

# A CASUALTY SURVEY\*

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The writer has, for many years, been interested in assessing the place of the general practitioner in the spectrum of medical care. The casualty departments of hospitals are one obvious point where much overlapping occurs between the work of the general practitioner and the hospital.

The Upjohn Fellowship enabled the writer to conduct a survey of the work at the casualty department of the General Hospital, Birmingham. This survey was concerned mainly with establishing what proportion of the patients attending the casualty department could have been cared for by their own practitioners and in this group of patients establishing why, in fact, this had not happened.

During this survey, from its inception to its completion, the writer had the most cordial reception and co-operation from the staff of the casualty department. An inevitable result of carrying out this survey was an automatic postgraduate course in minor surgery and the treatment of minor casualties. The casualty department is attached to a general hospital in the centre of Birmingham. The department has an "open front door" with no filtering or selection of new patients. All who come are registered and seen by a duly qualified practitioner. There are the usual follow-up and fracture clinics found in most such departments.

## Material and Methods

A pilot survey carried out at the busiest part of the week had indicated that one surveyor could keep pace with the flow of work if every third patient was included in the survey. The proforma was modified as a result of this pilot study after discussion with Mr Watson, director of the department. The main survey, therefore, was based on a sample. A printed card was issued for every third new patient attending the department during the survey. These patients were followed through the casualty department by the writer. The card was included with their notes and removed by the writer or filing clerks of the department after completion of treatment.

In an average week, 1,200 new patients attended the department and since some 300 cards were considered necessary to give sufficient information, recording was carried out for one full week. This week was, in fact, made up of sessions, varying from 4—12 hours at a time, spread over a period from September to November 1958, but

\*This survey was made possible by the grant of an Upjohn Travelling Fellowship.

chosen to cover each of the seven days of the week when added together.

The card included information about patient's age, sex, where the patient had come from and who had sent him, what he was suffering from and what treatment was given. An assessment was also made of whether this treatment could have been given by the general practitioner if the patient had consulted him.

This assessment was made under the following three headings: Nurse only—N; Practitioner—P; or Hospital—H.

I. *Nurse only.* This heading would include all services normally rendered by a nurse acting on her own in industry or in other branches of the medical services, such as schools or institutions where a nurse has the power to make decisions on her own.

- (a) Mild infections of the upper respiratory tract: common colds, coughs, sore throats, or huskiness with little or no constitutional upset or pyrexia.
- (b) Mild gastro-intestinal disturbances: simple nausea, vomiting and diarrhoea with little or no constitutional upset and no abdominal pain or pyrexia.
- (c) Minor traumatic lesions: bruises, simple sprains, cuts and abrasions. Cuts and abrasions which needed more than cleaning and dressings were excluded.
- (d) Minor inflammatory lesions of the skin: furuncles, styes, boils, insect bites and early paronychia infections.

II. *General Practitioner.* The services included in this section could include, as well as those in Section I: sprains, strains and fractures where no radiograph is deemed necessary, clean lacerations which require no more than two stitches and which would not normally require to be excised in general practice. This would exclude lacerations of eyelids and nose.

Incision and drainage of boils and abscesses including breast abscesses and ischiorectal abscesses where gas and oxygen anaesthesia would suffice.

III. *Hospital.* This section would include all other services rendered by the casualty department at present other than those specifically enumerated above. Where radiographs were taken, the reason was classed as mainly clinical or mainly legal.

The cards were hand sorted.

### Results

Table I shows the number of patients attending the casualty each day during the composite week of the survey. The ratio of two males to one female patient is the most outstanding feature.

TABLE I\*  
NUMBER OF PATIENTS BY DAYS. DAYS BEGIN AT 8.0 A.M.

|                                   | Sun. |    | Mon. |    | Tues. |    | Wed. |    | Thurs. |    | Fri. |    | Sat. |    | Totals         |
|-----------------------------------|------|----|------|----|-------|----|------|----|--------|----|------|----|------|----|----------------|
|                                   | M.   | F. | M.   | F. | M.    | F. | M.   | F. | M.     | F. | M.   | F. | M.   | F. |                |
|                                   | 29   | 16 | 41   | 16 | 41    | 28 | 42   | 20 | 33     | 25 | 39   | 12 | 51   | 17 | M-276<br>F-134 |
| All survey patients               | 45   |    | 57   |    | 69    |    | 62   |    | 58     |    | 51   |    | 58   |    | 410            |
| Total patients attending casualty | 135  |    | 171  |    | 207   |    | 186  |    | 174    |    | 153  |    | 174  |    | 1230           |

\*The figures in these tables are based on a 1 in 3 sample of all patients attending the casualty department for the first time with a new complaint during a nominal week in the period September to December 1958.

From table II it is obvious that the majority of the patients attending casualty suffer from conditions which could be treated by general practitioners if the patients had attended them. This assumes, of course, that the general practitioners would be prepared to carry out minor surgery of an elementary kind requiring the minimum of equipment and also to open abscesses under nitrous oxide or local anaesthesia.

TABLE II  
DISTRIBUTION OF PATIENTS BY SEVERITY OF ILLNESS

| Male |     |     | Female |    |     |
|------|-----|-----|--------|----|-----|
| N.   | P.  | H.  | N.     | P. | H.  |
| 2    | 225 | 49— | 6      | 95 | 33— |
| 227  |     | 49  | 101    |    | 33  |

*Key to Table II and subsequent tables*

N = Patients with conditions which could have been treated by a nurse without reference to a general practitioner.

P = Patients who could have been treated by writer in his own practice.

H = Patient's condition more serious than above.

The numbers who could have been dealt with by a nurse working on her own, eight of the total of 410, are so small that for the subsequent tables these patients have been included with the 320

who could have been treated by a general practitioner. These 328 patients are considered in more detail in the subsequent tables. It is interesting that the ratio of serious to trivial conditions, as measured by the H/P ratio is considerably higher for females than males. This trend is reversed at the general practitioner's surgery. In any group of patients the H/P ratio is a rough measure of the relative seriousness of their illnesses.

Patients attend the casualty department for many reasons and arrive via many agencies. Some of these are considered in table III.

TABLE III  
SOURCE OF PATIENTS

|   | <i>Males</i> |           | <i>Females</i> |           |
|---|--------------|-----------|----------------|-----------|
|   | <i>P.</i>    | <i>H.</i> | <i>P.</i>      | <i>H.</i> |
| Patient with letter from general practitioner—request for minor surgery (sebaceous cysts, etc.) .. .. .         | 11           | 0         | 2              | 2         |
| Patient with letter from general practitioner—treatment of sepsis mainly but including other conditions .. .. . | 28           | 14        | 34             | 9         |
| Patient from general practitioner for treatment but with no letter .. .. .                                      | 4            | 1         | 3              | 0         |
| Works medical officer .. .. .   | 2            | 2         | 0              | 0         |
| Industrial nurse .. .. .  | 20           | 5         | 5              | 1         |
| Patient admitted as result of 999 call ..   | 14           | 8         | 4              | 6         |
| Non-medical advice as cause for attendance  | 33           | 5         | 9              | 3         |
| Patient attending on own volition .. .. .   | 111          | 13        | 42             | 12        |
| Other .. .. .   | 4            | 1         | 2              | 0         |
| Total .. .. .   | 227          | 49        | 101            | 33        |

There were 108 patients who attended after a contact with their general practitioners. That only eight arrived without a letter speaks for itself.

The small number referred by the Works Medical Officer is, at first, surprising but this probably reflects the amount of work which these practitioners normally carry out themselves. This suggestion is supported by the large number, 31 patients compared with four, who were referred by nursing orderlies.

The 50 patients attending as a result of non-medical advice

probably includes a substantial proportion who would not have attended but for this advice.

The 178 patients, nearly half of the total, who attended of their own volition contains, not unexpectedly, a much higher proportion of trivial cases as disclosed by the H/P ratio, than in any other group.

The conditions from which these patients were suffering are considered in tables IV and V. Female patients attended as frequently as males for fractures and sepsis, and less often for all other conditions.

TABLE IV  
CONDITIONS FOR WHICH TREATMENT WAS SOUGHT

| <i>Diagnosis</i>              | <i>Males</i> |           | <i>Females</i> |           |     |
|-------------------------------|--------------|-----------|----------------|-----------|-----|
|                               | <i>P.</i>    | <i>H.</i> | <i>P.</i>      | <i>H.</i> |     |
| Contusion and sprains .. .. . | 67           | 12        | 29             | 7         |     |
| Lacerations .. .. .           | 49           | 16        | 11             | 4         |     |
| Fracture .. .. .              | 7            | 12        | 4              | 14        |     |
| Sepsis .. .. .                | 34           | 0         | 28             | 2         |     |
| Other .. .. .                 | 70           | 9         | 29             | 6         | 114 |
| Total .. .. .                 | 227          | 49        | 101            | 33        |     |

TABLE V  
OTHER DIAGNOSES

|  | <i>P.</i> | <i>H.</i> |
|--|-----------|-----------|
| Poisoning .. .. .  | 1         | 3         |
| Burns .. .. .  | 7         | 2         |
| Dental emergencies .. .. .   | 33        | 1         |
| Minor operations and removal of foreign bodies from natural orifices .. .. . | 16        | 1         |
| Surgical emergencies (conditions other than trauma) .. .. .                  | 9         | 1         |
| Medical conditions .. .. .   | 25        | 5         |
| Other diagnoses .. .. .  | 8         | 2         |

The 34 patients attending for dental treatment represent 8 per cent of the total. These attendances were confined almost entirely to the hours 7—12 p.m.

It has been said that patients attend casualty departments to avoid a long wait for an appointment at the outpatient department of the same hospital. This is undoubtedly true but must be a small problem since these cases are confined to the last three categories in table V, which contain some 20 patients who were admitted immediately to hospital out of the total of 50 in the three categories. The writer was of the opinion that this reason was responsible for an insignificant proportion of the attendances and included the handful of cases attending with sciatica and back pain of some duration.

Of the 328 patients classed as "P", 73 required advice only and a further 121 required in addition only simple dressings and/or injections, a total of 194 patients. There were a further 60 patients

TABLE VI  
TREATMENT GIVEN

|                               | <i>Male</i> |  |    |  | <i>Female</i> |   |    |   |
|-------------------------------|-------------|--|----|--|---------------|---|----|---|
|                               |             | <i>P.</i>                                      |    | <i>H.</i>  |               | <i>P.</i>   |    | <i>H.</i>   |
| Advice only                   | 52          |  | —  |  | 21            |   | 1  |   |
| Dressings and injections only | 81          |  | 3  |  | 40            |   | 3  |   |
| Radiography                   | 21          | 2 of these required theatre facilities         | 23 | 5 also required theatre facilities                         | 9             | 1 also required theatre facilities  | 11 | 2 required theatre facilities<br>7 required anaesthetic |
| Use of theatre facilities     | 40          |  | 17 | 1 also required an anaesthetic                             | 14            |   | 8  |   |
| Gas and oxygen                | 13          |  | 1  |  | 9             |   | 7  |   |
| Other anaesthetic             | 1           |  |    |  |               |   |    |   |
| Other treatment               | 19          | 15 dental emergencies<br>2 admitted<br>2 other | 5  | 1 dental emergency and 4 others all 5 admitted to hospital | 8             | 5 dental emergencies<br>1 F.B. in nose<br>1 admitted to hospital<br>1 other | 3  | 2 of these admitted to hospital                         |

with lacerations and 62 with sepsis, though table VI shows that only 76 of these 122 required theatre facilities and/or nitrous oxide anaesthesia. This group of 76 patients represents the proportion of the 328 at practitioner level who would be classed as "H" if it were accepted that practitioners should not insert stitches, give nitrous oxide or perform minor surgery. The H/P ratio of casualty attendances would then be increased from 82/328 to 159/251.

A further 30 patients were radiographed. This group contained a large proportion of cases where no fracture was demonstrated. In a proportion of the remaining patients the treatment of the lesions would have been the same whether fractures had been present or not.

The use of the radiography department is considered in more detail in tables VII and VIII. The assessment in table VII was

TABLE VII  
REASON FOR RADIOGRAPHY

|                         | <i>Male</i> |           | <i>Female</i> |           |
|-------------------------|-------------|-----------|---------------|-----------|
|                         | <i>P.</i>   | <i>H.</i> | <i>P.</i>     | <i>H.</i> |
| Clinical mainly .. .. . | 5           | 21        | 8             | 17        |
| Legal mainly .. .. .    | 18          | 8         | 2             | 3         |
| Total .. .. .           | 23          | 29        | 10            | 20        |

TABLE VIII  
ACCOUNT OF USE OF RADIOGRAPHY IN FRACTURES

|                        | <i>P.</i> | <i>H.</i> |
|------------------------|-----------|-----------|
| Clinical .. .. .       | —         | 22        |
| Legal .. .. .          | 1         | 3         |
| No radiography .. .. . | 10        | 1         |
| Total .. .. .          | 11        | 26        |

subjective and based on the writer's opinion of the clinical situation when the patients were first seen at the front door by the casualty officer.

Of the 82 patients who were radiographed, the writer believed that 31 were for reasons which can be classified as mainly legal. The number of radiographs carried out for legal reasons was far

fewer in females than males. The writer cannot suggest any reason for this.

Reference to table VIII indicates that only four of the 31 patients radiographed for mainly legal reasons had a fracture but in three of these, the lesion was classified as "H". None of the patients classed as "P" and radiographed for clinical reasons had in fact a fracture and only 22 of the 38 classified as "H". There were 11 patients with fractures who did not require or receive a radiograph. No doubt a few of the 31 patients radiographed for reasons classified as "legal" were radiographed because their general practitioner had suggested that this should be done.

That 11 female and only seven male patients were admitted to hospital from casualty confirms the belief that fewer women than men attend hospital for less serious conditions. This is also supported by the fact that 42 male patients were referred back to their own general practitioners compared with two female patients (Table IX).

TABLE IX  
DISPOSAL

|                                    | <i>Males</i> |           | <i>Females</i> |           |
|------------------------------------|--------------|-----------|----------------|-----------|
|                                    | <i>P.</i>    | <i>H.</i> | <i>P.</i>      | <i>H.</i> |
| Treatment casualty .. .. .         | 185          | 32        | 37             | 28        |
| Outpatient department .. .. .      | 4            | 3         | 1              | 1         |
| General practitioner .. .. .       | 30           | 12        | 1              | 1         |
| Industrial medical officer .. .. . | 0            | 0         | 1              | 0         |
| Admission .. .. .                  | 5            | 2         | 8              | 3         |
| Other .. .. .                      | 3            | 0         | 1              | 0         |
| Total .. .. .                      | 227          | 49        | 101            | 33        |

The admission to hospital of 13 patients classified as suffering from conditions which could have been treated by their practitioners calls for comment. These were patients who were suffering from some social bar to home care, or who were taken ill away from home and were brought more or less automatically to the casualty department. Most of them would undoubtedly have been cared for at home if their illnesses had started there or if they had been taken home immediately. It is not feasible to transfer a patient with a stroke or coronary thrombosis not requiring anticoagulant therapy from the casualty department back to their own home.



Each completed card carried the name of the patient's general practitioner. The 410 patients in the survey came from at least 202 different general practitioners. The use made of the casualty department by the patients of these practitioners is considered in table X and related to the number of patients from each practitioner.

TABLE X

GENERAL PRACTITIONERS OF THE PATIENTS SURVEYED—THOSE WITH THREE OR MORE PATIENTS

| <i>Number of patients per practitioner</i> | <i>Number of practitioners in group</i> | <i>Total number of patients in group</i> | <i>P.</i> | <i>H.</i> | <i>Without letter</i> | <i>With letter</i> |
|--|---|--|-----------|-----------|-----------------------|--------------------|
| 9  | 1                                       | 9  | 6         | 3         | 2                     | 0                  |
| 6  | 1                                       | 6  | 5         | 1         | 0                     | 2                  |
| 5  | 4                                       | 20                                       | 15        | 5         | 0                     | 5                  |
| 4  | 5                                       | 20                                       | 17        | 3         | 0                     | 3                  |
| 3  | 24                                      | 72                                       | 57        | 15        | 0                     | 19                 |
| No doctor                                  | .. ..                                   | .. ..                                    | 12        | 1         | —                     | —                  |
| Doctor's name not known                    | .. ..                                   | .. ..                                    | 37        | 14        | —                     | 7                  |
| All patients                               | .. ..                                   | .. ..                                    | 328       | 82        | 8                     | 100                |

The largest number of patients from one practitioner, nine, represent only 2.2 per cent of the total. Practitioners with three or more patients totalled 36 and were represented by 127 patients. The proportion of these patients who came after direct contact with their general practitioners, 31 out of 127, is the same as the proportion for all patients. The proportion of those bringing a doctor's letter, 29 out of 31, is also similar to the proportion for all patients. The main distinguishing feature of the 36 practitioners in this group was their proximity to the hospital.

The H/P ratio of patients with no doctor was lower than average. There were 51 cards on which the practitioner's name had not been entered or was indecipherable. A proportion of the patients admitted to having a general practitioner but could not remember his name.

### Discussion

The criteria used for allocation of patients to groups "P" or "H" roughly agree with the potential spheres of influences of general practitioners and hospitals practising under ideal conditions. The controversial features of the assessment used in this paper are

firstly the assumption that nitrous oxide anaesthesia can be given satisfactorily in general practice, and secondly that general practitioners have the facilities to perform minor surgery and suture simple lacerations.

Nitrous oxide anaesthesia can be used safely in general practice where a second practitioner is present to assist. This implies that the practitioners practice in the same premises and, therefore, are almost certainly in partnership. Where this is not so, organizational difficulties provide almost insuperable obstacles. There is, of course, a limited place for local anaesthesia in the treatment of sepsis.

The conduct of minor surgery, and, by inference, the treatment of lacerations implies easy access to certain facilities though these need not be so sophisticated or elaborate as those of the average casualty theatre. Sepsis as a complication of clean surgery is a minor problem in the general practitioner's premises, where there is not the concentration of staff and patients so necessary for the chain reactions of endemic sepsis and the emergence of organisms resistant to antibiotics. The instruments required are simple, and prepacked suture materials complete with needles are easily available.

It has been suggested that practitioners might be more prepared to carry out minor surgery if a fee were provided for these services. This is probably not true for a fee is already paid for the administration of nitrous oxide anaesthesia, a service rarely given in general practice.

It is probable that general practitioners are unlikely to provide these services if they have not done so from the beginning of their careers as general practitioners.

Even if the above services are considered beyond the resources of the general practitioner, then the ratio of patients who attended the casualty department and who could have been cared for by general practitioners is reduced from 328 out of 410 (80 per cent) to 251 out of 410 (61 per cent). This last group includes 30 patients who were radiographed, most of whom would have been treated by their own practitioners without a radiograph being taken.

There are many reasons why the patients in the group classed as "P" attend the casualty department rather than their own practitioner. Thirteen had no general practitioner, and in the group where the doctor's name was not known or not given, some may have had no general practitioner.

The fact that the door of the casualty department is always open, whereas the general practitioner has fixed consultation hours is probably the most important single factor. This reason is usually

expressed by the patient in the following terms: "The doctor was not available"; "There is no surgery until to-morrow"; "My own doctor is on holiday".

Undoubtedly also, there is a tradition in the area surrounding the casualty department that it is a substitute for the general practitioner or an alternative source of advice. This applies not only to those living there, but to the larger number who come into the area to work from other parts of the city. To the latter there is the added advantage that a consultation can be conducted in the firm's time and usually with no loss of pay.

Patients who suffer minor trauma in the neighbourhood tend to come to the casualty department rather than go home and attend their general practitioner.

A very small proportion of patients, and by inference their general practitioners, use the casualty department as a short cut to the outpatient's department of the same hospital. This is a small part of the problem and is confined to such conditions as back pain or sciatica of some duration where a further wait of some weeks can be anticipated if a formal appointment is made at the outpatient department.

### **Summary**

From this analysis it can be inferred that the casualty department provides services which could have been provided by general practitioners. The reasons for this have been elaborated in the discussion though it must be remembered that these findings refer only to one casualty department of many. The main feature of this particular department which determines the character of the service provided is undoubtedly the open front door with no system of selection or filtering.

### **Acknowledgments**

The writer acknowledges gratefully the help which he received from Mr A. B. Watson, director of the casualty department, Mr D. Phipps, chief casualty registration officer and the clerical and nursing staffs of the casualty department. The helpful comments of Dr R. J. F. H. Pinsent and Dr K. W. Cross are also gratefully acknowledged.

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