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Medical Abortion Practices in the United States

Kenneth R. Niswander, M.D.

Today, criminal abortion is a primary cause of maternal deaths and is thus a major public health problem. Dr. Niswander feels that the continuation of criminal abortion, even in the face of this resultant high fatality rate, is indicative of a clear societal demand for pregnancy interruption and of the fact that illegal means to this end will be sought if legal means are not available. The author discusses contemporary indications for therapeutic abortion and their historical development. He explains the medical procedures used to produce an abortion and the hazards involved therein. Dr. Niswander concludes that in order to more adequately reflect the needs of society, the laws regulating abortion should be liberalized within the framework of sound medical practices.

Criminal abortion has become a major cause of maternal death. In a recent survey of maternal deaths in California, it was found that almost one-third of the deaths studied were related to illegal abortion. According to the records of the New York Department of Health, in 1961 forty-seven per cent of the maternal deaths, occurring in metropolitan New York were due to illegal abortion. By reviewing cases of therapeutic abortion during the past two decades in New York City, it has been noted that criminal abortion has accounted for an increasing percentage of puerperal deaths. More alarmingly, the increased number of puerperal deaths seemed inversely proportional to the decreasing number of therapeutic abortions done in New York. Although it is impossible to verify the figure, it has been estimated that between 300,000 and a million or more criminal abortions are performed each year in the United States. Kinsey found that 22 per cent of the

4 Can one speculate, if therapeutic abortion were more readily available, that there would be fewer deaths from illegal abortion?
married women interviewed had had one or more abortions in marriage by the age of forty-five.\textsuperscript{6} Between 88 and 95 per cent of the premarital pregnancies in his sample were resolved by abortion.\textsuperscript{7} Obviously, modern society, like earlier ones, finds a frequent need for pregnancy interruption. Existing laws prevent legal recourse for this need, and criminal abortion results. Guttmacher has stated that "illegal or criminal abortion is the only great pandemic disease which remains unrecognized and untreated by modern medicine."\textsuperscript{8} It should be recognized that criminal abortion not only terminates many pregnancies, but is in itself the direct cause of many maternal injuries and deaths. Of women electing illegal abortion, an estimated five to ten thousand die each year.\textsuperscript{9} In all probability, liberalizing the laws on therapeutic abortion would significantly decrease this major medical hazard.

What are present practices within reputable hospitals in the United States with regard to therapeutic abortion? Is there variation in the interpretation of state laws by different hospitals and by different doctors? Is there prevalent disregard for the state laws governing therapeutic abortion? Is there a substantial medical opinion that restrictive state laws should be liberalized? If there is, to what extent should the present laws be changed? These questions seem to warrant more attention at this time.

\section{I. History}

Abortion is undoubtedly an ancient practice. The records of almost every civilization indicate knowledge of abortifacient agents and abortive techniques. Among primitive people, these were gruesome when practiced in the extreme, and remain so among certain primitive tribes today. One tribe encouraged large ants to bite the woman's body, and on occasion the insects were taken internally.\textsuperscript{10} Gross traumatization of the pregnant abdomen was a popular method of attempting to induce abortion and is still used by some primitive groups. The early Hebrews knew abortive techniques although they strongly disapproved of the practice. The Greeks, on the other

\textsuperscript{6} Abortion in the United States 50, 54 (Calderone ed. 1958) (see remarks of Dr. Kinsey).

\textsuperscript{7} Ibid.

\textsuperscript{8} Guttmacher, supra note 2.

\textsuperscript{9} Taussig, Abortion, Spontaneous and Induced: Medical and Social Aspects 28 (1936); Fisher, supra note 5, at 9.

\textsuperscript{10} Devereux, A Typological Study of Abortion in 350 Primitive, Ancient, and Pre-Industrial Societies, in Therapeutic Abortion: Medical, Psychiatric, Legal, Anthropological and Religious Considerations 97, 125 (Rosen ed. 1954).
hand, advocated abortion in order to control population size and insure good social and economic conditions among the people. Hippocrates advised abortion in certain situations but, as a general rule, condemned the practice because it so often resulted in the mother’s injury or death. Christian belief in the immortality of the viable fetus’ soul has been largely responsible for the Church’s condemnation of abortion. Doctrine has placed abortion in the same category as infanticide, and the unbaptized soul of the fetus, like that of the infant, was considered in danger of hellfire. It is interesting to note, however, that many early canonists did not feel that the soul entered the fetus at the time of conception; rather, the belief was prevalent that while the soul entered the body of a female fetus at eighty days gestation, the soul of the male fetus was present after the fortieth day of gestation. This belief accounted for the fact that interruption of the pregnancy before the fortieth day was punished only by a fine, whereas abortion when the soul was present was regarded as murder and was punished accordingly. In 1869 this distinction became unimportant since abortion before the soul entered the fetus became “anticipated homicide.” In spite of the Church’s opposition, abortion was practiced and not infrequently resulted in the mother’s death.

The Renaissance woman who was poor was liable to the death penalty by crucifixion if she induced abortion, whereas her rich sister might buy her way out of such punishment. Today, the indigent patient may still have a more difficult time in obtaining legal sanction for even a medically indicated abortion, with the result that criminal abortion still accounts for a disproportionately higher number of deaths among the underprivileged. In a report on abortions in New York City covering the past two decades, it was pointed out that ninety per cent of the therapeutic abortions were performed on white women. In a recent review of the abortions in Buffalo hospitals, it was evident that therapeutic abortion seemed rarely indicated among non-white patients. The indications for abortion may have changed over the centuries, but discrimination against the lower socioeconomic classes and the very real dangers of criminal abortion are both still present today.

12 Gold, Ehrdt, Jacobson & Nelson, supra note 3, at 966.
Taussig, in his classical book on abortion, gives a good historical account of the medical indications for abortion and cites references to this practice in the oldest writings. Plato and Aristotle clearly encouraged abortion on social or economic grounds. Hippocrates practiced abortion but wanted only physicians to abort patients. In Rome, especially in the Empire period, abortion was approved for social indications. The influence of Christianity, although not actually diminishing the practice of abortion, did make it socially unacceptable. Therefore, with the dawn of Christianity, writings about therapeutic abortion almost disappeared. Early in the Christian era, Priscianus, a physician, recommended abortion to save the life of the mother, but the ramifications of the abortion issue do not seem to have been reconsidered until 1772. At that time William Cooper suggested therapeutic abortion in cases of contracted pelvis in order to prevent the horrors of attempted delivery through a malformed bony structure. Dewees, Velpeau, Hodge, and other prominent physicians continued to encourage abortion in cases of contracted pelvis. This suggestion was accepted by many obstetricians in Europe, and during the latter half of the nineteenth century "the indications, especially in Germany, were extended to include tuberculosis, heart disease, nephritis, and certain forms of psychoses." These indications became more prevalent, and in recent years there has been a growing tendency to abort for fetal reasons. There seems little doubt that psychogenic and socioeconomic factors have also exerted increasing influence in the decision to abort.

II. CONTEMPORARY INDICATIONS FOR THERAPEUTIC ABORTION

Present day indications for therapeutic abortion can be conveniently divided into four categories: (a) medical, (b) fetal, (c) psychiatric, and (d) socioeconomic. Invariably, these categories overlap, for the gravida with rubella in the first trimester of pregnancy is likely to be psychiatrically, or at least emotionally, disturbed. Extreme poverty may be an important adjuvant reason to terminate pregnancy when organic disease decreases the mother's ability to care for a larger family.

14 TAUSSIG, op. cit. supra note 9, at 31.
15 Id. at 278.
16 A woman in her first pregnancy is referred to as Gravida I; in the second pregnancy Gravida II; etc. [medical definitions are from SCHMIDT, ATTORNEYS' DICTIONARY OF MEDICINE AND WORD FINDER (1965)].
17 Commonly known as German measles.
A. Medical Indications

The medical indications for therapeutic abortion are so numerous that it is impossible to consider them all, or to mention those which were considered to indicate abortion in the past. The majority of them, however, can be included in one of the following types of disease: cardiovascular, gastrointestinal, renal, neurologic, pulmonary, diabetic, and malignant. Each will be briefly considered.

(1) Cardiovascular Disease.—Cardiovascular disease has long been thought to increase the risk of maternal death during pregnancy, and indeed, it has accounted for a significant percentage of maternal deaths. Patients with rheumatic heart disease, congenital heart disorders, or chronic hypertensive disease must be watched closely by their physicians for signs of impending heart failure. In instances where the cardiac disease is severe, digitalis or other cardiac supporting drugs are often used. Labor is often terminated earlier than in the normal pregnant patient. With improved prenatal care (including the significant advances recently provided by cardiac surgery), the number of women with cardiovascular disease whose life is actually in danger during pregnancy has decreased substantially. Certain reports state that with adequate medical attention, practically every pregnancy of a cardiac patient can be completed successfully with little risk of maternal death. As with some of the other medical indications, consultations suggesting interruption of pregnancy in a cardiac patient are not infrequently influenced by appreciation of the difficult situation that will eventually face the disabled cardiac patient who must try to take care of her new baby.

(2) Gastrointestinal Diseases.—Ulcerative colitis, either active or quiescent, is perhaps the most common gastrointestinal disease which has been thought to indicate therapeutic abortion. There is general agreement that emotional factors affect the medical course of the patient with ulcerative colitis. Since pregnancy regularly and sometimes severely affects the emotional stability of women, it has been felt that pregnancy may adversely affect the out-

18 Disease involving the heart and the blood vessels, i.e., the arteries and the veins.
20 An inflammation of the colon (the large bowel) characterized by ulceration of its lining membrane.
come of this hazardous disease. Fortunately, the disease is not a common one.

(3) Renal Disease.\textsuperscript{21}—Patients in this category are likely to be the victims of chronic glomerulonephritis,\textsuperscript{22} hypertension of renal origin,\textsuperscript{23} or, less commonly, they may have only one functioning kidney, or a history of nephrolithiasis.\textsuperscript{24} Since therapy in chronic nephritis\textsuperscript{25} is still neither definitive nor effective, there seem to be nephritis patients whose lives will actually be shortened by the effects of pregnancy. Heroic measures, such as the use of the artificial kidney, may see these women through severe life-threatening episodes; but all therapy will, in certain instances, eventually prove ineffective.\textsuperscript{26} Some of the renal conditions which might seem to indicate therapeutic abortion, however, do not so significantly affect the risk of maternal death. Often if one kidney has been removed, there appears to be little increased risk for the pregnant patient, so long as her remaining kidney functions well. The risk of nephrolithiasis cannot be minimized, but the instances when it might actually increase the risk of death in a pregnant patient seem remote.

(4) Neurologic Disease.—Diseases such as multiple sclerosis,\textsuperscript{27} post poliomyelitis paralysis, epilepsy, and various congenital neurologic diseases form the bulk of the neurologic diseases indicating therapeutic abortion. The patient with multiple sclerosis sometimes is made worse by pregnancy, but the effect of pregnancy on the

\textsuperscript{21} A disease pertaining to, or involving the kidneys.

\textsuperscript{22} A variety of kidney disease in mild form in which the tufts formed by the tiny blood vessels are inflamed. It leads to hypertension (high blood pressure) and, eventually, to uremia, a poisoning of the body due to failure of the kidneys to eliminate the toxic substances.

\textsuperscript{23} See note 22 supra.

\textsuperscript{24} An abnormal condition marked by the presence of concretions or calculi (i.e., "stones") in the kidney or kidneys. Also, the various disorders resulting from the presence of the concretions.

\textsuperscript{25} The prolonged and progressive form of nephritis (inflammation of the kidney or a deterioration of the tissue forming its delicate structure) which may follow an acute attack or may result from other diseases of the body, from poisons, alcohol, germs, etc. The fine and delicate structure of the kidney becomes distorted. The fine blood vessels become thicker; the supporting tissue (the non-functional part) begins to overgrow the functional parts; even the heart is affected.

\textsuperscript{26} Herwig, Merrill, Jackson & Oken, Chronic Renal Disease and Pregnancy, 92 AMERICAN J. OBSTETRICS & GYNECOLOGY 1117, 1120 (1965).

\textsuperscript{27} A disease of the brain and spinal cord. The spinal cord is the "cable" of nerves in the spinal column. In this condition, various parts of the brain and spinal cord are subjected to a type of deterioration called sclerosis. Sclerosis in this instance is a sort of hardening of the nerve tissue and its displacement by overgrowing connective (supporting) tissue. In other words, functional nerve tissue gives way to supporting, non-functional tissue. The disease is slow in progress but incurable.
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Disease is unpredictable.\(^{28}\) Riva, Carpenter, and O'Grady have found no justifiable indication for pregnancy interruption in patients with multiple sclerosis.\(^{29}\) There appears to be little evidence that the disease actually increases the risk of death during pregnancy. Much the same can be said about epilepsy in a pregnant patient. About one-third of pregnant epileptics seem worse during pregnancy, but the effect of the pregnancy is unpredictable. Epilepsy, in itself, does not seem to increase the risk of death for the pregnant woman.\(^{30}\) As with cardiovascular disease, however, it is evident that a woman with a severe paralysis or a disabling sensory disorder will find it difficult, if not impossible, to care for a newly born child once she leaves the hospital.

(5) **Pulmonary Disease.**—Tuberculosis accounts for nearly all of the pulmonary conditions thought to indicate therapeutic abortion. In former years, pregnancy was felt to adversely affect the tubercular patient and, in some instances, actually to increase the risk of death from tuberculosis. With the advent of drug therapy, tuberculosis has practically disappeared as an indication for therapeutic abortion. In addition to a possibly increased risk of maternal death, consultants often feel, as with some of the other diseases indicating abortion, that the tubercular patient cannot properly care for her newborn child; and this consideration undoubtedly entered into the decision to abort. With the current, relatively short periods of hospitalization for tuberculosis and the relatively quick recovery, however, this consideration is no longer as important as it used to be.

(6) **Diabetes Mellitus.**\(^{31}\)—Diabetes, of varying degrees of severity, has often been an indication for therapeutic abortion. On occasion, poor medical control of the disease has indicated the abortion; other times one of the complications of the disease, such as arteriosclerosis, affecting the retina, heart, or brain, has been felt to be severe enough to interrupt the pregnancy. The maternal mortality rate, however, is currently considered to be essentially the same among diabetic patients as with the overall pregnant population. Fetal risk is distinctly increased in the diabetic patient, but this would


\(^{30}\) Sabin & Oxorn, *Epilepsy and Pregnancy*, 7 *Obstetrics & Gynecology* 175, 179 (1956).

\(^{31}\) A disease in which the metabolism (body utilization) of sugars is greatly impaired due to the faulty secretion of insulin by the pancreas.
seem to have little to do with the "health" or "life" of the mother. Loth and Hesseltine have stated that "it should be a rare instance in which the diabetic pregnant patient could not be carried to the time of fetal viability, if not to term, by adequate medical management." As with the other medical indications, the customary legal demand that the "life" of the mother be in danger as a result of the disease necessitating the abortion is not always fulfilled.

(7) **Malignancy**.—Some physicians feel that pregnancy will adversely affect the patient's medical course when a prior malignancy has been treated. The medical course of the patient with carcinoma of the breast, for example, may be changed by the use of the so-called female hormones, either estrogen or progesterone, which are present in high concentration in the bloodstream of a pregnant patient. The effect of hormones on the patient with carcinoma of the breast, however, is unpredictable since these products sometimes improve the clinical situation and at other times seem to contribute to the progression of the disease. There is little convincing evidence that they either prolong or shorten the patient's life. Majury says that "no convincing evidence has been produced which shows that subsequent pregnancy affects adversely the prognosis in extra-uterine malignancy." A history of carcinoma of the bowel (or, on occasion, carcinoma in other locations) has also been an accepted indication for therapeutic abortion; however, there is no convincing evidence that pregnancy in any way adversely affects the outcome of these neoplastic diseases.

(8) **Other Medical Diseases**.—Rheumatoid arthritis, hyperthyroidism, lacerated cervix, multiple fibroids, mumps in the first trimester, and other miscellaneous diseases too numerous to mention have also indicated therapeutic abortion. It is difficult to prove that many of these diseases actually threaten the life of the pregnant patient, and social factors often seem to be a prominent consideration in the decision to abort.

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34. A malignant tumor or new growth (i.e., a cancer) arising from cells that make up epithelium. Epithelium is the outer covering of the skin and the lining of the body cavities, such as the mouth, the rectum, the interior of the chest, etc.

35. Pertaining to, or composed of, fibrous tissue. Fibroid is frequently used to refer to a tumor of the womb composed of muscle and fibrous tissue.
B. Fetal Indications

No state statute permits abortion because of an expected abnormality or the death of the fetus. Perhaps this is not a surprising fact when one considers that most of the abortion laws were written many years before anything was known about the etiology of fetal defects. Some hospitals, however, are willing to abort a pregnant woman when there is a strong possibility that the baby will be abnormal. For example, the consultant who recommends an abortion may simply state that the danger of fetal malformation due to maternal rubella in the first trimester of pregnancy makes an abortion advisable. On other occasions, however, a psychiatric opinion may be sought, and this specialist may suggest that the patient’s mental condition, influenced by the fear of fetal malformation from the rubella, may become suicidal if the pregnancy is not interrupted. Her life is thus endangered. There is little practical difference in these two approaches since the result is the same: interruption of the pregnancy. There are five situations where abortion may be recommended for fetal indications: (1) where there has been an ingestion of certain harmful drugs during pregnancy; (2) where certain viral infections have been contracted by the mother, especially rubella; (3) where the mother’s abdomen has been exposed to radiation during pregnancy; (4) where there is a substantial risk of fetal malformation due to genetic factors; and (5) where there is a sensitization to the Rh factor.

(1) Drugs.—The tragedy that occurred following the ingestion of thalidomide by pregnant women both in Europe and in the United States is well-known to everyone. The newspaper publicity that surrounded the pregnant woman from Arizona, who found it necessary to go to Sweden to procure an abortion of a fetus presumed and later proved to have been affected by thalidomide, brought the problem vividly to the attention of the American public. Thalidomide, however, is not the first drug to cause severe fetal abnormalities. The folic-acid antagonists, employed in the treatment of leukemia, had previously been found to produce severe anomalies because of their metabolic action. Certain other drugs are suspected of teratogenicity, although none are as well-established in this regard as thalidomide or the folic-acid antagonists. As the field of developmental pharmacology progresses, however, there seems little doubt that other drugs will be implicated and will further aggravate the legal problem so vividly dramatized by thalidomide.
(2) Rubella. The problem of rubella in pregnancy has also been dramatically covered by the press in the past year. There was an epidemic of rubella in the eastern part of the United States in 1964, and this spread to the West Coast and to Hawaii in 1965. Although many pregnant women who contracted rubella were aborted during this epidemic, it has been estimated that about 30,000 defective children conceived during the epidemic have been born. When one considers how severe the fetal abnormalities following maternal rubella can be, it would certainly seem more desirable from an economic, as well as a humanitarian, viewpoint to have terminated pregnancy when the odds were so relatively high that the child would be abnormal. The actual risk of malformation is unknown, but a summary of the literature indicated a 23.4 per cent risk during the first four weeks of pregnancy, a 21.3 per cent risk in the second month, and, in the third month, a 10.4 per cent risk. After the twelfth week, there seemed to be no increased risk of congenital malformation. The administration of gamma globulin has not been a satisfactory preventative of the disease in the pregnant woman, partially because the commercial lots available vary so markedly in their effectiveness.

Certain other maternal infections are also known to increase the risk of congenital abnormality in the fetus. These diseases, however, are so mild that infection in the mother usually goes unnoticed. At present, in such cases the tragic consequence of a malformed baby seems unavoidable.

(3) Radiation.—It is generally agreed that when radiation is given in therapeutic doses to the mother in the first few months of pregnancy, malformation or death of the fetus may result. According to Parlee, "it appears that ionizing radiation in therapeutic doses in the early months of pregnancy are grounds for the termination of the pregnancy." Doses of radiation in therapeutic amounts are usually prescribed only for the treatment of malignant

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38 Commonly known as German measles.
37 Personal communication from John Sever to the author, October, 1965.
41 Id. at 332.
neoplastic disease, such as carcinoma\textsuperscript{42} of the cervix. Fetal death and extrusion of the products of conception are the usual, but not inevitable, result of such quantities of irradiation. A lesser dose of radiation, such as may be involved in an extensive diagnostic investigation, usually does not produce fetal death, and in most instances does not cause fetal malformation. When extensive diagnostic X-ray is used during the earliest weeks of an undiagnosed pregnancy, some physicians recommend therapeutic abortion. The possibility of having a malformed child under these circumstances does exist, but the actual risk has not been demonstrated. To many distraught parents, any risk is too great. In such cases abortion seems justified on both psychiatric and humanitarian grounds, in spite of the fact that there is little evidence to indicate how many of these children would be deformed.

(4) Genetic.—Therapeutic abortion on genetic grounds is, at the present time, rarely done. As more is learned about inherited diseases, however, there is likely to be an increasing demand from both the physician and the patient for interruption of pregnancy when there is a substantial risk of serious congenital malformation as a result of a likely combination of parental genes.

(5) Erythroblastosis Fetalis.\textsuperscript{43}—With the introduction of various methods of transfusing the fetus in utero, the current demand for therapeutic abortion on the grounds that the fetus is likely to die in utero as a result of incompatibility of the Rh factor may soon decrease. The hazard to the fetus in utero, affected by Rh antibodies produced by the maternal organism, is primarily anemia or lack of red blood cells. If this lack can be corrected by transfusing the fetus in utero at periodic intervals, there is a good chance that he will be born alive and that modern methods of exchange transfusions will keep him in good health.

C. Psychiatric Indications

Nearly all recent reports on therapeutic abortion practice in the United States indicate an increasing frequency of abortion for psychogenic reasons. Since most state laws require that the "life" of the mother be endangered by pregnancy before abortion may be legally considered, the patient must have exhibited a genuine sui-
cidal tendency to qualify for termination of her pregnancy. In spite of the increase in this type of abortion, there are some psychiatrists who feel that psychiatric indications are not valid. A paper by Dr. Myre Sim, which appeared in the *British Medical Journal* in 1963, and the correspondence in the same journal, which this article engendered, illustrate well the disagreement over psychogenic indications for abortion.\(^{44}\) Dr. Sim, in the original article, says that "there are no psychiatric grounds for termination of pregnancy."\(^{45}\) Hoenig, commenting on Dr. Sim's paper, says that "termination of the pregnancy could well be indicated . . . in [certain] cases on psychiatric grounds within the meaning of the law."\(^{46}\) In answer to this letter of Dr. Hoenig's, Dr. Sim stated that it was really the patient's socioeconomic condition which influenced the psychiatrist to recommend abortion. "If society wants abortion to be easier, it should have the courage to campaign for it honestly and not exploit the psychiatrist, who, I contend, has no factual basis for being associated with the problem."\(^{47}\)

Rosenberg and Silver sent a questionnaire to a group of psychiatrists to determine their attitudes and practices regarding psychiatric indications for therapeutic abortion.\(^{48}\) The authors were shocked at the diversity of opinion expressed therein. For example, only about 25 per cent of the psychiatrists thought that pregnancy increased the morbidity of mental illness, but almost two-thirds indicated that they had seen or treated genuine suicidal attempts or psychotic reactions in pregnant patients. A substantial number of the psychiatrists felt that socioeconomic factors, rape, incest, and extreme youth were factors which should indicate abortion. The authors reflect that this liberal attitude, on the part of psychiatrists, indicates their alignment with progressive social change and suggests that when a psychiatrist recommends therapeutic abortion, he is likely to be considering the socioeconomic factors rather than the psychiatric indications.

**D. Socioeconomic Indications**

Throughout history, socioeconomic indications for interruption of pregnancy have predominated over all other reasons. Some


\(^{45}\) Id. at 148.


\(^{47}\) Id., *Correspondence*, 2 *British Medical J.* 1062 (1963).

women have been aborted simply because they were afraid of childbirth. Others would not bear children before or after a certain age. Some women aborted to safeguard their beauty, while others aborted because of "improper" paternity. Nomadism made pregnancy inconvenient and led some women to abort themselves. Poverty has played a tremendously important role in the motivation for abortion. With the advent of Christianity, all abortions were considered undesirable, if not criminal, and this was especially true of those done for socioeconomic reasons. Legal abortion for social reasons in civilized societies, therefore, virtually disappeared; there is little evidence, however, to suggest that illegal abortion for the same reasons decreased significantly.

There seems to be little doubt that socioeconomic factors have influenced many doctors to recommend abortion for legitimate medical reasons. In days past when tuberculosis responded slowly, or not at all, to treatment, Taussig felt that factors such as the willingness of the patient to cooperate with rigid therapy, the number of children she had, the amount of help she could get with her children, if any, and other related factors were important in the decision of whether or not to abort her. Cardiac disease, while it may not actually increase the risk of death in the pregnant patient, may make it difficult or impossible for the mother to adequately care for her child. This problem has usually been a most important consideration when the patient has cardiovascular disease, and the same problem exists with many other "medical" indications. Obviously, the fetal indications for abortion are primarily socioeconomic, since few, if any, actually threaten the life of the pregnant patient; however, the social as well as economic ramifications of a severely deformed infant are incalculable. It would seem, too, that socioeconomic factors play a predominant role in the decision to abort psychiatric patients. This heavy reliance on the socioeconomic milieu seems remarkable, since it need not be pointed out that no state law makes such a consideration legal.

III. CURRENT LEGAL ABORTION PRACTICES IN THE UNITED STATES

A. Changes in the Indications

In the last twenty to thirty years, nearly all hospital surveys report a decrease in the percentage of therapeutic abortions done for

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49 Taussig, op. cit. supra note 9, at 293.
medical reasons. Taussig, in his volume published in 1936, lists a myriad of medical indications for abortion. Since the publication of Taussig's book, there has been a gradual transition in medical thinking, and some of the diseases formerly used as indications for abortion no longer pertain. Taussig called tuberculosis, "the most significant indication for therapeutic abortion in point of frequency," but this disease rarely gives reason to abort today. Of the abortions in a recent Buffalo study, tuberculosis accounted for 33 to 50 per cent of the abortions in the 1940's, about 10 per cent in the 1950's, and none during the years 1958 to 1965. In 1936 Taussig stated that "recently a tendency toward greater conservation has ... been manifested with regard to the indications for therapeutic abortion in women with heart disease," although he felt that it was not infrequently a legitimate indication. In the Buffalo study (1965), cardiovascular indications were present in about 15 per cent of the pregnancy interruptions in the 1940's; the incidence had decreased to approximately 5 per cent in the 1950's and became practically non-existent in the 1960's.

In 1936 Taussig pointed out that psychiatric indications accounted for only a small percentage of therapeutic abortions, but that such abortions were occurring more often. He quotes Maier as saying that from 1929 to 1931 in Zurich, Switzerland, psychiatrically indicated therapeutic abortions were definitely on the increase. Since Taussig's book was written, most of the reports on hospital experience document a gradually increasing percentage of abortions done for what has been recorded as psychiatric indications. In the Buffalo study, the psychogenic indications increased linearly from about 10 per cent in 1943 to about 80 percent in 1963. Although other reports have not shown quite so dramatic an increase, this trend is representative.

An equally dramatic change has occurred in the fetal indications

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51 TAUSSIG, op. cit. supra note 9, at 282.

52 Id. at 292.

53 Niswander, Klein & Randall, supra note 13.

54 TAUSSIG, op. cit. supra note 9, at 297.

55 Niswander, Klein & Randall, supra note 13.

56 TAUSSIG, op. cit. supra note 9, at 313.

57 Niswander, Klein & Randall, supra note 13.
which were practically unknown before the 1940's. In the Buffalo series the first therapeutic abortion for rubella was done in 1949, and although the incidence has varied from year to year, dependent apparently on the prevalence of the disease, rubella has accounted for a significant proportion of abortions since the first case was done. In 1964, an epidemic year, rubella accounted for 35 percent of the abortions in the Buffalo study.  

Some, but not all, psychiatrists feel that rarely, or indeed never, is psychiatric disease an absolute indication for therapeutic abortion. Yet, the number of such abortions gradually increases. A real suicidal risk must be present in the psychiatric patients to legally permit abortion, yet there is good evidence that the suicide rate among pregnant women is considerably lower than among the general population of non-pregnant women. Abortion for rubella is frankly illegal in most states. Many hospitals choose to ignore the law for humanitarian reasons. The physicians doing these abortions feel that the patient has a right to make her own decision concerning a pregnancy which may result in the birth of an abnormal child. It is evident that social factors have become the prime consideration in the decisions to terminate pregnancy for psychiatric indications or for fetal reasons.

It is also noteworthy that, according to most investigators, the private patient is much more likely to have a legal interruption of pregnancy than is the ward patient. Hall reports that at the Sloane Hospital for Women, the incidence of therapeutic abortion is four times greater on the private service than on the ward. By sending a questionnaire to sixty-five randomly selected major hospitals, Dr. Hall discovered that this same discrepancy is widespread. The Buffalo study indicates similar trends in support of Hall's findings. In the 1940's when the majority of abortions were done for medical reasons, the incidences on the ward and private services were about the same. In the 1950's when medical reasons accounted for fewer abortions, the incidence on the private service rose to twice that of the ward service. In the 1960's when the number of abortions for

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58 Ibid.
59 See Cheney, Indications for Therapeutic Abortion from the Standpoint of the Neurologist and the Psychiatrist, 103 A.M.A.J. 1914, 1918 (1934); Sim, supra note 44, at 148.
60 McLane, Other Aspects of the Abortion Problem, in Abortions in the United States 117, 140 (Calderone ed. 1958); Rosenberg & Silver, supra note 48, at 409.
62 Id. at 525.
psychiatric or fetal reasons rose dramatically, the incidence on the private service soared to better than twenty times greater than that of the clinic service.\(^6\)

The Buffalo series uncovered other interesting trends in relation to maternal age, parity, and marital status of the aborted women. In the decade of the 1940's no girl under twenty years of age was aborted. In the 1950's about 7 per cent of the patients were under twenty years of age, and in the 1960's almost 15 per cent of the patients were in this younger age group. Paralleling the lowering of age has been a change in parity.\(^6\) The proportion of nullipara\(^6\) has increased from about 20 per cent during the 1940's to 36 per cent in the 1960's, nearly a doubling of incidence. The percentage of married patients dropped from 93.3 per cent in the 1940's, to 85.1 per cent in the 1950's, to 58.9 per cent in the 1960's. In recent years, about two out of five of the patients aborted have been either single, separated, or divorced.\(^6\)

The Buffalo patients were also classified on the basis of religion. Only 3 per cent of the total Buffalo population is Jewish, but women of this faith accounted for almost 20 per cent of the therapeutic abortions reported; and about 75 per cent of these abortions were recorded to have been indicated on psychiatric grounds. In contrast, only about half of the abortions done on the Catholic patients were done for psychiatric disease. Although the differences were not striking, there were a higher number of Catholics among the non-married group than should have been expected.\(^6\)

Hospitals vary greatly in their abortion policies. At the Los Angeles County Hospital, which treats only clinic patients, Russell reports that from 1946 to 1951 there was an incidence of one therapeutic abortion per 2,864 deliveries.\(^6\) At the opposite extreme, one finds reputable hospitals permitting abortion for one of every thirty-five to forty deliveries. The variation in the hospitals surveyed by Hall extended from no abortions in 24,417 deliveries to one in thirty-six deliveries.\(^6\) It seems inconceivable that medical opinion could vary so widely. Socioeconomic factors must be playing a major role in the decision to abort in certain institutions. There is no doubt, how-

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\(^6\)5 A woman who has never given birth to a child.


\(^6\)7 *Ibid.*


\(^6\)9 Hall, *supra* note 61, at 525.
ever, that fear of the law not infrequently interferes with good medical judgment.

In 1965 obstetricians were asked by letter to reveal their thoughts about a proposed change in New York State's abortion law. The chairmen of obstetric departments of the medical schools in the state of New York wished to know how many obstetricians favored a change in the New York Abortion Law in line with the American Law Institute's Model Penal Code of 1959. This latter code has stated that

a licensed physician is justified in terminating a pregnancy if:
(a) he believes there is substantial risk that continuance of the pregnancy would gravely impair the physical or mental health of the mother or that the child would be born with grave physical or mental defect, or the pregnancy resulted from rape — or from incest; and (b) two physicians, one of whom may be the person performing the abortion, have certified in writing their belief in the justifying circumstances and have filed such certificates prior to the abortion in the licensed hospital where it was to be performed, or in such other place as may be designated by law.\textsuperscript{70}

Eighty-six per cent of the replying doctors favored changing the law in line with the suggested code.\textsuperscript{71} The 1965 session of the legislature failed to change the law, but the proponents of change are girding for a new attempt to liberalize the statute in regard to abortion in the next session of the legislature.

In California a similar endeavor to liberalize the law also failed. A statement encouraging the proposed humane abortion act in California was signed by 1,031 board certified specialists in obstetrics, pediatrics, psychiatry, and preventative medicine. A similar statement was signed by 150 leading attorneys, four deans of law schools, thirty-seven professors of law, members of the Family Law Committee of the State Bar, and the President of the State Bar as an individual. A third statement was signed by about 300 professors of sociology, deans of schools of social work, social workers, clinical psychologists, and others, and still another statement was signed by a large number of clergymen who favored the adoption of the more liberal abortion law.\textsuperscript{72}

One cannot escape the conclusion that a large number of well-informed people feel that the current abortion statutes do not fulfill all the social needs permitted by current moral attitudes. The ap-

\textsuperscript{70} Model Penal Code § 207.11, (Tent. Draft No. 9, 1959).

\textsuperscript{71} Hall, New York Abortion Law Survey, 93 AMERICAN J. OBSTETRICS & GYNECOLOGY 1182 (1965).

\textsuperscript{72} Letter from Ruth Roemer to the Author, August 1965.
parently unalterable position of the Roman Catholic Church does not change these needs. Cardinal Cushing has said that Catholics do not need the law to support their moral principles.\(^7^3\) If a substantial proportion of the non-Catholic population desire a more liberal abortion law, the legislatures should be so informed.

If more evidence is needed that current laws are being loosely interpreted or completely disregarded, Packer and Gampell's 1959 study of abortion practices in certain California hospitals supplies it.\(^4\) A questionnaire was sent to twenty-nine hospitals with obstetrical services in the San Francisco and Los Angeles areas. It contained eleven hypothetical case histories which the hospital was to process as typical applications for therapeutic abortion. The authors divided the case histories into those that would definitely fulfill legal criteria for therapeutic abortion, those that would questionably fulfill legal criteria, and those considered completely illegal. Ninety-three per cent of the hospitals felt that the case histories posing obviously legal indications for therapeutic abortion would have resulted in an affirmative decision to abort. Eighty-three per cent of the patients with questionable legal case histories would have received abortion, while 59 per cent of the frankly illegal group would probably have been aborted.\(^7^6\) It seems evident that the conscience of the physician is often in conflict with current legal requirements.

**B. Medical Procedures Used to Produce Legal Abortion**

A variety of techniques are currently used to produce legal abortion. A number of variables influence the particular technique chosen. Length of gestation, combining sterilization with abortion, and the presence of pelvic pathology independent of the pregnancy all influence the physician's choice. A list of the techniques used in the past two decades would include intracervical insertion of a foreign body, such as a hard, rubber catheter or a bougie; simple dilatation and curettage (D \& C); hysterectomy; hysterotomy (either vaginal or abdominal); the use of concentrated oxytocin solution; and the injection of hypertonic solutions into the uterus. Analysis of the pregnancy interruptions in the Buffalo study showed that the simple D \& C accounted for the majority of the abortions

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75 Id. at 446.
done. Hysterectomy was used not infrequently in the 1940's, but is no longer commonly used since it is usually considered too radical. It is employed only when the uterus itself is abnormal. The use of bougies or intrauterine catheters has become obsolete since the 1940's. In 1964 concentrated oxytocin was first used, and presently, intra-amniotic hypertonic solutions are also being tried. These later techniques, however, still account for only a small portion of the abortions done. Concomitant sterilization was performed in nearly two out of five patients in the 1940's and the 1950's, but this incidence has dropped to one in five in the 1960-1964 time period. This decrease in incidence of sterilization can be directly traced to the increase in abortions for rubella, a circumstance which in no way affects future childbearing, and to the increase in the number of unmarried young nulliparous patients who have appeared increasingly often in the Buffalo series of abortions.

C. Hazards of Therapeutic Abortion

The D & C is a safe operation; among the 320 D & C's reported in the Buffalo series, only two patients became significantly ill. One developed an abscess in the tissue adjacent to the uterus, an infection which responded very rapidly to antibiotic therapy. The second patient developed pelvic peritonitis and a fistula between the bowel and the vagina. She became very ill and required major abdominal surgery before she recovered. On the other hand, primary abdominal surgery to effect the abortion (hysterectomy, hysterotomy, D & C, and tubal ligation) is less innocuous. Of 176 such patients, one died of heart failure forty-eight hours after surgery because of a severe congenital heart defect, a death which would have occurred even without the abortion. There were eight operative complications, no more than would be expected with abdominal laparotomies for other indications. These complications included evisceration, thrombophlebitis, pyelitis, wound infection, and two postoperative bowel obstructions. All patients responded to appropriate therapy and recovered.

Bergquist and Kaiser studied the effect of intravenous synthetic oxytocin for induction of labor, a technique which requires a much

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77 Ibid.
78 Ibid.
79 Ibid.
80 Ibid.
lower dose of oxytocin than that utilized to produce abortion.\textsuperscript{81} They found physiologic changes similar to those observed when naturally occurring oxytocin is given; namely, a drop in blood pressure, an increase in the pulse rate, and certain EKG changes. They concluded, however, that the synthetic oxytocin in the doses they used was apparently safe.\textsuperscript{82} The larger doses needed to produce abortion would exaggerate these changes in all likelihood and should be more hazardous. Guttmacher has stated that "because of the potential cardiovascular risk from highly concentrated intravenous oxytocin solutions" he preferred the use of intra-amniotic hypertonic solutions.\textsuperscript{83}

The intra-amniotic injection of formalin to produce abortion was first used many years ago, although the use of this drug is known to be hazardous. After World War II, hypertonic saline solution was substituted for formalin; the technique was used widely in Japan, and later, in other countries.\textsuperscript{84} In 1958 hypertonic glucose was substituted and the first successful termination of a mid-trimester pregnancy using this solution was accomplished. No ill effects from either modality were reported in the English language literature until recently when a report of a maternal death associated with hypertonic glucose appeared.\textsuperscript{85} At least twenty-five maternal deaths related to the use of intra-amniotic hypertonic saline solution have also been recorded.\textsuperscript{86}

In summary, therapeutic abortion accomplished by D & C or abdominal laparotomy is safe, although an irreducible minimum of ill effects, including death, will occur. The use of concentrated oxytocin or intra-amniotic injection of hypertonic solutions is too recent to allow objective evaluation at this time.

IV. CONCLUSION

Criminal abortion remains a major public health problem which cannot be ignored. It is doubtful that human nature or human social arrangement will ever permit the avoidance of all unsafe or


\textsuperscript{82} Id. at 363.

\textsuperscript{83} Guttmacher, \textit{Techniques of Therapeutic Abortion}, 7 \textit{CLINICAL OBSTETRICS \& GYNECOLOGY} 100, 105 (1964).

\textsuperscript{84} Wagatsuma, \textit{Intra-Amniotic Injection of Saline for Therapeutic Abortion}, 93 \textit{AMERICAN J. OBSTETRICS \& GYNECOLOGY} 743 (1965).


\textsuperscript{86} Wagatsuma, \textit{supra} note 84, at 744.
unwanted pregnancies, and the need for abortion is likely to continue. Legalized abortion provides at least a partial answer.

An analysis of the reasons why physicians in the United States recommend legal abortion shows a changing philosophy over the past two decades. As medical disease has demanded less pregnancy interruption, psychiatric disease and risk of fetal malformation have required abortion more frequently. Social factors are apparently an important consideration with these indications. Groups of influential citizens — physicians, lawyers, psychologists, and social workers — are currently encouraging liberalization of the states' abortion laws in order to take into account factors other than the "life" of the pregnant patient.

Legal abortion in a well-equipped hospital is not hazardous, but criminal abortion currently accounts for thousands of deaths annually in the United States. If a realistic relaxation of state laws on legal abortion will decrease this toll of needless deaths, society owes this protection to desperate women.