

mediately interview ill persons and foodhandlers. All city and county health bureaus should similarly report any outbreak of communicable disease to the Provincial Health Department and the Department of Health immediately by telephone. Prompt reporting is essential for improving the quality of our investigations, and will lead to a better understanding of ways to prevent future outbreaks.

Maternal Mortality in the Taiwan Area

During the period 1952-1984, maternal mortality declined in the Taiwan Area from 196.6 to 14.1 deaths per 100,000 live births (Figure 2). From 1981 to 1984, hemorrhage, toxemia, and pulmonary embolism accounted for approximately 73% of all reported maternal deaths (Table 2); no maternal deaths were reported associated with normal delivery or induced abortion. As expected, maternal mortality rates increased with increasing maternal age (Figure 3).

Declining maternal mortality is consistent with improvements in maternal health care delivery in the Taiwan Area; during the period 1951-1984, the proportion of deliveries attended by physicians rose from 3% to 88%¹. Underreporting of maternal death remains a problem, however. Studies in the U.S. and Latin America have shown vital registration systems detect only 20-80% of all maternal deaths²⁻⁶. An additional problem in Taiwan is that maternal deaths associated with induced abortion are probably grossly underreported since abortion was not legalized until 1985. The Taiwan Provincial Institute of Maternal and Child Health recently completed a study to identify unreported abortion-

Fig2. Maternal mortality rates--Taiwan Area, 1952-1984.

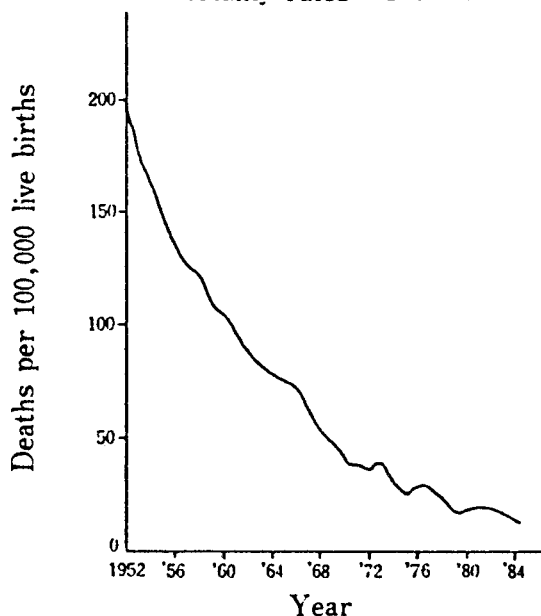
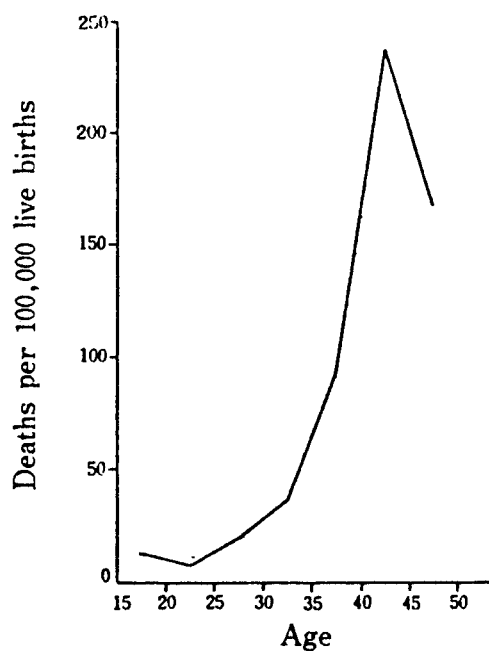


Table 2 Underlying cause of 259 reported maternal deaths from 1981-1984, Taiwan Area.

Cause	Deaths		Deaths/100,000 Live Births
	No.	%	
Hemorrhage	102	39	6.5
Toxemia	51	20	3.2
Pulmonary embolism	35	14	2.2
Ectopic pregnancy	16	6	1.0
Obstetrical trauma	9	3	0.6
Obstructed labor	6	2	0.4
Puerperal infections	6	2	0.4
Complications of abortion	5	2	0.3
Spontaneous abortion	4	2	0.3
Missed abortion	4	2	0.3
Anesthesia complications	2	1	0.1
Molar pregnancy	1	1	0.1
Other	19	7	1.2
Total	259	100	16.5

Fig3. Maternal mortality by age—Taiwan Area, 1981-1984.



related deaths among women 15-49 years of age who died between 1981 and 1984. Among 1,280 women whose causes of death were listed as diseases of the genito-urinary tract or pregnancy 6 were identified who died within 10 days of induced abortion, none were classified as abortion-related. All had induced abortions performed by physicians. Other abortion-related deaths could be misclassified as septicemia, tetanus, anemia, and other blood disorders. Other categories in which maternal deaths could be misclassified include suicide, accidental poisoning, endocrine disorders (including diabetes), thyroid disease, chronic rheumatic heart disease, hypertension, hypotension, cardiac dysrhythmia, cardiomyopathy, carditis, pulmonary embolism, phlebitis, or surgical misadventure. To identify preventable causes of maternal mortality, further studies are needed to determine the extent to which maternal deaths are misclassified under these disease categories.

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References

1. Department of Health. Health statistics (1): General health statistics. Republic of China, 1984, p 234
2. Kaunitz AM, Hughes JM, Grimes DA, Smith JC, Rochat RW, Kafriksen ME. Causes of mortality in the United States. *Am J Public Health* 1984;74:780-3
3. Rochat RW. The magnitude of maternal mortality rates. Definitions and methods of measurement. In: Landy U, Ratnam SF, eds. *Prevention and Treatment of Contraceptive Failure*. New York, Plenum Press, 1986
4. World Health Organization. Maternal mortality rates. A tabulation of available information. Division of Family Health. Geneva, World Health Organization, 1985.
5. Puffer RR, Griffith GW. Patterns of urban mortality. Pan American Health Organization. Scientific Publication No. 151. Washington DC, 1967.
6. Speckhard ME, Comas-Urrutia AC, Rigau-Perez JG, Adamsons K. Intensive surveillance of pregnancy-related deaths, Puerto Rico, 1978-79. *Bol Assoc Med P Rico* 1985;7:508-13.

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