



## Legalized Abortion and the Public Health: Summary and Conclusions (1975)

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INSTITUTE OF MEDICINE

LEGALIZED ABORTION  
AND THE PUBLIC HEALTH

SUMMARY AND CONCLUSIONS

Report of a study by a committee  
of the Institute of Medicine  
May 1975

National Academy of Sciences  
Washington, D.C.

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LEGALIZED ABORTION AND THE PUBLIC HEALTH  
SUMMARY AND CONCLUSIONS

The legal status of abortion in the United States became a heightened national issue with the January 1973 rulings by the Supreme Court that severely limited states' rights to control the procedure. The Court's decisions in the historic cases of Roe v. Wade and Doe v. Bolton precluded any state interference with the doctor-patient decision on abortion during the first trimester (three months) of pregnancy. During the second trimester, a state could intervene only to the extent of insisting on safe medical practices "reasonably related to maternal health." And for approximately the final trimester of a pregnancy--what the Court called "the state subsequent to viability" of a fetus--a state could forbid abortion unless medical judgment found it necessary "for the preservation of the life or health of the mother."

The rulings crystallized opposition to abortion, led to the introduction of national and state legislation to curtail or prohibit it, and generated political pressures for a national debate on the issue.

Against this background of concerns about abortion, the Institute of Medicine in 1974 called together a committee to review the existing evidence on the relationship between legalized abortion and the health of the public. The study group was asked to examine the medical risks to women who obtained legal abortions, and to document changes in the risks as legal abortion became more available. Although there have been other publications on particular relationships between abortion and health, the Institute's study is an attempt to enlist scholars, researchers, health practitioners, and concerned lay persons in a more comprehensive analysis of the available medical information on the subject.

Ethical issues of abortion are not discussed in this analysis, nor are questions concerning the fetus in abortion.

The study group recognizes that this approach implies an ethical position with which some may disagree. The emphasis of the study is on the health effects of abortion, not on the alternatives to abortion.

Abortion legislation and practices are important factors in the relationship between abortion and health status. In order to examine legislation and court decisions that have affected the availability of legal abortion in the U.S., the study group classified the laws and practices into three categories: restrictive conditions, under which abortion is prohibited or permitted only to save the pregnant woman's life; moderately restrictive conditions, under which abortion is permitted with approval by several physicians, in a wider range of circumstances to preserve the woman's physical or mental health, prevent the birth of a child with severe genetic or congenital defects, or terminate a pregnancy caused by rape or incest; and non-restrictive conditions, under which abortion essentially is available according to the terms of the Supreme Court ruling.

Before 1967, all abortion laws in the United States could be classified as restrictive. Easing of restrictions began in 1967 with Colorado, and soon thereafter 12 other states also adopted moderately restrictive legislation to expand the conditions under which therapeutic abortion could be obtained. In 1970, four states (Alaska, Hawaii, New York, and Washington) removed nearly all legal controls on abortion. Non-restrictive conditions have theoretically existed throughout all fifty states since January 22, 1973, the date of the Supreme Court decision.

There is evidence that substantial numbers of illegal abortions were obtained in the U.S. when restrictive laws were in force. Although some of the illegal abortions were performed covertly by physicians in medical settings, many were conducted in unsanitary surroundings by unskilled operators or were self-induced. In this report, "illegal abortion" generally refers to those performed by a non-physician or the woman herself. The medical risks associated with the last two types of illegal abortions are patently greater than with the first.

A recent analysis of data from the first year of New York's non-restrictive abortion legislation indicates that approximately 70 percent of the abortions obtained legally in New York City would otherwise have been obtained illegally. Replacement of legal for illegal abortions also is reflected in the substantial decline in the number of reported complications and deaths due to other-

than-legal abortions since non-restrictive practices began to be implemented in the United States. The number of all known abortion-related deaths declined from 128 in 1970 to 47 in 1973; those deaths specifically attributed to other-than-legal abortions (i.e., both illegal and spontaneous) dropped from 111 to 25 during the same period, with much of that decline attributed to a reduced incidence of illegal abortions. Increased use of effective contraception may also have played a role in the decline of abortion-related deaths.

Methods most frequently used in the United States to induce abortion during the first trimester of pregnancy are suction (vacuum aspiration) or dilatation and curettage (D&C). Abortions in the second trimester are usually performed by replacing part of the amniotic fluid that surrounds the fetus with a concentrated salt solution (saline abortion), which usually induces labor 24 to 48 hours later. Other second trimester methods are hysterotomy, a surgical entry into the uterus; hysterectomy, which is the removal of the uterus; and, recently, the injection into the uterine cavity of a prostaglandin, a substance that causes muscular contractions that expel the fetus.

Statistics on legal abortion are collected for the U.S. government by the Center for Disease Control. CDC's most recent nationwide data are for 1973, the year of the Supreme Court decision. Some of those figures are:

- The 615,800 legal abortions reported in 1973 were an increase of approximately 29,000 over the number reported in 1972. These probably are underestimates of the actual number of abortions performed because some states have not yet developed adequate abortion reporting systems.
- The abortion ratio (number of abortions per 1,000 live births) increased from 180 in 1972 to 195 in 1973.
- More than four out of five abortions were performed in the first trimester, most often by suction or D&C.
- Approximately 25 percent of the reported 1973 abortions were obtained outside the woman's home state.



In 1972, before the Supreme Court decision, 44 percent of the reported abortions had been obtained outside the home state of the patient, primarily in New York and the District of Columbia.

- Approximately one-third of the women obtaining abortions were less than 20 years old, another third were between 20 and 25, and the remaining third over 25 years of age.
- In all states where data were available, about 25 percent of the women obtaining abortions were married.
- White women obtained 68 percent of all reported abortions, but non-white women had abortion ratios about one-third greater than white women. In 1972, non-white women had abortion rates (abortions per 1,000 women of reproductive age) about twice those of whites in three states from which data were available to analyze.

A national survey of hospitals, clinics, and physicians conducted in 1974 by The Alan Guttmacher Institute furnished data on the number of abortions performed in the U.S. during 1973, itemized by state and type of provider. A total of 745,400 abortions were reported in the survey, a figure higher than the 615,800 abortions reported in 1973 to CDC. Guttmacher Institute obtains its data from providers of health services, while CDC gets most of its data from state health departments.

Risks of medical complications associated with legal abortions are difficult to evaluate because of problems of definition and subjective physician judgment. Available information from 66 centers is provided by the Joint Program for the Study of Abortion, undertaken by The Population Council in 1970-71.

The JPSA study surveyed almost 73,000 legal abortions. It used a restricted definition of major complications, which included unintended major surgery, one or more blood transfusions, three or more days of fever, and several other categories involving prolonged illness or permanent impairment. Although this study also collected data on minor complications, such as one day of fever post-operatively, the data on major complications are probably more significant. The major complication rates published

by the JPSA study and summarized below relate to women who had abortions in local facilities and from whom follow-up information was obtained.

- Complications in women not obtaining concurrent sterilization and with no pre-existing medical problems (e.g., diabetes, heart disease, or gynecological problems) occurred 0.6 times per 100 abortions in the first trimester and 2.1 per 100 in the second trimester.
- Complications in women not obtaining concurrent sterilization, but having pre-existing problems, occurred 2.0 times per 100 in the first trimester and 6.7 in the second.
- Complications in women obtaining concurrent sterilization and not having pre-existing problems occurred 7.2 times per 100 in the first trimester and 8.0 in the second.
- Women with both concurrent sterilization and pre-existing problems experienced complications approximately 17 times per 100 abortions regardless of trimester.

The relatively high complication rates associated with sterilization in the JPSA study would probably be lower today because new sterilization techniques require minimal surgery and carry lower rates of complications.

The frequency of medical complications due to illegal abortions cannot be calculated precisely, but the trend in these complications can be estimated from the number of hospital admissions due to septic and incomplete abortion--two adverse consequences of the illegal procedure. The number of such admissions in New York City's municipal hospitals declined from 6,524 in 1969 to 3,253 in 1973; most restrictions on legal abortion in New York City were lifted in July of 1970. In Los Angeles, the number of reported hospital admissions for septic abortions declined from 559 in 1969 to 119 in 1971. Other factors, such as an increased use of effective contraception and a decreasing rate of unwanted pregnancies may have contributed to these declines, but it is probable that the introduction of less restrictive abortion legislation was a major factor.

There has not been enough experience with legal abortion in the U.S. for conclusions to be drawn about long-

term complications, particularly for women obtaining repeated legal abortions. Some studies from abroad suggest that long-term complications may include prematurity, miscarriage, or ectopic pregnancies in future pregnancies, or infertility. But research findings from countries having long experience with legal abortion are inconsistent among studies and the relevance of these data to the U.S. is not known; methods of abortion, medical services, and socio-economic characteristics vary from one country to another.

Risks of maternal death associated with legal abortion are low--1.7 deaths per 100,000 first trimester procedures in 1972 and 1973--and less than the risks associated with illegal abortion, full-term pregnancy, and most surgical procedures. The 1973 mortality rate for a full-term pregnancy was 14 deaths per 100,000 live vaginal deliveries; the 1969 rate for cesarean section was 111 deaths per 100,000 deliveries. For second trimester abortions, the combined 1972-73 mortality ratio was 12.2 deaths per 100,000 abortions. (For comparison, the surgical removal of the tonsils and adenoids had a mortality risk of five deaths per 100,000 operations in 1969.)

When the mortality risk of legal abortion is examined by length of gestation it becomes apparent that the mortality risks increase not only from the first to the second trimester, but also by each week of gestation. For example, during 1972-73, the mortality ratio for legal abortions performed at eight weeks or less was 0.5, and for those performed between nine and 10 weeks was 1.7 deaths per 100,000 legal abortions. At 11 to 12 weeks the mortality ratio increased to 4.2 deaths, and by 16 to 20 weeks, the ratio was more than 17 deaths per 100,000 abortions. Hysterotomy and hysterectomy, methods performed infrequently in both trimesters, had a combined mortality ratio of 61.3 deaths per 100,000 procedures.

Some data on the mortality associated with illegal abortions are available from the National Center for Health Statistics (NCHS) and from CDC. In 1961, there were 320 abortion-related deaths reported in the U.S., most of them presumed by the medical profession to be from illegal abortion. By 1973, total reported deaths had declined to 47, of which 16 were specifically attributed to illegal abortions. There has been a steady decline in the mortality rates (number of deaths per 100,000 women aged 15-44) associated with other-than-legal abortion for both white and non-white women, but in 1973 the mortality rate for non-white women (0.29) was almost ten times greater than that reported for white women (0.03).

Psychological effects of legal abortion are difficult to evaluate for reasons that include lack of information on pre-abortion psychological status, ambiguous terminology, and the absence of standardized measurements. The cumulative evidence in recent years indicates that although it may be a stressful experience, abortion is not associated with any detectable increase in the incidence of mental illness. The depression or guilt feelings reported by some women following abortion are generally described as mild and temporary. This experience, however, does not necessarily apply to women with a previous history of psychiatric illness; for them, abortion may be followed by continued or aggravated mental illness. The JPSA survey led to an estimate of the incidence of post-abortion psychosis ranging from 0.2 to 0.4 per 1,000 legal abortions. This is lower than the post-partum psychosis rate of 1 to 2 per 1,000 deliveries in the United States.

Psychological effects are related to whether a woman obtains a first or second-trimester abortion. Two studies in particular suggest that women who delay abortion into the later period may have more feelings of ambivalence, denial of the pregnancy, or objection on religious grounds than those obtaining abortions in the first trimester. It is also apparent, however, that some second-trimester abortions result from procedural delays, difficulties in obtaining a pregnancy test, locating appropriate counseling, or arranging and financing the procedure.

Diagnosis of severe defects of a fetus well before birth has greatly advanced in the past decade. Developments in the techniques of amniocentesis and cell culture have enabled a number of genetic defects and other congenital disorders to be detected in the second trimester of pregnancy. Prenatal diagnosis and the opportunity to terminate an affected pregnancy by a legal abortion may help many women who would have refrained from becoming pregnant or might have given birth to an abnormal child, to bear children unaffected by the disease they fear. Abortion, with or without prenatal diagnosis, also can be used in instances where there is reasonable risk that the fetus may be affected by birth defects from non-genetic causes, such as those caused by exposure of the woman to rubella virus infection or x-rays, or by her ingestion of drugs known to damage the fetus.

Almost 60 inherited metabolic disorders such as Tay-Sachs disease, potentially can be diagnosed before

birth. More than 20 of these diseases already have been diagnosed with reasonable accuracy by means of amniocentesis and other procedures. The techniques also can be used to identify a fetus with abnormal chromosomes, as in Down's syndrome (mongolism), and to discriminate between male and female fetuses, which in such diseases as hemophilia would allow determination of whether the fetus is at risk of being affected or simply at risk of being a hereditary carrier of the disorder.

In North America, amniocentesis was performed in more than 6,000 second-trimester pregnancies between 1967 and 1974. The diagnostic accuracy was close to 100 percent and complication rates were about two percent. Less than 10 percent of the diagnoses disclosed an affected fetus, meaning that the great majority of parents at risk averted an unnecessary abortion and were able to carry an unaffected child to term.

There are many limitations to the use of prenatal diagnosis, especially for mass screening purposes. Amniocentesis is a fairly expensive procedure, and relatively few medical personnel are qualified to administer it and carry out the necessary diagnostic tests. Only a small number of genetic disorders can now be identified by means of amniocentesis and many couples still have no way to determine whether or not they are to be the parents of a child with severe defects. Nevertheless, the availability of a legal abortion expands the options available to a woman who faces a known risk of having an affected child.

Abortion as a substitute for contraception is one possibility raised by the adoption of non-restrictive abortion laws. Limited data do not allow definitive conclusions, but they suggest that the introduction of non-restrictive abortion laws in the U.S. has not led to any documented decline in demand for contraceptive services. Among women who sought abortion and who had previously not used contraception or had used it poorly, there is some evidence that they may have begun to practice contraception because contraceptives were made available to them at the time of their abortion.

The health aspects of this issue bear on the higher mortality and morbidity associated with abortion as compared with contraceptive use, and on the possibility that if women rely on abortion rather than contraception they may have repeated abortions, for which the risk of long-term complications is not known.

The incidence of repeated legal abortions is little known because legal abortion has only been widely avail-

able in the U.S. for a few years. Data from New York City indicate that during the first two years of non-restrictive laws, 2.45 percent of the abortions obtained by residents were repeat procedures. If those two years are divided into six-month periods, repeat legal abortions as a percent of the total rose from 0.01 percent in the first period to 6.02 percent in the last. Part of this increase is attributable to a statistical fact: the longer non-restrictive laws are in effect, the greater the number of women eligible to have repeat legal abortions. Perhaps, too, the reporting system has improved. In any case, some low incidence of repeated abortions is to be expected because none of the current contraceptive methods is completely failure-proof, nor are they likely to be used with maximum care on all occasions.

A recent study has suggested that one additional factor contributing to the incidence of repeated abortions is that abortion facilities may not routinely provide contraceptive services at the time of the procedure. This is of concern because of recent evidence that ovulation usually occurs within five weeks and perhaps as early as 10 days after an abortion.

The conclusions of the study group:

- Many women will seek to terminate an unwanted pregnancy by abortion whether it is legal or not. Although the mortality and morbidity associated with illegal abortion cannot be fully measured, they are clearly greater than the risks associated with legal abortion. Evidence suggests that legislation and practices that permit women to obtain abortions in proper medical surroundings will lead to fewer deaths and a lower rate of medical complications than restrictive legislation and practices.
- The substantial differences between the mortality and morbidity associated with legal abortion in the first and second trimesters suggest that laws, medical practices, and educational programs should enable and encourage women who have chosen abortion to obtain it in the first three months of pregnancy.
- More research is needed on the consequences of abortion on health status. Of highest priority are investigations of