GENERAL PRACTICE OBSERVED

Visiting Nurse—Analysis of One Year's Work

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In recent years several papers have been written about the role of the nurse in general practice (Marsh, 1967; Hasler *et al.*, 1968; Royal College of General Practitioners, 1968). Interest in the subject has been stimulated in part by the increasing number of local authority district nurses who have been attached to general practitioners. Smith and Mottram (1967) described how their nurse visited all patients who asked for a call and selected those she considered that the doctor needed to see; she appeared to be working, firstly, as a diagnostician of the gravity of illness, and, secondly, as a therapist of those illnesses for which she thought consultation by a doctor was not necessary. The patients appeared to accept and be satisfied with that method of medical care.

Nevertheless the medical climate of opinion in our practice did not favour such a radical innovation. There did appear to be ample scope, however, for a nurse to be employed to visit patients at home, principally as a follow-up to the doctors' visits. The possibility of employing a nurse for such visits was mentioned by me (Marsh, 1968) when I showed the very great reduction in visiting in the years 1960-7. I suggested a visiting nurse as being one method of decreasing this still further. This paper examines the role of such a nurse, the amount and type of work done by her, and the overall effect on the visiting rate in this group practice in an industrial north-east town.

When this scheme was begun there were no local authority attachments in the area, so an advertisement was put in the local newspaper for an experienced State-registered nurse with her own car. This elicited six replies. It was decided to employ a nurse who had had a very broad experience not only as an E.N.T. ward sister but also as a nurse with the local authority working in child welfare clinics and school clinics. That she herself was a mother was not unimportant. It had been a preconceived idea of the doctors in the practice that a young recently qualified staff nurse would not be suitable for this type of work, and that idea has been fortified as the scheme has progressed.

Nurse's Work-load

The numbers of visits carried out by me between the years 1960 and 1968 are shown in the Chart. The last column, which is for the year 1968, shows that the visiting work-load has continued to decline, but in terms of personal work-load has fallen even more because of the number of visits made by the nurse. Without her I would have paid 2,484 visits. In fact, she did 387 of these visits for me. It must be borne in mind, when looking at these falling visiting figures, that my list has risen from 3,250 to 3,658 during the eight years.

The extent to which individual doctors in the group have used the visiting nurse (Table I) has varied widely. The two senior partners have found it much more difficult to make use of her services than have the more junior partners. This is probably to be expected, since older doctors accustomed to working alone find it more difficult to utilize new members of the team than do junior colleagues. Though the number of visits made by the nurse amounted to 1,285 in the year under study, if in fact each member of the group had used her at the same rate as an average of the three younger members,

then the number of visits would have been 1,915. Consequently, instead of visiting for eight hours a week, as she actually did, she would have needed to visit for 12 hours a week. For practices considering employment of a visiting nurse this can be evaluated as just under one hour a week per 1,000 patients.)

Total visits and list size 1960-8. Shaded area shows visiting-nurse component.

TABLE I.—No. of Times Use was Made of Visiting Nurse by Individual Partners

Dr. A.		Dr. B.		Dr. C.		Dr. D.		Dr. E.		All Partners	
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
55	4	81	6	387	30	285	22	477	37	1,285	100

Analysis of Nurse's Work

The number and type of visits carried out by the nurse during a period of one year is shown in Table II. It will be seen that new calls constituted only 4% of the work she carried out. This, of course, was in accord with the policy of the practice of not using the visiting nurse as a diagnostician. Nevertheless, as time passed and confidence in the nurse has grown, she has been increasingly accepted in the community, and it has been possible to ask her to see carefully selected new cases. It should surely be easy in the context of British general practice, where families know their doctor well and he knows them, to delegate some new visits to experienced nurses. Certainly as a result of careful inquiry by trained and experienced receptionists into the reasons given for the requested call it becomes apparent that often a nurse could well carry it out. It is interesting to note that in the first six months of the year she had made only 13 new calls, whereas in the second six months she had done 38.

It has been customary in this practice, as indeed in many others, for patients returning from hospital to ask the doctor to call. Often this call follows comparatively minor operations

when the patient, though perhaps not immediately ambulant outside the house, is at least mobile within it. It is only a question of time before he is able to walk outside, travel on a bus, drive a car, and so on. Accordingly all ex-hospital calls were assessed by the doctor, and those which were thought to follow comparatively minor inpatient procedures—for example, dilatation and curettage, herniorrhaphy, etc.—the nurse visited. Five per cent. of her work was for this type of call.

TABLE II.—*Analysis of Nurse Visits*

New Calls		Ex-hospital Calls		Follow-up of Acute Illness				Routine Chronic Visits		Total	
				Total		Infectious Diseases					
No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
51	4	66	5	448	35	95	7	720	56	1,285	100

Thirty-five per cent. of the nurse's work was for the follow-up of acute illness previously seen at home by the doctor. She acted effectively as an informed means of communication between the patient and the doctor. She was able to ensure that treatment was being taken according to instructions. She was able, too, to watch the recovery from illnesses such as prostrating influenza, acute tonsillitis, infective hepatitis, and so on. She was a reassurance to inexperienced or anxious parents. Whenever progress was not maintained as well as she expected or she had been led to believe it would by the doctor, then she passed this information to him. Her responsibilities can be likened to those of a ward sister in a hospital reporting patients' progress to the doctors.

One-fifth of the follow-up of acute illness was for infectious diseases, and this to a large extent was measles. Being a former E.N.T. ward sister, she was able to inspect throats and ear-drums competently.

It was in the field of routine chronic visiting, however, that the nurse played her chief part. Over half of her work was of this nature. One of the most exacting and time-consuming tasks in general practice is the routine domiciliary visiting of the chronic sick and the elderly sick. Often the visits have little clinical value from a diagnostic or therapeutic point of view; but from the point of view of the patient's morale they probably do far more good than doctors may appreciate. Nevertheless, with the right approach and the right personality, together with a certain amount of clinical knowledge, the visiting nurse can be entrusted with these visits. Accordingly nurse and doctor can alternate the routine visits, or sometimes the nurse can carry out two visits, the doctor calling on the third occasion. Paradoxically, by this lightening of his load the doctor is able, and more willing, to increase the number of chronic domiciliary cases he visits. Again the nurse's main role is as a means of informed communication between patient and doctor. No chronically ill patients have been completely delegated to the nurse. Some patients are now visited perhaps only three or four times a year by the doctor, but this contrasts considerably with his previous 12 or so visits a year.

When the nurse's work is analysed by age groups of patients (Table III) it can be seen that though the age/sex register of the practice shows that only 12% of the patients are over 65 years of age, in fact 58% of the nurse's work was done for that age group.

TABLE III.—*Nurse Visiting by Age Groups*

	Age Group				Total
	-1	-12	-65	65 +	
Percentage of practice No. (%) of visits ..	1 34 (3)	87 175 (14)	317 (25)	12 759 (58)	100 1,285 (100)

The number of procedures which the nurse carried out on her visits is given in Table IV. Diagnostic venepunctures formed the great bulk of this work, and here much doctor-time was saved. To be able to ask a nurse to take blood at a suitable time during the day for a transaminase estimation in a possible coronary thrombosis treated by the doctor during the previous night is indeed a boon. At the same time a general appraisal of the patient's condition, including apical rate, blood pressure, and accurate description of symptoms a few hours after the episode, is of great help. It goes without saying that the nurse could also do an E.C.G. on such patients.

TABLE IV.—*Procedures Carried Out by Visiting Nurse*

No. Doctor had to See Same Day	No. Doctor had to See Next Day	No. of Final Calls in Episode of Illness	No. of Venepunctures	Ears Syringed	Other Pathological Procedures	Total Calls Done
5	56	210	87	21	17	1,285

Clinical Accuracy

Out of 1,285 calls carried out by the nurse, on only five occasions did she feel it necessary for the doctor to see the patient that same day (Table IV). On 56 occasions she felt that the doctor should call the next day. These small figures indicate to some extent the clinical accuracy of the doctor's assessment of the situation. They indicate, too, that the nurse was not being asked to undertake work outside her competence. Sixteen per cent. of the calls which she made were in fact the final calls in that particular episode of illness.

Results of Less Visiting

With a small visiting-list the doctor has time to provide a higher standard of care when he does visit. The consultation at home, if it is to be followed up by the nurse (and, more importantly, when it is not to be followed up at all), is a longer one, and time is spent giving some indication of the anticipated course of the illness and guidance regarding when doctor-recall may be necessary. When revisits to the elderly and chronic sick are spaced at longer intervals they become much more rewarding, and the clinical problems can be properly and interestingly reassessed.

During the years in which my total visiting rate fell the number of patients visited more than once on the same day rose (Table V). There are two main reasons for this. Firstly, that more intensive care is being given to the more seriously ill patients, and, secondly, that probably more ill patients are being kept at home and are not going into hospital because I have more time to pay double or treble visits. This double and treble care includes cases attended during labour, and the woman in labour is certainly attended more often now than she was in the earlier years.

TABLE V.—*Number of Patients Seen Twice or More in One Day, 1962-8*

Year	1962	1963	1964	1965	1966	1967	1968
No. of patients	24	33	38	32	47	41	45

Acceptability by the Patient

There have been no complaints of a clinical nature by the patients. Occasionally the inability of the nurse to write and sign a prescription or a certificate has caused minor irritation. Very occasionally the elderly chronic sick have intimated, particularly to the older doctors in the practice, that they preferred the regular monthly visit to be made by their family physician. There is no doubt that schemes of this nature would be,

facilitated if the public were educated to believe that not all medical care needs to be given by doctors. It was a fairly common finding that patients who expressed dissatisfaction with the visiting nurse were those who had in the past also expressed dissatisfaction with the visiting doctor.

The Future

In April 1968 the county borough of Teesside came into being when several smaller boroughs were fused. Attachment schemes were then adopted as local authority policy and towards the end of 1968 were being implemented.

Up to that time it had been practice policy that where the local authority district nurse was already visiting the home, then the visiting nurse was not used. In this way she did not tread on the toes of the local authority nurse, though in fact the job she was doing was quite different and one with which the local authority nurse was unfamiliar. Nevertheless, when attachment schemes came into operation the visiting nurse, trained by the practice, was taken over by the local authority, since her work was accepted by it as being part of the "new-style" district nurse duties. Undoubtedly the other attachments are affecting her work. The follow-up of illness detected during pregnancy and the puerperium has now been passed to the "attached" midwife. For example, it is she who follows up cases of pyelitis of pregnancy being treated at home. Similarly, the health visitor now follows up some of the acute illnesses in childhood; this brings her into the family when they are troubled, and at this time they are not only appreciative

of her clinical skill in relation to the illness but probably also more willing to accept her health counselling then and later. At times the health visitor visits elderly chronic sick when they have some particular problem for which special knowledge of welfare facilities is needed. Patients suffering from psychiatric illness are visited at home by the attached mental welfare officer rather than the nurse. Lastly, of course, the traditional district nurse doing her "normal" nursing duties has been acquainted with and now undertakes the newer type of district "nursing" described in this paper.

How the division of labour takes place is not of great importance, and at this stage there is ample room for experiment not only in this practice but in others also. The doctor's prime role is to co-ordinate the activities of his team and reserve this expertise for when it is really needed.

Without the skill and understanding of Mrs. Irene Mole, S.R.N., this experiment in medical care would not have achieved such undoubted success. Drs. K. G. Wilmot, W. C. Moonie, A. C. MacDonald, R. G. P. Hall, and I myself are extremely grateful to her.

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NEW APPLIANCES

Stereotactic Recording from the Spinal Cord of Man

Mr. EDWARD HITCHCOCK and Mr. MARCIAL LEWIN, Western General Hospital and Royal Infirmary, Edinburgh, write: Since the advent of stereotactic surgery human thalamic activity has been extensively investigated and recorded (Guiot *et al.*, 1962; Gaze *et al.*, 1964; and many others). Such recordings, obtained during operations for the relief of extrapyramidal disorders and to a lesser extent during pain-relieving procedures, have been possible only through the development of stereotactic instrumentation, permitting rigid electrode fixation and thus facilitating recording procedures.

In contrast to the enormous amount of investigation on intracerebral recordings, comparatively little appears to have been published on more caudal regions in man.

In 1920 Clarke devised a stereotactic instrument to investigate cord function in animals, but until recently little attention had been paid to the possibilities of spinal stereotaxis in man.

Electrophysiological investigations of spinal cord function in man have been hampered by the absence of any stereotactic device permitting accurate target-siting and lesion-making.

Rand *et al.* (1965) used a conventional stereotactic apparatus to place a cryoprobe

alongside the cord, and Gildenberg *et al.* (1967) suggested improvements in the procedure of percutaneous cordotomy by simple radiographic aiming techniques. Puletti and Blomquist (1967) described a microelectrode holder permitting observation of single neurone potentials in the human spinal cord exposed to laminectomy, the electrode being placed under direct vision. They illustrated their paper with two examples.

The recent development of a stereotactic apparatus specially designed for percutaneous spinal cord stereotaxy (Hitchcock, 1969) has permitted electrophysiological investigations which would appear to have potential in basic investigations of cord function and be a practical aid in determining target sites for a variety of surgical lesions.

INSTRUMENT AND METHODS

The stereotactic instrument is a hollow square of aluminium alloy rigidly fixed to the skull by three-point fixation (Fig. 1). The target is related to measurements on two bars, one vertical and one horizontal, and the electrode length and laterality are thereby determined. The electrode is inserted towards

the target site by a direct or oblique track within a rigid steel tube (Fig. 2). The electrode is a 22-gauge stainless steel tube 30 cm. long, completely insulated (Insulex) and fitting snugly within a shorter outer shell. A diamel-coated gold wire 0.009 in. (0.23 mm.) in diameter passes through the inner tube and protrudes 1.5 mm., the tip being bared to 1 mm. The upper end of the gold wire extends beyond the tube and is connected to a preamplifier. Activity is then monitored with an audiometer and a Tektronix 502 oscilloscope.

RESULTS

Recordings were made in three patients treated for intractable pain by tractotomy at the first cervical segment.

In the first patient, apart from non-specific activity, increases in electrical activity were obtained from the cuneate fasciculus by movements of the ipsilateral wrist, and from the spinal trigeminal nucleus by tactile stimulation of the ipsilateral face.

In the second patient the electrode track traversed the left gracile fasciculus, increased electrical activity being obtained by move-