A DIAGNOSTIC CONSIDERATION OF LATE CALLS IN AN URBAN PRACTICE*

ALBERT JACOB, M.D.
Dundee

Most general practitioners in the Health Service are aware that emergency services are used in excess of strict necessity. Although this phenomenon is frequently discussed, there is a dearth of accurate information of the subject. The most comprehensive investigation of emergency work in general practice was made by the South-east of Scotland Faculty of the College of General Practitioners (1957). The result of this investigation was that only 33 per cent of emergencies could be considered serious.

Other investigations into the narrower question of night calls have been made. (Brotherston *et al.*, 1959; Clyne, 1962). In these, the question of urgency was insufficiently discussed.

It is surprising that this problem has received so little attention. It is of medicosocial importance since unnecessary emergency work leads to resentment and interferes with the doctor-patient relationship. The investigation which forms the subject matter of the following two articles† was undertaken to add to the existing information on the subject.

Definition of a Late Call

Although emergency calls may occur at any time of the day they do not present a problem in this practice before twelve noon. This is because both partners share the morning round and all such requests can be rapidly dealt with. Therefore, there is no necessity for the person receiving the call to distinguish between urgent and non-urgent conditions. After midday, that is after the completion of the visiting round, requests for domiciliary visits require special

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attention. If the condition of the patient is not considered urgent the caller is warned that the visit may be postponed until the following day. If the messenger indicates that this is not satisfactory the request is treated as urgent until proved otherwise. Patients are aware that requests for domiciliary visits should be made before 10 a.m. and so there are good grounds for considering late requests as requests for emergency attention. With this in mind the following definition for a late call was constructed:

A late call is a home visit, following a request made after 12 *noon, for a visit to be made on the same day.*

The first part of the analysis was to determine what proportion of such calls were to genuine emergency conditions.

Description of the Practice

The practice is a working class practice in an industrial city. The average number of patients in 1959, the first year of the investigation, was 3,656. In this year the total work load was 21,762 items of service; 5,686 of these were domiciliary visits; 2,277 were new routine morning visits; 2,759 were repeat visits for follow up purposes or continuous care, and 650 were late calls as defined above. There were 16,076 surgery consultations. Two partners share the work, but most of the late calls are done by the author.

Work load studies have been reported from other practices. (Logan, 1953; Backett *et al.*, 1954; Taylor, 1955; Brotherston and Chave, 1956; Logan and Cushion, 1958). The effective range of the work load in these studies is 2.5 to 8.7 items of service a year for each patient on a list. The average is about four items and so this practice with a rate of 5.9 items is busier than most, although not excessively so. Similarly the night call rate in this practice is higher than other practices.

Systematic Diagnosis of Late Calls

All late calls seen by the author in 1959 were recorded. The diagnosis in each case was made according to one of the twenty groups of the classification of the College of General Practitioners (College of General Practitioners, 1959). The number of late calls in each diagnostic groups is in the first column of table I.

For comparison 558 routine items of service were selected at random from the practice records for 1959. The number in each diagnostic group is in the second column of table I. Two disease groups are more likely to occasion late calls than routine items;

respiratory, and digestive, (respiratory $P<0.001$; digestive $0.02<P<0.05$). Three disease groups are more likely to occasion routine items; general, skin and cellular tissue, and locomotor system (general $0.02<P<0.05$, skin and cellular tissue $P<0.001$; locomotor system $P<0.001$). The meaning of those findings will be discussed below.

Classification of Late Calls according to Severity and Urgency

Since the aim of this part of the investigation was to determine the proportion of necessary late calls, a classification with which to assess their urgency had to be devised. There was no comprehensive classification for this and I had to work from first principles. Guidance was obtained from the report of the South-east Scotland Faculty of the College of General Practitioners quoted above.

TABLE I

COMPARISON BETWEEN NUMBER OF LATE CALLS AND ROUTINE ITEMS OF SERVICE IN EACH DIAGNOSTIC GROUP.

Diagnostic group	*Number of late calls*	*Number of routine items*	*Total*
Communicable disease ..	19	13	32
Neoplasms	21	13	34
General disease	16	31	47
Blood disease	2	4	6
Mental disease	24	15	39
Nervous system and special senses	37	35	72
Circulatory system	33	37	70
Respiratory system	192	111	303
Digestive system	79	54	133
Genito-urinary system ..	26	22	48
Skin and cellular tissue ..	26	74	100
Locomotor system	23	58	81
Congenital disease	0	1	1
Ill defined	29	33	62
Accidents	29	42	71
Prophylactic	1	9	10
Administrative	1	6	7
Total	558	558	1,116

(South-east Scotland Faculty of the College of General Practitioners, 1957). A method for distinguishing serious from trivial disease was also helpful. (Backett, Shaw, and Evans, 1953).

From first principles there are three types of late calls: Emergencies, —conditions which are serious and require urgent attention; urgencies,—conditions which are not in themselves urgent but which present dramatic symptoms and should be relieved by first aid measures on the advice of a physician; and non-urgent conditions,— conditions which are neither serious, dramatic, or cause unusual symptoms. This last group is formed by the unnecessary late calls, when judged solely by medical standards.

The following criteria were adopted to place the late calls into these categories.

Emergencies.

1. Any disease in which the immediate prognosis is usually serious, for instance cerebral thrombosis, coronary thrombosis, or myocardial infarction, perforation of abdominal viscus, or peritonitis.

2. Any disease in which the prognosis may be altered for the worse if the patient does not receive rapid treatment, e.g. pneumonia and allied conditions, acute appendicitis, acute retention of urine, renal colic, and diseases which may be confused with acute appendicitis or other surgical acute abdominal conditions.

3. In the absence of a positive diagnosis or in a disease in which the severity of symptoms may vary widely between patients, the following were classified as emergencies.

(*a*) Breathlessness severe enough to interfere with speech.
(*b*) Haemoptysis or haematemesis.

4. Fractures.
5. Phenomena associated with impending death.
6. Malignant disease.

Urgencies.

1. A disease generally accepted as causing severe pain without necessarily threatening the future health of the patient, e.g. acute lumbago syndrome, prolapsed haemorrhoids, otitis media.

2. Vomiting on more than six occasions in the twelve hour period before the request was made.

3. Pyrexia of 103°F. or over.

Non-urgent late calls.

1. The diagnosis had not to be one of those specifically mentioned above.

2. The disease had to be one in which the immediate prognosis

would not usually be altered for the worse if the patient did not receive rapid treatment.

Malignancies were classified as emergencies since most late calls to them are to sudden changes in established conditions.

The distribution of the late calls in these three categories will be seen from table II.

There is a significant excess of emergencies for disease of the nervous, circulatory, and genito-urinary system. (Nervous, $0.02<P<0.05$; circulatory, $P<0.001$; genito-urinary, $0.001<P<0.01$).

Further analysis showed that the cardiovascular and genito-urinary conditions seen at late calls were similar to those seen at routine services and so the excess of emergencies to these conditions is in part due to definition. The excess of nervous emergencies was mainly the result of acute cerebrovascular lesions or status epilepticus and not an artifact. The excess of urgencies of the nervous system ($P<0.001$) is explained by the number of cases of acute otitis media seen as late calls.

TABLE II

DISTRIBUTION OF LATE CALLS IN THE THREE CATEGORIES OF URGENCY.

Systematic diagnosis	*Emergencies*	*Urgencies*	*Non-urgent*	*Total*
Communicable disease	1	—	18	19
Neoplasms	21	—	—	21
General disease ..	5	3	8	16
Blood disease	—	—	2	2
Mental disease ..	—	—	24	24
Nervous system ..	15	12	10	37
Circulatory system ..	28	1	4	33
Respiratory system ..	23	8	161	192
Digestive system ..	19	8	52	79
Genito-urinary system	14	3	9	26
Skin and cellular tissue	—	1	25	26
Locomotor system ..	—	—	23	23
Ill defined	—	3	26	29
Accidents	3	9	17	29
Prophylactic	—	—	1	1
Administrative ..	—	—	1	1
Total	129	48	381	558

The number of emergencies for disease of the respiratory system is less than expected. ($0.001<P<0.01$).

Only 31 per cent of all late calls were classified as emergencies or

urgencies, a result which is in agreement with the results of the two investigations quoted at the beginning of this subsection.

Discussion

The key to the interpretation of these results lies in the recognition that general diseases, diseases of the skin and cellular tissue, and diseases of the locomotor system are more likely to occasion routine items than late calls (table I). This is expected since they are usually chronic conditions and do not have a sudden onset. With these exceptions the frequency with which the disease groups occur in the two columns of table I are similar. The high number of conditions of the respiratory and gastro-intestinal systems in the late call column is compensatory for the low numbers for general, skin, and locomotor diseases.

Since figures for the whole work of other practices have been recorded the results of this part of the survey were compared with them (Pemberton, 1949; Fry, 1952; Logan, 1953; Taylor, 1955). The general findings of the investigation quoted was that the three most common sources of work in general practice are disease of the respiratory system, disease of the gastro-intestinal tract, and disease of the cardiovascular system, in order of frequency, although the frequency of disease of the respiratory tract is variable. The conclusion drawn was that the conditions seen at late calls in this practice are similar in incidence, diagnosis, and severity to the conditions seen as routine items in this practice, and as the whole work of other practices. The finding that only 31 per cent of the late calls were for emergencies or urgencies supports this deduction. An analysis of the conditions of the respiratory system also supported the conclusion. Of the late calls 136 were to cases of acute upper respiratory tract infection, including influenza, 20 were to cases of acute follicular tonsillitis, and 20 were to cases of pneumonia. These three conditions alone contribute almost a third of the total number of late calls.

Since a minority of late calls were explained by the severity of the disease, it was obvious that further work would have to be done in order to understand why the majority of late calls were for non-urgent conditions.

Summary

The late calls seen in 1959 were recorded and classified according to their systematic diagnosis and degree of urgency.

They were compared with the routine items of this and other

practices.

It was found that the late calls were similar to the routine items in relative incidence of conditions, systematic diagnosis, and severity.

It was concluded from those figures that the explanation for the occurrence of non-urgent late calls is not to be found in the disease itself.

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" OF YEAXING OR HICKET.

It chaunceth oftentymes that a child yeaxeth out of measure: wherfore it is expedient to make ye stomake eigre bafore it be fed, & not to replenish it with to muche at once, for this disease commonly procedeth of fulnes, for if it come of emptines, or of sharp humors in the mouth of the stomake, which is seldome sene: the cure is then very difficill and daungerous.

Remedye.

When it commeth of fulnesse that a childe yeaxeth incessauntly without measure and that by a log custome, it is good to make him vomit with a fether or by some other lighte meanes, y^{t} the matter whiche causeth y^{e} yeaxing, may issue & vncomber the stomake, y^{t} done, bryng it a slepe, and vse to annoynte the stomake with oyles of castor, spike, camomill, and dyll, or twoo or. iii. of them, joined together warme."

Thomas Phaire—*The Boke of Chyldren.* Foreword by Neale, A. V. and Wallis, Hugh, R. E. E. & S. Livingstone. 1957. Edin. and Lond.