BRITISH MEDICAL JOURNAL

LONDON SATURDAY MARCH 17 1945

SHALL WE NATIONALIZE MEDICINE?*

BY

Lord HORDER, G.C.V.O., M.D., F.R.C.P.

When you saw the title of my Address you may have been inclined at first to accuse me of introducing still another word or phrase into our discussions of a subject that interests us all just now, and so of increasing the confusion likely to result already from the use of rather loosely defined terms. This would have been a very poor way of showing my appreciation of the honour you have paid me by inviting me to give this address. I hope to show you that I am really clarifying the position when I speak of nationalizing medicine. By nationalizing medicine I mean doing with medicine what the Socialist desires to do with the land, the banks, the coal mines, and the railways—bring them under the control of the State. This is equivalent to a whole-time State service for all doctors, and that is what I mean by "nationalized medicine."

State Medicine : Confusion in Terms

The term "State medicine" is not free from ambiguity, for we have a State Medical Service already—a service which is certain to extend after the war. "Socialized medicine"—another term that is being used quite often—is more ambiguous still. Socialists use the term "State medicine" and "socialized medicine" as synonymous.¹ They mean by both that the State takes control of the medical profession in all its branches and in all the media through which it operates. But "socialized medicine" may have another connotation : it may mean making medicine more accessible to the people ; and, as I believe, this may be done without nationalizing the medical profession.

Then there is confusion as between "socialized medicine" and the new term "social medicine." Since Prof. Ryle occupies the first chair in social medicine, and is its chief apostle, we may accept his definition without demur. Social medicine, he says, is concerned "with the many and varied problems created by sickness in the family and the community as a whole. . . . It embodies the idea of medicine applied to the service of man as *socius*, as fellow or comrade, with a view to a better understanding and more durable assistance of all his main and contributory troubles which are inimical to active health and not merely to removing or alleviating a present pathology. It embodies also the idea of medicine applied in the service of *societas*, or the community of men, with a view to lowering the incidence of preventable disease and raising the general level of human fitness."¹

Social Medicine not a New Concept

Now, I think I have read all that has been written on the subject of social medicine, and I may say at once that I endorse all the humanist views and aspirations with which this literature abounds. I may be accused of being reactionary, or of trampling upon some people's dreams, if I say that, as here defined, "social medicine" is not a new concept in medicine but is a timely and justifiable challenge, both to medicine and to the State, that they have left undone those things which they ought to have done. But such is my view ; for it may be readily conceded that, in searching for the aetiology of disease, medicine has not probed deeply enough into the lives and conditions of the people, so as to bring to light the more ultimate factors

that cause unfitness, sub-health, and actual disease. So also it may be readily conceded that in treatment, and especially in preventive treatment, dictated by the discovery of these ultimate factors, medicine has not been nearly as vocal as it might have been. If, for example, overcrowding is a determining factor in the causation of rheumatic fever then it was the business of medicine to discover this fact, to take it into account when dealing with the indications for preventive treatment, and so point out the position to those whose duty it was to take action. On the other side our statesmen, who are at the moment paying so much lip service to what is called "positive" health, have so far done little to ensure for the people the basic conditions that make health possible.

What are these basic conditions ? I stated them years ago, and as I cannot state them more explicitly now than I did then, please forgive me for plagiarizing myself. "*First*, enough of the right food ; for to preach fitness to the undernourished is sheer hypocrisy. *Second*, shelter, but shelter at a rent which leaves something to buy food with and pay for transport to and from work. *Third*, easy access to the fresh air and the sun. *Fourth*, leisure for play ; and—who knows—that may lead to thinking, even the 'high thinking' which the poet lamented is 'no more.' *Fifth*, the amenities, amongst which you will not expect me to omit noise control. And *last*, the giving to every human being a chance *before* he is born and, after death, the decent disposal of his body in the best interest of his fellow-men."

Our Statesmen's Inactivity

What, I say, have our statesmen, who are now so eager to nationalize our profession, been doing about these things ? It has taken a major war—a maximum war—to stir them to activity in regard to some of these things. To save our lives—not, mark you, to give us health—good food has been made available at a price that the people could afford ; and we have fortunately had a heaven-sent statesman to control this basic necessity. But for how long ? Even before the war is over, with other foods in short supply, with a threat that they may remain so for some time yet, with millions in the recently occupied countries half starving, and a few months after we were signatories to the recommendations of the Hot Springs Conference—one of which stresses the importance of maintaining the nutritional level of the people's food²—here is the Government reducing the extraction rate of flour, with a consequent sacrifice of essential nutrients which the country was told only four years ago were of great value in preserving the national health ! And why is this being done ? Why *now* ? No convincing answer has yet been given. Our slow start at slum clearance has been greatly accelerated by enemy action—a grim enough commentary, seeing that by this method we have had to sacrifice not only the slum houses but also the folk who lived in them.

There are other obvious things that our statesmen have neglected. To give but one example. In July, 1938, I drew attention to the enormous growth in the quack medicine trade and to the incongruity of exercising no control over the deleterious effect of such trade, and especially of the intimidating nature of the advertisements connected with it, upon the national health at the very time when a serious effort was

* The annual address delivered before the Cardiff Medical Society, Feb. 21, 1945.

being made to improve national fitness. The Government apologist was at pains to remind me that "people have the right to make fools of themselves in their own way." And only when, later, and for some obscure fiscal reason, it was thought desirable that the tax on patent medicines should be rescinded, did we get one step forward in amending the law so as to make disclosure of the contents of proprietary medicines compulsory.⁵

Now all this, and more like it, comes within the ambit of what is called "social medicine." It is right that the doctor, finding these things to be the answer to much of the problem of the people's unfitness, should say so, and should do his utmost to stir the Government to do something about them. Medicine is, it is true, a social science,⁶ and politics is only medicine on a large scale.⁶ But it is *not* the doctor's job to do these things—which is what emerges logically from much that is preached about "social medicine." Indeed, I feel that the Socialist peeps out rather unmistakably through the thin garb of Prof. Ryle's humanism. His use of the word "comrade" is not, I think, entirely fortuitous. But, speaking for myself, I believe it is paramount that we doctors remain detached from political colour. For the doctor there can be no "left" or "right." For him there is only expert knowledge, a rooted adherence to truth, horse-sense, and, as I have already allowed, a humanist outlook, which, after all, means nothing more nor less than a love for his fellows and a passion to help them, body and soul. He is the good doctor who, guided in his work by the light of science, can also, like Abou Ben Adhem, say quite boldly to the angel: "Write me as one who loves his fellow men."

Freedom of the Profession

Detachment from this business of right and left, then, first. Next, we must continue to merit and to enjoy the public confidence as must, and do, His Majesty's judges, who must be intellectually and spiritually incorruptible in the presentation of *Pax Britannica*. Detachment, public confidence, and, I will add, courage, these are essential, but withal the fundamental note in the doctor's ideal is freedom. But what happens to our freedom if we are part of a nationalized service? Let me be clear; I am not speaking of our freedom as individuals and as citizens: we all accept certain restrictions to our freedom in the public interest: I am speaking of our freedom as members of a profession. We must preserve "free speech on medical matters, free criticism of medical affairs, and free publication of scientific work." If medicine is nationalized it is to a large degree monopolized, it is stereotyped. Most of us believe that if an industry is monopolized a disservice is done to the community: how much greater the disservice if a profession, if medicine, is monopolized? This risk to medicine's freedom must be watched jealously or we may lose it; lose it even when those who steal it from us do so with the best intentions in the world—with good intentions but with mistaken action. I have recently quoted an incident in the life of Herbert Spencer, and I do not apologize for doing it again. Herbert Spencer was speaking to an audience in New York, and he had the courage to utter these words: "One of your early statesmen said, 'The price of liberty is eternal vigilance.' But it is far less against foreign aggression against liberty that this vigilance is required, than against the insidious growth of domestic interference with personal liberty."⁸

There is a growing feeling among thinking folk that "the biggest fight before us in post-war days will be for individuality. It is the kernel of democracy, the biological basis of the struggle for freedom." Someone has said that the best that is in medicine is a by-product of science. If this be true it is essential that medicine, like science, shall enjoy "tolerance, freedom from restraint, and a recognition of the value of individuality." My reference to the individual leads me to emphasize the fact that he also has his responsibility in the matter of fitness. You can't *make* a man healthy. You can keep the ring for him; you can make available the means of health (the State's job); you can point the way (the doctor's job); but the rest is with him. I refer to this because there is a growing tendency to unload on to the doctor much of the responsibility not only of personal health but of personal morals also. I saw the other day that a distinguished paediatrician spoke of welfare work as being the most neglected

branch of medicine.¹⁰ But *is* welfare work really a branch of medicine? I have recently drawn attention to a memorandum just issued by the Medical Women's Federation. It contained a list of matters concerning which the doctor is to help. The list included "the lowering of the standard of honesty and consideration for others; the growing habit of indulgence in alcohol in young people; the loosening of family ties and the toleration of a low standard of reading and of public entertainment."¹¹ And I wondered if we doctors *really* do society a good turn by carrying not only the baby but the whole family on our shoulders!

The Government's Intentions

But to return to the question of nationalizing our profession. We are told that our fears in regard to the intentions of the Government to nationalize medicine are groundless. In the White Paper there are reassuring words on this subject,¹² and the Minister of Health has repeated this reassurance. He has told us that we are "utterly mistaken" in thinking that the Government's proposals would end in "some sort of State-controlled and regimented service."¹³ Well, the fact remains that many of us are left wondering how "general practitioners . . . can escape regimentation and control by the State in a complete service paid out of the public funds and based upon health centres owned by local authorities."¹³ We do not accuse Ministers of subtlety: their intentions may be wholly good; but that is the way, we remember, that the road to Hell is paved. Much of the trouble is caused by the ignorance in Whitehall of the essentials of doctoring. How *can* Whitehall know the essentials of doctoring? In its comment on the conclusions reached by the B.M.A. Representative Body the *Times* said: "From an impressive mass of negative resolutions it emerges only that the conference has willed almost all the ends and rejected almost all the means."¹⁴ Waiving the implied cynicism, I, for one, accept the *Times'* comment as apposite and am quite unabashed.

If any should deny that the White Paper envisages the beginning of a whole-time State Medical Service—and, as I say, its public sponsors *do* deny it—I would remind you that not only have the left-wing politicians welcomed the White Paper as a useful compromise, but Mr. Arthur Greenwood said in the House of Commons that he welcomed the White Paper as a great contribution towards the kind of plan which, in the fullness of time, his party would like to see established.¹⁵

In the brochure issued by the Labour Party, entitled *National Service for Health*, we are told: "In the Labour Party's opinion . . . it is necessary that the medical profession should be organized as a national, full-time, salaried, pensionable service." It adds this significant paragraph: "It may be that for a while some doctors will wish to be left out of the State Scheme. . . . The nation should make the service so efficient that no patient could desire a better and every doctor will wish to serve in it."¹⁶

Again, there was no sort of doubt in Sir William Beveridge's mind as to what would happen to the general practitioner in a very short time if Assumption B of his report were implemented: he would be squeezed out of existence. Said Sir William: "The possible scope of private general practice will be so restricted that it may not appear worth while to preserve it."¹⁷

The system of State control prevalent in Russia is often held up to us as a model which we might usefully follow; but it is necessary to remember that the slow evolution of our own Health Services, in themselves quite admirable, has been entirely different from anything that has happened in Russia; nor must we forget that "bloody revolution" in that country (a disaster which we have so far escaped here) necessitated a re-start from scratch and (by comparison) a very doctrinaire and detached set of Health Services was documented.

"Free choice of doctor" has become a familiar slogan; but, though not impossible of attainment, this would be almost impracticable if all practitioners were State-controlled. So much so that if medicine were nationalized the "black market" in doctoring would be terrific. What matters quite as much is that the spirit of individual initiative and adventure which has always characterized British medicine would be seriously damped, and men and women with good brains and healthy ambition would no longer be attracted to the profession.

The position of the voluntary hospital, in which, again, initiative and individuality have free play, and which has come to have a unique status in this country, is rendered precarious by the form of control of the hospital services in general as outlined in the scheme now before the public. The voluntary hospital is certainly the medium through which the most striking advances, both in clinical knowledge and in laboratory research, have been made. From this type of institution the best-trained exponents of medicine are disseminated. As a field for education it is essential to progress, and its survival must be encouraged, not merely permitted, in the national interest.

Steps that should be Taken

I referred earlier to certain basic matters concerned with the nation's health which it was the business of the State to see to. There are things more nearly connected with our Health Services which are crying out to be done and which come properly within the function of Government action. We learn from the White Paper that the State proposes to interest itself in medicine as applied to the individual citizen.¹⁸ Well, we have been pressing for this for a good many years. We have urged that in this relation the great help which the State can give is in improving the machinery rather than in telling us how we should do our doctoring. I am made a little tired by reading the homilies directed towards us, both in the preliminary paragraphs of the White Paper itself and in the speeches of the politicians.¹⁹ And not only in the speeches of the politicians. It was a prominent Socialist member of our own profession who, speaking to medical students a short time ago on the issue of a nationalized Health Service, said: "You will never, I hope, be content to be a tradesman in health matters, merely selling your skill in the treatment of declared disease to those who can afford to pay for it and refusing it to the rest."²⁰ Shades of Hippocrates!

Let me speak of a few of the things from which the citizen would have derived a great deal of good. Many of us have for a long time stressed two steps which the State should take, both of which are long overdue—the regionalization (and rationalization) of the hospital services and the inclusion of the dependants of the workers in the National Health Insurance Scheme. Regionalization of the hospitals and the setting up of health centres would provide the best possible basis for the organization of a national consultative service, embracing physicians, surgeons, pathologists, and "special department" men. It becomes clear to-day that both of these long-delayed steps are doomed to await the birth of the projected nationalized service.

Another and very important part of our health services in need of State help is the Nursing Service. Beyond taking it for granted that any scheme depends for its success upon an efficient nursing service, the White Paper is almost mute on this vital subject. We have too long paid only lip service to the nursing profession. Until the State recognizes its duty in relation to the nurse's training and makes it possible, by adequate grants for the purpose, that the student nurse shall be recognized primarily as a useful citizen in training, rather than as merely an employee of the hospital—until this state of the student nurse is recognized and supported, recruitment into the profession from girls with the best brains and the keenest natures will continue to lag and efficient nurses will continue to be scarce. This starvation will continue to show itself also in the ranks of the District Nursing Service, a branch of the profession upon which the country will certainly rely more and more in the future.

In whatever ways the State decides to advance in the direction of improving our Health Services it is clear that we shall need many more doctors. The heavy expenses attaching to the education of doctors must be shared by the State and in a number of ways—through much larger university grants, through subsidies to recognized medical schools, through scholarships and bursaries.

Then Research—our millionaires have been most forthcoming, and we are grateful to them. But there must be a much clearer official recognition of the essential contribution which research makes to the efficiency and progress of medicine. The degree of recognition which research gets at present is reflected in the fact that the White Paper disposes of it in

thirteen lines, most of which are taken up by saying that the present state of medical research is satisfactory and requires nothing further done about it.²¹

Our Case with the State

I have tried to indicate the main ways in which the State can function in society's interest in the field of health. It will have been seen that all these ways really concentrate upon the machinery of medicine and making it possible for the personnel to be efficient. The rest is up to us, up to Medicine. Our case with the State is surely just this: we say in effect, "If you will improve the machine whereby *availability* of medical service to every citizen is made possible, we will work the machine in the manner that we know from experience to yield the best results." But be it noted that we do *not* think (or I should say most of us do not think) that if doctors are made *a part of the machine* the same degree of efficiency will follow. In other words, many of us believe that to nationalize medicine is not only an unnecessary innovation but one which is unlikely to give the best results in medicine in this country. If we find the public uncertain it is our bounden duty to convince it of this.

I believe that the public, when it is really stirred to consider the matter, when it really thinks—for up to now it has been largely complacent, mildly intrigued by what it takes to be a squabble between the doctors and the politicians—will decide against making all doctors Civil Servants. I say, when it really thinks, when it remembers that it is the doctor-patient relation that matters, and that if this be broken up, whether in the name of insurance or social security or some other economic consideration, we shall lose something that is fundamental in our social as well as in our personal life.

Doctor-Patient

There is in Nathaniel Hawthorne's *Scarlet Letter* a description of the ideal doctor-patient relation which I should like to read to you. Speaking of the doctor, he says: "He deemed it essential, it would seem, to know the man before attempting to do him good. Wherever there is a heart and an intellect, the diseases of the physical frame are tinged with the peculiarities of these. In Arthur Dimesdale"—(that is, the patient)—"thought and imagination were so active, and sensibility so intense, that the bodily infirmity would be likely to have its groundwork there. So Roger Chillingworth—the man of skill—the kind and friendly physician—strove to go deep into his patient's bosom, delving among his principles, prying into his recollections, and probing everything with a cautious touch, like a treasure seeker in a dark cavern. Few secrets can escape an investigator, who has opportunity and licence to undertake such a quest, and skill to follow it up. A man burdened with a secret should specially avoid the intimacy of his physician. If the latter possesses native sagacity, and a nameless something more,—let us call it intuition; if he show no intrusive egotism, nor disagreeably prominent characteristic of his own; if he has the power, which must be born with him, to bring his mind into such affinity with his patient's, that th's last shall unawares have spoken what he imagines himself only to have thought; if such revelations be received without tumult, and acknowledged not so often by an uttered sympathy as by silence, an inarticulate breath, and here and there a word, to indicate that all is understood; if to these qualifications of a confidant be joined the advantages afforded by his recognized character as a physician;—then, at some inevitable moment, will the soul of the sufferer be dissolved, and flow forth in a dark, but transparent stream, bringing all its mysteries into the daylight."²²

Assuming this doctor-patient picture to be true—even though, as here described, it is an ideal which, on our side, we too often fail to reach—can we visualize it as being possible of attainment if medicine is nationalized? I don't think we can. I believe that the doctor-patient relation would receive a rude shock from which it would recover only when the individual emerged once more to triumph over the totalitarian mentality that is to-day threatening to enslave even our democratic country.

Conclusion

If, finally, any one of you should ask me, point blank: "Do you see hope in the future of medicine?" I should reply:

"Yes—I see more hope, both for ourselves as doctors and for the people who will come under our care, in the future of medicine than perhaps in any other single thing in the new world towards which we are hacking our way. We at least have not—yet—forfeited the trust of people for whom we work; we at least have not—yet—turned inwards in despair, bartering our spirit of adventure for a mere hope of security. We stand for sane knowledge, selflessness, and mercy in a world gone mad. We cannot let down these people who trust our profession, and it is in this firm resolve that we shall face the future of medicine."

REFERENCES

- ¹ Ryle, J. A., "Social Medicine: Its Meaning and Scope," *British Medical Journal*, Nov. 20, 1943, p. 633.
- ² *Health and a Day*, 1st ed., 1937, p. 54.
- ³ Final Act of the United Nations Conference on Food and Agriculture, p. 19.
- ⁴ Hansard: House of Lords Official Report, July 26, 1938.
- ⁵ *Ibid.*, July 29, 1941.
- ⁶ Virchow, R. L. K., *Die Medizinische Reform*, 1848, 1, 2.
- ⁷ Bourne, Geoffrey, *British Medical Journal*, 1943, 1, 227.
- ⁸ Spencer, Herbert (1891). *Essays: Scientific, Political and Speculative*, vol. III, p. 477.
- ⁹ Armstrong, E. F., Presidential Address to Royal Society of Arts, *Roy. Soc. Arts J.*, Nov. 26, 1943, p. 9.
- ¹⁰ Williams, Cicely, *British Medical Journal*, 1941, 1, 719.
- ¹¹ Memorandum of the Medical Women's Federation.
- ¹² White Paper, p. 27.
- ¹³ Leading Article, *British Medical Journal*, 1944, 1, 562.
- ¹⁴ Leading Article, *Lancet*, 1944, 2, 789.
- ¹⁵ Hansard, House of Commons Official Report, No. 49, March 17, 1944.
- ¹⁶ *National Service for Health: the Labour Party's Post-war Policy*, Transport House.
- ¹⁷ Beveridge Report, p. 160.
- ¹⁸ White Paper, p. 8.
- ¹⁹ See *British Medical Journal*, July 8, 1944, p. 54.
- ²⁰ Dr. Somerville Hastings: "The Doctor of the Future," *St. Bart's Hosp. J.*, June, 1936, p. 172.
- ²¹ White Paper, p. 41.
- ²² Hawthorne, Nathaniel, *The Scarlet Letter*, Methuen's edition, p. 136.

PREGNANCY AND DIABETES

BY

MARY A. M. BIGBY, M.D., M.R.C.O.G.

Obstetrician, Central Middlesex County Hospital

AND

F. AVERY JONES, M.D., M.R.C.P.

Physician in Charge of Dietetic Department, Central Middlesex County Hospital

This paper is the study of 12 pregnancies in diabetic women, and in it the wider use of early surgical induction of labour is advocated to diminish the hazards to the infant.

Before insulin was introduced pregnancy in the diabetic was extremely dangerous for mother and child. According to Whitridge Williams (1909) the maternal mortality rate was 27% during pregnancy, labour, and the puerperium, and a further 23% in the next two years; the foetal mortality rate was 41%. In the early days of insulin treatment Wilder and Parsons (1928), quoted by Skipper (1933), gave maternal mortality as 12% and foetal mortality as 47%. The adequate use of insulin has much decreased the maternal mortality rate, but the foetal death rate remains high. In 1942 Lawrence and Oakley had a maternal mortality of 2% and a foetal death rate of 37%, but when only their 40 completely supervised cases are considered the latter figure falls to 23%. In the most recent American series Bill and Posey (1944) give a 27% foetal death rate.

In this personal series of 12 cases there were no maternal deaths and 2 foetal deaths (17%), one being due to a miscarriage and the other to premature death of the foetus *in utero*.

Maternal Risks

The diabetic risks to the mother are ketosis and hypoglycaemia, particularly in labour and the early puerperium; but with careful management they can be minimized, and they did not cause difficulties in our cases.

Increased liability to toxæmia is said to be the most important risk, and a high incidence is recorded by American writers. Herrick and Tillman (1938) reported toxæmia in 18%, and White and Hunt (1943) found the incidence as high as 42% in 119 pregnancies, and thought it accounted for the high foetal mortality. The latter have treated certain cases with large doses of hormones, giving 150,000 to 300,000 units

of oestrin and 10 to 20 mg. of proluton daily, and reduced the foetal death rate from 40% in a control series to 8%.

In this country, however, Lawrence and Oakley (1942) found toxæmia in only 10% of their 54 cases, though a further 15% had albuminuria and oedema without hypertension, but in none of these cases was the baby stillborn. In this series only one patient developed toxæmia, and she went into labour spontaneously at 32 weeks and produced a live baby weighing 5 lb. 4 oz. She then had a post-partum eclamptic fit, but subsequently she and the baby did well. A second case had hypertension from the 22nd week, when she came under observation, the blood pressure being 160/100 to 180/120, but it fell to 120/80 after delivery. She developed slight oedema but no albuminuria.

Foetal Risks

Diabetics tend to produce fat and post-mature infants. Lawrence and Oakley (1942) think they reach maturity at about 37 weeks, and therefore if left to 40 weeks they are really post-mature. The large size—up to 12 lb.—may be due to excessive absorption of sugar or to increased production of growth hormone from the pituitary. The second possibility is favoured, as it does not seem possible to control the size of the baby by controlling the diabetes, for in this series labour was induced before the 37th week in 9 patients and the babies weighed between 6 lb. 6 oz. and 9 lb., with two exceptions; the baby of the toxæmic patient weighed 5 lb. 4 oz. at the 32nd week and the other 5 lb. 6 oz. at the 36th week, so that all but the last were over weight by the usual standards. The heaviest infant was born to the mother whose diabetes seemed well controlled by 130 units of insulin daily.

Premature death of the foetus *in utero* may occur, particularly if pregnancy is allowed to continue to term, and Lawrence and Oakley mention that 7 of the babies of 19 patients who were left to go into labour spontaneously were stillborn. In this series one pregnancy miscarried at the 23rd week, the foetus having been dead 2 to 3 weeks, and one baby died *in utero* at the 33rd week. Foetal death had occurred at the 32nd week in the latter patient's previous pregnancy, and it was planned to induce labour at the 33rd to 34th week, when the child would be large enough to have a good chance of survival. The patient was in hospital awaiting induction, with the diabetes satisfactorily controlled, when the child died. Lawrence and Oakley report a similar case in which Caesarean section was delayed for a few days to clear up scabies, and meanwhile the baby died *in utero*. In neither patient was toxæmia present.

Hydræmnios is particularly liable to occur, and was present in 5 of our series. Five, four, and three pints of liquid were withdrawn from 3 patients when the membranes were ruptured, and 2 others had less severe hydræmnios. Neonatal death may occur from foetal hypoglycaemia caused by overdevelopment of the pancreas *in utero*. Sugar was given prophylactically in our series, and this complication was fortunately not seen. Foetal abnormalities are said to be more frequent than usual, but none were found in our cases. One patient, however, since becoming a diabetic had lost her first baby after 3 days from congenital heart disease.

Diabetic Management in Pregnancy

The patients were given 220 to 300 g. of carbohydrate in a diet supplying 2,000 to 2,500 calories. It is important to maintain a high carbohydrate intake, for it is known that the renal threshold for sugar excretion is lowered during pregnancy, and large amounts of glucose—e.g., 50 to 150 g.—may be lost in the urine. It follows that insulin requirements must be judged by blood-sugar readings. Insulin requirements tend to rise in the 2nd trimester and especially in the last 3 months, but may occasionally become less, but this was not observed in our patients.

When the patients first came under observation they were given their usual insulin arrangement. As their insulin requirements increased, for preference they were given soluble insulin in the morning and a mixture of zinc protamine and soluble insulin in the evening. A small or medium dose of zinc-protamine-insulin used in this way prevents early morning