going to implement the Scheme, Mr. Sargent addressing the East India Association some months ago said, 'I am old enough in Government service to realise that almost anybody who is not mentally defective, and some of those who are, can produce a report of some kind. What matters, and what is even more difficult in India than elsewhere, is to translate the report into action. My experience in India has shown me that a report is too often treated as an alternative to action.' If that tragedy is not to overtake this bold piece of constructive and comprehensive planning, attention should be increasingly paid these days by those keen on educational progress in India to getting the Scheme put seriously into effect without needless delay, and to shaping it steadily, in the light of experience, nearer to the heart's desire.

Maternity and Child Welfare*

V. VENKATA RAO

"India has not yet realised the impact of maternal mortality on culture and population though hundreds of her neglected and badly treated mothers die in childbed every year. Studying the problem with special reference to the Madras Municipal Areas the writer reveals various factors which are generally bringing about the death of mothers and children and points out the need for comprehensive Maternity and Child Welfare Services.

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Amongst social services, maternity and child welfare service is one of the most important. Child bearing is a function which imposes a heavy and serious strain on the health of women. Although it is impossible to eliminate pain and discomfort resulting from child bearing, they can be mitigated by the provision of maternity services. For a woman about to become a mother, the State must offer entirely free of charge, ante-natal examination and advice, arrangements for confinement in a maternity hospital and medical care during the intra-natal period followed by post-natal examination and advice.

Historical Background.—The initiative in this matter was first taken by the Government in 1875 when it issued orders to the municipal councils directing them to employ a trained midwife for the training of dais. Later on, that is during the period 1875-95 orders were given directing the councils to construct hut pavilions for lying-in cases and attach them to hospitals and dispensaries having women's wards. It does not appear that the orders of the Government produced any effect. Dais were not trained and the midwifery profession passed into the hands of barber midwives.

The writer is grateful to Dr. (Miss) S. Rajeswari, M.B., B.S., D.G.O., of the Maternity Hospital, Madras, for making some useful suggestions.


See also Kingsbury & Newsholme.—Red Medicine. "A remarkable fact is", write the authors of Red Medicine, "that nearly every pregnant woman comes under medical supervision at an early stage . . . . and if the patient does not attend regularly the patient is visited by a nurse at home. . . . On attending the pre-natal centre the expectant mother receives a card which entitles her to the right of precedence in tram cars and a sheltered place in them; service in shop without waiting in queue; a supplementary food ration; lighter work in the office or shop in which she is employed; two months rest without loss of wages. It is the duty of the doctor to advise her when she should cease work." When time for confinement arrives she goes to a maternity hospital which is well equipped. "Our observation of the Soviet arrangement for the medical and hygienic care of mothers filled us with admiration and with wonder that such good work should be undertaken and successfully accomplished in the period when the finances of the country are at a low ebb. The maternity and child welfare institutions and the arrangements seen by us gave the impression that they were nowhere stinted or restricted because of financial stress." pp. 177.

2 Report of the Special Committee on Maternity and Child Welfare Work in India. 1938.
In 1916 the Surgeon-General, Major Bannerman investigated into the matter and found that the number of salaried midwives employed by the municipal councils was thoroughly insufficient. He therefore recommended to the Government the opening of centres for the training of midwives. The Government accepted the suggestion of the Surgeon-General and enquired of the councils whether they were prepared to depute their candidates for training as midwives. Twenty-seven councils expressed their willingness to depute stipendiary pupils for midwifery training. For some reason or other nothing came of this effort.

In 1920 the position was thus unsatisfactory. This attracted the attention of the Financial Relations Committee. They found that out of the 73 councils, as many as 10 councils did not employ a single midwife; in 11 councils the number of labour cases conducted by the municipal midwives did not exceed 10 per cent of the registered births; and in 21 councils it did not exceed 20 per cent. The Committee therefore recommended that the councils should first ascertain "whether there are enough qualified midwives to attend to all who need their help and if the number is inadequate", the deficiency should be made good either by employing additional midwives or by arranging with health associations and other agencies engaged in the work to provide such staff as may be necessary; that training centres should be established in each district for the training of midwives; that the pay of the midwives should be standardized and that the cost of training should be borne by the Government.

The Government accepted the recommendations of the Committee and expressed their willingness to start training centres at Salem, Calicut, Madura, Tanjore and Guntur, provided sufficient number of candidates were forthcoming. They further suggested to the councils the constitution of a permanent Maternity and Child Welfare Committee for the formulation of a constructive programme and for the expansion of maternity relief. The councils were requested to report to the Government the number of midwives they required. As usual most of the councils made no response to the suggestions made by the Government and nothing came of this effort.

In 1923, the Government once again took the initiative. Col. Russel, the then Director of Public Health, investigated into this matter and his investigations revealed the fact that infantile mortality was "lamentably high." In 1922 the rate was 329.8 in Bezwada, 352.8 in Coimbatore and 206.3 in Madura per 1000 live-births, while in Britain it was 80 and in Australia and New Zealand 60 and 80 respectively. Secondly, the maternal mortality also was considerably higher than in Britain. Col. Russel estimated that on the average, 13.5 out of every 1000 women that took to childbed died. In addition to this enormous death-roll enormous because the corresponding figure for Britain was 47 per 1000 births-a large number of women were either invalidated or damaged beyond cure. The invalidism or the death of the mother in its turn caused the death of the child. Thus higher maternal mortality resulted in higher infantile mortality.

Col. Russel came to the conclusion that the high mortality both among women and children was due to the absence of any kind of ante-natal treatment and skilled assistance at the time of delivery and care during the post-natal period. A great majority of the labour cases were conducted by barber midwives. "Their ignorance of hygiene or even of cleanliness are stupendous. Their methods and the instruments used by them and the medicaments given to both the mother and child are so very revolting that no language sufficiently strong can be used to condemn them."

Col. Russel, therefore, recommended that...
the barber midwife system should be brought to an end; that only trained midwives should be employed for conducting labour cases; that the midwives carrying on private practice should be registered and that the un-registered midwives should be prohibited from conducting labour cases; that the supervision of the midwives should be entrusted to a woman medical officer or to the local medical officer; that each council should form a committee to look after the maternity services and to prepare schemes for the provision of maternity services. He further suggested that the schemes should be given effect to within a fixed period, and that ante-natal and post-natal and child welfare centres should be established; that maternity wards and children's hospitals should be constructed; and that health visitors should be appointed to visit the expectant mothers.

While communicating the results of the investigation of Col. Russel to the municipal councils, the Government informed them that they "as the responsible custodians of public health of the areas within their respective jurisdictions, will lose no time in formulating and carrying into effect practical measures on the lines set forth" by the Director of Public Health. They were also requested to report the action taken by them on the suggestions made by Russel.¹

To this communication forty-nine of the councils replied. Some promised to start maternity and child welfare centres; some promised to improve the existing conditions; and some constituted committees 'consisting of all meals' for the preparation of maternity schemes. However, a great majority of the councils pleaded inability to do anything in view of their financial position.² Practically, therefore, nothing came of this endeavour.

In 1923 the Government offered to train, at their own expense, candidates deputed by the councils, as health visitors, provided the councils were prepared to appoint them on a monthly salary of Rs. 60.³ The councils did not avail themselves of the offer and the Government dropped the proposal.⁴ Again in 1929 the Government prepared a scheme for the training of health visitors. The scheme contemplated the establishment of a school to be managed by a committee, consisting among others, the Surgeon-General to the Government, as President, the Director of Public Health, the Superintendent of the Maternity Hospital the Principal of the Queen Mary's College and the Assistant Directress of Public Health. The scheme was to be financed by the Government. It was circulated to all the municipal councils and they were asked to inform the Government whether they were willing to employ health visitors at all and if so the number of health visitors they required and the salary they were prepared to pay.⁵ As usual the response of the councils 'was not enthusiastic', and the scheme had to be dropped. But the Government promised to pay to the Indian Red Cross Society, Madras Branch, a non-recurring grant of Rs. 15,000 for 1930-31 and a recurring grant of Rs. 10,600 per annum in support of the school which they had already started for the training of health visitors. Further, the Society was also given a certain amount of administrative control over the municipal maternity and child welfare centres. The municipal councils had to apply to the Government for grant for the construction of maternity centres through the Society and grants from the provincial funds were paid to the councils through the Society.⁶ This dyarchical arrangement was not conducive to the better administration of the service. For, there were two persons in charge of one and the same service, the Society and the Director of Public Health, and the arrangement produced friction between the Society on the one hand and the Director of Public Health and the councils.

¹ G. O. No. 1437, Ph. 28-8-1923.
² G. O. No. Mis. 18, Ph. 4-1-1924.
³ G. O. No. 25715, Ph. 15-11-1923.
⁴ G. O. No. 48, Ph. 9-1-1931.
On the other. The Director therefore suggested in the interest of the service that complete control over these institutions should be vested in his hands. The Government accepted his suggestion and since 1932 grants are being paid through the Director and all the applications for grants should be submitted through the Director. At present the Director should be consulted in drawing up schemes relating to maternity and child welfare. The Director is assisted in this respect by the Assistant Directress, Maternity and Child Welfare, which office was created in 1930. It must be said to the credit of this province that it was the first in the country to appoint a woman medical officer to be in charge of maternity and child welfare centres.

The Red Cross Society closed down the school for the training of health visitors in 1938 and the Government took over the management of the institution. Since 1938 the Training School for Health Visitors is being managed by Government.

Organisation of Personnel and Functions.— The administrative organisation for maternity relief consists of the Health Officer, Woman Medical Officer, Health Visitor and Midwives. The Health Officer is in charge of the general administration. The Woman Medical Officer is in charge of the health visitors and midwives. Where there is no Health Officer, the Commissioner of the municipality is in charge of the administration and where there is no woman medical officer, the Health Officer is in immediate charge of the health visitors and midwives.

As regards functions the woman medical officer must supervise the work of the health visitor and midwives. She should refer abnormal and complicated cases to the maternity hospital for treatment. She should hold clinics regularly every week at the maternity centre for the ante-natal and nursing mothers; she should arrange health instructions in girl schools; she should collect the untrained midwives for instruction and training.

The duties of a health visitor are defined by the woman medical officer. Every health visitor is given the charge of a particular area. Her main functions are to visit the pregnant women and infants living within her jurisdiction and instruct them on the sanitary conditions to be observed. She should collect as many as possible of the expectant mothers for instruction by the woman medical officer. She should see that the instructions given by the woman medical officer are being observed by the patients at home. She must assist the midwives in conducting difficult cases. She may pay a visit to the girls schools and talk to the older girls on health matters.

The midwife is the foundation of all maternity activities. For a great majority of the labour cases, the assistance of a doctor—or a health visitor is not required; but not so as regards the midwife who is an indispensable element. Usually she is given the charge of a particular area and she must reside within that area at a place accessible to all. A board must be hung in front of her house informing the public that her professional services are available to the public free of cost. She should make a house to house visit and register all ante-natal cases, collect as many of these cases as possible for instruction by the woman medical officer on the day when she holds the clinics; she should attend to labour cases; and finally she must visit the mothers for at least ten days after delivery.

From the above it is evident that every maternity centre is intended to perform three functions, ante-natal, intra-natal and post-natal. Ante-natal care has assumed increasing importance in recent times because, efficient ante-natal care is resulting in the reduction of maternal mortality. Under ideal

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11 G. O. No. 1375, Ph. 27-64932.
12 G. O. No. 2514, Ph. 29-104934.
13 G. O. No. 2001, Ph. 31-5-1938.
conditions every pregnant woman must be visited by a health visitor or a midwife during the 16th week of pregnancy and persuaded to visit the clinic. At this visit a full medical and obstetrical history of the patient should be taken and if she is prepared for a physical examination it should also be taken. The physical examination includes the examination of urine, teeth and breasts, taking of the pelvic measurements and noting the blood pressure. The question of examination of the vaginal canal should be left to the discretion of the medical officer.

After the examination is over the health visitor should visit the patient to note the hygienic conditions in which she is living and if they are unsatisfactory she should advise the patient as to the improvements that should be made. She should also arrange the date of her next visit.

From this time onwards the patient should be examined every month till the 28th week of pregnancy. From the 28th week till the 36th week the examination should be fortnightly and from the 36th week till the date of confinement it should be weekly. Between the 32nd and 36th week a special examination of the patient should be conducted to ascertain the presentation of foetus, the relation of head to pelvis and the condition of the teeth of the patient for, bad teeth have deleterious effect upon the health of the woman and of her forthcoming baby. During the 36th week the uterine height must be taken, the foetal heart must be listened to and the urine must be examined. Should, the midwife or the health visitor attending on her notice any complication or abnormality it should be reported at once to the medical officer. Further, arrangements made for confinement should be enquired into and if no arrangements have been made she should be advised to do so without delay and the midwife should follow her and see that arrangements are made according to the instructions given by the medical officer.

Thus the function of an ante-natal clinic is fundamentally an educational one. By careful examination, observation and treatment during the ante-natal period, maternity is rendered safer, less burdensome, less disabling. Systematic ante-natal examination can almost completely eliminate eclampsia; by the regular testing of urine and the taking of blood pressure, toxaemia and anemia are easily recognised and treated; by physical examination at stated intervals the pelvic disorders and abnormal presentations are recognised and corrected; and the size of the head to the brim of the pelvis is noted. Therefore, the main purpose of an ante-natal clinic is to protect the expectant mothers from the well recognised perils and difficulties of pregnancy and to assure the unborn baby the best possible voyage from the intra-uterine life into this mortal world. Experience has shown that unless ante-natal supervision is adequate and efficient safe delivery cannot be assured.

As soon as the time arrives for confinement, arrangements should be made for delivery either at a maternity hospital or at home. If delivery is to take place at home it should be seen that "confinement is not undertaken in an entirely unsuitable environment; such anti-septic and aseptic precautions as are generally necessary should be taken"-. Under ideal conditions a doctor and a midwife should be available and should bring to the case a fair knowledge and skill; should any complications arise such facilities as transport and well-equipped maternity hospitals should be available; and if the case requires the assistance of a second doctor.

16 In some of the western countries every woman is compelled by law to notify her pregnancy to the proper authority so that they may take adequate measures to look after her health. Ordinarily, ante-natal advice is sought in the later half of pregnancy.
17 A.L. Mudaliar Clinical Obstetrics. Chapter ix.
to act as anaesthetist, there should be one.\textsuperscript{21}

It should be remembered that the intranatal care is as important as antenatal care. If proper care is not taken during this period all the good work done during the antenatal period will be of no avail.

After delivery for at least ten days, the mother should be visited and carefully nursed to prevent postnatal infection. Further, the patient should be examined to correct any bad effects of pregnancy or delivery. Thus the provision of antenatal, intranatal and postnatal treatment as detailed above constitutes a comprehensive programme of maternity hygiene and if the maternity relief is to be effective these services should be available to every one about to become a mother.

To what extent are these services provided and how far are they efficient? It may be said without fear of contradiction that a great majority of pregnant women do not at all receive any kind of antenatal treatment. The table given at the top of this page illustrates the contention.

From the figures given it is evident that some progress was made during the period under review. In 1920 there were practically no maternity centres, no health visitors and no women medical officers in charge of maternity centres. In 1941 the position was different when we had them all. But their number was hopelessly inadequate. There were only 1.33 medical women, 5.2 midwives and 9.3 maternity beds for every 1,000 births and the total expenditure on the maternity services in all the councils was Rs. 4,23,846. The total number of live births registered was 1,69,289 and the total number of still births was 7,807. On the average Rs. 2.92 was spent for every birth.\textsuperscript{22} It is therefore evident that throughout the period of dyarchy the provision of maternity services was hopelessly inadequate.

Maternal Mortality Rates.—The inadequate provision of maternity services produced disastrous results. Statistics were collected for 22 municipal councils in 1925. In these places 43,477 women took to child bed and of these 747 died. In other words, the average maternal mortality rate per thousand births in all these councils was 17.5. Another investigation was carried out in Trichinopoly, Madura, Coimbatore and Madras. 7,324 confinements were analysed and the analysis revealed a death rate of 17.89 per thousand births. The average maternal mortality rate per 1,000 births for all the 82 councils during the years 1932 to 1941 was as follows:—

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1932</td>
<td>137</td>
</tr>
<tr>
<td>1933</td>
<td>135</td>
</tr>
<tr>
<td>1934</td>
<td>14.2</td>
</tr>
<tr>
<td>1935</td>
<td>138</td>
</tr>
<tr>
<td>1936</td>
<td>12.42</td>
</tr>
<tr>
<td>1937</td>
<td>1267</td>
</tr>
<tr>
<td>1941</td>
<td>1268</td>
</tr>
</tbody>
</table>

Though the average rate did not exceed 15 per thousand births in any year, a comparative study of the maternal mortality rates obtaining in some of the councils goes to show that they were much higher than the average rates. For instance,\textsuperscript{23} see table at the top of p. 34.

These examples show the different rates prevailing at different times and in different municipalities. We find even in 1941 that as many as 31'93 women out of every


\textsuperscript{22} Annual Report of the Director of Public Health. 1941.

\textsuperscript{23} Annual Report of the Director of Public Health. 1920-41.
1,000 dying in child bed in Bellary. In the same year in six of the councils like Cuddapah, Chittor and Narasaraopet the mortality rate was between 26 and 30; in 12 between 20 and 25; in 13 between 16 and 20 and in the remaining councils below 15. Compared with the maternal mortality rates obtaining in some of the foreign countries, the figures given disclose a deplorable state of affairs. For instance,²⁴

<table>
<thead>
<tr>
<th>Name of the council</th>
<th>1930</th>
<th>1931</th>
<th>1932</th>
<th>1933</th>
<th>1934</th>
<th>1935</th>
<th>1936</th>
<th>1937</th>
<th>1941</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongole</td>
<td>42'49</td>
<td>21'04</td>
<td>29'99</td>
<td>20'94</td>
<td>12'34</td>
<td>21'13</td>
<td>20'55</td>
<td>24'89</td>
<td>15'29</td>
</tr>
<tr>
<td>Tanjore</td>
<td>34'47</td>
<td>20'01</td>
<td>11'75</td>
<td>21'85</td>
<td>18'44</td>
<td>24'20</td>
<td>23'47</td>
<td>20'84</td>
<td>19'32</td>
</tr>
<tr>
<td>Guntur</td>
<td>38'63</td>
<td>20'24</td>
<td>29'66</td>
<td>25'20</td>
<td>17'83</td>
<td>26'27</td>
<td>24'15</td>
<td>22'40</td>
<td>22'35</td>
</tr>
<tr>
<td>Villupuram</td>
<td>32'26</td>
<td>40'29</td>
<td>28'09</td>
<td>35'85</td>
<td>34'16</td>
<td>30'55</td>
<td>10'05</td>
<td>28'04</td>
<td>14'43</td>
</tr>
<tr>
<td>Negapatnam</td>
<td>31'29</td>
<td>26'05</td>
<td>28'33</td>
<td>18'33</td>
<td>17'15</td>
<td>24'07</td>
<td>25'10</td>
<td>18'71</td>
<td>20'43</td>
</tr>
<tr>
<td>Chingulput</td>
<td>35'56</td>
<td>35'52</td>
<td>30'66</td>
<td>20'03</td>
<td>19'27</td>
<td>20'65</td>
<td>21'32</td>
<td>33'30</td>
<td>18'72</td>
</tr>
<tr>
<td>Tirupati</td>
<td>27'07</td>
<td>24'48</td>
<td>17'77</td>
<td>11'34</td>
<td>18'52</td>
<td>14'25</td>
<td>21'02</td>
<td>18'58</td>
<td>16'87</td>
</tr>
<tr>
<td>Palacole</td>
<td>27'55</td>
<td>23'17</td>
<td>16'99</td>
<td>28'09</td>
<td>23'77</td>
<td>15'73</td>
<td>14'43</td>
<td>25'84</td>
<td>22'20</td>
</tr>
<tr>
<td>Nellore</td>
<td>22'08</td>
<td>20'44</td>
<td>20'99</td>
<td>28'49</td>
<td>20'40</td>
<td>24'53</td>
<td>22'95</td>
<td>22'87</td>
<td>18'52</td>
</tr>
</tbody>
</table>

Reason for Variations.—Why should there be any variation in the mortality rates? Various explanations have been offered such as race, environmental conditions, physiological differences and the prevailing marriage age. But Sir Arthur Newsholme is of opinion that the variations are chiefly due to the differences in maternal care. In other words, adequate ante-natal, intra-natal and post-natal care largely determine the mortality rate. In the Scandinavian countries the maternal mortality rate is low because all the expectant mothers receive all the care at every stage mentioned above. Further, all the maternity services in those countries are well coordinated. Above all the physique of the women of those countries is excellent and consequently pelvic disorders are a rare event. But the position in this province, nay, in this country, is the reverse.

Causes of Maternal Mortality.—The causes of maternal deaths are several. It may be due to septic abortion, or abortion, puerperal haemorrhage, puerperal sepsis, anemia and toxemia, etc. But a great majority of the causes can be detected during the ante-natal period, especially puerperal sepsis, anemia, and toxemia. The independent investigations conducted by three eminent obstetricians, Dr. (now Sir) A. L. Mudaliar in Madras, Dr. Jirad in Bombay and Dr. Neal Edwards in Calcutta go to show that more than one-third of the maternal deaths were due to preventable causes, viz. puerperal sepsis.²⁵ Of the 436 deaths studied by Dr.

²⁴ International Health Year Book published by the League of Nations, for 1924-1930.

Mudaliar, 115 were due to puerperal sepsis, 57 were due to anemia and 52 to toxemia. Dr. Mudaliar says that given proper care and treatment during the ant-natal, intra-natal and post-natal periods, these 234 or 53.44 per cent of the deaths could have been avoided.

In the absence of the care and treatment mentioned above, certain factors gain dominance and influence the maternal mortality rate. They are firstly age. The average age at which girls begin to cohabit with their husbands is 14 years and the average age at which they begin to give birth to their first baby is 16 years. Each mother gives birth on an average to six children before the age of 30. Most of the women are worn out by that age by childbearing. If the marriage age of women is increased to 18 they will be better fitted in every way for the task of child bearing.

Secondly, mortality among women due to childbearing belonging to a particular age group seems to be common. Of the 436 deaths examined by Dr. Mudaliar 82 belonged to the age group of 15-19, 108 to the age group of 20-24, and 115 to the age group of 25-29. From the figures given above it is evident that deaths are greater among women belonging to the age group of 25-29. Out of the 340 deaths analysed by Dr. Jirad 115 belonged to the age group of 20-25 and 99 to that of 26-30.

Thirdly, a majority of deaths more often occur among the primipara (first confinement) than among the multipara (subsequent confinements). Dr. Mudaliar says that the first confinement is in reality a 'trial labour' and therefore the expectant mother should be given sufficient care during the ante-natal and intra-natal periods the absence of which means the risk of sepsis or haemmorrhage. It should, however, be mentioned that deaths are also greater among the 'old multipara'. The table given by Dr. Mudaliar illustrates the point.

<table>
<thead>
<tr>
<th>Order of pregnancy</th>
<th>Total No. of cases examined</th>
<th>Total No. of deaths</th>
<th>Average percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>4008</td>
<td>175</td>
<td>4.30</td>
</tr>
<tr>
<td>II</td>
<td>2870</td>
<td>60</td>
<td>210</td>
</tr>
<tr>
<td>III</td>
<td>2326</td>
<td>65</td>
<td>2.80</td>
</tr>
<tr>
<td>IV</td>
<td>1636</td>
<td>44</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Fourthly, frequency in childbearing seriously impairs the vitality of the mother, ultimately leading her to the grave, especially if the interval between successive childbirths is not more than a year. Dr. Mudaliar gives two instances in support of this contention. One woman aged 30 had given birth to six children within a period of eight years of married life. She was brought to the maternity hospital when her condition became critical and died two hours after the birth of the sixth child. Another woman of 25 years of age had given birth to seven children within a period of seven years of married life. She suddenly collapsed and died just after the birth of the last child. Dr. Mudaliar says that these two deaths were due to lack of vitality as a consequence of frequent childbearing. If only such mothers had sought advice at one of the maternity centres they would have been advised to build up their physical capacity to bear the strain of childbearing and to space out future pregnancies in the light of the mother's health.

Fifthly, seasonal conditions are to some extent responsible in aggravating maternal mortality. Dr. Jirad informs us that the percentage of mortality due to eclampsia is highest in the cold seasons, that is, from November to January.

Sixthly, economic and social conditions greatly influence the maternal mortality rate. Persons with low income, living in dirt, squalor and disease are easily susceptible to every infection. "Unhygienic and

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27 Blunt.—Social Service in India.
overcrowded dwellings and undernourished bodies are hardly suitable for childbearing. Hygienic and nutritional factors are therefore intimately associated with maternal mortality. It is very aptly said that what is very urgently required is not a herd of obstetricians but a herd of cows. By adequate nutrition the shape of the pelvic bone can be developed properly in a girl thus fitting her beforehand for undertaking the business of childbearing. Malnutrition makes the pelvic bones narrower and stiffer conditions which are not at all suitable for childbearing. Therefore, proper nutrition is the only way by which an expectant mother can sustain her health and strength and that of the forthcoming baby. The mortality rate among the Danish and Swedish women is much less because they consume more milk and live under proper sanitary conditions. As a consequence, there is more natural pelvic development in them “a condition which largely influences the safety of motherhood.” We cannot lower the mortality rate unless the women subjected to the strain and stress of the physiological function of childbearing are made healthy and physically fit to undergo it.

Finally, neglect plays a great part in the causation of maternal deaths. Dr. Mudaliar says that out of 436 deaths analysed by him no fewer than 313 did not receive any kind of ante-natal care. Of the 313 deaths a very large proportion of them could have been saved had proper ante-natal measures been taken. This neglect is greater on the part of women who have already experienced childbearing, even though they are particularly in need of more than ordinary ante-natal care. The previous successful deliveries make them believe that they are experts in childbearing! They therefore neglect all ante-natal examinations and advice.

To sum up, a great majority of the maternal deaths are due to avoidable factors, such as complete absence of any ante-natal care, failure to enquire into the previous obstetric history, failure to diagnose the complications correctly and to follow up the complicated cases.

Child Welfare.—In all ages the problem of children and the care accorded to them has depended principally on the social value attached to them. The child is at present looked upon as an important social unit and is therefore entitled to all the care which makes him a healthy being so that he may develop his abilities to the fullest extent. Under present circumstances, however, the State assumes no such responsibility and the care and attention due to the child are available only to the fortunate few.

An ideal programme for the promotion of child welfare includes continuous and efficient medical supervision of the baby till it reaches the age of five. The baby should be examined regularly every month till it reaches the age of three months, then bi-monthly until it completes one year and then once in six months till it reaches the age of five. The child welfare centres “should not only render advice but also correct physical defects.”

In Russia, when a child is born the birth is reported to the Children’s Consultation Bureau. These Bureaux usually have three departments, one for infants, one for children and the third an educational department. When the mother leaves the hospital after delivery she takes the child to the Bureau concerned and repeats the visit every three weeks. A milk card is delivered to her. If the mother is not able to nurse the child or if she is weak, she may obtain breast milk from the Breast Milk Station. Mothers having surplus breast milk supply the station. In the Children’s Consultation Bureau the development of the child is carefully watched. When the mother goes to work she leaves the infant in a nursery. Soviet nurseries have three purposes in view. They liberate the working class women from the care of rearing children. They educate the mother as well as the child. The nurseries contain three divisions. One for infants under one year; one for children of two years. The mother comes at regular intervals to nurse the child. She removes the working clothes, and puts on a sterilized gown with slits at breast. As soon as the child

30 Ibid. p. 52.
31 Titimus.—Poverty and Population, pp. 150-55.
Measured by these criteria, the child welfare centres that exist in the municipalities are far below the ideal conditions. There are no doubt child welfare centres which give milk to the poor children and sometimes a bath. Excepting these two they do not seem to perform any other function. Therefore, the provision made for the welfare of children is thoroughly inadequate and a great majority of children are not getting that minimum care to which they are entitled. As a result of this neglect infantile mortality is high. For instance the average infantile mortality rate per 1,000 live-births during the period of 1920 to 1941 was as follows:

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\begin{array}{|c|c|c|c|c|c|c|}
\hline
\text{Name of the council} & \text{1920} & \text{1925} & \text{1930} & \text{1934} & \text{1937} & \text{1941} \\
\hline
\text{Ootacamund} & 348.5 & 219.6 & 197.8 & 192.9 & 180.5 & 147.10 \\
\text{Bezwada} & 332.9 & 264.3 & 263.4 & 231.4 & 250.5 & 212.13 \\
\text{Guntur} & 282.8 & 267.0 & 260.2 & 218.6 & 189.7 & 218.42 \\
\text{Vizagapatam} & 276.7 & 251.6 & 241.8 & 225.2 & 237.2 & 232.30 \\
\text{Tinnevelly} & 260.1 & 205.1 & 218.9 & 257.9 & 204.0 & 223.04 \\
\text{Virudhupatti} & 252.3 & 170.8 & 170.0 & 180.0 & 220.6 & 164.21 \\
\text{Tuticorin} & 238.7 & 225.3 & 216.4 & 222.4 & 209.4 & 211.72 \\
\text{Vizianagaram} & 224.0 & 156.1 & 187.5 & 198.3 & 208.1 & 198.30 \\
\text{Rajahmundry} & 155.1 & 262.1 & 213.7 & 257.1 & 271.9 & 251.84 \\
\hline
\end{array}
\]

A careful study of these figures reveals the fact that infantile mortality was appallingly high in 1920. It was 348.5 in Ootacamund, 332.9 in Bezwada and 282.8 in Guntur. But in 1941 the rate came down to 147.10 in Ootacamund, 212.13 in Bezwada and 218 in Guntur per 1,000 live-births. Similarly, the average rate for all the councils was 228 in 1920. But it came down to 176.59 in 1941. It may therefore be said that there is an improvement in the situation. But when compared with the figures obtaining in the Anglo-Saxon countries we are still centuries behind. For instance look into the table given on the next page.

Compared with the figures given there our mortality rate is three times higher than that of England, five times that of New Zealand. In all the 82 councils the number of children that died in 1941 before attaining the age of one year was 29,845 and if our mortality rate had been that of Canada viz., 76, we could have saved as many as 17,000 children in that year. The rate obtaining in New Zealand is only 31 in 1937 and in the same year the rate in the Madras District Municipalities was as high as 176.59. We are where England was in 1875. Even in that year the rate in that country was only 153.35

34 See the Annual Reports of the Director of Public Health, 1920-41.
Why should the rate of infant mortality be as high as 176.59 in the municipal areas of this Presidency and as low as 31 in New Zealand? In New Zealand the State made adequate and effective provision for the protection of children, and in this country it may be said that the provision is thoroughly inadequate. In the absence of care certain factors gain dominance and influence the death rate. The first factor of importance is the relationship between the health of the mother and the infant mortality rate. Infants whose mothers are tubercular or suffer from venereal diseases may inherit them and these diseases may cause their death.

Secondly, the death of the mother within the first year of the child’s birth may lead to the death of infants. Because such orphan children have to be artificially fed. Lack of breast milk and lack of proper attention and care are the contributory causes for the higher mortality among such children.

Thirdly, mortality among twins and triplets is higher than among the single born children. The writer’s attention was drawn to this fact when he visited the Maternity and Child Welfare Centre at Jagannadhapuram.

36 The writer with two of his colleagues visited a number of Municipal Maternity & Child Welfare Centres to study their practical working. He desires to express his gratefulness to Mrs. Nirody for arranging these visits with the medical officers concerned and to the various Medical Officers in charge of these institutions for answering the numerous questions put to them.

One woman gave birth to twins successively three times. All the six children excepting the last died. Further, twins are very often prematurely born. Death rate among such prematurely born children is high especially if they are delivered by means of instruments.

Fourthly, mortality among the artificially fed infants is higher than among the breast fed infants, especially if artificial feeding is resorted to during the first six months of the child’s life.31

Fifthly, infants born to mothers belonging to the age group of 15-20 do not enjoy the same chances of life as infants born to mothers belonging to the age group of 25-30.

Sixthly, the order of birth is another factor which influences death. Mortality among the first born children is greater than among the second born. Similarly, it is higher among the ninth, tenth and later births than among the sixth, seventh and eighth.

Seventhly, mortality among children born within an interval of one year is higher than among children born after an interval of two or three years.

Eighthly, economic and social conditions of the parents also influence the mortality rate. Infantile mortality is intimately related to density of population. Mortality among children living in urban areas is higher than among those living in rural areas. Even in urban areas the rate is higher in the highly

37 G. O. No. 1437. Ph. 28-8-1923.
congested areas, that is, in slums, than in the thinly populated areas. For instance, the rate was higher in Jagannadhapuram, a typical slum area, than in Mambalam. We found in Jagannadhapuram, scavenging ineffective, soil polluted, water unwholesome food contaminated and housing bad. Bad housing and overcrowding means lack of open space, lack of sunshine, lack of air, lack of contact with nature which factors cause the death of thousands of children who under better conditions would have lived to be healthy men and women and useful citizens.

This brief survey of an important aspect of public health administration reveals the fact that much remains yet to be done. A comprehensive maternity service is yet to be created. There is a serious lack of trained midwives and the barber midwives are still conducting 60 per cent of labour cases. It is a well established principle that all the constructive social services should be provided compulsorily and free of cost. For instance, we have made vaccination and, to a certain extent, elementary education compulsory; but maternity service is not yet made compulsory nor is it rendered adequately. The result is that several hundreds of women (2243 in 1941) are dying in childbirth in the municipal areas alone and several thousands are either invalidated temporarily or disabled beyond repair. It is forgotten that "most of them are young, at their reproductive zenith, making their physical contribution to their day and generation, each of them the mother of a home, the upbringer and trainer of a family". The death of such a mother "is a calamity to home life and to its integrity, perhaps, the most grievous of all misfortunes and dislocations which can afflict her husband and children. Moreover, the knowledge of these disasters is apt to produce in many women and their husbands a fear of maternity". It is, therefore, incumbent on those entrusted with the administration of these services to alleviate this suffering and sorrow.

How can this be done? Firstly, the present position should be surveyed and a comprehensive scheme should be prepared for the whole of the province. The scheme should be put into operation within a fixed period. Secondly, there should be a network of maternity and child welfare centres adequate in number and efficiently equipped. They should be kept in charge of Women Medical Officers who have been specially trained in maternity services. In bigger municipalities like Madura, Trichinopoly and Bezwada separate maternity hospitals should be established with separate wards for clean cases and puerperal sepsis. Dr. Mudaliars suggests that an ideal maternity hospital should have separate wards for clean cases, separate puerperal wards for suspect and septic cases and separate wards for abortion cases. We think that it is the goal which we should one day reach. At present it is beyond the means of every council to provide a maternity hospital on the lines suggested by Dr. Mudaliar. To start with, it is enough if we have sufficient number of maternity and child welfare centres with provision for confinements. It should be remembered that every centre should have separate wards for clean cases and puerperal sepsis. During our investigations we found that in some centres no provision was made for institutional treatment of the labour cases and puerperal sepsis. It is not realised that the omission of this important provision tends not only to lower the efficiency of midwifery work but also to discredit all the good work done during the ante-natal period. Further, institutional treatment should be encouraged as it reduces the maternal mortality rate.

Thirdly, domiciliary midwifery requires reconditioning. However efficient the institutional treatment may be, certain percentage of women would like to be confined in their homes especially if they have children to look after. If domiciliary service is to be
efficient the barber midwife system should be eliminated. In an ideal state of affairs there is no place for the barber midwife, especially if we remember the responsibility of a midwife in this province. It is more onerous than anywhere else because of the scarcity of medical women and obstetricians. In England legislation prohibits the dais from conducting labour cases. Similar provision should be made all over India.

Fourthly, new training centres should be opened to train a greater number of midwives. The training given at present, we are told, is inadequate. Therefore the courses of study should be revised. The selection of candidates for the midwifery training should be placed in the hands of a Board appointed by the Government. Candidates who are trained in these institutions alone should be appointed in the municipal institutions.

Finally, all the private maternity hospitals and clinics should be brought under the control of the Health Department. At present they are so very independent that one does not know what happens within their four walls. Some of these institutions are ill-equipped and are in charge of inefficient midwives and it is dangerous to allow such institutions to go on without being controlled. If these reforms are carried out we are sure that motherhood will reach a high level of safety and as a consequence maternal and infantile mortality rates will fall, thus paving the way for a virile body of citizens.

Welfare of the Soldier's Family

H. A. POLEY

Though many of our countrymen have disclaimed responsibility in this War, yet it is widely admitted that on many a critical battle-field the Indian soldiers have crowned themselves with glory. And it ill becomes a grateful people to ignore the claims of the returned soldiers. As Rev. Popley observes, the majority of the soldiers come from the villages where the disintegrating influences of the family have had very little effect and family responsibility and affections still dominate the soldier's heart. Hence the writer emphasises that "in all the plans that are being made for the future welfare of the returned soldiers the family of the soldier must receive primary consideration" and outlines the scope and methods of family welfare in its economic, educational, social and moral aspects.

Rev. Popley is Secretary to the Soldiers' Welfare Committee, Erode.

It is estimated that about two and a half million men have joined the Indian Army since the beginning of the war; and by the end of the war with Japan the number will probably be three millions. These men have distinguished themselves in many theatres of war from Italy to Singapore and received the unstinted praise of their commanders as also of the supreme commander. There is no doubt that the Indian Army has been a factor of great importance in the defeat of Germany and that it will play a still more important role in the ultimate defeat of Japan. So it can be confidently stated that the British Commonwealth owes a great deal to the devotion and endurance of the Indian Army. The preservation of India from invasion by the Japanese in 1942 was almost entirely due to the Indian Army, If Germany had been able in 1942 to obtain a foothold in Iran and Iraq, as seemed very likely at that time, India would have certainly been invaded by the Japanese; and Germans and Japanese might even have met here. It was the Indian Army that saved the situation in both Iran and Iraq and it was with the help of the Indian Army that the campaign in Africa, from Ethiopia to Tunisia, was won by the Allies in 1943 and 1944.

Thus both the Government and people of India owe a great debt of gratitude to the humble soldiers of the Indian Army for saving their hearths and homes from the kind of destruction that came upon the people of Burma in 1942. Even though the people of India may disclaim any part in the policy and actions of the Government during these years they cannot set aside the