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Introduction to the Turnaway Study

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The Turnaway Study is ANSIRH's prospective longitudinal study examining the effects of unintended pregnancy on women's lives. The major aims of the study are to describe the mental health, physical health, and socioeconomic consequences of receiving an abortion compared to carrying an unwanted pregnancy to term. From 2008 to 2010, we recruited women from 30 abortion facilities around the country—from Maine to Washington, Texas to Minnesota. We interviewed nearly 1,000 women who sought abortions, some who received abortions because they presented for care under the gestational limit of the clinic and some who were “turned away” and carried to term because they were past the facility's gestational limit. We interviewed participants by phone every six months over a period of five years. We conducted nearly 8,000 interviews over the course of the study. During surveys and in-depth interviews, women shared with us complex and diverse stories about the effect of their unintended pregnancies on their lives. The Turnaway Study is an effort to capture women's stories, understand the role of abortion and childbearing in their lives, and contribute scientific data to the ongoing public policy debate on the mental health and life-course consequences of abortion and unwanted childbearing for women and families.

Why women in the U.S. seek abortions

The most common reasons for seeking an abortion are not being able to afford to have a child, the pregnancy coming at the wrong time in life and the man involved not being a suitable partner/parent. Alcohol, tobacco and drug use is an uncommon reason but women who cite this reason do not have otherwise wanted pregnancies.

1. Biggs MA, Gould H, Foster DG. [Understanding why women seek abortions in the US](#). July 2013. *BMC Women's Health*, 13:29.

2. Chibber KS, Biggs MA, Roberts SCM, Foster DG. [The role of intimate partners in women's reasons for seeking abortion](#). January 2014. *Women's Health Issues*, 24(1):e131–e138.

3. Roberts SC, Avalos LA, Sinkford D, Foster DG. [Alcohol, tobacco and drug use as reasons for abortion](#). November 2012. *Alcohol and Alcoholism*, 47(6):640-648.

Who seeks later abortion and who is denied because they are beyond gestational limits?

We estimate that even before most 20-week bans were implemented, more than 4,000 women per year were denied wanted abortions due to gestational limits. Women who seek later abortions are often slowed down by not realizing they were pregnant, followed by logistical barriers to getting a later procedure. Young women and women who have never had a child before are at higher risk of not recognizing pregnancy in the first trimester.

4. Foster DG, Gould H, Biggs MA. [Timing of pregnancy discovery among women seeking abortion](#). *Contraception*. 2021 Aug 04. PMID: 34363842.

5. Upadhyay UD, Weitz TA, Jones RK, Barar RE, Foster DG. [Denial of abortion because of provider gestational age limits in the United States](#). September 2014. *American Journal of Public Health*, 104(9):1687-1694.

6. Foster DG, Dobkin LM, Upadhyay UD. [Denial of abortion care due to gestational age limits](#). January 2013. *Contraception*, 87(1):3-5.

7. Foster DG, Kimport K. [Who seeks abortions at or after 20 weeks?](#) December 2013. *Perspectives on Sexual and Reproductive Health*, 45(4):210-218.

Recruiting for the Turnaway Study

We recruited women from 30 facilities over three years. The paper below describes the strategies we used to increase the number of women who were approached and the participation rate.

8. Dobkin L, Gould H, Barar R, Weiss E, Foster DG. [Implementing a prospective study of women seeking abortion in the United States: The challenges of recruitment prior to informed consent](#). January 2014. *Women's Health Issues*, 24(1):e115–e123.

Women's experiences with paying for abortion, counseling, ultrasound viewing and protesters

The following papers describe the counseling that occurs in abortion clinics and shows that most women don't feel pressured and that they find counseling less helpful when it is state-mandated. Many women choose to view their ultrasounds and their emotional responses to viewing, are not all negative, and some are even positive. About half of women report seeing protesters at the clinics. The more contact, the more upsetting the protesters are but protesters don't change how women feel about their abortions. There is a substantial burden women face trying to raise money to pay for an abortion. Many women who did not have access to public or private insurance coverage were delayed due to raising money for the abortion.

9. Kimport K, Weitz TA, Foster DG. [Beyond political claims: Women's interest in and emotional response to viewing their ultrasound image in abortion care](#). December 2014. *Perspectives on Sexual and Reproductive Health*, 46(4):185-191.
10. Roberts SCM, Gould H, Kimport K, Weitz TA, Foster DG. [Out-of-pocket costs and insurance coverage for abortion in the United States](#). March 2014. *Women's Health Issues*, 24(2):e211–e218.
11. Foster DG, Kimport K, Gould H, Roberts SC, Weitz TA. [Effect of abortion protesters on women's emotional response to abortion](#). January 2013. *Contraception*, 87(1):81-87.
12. Gould H, Foster DG, Perrucci AC, Barar RE, Roberts SC. [Predictors of abortion counseling receipt and helpfulness in the United States](#). July 2013. *Women's Health Issues*, 23(4):e249-e255.
13. Gould H, Perrucci A, Barar R, Sinkford D, Foster DG. [Patient education and emotional support practices in abortion care facilities in the United States](#). July 2012. *Women's Health Issues*, 22(4):e359-e364.

Effect of abortion and abortion denial on mental health and wellbeing

The Turnaway Study examined the effects of receiving or being denied abortion on women's mental health (anxiety, depression, post-traumatic stress, and suicidal ideation) and well-being (self-esteem, life satisfaction, stress and social support). We find no evidence that abortion causes negative mental health or well-being outcomes. However, we do find that being denied an abortion is associated with elevated levels of anxiety, stress, and lower self-esteem, soon after abortion denial. Over time these outcomes generally improve so that by six months to one year post-abortion seeking, women who have an abortion and those denied one have similar levels of mental health

and well-being. Perceived abortion stigma at the time of seeking an abortion is also associated with negative psychological outcomes years later.

14. Biggs MA, Upadhyay U, McCulloch CE, Foster DG. [Women's mental health and well-being five years after receiving or being denied an abortion: A prospective, longitudinal cohort study](#). February 2017. *JAMA Psychology*, 74(2):169-178.
15. Biggs MA, Brown K, Foster DG. [Perceived abortion stigma and psychological well-being over five years after receiving or being denied an abortion](#). January 2020. *Plos One*, <https://doi.org/10.1371/journal.pone.0226417>.
16. Biggs MA, Gould H, Barar RE, Foster DG. [Five-year suicidal ideation trajectories among women receiving versus being denied an abortion](#). May 2018. *American Journal of Psychiatry*, <https://doi.org/10.1176/appi.ajp.2018.18010091>.
17. Biggs MA, Rowland B, McCulloch CE, Foster DG. [Does abortion increase women's risk for post-traumatic stress? Findings from a prospective longitudinal cohort study](#). February 2016. *BMJ Open*, 6(2):e009698.
18. Biggs MA, Neuhaus J, Foster DG. [Mental health diagnoses 3 years after receiving or being denied an abortion in the United States](#). December 2015. *American Journal of Public Health*, 105(12):2557-2563.
19. Foster DG, Roberts S, Steinberg J, Neuhaus J, Biggs MA. [A comparison of depression and anxiety symptom trajectories between women who had an abortion and women denied one](#). July 2015. *Psychological Medicine*, 45(10):2073-2082.
20. Biggs MA, Upadhyay UD, Steinberg JR, Foster DG. [Does abortion reduce self-esteem and life satisfaction?](#) November 2014. *Quality of Life Research*, 23(9):2505-2513.
21. Harris LF, Roberts SCM, Biggs MA, Rocca CH, Foster DG. [Perceived stress and emotional social support among women who are denied or receive abortions in the United States: a prospective cohort study](#). June 2014. *BMC Women's Health*, 14:76.

Emotions and Decision Rightness

Women experience a mix of positive and negative emotions in the days after an abortion, with relief predominating. The intensity of all emotions diminishes over time, mostly over the first year. The overwhelming majority – over 95% - of women feel that abortion was the right decision for them at all times over five years after. This is true even for women who had abortions later in pregnancy, who reported it was very difficult to decide to have the abortion and those who felt they would be looked down on by people in their communities.

22. Rocca CH, Moseson H, Gould H, Foster DG, Kimport K. [Emotions over five years after denial of abortion in the United States: Contextualizing the effects of abortion denial on women's health and lives](#). *Soc Sci Med*. 2021 Jan; 113567. PMID: 33309441
23. Rocca CH, Samari G, Foster DG, Gould H, Kimport K. [Emotions and decision rightness over five years following an abortion: An](#)

[examination of decision difficulty and abortion stigma](#). January 2020. *Social Science & Medicine*, 248:112704.

24. Rocca CH, Kimport K, Roberts SCM, Gould H, Neuhaus J, Foster DG. [Decision rightness and emotional responses to abortion in the United States: a longitudinal study](#). July 2015. *PLOS ONE*, 10(7):e0128832.
25. Rocca C, Kimport K, Gould H, Foster DG. [Women's emotions one week after receiving or being denied an abortion in the United States](#). September 2013. *Perspectives on Sexual and Reproductive Health*, 45(3):122–131.

Consequences of abortion and abortion denial for alcohol, tobacco and drug use

The following papers show the effect of receiving or being denied a wanted abortion on drug, alcohol, and tobacco use. Women who are denied abortions and carry the pregnancy to term reduce/cease some, but not all, substance use, while women who have abortions tend to continue substance use patterns from before their abortions. Women who carry unwanted pregnancies to term do not decrease their alcohol-related problem symptoms, tobacco use and drug use.

26. Roberts SCM, Foster DG, Gould H, Biggs, MA. [Changes in alcohol, tobacco, and drug use over five years after receiving versus being denied a pregnancy termination](#). March 2018. *Journal of Studies on Alcohol and Drugs*, 79(2):293–301.
27. Roberts SC, Subbaraman MS, Delucchi KL, Wilsnack SC, Foster DG. [Moderators and mediators of the relationship between receiving versus being denied a pregnancy termination and subsequent binge drinking](#). February 2016. *Drug and Alcohol Dependence*, 159:117-124.
28. Roberts SCM, Ralph L, Wilsnack SC, Foster DG. [Which women are missed by primary health-care based interventions for alcohol and drug use?](#) April 2016. *Addictive Behaviors*, 55:32-37.
29. Roberts SCM, Foster DG. [Receiving versus being denied an abortion and subsequent tobacco use](#). March 2015. *Maternal and Child Health Journal*, 19(3):438-446.
30. Roberts SCM, Delucchi K, Wilsnack S, Foster DGF. [Receiving versus being denied a pregnancy termination and subsequent alcohol use: A longitudinal study](#). July 2015. *Alcohol and Alcoholism*, 50(4):477-484.
31. Roberts SC, Rocca CH, Foster DG. [Receiving versus being denied an abortion and subsequent drug use](#). January 2014. *Drug and Alcohol Dependence*, 134:63-70.
32. Roberts, S. C., S. C. Wilsnack, et al. [Alcohol use before and during unwanted pregnancy](#). November 2014. *Alcoholism, Clinical & Experimental Research*, 38(11):2844-2852.

Consideration of adoption among women seeking abortion

Considering adoption and placing a child for adoption are rare, even when abortion is no longer an option. This paper describes the experiences of the women who make that choice.

33. Sisson G, Ralph L, Gould H, Foster DG. [Adoption decision making among women seeking abortion](#). March 2017. *Women's Health Issues*, 27(2):136-144.

Physical Health after Abortion and Abortion Denial

Carrying an unwanted pregnancy to term is far riskier to women's physical health than having an abortion. In the short term, women giving birth after being denied an abortion experience more potentially life-threatening complications such as preeclampsia and postpartum hemorrhage. Over five years, women denied abortions who give birth report more chronic pain and rate their overall health as worse. Highlighting one of the most serious consequences of restricting abortion access, two women died due to maternal, or pregnancy-related, causes after being denied a wanted abortion and giving birth.

34. Ralph LJ, Schwarz EB, Grossman D, Foster DG. [Self-reported physical health of women who did and did not terminate pregnancy after seeking abortion services: A cohort study](#). August 2019. *Annals of Internal Medicine*, 171(4):238-247.
35. Gerdtts C, Dobkin L, Foster DG, Schwarz EB. [Side Effects, Physical health consequences, and mortality associated with abortion and birth after an unwanted pregnancy](#). January 2015. *Women's Health Issues*, 26(1):55-59.

Socioeconomic consequences of abortion and abortion denial

The Turnaway Study shows that being denied a wanted abortion results in economic insecurity for women and their families, and an almost four-fold increase in odds that household income will fall below the Federal Poverty Level. As seen through credit reports, women who receive and were denied abortions were similar in the three years leading up to the pregnancy but their trajectories diverge with women denied abortions experiencing more debt, lower credit scores and worse financial security for years after the pregnancy.

36. Miller S, Wherry L, Foster DG. [The Economic Consequences of Being Denied an Abortion](#). *American Economic Journal: Economic Policy*.
37. Foster DG, Ralph LJ, Biggs MA, Gerdtz C, Roberts SCM, Glymour MA. [Socioeconomic outcomes of women who receive and women who are denied wanted abortions](#). March 2018. *American Journal of Public Health*, 108(3):407-413.
38. Miller S, Wherry LR, Foster DG. [What happens after an abortion denial? A Review of Results from the Turnaway Study](#). January 2020. *AEA Papers and Proceedings*, 110:1-6.

Effect of abortion and abortion denial on romantic relationship

There is no difference in the likelihood of being in a relationship with the man involved in the pregnancy whether that pregnancy ends in abortion or birth. For women who give birth after being denied an abortion, ongoing contact with the man involved results in continued exposure to violence. Women who receive wanted abortions are more likely to describe themselves as being in very good relationships years later compared to women who are denied an abortion.

39. Upadhyay U, Foster DG, Gould H, Biggs MA. Effects of abortion on women's intimate relationships: Findings from a prospective 5-year longitudinal cohort study. Under review.
40. Mauldon J, Foster DG, Roberts SCM. [Effect of abortion vs. carrying to term on a woman's relationship with the man involved in the pregnancy](#). March 2015. *Perspectives on Sexual and Reproductive Health*, 47(1):11-18.
41. Roberts SCM, Biggs MA, Chibber KS, Gould H, Rocca CH, Foster DG. [Risk of violence from the man involved in the pregnancy after receiving or being denied an abortion](#). September 2014. *BMC Medicine*, 12:144.

Effect of abortion on attitudes toward abortion rights and morality

Nearly all women who sought abortions report that they support abortion legality in all (80%) or some (18%) situations, yet 20% also believed abortion is morally wrong. The majority of women denied an abortion support the legal right to abortion 4.5 years later (77%), but women who received an abortion are more likely to support abortion rights (88%).

42. Woodruff K, Biggs MA, Gould H, Foster DG. [Attitudes toward abortion after receiving vs. being denied an abortion in the USA](#). December 2018. *Sexuality Research and Social Policy*, 15(4):452-463.

Consequences of abortion for women's life plans and education

Women who receive abortions have six times higher odds of having positive one year plans and are more likely to achieve them. Women who are denied abortions are neither more nor less likely to graduate or drop out of school than women who receive abortions. But women denied abortions are less likely to graduate with an advanced degree because they are seeking lower level degrees at baseline. Women who are denied abortions are somewhat less likely to set an aspirational five-year plan than women who receive one, but there are no differences in achievement of five-year plans.

43. Upadhyay U, Biggs MA, Foster DG. [The effect of abortion on having and achieving aspirational one-year plans](#). November 2015. *BMC Women's Health*, 15:102.
44. Ralph LJ, Mauldon J, Biggs MA, Foster DG. [A prospective cohort study of the effect of receiving versus being denied an abortion on educational attainment](#). November 2019. *Womens Health Issues*, 29(6):455-464.
45. McCarthy MA, Upadhyay U, Ralph L, Biggs MA, Foster DG. [The effect of receiving versus being denied an abortion on making and achieving aspirational 5-year life plans](#). *BMJ Sexual and Reproductive Health*. 2020 Feb 25. PMID: 32098771

Contraceptive use and subsequent pregnancies

Women who receive an abortion are more likely to have an intended pregnancy within the next five years compared to women who are denied. There is no difference in rates of unintended pregnancy. Women who have an abortion are more likely to use contraception than those denied the abortion, but they rely less on sterilization and more on condoms and short-acting hormonal methods.

46. Aztlan EA, Foster DG, Upadhyay U. [Subsequent unintended pregnancy among US women who receive or are denied a wanted abortion](#). January 2018. *Journal of Midwifery and Women's Health*, 63(1):45-52.
47. Moseson H, Foster DG, Upadhyay U, Vittinghoff E, Rocca C. [Contraceptive use over five years after receipt or denial of abortion services](#). March 2018. *Perspectives on Sexual and Reproductive Health*, 50(1):7-14.
48. Upadhyay UD, Aztlan-James EA, Rocca CH, Foster DG. [Intended pregnancy after receiving vs. being denied a wanted abortion](#). September 2018. *Contraception*, 99(1):42-47.

Effect of abortion and abortion denial on women's existing and future children

These two papers show that when women have control over the timing of having children, the children benefit. We find measurable differences in the economic wellbeing and development of existing children that adversely affects those whose mothers were denied a wanted abortion. Children born later to women who are able to get an abortion experience more economic security and better maternal bonding than the children born because a woman was denied an abortion.

49. Foster DG, Biggs MA, Raifman S, Gipson JD, Kimport K, Rocca CH. Comparison of health, development, maternal bonding, and poverty among children born after denial of abortion vs after pregnancies subsequent to an abortion. September 2018. *JAMA Pediatrics*, 172(11):1053-1060.
50. Foster DG, Raifman SE, Gipson JD, Rocca CH, Biggs MA. Effects of carrying an unwanted pregnancy to term on women's existing children. October 2018. *The Journal of Pediatrics*, 205:183-189.e1.

Pregnancy intentions

Over time after the abortion or abortion denial, women somewhat shifted their perceptions of the intendedness of their pregnancy in correspondence with the pregnancy outcome. The intendedness of a new pregnancies over five years, as reported after the pregnancy occurred, reflected significantly higher intendedness than when reported before the pregnancy occurred.

51. Ralph LJ, Foster DG, Rocca CH. Comparing prospective versus retrospective reports of pregnancy intention in a longitudinal cohort of U.S. women. March 2020. *Perspectives on Sexual and Reproductive Health*, <https://doi.org/10.1363/psrh.12134>.
52. Rocca CH, Wilson MR, Jeon M, Foster DG. Stability of retrospective pregnancy intention reporting among women with unwanted pregnancies in the United States. June 2019. *Maternal and Child Health Journal*, 23:1547-1555.

Additional Resources:

How obtaining an abortion versus being denied one impacts alcohol, tobacco, and drug use. (2018) Mar; <http://bit.ly/2FYyixi>



Socioeconomic outcomes of women who receive and women who are denied wanted abortions. (2018) Jan; <http://bit.ly/2mlBHYS>



Abortion does not cause mental health harm. (2016) Dec; <http://bit.ly/2nxMW8b>



Abortion does not increase risk of PTSD. (2016) Feb; <http://bit.ly/2o3ySEo>



Large nationwide study finds no evidence of psychological problems after abortion. (2015) Jul; <http://bit.ly/2ngje53>

