

### The Economic Factor

Some aspects of the economic factor have been mentioned, a more definite one remains. It is the fact that one-third of the deaths and a great deal of morbidity occur from sepsis. The figures quoted in this chapter on mortality in "Recent Advances in Preventive Medicine," bear

out. And these and other figures show that trauma plays a large part, being the significant fact being the almost universal presence of a clinical convulsion of infection. And this probably is a part explanation of the low mortality in England in patients attended by midwives. The Queen's Home Nurses' figures in England for 1923 (all district work) show 35,000 cases of a mortality rate of 1.9 per 1,000 births. It must be remembered that one, but not the only, cause of sepsis is instrumental interference in the conduct of labor. Such assistance is often necessary, some of it may be avoided, but the general practice of obstetric teaching warns the student against undue or too early assistance. Yet in any individual case the obstetrician's ideas may be undermined by the impatience of the patient, the pressure of repeated solicitations by the relatives, or by his own fatigue or lack of time.

In this regard the following remarks were recently published by an experienced (and as a rule, alert) obstetrician and teacher in Australia, with reference to the prophylaxis of puerperal sepsis as conceived. The greatest factor is an economical one. As long as the average practitioner is so hampered as to be unable to collect five or six times the fee for doing his example, a simple obstetrician's ideas may be undermined to rush his confinement case in order to get to see Mr. S., who had been waiting for an abdominal pain which might be appendicitis, "needed attention at once." The practitioner knew or feared that if he were delayed, Mr. S. might reach his rival round the corner. Or, in another case, said this obstetrician, although the doctor recalcitrated the affair, with the process of birth had not arisen, the practitioner might be dejected, or the relatives might be worrying him, or the patient herself might be exhibiting every sign of lack of control. If, in these circumstances, the doctor recalcitrated the affair, who could blame him?

This position will not be rectified by resolutions on the other hand, the authorities, by embarking on ill-considered schemes, can easily spend as large sums of money as they are responsible on the maternity bonus with little effect in the reduction of maternal mortality. Yet can the public-spirited and long-sighted student sustained interest to enable the authorities to build up gradually a National Maternity Service.

(In the third and final article of this series, the author will show that natural and infant mortality are closely related problems.)

### Checking Maternal Mortality

The conference summoned recently by the Chief Secretary (Mr. Ritchie) to consider methods of checking maternal mortality will be held in the Minister's office today. Those who attended the preliminary meeting were Mrs. H. H. Russell, M.P. (representing the British Medical Association), Dr. Helen Mayo representing the Midwives' and Nurses' Health Association, and Dr. Brian Swift, (representing the Queen's Home Nurses). Offers of maternity aid and similar proposals to be submitted to the Federal Government, and to the next meeting of the conference, will be made in Melbourne in March next.

### The Lecturer in Public Health and Preventive Medicine, The University of Adelaide

The history of infantile mortality is a striking contrast to that of maternal mortality, and Australians justly proud of their success, that has at times tempted at its reduction since the beginning of this century. But the picture is not quite so rosy as it is and a consideration of some of the facts may help us to an understanding of the situation.

Up to 1900, out of 1,000 births in any one year in Australia, more than 12 months of infant mortality were recorded. This would be called an infantile mortality of more than 100. As a matter of fact it was over 100 during the last few years of last century, partly owing to the increased prevalence of infantile diarrhoea in babies' homes. This was partly to appalling epidemics from feeding of infants, almost from birth, with contaminated milk. The public health leaders steadily upheld the ideal of breast feeding, boarding out systems with foster mothers, and the various municipalities appointed health officers for babies' homes, voluntary organisations for babies welfare were formed. Municipalities appointed health officers were set to work with a corresponding reduction in the number of infantile deaths. In 1900, and this fell proved permanent and progressive. For the quinquennium, 1900-1904 the infantile mortality rate was just under 97 deaths per 1,000 births; for 1921-1923 it was just under 41—the lowest on record. In the next year, 1933, as we have so often been told, South Australia was second to New Zealand, which for years, has held the lowest record for the world—31 in 1932.

Curiously enough the sudden big drop occurred almost simultaneously in all the States. This was again synchronised with a similar marked fall in England and some other European countries. It was progressive. Early in the century a medical writer insisted that the cause in London was a reduction of the annual infantile mortality rate to 80. Yet by 1921 it had been reduced to 40 for London, in 1932 it was 61, while for the whole of England was only 41. Of the capital cities of Australia, Sydney has always had the lowest rate—in 1932 it was only 38—the same as Adelaide. It will be noted that all these are at the beginning of the century.

### Neo-Natal Mortality

By 1921 medical leaders in Australia had noted that the progressive reduction in infant mortality was not the same from year to year, and this had led to closer analysis of the figures, which revealed that the number of deaths which occurred entirely in deaths due to diarrhoea and other diseases of the later months of infancy, and in the middle group classified as premature births, malformations, and injuries at birth, remained untouched. Deaths in this category numbered over 30 per 1,000 births; they all occurred in the first month of life; two-thirds of them in the first week and almost half in the first 24 hours. It was thus evident that these deaths were due to prenatal or natal causes, and that death occurred before post-natal care could be given.

The methods of infant welfare centres were almost wholly directed to this post-natal care; to regular and careful supervision of the babies, and to the care of the baby, and especially to care in feeding and to the prevention of intestinal and respiratory infection. The methods of infant welfare centres to influence this mortality of the earliest age added to the methods of pre-natal supervision of the health of the expectant mother and to more skilled and intelligent midwives. These were already being advocated as aids to lessen maternal mortality. The general establishment of these methods and institutional clinics has naturally taken time, and it cannot yet be said that we are seeing the results of the work, but the last few years certainly show a slight improvement in neo-natal mortality. It is to be hoped that this will later be reflected in lowered maternal mortality rates.

Thus for Australia the figures for the average annual death rate for the first month of life was 31.69 from 1911 to 1915; 29.91 from 1915 to 1925, when the new methods were first being applied; and 27.22 in 1932, when they were of wider application. But how much more will be the corresponding figures for the later months of infancy—from 38.63 to 27.97 from 1911 to 1921, and in 1932 to 14.03.

The Commonwealth Year Book shows that in 1932 of the 4,582 deaths under 12 months of age, 3,020 occurred in the first month of life, and 2,465 of these occurred in the first week; further that 17 infants out of 1,000 died from diarrhoeal disease in 1911 but only 10 in 1932. On the other hand, of deaths in the first month, those from prematurity (which alone in 1932, as it is better post-natal care) had dropped from 22 per 1,000 in 1911 to 10 in 1932. Some times patients and families at birth, malformation and injuries classed, had actually increased from 7 per 1,000 in 1911 to 10 in 1932.

Actually the graph of infantile mortality from year to year corresponds almost exactly to the graph of neonatal mortality. While the graph for the first month has remained about constant at 30 per 1,000 until 1932, the graph for the first week has fallen from 40 to 20.

These facts have led to the division of infantile deaths into two classes. (1) Those from the second to post-natal month of life, spoken of as post-natal mortality; and reducible by careful methods of infant feeding and care, but only indirectly related to the maternity mortality problem; and (2) deaths in the first month of life, called "neo-natal mortality," reducible only by direct neonatal supervision, and thus presenting the same problems as maternal mortality. This distinction has for some years been recognised in our vital statistics, but it is not yet widely recognised by those who discuss the question.

### Problem of Stillbirths

The position becomes all clearer when we investigate the stillbirths—another great source of wastage of human life. In 1932, 10,800 people thought of these as a public health problem capable of solution. Later research in England and Australia showed that probably 50 per cent of stillbirths were preventable—20 per cent, by pre-natal treatment for the mother, 10 per cent, and 12 per cent, by a combination of both. These conclusions have been confirmed in the last few years in Australian obstetric hospitals in which a comparison of records can be made for a series of years before and after the introduction of pre-natal supervision. In these hospitals the number of stillbirths has been reduced to half what it was previously.

No Australian State, except West Australia, has registered stillbirths in the past, so that it is difficult to state accurately the figures. But the records of West Australia from 1914 to 1923 showed approximately 30 stillbirths per 1,000 live births. This conclusion is supported by the figures obtained from hospitals mentioned above. Also, in the 1932 report of the South Australia estimate from the maternity allowance returns that in this State from 1923 to 1929, when the average number of live births was 300 per annum, or 30 per 1,000 births.

All this supports the contention that the remedy for maternal mortality, for natal infant mortality, and for stillbirths must be sought along the lines of pre-natal care. These are different from those which were so successful in reducing post-natal mortality. Summing up the figures, the Commonwealth Year Book for 1932 for instance, shows that there was a total of 109,680 confinements that year in Australia. Of this number 618 mothers died from childbirth, 3,020 infants died in the first month of life, and 3,000 more another 3,000 were stillborn. If half these deaths of mothers and infants are preventable, that is, 1,510 mothers, 1,510 infants, and 1,500 stillbirths, a community disregarding every year a severe and preventable human and economic wastage. There is still further waste of human and economic life from abortions, but the problems attached to this are so complex that they are outside the scope of this article.

### At The University—The Adelaide University Rectory, Union Building, and Lady Symon Hall, will reopen to the public on Friday, 11th March, 1935, which will begin at the University on Monday, March 18, the rectory will be open on week days from 10.30 a.m. until 5 p.m. The first term of the first term will begin at the Elder Conservatorium. The first term at the University will be on March 11. The first term of the supplementary and law examinations will be held.

A cable message has been received from Dr. John L. Hayward, of Gilberton, who received the degree of M.R.C.P., London.

# The Advertiser

ADELAIDE, THURSDAY, JANUARY 31, 1935.

## MATERNAL MORTALITY

Three articles on the "Tragedy of Maternal Mortality," contributed to "The Advertiser" by the Lecturer in "Public Health and Preventive Medicine" at the University of Adelaide—the last of which was published yesterday—have sufficed to show the seriousness and complexity of a question, with which the Federal Government, with the ready assent of the Governments of the States, has recently concerned itself anew. The problem is not a political one, in the exclusive meaning of the phrase; for, as the author of these articles has been able to demonstrate, its solution depends on the scientific, the social, and the economic factors being patiently and courageously faced. It is a citizens' question; not merely one for politicians and administrators. All that can be expected from the forthcoming meeting of the Federal Health Council, is a new impetus; the march forward from this further starting point can be maintained only as the public itself, conscious of the need for reform, is eager to promote it. For this reason, it is necessary for the people of Australia to be steadily educated in the real issues. It was not the purpose of the author of our series of articles to suggest remedies; but, in face of the facts he has adduced, it is clearly desirable to enquire whether the lessons learned from the successful attack on post-natal mortality will afford a clue to the solution of these more difficult problems.

In the attack on post-natal mortality, there has been throughout the 30 years a gradually increasing combination of effort in which medical leaders, the general public, and different Governments have all played their respective parts. There has been no preliminary ambitious paper programme, no cast-iron method. In Queensland, the baby welfare movement has been a Government department almost from the beginning; in New South Wales it was fostered by government action, and partly by voluntary organisations; in Victoria, mainly by municipal bodies, and in certain cases by very active help by medical officers of health; in South Australia, wholly from the initiative of medical officers of health. But in each State results have been practically identical. Money has been hard to come by, but the success of each experiment has justified the appeal to public or Government financial assistance for further instalments of the work. In the new departure, there must be a generosity of form, but can we capture the same spirit? For good or ill, it has quietly become the Australian tradition for the management of childbirth to be in the hands of doctors rather than of midwives as in England. It is to be hoped that in this branch of a modern men department, in many respects, the most worrying and the worst paid. Much of the worry and many of the "primary avoidable factors" it is argued, could be eliminated by a change in the atmosphere in which this work is done. Thoughtful medical men deplore what they describe as the modern tendency to surround the noble function of motherhood with an artificial element of fear. Pregnancy and childbirth, we are reminded, are physiological rather than pathological processes; and the thought of infuse into the atmosphere of the common sense already brought into the infant welfare movement; to reiterate again and again that will over 95 per cent, of pregnan-

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**PERCENTAGE OF WATERBORN MATERNAL MORTALITY**

**"Neo-Natal" Death Rate**

**CLOSELY RELATED PROBLEMS**

This article, the third and last of the series, completes a searching and authoritative review of one of the most important medico-political questions of