or authorizes its reimbursement), then we should increase access to it on that basis. Opponents argued that if the FDA does not approve of GAC (and/or does not authorize its reimbursement), then we should not increase access to it on that basis.

The main reason why this argument is relevant is because opponents attempt to cast doubt on the scientific evidence supporting gender affirming hormone medications by noting that the FDA has not approved puberty blockers to treat gender dysphoria (and it is therefore "off-label" use). This is misleading because the term "off-label" has a very specific and narrow meaning in medicine, namely: use of a certain drug is "off-label" if the FDA has not approved a particular use of a particular medication for a particular population.[214] The "off-label" use of medications for children is quite common, and often necessary since an "overwhelming number of drugs" have no FDA-approved instructions for use in pediatric settings due to limits imposed by burdensome and expensive regulatory processes.[215] This is why the American Academy of Pediatrics approves of "off-label" use of drugs:

> The purpose of off-label use is to benefit the individual patient. Practitioners use their professional judgment to determine these uses. *As such, the term "off-label" does not imply an improper, illegal, contraindicated, or investigational use.* Therapeutic decision making must always rely on the best available evidence and the importance of the benefit for the individual patient.[216]

Off-label drug use is so common in pediatrics that off-label drugs are prescribed in over 20% of patient visits.[217] A 2021 study by Back et al. found that at least one medication was

[214] COMMITTEE ON DRUGS et al., *Off-Label Use of Drugs in Children*, 133 Pediatrics 563 (2014).

[215] COMMITTEE ON DRUGS et al., *Off-Label Use of Drugs in Children*, 133 Pediatrics 563 (2014); H. Christine Allen et al., *Off-Label Medication use in Children, More Common than We Think: A Systematic Review of the Literature*, 111 J Okla State Med Assoc 776 (2018); Lenneke Schrier et al., *Off-label use of medicines in neonates, infants, children, and adolescents: a joint policy statement by the European Academy of Paediatrics and the European society for Developmental Perinatal and Pediatric Pharmacology*, 179 Eur J Pediatr 839 (2020).

[216] COMMITTEE ON DRUGS et al., *Off-Label Use of Drugs in Children*, 133 Pediatrics 563 (2014); Katelyn Yackey et al., *Off-label Medication Prescribing Patterns in Pediatrics: An Update*, 9 Hosp Pediatr 186 (2019); Lenneke Schrier et al., *Off-label use of medicines in neonates, infants, children, and adolescents: a joint policy statement by the European Academy of Paediatrics and the European society for Developmental Perinatal and Pediatric Pharmacology*, 179 Eur J Pediatr 839 (2020).

[217] COMMITTEE ON DRUGS et al., *Off-Label Use of Drugs in Children*, 133 Pediatrics 563 (2014); Divya Hoon et al., *Trends in Off-Label Drug Use in Ambulatory Settings: 2006-2015*, 144 Pediatrics e20190896 (2019).

prescribed off-label in 28% of visits to children's hospitals in which medication was prescribed, and this rate increased to 75% of treatments in inpatient pediatric cardiac care.[218]

One example of common off-label medication use is the use of steroids for croup, which helps toddlers get through severe, potentially airway-obstructing illnesses safely.[219] Ondanstetron (Zofran) is used off-label with children to treat nausea and vomiting to prevent fluid loss since children are particularly vulnerable to dehydration. Ketamine and fentanyl are used off-label for pain relief (for example, to manage chronic pain in palliative care and in patients with cancer, but is used on-label in anesthesia).[220] In neonatal medicine, off-label medications are often used to treat the smallest and most fragile babies.[221] Pantoprazole (a proton pump inhibitor (PPI) used in general pediatric care to treat acid reflux) is used off-label in neonates with gastroesophageal reflux disease to help infants gain adequate weight in the first four-to-six months of life if they do not respond to traditional first-line treatments.[222] Selective Serotonin Reuptake Inhibitors (SSRIs) are used off-label to treat major depressive disorder and generalized anxiety in adolescents.[223] Combined hormonal contraceptives or progesterone-only contraceptive methods are used off-label to treat heavy menstrual bleeding, premenstrual dysphoric disorder, and polycystic ovarian syndrome (but is used on-label for contraception).[224] Finally, clonidine is used off-label for anxiety, insomnia, and post-traumatic stress disorder (PTSD) (but is used on-label for attention deficit hyperactivity disorder (ADHD)).[225]

As we can see, "off-label" does not mean that a certain medication's use is experimental or unsafe. In fact, many medications are commonly used "off-label" to safely and effectively treat children and adolescents for a wide variety of purposes.

N. Desistance & Detransition Rates of Transgender Youth

This subject was discussed the fourteenth-most overall (14.3%, TIE) in the written testimony we analyzed. It was also the seventeenth-most discussed subject in proponent

[218] Julia Back et al., *Evidence of support used for drug treatments in pediatric cardiology*, 4 Health Sci Rep e288 (2021).

[219] Katelyn Yackey et al., *Off-label Medication Prescribing Patterns in Pediatrics: An Update*, 9 Hospital Pediatrics 186, 192 (2019). *See also* COMMITTEE ON DRUGS et al., *Off-Label Use of Drugs in Children*, 133 Pediatrics 563 (2014).

[220] *Id.*

[221] *Id.* at 190.

[222] *Id.* at 191.

[223] Boris Birmaher & David Brent, *Practice Parameter for the Assessment and Treatment of Children and Adolescents With Depressive Disorders*, 46 Journal of the American Academy of Child & Adolescent Psychiatry 1503 (2007).

[224] Divya Hoon et al., *Trends in Off-Label Drug Use in Ambulatory Settings: 2006-2015*, 144 Pediatrics e20190896 (2019).

[225] Rama Yasaei & Abdolreza Saadabadi, *Clonidine*, *in* StatPearls (2022), http://www.ncbi.nlm.nih.gov/books/NBK459124/ (last visited Nov 2, 2022).

testimony (1.5%) and the seventh-most discussed subject in opponent testimony (43.3%). Proponents argued that if desistance and/or detransition rates of transgender youth are relatively low, then that should not be a basis to deny increasing access to permanent forms of GAC. Opponents argued that if desistance and/or detransition rates of transgender youth are relatively high, then that should be a basis to deny increasing access to permanent forms of gender-affirmative GAC.

"Desistance" rates are commonly brought up by opponents to argue that most children who identify as transgender "desist" from their transgender identification later in life, with the most commonly cited number being 85%. However, it is often unclear or contradictory what this "85% desistance rate" is referring to. Some opponents use this term to refer to minors who previously identified as transgender who "resolved" those feelings and identified with their gender assigned at birth. Others use the same or similar statistics to refer to minors who "grow out of" a diagnosis of gender dysphoria.

As a point of clarification, a "trans-identification" and a medical diagnosis are not the same. A child can identify as transgender without a diagnosis of gender dysphoria. However, regardless of which definition of "desistance" is put forth, the ways that opponents present peer-reviewed evidence to support this claim is misleading at best. At worst, their misuse may lead to many believing (incorrectly) that transgender children are simply going through a phase and will be harmed by affirmative intervention when they would have otherwise had a happier life without it.

The five most common primary sources cited to obtain an average "desistance" rate are: (1) Drummond et al., 2008;[226] (2) Singh, 2012 and/or Singh et al., 2021;[227] (3) Steensma et al., 2011;[228] (4) Steensma et al., 2013;[229] and (5) Wallien & Cohen-Kettenis, 2008.[230] These studies were conducted with samples of gender-nonconforming children in two different clinics in

[226] Kelley D. Drummond et al., *A follow-up study of girls with gender identity disorder*, 44 Dev Psychol 34 (2008).

[227] Devita Singh, Susan J. Bradley & Kenneth J. Zucker, *A Follow-Up Study of Boys With Gender Identity Disorder*, 12 Front Psychiatry 632784 (2021); Devita Singh, Susan J. Bradley & Kenneth J. Zucker, *A Follow-Up Study of Boys With Gender Identity Disorder*, Mar. 29, 2021, https://www.frontiersin.org/articles/10.3389/fpsyt.2021.632784/full (last visited Oct 18, 2022) (Note: the 2012 source is a doctoral dissertation that was the basis for the 2021 publication; they are both referring to the same data).

[228] Thomas D. Steensma et al., *Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study*, 16 Clin Child Psychol Psychiatry 499 (2011).

[229] Thomas D. Steensma et al., *Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study*, 52 J Am Acad Child Adolesc Psychiatry 582 (2013).

[230] Madeleine S. C. Wallien & Peggy T. Cohen-Kettenis, *Psychosexual outcome of gender-dysphoric children*, 47 J Am Acad Child Adolesc Psychiatry 1413 (2008).

Canada and the Netherlands.[231] [232]

All five of these papers utilized data collected before the introduction of "gender dysphoria" into the fifth addition of the APA's Diagnostic and Statistical Manual of Mental Disorders (DSM) in 2013:

> *Gender dysphoria* refers to the distress that may accompany the incongruence between one's experienced or expressed gender and one's assigned gender. Although not all individuals will experience distress as a result of such incongruence, many are distressed if the desired physical interventions by means of hormones and/or surgery are not available. The current term is more descriptive than the previous DSM-IV term *gender identity disorder* and focuses on dysphoria as the clinical problem, not identity per se.[233]

The previous diagnosis, "gender identity disorder of childhood" (GIDC), was overly broad and did not require a desire or insistence that one is "the other sex" to meet the threshold for diagnosis.[234] The diagnostic criteria included a preference "for wearing only stereotypical masculine clothing," "preferences for cross-sex roles in make-believe play," "[an] intense desire to participate in the stereotypical games and pastimes of the other sex," and "strong preferences for playmates of the other sex."[235] In their 2008 study referenced above, Wallien and Cohen-Kettenis discussed how this could have meant that they were inappropriately counting

[231] Other sources that are sometimes referenced include: Richard Green, The Sissy Boy Syndrome: The Development of Homosexuality (1987), https://www.jstor.org/stable/j.ctt1ww3v4c (last visited Oct 18, 2022); Robert J. Kosky, *Gender-disordered children: does inpatient treatment help?*, 146 Medical Journal of Australia 565 (1987); Charles W. Davenport, *A follow-up study of 10 feminine boys*, 15 Arch Sex Behav 511 (1986); Bernard Zuger, *Early Effeminate Behavior in Boys: Outcome and Significance for Homosexuality*, 172 The Journal of Nervous and Mental Disease 90 (1984); John Money & Anthony J. Russo, *Homosexual Outcome of Discordant Gender Identity/Role in Childhood: Longitudinal Follow-Up1*, 4 Journal of Pediatric Psychology 29 (1979); Bernard Zuger, *Effeminate behavior present in boys from childhood: Ten additional years of follow-up*, 19 Comprehensive Psychiatry 363 (1978); Phil S. Lebovitz, *Feminine Behavior in Boys: Aspects of Its Outcome*, 128 AJP 1283 (1972); and Harry Bakwin, *DEVIANT GENDER-ROLE BEHAVIOR IN CHILDREN: RELATION TO HOMOSEXUALITY*, 41 Pediatrics 620 (1968). However, these older studies come from a different era where the primary research concern was to prevent homosexuality or transsexualism in effeminate boys, rather than to study the persistence of transgender identities or gender dysphoria.

[232] As a further point of clarification, "desist" is also sometimes used synonymously with "detransition." However, "detransition" typically refers to the reversal of medical procedures associated with gender transition, rather than the cessation of an identity or diagnosis more commonly associated with transgender youth. These sources are more concerned with the latter. While their use in estimating desistance rates will be critiqued shortly, it would be inaccurate to claim these are studies of "detransitioning" youth.

[233] American Psychiatric Association, Diagnostic And Statistical Manual Of Mental Disorders, Fifth Edition (2013), https://dsm.psychiatryonline.org/doi/book/10.1176/appi.books.9780890425787 (last visited Oct 20, 2022).

[234] Julia Temple Newhook et al., *A critical commentary on follow-up studies and "desistance" theories about transgender and gender-nonconforming children*, 19 International Journal of Transgenderism 212 (2018).

[235] American Psychological Association, *Diagnostic and Statistical Manual of Mental Disorders, 3rd ed., revised (DSM-III-R)*, 145 AJP 1301 (1988); American Psychological Association, *Diagnostic and Statistical Manual of Mental Disorders, 4th ed. (DSM-IV)*, 152 AJP 1228 (1995).

many children as "desisters," meaning that the percentage of actual desisters would have been much lower than what they found:

> Some critics have expressed concerns that the DSM criteria may not adequately differentiate children with GID from children who show healthy gender nonconforming behavior and that, as a consequence, children who should not be classified as having a psychiatric disorder would be treated. . . . [W]e believe that the percentage of desisters could be much lower than it is now.[236]

Beyond this inadequate diagnosis, there are other problems with using the five aforementioned studies to make claims about the prevalence of "desistance." The 2021 study by Singh et al. reports a desistance rate of 87.8% in a study of 139 boys from the mean years of 1989 at the start and 2002 at follow up.[237] However, 51 (36.7%) of all the boys were subthreshold for the DSM-III, III-R, or IV criteria for gender identity disorder.[238] Yet, 46 of those 51 youths were classified as "desisters."[239] This begs the question: what did they desist from?

The 2008 study by Drummond et al. of 25 girls using data collected from 1975 to 2004 has an identical issue.[240] Ten of the girls in the study (or 40% of the participants) were subthreshold for a GID diagnosis, and yet nine of them were still classified as "desisters."[241] The 2013 study by Steensma et al., which followed 127 adolescents from 2008 to the follow-up in 2012, found a desistance rate of 63%.[242] Yet, once again, 47 (37%) of all these adolescents were subthreshold for a DSM-IV-TR diagnosis of GID.[243] Of those 47 subthreshold adolescents, 44 were still classified as "desisters."[244] Lastly, 35% of the "desisters" in the 2008 study by Wallien and Cohen-Kettenis did not receive a full GID diagnosis as children.[245]

Compounding these issues is the fact that the term "desister" often lacks an explicit definition in these studies, and the implicit definition is often contradictory. The 2012

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[236] Madeleine S. C. Wallien & Peggy T. Cohen-Kettenis, *Psychosexual outcome of gender-dysphoric children*, 47 J Am Acad Child Adolesc Psychiatry 1413 (2008).

[237] Devita Singh, Susan J. Bradley & Kenneth J. Zucker, *A Follow-Up Study of Boys With Gender Identity Disorder*, 12 Front Psychiatry 632784 (2021) (Note: the 2012 source is a doctoral dissertation that was the basis for the 2021 publication; they are both referring to the same data).

[238] *Id.*

[239] *Id.*

[240] Kelley D. Drummond et al., *A follow-up study of girls with gender identity disorder*, 44 Dev Psychol 34 (2008).

[241] *Id.*

[242] Thomas D. Steensma et al., *Factors associated with desistence and persistence of childhood gender dysphoria: a quantitative follow-up study*, 52 J Am Acad Child Adolesc Psychiatry 582 (2013).

[243] *Id.*

[244] *Id.*

[245] Madeleine S. C. Wallien & Peggy T. Cohen-Kettenis, *Psychosexual outcome of gender-dysphoric children*, 47 J Am Acad Child Adolesc Psychiatry 1413 (2008).

dissertation by Singh states that "[s]tudies have generally found that not all boys with GID persist in having GID through adulthood and, in fact, the majority desist[,]"[246] which implies that "desisting" refers to no longer having a diagnosis of GID. However, as previously discussed, individuals who never received a GID diagnosis are often categorized as "desisters" in these studies. Likewise, the 2008 study by Drummond et al. begins its abstract by saying "[t]his study provided information on the natural histories of 25 girls with gender identity disorder (GID)" before informing us that 10 of said girls were not ever diagnosed with GID.[247] According to Dr. Kenneth Zucker, a prolific researcher in the field of gender and sexuality, the terms "persistence" and "desistance" originate from his stumbling across the terms in a paper reporting on the rates of persistence and desistance of oppositional defiant disorder: "*At the time, the terms sounded pretty cool to me*. . . ."[248] It seems that the terms were borrowed from research on behavioral disorders without much justification or formal adaptation to research on gender identity, especially after the APA evolution for GIDC to GDC diagnoses.

That being said, the 2011 and 2013 studies by Steensma et al. included subthreshold children in their research because these studies were not designed to find *rates* of persistence or desistance, but rather to find *reasons* for persistence or desistance. Steensma has gone on record stating that this study was not designed to find desistance rates, and that "[p]roviding these [desistance] numbers will only lead to wrong conclusions."[249]

Furthermore, the studies commonly cited by opponents also suffer severely from issues of external validity. As stated earlier, the five commonly-cited studies by opponents used data collected from only two clinics: one in Toronto, Canada and one in the Netherlands. Many of the children in the Toronto studies[250] were enrolled in a treatment program that sought to "lower the odds" that they would grow up to be transgender.[251] Dr. Kenneth Zucker wrote the following about the clinic's approach: "*[I]n our clinic, treatment is recommended to reduce the likelihood*

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[246] Devita Singh, Susan J. Bradley & Kenneth J. Zucker, *A Follow-Up Study of Boys With Gender Identity Disorder*, Mar. 29, 2021, https://www.frontiersin.org/articles/10.3389/fpsyt.2021.632784/full (last visited Oct 18, 2022).

[247] Kelley D. Drummond et al., *A follow-up study of girls with gender identity disorder*, 44 Dev Psychol 34 (2008).

[248] Kenneth J. Zucker, *The myth of persistence: Response to "A critical commentary on follow-up studies and 'desistance' theories about transgender and gender non-conforming children" by Temple Newhook et al. (2018)* , 19 International Journal of Transgenderism 231 (2018).

[249] Jon Brooks, *The Controversial Research on "Desistance" in Transgender Youth*, KQED (2018), https://www.kqed.org/futureofyou/441784/the-controversial-research-on-desistance-in-transgender-youth (last visited Feb 9, 2023).

[250] Devita Singh, Susan J. Bradley & Kenneth J. Zucker, *A Follow-Up Study of Boys With Gender Identity Disorder*, 12 Front Psychiatry 632784 (2021); Kelley D. Drummond et al., *A follow-up study of girls with gender identity disorder*, 44 Dev Psychol 34 (2008).

[251] Julia Temple Newhook et al., *A critical commentary on follow-up studies and "desistance" theories about transgender and gender-nonconforming children*, 19 International Journal of Transgenderism 212 (2018).

of GID persistence."[252] This clinic was closed in 2015 after an external report concluded that their corrective model was contrary to currently recognized professional norms.[253] While the Netherlands clinic[254] did not discourage children from exploring their gender expression, it did discourage children from socially transitioning prior to puberty.[255]

In short, due to a lack of consistent definitions for "desistance," overly-inclusive criteria for an inadequate and outdated diagnosis that is often not even met by all "desisters," and other significant issues identified with the literature commonly cited by opponents, it is unlikely that the 85% desistance statistic is an accurate reflection of modern practices. This is especially misleading when given to the general public as proof that "transgender children are most likely going through a phase." One recent 2022 study by Olson et al. looked specifically at rates of persistence of gender self-identification.[256] Of 317 youth who initially identified as transgender, 94% identified as binary transgender five years later.[257] Only 2.5% identified as cisgender, and 3.5% identified as nonbinary, something that was rarely reported in previous studies that focused on GICD.[258] In fact, in the 2011 study by Steensma et al., a self-identified bigender patient was classified as a desister because they did not want to seek medical intervention,[259] further demonstrating that "desistance" in the studies cited by opponents do not always accompany an identification with one's gender assigned at birth.

This is not to say that all or even most children with a "proper" diagnosis of gender dysphoria or self-identification as transgender will persist with that identity into adulthood and/or desire medical intervention. However, without proper definitions of variables across (or at the very least within) studies, this data cannot be credibly cited to argue that we should not expand access to GAC. It also bears mentioning that, as noted previously in the "Satisfaction, Regret, & Reversibility of Gender-Affirmative Care" section of this report, any form of gender affirming care that these "desistors" had received prior to "desisting," such as social transition and puberty blockers, are completely reversible.

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[252] Kenneth J. Zucker et al., *A Developmental, Biopsychosocial Model for the Treatment of Children with Gender Identity Disorder*, 59 Journal of Homosexuality 369, 393 (2012).

[253] Suzanne Zinck & Antonio Pingnatiello, *External Review of the Gender Identity Clinic of the Child, Youth and Family Services in the Underserved Populations Program at the Centre for Addiction and Mental Health*, (2015), https://www.transadvocate.com/wp-content/uploads/GIC-Review-26Nov2015-TA1.pdf (last visited Feb 9, 2023).

[254] Thomas D. Steensma et al., *Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study*, 16 Clin Child Psychol Psychiatry 499 (2011); Madeleine S. C. Wallien & Peggy T. Cohen-Kettenis, *Psychosexual outcome of gender-dysphoric children*, 47 J Am Acad Child Adolesc Psychiatry 1413 (2008).

[255] Julia Temple Newhook et al., *A critical commentary on follow-up studies and "desistance" theories about transgender and gender-nonconforming children*, 19 International Journal of Transgenderism 212 (2018).

[256] Kristina R. Olson et al., *Gender Identity 5 Years After Social Transition*, 150 Pediatrics e2021056082 (2022).

[257] *Id.*

[258] *Id.*

[259] Thomas D. Steensma et al., *Desisting and persisting gender dysphoria after childhood: A qualitative follow-up study*, 16 Clin Child Psychol Psychiatry 499 (2011).

O. Federal & State Law Applications to Gender-Affirmative Care

This subject was discussed the sixteenth-most overall (6.1%) in the written testimony we analyzed. It was also the fifteenth-most discussed subject in proponent testimony (2.9%, TIE) and the tenth-most discussed subject in opponent testimony (13.3%, TIE). Proponents argued that if it is legally permissible to expand access to GAC (or if current laws would require it), then this should not be an objection to expanding access to it under Medicaid. Opponents argued that if it is not legally permissible to expand access to GAC, then this should be an objection to expanding access to it under Medicaid.

The primary federal statute to consider is Section 1557 of the Affordable Care Act (ACA), which states in relevant part: "an individual shall not . . . be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any health program or activity [on the basis of sex]."[260]

The United States Department of Health and Human Services (HHS) has taken regulatory action throughout the past several administrations to interpret Section 1557 with respect to how they believe it protects transgender people. In 2016, HHS issued several regulatory provisions that interpreted Section 1557 to prohibit discrimination based on gender identity.[261] Although these provisions were removed in 2020 under the Trump Administration, the Biden Administration's proposed rule interpreting Section 1557 of the ACA would reinstate the prohibitions against discrimination on the basis of gender identity.[262] Under the Biden Administration, HHS argued in their announcement[263] that this is consistent with the Supreme Court's recent ruling in *Bostock v. Clayton County*, where the Court concluded that employers violated Title VII of the Civil Rights Act of 1964 when they fired a long-time employee shortly after the employee revealed that she was transgender.[264] Here, the Court ruled that it was impossible to discriminate against a person for being homosexual or transgender without discriminating against that individual on the basis of sex.[265] Consequently, failing to cover GAC could result in the HHS withholding federal funds since it could constitute discrimination on the basis of sex, especially once this rule is finalized.

There are also several courts who have held that the statutory language of Section 1557 prohibits discrimination based on gender identity as a form of sex discrimination pursuant to the

[260] 42 U.S.C.S. § 18116 (citing 20 U.S.C.S. § 1681).
[261] 42 C.F.R. §§ 440.262, 438.206(c)(2), 438.3(d)(4) (2018).
[262] 87 F.R. 47824 (proposed Aug. 4, 2022).
[263] Office for Civil Rights (OCR), *HHS Announces Proposed Rule to Strengthen Nondiscrimination in Health Care*, HHS.gov (2022), https://www.hhs.gov/about/news/2022/07/25/hhs-announces-proposed-rule-to-strengthen-nondiscrimination-in-health-care.html (last visited Feb 9, 2023).
[264] *Bostock v. Clayton Cty.*, 140 S. Ct. 1731 (2020).
[265] *Id.*

same rationale that the Court set out in *Bostock*. For example, a federal district court in Wisconsin held in 2019 that the state's ban on Medicaid coverage for GAC violated Section 1557 because the state engaged in "a straight forward case of sex discrimination" by covering certain procedures for people whose sex matched their gender identity, but not for those whose sex and gender identity did not match.[266] That court also held that discrimination against transgender individuals is by its nature discrimination based on sex and sex stereotypes,[267] and they even came to that conclusion a year before the Court came to the same conclusion in *Bostock*. Another federal district court in West Virginia held in 2022 that their state's ban on GAC violated the Affordable Care Act, following the reasoning of the Court's analysis in *Bostock*.[268]

The other federal statute to consider is the Medicaid Act, which was discussed in an earlier section of this report. As mentioned previously, the baseline requirements set out under federal law for state Medicaid programs are: (1) the Availability Provision, which requires that states provide medical assistance to all categorically needy individuals; and (2) the Comparability Provision, which requires that assistance must be provided equally among individuals within beneficiary groups.[269]

Some federal courts have interpreted these provisions to require states to provide GAC to transgender Medicaid beneficiaries. For example, a federal district court in New York held in 2016 that the state's blanket ban on Medicaid coverage for some gender-affirmative surgeries violated the Availability Provision by barring coverage for treatments that could be medically necessary for transgender beneficiaries.[270] That same court also held that the ban violated the Comparability Provision by covering treatments that were excluded by their state's ban for individuals with diagnoses other than gender dysphoria.[271] Federal courts in Wisconsin and West Virginia have also held that state bans on GAC violated the Availability and Comparability provisions for similar reasons.[272]

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[266] *Flack v. Wis. Dep't. of Health Servs.*, 328 F. Supp. 3d 931, 947-48 (W.D. Wis. 2018).

[267] *Id.* at 948-51.

[268] *Fain v. Crouch*, _ F. Supp. 3d _, 2022 WL 3051015 (S.D. W. Va. 2022). That being said, other courts have held that discrimination based on gender identity is not a form of sex discrimination prohibited by Section 1557 of the ACA. *See Franciscan All., Inc. v. Burwell*, 227 F. Supp. 3d 660 (N.D. Tex. 2016); Office for Civil Rights, *Fact Sheet: HHS Proposes to Revise ACA Section 1557 Rule*, U.S. Dep't Health & Hum. Servs. (May 24, 2019), https://www.hhs.gov/sites/default/files/factsheet-section-1557.pdf (noting the District Court of North Dakota enjoined the application of the Final Rule to two plaintiffs because the court concluded *Franciscan Alliance* was persuasive).

[269] 42 U.S.C. §§ 1396a(a)(10)(A)–(B) (2018).

[270] *Cruz v. Zucker*, 195 F. Supp. 3d 554, 570, 576 (S.D.N.Y. 2016).

[271] *Id.* at 576. *See also Davis v. Shah*, 821 F.3d 231, 258 (2d Cir. 2016) ("[The Comparability Provision] prohibits discrimination among individuals with the same medical needs stemming from different medical conditions.").

[272] *Flack v. Wisc. Dept' of Health Servs.*, No. 18-cv-309-wmc (W.D. Wisc. Aug. 16, 2019); *Fain v. Crouch*, _ F. Supp. 3d _, 2022 WL 3051015 (S.D. W. Va. 2022).

It is also possible that the Equal Protection Clause of the Fourteenth Amendment to the U.S. Constitution supports access to GAC under state Medicaid programs. However, there are cases currently pending on this issue, so this is an area that we would like to take up further in a future version of this report.

There are several Maryland state regulations and laws which may apply as well. For example, Maryland regulation requires that "[a] [Managed Care Organization] shall provide medically necessary gender reassignment surgery and other somatic specialty care for members with gender identity disorder."[273] Maryland law also states that government units and employees may not discriminate on the basis of sex.[274]

Opponents seem to focus on two main arguments concerning the legality of providing GAC: (1) whether GAC is experimental in nature,[275] and (2) the role of the State in limiting children's ability to make life-altering decisions. The former argument comes from the idea that the State has a "significant role to play in regulating the medical profession"[276] and that the State's authority to regulate the medical field is even stronger "in areas where there is medical and scientific uncertainty."[277] The latter argument is based on the State's interest in "protecting the physical and psychological wellbeing of minors"[278] and how the State will often limit the ability for children to make life-altering decisions since they often lack the "experience, perspective, and judgment to recognize and avoid choices that could be detrimental to them."[279]

Both of these arguments are primarily evidentiary in nature and are addressed in previous sections of this report. To reiterate, GAC is *not* experimental in nature. This is why the Federal District Court for the Eastern District of Arkansas recognized that the use of gender-affirming interventions as specified under modern medical standards is supported by all mainstream pediatric organizations, representing thousands of accredited physicians across multiple disciplines.[280] Furthermore, there are several studies demonstrating that transgender adolescents are capable of providing informed consent with the help of parents and trained physicians. This was discussed in an earlier section of this report.

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[273] COMAR 10.67.06.26-3.

[274] Md. Code, State Government, § 20-901.

[275] *Abigail All. for Better Access to Developmental Drugs v. von Eschenbach*, 495 F.3d 695, 697, 711 (D.C. Cir. 2007) (finding no "right to procure and use experimental drugs that is deeply rooted in our Nation's history and traditions" including requests by "terminally ill patients" to obtain "experimental drugs that have passed limited safety trials but have not been proven safe and effective")."

[276] *Gonzales v. Carhart*, 550 U.S. 124, 157 (2007).

[277] *Id.* at 163; *see also Kansas v. Hendricks*, 521 U.S. 346, 360 n.3 (1997) ("[I]t is precisely where such disagreement exists that legislatures have been afforded the widest latitude in drafting such statutes.")

[278] *Sable Communications of Cal., Inc. v. FCC*, 492 U.S. 115, 126 (1989).

[279] *Bellotti v. Baird*, 443 U.S. 622, 635 (1979).

[280] *Brandt v. Rutledge*, 551 F. Supp. 3d 882 (E.D. Ark. 2021).

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A DATA-DRIVEN POLICY GUIDE TO GENDER-AFFIRMATIVE CARE

AUTHORS
Riley Grace Roshong, Justin Gibson
Elton Högklint, Scott Oatley

We conducted a qualitative analysis of all the written testimony for two bills on Gender-Affirmative Care (GAC) submitted in 2022: HB0746/SB0682 in Maryland (which sought to increase access to GAC), and HB0454 in Ohio (which sought to decrease access to GAC) to determine what subjects witnesses focused on and how often. Then, we reviewed and summarized the relevant academic literature on most subjects we identified. These are the findings on eight of our top subjects.

Overall	Pro	Anti
1st 84.7%	1st 88.2%	4th 76.7%
2nd 70.4%	4th 70.6%	5th 70.0%
3rd 59.2%	3rd 79.4%	11th 13.3%
4th 58.2%	2nd 83.3%	18th 0.0%
5th 44.9%	8th 26.5%	2nd 86.7%
6th 42.9%	5th 57.4%	13th 10.0%
8th 32.7%	13th 10.3%	3rd 83.3%
9th 31.6%	14th 5.9%	1st 90.0%

Effects of Gender-Affirmative Care on Mental & Physical Health

Overall, the current academic literature on Gender-Affirmative Care (GAC) shows that: (1) GAC has very positive effects on the mental health of transgender people and successfully alleviates their gender dysphoria; (2) GAC has few or no negative effects on physical health; and (3) any side effects that do exist are typically offset by an overall higher quality of life.

Modern Medical Standards for Gender-Affirmative Care

The World Professional Organization for Transgender Health (WPATH) Standards of Care (SoC) for the Health of Transgender and Gender Diverse People have been subject to rigorous peer review and widely used as the medical standards of care for transgender people for decades.

Alleged Purpose(s) of Medicaid (Ex: Medical Necessity & Bodily Autonomy)

GAC is medically-necessary healthcare because: (1) it is administered for the treatment of gender dysphoria or gender incongruence pursuant to the ICD-11; (2) it is administered consistent with the WPATH SoC; and (3) transgender patients who pursue GAC are assessed by medical professionals who meet the requirements set out by the WPATH SoC.

Cost & Similar Barriers to Gender-Affirmative Care

Transgender people are often unable to access GAC due to: (1) costs, (2) lack of available providers, (3) lack of provider training, and (4) discrimination by providers.

Satisfaction, Regret, & Reversibility of Gender-Affirmative Care

Overall, the current literature shows that: (1) not all forms of GAC are irreversible, and (2) that transgender people are generally satisfied with the GAC they receive. To the extent that GAC causes sterility, transgender people can still achieve reproduction by pursuing fertility cryopreservation before beginning GAC.

Minority Stress & Effects of Gender-Affirmative Care on How Trans People Are Treated in Society

GAC is also important to alleviate the minority stress faced by transgender people as a highly stigmatized and discriminated minority, which can have a significant impact on other areas of their life such as reducing their risk of suicide and increasing their overall well-being.

Whether Being Trans is an Intrinsic Quality

While transgender identity was historically regarded as a mental disease or defect, this is now out-of-date with current practice which regards transgender identity as an intrinsic quality, due in part to several factors: (1) the historic failure of Gender Identity Change Efforts (GICE); (2) the growing body of literature suggesting a biological basis for gender identity; and (3) the World Health Organization (WHO) now classifying gender dysphoria as a physical condition by recognizing that affirming transgender conceptions of one's body is what leads to the best health outcomes for transgender people.

Capability of Trans Youth to Provide Informed Consent

Medical intervention is not recommended under the WPATH SoC until adolescence (i.e., the beginning of puberty) and is only recommended for adolescents who–along with their parents or guardians–are able to demonstrate to a medical professional that they are capable of providing informed consent. Current academic literature also demonstrates that transgender adolescents are capable of providing informed consent to receive GAC.

Our full report–with all sections, citations, and recommendations–is available in the Witness List for HB0283 (2023) on the Maryland General Assembly website. Contact Riley Grace Roshong at rileygraceroshong@gmail.com for consultation or media inquiries.