Abortion & Public Health

Maryam Guiahi MD, MSc
Michigan Consortium
10/16/2019
Maryam.guiahi@ucdenver.edu

Learning Objectives

• Understand the effects of unintended pregnancy on the mother, child, and society.
• Provide an overview of abortion in the U.S. with respect to public health implications.
• Discuss the history of abortion and related legislation.
• Describe abortion options.

Unintended Pregnancy
Medication Management of Elective First Trimester Abortion

Unintended Pregnancy in the U.S.

6.1 million pregnancies

- Intended: 55%
- Unintended:
  - Birth: 10%
  - Abortion: 19%
  - Fetal Loss: 16%


Consequences of Unintended Births

- Inadequate prenatal care
- Tobacco and alcohol use during pregnancy
- Low birth weight
- Infant mortality
- Child abuse
- Insufficient resources for child development
- Missed opportunity for preconception counseling
- Strained relationships

Unintended Teenage Birth Consequences

**Mother**
- Educational underachievement
- Poverty
- Impaired partner relationships

**Infant**
- Infant morbidity and mortality
- Lower cognitive attainment
- Behavior problems
- Chronic illnesses
- Poverty
- Incarceration
- Educational underachievement
- Teenage birth
- Underemployment
Turnaway Study

- Prospective, longitudinal study
- Women who obtained abortion (near-limit) vs those denied abortion (past-limit)
- Compared measures from baseline (1 week after) and every 6 months for multiple years
  - Similar risk of mental health, PTSD, suicidal ideations\textsuperscript{1,2,3}
  - Similar levels of depression, less anxiety sxs (5 yrs later)\textsuperscript{4}
  - Higher self-esteem and life satisfaction (5 yrs later)\textsuperscript{4}
  - Less likely to live in poverty\textsuperscript{5}


Induced Abortion

Unintended Pregnancy in the U.S.

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intended</td>
<td>55%</td>
</tr>
<tr>
<td>Unintended</td>
<td></td>
</tr>
<tr>
<td>Birth</td>
<td>10%</td>
</tr>
<tr>
<td>Abortion</td>
<td>19%</td>
</tr>
<tr>
<td>Fetal Loss</td>
<td>16%</td>
</tr>
</tbody>
</table>
Declining rates

The U.S. abortion rate reached a historic low in 2017

- 13.5 /1000 reproductive-aged women

Reported contraceptive use (2011-13)

- NSFG (2011-13)
- 62% using contraception
- 19% not using because no intercourse in last 3 months or ever
- When using contraception, pill and sterilization are highest

How Many Women Have Abortions?

- By age 20- 4.6%
- By age 30- 19%

Jones & Jerman, 2014.
When are Abortions obtained?

![Pie chart showing the timing of abortions.](chart)

**Reasons for Having an Abortion**

- Not Ready for Parenthood: 74%
- Can’t Afford a Child: 73%
- School/Work: 69%
- Partner Issues: 48%


**Factors associated with 2T Abortion**

- Prior 2T abortion (OR=5.5, 95%CI 2.8, 12.6)
- Difficulty with state insurance (OR= 4.4, 95%CI 1.5, 13.0)
- Initially referred elsewhere (OR= 4.1, 95%CI 2.2, 7.6)
- Difficulty locating provider (OR= 2.3, 95%CI 1.3, 4.0)
- Unsure LMP (OR= 2.3 95%CI 1.2, 4.2)

*Drey et al. Obstet & Gynecol; 2006*

**Factors associated with decreased likelihood of 2T Abortion**

- Prior abortion (OR=0.4, 95%CI 0.2, 0.8)
- Using contraception (OR=0.5, 95%CI 0.3, 1.0)
- Nausea/vomiting (OR=0.4, 95%CI 0.2, 0.8)

*Drey et al. Obstet & Gynecol; 2006*
Gestational age at termination based on fetal indication

Abortions according to age

Who has abortions: Marital status (2014)

Jerman et al 2016
Who has abortions: Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016

Abortion rates continue to vary by race and ethnicity

Lack of access to health insurance and health care plays a role, as do racism and discrimination

Abortions per 1,000 women aged 15-44

Abtions according to income

Education Level (2014)

- College graduate, 23%
- Some college, 41%
- High school graduate, 27%
- < High school, 9%

Jerman et al 2016
Who has abortions:
Race/Ethnicity & Income Level

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Non-Hispanic White</th>
<th>Non-Hispanic Black</th>
<th>Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;100%</td>
<td>23</td>
<td>62</td>
<td>68</td>
</tr>
<tr>
<td>100-199%</td>
<td>27</td>
<td>68</td>
<td>34</td>
</tr>
<tr>
<td>200-299%</td>
<td>15</td>
<td>48</td>
<td>19</td>
</tr>
<tr>
<td>≥300%</td>
<td>7</td>
<td>28</td>
<td>15</td>
</tr>
</tbody>
</table>


Who has abortions: religion (2014)

- None: 36%
- Catholic: 24%
- Protestant: 30%
- Other: 8%

Jerman et al 2016
Who Has Abortions: Prior Pregnancies

Jones et al., 2002

Abortion History & Legislation

A History of Abortion in the US

Before 1820s: Legal under English Common law
1821: CT passes first abortion law ban
1873: Comstock law passes
1895: Catholic church condemns abortion
1900s: Abortion is a felony in every state (45)
1967: Varying state restrictions AMA resolution

Access to Abortion pre Roe v. Wade

A History of Abortion in the US

Supreme Court Precedent Pre-Roe v. Wade

- Griswold v. Connecticut (1965)
- Struck down remaining Comstock laws (prohibited contraception) allowing contraception access but only to married couples

Supreme Court Precedent Pre-Roe v. Wade
• United States v. Vuitch (1971)
  DC law that prohibited abortion unless "necessary for the preservation of the mother's life or health" was not unconstitutionally vague.

Supreme Court Precedent Pre-Roe v. Wade
• Eisenstadt v. Baird (1972)
  Extended Griswold decision to unmarried couples

Roe v. Wade, 410 U.S. 113
• Norma McCorvey AKA Jane Roe seeks abortion in Texas
• Lawyers argument based on
• Physicians’ rights
• Disruption of woman’s life
• Right to access abortion protected under 14th Amendment
Proportion of women presenting early after Roe v. Wade

Abortion Post-Roe v. Wade

- Doe v. Bolton (1973)
  - Court defined "health of the mother"
  - Clarified: "the medical judgement may be exercised in the light of all factors – physical, emotional, psychological, familial, and the woman's age – relevant to the well-being of the patient."
Hyde Amendment Restricts Access

Only 17 states provide Medicaid coverage for abortion.


In 25 states, more than half of women live in a county without a clinic that provides abortion.

Guttmacher Institute

Planned Parenthood v. Casey 505 US 833

• Pennsylvania amends abortion laws in 1989/1989
• Decision upheld Roe with modifications
• Establish the “undue burden” test for anti-choice legislation
• Viability test replaced trimester standard

Planned Parenthood v. Casey 505 US 833
T.R.A.P. Laws & Fetal Pain

- Targeted Restriction of Abortion Providers
  - Laws intended to place excessive burden on abortion providers to limit or stop their ability to care for women
  - Did not pass in Senate

Whole Women’s Health vs. Hellerstedt 15-274

- Texas HB 2 required admitting privileges and ambulatory surgical center standards in abortion clinics
- Plaintiff argued that these requirements do nothing to protect women’s health and could cause an undue burden on patients
- Court ruled 5-3 that law caused undue burden
Pending legislation

- "Heartbeat" bills (grants personhood)
- Insurance exceptions for coverage of "ectopic reimplantation surgery" and restrictions for "drugs or devices used to prevent the implantation of a fertilized ovum,"

State hostility towards abortion

In 2019, 30 states demonstrate hostility to abortion rights, while 14 states demonstrate support.
Michigan & Abortion (2017)

<table>
<thead>
<tr>
<th></th>
<th>Nationally</th>
<th>Michigan</th>
</tr>
</thead>
<tbody>
<tr>
<td>#Abortion</td>
<td>862,320</td>
<td>26,830</td>
</tr>
<tr>
<td>Abortion rate</td>
<td>13.5 per 1000</td>
<td>14.2 per 1000 (8% decline from 2014)</td>
</tr>
<tr>
<td>#Facilities</td>
<td>1587</td>
<td>30 (21 clinics)</td>
</tr>
<tr>
<td>Counties without clinics</td>
<td>89%</td>
<td>87% (35% of MI women)</td>
</tr>
</tbody>
</table>

Michigan & Abortion (2017)

- State-directed counseling, 24-hour waiting period
- Medicaid only covers for life endangerment, rape or incest.
- Otherwise most insurance coverage for abortion only in cases of life endangerment unless individual purchases optional rider at additional cost
- Parental consent
- The state requires abortion clinics to meet unnecessary and burdensome standards related to their physical plant, equipment and staffing

Abortion Procedure
An Abortion Is Safer the Earlier in Pregnancy It Is Performed

Comparative mortality rates for different pregnancy outcomes

<table>
<thead>
<tr>
<th>Pregnancy outcome</th>
<th>Rate per 100,000 outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgical abortion to 9 weeks</td>
<td>0.1</td>
</tr>
<tr>
<td>Medical abortion to 9 weeks</td>
<td>1</td>
</tr>
<tr>
<td>Miscarriage</td>
<td>1</td>
</tr>
<tr>
<td>Live birth</td>
<td>7</td>
</tr>
<tr>
<td>Ectopic</td>
<td>32</td>
</tr>
</tbody>
</table>

Abortion Risks in Perspective

<table>
<thead>
<tr>
<th>Activity</th>
<th>Risk of death</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skydiving</td>
<td>1 in 1000</td>
</tr>
<tr>
<td>Automobile accident</td>
<td>1 in 5000</td>
</tr>
<tr>
<td>Riding bicycle</td>
<td>1 in 130,000</td>
</tr>
<tr>
<td>Nonsmoker &lt;35 using OC</td>
<td>1 in 1,667,000</td>
</tr>
<tr>
<td>Risk from pregnancy</td>
<td>1 in 8700</td>
</tr>
<tr>
<td>Risk from spontaneous abortion</td>
<td>1 in 142,900</td>
</tr>
<tr>
<td>Risk from legal induced abortion</td>
<td></td>
</tr>
<tr>
<td>Medication abortion</td>
<td>1 in 110,000</td>
</tr>
<tr>
<td>Surgical abortion &lt;8 weeks</td>
<td>1 in 1,000,000</td>
</tr>
<tr>
<td>Surgical abortion &gt;21 weeks</td>
<td>1 in 11,200</td>
</tr>
</tbody>
</table>

Rowlands 2011

Trussel & Jordan, 2006

All births and abortions: Grimes DA, 2006
Abortion by gestation: Bartlett et al., 2004
First Trimester Abortion

- Most abortions (90%) are done in the first trimester
- Options:
  - Medical: from 5 – 10 weeks gestation
  - Surgical: from 5 – 14 weeks gestation

First Trimester Abortion

Medical

- Advantages:
  - Can be performed without delay
  - Avoids surgical & anesthetic risks
  - Psychological advantages
  - Increases availability
  - Potential to shield providers
Medication Abortion Regimens

- **Misoprostol alone**
  - Prostaglandin E1 analog
  - Higher success rates for early pregnancy failures
- **Methotrexate and misoprostol**
  - Rarely used
- **Mifepristone (RU-486) and misoprostol**
  - Mifepristone= Antiprogesterone
  - Misoprostol= Antibiotic prophylaxis

Mechanism of Action of Mifepristone/Misoprostol

- Progesterone Blockade
- Decidual Necrosis
- Rhythmic Uterine Constrictions
- Detachment
- Expulsion
- Abortion

FDA Approved Regimen (2016)

- Up to 70 days gestation (10 weeks)
  - Day 1: Mifepr 200 mg PO
  - Day 2/3 (24-48h): Buccal misoprostol 800 mcg
  - Day 7-14: follow-up
  - ~95% effective, increasing with earlier GA
- Off-label
  - Vaginal misoprostol
    - less side effects)
  - Earlier administration (6 hours)
Medication Management of Elective First Trimester Abortion

Medical Abortion Complications

- Failure (3-5%):
  - Increases with increasing gestational age
  - Repeat misoprostol if incomplete abortion
  - Need for vacuum aspiration if ongoing (2-5%)

- Bleeding:
  - Average 9-16d, 8% > 30 days

- Infection (0.01%)

First Trimester Abortion Surgical Procedure

- Procedure
  - Manual vacuum aspiration
  - Electric vacuum aspiration

- Cervical dilation
  - >10 weeks: Misoprostol (PGE1) + dilators

- Anesthesia options
  - Local (cervical block and oral)
  - Moderate Sedation
  - General Anesthesia

Dilation and Evacuation (D&E)

- Surgical procedure that opens the cervix and remove the pregnancy

- Dilation and Evacuation
  - Dilation—opening the cervix
  - Evacuation—Disarticulation and removal of fetus using forceps

- Intact D&E
Conclusions

• Unintended pregnancy and abortion continues to be a major public health concern in the U.S and worldwide.
• Women of all ages and backgrounds seek abortion services.
• There are many different options available.
• Legal abortion is very safe.

Physicians as Advocates for Choice

Maryam.guiahi@ucdenver.edu

Physicians for Reproductive Health

Sponsored by NAPHCAS in Abortion Care (IAC) is a membership organization representing pro-choice certified nurse practitioners, nurse
practitioners, and physicians assisting women in increasing access to comprehensive reproductive health care.