

MATERNITY SERVICE BY THE RURAL PUBLIC HEALTH NURSE¹

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THE vitally important responsibility of the public health nurse in carrying out a program of maternity welfare, in accordance with generally accepted standards, is now thoroughly realized. The extent to which she can discharge this responsibility in an effective manner is not so well understood. There is needed a more precise understanding of the difficulties she meets, of the ways in which her work must be integrated with the other activities of an official health organization, of the coordination of her services with medical practice, and of the extent of the *real* need for maternity service in the community. This is particularly true of rural areas where public health work is still in its initial stages.

Studies of actual experience under varying conditions undoubtedly will contribute to the necessary factual basis for further improvement in maternity programs. This paper summarizes some of the results of such a study in Cattaraugus County. The data used are from the records of maternity care by four public health nurses during one year and not only illustrate the ways in which records of this sort can be used for administrative purposes but also contain facts about maternity services actually rendered under rural conditions that may be of value in evaluating this phase of public health nursing practice.

¹From the Division of Research, Milbank Memorial Fund. This is the second of a series of papers representing the results of studies of public health nursing in different types of official health organizations. The first will appear in a forthcoming issue of the *American Journal of Public Health* under the title: "Home Visiting by the Generalized Public Health Nurse in a Rural Area."

The Cattaraugus County Health Department, serving a primarily rural area of 1,343 square miles in the southwestern part of New York State, has had a generalized nursing service for several years. There are two supervisors and a director of the Bureau of Nursing and during the year studied there was an average of twelve staff nurses, each serving a population of approximately 3,500 to 4,500. It should be remembered that the following analysis relates only to one part of a generalized public health nursing service, and that each phase of the service is influenced and largely controlled by the total demands of the health department program.

The percentage distribution of time spent in actual field visits by all staff nurses shows 18 per cent of the total time is given to maternity services, with 7 per cent to prenatal visits, 2 per cent to delivery visits, and 9 per cent to post-natal visits.²

The maternity and family case records, from which the data were collected, are part of an experiment in instituting a simplified system to meet the needs of the present practice in this rural area, and provide comparable data about maternity cases including: the source of first information about the case, the nature of the problems, date of nurses' visits, services rendered at time of each visit, the results accomplished, and the reason for termination of the case.

Since it has not been possible as yet to establish prenatal clinics, the maternity program of the County Health Department is measured by the number of visits and services rendered in the homes and by the number of cases visited.

Number of Maternity Cases Visited

During the year February 1, 1930, to February 1, 1931,

² Winslow, C.-E. A., Dr. P. H., "Health on the Farm and in the Village," p. 179. The Macmillan Company, New York.

the nurses working in the three nursing districts of Ellicottville, Cattaraugus, and Salamanca, made a total of 544 visits to 131 maternity cases or an average of four visits per patient. This ratio of visits per case is for prenatal, delivery, and postnatal services combined and is computed upon a basis of visits per case per year. There were 1,118 maternity visits made by all the nurses on the staff during the same period. Assuming that our sample, which is the work of one-third of the staff, represents the ratio of individuals visited to visits made, there were approximately 260 maternity cases visited in Cattaraugus County in this period of a year. Excluding non-residents, the Indians, and Olean City, where the county nurses do not visit, there were 893 births, live and still, in Cattaraugus County in the year 1930.³ This means that approximately 29 per cent of the maternity cases received some service from the county public health nurses and compares exactly with the experience of the Commonwealth Fund Child Health Demonstration in Rutherford County, Tennessee.⁴ The accomplishment in demonstration areas naturally exceeds that of the many rural sections where little or no county health work has been organized.

In the three districts studied there were 366 births⁵ reported to the nurses in 1930; and based on the visits to completed cases, 114 or 31 per cent had public health nursing

³There is, naturally, a carry-over of cases from any given year to another and the 12 months studied varies slightly from the calendar year; but without any correction for trend in birthrate, the number of 1930 births is representative of the total problem.

⁴Mustard, H.S., M.D. "Cross-Sections of Rural Health Progress." p. 100. The Commonwealth Fund, Division of Publications, New York.

⁵A count of duplicate copies of birth certificates filed in the three nursing district offices. The births registered anywhere in the County to mothers who were residents of these districts are included, but there is no correction for the few cases having prenatal visits who were delivered outside of the County or for the few cases visited who moved into the area at some time during the maternity period.

service at some time in the maternity period. As shown in Table 1, 24 per cent of the total pregnancies were visited in the prenatal period, 7 per cent had delivery nursing service, and 25 per cent received postpartum visits.

The volume of work per nurse in this area studied is significant, particularly in view of the fact that most of the county health departments in the United States have only one or two nurses. Our sample in Cattaraugus County shows that one nurse visits on the average 33 maternity cases in a year, and makes 62 prenatal, 68 postpartum, and 5 delivery visits, a total of 136 maternity visits.

Case-finding

There is no routine method for the reporting of maternity cases to the Health Department. The information as to cases comes from the sources shown in Table 2. Fifty per cent of the cases—the total of the three classifications, “visiting other members of family” (17 per cent), “neighbor” (16 per cent), and “patient or relative” (13 per cent)—are found through the nurses’ professional contact with the people. A generalized nursing program offers many “reasons” for visit-

Table 1. Per cent of 366 pregnancies visited by public health nurses in each stated maternity period.¹

MATERNITY PERIOD	CASES VISITED	
	Number	Per Cent
Prenatal	87	24.0
Delivery	23	6.5
Postpartum	90	24.5

¹ A given case may be included in one or all classifications.

ing in the homes, and a plan for an intensive case-finding program might well include routine home visits at regular frequent intervals to families selected as being most likely to

have pregnancies occurring. These should include young married women without children, as only 34 per cent of the primiparae in this area as against 48 per cent of the multiparae were known to the public health nurse.

One of the principal objectives of the nurses' visiting is to educate the mothers in the need for early and continuous supervision by their physicians. In our sample, 40 per cent of all maternity visiting was first requested by the physicians, and 79 per cent of the total prenatal cases visited had registered with physicians previous to the nurse's first visit. It is evident that greater emphasis is needed on finding the cases not under medical supervision.

The amount of travel and proportion of time devoted to each phase of the work may be influenced by the location of the patients' homes; but the records show practically no difference in the number or type of visits made to the 41 per cent of the maternity cases living in the most rural sections, nearly all of whom were on unimproved dirt roads, the 33 per cent living in the small villages, or the 25 per cent living in the urban section of Salamanca City. Also, as shown in Table 3, the frequency with which the nurses visit maternity

Table 2. Distribution of maternity cases according to source of first information.

SOURCE	NUMBER	PER CENT
<i>Total</i> ¹	109	100.0
Physician	44	40.4
Visiting other member of family	19	17.4
Neighbor	18	16.5
Patient or relative	17	15.6
Other agencies	9	8.3
Other source	2	1.8

¹ Excluding 22 cases, for which source of information was not stated.

cases does not seem to be associated with the nurses' classification of the economic status of the family.

Medical Care

The ultimate success of a public health maternity program is dependent upon the amount and kind of medical care. In our three nursing districts, all but four of the 366 births in 1930 were attended by a physician and 30 per cent of the births occurred in hospitals. Of the 114 completed cases known to the nursing service, 11 per cent had no prenatal care by a physician. To the others the physician had an opportunity to give some prenatal medical care, and for 73 cases for whom the time of service was known, 17 per cent registered with him before the fifth month, 33 per cent in the fifth and sixth months, 14 per cent in the seventh and eighth months, and 36 per cent in the last month of pregnancy. This is further evidence for the need of finding cases not registered with physicians.

Prenatal nursing service is most effective when closely connected with medical conferences for the prospective mothers. If prenatal clinics are not yet practical in a rural area, some consideration might be given to recording some of the infor-

Table 3. Number of public health nursing visits to maternity cases of different economic status.

ECONOMIC STATUS	WOMEN HAVING STATED NUMBER OF VISITS				PER CENT RECEIVING STATED NUMBER OF VISITS			
	One or More Visits	1	2-4	5+	One or More Visits	1	2-4	5+
<i>Total</i>	114	16	40	58	99.9	14.0	35.0	50.9
Comfortable	16	2	3	11	100.0	12.5	18.7	68.8
Moderate	46	8	19	19	100.0	17.4	41.3	4.13
Poor and very poor	52	6	18	28	100.0	11.5	34.6	53.9

mation about the examinations by private physicians and frequency of medical supervision on the nurses' records.

In addition to urging regular medical supervision, the public health nurse will, with the doctor's permission, supplement his orders by instructing the patient about the hygiene and diet of pregnancy, preparation of delivery supplies, and the preparation for the baby including clothes, toilet supplies, and the care of them. It is the practice, as in most places, for the nurse to report to the physician the conditions, findings, and advice given at each prenatal visit. In Cattaraugus County the public health nurse reports any symptoms she observes, but because of objections from the County Medical Society and others, she does not make the full prenatal visit which includes urinalysis and blood pressure. According to present practice the nursing services most frequently requested by physicians are assistance at delivery and post-partum bedside care.

Prenatal Visits

In the year studied 105 cases, 34 of whom had been visited by the public health nurse in the prenatal period of previous pregnancies, received a total of 327 prenatal visits.⁶ Excluding 18 cases that were not yet delivered, the 87 patients visited in the prenatal period received a total of 255 visits, or an average of three visits per case. The distribution of these visits, Table 4, shows that 35 per cent of the cases had one visit and an additional 50 per cent had four or less. The number of prenatal visits is influenced, of course, by the month of pregnancy the cases are first known to the nurses. The time

⁶At a rate of 893 per 1,000 births this compares favorably with the standards of the American Public Health Association tentative appraisal form for rural health work which gives 750 per 1,000 births. The appraisal form states 25 per cent of the total births should be under prenatal supervision as compared with 24 per cent in our sample of Cattaraugus County.

MONTH OF PREG- NANCY FIRST VISITED	CASES FIRST VISITED IN EACH MONTH		WOMEN RECEIVING STATED NUMBER OF VISITS		
			1	2-4	5-7+
	Number	Per Cent			
<i>Total</i>	80	100	28	40	12
Before 5th month	6	8	1	—	5
5-6 “	16	20	4	7	5
7-9 “	58	72	23	33	2

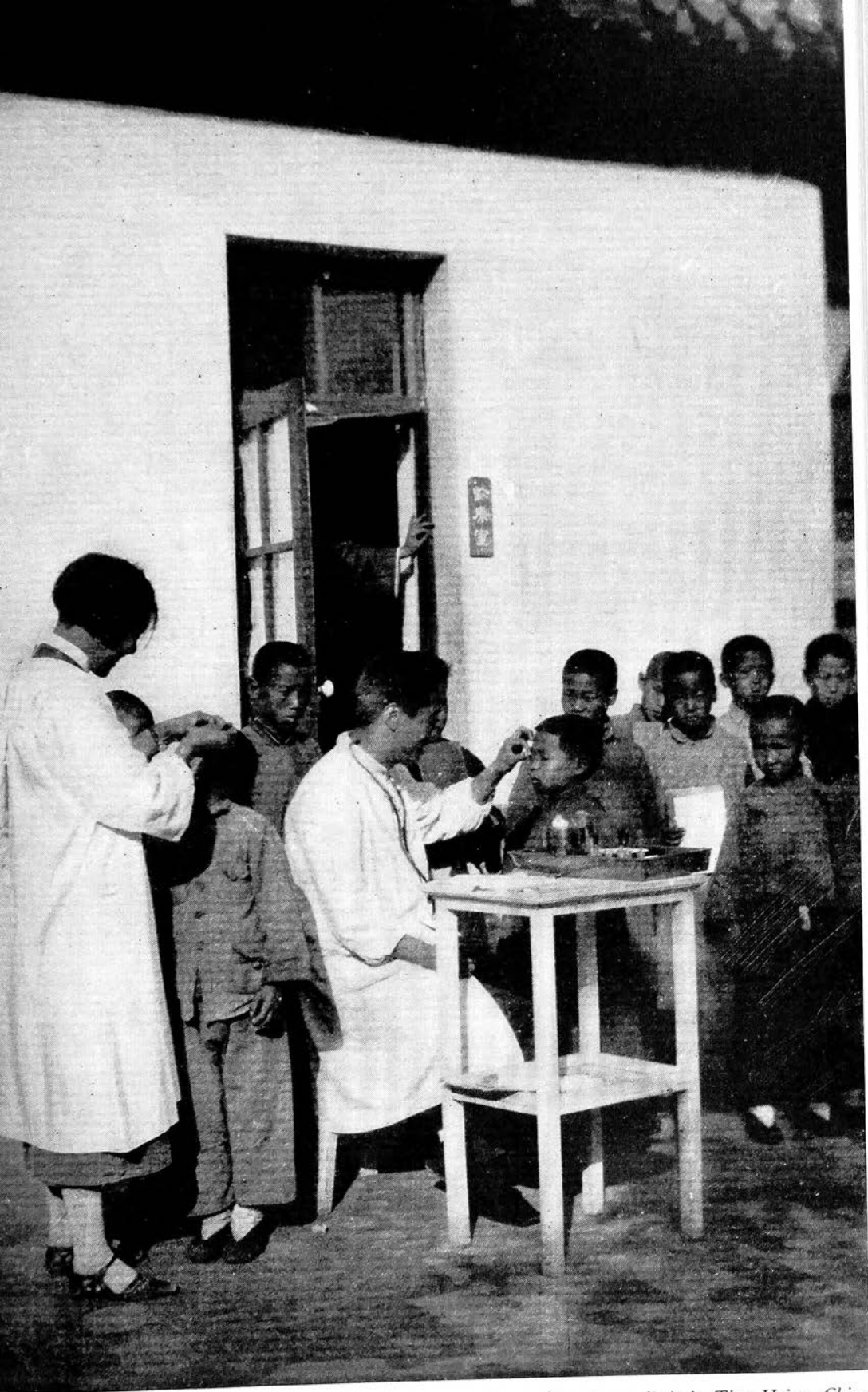
Table 4. Distribution of 230 home visits by public health nurses to 80 prenatal cases according to month of pregnancy in which the first visit was made.

of the first visit also indicates the opportunity afforded the nurse to carry out her written standards, which are similar to those generally accepted in other localities, namely, of monthly visits through the seventh month of pregnancy and fortnightly visits thereafter, as a minimum.⁷

For 13 of the prenatal cases there was definitely stated a reason why further visits were not possible, as follows: a physician requested the public health nurse to discontinue visiting six cases; three of the patients moved out of the County; impassable roads prevented the nurse from visiting three cases; and one prospective mother refused to see the nurse.

Excluding these 13 cases, and 7 others for whom it is not definitely known when the first visit was made, the remaining 67 cases are classified in Table 5, according to the month of pregnancy in which the nurses first visited the cases and are compared according to visits received and number of visits required by the standard for visiting. Twenty, or 30 per

⁷These standards are recommended by the Maternity Center in New York City, and by most official and private organizations which give maternity nursing service.



Trachoma clinic in Ting Hsien, China



A Chinese village well

Y. (nick) and one of his principal aides

cent, of the 67 cases visited received the standard number of visits, and while it is not possible at this time to compare this with that of any other rural or urban health department, it is probably a very good showing. When considered in terms of the total problem, however, it means that only 20 out of 366 (births) or 5.5 per cent of the total maternity cases received the number of prenatal visits set up as their standard for ideal performance. The standard is not too high when considering the individual case, but under the present set-up, it probably cannot be used for measuring the work or accomplishment in a county health department carrying on a generalized public health nursing program.

In addition to the numerical measurement of visits, the objectives of prenatal visiting are attainable, other things being equal, in proportion to the time at which the first visit was made. The opportunity began before the fifth month in only 6, or 8 per cent, of the cases. Four of these 6 were in the group discontinued for reasons given above. The other

Table 5. A comparison of the number of prenatal visits made by the public health nurse with the generally recommended standard for minimum number of visits, grouped according to the month of pregnancy the cases were first visited.

MONTH OF PREGNANCY FIRST VISITED	RECOMMENDED STANDARD FOR MINIMUM NO. OF VISITS	NO. OF CASES FIRST VISITED IN EACH MONTH	NO. OF CASES HAVING STANDARD NO. OF VISITS
<i>Total</i>	—	67	20
Before 5th month	8	2	1
5th month	7	6	0
6th month	6	9	2
7th month	5	17	2
8th month	4	18	4
1st 2 wks. of 9th mo.	2	7	3
Last 2 wks. of 9th mo.	1	8	8

2 had adequate supervision. One had five visits, but followed all advice given, visited her physician regularly, and went to the hospital for delivery; the other had ten visits during which time the nurse gave regular instruction and advice which was definitely followed, made all preparations for and assisted the physician at delivery, and gave postpartum bedside care. Contrasted with this case are the 8 patients who were not known until the last two weeks of pregnancy and were visited once. In two of these instances the visit was recorded as entirely unsatisfactory, because children were present and the mother was hesitant to talk to the nurse. Seventy-two per cent of the cases were not known to the nurse until the last three months of pregnancy.

Keeping in mind the wide variations in opportunity for service, a limited picture can be drawn of what occurred at the time of nurses' prenatal visits, by listing the frequency with which definite services were recorded by the nurses.

<i>Service</i>	<i>Number of Mothers</i>
Urged registration with physician	11
Urged return to physician	49
Advised about diet, rest, and hygiene	74
Advised about supplies for delivery	60
Gave prenatal literature	68
Taught making of delivery supplies	12
Took temperature and pulse	8
Demonstrated an abdominal binder	3
Taught exercise to correct varicose veins	2
Collected specimens of urine for laboratory examination	2
Gave bedside care because of special illness	2

Delivery and Postpartum Nursing Service

The educational and preventive program of the County Health Department, and the necessary limitation upon the

POSTPARTUM PERIOD FIRST VISITED	CASES FIRST VISITED IN EACH PERIOD	WOMEN RECEIVING STATED NUMBER OF VISITS		
		1	2-4	5-7+
Total	80	17	40	23
1st day	38	1	16	21
2-7 days	9	1	6	2
2-3 weeks	14	5	9	—
4-6 weeks	5	1	4	—
After 6 weeks	14	9	5	—

Table 6. Distribution of 273 home visits by public health nurses to 80 postpartum cases who were delivered in their homes according to the postpartum period first visited.

number of nurses on the staff, make it impracticable to attempt a complete delivery and bedside nursing service for all who need it. When other arrangements cannot be made, however, the nurses do assist the physician at the time of delivery, and in our sample the public health nurse was present at the home delivery of 23 maternity cases. She visited 19 of these in the prenatal period, and had the opportunity to advise about preparations, but for the other four she was not called until the patient was in labor.

Ninety maternity cases received a total of 291 postpartum visits from the nurses, or an average of three visits per case. A local standard of seven has been set for the number of postpartum visits, but this standard relates particularly to bedside care. The time, or postpartum day or week, the nurse makes her first visit not only influences the probable number of visits but is a measure of the adequacy of the postpartum nursing supervision. This time grouping is used in Table 6, which shows the distribution of the postpartum visits to cases delivered in their homes. It is particularly significant that 38 of the 80 cases, or 48 per cent, were visited on the first post-

partum day and thirty of these were given bedside care at this time.

The amount of postpartum bedside care is represented in Table 7. In 16, or 45 per cent, of the cases the nurse gave bedside care once in order to teach someone in the household how to care for the patient, illustrating "that the rural nurse plays a most important role in supervising the home care rendered by family and neighbors."⁸

Table 7. Distribution of maternity cases according to frequency of bedside-care visits by public health nurse.

Frequency of Visits	Mothers	
	Number	Per Cent
One or more	35	99.9
One	16	45.7
2-3	9	25.7
4-6	7	20.0
7+	3	8.5

She gave bedside care on two or three return visits to 9, or 26 per cent, of the cases, but for the others she was obliged to take more responsibility for all the bedside care given and in three cases made seven or more visits.

The other 53 postpartum cases received visits that might be classified as "educational only," but advice about diet, rest, and hygiene are presumably included in the content of all visits. The nurse invariably urged the mother to visit the physician for a postpartum examination, but as far as she knew only 14 mothers followed this advice.

There were no maternal deaths among the maternity cases visited by the public health nurses, and the success of their activities as well as the attitude of the mothers toward health supervision is reflected on the nurses' records which report:

⁸ Winslow, C.-E. A., Dr. P. H. "Health on the Farm and in the Village." p. 183. The Macmillan Company, New York.

"Patient cooperative—advice followed" for 79 cases; "advice partially followed" for 16 cases; "patient friendly, but advice not followed" for 15 cases; and "patient uncooperative" for 10 cases.

SUMMARY

Since the generalized public health nurse plays an important role in carrying out an official health department program of maternal welfare, there is need of more definite information about the extent to which she can discharge her responsibility in this phase of the work.

Some of the facts about the actual experience for a year of four staff nurses of the Cattaraugus County Department of Health, are summarized as follows:

Based on a total of 366 births reported to these nurses, 31 per cent of the cases had public health nursing service at some time in the maternity period. Twenty-four per cent of the total pregnancies were visited in the prenatal period. Seven per cent had delivery nursing service, and 25 per cent received some postpartum visits.

Fifty per cent of the maternity cases were found through the nurses' professional contact with the people. That more emphasis is needed on finding cases before they are registered with their physicians is evidenced by the fact that 79 per cent of the prenatal cases had registered with physicians previous to the nurses' first visit, and 36 per cent of the cases did not register with the physician until the last month of pregnancy. A more intensive case-finding program might include routine visits at frequent intervals to selected families, the basis of selection being such factors as age of mother, frequency of past pregnancies, economic ability to provide for prenatal service, and the like.

There was no evidence, from the sample studied, of the

difference in quantity or quality of visits to cases in different economic groups or to mothers living in villages as compared to those living on isolated farms on unimproved dirt roads.

The prenatal cases received an average of three nursing visits per case, 33 per cent of the cases receiving one prenatal visit and an additional 50 per cent four visits or less.

Since the time of the first visit indicates the opportunity afforded the nurse to carry out the generally accepted standard for visiting the following findings are of interest: 8 per cent were known to the nurse before the fifth month; 20 per cent in the fifth and sixth months; and 72 per cent in the last three months of pregnancy. Thirty per cent of all the prenatal cases visited received the generally recommended standard number of visits.

Delivery nursing service was given to 23, or 7 per cent of the total maternity cases in the area.

The postpartum cases received an average of three visits per case, 48 per cent of the cases delivered in their homes having been visited on the first postpartum day.

For 45 per cent of the cases visited, the nurse gave bedside care once in order to teach someone in the household how to care for the patient.

Instruction and advice about diet, rest, and hygiene are included in all postpartum visits, and 60 per cent of the postpartum cases received visits which might be classed as "educational only."