

The Inadequacy of Routine Reporting of Fetal Deaths*

As Evidenced by a Comparison of Such Reporting with Maternity Cases Paid for under the Emergency Maternity and Infant Care (EMIC) Program

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PUBLIC health workers for many years have been greatly concerned with the reduction of infant mortality. Important as such reductions are, it is becoming increasingly clear that the saving of lives lost *after* birth is only part of the problem of preventing loss of life in this period. Thousands of prospective lives are lost each year through deaths of viable infants born at or near termination of pregnancy, representing a tremendous wastage of pregnancy. For example, in 1947 the number of infant deaths (i.e., deaths within the first year of life) reported in New York City was 4,517, while the number of fetal deaths reported was 14,077. Bringing a larger number of these fetuses to a later stage of pregnancy enhances the chances for a live birth. More and more, then, it becomes important to focus on the problem of fetal deaths.

Before attacking the problem, one has to know the extent of it. Many attempts have been made in different countries and within the United States to obtain

registration of fetal deaths. There is a lack of uniformity of the definition of the term "fetal death" in the literature, with variations in length of gestation, signs of life, and period allowed for registration of the fetal death. The indiscriminate use of the terms "stillbirth," "abortion," "miscarriage," and "fetal death" has added to the already existing confusion. For example, the minimum period of gestation after which a stillbirth must be reported is 28 weeks in England and Wales, 24 weeks in Belgium and Switzerland, 26 weeks in Czechoslovakia, 32 weeks in Norway, 29 weeks in Denmark, 16 weeks in Japan, and is not specified in France, Italy, and Belgium.¹ In the United States, there is similar variation from state to state. There is likewise no agreement regarding evidence of life. The following terms are loosely used—"any sign of life," "signs of life," "sign of breathing," "breathed or any sign of life," "action of heart, breathing or movement of voluntary muscle."

Several countries consider a "stillbirth" a child born alive but dying within the period of registration, meaning the lapse of time between birth of a living child and registration with the health authorities as a stillbirth if the child dies; this period may vary from

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one to six days after birth. It is thus apparent that the comparison of fetal death statistics from country to country and within the United States is of little significance at the present time.

If one attempts to study the problem in one community, he is immediately faced, as well, with the problem of knowing how completely stillbirths or fetal deaths, no matter what definition is used, are reported to registrars of vital statistics by the physicians and hospitals in the community.

In an attempt to estimate total pregnancy wastage, the Board of Health of New York City on January 1, 1939, amended the Sanitary Code² and required the reporting of all fetal deaths regardless of length of gestation. A fetal death was defined in the 1939 amendment as a "stillbirth or a fetus delivered at an abortion (spontaneous, therapeutic or induced), that is, a fetus born dead, including a fetus recovered at operation in a case of ectopic gestation, by caesarean section, and a hydatid or hydatiform mole delivered spontaneously or by operation." Table 1 shows the marked increase in reporting of fetal deaths after this amendment of the Sanitary Code was enacted.

TABLE 1
Reporting of Fetal Deaths in New York City

Year	Number of Fetal Deaths	Ratio to 1,000 Live Births
1898	5,638	47.4
1908	7,191	49.3
1918	6,793	49.2
1928	6,121	48.5
1938	4,995	48.9
1939	6,831	66.8
1940	7,986	74.4
1941	8,974	78.5
1942	10,013	75.9
1943	9,508	70.7
1944	9,987	81.4
1945	10,367	80.5
1946	12,980	85.0
1947	14,077	82.2

With this increase, the reporting of fetal deaths in New York City was recognized as being much more complete than in most areas. No simple way of testing the completeness of this report

ing, however, was found until the EMIC program* made one available.

Under the regulations of that program, a physician or hospital or both were required to file a brief summary of the medical course of the patient prior to payment by EMIC. When these EMIC summaries were tabulated, it was found that there were 2,045 pregnancies in 1943, 1944 and 1945 which terminated in a fetal death. A search was then made to see if a fetal death certificate was filed with the New York City Department of Health for each of the 2,045 fetal deaths. It was found that a certificate was filed for 1,147 or 56 per cent; no certificate was filed for 898 or 44 per cent. It was thus evident that the reporting of fetal deaths in New York City did not give a complete picture of total pregnancy wastage, since approximately 50 per cent were unreported.

Since additional data were available on the unreported fetal deaths, they were analyzed to determine the role played by various factors which might influence reporting—the place of occurrence of the fetal death, the type of physician attending the patient, and the length of gestation.

PLACE OF OCCURRENCE OF EMIC FETAL DEATHS

Section 32 of the *Sanitary Code* of New York City requires that a physician, hospital superintendent, midwife, funeral director, or parent report the fetal death; reporting by a parent is required only if the fetal death occurred unattended. It is obvious that when the fetal death occurs in a hospital, the responsibility for reporting is shared by the hospital superintendent and the physician. The chances of reporting should, therefore, be better than in an attended fetal death occurring at home

* A federally supported program through which maternity care was provided free of cost to the wives of men in the four lowest pay grades in the armed forces. Women reported early in their pregnancies in many instances.

TABLE 2

Place of Occurrence of EMIC Fetal Deaths in New York City

Place of Occurrence	Total	Number of EMIC Fetal Deaths		Per cent Not Reported
		Reported	Unreported	
1. Hospital (Total)	1,942	1,135	807	42
a. Voluntary	1,046	595	451	43
b. Municipal	515	253	262	51
c. Proprietary	358	281	77	22
d. Other *	23	6	17	74
2. Home	103	12	91	88
Totals	2,045	1,147	898	44

* Includes fetal deaths occurring in federal hospital, or patients transferred from one hospital to another.

where reporting rests with the physician alone.

Table 2 shows that when fetal deaths occur at home, they are usually unreported; when they occur in hospitals, about 42 per cent are unreported. The relatively better reporting of fetal deaths by proprietary hospitals should be interpreted in the light of a procedure whereby the Department of Hospitals, which licenses only these hospitals, requires that they furnish certain medical data, including the number of fetal deaths occurring each year, before a license is renewed. These records are then checked to determine whether the deaths have been reported to the Department of Health.

TYPE OF ATTENDING PHYSICIAN

Both the obstetric specialist and the general practitioner failed to report many fetal deaths, even though their cases were better reported than those of other specialists and ward cases. The

chief point is that physicians of all kinds should report fetal deaths more carefully and completely. The incidence of such deaths should be reduced as the quality of antepartum and intrapartum care is improved. But the facts cannot be known unless figures on all terminated pregnancies are available.

LENGTH OF GESTATION

The third possible factor in completeness of reporting—and which one supposes would be of great influence—is the time of gestation at which the fetal death occurred. Did physicians and hospitals really understand the term “fetal death” to mean a fetus dying at any time during pregnancy?

Table 3 shows that reporting increases with the length of gestation. Evidently the term “fetal death” was usually interpreted by physicians in terms of the word “stillbirth,” with which they were familiar and which usually means a death occurring in late pregnancy.

TABLE 3

Trimester of Pregnancy in Which the EMIC Fetal Deaths Occurred

Trimester of Pregnancy	Total	Number of Fetal Deaths		Per cent Not Reported
		Reported	Unreported	
1st Trimester	858	287	571	67
2nd Trimester	386	253	133	34
Reported as “early”	68	68	0	0
3rd Trimester	559	480	79	14
Reported as “late”	2	2	0	0
Unknown	172	57	115	67
Totals	2,045	1,147	898	44

DISCUSSION

It has been demonstrated that the reporting of fetal mortality is quite incomplete, roughly 50 per cent as judged by this study. Thus, the 14,000 reported fetal deaths in New York City in 1947 may represent at least an estimated total of 28,000 fetal deaths during this period. In order to secure an adequate picture of the volume of pregnancy wastage, physicians and hospital administrators have to be made aware of the need for reporting all fetal deaths to the vital statisticians in their communities.

It is interesting that the reported fetal death ratio of 82.8 per 1,000 live births in 1947 is as high as the infant mortality rate was in 1920. Since then the infant mortality rate has dropped to a low of 26.4 for the years 1947 and 1948. It is recognized that the decrease in infant mortality was due to many factors—improvement in community water supplies, pasteurization of milk, better medical and nursing care during pregnancy, delivery, and infancy, etc. With the decrease in certain causes of infant mortality, a shift in the cause of death has also occurred, and today other causes which are natal in origin—such as premature birth, birth injury, and congenital malformations—now play a major role, indicating the increasing importance of antepartum and intrapartum care. One would hope that reductions in fetal mortality might be achieved by directing attention to factors such as the quality of antepartum and intrapartum care, nutrition of the expectant mother, socioeconomic status, education of the public as to the importance of early and adequate antepartum care; certainly guided

family planning cannot be ignored. It must also be pointed out, however, that some of the fetal deaths are not preventable and that their occurrence is actually biologically desirable. Thus, by early termination of certain pregnancies, the species rids itself of genetically unsound combinations, the so-called lethal or semi-lethal combinations. Our knowledge of human reproduction is still extremely limited and further studies, including large-scale longitudinal studies of "pregnancy wastage," are badly needed.

CONCLUSIONS

1. Forty-four per cent of fetal deaths resulting from pregnancies in which medical care was paid for by the EMIC Program in 1943, 1944, and 1945 were not reported as fetal deaths to the registrar of vital records in the Department of Health in New York City, where the reporting of all fetal deaths (i.e., any products of conception) has been rigorously promoted for the past decade.
2. In this EMIC fetal death series, reporting was more complete when the death occurred in the latter months of pregnancy and when the birth occurred in proprietary hospitals which are under closer governmental supervision than other hospitals.
3. There is need for further studies in the field and for greater interest of the medical profession in securing more complete reporting.
4. Uniformity in definition of terms, "still-birth," "fetal death," "abortion," and "miscarriage," and more complete reporting of such deaths are essential before an adequate picture of the problem of pregnancy wastage is available.

REFERENCES

1. Interim Commission, World Health Organization. *Epidemiological and Vital Statistics Report*. 1, No. 10. (Mar.), 1948.
2. Department of Health, City of New York. *The Sanitary Code of the City of New York*. Section 32, adopted December 12, 1938.