

Based on the CIMDRG investigation and published data from other investigations,^{15,16} we calculated mortality rates for unpreventable and preventable deaths by number of obstetricians per facility type and mortality rates for the subset of preventable maternal deaths due to hemorrhage that occurred during the critical period of death preventability (onset of serious symptoms to the time of inevitable death, ie, apnea or cardiac arrest, or actual death). Finally, we examined the distribution of maternal deaths by characteristics of the facility rendering treatment during the critical period of death preventability (ie, the number of obstetricians and anesthesiologists and availability of laboratory services). Because the current analysis accounted for the entire population of cases, we did not perform inferential statistical calculations.

RESULTS

Based on the ICD-9 classification system,¹⁴ there were 230 maternal deaths between January 1, 1991, and December 31, 1992, with 115 deaths in each year. Ninety percent of the deceased were married, and 96% were Japanese nationals. The deaths were distributed throughout Japan. Mortality increased exponentially for women aged 35 years and older (TABLE 1). For 197 deaths (85.7%), at least 1 medical facility where the patient received care participated in the investigation. Twenty-two of the deceased (9.6%) never sought medical care for their pregnancy and died outside a medical facility. We could not investigate 11 deaths (4.8%) because 3 facilities refused participation; 5 had no patient records; and 3 were closed.

Of 327 medical facilities contacted, 312 (95%); 81 clinics with beds, 57 university hospitals, 67 public hospitals, 106 private hospitals, and 1 midwife's maternity home) where the 197 women received care participated. Of the 15 nonparticipating facilities that transferred patients, 7 refused participation, and 8 had closed. Participating facility categories included 82 nontransferring facilities (26%); 115 trans-

ferring medical facilities (37%); and 115 receiving medical facilities (37%) (TABLE 2). Maternal death distribution by timing relative to delivery was 84 predelivery deaths (43%), 61 post-delivery deaths (31%), and 52 deaths without delivery (26%). Of these maternal deaths, 104 (53%) occurred in receiving facilities after the woman was transferred once from a transferring facility and 12 (6%) occurred in receiving facilities after the woman was transferred 2 or more times.

Transferring facilities were the smallest (mean [SD] number of general beds, 105.8 [21+8]), nontransferring facilities (mean [SD] number of general beds, 316.4 [266.3]) were intermediate in size, and receiving facilities were the largest (mean [SD] number of general beds, 576.9 [295.0]). Both the total [SD] number of deliveries (transferring, 358.8 [357.5]; nontransferring, 502.1 [433.4]; and receiving facilities, 529.2 [311.7]) and cesarean delivery rate (transferring, 38.1 [51.8], nontransferring, 60.5 [59.4]; and receiving facilities, 80.4 [57.2]) increased in a similar pattern. Few transferring facilities had intensive

care services, and physicians' estimations of the length of time from decision to perform cesarean delivery until incision of the abdomen for all patients treated in their facilities was 9 to 16 minutes longer in transferring than receiving facilities other than university hospitals. There was a very large SD in length of time until cesarean delivery, particularly on weekends and holidays.

There was a precipitous decrease in on-duty (staff available in the hospital) obstetricians, anesthesiologists, operating room nurses, and neonatologists in all facilities during weekends and evenings (TABLE 3). There were differences in on-duty staff within each facility group when university and non-university hospitals were compared. For example, in receiving facilities, the mean (SD) number of obstetricians was 16.6 (6.8) and 4.4 (3.5) for university and nonuniversity hospitals, respectively. The trend for fewer staff in non-university hospitals was seen for anesthesiologists, operating room nurses, and neonatologists. At night and on weekends or holidays, the mean (SD) number of on-duty obstetricians was 1.9

Table 1. Maternal Mortality Rate per 100 000 Live Births by Maternal Age, Japan, 1991-1992

Age, y	Maternal Deaths, No.	Total No. of Live Births	Maternal Deaths per 100 000 Live Births	Relative Risk of Maternal Mortality*
≤19	2	36 835	5.4	0.57
20-24	19	405 742	4.7	0.45
25-29	64	1 065 905	6.0	0.49
30-34	68	714 823	9.5	1.01
35-39	45	183 821	24.5	2.96
40-44	29	25 100	115.5	13.65
≥45	3	553	542.5	58.43
Total	230	2 432 179	9.5	NA

*Risk is for respective age group vs all others. NA indicates not applicable.

Table 2. Types of Medical Facilities by Number of Maternal Deaths, Japan, 1991-1992*

Type of Medical Facility	Nontransferring (n = 82)	Transferring (n = 115)	Receiving (n = 115)	Total, No. (%) (N = 312)†
Clinic with beds	13	65	3	81 (26)
University hospital	11	5	41	57 (18)
Other hospital	58	44	71	173 (56)
Midwives' maternity home	0	1	0	1 (<1)

*Nontransferring indicates medical facilities where patients were never transferred; transferring, medical facilities that transferred patients to receiving facilities; and receiving, medical facilities where the patients ultimately died after transfer from a transferring facility.

†Percentages do not sum to 100% because of rounding.

Table 3. Staffing Patterns of Medical Facilities Where Maternal Deaths Occurred by History of Transfer, Japan, 1991-1992*

Staffing Pattern	Mean No. (SD)		
	Nontransferring (n = 82)	Transferring (n = 115)	Receiving (n = 115)
Obstetrician/gynecologist on duty†			
Total staff	3.3 (2.6)	1.6 (1.0)	8.4 (7.5)
Evenings and weekend daytime	0.5 (0.6)	0.4 (0.5)	1.1 (0.9)
Anesthesiologists on duty†			
Total staff	0.6 (1.7)	0.1 (0.3)	4.5 (6.7)
Evenings and weekend daytime	0.1 (0.3)	0.0 (0.2)	0.7 (0.9)
Operating room nurses on duty			
Evenings and weekend daytime	0.5 (0.9)	0.2 (0.8)	1.2 (1.3)
Neonatologists on duty†			
Evenings and weekend daytime	0.1 (0.3)	0.0 (0.2)	0.5 (0.7)

*Nontransferring indicates medical facilities where patients were never transferred; transferring, medical facilities that transferred patients to receiving facilities; and receiving, medical facilities where the patients ultimately died after transfer from a transferring facility.

†Numbers include residents and house officers.

Table 4. Obstetrical Characteristics of Maternal Deaths, Japan, 1991-1992 (n = 197)*

Characteristic	No. (%)
Prenatal care	
Regular	158 (80)
Some	8 (4)
None	21 (11)
Unknown	10 (5)
Gravidity	
Primiparous	73 (37)
Multiparous	114 (58)
Unknown	10 (5)
Mode of delivery	
Cesarean	73 (37)
Emergent	63
Elective	10
Vaginal	72 (37)
Unassisted in medical facility	44
Vacuum assisted	17
Home birth	5
Breech extraction	3
Forceps assisted	3
Died prior to delivery	52 (26)

*Only deaths that occurred in medical facilities are included. Eleven deaths were not included in the analysis because 3 facilities refused participation, 5 had no patient records, and 3 were closed.

(0.8) in university hospitals and 0.7 (0.6) in nonuniversity hospitals. In the latter group, 42% (31/74) did not have an on-duty obstetrician in the hospital at night and during weekends or holidays. Among nonuniversity facilities, only 95 (84.1%) could perform blood cell counts and only 39 (34.5%) could perform coagulation studies during these times. Staffing levels and availability of laboratory and diagnostic testing were progressively lower in the nontransferring and transferring facilities.

Examination of Maternal Deaths and Their Causes

The obstetrical characteristics of the 197 in-hospital maternal deaths are depicted in TABLE 4. Most women (80%) received regular prenatal care. Primiparous women accounted for 37% of cases, and 58% of women were multiparous. Twenty women of the latter group had a history of 1 or more cesarean deliveries. Of the 197 pregnancies, 73 (37%) were cesarean deliveries, of which 63 were conducted emergently, and 10 were elective. Of the 72 vaginal deliveries (37%), most (44) were normal spontaneous deliveries occurring in a medical facility, although there were also 5 births outside a medical facility. Seventeen deliveries required vacuum assistance, and there were 3 forceps deliveries and 3 breech extractions. Fifty-two women (26%) died prior to delivery. Eighteen women (9%) had a total abdominal hysterectomy, and 10 women (5%) had a subtotal hysterectomy to control brisk bleeding. Autopsy was performed in 44 cases (22%).

Causes of maternal deaths in the participating facilities are shown in Table 5; the most common causes of death were antepartum and postpartum hemorrhage. Coroner examination was performed for the 22 cases that were not under the care of a physician at the time of death (TABLE 5). These causes were similar except for the proportionately

large number of deaths, 4 (18%), attributed to acute heart failure.

Assessment of Preventability

Seventy-two cases (37%) met the 2 criteria for being preventable. First, in all of these cases, none of the committee members selected *impossible to prevent*. Second, in 19 cases, all the members selected *not difficult to prevent*, and in the other 53 cases, 70% or more of the committee members selected *not difficult to prevent*. Of these 72 cases, there were 46 deaths due to antepartum and postpartum hemorrhage, 10 deaths secondary to hypertensive disorders of pregnancy, 4 deaths associated with anesthesia, 3 deaths each due to multiple organ failure associated with coagulopathy and hyperemesis gravidarum, 1 death each due to intracerebral hemorrhage, pulmonary embolism, sepsis, and an indirect cause. Two deaths were unexplained.

Of preventable deaths, 49 (68%) were attributable to the physician attempting to act as both the obstetrician and anesthesiologist: 46 cases of antepartum and postpartum hemorrhage and 3 cases of anesthesia complications. Of the 72 preventable deaths, there were 45 cases (63%) with deficiencies in hospital care; 9 cases (13%) with deficiencies in ambulatory and inpatient care; 7 cases (10%) with deficiencies in ambulatory care; and 11 cases (15%) for which consensus was unobtainable. The committee judged there was failure to meet a basic community practice standard in 36 cases (50%).

An additional 32 deaths (16%) were deemed possibly preventable. In 28 cases, no committee member picked *impossible to prevent* and in 4 cases, 70% or more of the committee members selected *not difficult to prevent*, but 1 committee member selected *impossible to prevent*. Of these deaths, only 11 (34%) were associated with hemorrhage and 7 (21.8%) with indirect cause, 5 (15.6%) with unexplained causes, and 9 (28%) with distribution similar to that of preventable causes.

Among unpreventable deaths that occurred in a medical facility with an ob-

stetrician on duty, the mortality rate was highest in facilities with 4 or more obstetricians, although among preventable deaths, the mortality rate for facilities with only 1 obstetrician was higher than facilities with 2 or more obstetricians (TABLE 6). As the number of obstetricians working at a facility increased, the maternal mortality rate for preventable deaths due to hemor-

rhage decreased: 3.80 for 1 obstetrician per facility; 0.47 for 2 to 3 obstetricians per facility; and 0 for 4 or more obstetricians per facility. National data on staffing patterns of anesthesiologists and availability of laboratory services do not exist and so calculating the maternal mortality rate for these variables was precluded.

The distribution of maternal deaths by facility that rendered treatment during the critical period of preventability revealed a dramatic decrease in the rate per 100 000 going from the smallest to largest facilities—56 for transferring facilities, 26 for nontransferring facilities, and 4 for receiving facilities (TABLE 7). Thus, the preventable maternal death rate was 14 times higher in transferring facilities and 6.5 times higher in nontransferring facilities than in receiving facilities. We also examined the proportion of unpreventable and preventable deaths according to the obstetric and anesthetic staffing and laboratory services during the critical period of preventability. TABLE 8 illustrates a

dramatic decrease in the proportion of preventable deaths as the number of obstetricians on duty during the critical period increased. Although relatively few facilities were staffed with anesthesiologists, the trends for their participation when present were similar, and the proportion of preventable deaths was essentially unchanged when combining the number of obstetricians and anesthesiologists. This suggests that a critical factor is staffing—there were fewer maternal deaths when there were more physicians available to care for the patient. Finally, only a limited number of facilities where maternal deaths occurred provide continuous access to even basic laboratory services. For example, the percentage of facilities with 24-hour availability of 3 test panels were complete blood cell count, 50%; liver function testing, 45%; and coagulation studies, 20%.

COMMENT

Inadequate obstetric and anesthetic services and laboratory facilities are asso-

Table 5. Causes of Maternal Deaths, Japan, 1991-1992*

Deaths Occurring in Medical Facilities (n = 197)	
Hemorrhage	74 (38)
Uterine rupture	14
Atony	11
Placental abruption	10
DIC of unknown etiology	8
Ectopic pregnancy rupture or abortion	8
Secondary to cesarean delivery or hysterectomy	8
Placenta previa	6
Cervical or vaginal lacerations	5
Unknown cause	4
Intracranial hemorrhage	27 (14)
Intracerebral hemorrhage	20
Subarachnoid hemorrhage	7
Hypertensive disorders of pregnancy	17 (9)
Pulmonary edema	11
Hepatic necrosis due to HELLP syndrome	3
Acute fatty liver	2
Other	1
Pulmonary embolism	17 (9)
Amniotic embolism	7 (4)
Other direct causes	19 (10)
Sepsis	5
Anesthesia complications	4
Multiple organ failure due to DIC	4
Hyperemesis gravidarum	3
Spontaneous expiration of gastric contents	2
Adverse reaction to ritodrine hydrochloride, furosemide, albumin	1
Other indirect causes	19 (10)
Cardiovascular disease	5
Pneumonia	3
Asthma	2
Pancytopenia secondary to viral infection	2
Other	7
Unexplained	17 (9)

Deaths Occurring Outside of Medical Facilities (n = 22)	
Postpartum hemorrhage	12
Acute heart failure	4
Ectopic pregnancy	3
Abortion	1
Acute respiratory failure (cause unknown)	1
Subarachnoid hemorrhage	1

*DIC indicates disseminated intravascular coagulation; HELLP, hemolysis, elevated liver enzymes and low platelet count. Percentages in parentheses do not sum to 100% because of rounding. Eleven deaths were not included in the analysis because 3 facilities refused participation, 5 had no patient records, and 3 were closed.

Table 6. Mortality Rates for Unpreventable and Preventable Deaths per 100 000 Live Births by the Number of Obstetricians, Japan, 1991-1992

Obstetricians on Duty, No.	Estimated No. of Live Births	Maternal Deaths, No. (Rate [†])	Unpreventable Maternal Deaths, No. (Rate [†])	Preventable Maternal Deaths, No. (Rate [†])	Preventable Maternal Deaths Due to Hemorrhage, No. (Rate [†])
0†	25 215	32 (12.7)	30 (11.9)	2 (7.93)	1 (3.97)
1	1 052 613	99 (9.41)	56 (5.32)	43 (4.08)	40 (3.80)
2-3	1 061 143	51 (4.81)	34 (3.2)	17 (1.60)	5 (0.47)
≥4	293 208	48 (16.3)	36 (12.9)	10 (3.41)	0 (0)
Total	2 432 179	230 (9.45)	158 (6.49)	72 (2.96)	46 (1.89)

[†]Rate is per 100 000 live births.
[‡]This category includes 22 women who died outside a medical facility, 5 who died at home, and 6 who died in a facility with an obstetrician on call from home.

Table 7. Distribution of Maternal Deaths by Facility Type Rendering Treatment During Critical Period of Death Preventability, Japan, 1991-1992*

Variables	Nontransferring	Transferring	Receiving	Total
Total in-hospital maternal deaths, No.	82	104	11	197
Identified preventable maternal deaths treated during the critical period, No.	21	46	5	72
Live births per facility type, 1991-1992, No.	82 347	82 533	121 712	286 592
Rate of preventable maternal deaths per 100 000 population	26	56	4	25
Ratio of preventable deaths rate to receiving facilities rate	6.5	14	1	6.3

*Nontransferring indicates medical facilities where patients were never transferred; transferring, medical facilities that transferred patients to receiving facilities; and receiving, medical facilities where the patients ultimately died after transfer from a transferring facility. Eleven deaths were not included in the analysis because 3 facilities refused participation, 5 had no patient records, and 3 were closed.

ciated with maternal mortality in Japan. Japan's obstetricians are distributed among a large number of small hospitals that typically only have basic laboratory services and often only on a limited basis. Approximately 40% of Japan's annual deliveries occur in clinics with 19 or fewer beds. Frequently, 1 physician takes care of all outpatients and inpatients, including deliveries (range, 100-1000 inpatient deliveries per year), 24 hours per day, 365 days per year. About 30% of annual deliveries occur in such small hospitals (mean [SD] number of general beds, 106 [215]), staffed by 1 or 2 physicians, where laboratory services are only available during the day on weekdays. The remaining 30% of annual deliveries occur in large hospitals (mean [SD] number of general beds, 577 [295]). Many of the obstetrics and gynecology departments in these hospitals have only 3 to 8 physicians (mean, 4), although in university hospitals the range is 10 to 20. In turn, these physicians take care of all the outpatients, inpatients, and deliveries (usually 300-1500 deliveries per year) all day and all night throughout the year. Only a small percentage of hospitals have 24-hour laboratory services and anesthesiology staffing.

Japan lacks a system to provide regional, round-the-clock, advanced care inpatient obstetrics coverage, and this deficiency may be contributing to the maternal mortality rate. Among women receiving medical care, facilities with only 1 obstetrician had the highest rates of preventable deaths from all causes and the highest rate for hem-

orrhagic deaths. Moreover, these criteria likely underestimate the magnitude of the problem. First, by very conservative preventability criteria, 72 women died from preventable medical errors—an additional 32 deaths were possibly preventable. Second, death certificate data underestimate maternal deaths because there is no requirement to note recent or current pregnancy. Third, the proportion of indirect deaths in our study is lower than other countries,^{11,20} a fact strongly suggesting that some maternal deaths occurring during the study period were never identified. Finally, these problems in underreporting may be exacerbated by legal concerns, although the magnitude of this effect is probably less important in Japan, which has a less litigious climate than the United States.

Maternal deaths secondary to hemorrhage are the most important cause of preventable deaths. Almost all of these could likely have been prevented if the patients had been treated by more than 1 obstetrician or by an obstetrician with assistance of at least 1 other clinician to manage the nonobstetrical aspects of the patient's care. Had these 40 hemorrhagic deaths alone been prevented, there would have been an estimated reduction in the 2-year overall maternal mortality rate of 17% (9.5/100 000 to 7.8/100 000) and in the preventable mortality rate of 56% (3.0/100 000 to 1.3/100 000).

Maternal mortality has decreased slightly since the time of the incident deaths in 1991-1992, for example, the rate in 1990 was 8.6/100 000 (105/

1221 585) and in 1995 was 7.2/100 000 (85/1 187 064), although the rate of potentially preventable causes has not changed. The maternal mortality rates attributable to hemorrhage and toxemia in 1990 and 1995 were 4.0/100 000 (49/1 221 585) and 3.9/100 000 (46/1 187 064), respectively. The decrease occurred primarily in the category of deaths attributable to ectopic pregnancy. The total maternal deaths in 1990 and 1995 were, respectively, 10 and 2 deaths secondary to ectopic pregnancy, 49 and 46 deaths secondary to hemorrhage or toxemia, 29 and 19 other direct obstetric deaths, and 14 and 18 indirect obstetric deaths. The increasing availability and diffusion over the past 8 years of highly sensitive home pregnancy kits and the standard obstetrics practice of performing ultrasound examination on virtually all pregnant patients is believed to have facilitated earlier detection and treatment of ectopic pregnancies and thus reduced the incident deaths. However, the system of obstetric care has not changed.

Based on above analysis, we believe that the current Japanese maternal death rate attributable to hemorrhage continues to be the most important cause of preventable maternal mortality in Japan and that reforming the medical delivery system could result in a tangible reduction in maternal mortality. Reducing single obstetrician only delivery patterns, providing full laboratory services in all hospitals delivering babies, and establishing regional 24-hour inpatient obstetrics facilities for high-risk cases are the most promis-

Table 8. Obstetrics and Anesthesiologist Staffing in Medical Facilities Rendering Treatment During Critical Period of Maternal Death Preventability, Japan, 1991-1992^a

Maternal Deaths	Staffing							Total No.
	Obstetricians, No.				Anesthesiologists, No.			
	0	1	2-3	≥4	0	1	≥2	
Total in-hospital	8†	90	51	46	184	7	6	197
Unpreventable	6 (75)	47 (52)	34 (67)	38 (79)	115 (63)	5 (71)	5 (63)	125
Preventable from all causes‡	2 (25)	43 (48)	17 (33)	10 (21)	69 (38)	2 (29)	1 (17)	72
Preventable from hemorrhage	1 (13)	40 (44)	5 (10)	0 (0)	43 (23)	2 (29)	1 (17)	46

^aData are given as No. (%) unless otherwise indicated. For all categories of maternal deaths, percentages are percentage of total deaths in staffing category. Eleven deaths were not included in the analysis because 3 facilities refused participation, 5 had no patient records, and 3 were closed.

†These women were treated in a medical facility by a physician other than an obstetrician.

‡Percentages of preventable deaths are given as percentage of total deaths.

ing mechanisms for reducing maternal mortality in Japan.

Recommendations for Reducing Maternal Mortality

The CIMDRG reached the following 4 conclusions. First, there is a need to designate regional obstetrics medical facilities to provide 24-hour inpatient obstetric coverage and to increase the number of physicians (especially obstetricians) on duty in regional facilities. Independent analysis concluded that there should be 14 staff obstetricians per hospital to provide adequate inpatient coverage.²¹ To achieve sufficient staffing, it may also be necessary to encourage a more active role of nonobstetrician obstetric providers such as family physicians and nurse midwives as in many other parts of the world. Japanese obstetricians and anesthesiologists should develop regional partnerships whereby small medical facilities provide local, ambulatory care for low-risk pregnant women, but the patients deliver at a designated regional medical facility. High-risk patients, such as women aged 35

years and older, should receive ambulatory and inpatient care in designated regional medical facilities. Selected obstetricians from small medical facilities should take rotating duty in the designated regional facilities.

Second, all Japanese hospitals that provide inpatient care for deliveries should be staffed with at least 1 obstetrician and another health provider, eg, an obstetrician or anesthesiologist, competent to provide nonobstetric medical care. All obstetric hospitals should be equipped to provide essential laboratory services. The occurrence of maternal massive bleeding and respiratory distress are relatively uncommon, but they are treatable events, and the same physician should never serve as the obstetrician and anesthesiologist. Separation of these roles should become the basic community standard. The Japanese government needs to develop policies providing financial incentives for recruiting adequate numbers of obstetricians and anesthesiologists to regional medical facilities.

Third, all death certificates need to be completed according to the ICD-10

classification that includes the additional definitions *late maternal death* ("death of a woman from direct or indirect obstetric causes greater than 42 days but less than 1 year after termination of pregnancy"), and *pregnancy-related death* ("death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the cause of death").²² Educational efforts encouraging physicians to report this information are needed.

Finally, the Japanese government and the Japanese Society of Obstetrics and Gynecology need to develop clear community practice standards that delineate specific staffing and laboratory services necessary in each type of medical facility. To minimize medical errors, system-based changes are needed.^{5,6} While some maternal deaths are inevitable, this systems approach to change should reduce maternal mortality in Japan.

Acknowledgment: We gratefully acknowledge the assistance of Daniel W. Gorenflo, PhD, Department of Family Medicine, University of Michigan Health System, Ann Arbor.

REFERENCES

- Brennan TA, Localio AR, Leape LL, et al. Identification of adverse events occurring during hospitalization: a cross-sectional study of litigation, quality assurance, and medical records at two teaching hospitals. *Ann Intern Med.* 1990;112:221-226.
- Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalized patients: results of the Harvard Medical Practice Study I. *N Engl J Med.* 1991;324:370-376.
- Leape LL, Brennan TA, Laird N, et al. The nature of adverse events in hospitalized patients: results of the Harvard Medical Practice Study II. *N Engl J Med.* 1991;324:377-384.
- Brennan TA, Lee TH, O'Neil AC, Petersen LA. Integrating providers into quality improvement: a pilot project at one hospital. *Qual Manag Health Care.* 1992;1:29-35.
- Leape LL, Lawthers AG, Brennan A, Johnson WG. Preventing medical injury. *ORB Qual Rev Bull.* 1993;19:144-149.
- Leape LL. Error in medicine. *JAMA.* 1994;272:1851-1857.
- Bates DW, Cullen DJ, Laird N, et al. Incidence of adverse drug events and potential adverse drug events: implications for prevention. *JAMA.* 1995;274:29-34.
- Leape LL, Bates DW, Cullen DJ, et al. Systems analysis of adverse drug events. *JAMA.* 1995;274:35-43.
- Gurwitz JH, Sanchez-Cross MT, Eckler MA, Matulis J. The epidemiology of adverse and unexpected events in the long-term care setting. *J Am Geriatr Soc.* 1994;42:33-38.
- Fischer G, Fellers MD, Munro AP, Goldman EB. Adverse events in primary care identified from a risk-management database. *J Fam Pract.* 1997;45:40-46.
- Ishi Shikaishi Yakuzaishi Chousa* [Survey of physicians, dentists, and pharmacists]. Tokyo, Japan: Statistics and Information Department, Ministry of Health and Welfare; 1994.
- Iryou Shisetsu Chousa Byouin Houkoku* [Survey of medical institutions and hospital report]. Tokyo, Japan: Statistics and Information Department, Ministry of Health and Welfare; 1993.
- Boshi Eisei no Omonaru Toukei* [Maternal and child health statistics]. Tokyo, Japan: Maternal and Child Health Division, Children and Families Bureau, Ministry of Health and Welfare; 1993-1996.
- International Classification of Diseases, Ninth Revision, Clinical Modification*. Washington, DC: Public Health Service, US Dept of Health and Human Services; 1988.
- Ichijo M, Takeda Y. Shussanki linkai Houkoku 1991 [Report from the perinatal committee, 1991]. *Nippon Sanka Fujinka Gakkai Zasshi.* 1994;46:59-78.
- Takeda Y, Jinbo T. Shussanki linkai Houkoku 1992 [Report of the perinatal committee 1992]. *Nippon Sanka Fujinka Gakkai Zasshi.* 1994;46:1279-1298.
- Nippon Sanka Fujinka Gakkai Meibo* [Directory, Japanese Association of Obstetrics and Gynecology]. Tokyo, Japan: Japanese Association of Obstetrics and Gynecology; 1996.
- Jintsuu Sokushinza: ni yoru Higai wo Kangaeru Kei [Group to examine injury from uterine contraction stimulants]. Tsuzukerareru jintsuu sokushinza no lairyuu touyou [Continuous high-dose use of uterine contraction stimulants]. *Anzena Osan Nettowaaku* [Network for Safe Parturition]. 1997;54:17-20.
- Department of Health (England), Welsh Office, Scottish Office Department of Health, Department of Health and Social Services Northern Ireland. *Report on Enquiries into Maternal Deaths in the United Kingdom, 1991-1993*. London, England: Her Majesty's Stationery Office; 1996.
- National Health and Medical Research Council (Australia), Health Care Committee. *Report on Maternal Deaths in Australia, 1988-1990*. Canberra: Australian Government Publishing Service; 1993:90.
- Tada H. Shisutemu toshite no kore kara no shussanki iryou [Future systemization of the perinatal care system]. *Perinatal Med.* 1994;24:17-20.
- Fortney JA. Implications of the ICD-10 definitions related to death in pregnancy, childbirth or the puerperium. *World Health Stat Q.* 1990;43:246-248.

都留市立病院の分娩問題：都留市長「市立病院で分娩 継続を」／山梨

10月19日 12時1分配信 毎日新聞

◇陳情に山梨大、「医師派遣困難」

県東部地域で唯一出産ができる都留市立病院(同市つる5、140床)で来年3月から分娩(ぶんべん)ができなくなる可能性がある問題で、小林義光市長ら約20人は18日、市民約2万人の署名を山梨大医学部付属病院(中央市)の星和彦・病院長らに手渡した。同大医学部による産婦人科医の引き揚げ方針が“産科消滅”の原因だが、星病院長は「全国的に産婦人科医の成り手が非常に少なく、後任が見つかりにくい」と話し、派遣継続が極めて難しい状況であるとした。

都留病院などによると、同学部は今年3月、安全な分娩に必要な麻酔科の常勤医が確保できない場合、08年4月以降の産婦人科医の派遣は困難との方針を提示。このため、都留病院は8月から、来年3月21日以降に出産予定の分娩予約を休止し、麻酔科の常勤医を探しているが、見つかっていない。

一方、星病院長によると、富士・東部地域では都留病院を含め計3病院に産婦人科医を同大医学部から派遣しているが、すべての病院への派遣継続は無理なため集約化を考えているという。

小林市長や市議、都留病院の大原毅名誉院長らが陳情。星病院長は医師の派遣継続が極めて難しいとしたうえで、「麻酔科医だけでなく、助産師や小児科医などを含め、(分娩に対して)万全な態勢が取られているかといったトータル的な問題」と話し、麻酔科医の確保が産婦人科医の派遣継続に直結するわけでないことも明らかにした。

一行は、横内正明知事にも署名を渡し、東部地域に分娩可能な病院を残すことを要望。横内知事は「地域バランスに配慮してほしいと考えており、継続できるよう努力する。万一、分娩継続が難しくなっても、妊婦が安心できるようなネットワーク作りをしていく」と応じた。【藤野基文】

10月19日朝刊

平成 19 年 12 月 15 日

声明

周産期医療提供体制の危機的状況を打開するために

周産期医療提供体制の危機的状況を打開し、我が国の母子の生命と安全を確保するために、現場の医師、医療スタッフは過酷な勤務条件下で、懸命に働いています。日本産科婦人科学会は現場の医師を支援し、この領域の明るい未来を切り開くことを目途として、以下の声明を発表し、関係諸方面の皆様へ一段のご尽力を要望いたします。

社団法人 日本産科婦人科学会
理事長 吉村 泰典

- 政府は、今回の診療報酬改定における産科、小児科医療に対する重点的評価の実施の目的が、高次周産期医療を提供する病院で現に産科、小児科診療に従事している勤務医の負担を軽減し、待遇を改善することにあることを、明確に示していただきたい。
- 都道府県は、各病院が現場の医師の勤務条件の改善と適正な報酬の支給を講じるように、指導ならびに誘導を行っていただきたい。
- 地域で高次周産期医療を提供している病院は、診療報酬改定における重点的評価という形で、今回その国家的な必要性が確認された地域周産期医療の緊急的確保のために、周産期医療に従事する現場の産婦人科医、新生児科医、麻酔科医の勤務条件の改善に努めるとともに、「時間外救急対応手当」「時間外手術手当」「時間外分娩対応手当」「時間外緊急処置手当」等の形で）救急対応への適正な報酬を支給していただきたい。
- 報道機関ならびに国民の皆様には、国民の生命と健康を守るために現場で懸命に働いている医師、医療スタッフへのさらなる支援をお願いします。そして、今回の周産期医療提供体制を確保維持するための施策が適切に実行されるよう監視するとともに、我が国の医療体制が現在の危機を乗り越えて、さらに発展していくための国民的な議論に積極的に参画することをお願いいたします。

- 日本産科婦人科学会は、危機に瀕したわが国の周産期医療を守るために、すべての産婦人科医、医療関係者、行政当局とともに、今後も努力を続けてまいります。全国で行われつつある様々な取組に対しては、個々の施策の実効性を、学会の立場から科学的に検証することを通じて、行政の支援を行います。そして、一日も早い安定した周産期医療体制の確保を目指してまいります。

③ 今回の声明を発した理由

- 日本産科婦人科学会では平成19年7月9日に柳澤伯夫厚生労働大臣に「産科医療提供体制の危機的状況を打開するための緊急対策に関する陳情書」を提出し、その中で、ハイリスク分娩管理加算の改定を要望いたしました。この要望は、「地域周産期医療の基盤となる地域周産期母子医療センターおよびそれと同等の医療提供を行っている基幹病院に対して、適正な診療報酬上の評価を行い、高次周産期医療に従事している医師に対する適正な評価と報酬の支給が円滑に行われること」を目指したものです。
- その後、厚生労働省でご検討いただいた結果、中央社会保険医療協議会、社会保障審議会でのご審議を経て、「産科や小児科の勤務医の負担軽減を「緊急課題」と位置づけ、産科や小児科に対する報酬の重点評価」を行う方向で、最終的に検討されている段階となっております。このような流れは本学会の要望に沿ったものであり、政府、厚生労働省はじめ関係諸方面の方々のご尽力に深く感謝いたしております。
- 現在全国で中堅医師の現場からの離脱、さらには基幹病院の上級医の定年前の退職が認められており、それは地域医療に深刻な打撃を与えています。事態の進行を回避するためには、目に見える待遇の改善が必要であるのは明白です。このため、周産期医療提供体制の危機を乗り切るためには、今回の診療報酬上の重点評価に加えて、さらに一段の施策が必要不可欠と考えられます。病院の収入増が直ちに現場の医師の負担軽減につながり、過酷な勤務条件の医療現場で現に産科、新生児医療を提供している医師の勤務条件と待遇が改善するわけではないからです。地域基幹病院の多くは、総合病院として、他の（やはり救急医療に従事する）診療科を擁しており、周産期医療を担当する医師だけを優遇することには、現場の理解を得られにくいこと等、診療報酬が増えてもそれを周産期医療に従事する医師の待遇改善に用いることを困難にする様々な事情を抱えています。
- 従って、今回の診療報酬改定の目的を達成するためには、政府が診療報酬改定の中で産科、小児科への重点評価を行うこととした目的を明確に示し、それによって、各病院がその趣旨に沿って最大限の努力を払うように促すことが必要です。そして、地域の医療提供体制の確保に責任を有する都道府県は、各病院が、現に存在している様々な困難を乗り越えて、周産期医療提供体制の安定的確保のために必要な施策である、現場の医師の勤務条件の改善と適正な報酬の支給を講じる

ように指導ならびに誘導を行い、またそれが実際に行われていることを監督する必要があります。ちなみに、栃木県では既に、「ハイリスク分娩受入促進事業」という施策が実施されております。また、東京都でも、都立病院の産婦人科医師不足への対策として、給与の改善、女性医師の継続的就労のための諸施策等、医師が働きやすい勤務環境の整備にむけての取組がなされつつあります。

- 国民の皆様、報道機関の方々をお願いしたいことは、診療報酬の増加分が患者様並びに国民の負担によってまかなわれることをご認識いただいた上で、政府と都道府県、そして現場の病院が今回の施策を適正に実行するように、見守っていただくことです。お産は地域医療の重要な一部です。周産期医療危機は全国的現象であり、すべての都道府県で、適切な施策が実行される必要があります。問題があれば、それを迅速に指摘していただくことが必要です。

- 日本産科婦人科学会は今回の改定が、周産期医療危機打開のための転換点となることを目指しています。関係諸方面の皆様のご理解とご協力をお願いいたします。