DUTCH NATIONAL SURVEY OF GENERAL PRACTICE

A SUMMARY OF THE SURVEY DESIGN

M. Foets
J. van der Velden
D. de Bakker

September 1992

Netherlands Institute of Primary Health Care
(NIVEL)
P.O. Box 1568 - 3500 BN Utrecht - tel. nr. ..-31 30 319946

CIP-GEGEVENS KONINKLIJKE BIBLIOTHEEK, DEN HAAG

Foets, M.

Dutch national survey of general practice: a summary of the survey design / M. Foets, J. van der Velden, D. de Bakker. - Utrecht : Netherlands Institute of Primary Health Care (NIVEL)
ISBN 90-6905-197-4
Trefw.: huisartsgeneeskunde ; onderzoek.

Wordprocessing and lay-out	Marleen Foets
Cover	Mieke Cornelius
Printing	Boekbinderij Post

CONTENTS

1. INTRODUCTION

From April 1987 till March 1988 a large scale study on morbidity and interventions in general practice was conducted in the Netherlands. The study was designed to supply answers to questions concerning the position and function of the Dutch general practitioner.

lack of information

Since the publication of the Government paper "Structuurnota" (1974) the Dutch government has attached much importance to the work and position of the GP in the Dutch health care system, which is in no way reflected by the amount of information available about his work. Representative data on morbidity and interventions in general practice are lacking. Current research in Dutch general practice suffers from a number of limitations. In certain cases morbidity registrations are not representative because they are being carried out in a limited and selected number of practices that are often connected with University Departments for General Practice. In other cases only a limited number of conditions is covered. An example of the latter is the sentinel system, which consists of a number of GPs keeping records of the incidence of certain diseases. Information on interventions by GPs is even more lacking. For instance, research into the determinants of referral rates is based upon the gross Sickness Fund referral rate, although this figure is known to be unreliable. Finally, as far as information is available, data from the GPs and their patients are rarely linked together. E.g. every year the Central Bureau of Statistics organises a health interview study at which many questions on the perceived morbidity and the use of services are posed. Thus social epidemiological research is impeded because information on morbidity cannot be related to information on patient characteristics.

Because of this lack of information, and after a pilot study had been carried out in which the feasibility of such an enterprise was examined, the Netherlands Institute of Primary Health Care presented a detailed research proposal (1). The Ministry of Welfare, Health and Cultural Affairs and the National Council of Sickness Funds were found to be prepared to finance the research.

In a number of respects the survey was inspired by the National Morbidity Surveys held every ten years in England and Wales (2 - 3).
They too are aimed at achieving a review of morbidity in general practice, linked with more information about the patients than merely age and sex. Recently a similar enterprise was started in Australia (4).

This report is a review of the survey design (5). The remaining part of this introduction contains reviews of some relevant aspects of the Dutch health care system and the purposes of the survey. In addition, a review will be

given of the main measuring instruments and the data collection methods chapter 2). Finally a description will be given of the study population covered in this study (chapter 3).

1.1. General practitioners in the Dutch health care system

Dutch health care system

The Dutch health care system, as most health care systems in Western Europe, differs from the National Health Service in the United Kingdom because it is organised on an insurance basis. However, general practice in the Netherlands and in England and Wales bear a number of resemblances.

GPs are working in a capitation system in the case of sickness fund patients. Contrary to many other western European countries, only 70% of the Dutch population is insured against costs of medical care on a compulsory basis. This compulsory scheme applies to all employees below a fixed wage level, to old age pensioners who prior to retirement were publicly insured, and to persons in receipt of social benefits. Privately insured persons have a range of insurance options: approximately 70% of privately insured persons have GP coverage.
The payment system of the GP differs according to publicly and privately insured groups of patients. For publicly insured patients he receives a fixed amount of money for each patient on the list, irrespective of the number of consultations. Privately insured patients pay directly to the GP and are refunded depending on their GP coverage.

All GPs have both privately and publicly insured patients. Publicly insured patients are formally on the list of GPs , while privately insured patients are not, although they usually do consult the same GP.

GPs in the Netherlands have a central position as gatekeepers for secondary care, which is only accessible after referral by a GP. Therefore most contacts between the population and health care take place in the GP's practice. The GP decides who is to be referred for further treatment and who is not. Without his permission there are no appointments with medical specialists and without a referral there is no reimbursement of the costs for physical therapy or other paramedical help. Because of this position in the health care system, the GP holds the key to a boundless store of information concerning morbidity patterns as well as the handling of diseases.

1.2. Purposes of the survey

aims of the study

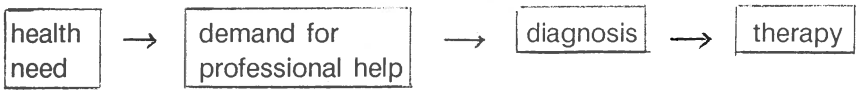
The aims of the survey were to gain insight on a national scale into:
- the pattern of diseases presented in general practice;
- the factors on the patient's side which influence the presentation of health problems to the GP;
- the care provided by GPs through data on interventions such as the prescription of medicines, referrals etc;
- the factors on the GP's side which influence his reactions to the pro blems presented to him.

health services research

This survey was designed primarily as a health services research, in which demand and supply in general practice were to be studied. Information gathered on both the side of the doctor and the side of the patients provides unique opportunities for obtaining an insight into the position and function of the Dutch GP. In health care systems where the GP has a central position as a gatekeeper to secondary health care provisions, this type of information is useful to policy makers in particular.

This survey provides information on the different stages of the professional aid process (see figure 1):

Figure 1 The professional aid process



The survey was designed in such a way that from the onset important questions as the inter-doctor and inter-practice variance were included as subjects of research.

twelve projects

Because of the complexity of the research purpose, the survey design was based on twelve projects, some of which concerned the morbidity presented in general practice, and others concerned morbidity-related interventions. The titles of these projects:

1. Morbidity in general practice
2. The GP and chronic disorders
3. The GP and prevention
4. The use of diagnostic procedures in general practice
5. Prescribing medicines in general practice
6. Obstetric care by the GP
7. The GP and physiotherapy
8. Psychosocial problems in general practice and the relation between the GP and ambulatory mental health care and social work
9. Referrals by GPs to medical specialists

10. Aftercare and continuity of care
11. Professional care, self care and mutual care.
12. Workload in general practice

The study population and the data collection were to a large extent the same for those twelve projects and set up in a way to fulfil the requirements of these projects in the best possible way. As regards a number of projects it was necessary to collect additional data in sometimes divergent study populations. Data collection methods and study populations will be discussed in chapter 2 and chapter 3.

Within the limits of this design it was possible to formulate new research questions, leading to a number of additional projects.

new research questions

Some of these projects are focused on mainly epidemiological questions e.g. related to diseases of the digestive system, migraine, comorbidity in chronic diseases, childhood diseases. Other projects are focused on the relation between social factors (such as sex, social class, social networks, life styles) and disease or illness. Still other projects are focused on differences between GPs (e.g. male an female GPs, GPs in urban areas and GPs in rural areas). Finally a number of projects focus on the performance of GPs in terms of workload and quality of care.

2. MEASURING INSTRUMENTS AND DATA COLLECTION

registration of contacts

The study is based upon four central measuring instruments: the registration of contacts, the patient registration, the patient survey and the GP survey. They will now be discussed in some detail.

2.1. Registration of contacts between GPs and their patients

Over a period of three months the participating GPs kept a complete record of the morbidity presented in their practice and of all associated activities. An example of the registration form (translated in English) is presented in appendix 1

The contacts registered included face-to-face contacts as well as consultations with the receptionist. Consultations by telephone were registered only when they resulted in a repeat prescription or referral.

The choice for a three-month registration period was the result of what had been proved to be feasible in the pilot study. A one-year-period of registration, as is the case in the English morbidity studies, was impossible because the demands of the research were too high: not just recording morbidity was asked, but also exhaustive registration of interventions. Moreover, the patient registration (see below) involved a lot of work on the part of the participating GPs and, in particular, their receptionists. Because of seasonal influences, the registration period was spread over a one-year-period: from 1-4-1987 until 31-3-1988. To that end the participating GPs were divided in four groups.

The registration form (see appendix 1) included sections on the contacts, on morbidity and on interventions.

- **Data on the types of contact.**

type of contact

The contact registration form included a number of sections to identify the contact between patient and GP. The following items were recorded:

- point in time when the contact took place (during the day; evening; night)
- length of the consultation;
- character of the consultation (consultation in the practice; home visits etc);
- initiator of the consultation (patient; GP; someone else);
- type of the consultation (first consultation; repeated consultation; relapse of disease; periodic check up)

This type of information is particularly useful for research into the workload of GPs. Moreover, some of this information has been useful in the construction of illness episodes (see below).

- **Morbidity registration and classification.**

GPs were asked to record the reason(s) for seeing the patient and his diagnosis (diagnoses). On the occasion of one consultation more than one reason for encounter and diagnosis could occur and, consequently, be recorded. For every reason of encounter the GP recorded to what degree somatic or psychosocial factors played a role.
GPs were asked to describe the clinical problem in diagnostic terms whenever possible. No clinical criteria for diagnosis were imposed, in the first place because the diagnoses in general practice must often be based on circumstantial evidence at the time of the consultation. General practice is characterized by the large amount of less serious, often rather trivial conditions for which no clear diagnostic criteria exist. In the second place such a procedure was conform with our aim to study interdoctor-variations, including morbidity variations between doctors.
GPs recorded the degree of severity of the disease according to the degree of life threat and to the probability of serious disability as well. Underlying conditions related to the problem presented were also recorded.

Diseases recorded by the GP on the registration form had been classified in the International Classification For Primary Care (6) by well trained coders with a medical background. Thus as regards coding activities the participating GPs were not involved themselves, but as regards the data quality control they were.

episodes of care

During the registration period a patient could consult the GP more than once for the same condition. If this was the case the reasons for encounter were linked together into **episodes of care**. Two possibilities could occur:

- episodes also involving pre-registration period contacts;
- episodes whereby the first consultation occurred in the registration period; a distinction was made between completely new problems and recurrent problems.

To calculate incidence statistics, only the second category of episodes can now be used; for calculating the prevalence all episode types can be used. Conversion to statistics on a twelve months-basis is possible by quadrupling the incidence rates. For prevalence rates such a solution would result in unreliable statistics, since chronic conditions exceed the registration period.
Because an episode can include several reasons for encounter with a patient, it has been possible that GPs amend the diagnosis in the successive contacts within one episode. For epidemiological purposes it has been decided in general to assign the diagnosis of the latest contact as the label of the episode. Studies on GPs interventions, however, are not primarily interested in the final diagnoses but in the diagnosis in every single contact. The way in which doctors react to the complaints presented, can best be understood from the conclusions with respect to the

diagnoses drawn on that moment. Therefore the separate diagnosis of every reason for encounter has been stored as well in the database.

- **Registration of interventions.**

interventions

For every reason for encounter GPs have recorded the following data on interventions:

- requests for laboratory investigations and the results of those investigations;
- activities concerning health promotion, counselling, vaccinations and minor surgery;
- prescriptions of medicines: brand name, strength, daily dose and prescribed dose; prescribed medicines are classified according to the ATC classification;
- referrals to primary and secondary health care providers as well as to hospital; purpose and type (new or repeated) of referral are recorded as well.
- consultations with colleagues and follow up appointments.

2.2. Patient registration

patient registration

It is important to consider the morbidity data against the population at risk and not just against those consulting the GP. The value of morbidity surveys can be highly improved when relevant social data are collected. Moreover, list size and practice composition are important characteristics in the study of the GP's diagnostic and therapeutic interventions and of his workload.

Until recently in the British National Morbidity surveys social information about the patients on a GP's list was obtained by linking the morbidity records to census data. Such a bold solution was not possible in the Netherlands, not only because the sensitivity about patient-confidentiality is high, but especially because censuses have been abolished. It was, therefore, necessary to collect this information by means of separate patient registration.

As mentioned before, in principle every Dutch patient is registered in a general practice. Such a situation is an ideal starting point for setting up a patient registration. However, in the Netherlands approx. one third of the patients is privately insured, and in particular as regards this group GPs' lists are often unreliable: privately insured patients can change doctors more easily and this is not always adequately registered by the GPs concerned.

Because of these and other problems the costs of obtaining these data have been considerable. Still, it has been possible to gather information on 90% of the practice populations.

Information has been collected on the age, sex, marital status, ethnic background, profession, education, sickness insurance type and housing conditions of the patients registered in the practices of participating GPs.

2.3. Patient survey and diary

patient survey

The objectives of the patient survey were to gain information on the morbidity perceived by the population and on factors influencing the presentation of illness to the GP. Indeed, a morbidity registration by GPs concerns only reported morbidity, and gives no information on illness not reported to the GP. Moreover, patient registration only provides information on a limited number of patient characteristics.

The survey included several indicators of perceived morbidity: information is collected on recent complaints, on chronic diseases and on psychosocial problems; a disability measure is included as well as the General Health Questionnaire.

Other factors on which questions were asked in this survey included attitudes of patients regarding health and illness, patient satisfaction, health related habits such as drinking, smoking and exercise, social networks and social support.

The questionnaire also included a lot of information on the illness and utilisation behaviour of the respondents: not only questions on the consultation of GPs, but also questions on the consultation of other care providers (specialists, physiotherapists, dentists, alternative healers) and services (hospitals, ambulatory mental health care, child health clinics, home nursing and home help), and questions on being confined to bed, and on absenteeism.

Patients of all age groups have been selected for this interview: for patients aged 0-14 years proxi interviews have been conducted, which means their mother, father or guardian/caretaker answered the questions in behalf of the child.

patient diary

In addition respondents were asked to keep a diary during a period of three weeks in order to furnish insight in the number and kind of health problems for which no professional help was sought.

2.4. GP survey and diary

GP survey

The doctors have been asked to fill in a questionnaire in order to obtain information on:

- characteristics of the GP and of his practice, not immediately related to patients, but e.g. the organisation of the practice;
- factors such as task perception, which may explain differences in GPs' diagnostic and therapeutic interventions;

The questionnaire included 7 sections on:

- practice organisation and working procedures such as the degree of work being delegated to the receptionist and the use of medical techniques;
- prevention in general practice: task perception and organisation;
- occurrence and treatment of psychosocial problems;

- prescription of medicines;
- consultations with colleagues-physicians and other care providers;
- professional contacts and interests; post graduate courses, additional functions;
- task perceptions, dealing with uncertainty, opinions on the relations between GPs and specialists, opinions on the communication between the GP and his patients, and job satisfaction.

These data on the GP and his practice have been collected in order to contribute to the explanation of interdoctor-variations.

GP diary

Finally GPs were asked to keep a detailed diary covering 24 hours a day during one week, including the weekend. This diary informs us on the number of hours GPs spent on different aspects of their work.

2.5. Additional data collection

As regards a number of projects - those related to chronic diseases, psychosocial problems and aftercare - additional information was necessary.

- **Chronic diseases in general practice.**

An intake form was designed to identify all patients to be included in this study. Patients with the following chronic diseases were included:

- diabetes
- hypertension
- chronic ischemic heart disease
- chronic non specific lung disease
- osteoarthritis

This form contained general patient information, risk factors possibly relevant for the selected chronic disorders, diagnosis, co-morbidity and therapy.

A separate contact registration form was designed which, however, was in many ways similar to the general form. Compared to this general form a number of items, being less relevant for this project, have been less exhaustively recorded, especially because a limited number of GPs (see chapter 3) had to continue registrating during a period of 21 months. On the other hand other items were of particular relevance to this project: for that reason more information has been collected on the use of diagnostic procedures, including their results, and on prescriptions.

- **Psychosocial problems in general practice.**

Similarly, a separate registration form has been designed with respect to the project on psychosocial complaints, covering all patients having presented psychosocial problems to the GP, or somatic problems considered to be psychosocial by the GP. Again, this form is very similar to the general form, but less complicated. A limited number of additional

items with particular relevance to this project were included. A limited number of GPs continued this registration for a period of 9 months.
In addition a questionnaire was set up to be filled in twice by all patients included in this study: once at the beginning of the study and once at the end. It included the General Health Questonnaire, questions on psychosocial problems and a questionnaire on the health locus of control.

- **Aftercare and continuity of care.**

Every hospitalization during the study has been recorded on a special form including information on admission and stay (date/diagnosis/initiator-/receipt of a written admission report/type of hospital/specialism/communication between GP and the patient, his family and other care providers/-number of GP visits), on the discharge (date/diagnosis/initiator/admission to another hospital or institution such as a nursing home or a rehabilitation centre/communication between the GP and the patient, his family and other care providers) and on the aftercare provided by the GP or other care professionals. Finally some information has been collected on the contents of the discharge report.
Every patient discharged from a hospital is asked to fill in a questionnaire on the aftercare he needed and/or received.

3. STUDY POPULATION

Information was collected both on the GPs and on their patients. In the case of two projects, particularly the ones regarding to chronic diseases and to psychosocial problems, supplementary data had to be collected in more limited study populations.

3.1. General practitioners

sample of GPs

It was decided to choose for a non-proportional stratified sample of GPs. A random procedure guaranteed a smallest possible selection. The stratification variables were: degree of urbanisation, region and distance from the hospital. Four degrees of urbanisation were distinguished according to the classification of the Dutch Central Statistical Office; three regions (the northern, the middle and the southern part of the country) and three distance groups (the doctor's surgery is in the immediate vicinity of a hospital, his surgery is at a distance of between 0 and 15 km from a hospital, or the distance to the nearest hospital is over 15 km). Non- proportional stratification guaranteed that all values of the stratification variables were well represented in the sample. The sample was drawn from the NIVEL file of GPs practising as principals on 01-01-1985.

GPs were invited to participate in the study by means of a letter accompanied by a recruitment folder and recommendation letters of the Dutch Association of GPs and the National College of GPs. It must be emphasized that GPs themselves have been approached, and not general practices.
For several reasons colleagues of GPs in the sample working in the same surgery were also requested to participate, because of several reasons. In the first place the age-sex register was linked to the whole practice and often not to the doctors individually. Moreover, patients often visit more than one GP in a practice. Because it was our aim to link reasons for encounter to episodes of care, the morbidity presented to these colleagues was indispensable.
In a limited number of the stratification cells it was necessary to accept participation of volunteering GPs.

In table 3.1 a review is presented of the principals participating in the study.
Because of these reasons and because of non-response the composition of the participating group of GPs differs from the composition of the total group of Dutch GPs (see table 3.2). The average age of the doctors taking part in the study was lower than the national average; more female GPs participated, and less doctors working in single handed practices.

Table 3.1 Principals participating in the National Study of Morbidity and Interventions in General Practice

Randomly selected GPs	98
GPs' partners	58
Volunteering GPs	5
Total	161

Table 3.2 Principals: a comparison between the study population and the Dutch population: the distribution of sex, age and types of practice in percentages

Sex			
	male	92	85
	female	8	15
Age			
	< 35	9	32
	35-39	27	30
	40-44	23	12
	45-49	11	12
	50-54	8	7
	55-59	9	6
	60 +	12	1
Type of practice			
	solo	56	32
	shared	37	30
	group	20	7
	health centre	11	7

In a number of practices some GP assistants to a participating principal GP (N=9), permanent locums (N=10) and trainees (N=13) were working at the time of the data collection. Those groups also participated in the contact registration in order to enable the separate reasons for encounter to be linked to the episodes of care.

Locums and trainees have not been asked to fill in the GPs survey. From the remaining 170 GPs only 161 have filled in this questionnaire in a sufficient way.

Because of the non-proportional stratification procedure, and because of the inclusion of colleagues as explained, weights are used in order to present data representative for the Netherlands.

As regards the projects on chronic disorders and psychosocial problems a number of GPs having recorded during the third or the fourth registration period have been asked to continue registrating. 15 GPs were prepa-

red to participate in the chronic disorders project, 19 in the psychosocial problems project.

3.2. Patients

On the patient side some basic information has been gathered on the total patient population of the participating GPs. In addition, supplementary information has been collected in a random sample of 100 patients per participating GP by means of a health interview study.

age/sex register

For each practice an age/sex patient register was set up. The study covered a population of approx. 335 000 patients treated by the participating GPs. Table 3.3 compares this patient population (second column) by age and sex with the figures for the Netherlands (first column). This table indicates a high level of correspondence on both age and sex distributions.

Table 3.3 Patient population compared with the Dutch population according to age and sex

Age				
	0-14	18,8	19,3	17,0
	15-24	17,1	17,1	16,1
	25-44	31,5	32,0	34,7
	45-64	20,3	19,3	20,9
	65 +	12,3	0,5	0,4
	unknown	—	0,5	0,4
Sex				
	male	49,4	48,1	49,5
	female	50,6	51,8	50,1
	unknown	—	0,1	0,4

patient registration

Regarding this total patient group a number of background and social data was collected by means of a so-called patient registration. It was possible to collect information for about 90% of this total patient group. Nevertheless, this response percentage was still different depending upon the questions asked. Non response was higher for indicators of social class such as education and occupation.

patient survey

In addition to this patient registration a random sample of 100 patients on the list of every GP participating in the study was invited to take part in a health interview study and a health diary covering a three week period. Thus, patients selected for the interview did not necessarily have to have visited their GP to be selected for the interview. Patients of all ages were selected. The response rate for the health interview was 76%, including 13014 completed interviews. Nearly 93% of the respondents participating in this interview also completed the health diary. In the third column of

table 3 the age/sex distribution of the patients participating in the health interview study is presented. It shows only small differences with the total Dutch population (first column): the number of respondents in age group 25-44 is slightly overrepresented.

additional data

As mentioned before, supplementary data were collected in a number of patient groups with respect to some of the projects.
The number of patients included in the chronic diseases project is approx. 2200, in the psychosocial problems project the number is approx. 1400, of whom 1190 filled in the first questionnaire and 962 the second questionnaire. The number of hospital admissions is approx. 7710 (including a number of patients being admitted more than once) while the number of patients selected for the questionnaire on aftercare is 6643, of whom 4903 have filled it in.

4. CONCLUSIONS

A morbidity registration in general practice as described here was never performed in the Netherlands before, and it enables us to acquire new insights with regard to the epidemiology of diseases in the Netherlands.

Because of the fact that problems presented in general practice are only a fraction of the problems occurring in the population, a health interview survey has been conducted to complete the review.

A combination of the health interview survey in the population and the morbidity registration in general practice provides a good insight into the relation between the health problems in the population and the presentation of health problems in general practice: the so-called iceberg phenomenon.

The survey also enables us to study the relation between morbidity and social circumstances e.g. gender, employment status, social class, social networks, health related behaviour etc.

On the side of the GP the survey informs us about his diagnostic and therapeutical interventions, such as prescriptions, referrals etc. Especially, it becomes possible to study the relation between information on those interventions and information on diagnoses, patient characteristics and GP characteristics.

In appendix 2 a review is given of publications in English based on this survey.

APPENDIX 1. REGISTRATION FORM

PATIENT CODE: **DATE:** **GP:**

1 PATIENT DATA: **date of birth:** **sex: m / f**

☐ own patient with locum ☐ colleague's patient ☐ encounter concerns more than one person

2 ENCOUNTER DATA

evening/night duty
☐ day
☐ evening
☐ night

duration of encounter
☐ 1-5 min.
☐ 6-10 min.
☐ 11-15 min.
☐ 16-20 min.
☐ longer

kind of encounter
☐ free/surgery
☐ appointment/surgery
☐ health check
☐ child health clinic
☐ antenatal clinic
☐ telephone
☐ in between
☐ surgery of spec. institution
☐ spontaneous visit
☐ visit by appointment
☐ emergency visit
☐ hospital visit
☐ other

initiative for encounter
1 2
☐☐ GP
☐☐ ↕
☐☐ patient
☐☐ parents
☐☐ other care provider
☐☐ other

nature of encounter
1 2
☐☐ first encounter
☐☐ repeat encounter
☐☐ relapse
☐☐ periodical check

3 COMPLAINTS AND DIAGNOSIS/WORKING HYPOTHESIS

reason(s) for encounter (1)
a. .....
b. .....
c. .....
somatic ☐☐☐☐☐ psycho-social
(probability)
diagnosis/working hypothesis (1)
a. .....
uncertain certain
about ☐☐☐☐☐ about
disorder disorder
any differential diagnosis
b. .....
c. .....
disorder is:
life threatening + ☐☐☐☐☐ -
disabling + ☐☐☐☐☐ -

reason(s) for encounter (2)
a. .....
b. .....
c. .....
somatic ☐☐☐☐☐ psycho-social
(probability)
diagnosis/working hypothesis (2)
a. .....
uncertain certain
about ☐☐☐☐☐ about
disorder disorder
any differential diagnosis
b. .....
c. .....
disorder is:
life threatening + ☐☐☐☐☐ -
disabling + ☐☐☐☐☐ -

underlying disease/problem

1 2
☐☐ none
☐☐ 1 diabetes
☐☐ 2 chronic (obstructive) lung disease
☐☐ 3 hypertension
☐☐ 4 chronic cardiac failure
☐☐ 5 cerebro-vascular accident
☐☐ 6 peripheral vascular disease
☐☐ 7 osteoarthritis
☐☐ 8 rheumatoid arthritis
☐☐ 9 malignant neoplasm of:
☐☐ 10 pregnancy (... weeks)
☐☐ 11 after-care of hospital admission

1 2
☐☐ 12 (status after) operation
☐☐ 13 adverse affect medical agent proper dose
☐☐ 14 relationship/family problems
☐☐ 15 violence/maltreatment
☐☐ 16 work/study problems
☐☐ 17 depressive syndrome
☐☐ 18 dementia
☐☐ 19 addiction problems
☐☐ 20 other underlying diseases/ problems, viz.: .....

patient is under treatment from medical specialist/health care provider
1 ☐ ...../..... 2 ☐ ...../.....

4 DIAGNOSTIC PROCEDURES

reason for diagnostic procedure
1 2
☐☐ discovery of pathology
☐☐ check
☐☐ screening of high-risk group
☐☐ reassurance

IN OWN PRACTICE
1 2
physical examination
☐☐ 1 heteroanamnesis
☐☐ 2 blood pressure
☐☐ 3 weight
☐☐ 4 skin
☐☐ 5 ear/nose/throat
☐☐ 6 eyes
☐☐ 7 heart
☐☐ 8 lungs
☐☐ 9 mammae
☐☐ 10 abdomen
☐☐ 11 rectal/vaginal
☐☐ 12 limbs/joints
☐☐ 13 vertebral column
☐☐ 14 neurological examination
☐☐ 15 other special physical exam.
☐☐ 16 general physical exam.
blood examination
☐☐ 17 Hb
☐☐ 18 ESR
☐☐ 19 glucose
☐☐ 20 other
urine
☐☐ 21 sediment
☐☐ 22 nitrite
☐☐ 23 glucose/albumin
☐☐ 24 pregnancy test
☐☐ 25 other
other
☐☐ 26 .....

ELSEWHERE
1 2
blood chemistry
☐☐ 1 glucose
☐☐ 2 liver function
☐☐ 3 electrolytes
☐☐ 4 fat spectrum
☐☐ 5 kidney function
☐☐ 6 other, viz.: .....
hematology/serology
☐☐ 7 Hb/leuco-diff/ESR
☐☐ 8 other, viz.: .....
X-ray
☐☐ 9 thorax
☐☐ 10 vertebral column
☐☐ 11 limbs/joints
☐☐ 12 stomach/intestines/ gallbladder/abdomen
☐☐ 13 skull/sinus/jaw
☐☐ 14 intravenous pyelogram
☐☐ 15 mammography
☐☐ 16 other, viz.: .....
other
☐☐ 17 ECG
☐☐ 18 urine (culture)
☐☐ 19 faeces (culture)
☐☐ 20 cytology: cervix/sputum/urine
☐☐ 21 echoscope (incl. pregnancy)
☐☐ 22 endoscopy
☐☐ 23 other, viz.: .....

5 TREATMENT

1 2
☐☐ 1 counseling: passive/listening
☐☐ 2 counselling: active/exploratory
☐☐ 3 reassuring
☐☐ 4 information on complaint(s)/ disease
☐☐ 5 information on treatment/ medication/referral/operation/diet
☐☐ 6 health education
☐☐ 7 advice on work: stopping/restarting
☐☐ 8 administrative
☐☐ 9 wait and see
☐☐ 10 (bed) rest
☐☐ 11 medication without prescription
☐☐ 12 discontinuing medication
☐☐ 13 diet

1 2
☐☐ 14 injection
☐☐ 15 syringing ear
☐☐ 16 wound care
☐☐ 17 minor surgery
☐☐ 18 bandaging/taping/resetting
☐☐ 19 catheteration
☐☐ 20 liquid nitrogen
☐☐ 21 IUD
☐☐ **22** other
vaccination
☐☐ 23 tetanus
☐☐ 24 influenza
☐☐ 25 hay fever
☐☐ 26 dptp/dpt
☐☐ 27 bmr
☐☐ 28 other

6 PRESCRIPTION

1 2
☐☐
medicine: .....
quantity: .....
dose per day: .....
☐ new ☐ repeat prescription GP ☐ repeat prescription specialist

1 2
☐☐
medicine: .....
quantity: .....
dose per day: .....
☐ new ☐ repeat prescription GP ☐ repeat prescription specialist

1 2
☐☐
medicine: .....
quantity: .....
dose per day: .....
☐ new ☐ repeat prescription GP ☐ repeat prescription specialist

1 2
☐☐
medicine: .....
quantity: .....
dose per day: .....
☐ new ☐ repeat prescription GP ☐ repeat prescription specialist

7 REFERRAL (INCL. ADMISSION)

secondary care

medical specialism (excl. psychiatry)
1 ☐ .....
2 ☐ .....
1 2
☐☐ independently established
☐☐ outpatient clinic
☐☐ intramural (admission)

psychiatry/mental health care
1 2
☐☐ independently established psychiatrist
☐☐ independently established psychologist
☐☐ ambulatory mental health care
☐☐ alcohol/drugs clinic
☐☐ outpatient psychiatry
☐☐ intramural (admission)

primary care

1 2
☐☐ physiotherapy
treatment proposal ☐ yes ☐ no
number of treatments: .....
kind: .....
earlier physiotherapy ☐ yes ☐ no
for the same diagnosis ☐ yes ☐ no

1 2
☐☐ district nursing
☐☐ social work
☐☐ home help
☐☐ midwife
☐☐ dietician
☐☐ alternative healers
☐☐ other

purpose of referral
1 2
☐☐ diagnosis
☐☐ treatment
☐☐ diagnosis + treatment
☐☐ reassurance

kind of referral
1 2
☐☐ new
☐☐ extension
☐☐ subsequently
☐☐ refraction referral

initiative for referral
1 2
☐☐ GP
☐☐ ↕
☐☐ patient

1 2
☐☐ physiotherapist
☐☐ specialist
☐☐ parents
☐☐ other

8 CONSULTATION AS A RESULT OF ENCOUNTER

consultation with

1 2
☐☐ medical specialism (excl. psychiatry)
.....
☐☐ psychiatry/mental health care institution
.....

1 2
☐☐ physiotherapy
☐☐ district nursing
☐☐ social work/home help
☐☐ medical adviser insurance company / company doctor
☐☐ family/neighbours
☐☐ other

purpose of consultation
1 2
☐☐ consultation of other health care provider
☐☐ arranging home care family/neighbours
☐☐ arranging professional home care
☐☐ arranging referral/admission
☐☐ arranging restarting/stopping work
☐☐ other

9 FOLLOW-UP ARRANGEMENTS

1 2
☐☐ nothing arranged
☐☐ need not return
☐☐ to return if no improvement/relapse
☐☐ phone in: ..... days
..... weeks
☐☐ return in: ..... days
..... weeks

APPENDIX 2. PUBLICATIONS IN ENGLISH BASED UPON THE DUTCH NATIONAL SURVEY OF GENERAL PRACTICE

Calnan M. Groenewegen PP. Hutten J. Professional reinbursment and management of time in general practice. An international comparison. Social Science and Medicine 1992; 2: 209-16.

Groenewegen PP, Hutten JBF. Workload and jobsatisfaction among general practitioners: a review of the literature. Social Science and Medicine 1991; 10: 1111-19.

Groenewegen PP. Hutten JBF. Velden van der K. List size, composition of practice and general practitioners' workload in the Netherlands. Social Science and Medicine 1992; 34: 263-70.

Tijhuis MAR, Peters L, Foets M. An orientation toward helpseeking for emotional problems. Social Science and Medicine 1990; 9: 989-95.

Verhaak PFM, Wennink HJ, Tijhuis MAR. The importance of the GHQ in General Practice. Family Practice 1990; 4: 319-24.

Verhaak PFM, Bosman FM, Foets M, van der Velden J. Psychosocial complaints in general practice. A national survey in the Netherlands. In: Cooper, B. and Eastwood. Primary health care and psychiatric epidemiology. London: Routledge 1991.

Verhaak PFM. Tijhuis M. Psychosocial problems in primary care: some results from the Dutch national study of morbidity and interventions in general practice. Social Science and Medicine 1992; 2: 105-10.

REFERENCES

1. Foets M, van der Velden J, van der Zee J. Morbidity and interventions in general practice. A cross-national survey in the Netherlands. Study design. Utrecht: Netherlands Institute of Primary Health Care, 1986.

2. Crombie DL, van der Zee J. The feasibility of a national general practice morbidity and intervention survey in the Netherlands; report of a symposium. Utrecht: Netherlands Institute of Primary Health Care, 1982.

3. Office of Population Censuses and Surveys/Royal College of General Practitioners. Morbidity Statistics from general practice 1981-1982. Third National Study. London: HMSO, 1986.

4. The survey of Morbidity and Treatment in General Practice in Australia (chief investigator: Prf. Ch. Bridges-Webb). The University of Sydney. Department of Community medicine. Family Medicine Research Unit.

5. Foets M, van der Velden J. Een Nationale Studie van Ziekten en Verrichtingen in de Huisartspraktijk. Basisrapport 'Meetinstrumenten en Procedures'. Utrecht: Netherlands Institute of Primary Health Care, 1990.

6. Lamberts H, Wood M (eds). International Classification of Primary Care. Oxford: Oxford University Press, 1987.