Analysis of referrals of mental health problems by general practitioners

PETER F M VERHAAK

SUMMARY. The majority of people in the community who have a psychiatric disorder will consult their general practitioner. Referrals from general practice to specialist services are, however, relatively rare. The filter between primary care and specialist care has been characterized by Goldberg and Huxley as the least permeable of the filters separating psychiatrists and other specialists from the populations they serve. These referrals form the subject of this study in the Netherlands. Using a large database of doctor–patient contacts, the proportion of mental health disorders resulting in a referral and the characteristics of the patient and general practitioner that are involved in such a referral have been determined. In addition, the type of mental health institution or specialist to which referrals were directed and the characteristics influencing this choice were examined. Only 6% of patients presenting with a psychiatric disorder during surgery hours were referred to specialist care. Younger patients, male patients and patients with severe diagnoses had a greater probability of being referred. The percentage of patients referred was higher in urban areas than in rural areas. Doctors with a limited task perception regarding mental treatment tended to refer more often. Although the diagnosis did have some relationship with the institutions to which patients were referred (psychotic conditions to psychiatric services and social/material problems to social workers), the most prevalent diagnoses (neurotic conditions and relationship problems) seemed to be more or less randomly distributed over the various possibilities. Preferences appeared to be related to the existence of regular meetings between general practitioners and specialists and a positive evaluation by general practitioners of the institution concerned.

Keywords: referral to psychiatric services; referral patterns; referral rates; referral reason; psychiatric disorders.

Introduction

MOST mental health problems come to the attention of the general practitioner; the majority are recognized and treated by the general practitioner, but a small minority are referred by the general practitioner to specialized mental health workers, be they social workers, psychotherapists or psychiatrists. These facts were established 25 years ago by Shepherd and colleagues, and have been confirmed by a number of studies since then.1,4 There are large variations between general practitioners in terms of referral rates to psychiatric services2 and their preferences concerning the discipline or institution to which they refer patients.6,7 The chances of being referred are not equal for all patients. Patients with serious psychiatric complaints,8,9 or with a diagnosis of psychosis12,18 are referred relatively often, in contrast to patients with neurotic complaints. Men are more likely to be referred than women, and younger patients (especially those aged 25–35 years) are more likely to be referred than elderly patients2,11-13 The characteristics of the general practitioner also play a part in the chances of referral. Older general practitioners, those practising in urban areas and those working in single-handed practices make more referrals to psychiatric services than younger doctors or those working in rural areas and in group practices.2,3 Robertson reports fewer psychiatric referrals and a preference for psychological and social work referrals among doctors who show an interest in psychotherapy.5 Creed and colleagues confirm these results: those general practitioners who write more detailed referral letters show a lower referral rate to psychiatric services and a higher referral rate to psychologists than those writing poorer letters.7 An important determinant in the mental health referral process could be the doctor–patient relationship. As Morgan pointed out, for only 40% of referred psychiatric patients did clinical indications only become a decisive factor in relation to the decision to refer: the ineffectiveness of previous treatment, often accompanied by a mutual loss of confidence, was often a general practitioner’s stated reason for referral.14 In an analysis of videotaped consultations in which there was a psychiatric referral, it was observed that it was not the type of complaint that determined whether a referral was proposed, but the feeling that all previous efforts had failed.6,7 Robertson reports that about 35% of referrals are made because the patient is not responding to the general practitioner’s treatment.5 Although a comprehensive picture of general practitioner referrals to mental health professionals appears to emerge from the literature, the picture is composed of fragmentary evidence. Most of the studies cited above are either outdated or based on relatively small samples. In most cases the studies are restricted to referrals to psychiatrists, while little information about the patterns of referrals from general practitioners to paramedical providers of mental health care exists. Wilkinson concludes in his review that the proportion of patients with mental health problems who are referred by general practitioners to psychiatrists and paramedical mental health workers is unknown.15

The aim of this study was, therefore, to provide a description of mental health referrals by Dutch general practitioners in order to answer the following questions: What proportion of mental health disorders result in a referral? What characteristics of the patient and general practitioners determine whether a mental health referral is made? To what type of mental health institution or specialist are referrals directed? What factors influence the type of institution or discipline to which the referral is made?

Method

Data were collected from April 1987 to April 1988 within the framework of the national survey of morbidity and interventions in general practice, conducted by the Netherlands Institute of Primary Health Care (NIVEL).16 A total of 103 Dutch general practices (161 general practitioners) were selected for this study and details of all contacts with patients over a period of three months were recorded by the general practitioners. The three month recording periods were distributed over the whole year to exclude seasonal effects. Data collected included the reason for the patient’s visit, the diagnosis, the treatment and whether or not
the patient was referred. In addition, the 161 participating gener-
al practitioners completed an extensive questionnaire, which
included questions about perception of tasks regarding mental
health care, performance of tasks, opinions about the possible
psychosocial nature of illness, and the mental health care ser-
ves in their region (social work, ambulatory mental health care
and psychiatric services).

The participating practices were a randomly selected non-pro-
portionally stratified sample from the population of all Dutch
general practices (4755 practices, 6288 general practitioners in
1988). The sample was stratified to include a balance of practices
in all regions of the Netherlands, and of rural and urban prac-
tices. Group practices in the Netherlands often have an undivided
practice list. As a result, colleagues of a selected general practi-
tioner in such a practice were also asked to participate and this
procedure resulted in an overrepresentation of general practition-
ers from group practices and health centres, of general practitio-
ers aged less than 40 years and of women general practitioners.

However, the practice population (335,000 patients) can be con-
sidered to be representative of the Dutch population.

Dependent variables

The diagnosis made by the general practitioner during normal
surgery consultations was coded using the International classifi-
cation for primary care (ICPC). Those diagnoses coded within
chapter 'P' (Psychological) or 'Z' (Social) are considered here.
As there are about 50 difference symptoms and diagnoses within
each chapter, these have been clustered in six larger groups:16
neurotic disorders (for example, depression, anxiety, phobia,
mental strain); psychotic disorders; other symptoms within ICPC
chapter 'P' (for example, addiction); other diagnoses within
ICPC chapter 'P' (for example, dementia); ICPC chapter 'Z',
relationship problems; ICPC chapter 'Z', material and social
problems (for example, housing). The diagnosis is a characteris-
tic of the episode of illness which might cover only one visit to
the general practitioner, but which might cover many visits. It is
a characteristic of general practice, and of psychological prob-
lems presented in general practice in particular, that many diag-
noses remain at symptom level.18

Referrals considered relevant to this study were referrals to
hospital psychiatrists, psychiatric outpatient clinics, private psy-
chiatrists, mental health hospitals, regional institutions for ambu-
latory mental health care, institutions for alcohol and drug prob-
lems, private psychologists and social workers. In the Dutch
health care system, a referral from a general practitioner is
mandatory in order for a patient to obtain specialist medical help.
Regional institutions for ambulatory mental health care provide
several forms of care (social psychiatric treatment, crisis inter-
vention, psychotherapy and counselling). The professional staff
includes specialized social workers, psychiatrists, social psychi-
atriic nurses and psychotherapists. In formal terms, access to
ambulatory mental health care should also be mediated by a gen-
eral practitioner. In practice, however, only about 50% of all
clients of ambulatory mental health care arrive via the general
practitioner. Although social work is freely accessible, and pri-
ivate psychologists are, in most cases, beyond any kind of legisla-
tion, the general practitioner is the most important referring
agency for these disciplines too. At the time of this study, the
costs of private psychologists were not reimbursed by public
health insurance companies; the other alternatives were covered
in one way or another. As the first four referral possibilities listed
above are dominated by psychiatrists, they have been considered
together. Alcohol and drug institutions provide ambulatory care,
so referrals to these institutions are considered together with
those to institutions for ambulatory mental health care. This
reduces the total number of categories of possible referrals to
four: psychiatric referrals, referrals to ambulatory mental health
care, referrals to private psychologists and referrals to social
workers.

A referral ratio was calculated for each general practitioner.
The referral ratio is the number of referrals made by the general
practitioner to any mental health specialist, divided by the num-er of episodes of illness that the general practitioner has given a
diagnosis from chapters 'P' or 'Z' of the ICPC. A referral ratio
was calculated only for those general practitioners who had made
at least 100 such diagnoses over the three month period (127 of
the 161 participating doctors). The referral ratio is expressed as
the number of referrals per 100 diagnoses.

The preference for the four referral categories was calculated
for each of the general practitioners who had made at least five
referrals to a mental health specialist (83 doctors). For example,
preference for psychiatry was taken as the number of psychiatric
referrals divided by the total number of referrals to a mental
health specialist, expressed as a percentage.

Independent variables

The type of practice (single handed, two partner practice, group
practice, or health centre) and location (degree of urbanization)
were assessed.

In the questionnaire completed by participating general practi-
tioners the questions on perception of tasks consisted of a num-er of items expressing psychosocial activities, such as treatment
of agoraphobia, counselling on sexual problems and discussing a
work related problem. For each item the general practitioner
rated the activity on a five point scale from 'Definitely a general
practitioner's task' (five) to 'Definitely not a general practitioner's
task' (one). In order to determine the performance of tasks
the same items were rated again on a five point scale from 'I
always carry out this activity' (five) to 'I never carry out this
activity' (one). The questions for the perception of the possible
psychosocial nature of illness listed a number of complaints and
diagnoses, to be rated on a five point scale from 'Not influenced
by psychosocial factors' (one) to 'Very much influenced by psy-
chosocial factors' (five). As a second indication of general practi-
tioners' bias regarding the psychosocial nature of illness they
were simply asked to estimate the proportion of all problems pre-
tended to them that were not entirely physical in nature.

Affiliation with certain institutions or contact with specialists,
and the evaluation of them, might influence the choice general
practitioners make once they have decided to make a referral.
Therefore, the general practitioners were asked about their regu-
lar appointments (regular meetings at fixed times) with social
workers, ambulatory mental health care workers, psychiatrists
and private psychologists. The four categories of specialist refer-
ral were also evaluated in respect of a number of aspects (ade-
quacy of help, waiting lists, negative experiences in the past,
 geographical accessibility, appropriate only for certain patients,
for example only those who are sufficiently articulate). The gen-
eral practitioners were asked to rate each aspect of each specialist
category on a 10 point scale from very negative (one) to very
positive (10).

Analysis

The relationship between general practitioners' characteristics
and the referral ratio or the four preference scores has been
analysed using analysis of variance, as the predictors are discrete
variables and the criterion variables are continuous. The distribu-
tion of referrals over age, sex and diagnostic categories has been
analysed by means of hierarchical log linear analysis. Chi square
has been used to test the goodness of fit.
Results

The mean age of the 127 participating general practitioners for whom referral ratios could be calculated was 42 years (range 33 to 63 years). Most of the general practitioners worked in rural (36.2%) and suburban (39.4%) areas, more or less according to the distribution of the population. Only 18.9% worked in urban areas and 5.5% in large cities. Of the 127 general practitioners 36.2% were single handed, 30.7% worked in a two partner practice, 20.5% in a group practice and 12.6% in a multidisciplinary health centre.

The mean scores for perception and performance of tasks show that the general practitioners had a slightly positively biased task perception and task performance (Table 1). Both scales were normally distributed. The perception and performance of tasks appeared to be strongly intercorrelated (product-moment correlation coefficient \( r = 0.73; P<0.001 \)).

Of the 127 general practitioners 59.8% reported regular contact with social workers, whereas only 20.5% had regular appointments with ambulatory mental health care workers, 4.7% with psychiatrists and 5.5% with psychologists. The mean forward estimate of ambulatory health care is clearly lower than for the other three disciplines (Table 1), a picture that also emerges on the several subscales that comprise the overall score.

Proportion of episodes of illness referred

A total of 19,286 episodes of illness with a psychological or social diagnosis were recorded. A total of 1106 referrals were recorded during surgery hours (surgery visits and home visits taken together) and included in the analysis. Overall, there were 1310 referrals to mental health care and social work. Considering only referrals made during surgery hours, 5.7% of episodes of illness were referred.

Referrals, by patient characteristics

Table 2 shows the proportion of referrals in the six diagnostic groups, by the age and sex of the patient. Statistical analysis revealed that the referral rates were not independently distributed over diagnostic category, age and sex (\( \chi^2 = 628, 39 \) degrees of freedom, \( P<0.001 \)) — age and diagnosis, age and sex, and sex and diagnosis interact. Psychotic disorders and other psychologi-

<table>
<thead>
<tr>
<th>Symptoms/diagnoses</th>
<th>Total</th>
<th>40+ years</th>
<th>&lt;40 years</th>
<th>40+ years</th>
<th>&lt;40 years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Psychological problems</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neurotic disorders</td>
<td>5.5</td>
<td>3.7</td>
<td>7.5</td>
<td>5.1</td>
<td>7.4</td>
</tr>
<tr>
<td>(9256)</td>
<td>(3875)</td>
<td>(2464)</td>
<td>(1800)</td>
<td>(1317)</td>
<td></td>
</tr>
<tr>
<td>Psychotic disorders</td>
<td>16.4</td>
<td>11.4</td>
<td>15.3</td>
<td>16.3</td>
<td>32.7</td>
</tr>
<tr>
<td>(365)</td>
<td>(149)</td>
<td>(72)</td>
<td>(92)</td>
<td>(52)</td>
<td></td>
</tr>
<tr>
<td>Other symptoms</td>
<td>3.9</td>
<td>1.4</td>
<td>5.5</td>
<td>2.7</td>
<td>9.6</td>
</tr>
<tr>
<td>(4711)</td>
<td>(1885)</td>
<td>(1116)</td>
<td>(971)</td>
<td>(729)</td>
<td></td>
</tr>
<tr>
<td>Other diagnoses</td>
<td>12.0</td>
<td>9.7</td>
<td>17.1</td>
<td>8.4</td>
<td>22.1</td>
</tr>
<tr>
<td>(676)</td>
<td>(309)</td>
<td>(123)</td>
<td>(167)</td>
<td>(77)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social disorders</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship problems</td>
<td>7.3</td>
<td>3.5</td>
<td>12.2</td>
<td>6.4</td>
<td>12.9</td>
</tr>
<tr>
<td>(2653)</td>
<td>(1272)</td>
<td>(645)</td>
<td>(488)</td>
<td>(248)</td>
<td></td>
</tr>
<tr>
<td>Social/material problems</td>
<td>4.7</td>
<td>3.9</td>
<td>7.3</td>
<td>2.2</td>
<td>5.7</td>
</tr>
<tr>
<td>(1607)</td>
<td>(535)</td>
<td>(395)</td>
<td>(359)</td>
<td>(318)</td>
<td></td>
</tr>
</tbody>
</table>
Table 3. Referral ratio, by general practitioner characteristics.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Referral ratio</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>41+ (n = 67)</td>
<td>5.30</td>
<td>1.98</td>
</tr>
<tr>
<td>≤ 40 (n = 60)</td>
<td>6.31</td>
<td></td>
</tr>
<tr>
<td>Practice area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural (n = 46)</td>
<td>4.73</td>
<td>4.46**</td>
</tr>
<tr>
<td>Suburban (n = 50)</td>
<td>5.75</td>
<td></td>
</tr>
<tr>
<td>Urban (n = 24)</td>
<td>6.35</td>
<td></td>
</tr>
<tr>
<td>Large city (n = 7)</td>
<td>10.21</td>
<td></td>
</tr>
<tr>
<td>Type of practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Single handed (n = 46)</td>
<td>4.79</td>
<td></td>
</tr>
<tr>
<td>Two partner (n = 39)</td>
<td>5.99</td>
<td></td>
</tr>
<tr>
<td>Group practice (n = 26)</td>
<td>5.23</td>
<td></td>
</tr>
<tr>
<td>Health centre (n = 16)</td>
<td>8.70</td>
<td></td>
</tr>
<tr>
<td>Task perception*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (n = 61)</td>
<td>6.34</td>
<td>2.78</td>
</tr>
<tr>
<td>High score (n = 65)</td>
<td>5.17</td>
<td></td>
</tr>
<tr>
<td>Task performance*</td>
<td></td>
<td>2.31</td>
</tr>
<tr>
<td>Low score (n = 67)</td>
<td>6.22</td>
<td></td>
</tr>
<tr>
<td>High score (n = 68)</td>
<td>5.15</td>
<td></td>
</tr>
<tr>
<td>Perception of</td>
<td></td>
<td>0.53</td>
</tr>
<tr>
<td>psychosocial nature*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low score (n = 67)</td>
<td>5.99</td>
<td></td>
</tr>
<tr>
<td>High score (n = 60)</td>
<td>5.46</td>
<td></td>
</tr>
<tr>
<td>Estimate % of symptoms</td>
<td></td>
<td>0.01</td>
</tr>
<tr>
<td>not entirely physical</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low (0-40%) (n = 63)</td>
<td>5.77</td>
<td></td>
</tr>
<tr>
<td>High (41-99%) (n = 64)</td>
<td>5.71</td>
<td></td>
</tr>
</tbody>
</table>

n = number of general practitioners in group. ** P<0.01. *High and low scores are divided by the median score.

Preference for kind of mental health institution/specialist

Table 4 shows the destination of those patients who were referred according to the diagnosis. Referrals with different diagnoses were not equally distributed over the four referral possibilities (χ² = 334; 20 df, P<0.001). The predominance of neurotic disorders and psychological symptomatology in general practice, which is also reflected in the absolute referral figures, results in a majority of this kind of disorder in the caseload of each of the referral options — more than half of all the referrals to each discipline have these diagnoses. When general practitioners referred a patient with a psychotic disorder, in most cases psychiatric services were preferred (Table 4). The majority of social and material problems were referred to a social worker. In the case of relationship problems, general practitioners seemed to use two major options: ambulatory mental health care or social work; in the case of neurotic disorders and psychological symptomatology three options were chosen: a psychiatrist, ambulatory mental health care and, somewhat less often, a social worker.

Table 5 shows the age–sex distribution for the four referral options. Again, the distribution contradicts the assumption of independence of age, sex and option for referral (χ² = 246, 13 df, P<0.001). Controlling for diagnosis does not alter this situation. Older patients were referred to psychiatric services more often than younger patients. Younger men were overrepresented within ambulatory mental health care and a relatively large proportion of the younger women were referred to social workers.

Table 6 shows the preferences of the general practitioners for referral, by their characteristics. Regular appointments with a specialty resulted in an increased share in referrals in the case of social workers, psychologists and ambulatory mental health care. A positive evaluation had a critical effect on referrals to social workers and ambulatory mental health care. In the case of psychiatric services and psychologists, however, data were available from a minority of respondents only. The practice area did not have an effect on any of the preferences, and type of practice shows only one clear effect: doctors in health centres preferred to refer to social workers (who are part of the health centre).

Table 4. Destination of patients who were referred, by diagnosis.

<table>
<thead>
<tr>
<th>% of referrals</th>
<th>Psychological problems</th>
<th>Social problems</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Neurotic disorders (n = 510)</td>
<td>Psychotic disorders (n = 60)</td>
</tr>
<tr>
<td>Psychiatric services</td>
<td>37.6</td>
<td>68.3</td>
</tr>
<tr>
<td>Ambulatory mental health care</td>
<td>29.4</td>
<td>30.0</td>
</tr>
<tr>
<td>Psychologist</td>
<td>10.6</td>
<td>1.7</td>
</tr>
<tr>
<td>Social work</td>
<td>22.4</td>
<td>0.0</td>
</tr>
</tbody>
</table>

n = total number of referrals.

Table 5. Destination of patients who were referred, by their age and sex.

<table>
<thead>
<tr>
<th>% of referrals</th>
<th>Female patients aged (years)</th>
<th>Male patients aged (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40+ (n = 274)</td>
<td>&lt;40 (n = 392)</td>
</tr>
<tr>
<td>Psychiatric services</td>
<td>38.2</td>
<td>28.6</td>
</tr>
<tr>
<td>Ambulatory mental health care</td>
<td>28.1</td>
<td>30.6</td>
</tr>
<tr>
<td>Psychologist</td>
<td>7.7</td>
<td>9.7</td>
</tr>
<tr>
<td>Social work</td>
<td>25.9</td>
<td>31.1</td>
</tr>
</tbody>
</table>

n = total number of referrals.
Discussion
Of all the episodes of mental illness presented during surgery hours in this study, 5.7% resulted in a referral. Whitehouse similarly reported that of all consultations with psychosocial problems 4.8% of patients are referred to a consultant, men 1.9 times as frequently as women.19 The figure of 5.7% determined here is also not dissimilar to the 6.6% reported by Wilkin and Smith for all types of referral.20 The mean referral rate in the Dutch national morbidity survey (mean number of referrals per 100 episodes of illness) is 10.9 (Verhaak P, unpublished results).
In this study 33 per 10 000 of the population at risk were referred to a mental health specialist or social worker in a three month period. When all referrals, including those outside normal surgery hours, are considered this increases to 39 per 10 000 of the population at risk. These figures are compatible with those obtained by Shepherd and colleagues1 and Kessel.21 They are, however, much lower than Italian figures. Tansella22 reported that 22% of patients identified as having conspicuous psychiatric morbidity by general practitioners were referred to a specialist, while Arreghini and colleagues presented a one day prevalence figure for general practitioner referral to specialist psychiatric services of 7.3%, which is equivalent to 17.6 per 10 000 of the population at risk being referred in one day.23

The age and sex distribution of the referred patients in this study showed the same characteristics as reported in other studies.1113 Although psychiatric morbidity was less frequently identified among younger men, this group was most frequently referred. It might be that this group of patients is overrepresented in the 'hidden psychiatric category', and that as a result the illness of the identified sample is on average more severe. Younger men were more commonly referred to ambulatory mental health care, while elderly patients were more commonly referred to psychiatric services. As the former favours a multidisciplinary approach while the latter constrains themselves to a medical framework, this difference might reflect a difference in general practitioners' perception of the 'treatability' of older and younger patients.

Psychotic disorders and other 'classical' psychiatric diagnoses were referred most frequently. However, although the likelihood of being referred is higher for these serious mental disorders, the majority of patients with these conditions remain under the care of the general practitioner. In a longitudinal study, 391 patients with psychological complaints were monitored during one year.24 Of the patients 13% were referred to a mental health specialist during that year. The likelihood of referral was higher if the patient experienced more problems, had a higher score on the general health questionnaire, or was aged between 25 and 44 years. Patients referred presented with more psychosocial complaints over the study year than non-referred patients. These results indicate that referral is related to the burden a patient feels and the severity of his or her situation.

The referral ratio in this study is also clearly influenced by the geographical area: large cities induce more referrals than rural areas. A common finding has again been replicated.2 General practitioners working in health centres also tended to refer more of their patients. This seems to be a result of their preference for their social worker colleagues in the health centre. The results suggest that general practitioners with an interest in psychological treatment (expressed by their task perception) do more treatment themselves and hence refer fewer of their patients. The age of the general practitioner and other personal characteristics did not have an effect on the referral ratio. This finding is similar to that of Wilkin and Smith who also did not find significant relationships between doctor characteristics and referral rates.18 It is possible that relationships at the level of the general practitioner are obscured by the differences in the case mix of the individual general practitioners. Although general practitioners recording fewer than 100 episodes of mental illness were excluded from the analysis, such differences may have played a part.

It is noteworthy that the area where general practitioners practice had little effect on their preference for where to refer. One

| Table 6. Preferences of general practitioners for the four types of specialties, by general practitioner characteristics. |
|-------------------------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Independent variable                           | No. of GPs      | Preference ratio (%) | F ratio | No. of GPs      | Preference ratio (%) | F ratio | No. of GPs      | Preference ratio (%) | F ratio | No. of GPs      | Preference ratio (%) | F ratio |
| 2 Regular appointments with specialty          |                 |                  |        |                 |                  |        |                 |                  |        |                 |                  |        |
| Yes                                             | 15.60***        | 4.16*            | 1.19   | 8.88**          |                  |        |                  |                  |        |                  |                  |        |
| No                                              | 15.1            | 42.6             |        | 3               | 21.5            | 5      | 23.8            |                  |        | 78              | 6.8              |        |
| Evaluation of specialty (mean score)            |                 |                  |        |                 |                  |        |                 |                  |        |                 |                  |        |
| ≥6                                              | 10.27***        | 4.61*            | 0.11   | 3.45            |                  |        |                  |                  |        |                  |                  |        |
| <6                                              | 12.4            | 28.9             |        | 16              | 44.4            | 28     | 15.6            |                  |        | 7               | 41.4            | 8      | 3.6             |        |
| Practice area                                   |                 |                  |        |                 |                  |        |                 |                  |        |                 |                  |        |
| Rural                                           | 0.36            | 24               | 24     | 34.6            |                  |        | 24              | 39.5            | 24     | 2.8             |                  |        |
| Suburban                                        | 22.1            | 24               | 34.6   | 24              | 39.5            | 24     | 2.8             |                  |        | 36              | 39.5            | 36     | 11.8            |        |
| Urban                                           | 26.1            | 36               | 33.8   | 36              | 29.5            | 36     | 11.8            |                  |        | 18              | 39.5            | 18     | 5.8             |        |
| Large city                                      | 21.1            | 5                | 29.6   | 5               | 39.5            | 5      | 12.8            |                  |        |                  |                  |        |
| Type of practice                                |                 |                  |        |                 |                  |        |                 |                  |        |                 |                  |        |
| Single handed                                   | 5.73***         | 1.78             | 2.31   | 1.96            |                  |        |                  |                  |        |                  |                  |        |
| Two partner                                     | 22              | 24               | 33.6   | 22              | 35.5            | 22     | 5.8             |                  |        | 18              | 40.5            | 18     | 2.8             |        |
| Group practice                                  | 29.1            | 18               | 27.6   | 18              | 40.5            | 18     | 2.8             |                  |        |                  |                  |        |
| Health centre                                   | 38.1            | 13               | 28.6   | 13              | 20.5            | 13     | 12.8            |                  |        |                  |                  |        |

**P<0.001; ***P<0.01; *P<0.05.
would expect a preference for social work with its geographically-
ly intricate structure in rural areas, and for psychiatric services in
urban areas. Private psychologists claim to fill in the geographi-
cal gaps of mental health services and would be expected to pre-
dominate in rural areas. These effects did not occur.

The discriminatory power of diagnostic categories was limited to
the extremes: most of the psychotic disorders and other clearly
psychiatric diagnoses were referred to the psychiatric services,
whereas social/material problems were referred to social work-
ers. As the likelihood of referral lessened, the distinction be-
tween referral possibilities disappeared. The most common
psychological disorders, that is neurotic disorders and other psy-
chological symptoms, were more or less equally distributed
between psychiatric services, ambulatory mental health care and
social workers. An important result was the overall positive eval-
uation of social work and the relatively negative evaluation of
ambulatory mental health care, which seems to influence referral
preferences. As a consequence, the less specialized social work-
ers appear to constitute a reasonable alternative in the case of
less pronounced mental health problems that quantitatively play
a major role in the epidemiology of mental health problems in
primary care.

Earlier it was suggested that the doctor–patient relationship
might influence the referral decision; referral might be induced by
the burden a general practitioner feels. The data presented
here throw no further light on this. Much still needs to be
explained and the doctor–patient relationship might shed some
light on these matters. Further study is directed at a comparison
between consultations with patients suffering from neurotic
depression who were referred to a mental health specialist or
social worker and consultations with patients having the same
diagnosis, who were not referred.

This study has shown that most psychological and social prob-
lems are treated by general practitioners and diagnostic labels
and clinical features are of only secondary importance in the
decision to refer. Thus, one should not be too 'prescriptive' when
defining the types of problems general practitioners should not
deal with. This is contrary to somatic medicine where, for exam-
ple, it is quite clear that a patient with a suspected heart attack
should be referred to a cardiologist. The relationship is less
straightforward with psychological diagnoses which may be
complicated by social phenomena such as the doctor–patient
relationship, the support offered by the community and the char-
acteristics and interests of the general practitioner.

References
1. Shepherd M, Cooper B, Brown AC, Kalton GW. Psychiatric illness
2. Goldberg D, Huxley P. Mental illness in the community: the pathway
3. Orleam CS, George LK, Houp JL, Brodie HKH. How primary care
   physicians treat psychiatric disorders: a national survey of family
   model van Goldberg en Huxley in de praktijk [The filters in the
   Goldberg and Huxley model in actual practice]. Huisarts en
5. Robertson NC. Variations in referral patterns to the psychiatric
6. Busschbach JT, Verhaak PFM. Huisarts en psychische klachten
   [General practitioners and psychological complaints]. Maandblad
   Geneeskunde 1986; 41: 475-492.
7. Creed F, Gowerstonsuk J, Russell E, Kincey J. General practitioner
   referral rates to district psychiatry and psychology services. Br J
8. Munk Jorgensen P. General practitioner’s selection of patients for
   treatment in community psychiatric services. Psychol Med 1986; 16:
   611-619.
9. Hul J. Psychiatric referrals in general practice. Arch Gen Psychiatry
   1979; 36: 406-408.
    division of responsibility for patients with mental disorders. Arch
    mental health services. Arch Gen Psychiatry 1984; 41: 971-978.
12. Leaf PJ, Bruce ML. Gender differences in the use of mental health-
    related services: a re-examination. J Health Soc Behav 1987; 28:
    71-183.
13. Leaf PJ, Bruce ML, Tischler G, Holzer CE. The relationship between
demographic factors and attitudes toward mental health services. J
15. Wilkinson G. Referrals from general practitioners to psychiatrists
    and paramedical mental health professionals. Br J Psychiatry
    1989; 154: 72-76.
    vervingen in de huisartspraktijk: basisrapport meetinstrumenten
    en procedures [National survey of morbidity and interventions
    in general practice: instruments and methodology]. Utrecht, The
17. Lamberts H, Wood M (eds). IPCC. International classification for
18. Wood M. The systematic assessment of psychological and social
19. Whitehouse CR. A survey of the management of psychosocial illness
    in general practice in Manchester. J R Coll Gen Pract 1987; 37:
    112-115.
20. Wilkin D, Smith AG. Variation in general practitioners’ referral rates
22. Tansells M (ed). Community based psychiatry: long term patterns of
23. Arreghin E, Agostini C, Wilkinson G. General practitioner referral to
    specialist psychiatric services: a comparison of practices in north
24. Verhaak PFM, Tijhuis MAR. Psychosocial problems in primary care;
    some results from the national survey of morbidity and interventions