

THE PRIMARY HEALTH CARE PROJECT IN BELGIUM: A SURVEY ON THE UTILIZATION OF HEALTH SERVICES*

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Abstract—The article consists of two major parts. In the Introduction a general overview is given of the Primary Health Care Project, carried out in Belgium from 1975 to 1978 in the broader framework of a large National Project in the Social Sciences. An explanation is given of the scope of the study, its method and sampling. Since the very broad study design, it was decided to make a selection of interesting results. An overview is given of the most relevant data with respect to the utilization of health care services and of medicines. After a short clarification of the concept of utilization behaviour, some data are presented in order to describe the use of medical services and the consumption of medicines. Secondly an attempt is made to explain utilization behaviour. For the explanatory model used in this project, the WHO-model functioned as an important source of inspiration. In this way it surmounted the limitations of much previous research. This model included variables on the level of the individual—perceived morbidity, predisposing factors and enabling factors—as well as system variables—such as degree of urbanization, proximity and the way of functioning of the medical supply. The research results have successfully shown that:

there is a strong relationship between perceived presence and perceived seriousness of morbidity on the one hand, utilization behaviour on the other hand;

the health perspective (including medical knowledge, values and attitudes) seems to have a differential influence on utilization behaviour, depending on age and social background of the respondent;

the inclusion of socio-structural variables is an innovation in the Belgian health care research. The hypothetical character of the relationships found here is largely supported by the research simultaneously conducted in the French-speaking region of Belgium;

accessibility and socialization are factors having a clear influence on the use of general practice services. The importance of the presence and the organization of the supply in the explanation of utilization behaviour is partly confirmed.

INTRODUCTION

Scope of the study

In 1974 the Belgian Ministerial Council approved the National Research Project in the Social Sciences. The objective of this program was to carry out policy preparatory research in four important sectors of social policy: health care, social security, education and social welfare. In Flanders researchers from several universities (Antwerp, Ghent and Leuven) and disciplines (physicians, sociologists and statisticians) decided to cooperate in the Primary Health Care Project.

Two major parts of this project were: *health care needs*—To determine the needs of the population with regard to health and welfare services, little use could be made of secondary data. Primary data had to be collected via a health interview survey in a sample of the Flemish population (the population study).

A three-fold approach was used to catalogue these needs:

what complaints, disturbances and problems do people have?;

what health concepts they have, and what are their attitudes with regard to health, illness and the health care supply?;

what behaviour do they display with regard to health and illness?

Health care supply—this part of the study included:

a conceptual clarification of the notion of primary health care;

empirical research into the quantity, density and distribution of primary care services; including their main determinants;

empirical research into the internal structure and functioning of the most significant primary care services (service analysis study);

ideological analysis of how the various services legitimize, through their representative organizations, their involvement in primary care.

Since the very broad study design, an overview will be given of only a selection of interesting results. Attention will be given to the utilization of health care services and of medicines.

Method and sample

Because of the indicated delimitation of this article, in this section attention will only be paid to the methodology of the health survey interview. Discussed in turn are the research population, the choice of the observation unit, the sampling design and the observation instrument.

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The research population. The research population included all persons who:

reside in the Dutch-language region of Belgium (Flanders). This excludes the French-speaking region, Wallonia and the bilingual region of Brussels, the capital;

are Belgian and Dutch-speaking. Since it is presumed that illness and health behaviour patterns are strongly culture bound, other nationalities and other linguistic groups are excluded;

are older than 15. This is justifiable on the basis of both interviewing considerations (availability and manner of questioning) and analytical considerations;

are not permanently resident in an institution, such as a prison or a hospital.

Given these limitations, the research population amounts to approximately four million people.

Choice of the observation unit. Most 'health surveys' consider the 'household' as the observation unit. Examples are the American 'Health Interview Survey' [1], the English 'General Household Survey' [2] and the French 'Health Survey' [3]. The principal reason for taking the household as the observation unit is the possibility to acquire data on a large number of people by interviewing a small number of respondents. The following disadvantages of this method may be mentioned:

using proxy interviews (i.e. one person reporting on all the other members of the household) is a possible source of underreporting [4];

household surveys create problems in the design of an explanatory model and in the analysis of utilization behaviour. How, for example, is the medical knowledge of the household measured?

For those reasons, the unit of observation in this research project was the individual. Yet there is a difference between the observation unit and the unit of analysis. As will appear from the presentation of the results, the unit of analysis can be as well the individual as the utilization act.

Sampling design. Since the chosen observation unit was the individual, a sample of individuals was selected. It was a two-stage, stratified, cluster sample. In a first stage the municipalities functioned as the primary sample units and were stratified on the basis of urbanization and density of ambulatory health care services. In a second stage, from each of the clusters (municipalities) retained, the necessary constant number of individuals was drawn by simple random sampling. The sample size was limited to 1904 people. The actual number of people included in the final analysis was 1745 because of dropouts, incomplete questionnaires, etc.

Observation instrument. A perennial problem in health surveys is the underreporting of the number of health disturbances and acts of medical consumption [5]. Satisfactory resolutions to this problem may be:

the improvement of the interview situation [6] by: conducting multiple interviews

decreasing the recall period in a substantial and/or selective way [5, 7];

the addition of a health diary, as e.g. the French Carnet de Santé [3, 4, 8, 9].

Taking into account those considerations, the following observation plan was drawn up for this study:

with a time interval of 3 weeks (the same as used by the French Health Survey) three interviews were conducted, each involving a uniform recall period of 3 weeks;

for the second and third interviews, the respondent was instructed to keep an open-structured health diary for the observation period. The health diary functioned as the starting point for these interviews.

Observation conducted in this way can be considered very satisfactory. The response ratio was 72%. The minimal dropout rate for the second and third interviews is significant for the evaluation of the feasibility of using health diaries. Indeed, the study showed that the functionality of a health diary consists of its support of the interview: with the health diary at hand, the respondent remembers more events and/or more details.

THE UTILIZATION OF HEALTH CARE SERVICES AND OF MEDICINES

Introduction: the concept of utilization behaviour

In medical sociology a considerable amount of literature is available that reports on factors explaining why people do or do not use medical services. Utilization behaviour here is generally considered to be the (temporary) end of a process, which usually is called illness behaviour. Illness behaviour has been defined by Mechanic [10] as: "the way in which given symptoms may be differentially perceived, evaluated and acted (or not acted) upon by different kinds of persons". Kasl *et al.* [11] give a similar definition: "any activity, undertaken by a person who feels ill, to define the state of his health and to discover a suitable remedy". Medical sociologists usually conceive illness behaviour as a 'process' in which the individual passes a number of stages, whereby he has to make choices among different behavioural alternatives. Illness behaviour is a decision-making process. Under the influence of Parsons' paradigm of the sick role utilization behaviour, however, is often considered the ideal form of illness behaviour. At the end of the process one has to seek technically competent help, in the most usual case that of a physician [12]. Moreover illness behaviour usually is conceived as a 'social' process. This implies that it is, to a large extent, influenced by a number of personal and social factors. This point will be elaborated into more detail below. Most of the research in this field is concentrated on only one form of illness behaviour, namely utilization behaviour. The use of officially recognized medical services is the core of most studies.

In contrast this study included other forms of illness behaviour. Although the primary focus was on the utilization of health care services, it was expected that other forms of illness behaviour could play a role in the explanation of the use of services. Lay-referral could be mentioned as an example. Its importance in the premedical phase has already been proposed by Freidson [13].

Successively a description and an explanation will be given of the utilization behaviour of the Flemish

population. The description includes the hospital stays, but the explanatory part is concentrated on the ambulatory health care services.

Utilization behaviour: a description

Successively attention will be paid to the use of medical services on the one hand and the use of medicines on the other hand. Both will be described on two levels: on the level of the utilization act, and on the level of the individual.

The use of services: a description on the level of the utilization act. The frequency distribution of the use of medical services is given in Table 1. In total 2925 utilization acts were performed. The general practitioner is very often consulted (44.9% of the total acts). Extrapolating on a year-basis, those figures signify a consultation-rate of 4.4 GP contacts per adult per year. Nursing accounts for 17.7% of the utilization acts; medical specialists for 10.6%. In Belgium no referral is required to consult a specialist. The very low figures for medico-technical examinations (2.7%) and for non-official healers (0.4%) are presumably to be ascribed to an underreporting effect. This hypothesis is derived from analyses of secondary data, i.e. Belgian social security data for medical-technical examinations and specific studies on the consultation of non-official medicine. The small proportion of obligatory examinations (2.2%) screening programs (1.1%) and psycho-social services (0.8%), in contrast to the high figures for general practitioners, specialists and nurses reveal the curative and somatic accent in Belgian health care. These observations are all the more noteworthy when one realizes that the Belgian curative and somatic health care services are provided by the private sector based on a fee-for-service system. Preventive and social services on the contrary are more often organized as public services, are free for the clients and the care providers are paid on a capitation system-basis.

Theoretically primary health care very often is characterized a non-specialized and easy accessible services. Since there is no official definition of primary health care in Belgium, this care level could be empirically assessed as those services mostly consulted without referral. Looking at Table 2 we may consider the general practitioner as the most clear example of a

Table 1. Frequency distribution of the use of medical services (level of the utilization act)

Type of consumption	AN	%
General practitioners	1314	44.9
Popular specialists*	118	4.0
Remaining specialists	194	6.6
	312	10.6
Dentists	182	6.2
Nursing	518	17.7
Physiotherapists	212	7.3
Medico-technical examinations	78	2.7
Obligatory examinations [†]	64	2.2
Screening programs	33	1.1
Hospital stay	178	6.1
Non official healers	11	0.4
Psycho-social services	23	0.8

*This category includes pediatricians, gynecologists, ophthalmologists, dermatologists and otorhinolaryngologists

[†]Conducted within the context of industrial medicine (e.g. upon hiring), school medicine, etc.

Table 2. The use of medical services according to referred or patient initiated consumption (level of the utilization act)*

	Patient initiated		Referred		Total	
	AN	%	AN	%	AN	%
General practitioners	939	73.3	339	26.5	1278	100.0
Popular specialists	72	62.6	43	37.4	115	100.0
Other specialists	70	37.2	118	62.8	188	100.0
	142	46.9	161	53.1	303	100.0
Dentists	109	62.9	65	37.4	174	100.0
Nursing	30	6.3	446	93.7	474	100.0
Physiotherapists	2	0.9	210	99.1	212	100.0
Medico-technical examinations	15	20.0	60	80.0	75	100.0
Hospital stay	0	0.0	170	100.0	170	100.0
Psycho-social services	13	61.9	8	38.1	21	100.0
Total	1250	46.1	1459	53.9	2709	100.0

*Differences in numbers compared to Table 1 are due to missing information.

primary health care service, since 73.5% of their consultations are patient-initiated. They are followed by the popular specialists and the dentists (both 62.6%). A combination of the figures in Tables 1 and 2 shows the central position of the general practitioners in Belgian health care. The population clearly considers the general practitioners as the most important entry to the health care system. The higher proportion of patient-initiated use of popular specialists in contrast to the use of other specialists (62.6% vs 37.2%) confirms the hypothesis that popular specialists are more likely to be primary care providers. The small proportion of patient-initiated consumption of hospital (none: 0.0%), physiotherapists (0.9%) and nursing (6.3%) services also merits further examination. Although the hospital, as other services, is directly accessible, this virtually never occurs. As regards physiotherapists and nursing services, it must be noted that one of the legal conditions for reimbursement by health insurance is the presentation of a referral attest. Thus, the health insurance system does seem to have an effect on the extent of patient-initiated use. In the discussion about the control of health care costs, however, it may be asked whether the low proportion of patient-initiated use of nursing and physical therapy is not offset by a commensurably high proportion of referrals to physiotherapists and nursing services.

The predominance of the curative and somatic components in the Belgian health care system can be illustrated once more by Table 3. Classified according to the reasons for utilization behaviour 70.1% of the total use occurred as a result of health complaints. Moreover 17.9% was recorded as check-up consultations, what indicates the presence of latent health complaints. Only 4.5% of the total use was described as occurring for preventive reasons. The relatively low proportion of complaint-bonded use of (42.4%) population screening is still surprisingly high since, by definition, population screening is preventive care. With 11.7% of the dental consultations being preventive, dental services is, after screening, the most often consulted for preventive reasons.

Table 3. The use of medical services according to the reasons for consumption. (level of the utilization act)*

Reason for consumption	Health complaints		Prevention		Check-up consultation		Certificates		Other		Total	
	AN	%	AN	%	AN	%	AN	%	AN	%	AN	%
General practitioners	926	70.8	47	3.6	283	21.6	27	2.1	25	1.9	1308	100.0
Popular specialists	63	54.8	4	3.5	45	39.1	0	0.0	3	2.6	115	100.0
Other specialists	159	82.4	7	3.6	25	13.0	0	0.0	2	1.0	193	100.0
	222	72.1	11	3.6	70	22.7	0	0.0	5	1.6	308	100.0
Dentists	122	67.8	21	11.7	22	12.2	1	0.6	14	7.8	180	100.0
Nursing	343	66.2	30	5.8	67	12.9	0	0.0	78	15.1	518	100.0
Physiotherapists	163	76.9	2	0.9	4	1.9	0	0.0	43	20.3	212	100.0
Medico-technical examinations	59	75.6	1	1.3	17	21.8	1	1.3	0	0.0	78	100.0
Obligatory examinations	3	4.8	0	0.0	56	90.3	3	4.8	0	0.0	62	100.0
Screening programs	14	42.4	19	57.6	0	0.0	0	0.0	0	0.0	33	100.0
Hospital stay	169	94.9	0	0.0	0	0.0	0	0.0	9	5.1	178	100.0
Non official healers	11	100.0	0	0.0	0	0.0	0	0.0	0	0.0	11	100.0
Psycho-social services	8	34.8	0	0.0	2	0.0	0	0.0	13	56.5	23	100.0
Total	2040	70.1	131	4.5	512	17.9	32	1.1	187	6.4	2911	100.0

*Same remark as in Table 2.

A description on the level of the individual. The distribution of the consumption over the research population by consumption category provides a number of supplementary data for the description on the level of the act. 50.1% of the total research population ($N = 1745$) consulted at least one of the services during the nine-week observation period (cf. Table 4). Of them, more than half consulted a service more than once. These figures show how much health and health care are an essential and integral element in the life style of the population. Once again it becomes clear how central the position of general practitioners is: 36.1% of the research population consulted him or her at least once during the period of observation. Nearly half of them consulted him or her more than once. All the other services are consulted by less than 10% of the research population. Screening programs, non-official healers and psychosocial services obtain very low figures (less than 1% of the population). This again demonstrates the marginal character of preventive, psychosocial and non-official services. Finally, the distribution of the use of nursing services over a narrow segment of the population (2.1%) is striking,

since this use comprises a considerable proportion of the total utilization acts (cf. Table 1). Probably this is due to the fact that the nursing services are mostly used by chronically ill and elderly persons: a relative small group of the population, yet frequently appealing to those services.

The use of medicines. Two elements have to be clarified at the outset, namely the measurement unit used and the pharmaceutical classification applied. Because of the various packaging units on the market, measurement of medication in terms of 'number of packages used' is rather difficult. Moreover, measurement in terms of 'number of packages used' is inadequate to determine partial use of purchased medications. Therefore, the number of use days per medication (the day dose) was chosen as the measurement unit. The pharmaceutical classification employed is a classification system developed by the physicians members of the research teams. The starting points for the construction of this classification were, on the one hand, their own pharmaceutical knowledge, and, on the other, an overview of the observed pharmaceuticals. Table 5

Table 4. Frequency distribution of the use of medical services (level of the individual)

Frequency of use	Never		Once		More than once		Total	
	AN	%	AN	%	AN	%	AN	%
General practitioners	1115	63.9	337	19.3	293	16.8	1745	100.0
Popular specialists	1653	94.7	72	4.1	20	1.2	1745	100.0
Other specialists	1658	95.0	46	2.6	41	2.4	1745	100.0
Dentists	1635	93.7	75	4.3	35	2.0	1745	100.0
Nursing	1709	97.9	23	1.3	13	0.8	1745	100.0
Physiotherapists	1723	98.7	4	0.2	18	1.6	1745	100.0
Medico-technical examinations	1680	96.3	54	3.1	1.1	0.6	1745	100.0
Obligatory examinations	1656	94.9	78	4.5	11	0.7	1745	100.0
Screening programs	1734	99.4	11	0.6	0	0.0	1745	100.0
Hospital stay	1714	98.2	31	1.8	0	0.0	1745	100.0
Non official healers	1733	99.3	10	0.6	2	0.1	1745	100.0
Psycho-social services	1733	99.3	8	0.5	4	0.3	1745	100.0
Total	870	49.9	386	22.1	489	28.0	1745	100.0

Table 5. Overview of the drug categories

Codename	Category	Clarification
Analgesics	Analgesics	Drugs against pain, fever and inflammation
Cough	Cough remedies	Drugs against cough and/or for expectoration
Cold	Common cold remedies	Other than above also eye and nose drops and mouthwaters
Ointments	Ointments and antiseptics for the skin	
Revuls	Revulsive ointments and solutions	External treatment for painful and stiff muscles
Stools	Purges and antiarrheal agents	
Stomach	Agents against all kind of stomach diseases	Also bile-diseases
Sleep	Hypnotics	
Vitamins	Vitamins and tonics	Also enzymes, oligo-elements and 'liver-remedies'
Sedatives	Sedatives	All non-hypnotic tranquillizers
Allergy	Anti-allergics	Drugs used in allergic disorders
Antibiotics	Antibiotics, sulfonamides and antimycotics	Antimycotics—against fungi
Hormones	Hormones	Exept. corticosteroids
Cortico	Corticosteroids	Also ACTH Exept. corticosteroids in ointments and solutions
Vasodilators	Vasodilators	Effectiveness of these drugs is not proven
Heart	Other drugs against cardiovascular diseases	Effective drugs against heart and great vessels disorders
Diuretics	Diuretics	Removal of water from the body
Hypertension	Hypotensive drugs	
Bronchodilators	Bronchodilators	
Psycho.	Psychofarmaca	Other than sedatives or hypnotics
Spasma	Spasmolytics	Agents against cramps of bowel, kidney, etc.
Specific	Other specific therapy	Specific drugs against disorder as diabetes, etc.
Magistral	Compound prescriptions	Unless related to one of the other categories
Homeopatics	Homeopatics	Also 'natural' products
Antimit.	Antimitotica	Cancer treatment
Vaccine	Vaccines	Vaccinations against several diseases
Not classif.	Not to classify	

gives the code names for each classification category, which names are used in the remaining tables, and description and further clarifications of the categories.

A description on the level of the utilization act. Table 6 gives the frequency distribution of the use of medicines. In total 60,722 day doses of medicines were consumed. This implies that each member of the research population uses one day dose every 2 days. The threshold for the use of medicines thus seems to be very low. Cardiovascular medication forms the largest category (10.4%). Together with the diuretics, the antihypertensives and vasodilators, this category represents almost 25% of the total use of medicines. The quantitative importance of this category is to be ascribed to the chronic use of such drugs, since in approx. 80% of the cases they are used during more than 3 weeks of the observation period. The latter is not true for analgesics, which nevertheless constitutes the second important category (8.8%). Most of them, also

approx. 30%, are used at most during one week. Those figures are presumably related to the self-perception of the respondents with regard to their health status. Indeed the research results showed that 64.6% of the population formulated at least one health complaint, whereby complaints of pain were particularly common. Sedatives and tranquilizers occupied the third place with 7.5%, which confirms the well-known hypothesis regarding the extent of the use of such forms of medication. Vitamins and antibiotics also occupy a rather important portion of the medications used. In the discussion regarding 'over and/or under-consumption' of medicines, the argument of self-medication is often introduced. It is suggested that the population regularly uses too much medication on its own initiative and thus is itself responsible for the possible damage results. Table 7 provides the necessary information in this context. 85.6% of the total use of day doses was prescribed by a physician. A very small proportion

Table 6. Frequency distribution of the use of medicine (level of the utilization act)

Category	Number of day doses	%
Heart	6344	10.4
Analgesics	5325	8.8
Sedatives	4575	7.5
Vitamins	3612	5.9
Antibiotics	3596	5.9
Vasodilators	3428	5.6
Diuretics	3098	5.1
Ointments	2911	4.8
Psycho.	2635	4.3
Cough	2325	3.8
Hypertension	2193	3.6
Stomach	1977	3.3
Magistral	1820	3.0
Sleep	1789	2.9
Cold	1688	2.8
Hormones	1406	2.3
Stools	1071	1.8
Homeopathics	1044	1.7
Bronchodilators	1031	1.7
Allergy	953	1.6
Cortico	749	1.2
Revuls.	559	0.9
Spasmo.	408	0.7
Specific	3448	5.7
Not classif.	2725	4.5
Total	60,722	100.0

(1.8%) was used on the advice of a pharmacist, and the amount of self-medication comprised barely 12.6%. This low figure is an initial qualification of the attention given to self-medication in the discussions on the matter. Moreover, Table 7 shows that self-medication is also a selective phenomenon: self-medication occurs clearly with respect to a restricted number of pharmaceutical categories. More than 30% of the use of

Table 7. Use of medicines according to prescribed or non-prescribed use (level of the utilization act)

Category	Prescribed by physician		Not prescribed		Total
	AN	%	AN	%	
Homeopathics	486	48.0	526	52.0	1012
Cold	838	51.1	802	48.9	1640
Analgesics	3069	59.0	2139	41.0	5208
Revuls.	332	60.5	217	39.5	549
Cough	1580	69.3	700	30.7	2280
Stomach	1480	76.0	468	24.0	1948
Ointments	2139	76.9	642	23.1	2781
Stools	886	83.5	175	16.5	1061
Sleep	1497	85.7	249	14.3	1746
Allergy	800	86.2	128	13.8	928
Sedatives	3886	86.4	612	13.6	4498
Vitamins	3072	86.7	474	13.3	3546
Magistral	1655	90.4	156	8.6	1811
Hormones	1300	93.9	84	6.1	1384
Diuretics	2810	93.9	183	6.1	2993
Antibiotics	3296	94.9	180	5.1	3476
Cortico.	712	95.1	37	4.9	749
Bronchodilators	991	96.2	39	3.8	1030
Heart	6096	97.4	163	2.6	6250
Spasmo.	371	97.9	8	2.1	379
Vasodilators	3351	98.6	48	1.4	3399
Hypertension	2117	99.0	21	1.0	2138
Psycho.	2611	99.3	19	0.7	2630
Not classif.	2283	84.7	412	15.3	2695
Specific	3255	96.1	128	3.9	3383
Total	50,913	85.6	8610	14.4	59,523

homeopathic medications, cold and cough medications, analgesics and revulsive salves are self-medication. Characteristics of these categories is that they concern primarily medically unimportant acute complaints such as a common cold or a flu.

A description on the level of the individual. On the average, each member of the research population used 1 day dose per 2 days, as stated in Table 8. Table 9, however, provides some more empirical refinement. The total number of medicine takers in the population comprised only 63%. This implies two things: first, that 37% of the population succeeds in living without medicines, and second, that the 63% of the medicine takers use many drugs. Finally, Table 9 gives the distribution of medicine use per category on the level of the individual. Analgesics, revulsive salves, antibiotics, sedatives and cold medications are distributed over more than 10% of the population. Analgesics clearly comprise the largest category (33.2%). The hypothesis that the high use of cardiovascular medicines is to be explained by habitual use is confirmed by this table: this category included only 7.6% of the population.

Table 8. Total use of medicines according to duration (level of the individual)

Duration	AN	%
1-2 days	162	9.3
3 days-1 week (7 days)	175	10.0
1 week (8 days)-2 weeks (14 days)	142	8.1
2 weeks (15 days)-3 weeks (21 days)	107	6.1
> 3 weeks	514	29.4
Total number of consumers	1100	63.0
Total number of non-consumers	645	37.0
Total number of respondents	1745	100.0

Table 9. Use of medicines according to prescribed or non-prescribed use (level of the individual)

Category	Prescribed by physician		Not prescribed		Total	
	AN	%	AN	%	AN	%
Analgesics	166	9.5	479	28.4	579	33.2
Ointments	109	6.2	102	5.8	194	11.1
Antibiotics	166	9.5	30	1.7	191	10.9
Sedatives	139	8.0	68	3.9	187	10.7
Cold	57	3.3	138	7.9	181	10.4
Vitamins	123	7.0	46	2.6	168	9.1
Cough	83	4.8	70	4.0	143	8.2
Heart	124	7.1	19	1.1	132	7.6
Stomach	64	3.7	77	4.4	130	7.4
Vasodilators	77	4.4	7	0.4	82	4.7
Diuretics	76	4.4	11	0.6	80	4.6
Magistral	71	4.1	13	0.7	80	4.6
Stools	38	2.2	39	2.2	75	4.3
Sleep	45	2.6	22	1.3	62	3.6
Revuls.	18	1.0	45	2.6	60	3.4
Psycho.	51	2.9	11	0.6	59	3.4
Homeopathics	16	0.9	43	2.5	58	3.3
Hypertension	57	3.3	7	0.4	57	3.3
Hormones	39	2.2	5	0.3	41	2.3
Allergy	30	1.7	9	0.5	36	2.1
Spasmo	24	1.4	5	0.3	28	1.6
Bronchodilators	23	1.3	3	0.2	26	1.5
Cortico.	24	1.4	4	0.2	26	1.5
Vaccine	7	0.4	11	0.6	18	1.0
Ointments	4	0.2	6	0.3	10	0.6
Antimit.	2	0.1	-	-	2	0.1
Specific	84	4.8	24	1.4	102	5.8
Not classif.	105	6.0	62	3.6	162	9.3

Utilization behaviour: an explanation

Introduction. In their attempts to find an explanation for utilization behaviour, behavioural scientists have developed a number of explanatory models. Most of these models, however, suffer from the same flaw: one or another form of onesideness.

- (1) Some models relate utilization behaviour and other forms of illness or health behaviour univocally to specific kinds of variables, for example, demographic, socio-psychological, socio-cultural or economic variables. Because most of these models overlook the complexity of social reality, their value is more descriptive than explanatory.
- (2) Another form of onesideness often encountered in those explanatory schemes is restriction to individual, person-bonded factors. Social factors are generally also mentioned, but without their specific influence on medical consumption being investigated. The influence, for example, of the organization of the medical supply on illness behaviour and medical consumption is largely ignored.

The Primary Health Care Research Project has attempted to surmount these limitations in its explanation of utilization behaviour. In the construction of its own explanatory model for the purposes of the population study, the WHO model functioned as an important source of inspiration. Indeed, the explanatory factors used in the WHO model include a number of system variables as well as 3 types of variables on the level of the individual: perceived morbidity, predisposing factors and enabling factors [7].

Perceived morbidity. Both in the WHO model and in our explanatory schema, the perceived morbidity or the complaint is seen as the force which initiates decision making in the process of illness behaviour. The underlying hypothesis is that it is people's beliefs about their health, rather than clinically objective states, that are the major determinants of illness behaviour in general and the non-referred utilization behaviour particularly. In order to obtain information on this perceived morbidity the respondents were asked to report their current problems and complaints during the 9 weeks observation period.

Predisposing and enabling factors. Once people have reasons by virtue of their perceived morbidity for seeking care, the decision is further influenced on the individual level by socio-cultural factors that predispose or deter from the use of formal health services (predisposing factors), and by the cost of pursuing that course of action (enabling factors). In our own explanatory scheme, this implies a number of both individual characteristics and characteristics of the household of which the individual is a part. A central place in the model is occupied by a set of knowledge and attitude variables, which are combined under the concept of 'health perspective'.

Systems factors. An important advantage of the WHO model and our own explanatory schema is the attention given to a series of institutional factors. These variables, which are ignored in most studies, characterize the context in which the individual decision making process occurs. Unlike the perceived

morbidity and the socio-cultural factors, which are variables that are attributes of individuals, systems factors are constant for all people within a particular population. Systems factors not only include such variables as degree of urbanization, but also data on the quantity and the quality of the health services available.

The explanatory schema used in the Primary Health Care Research Project thus consists of an extended series of hypothetically influencing factors:

structural background characteristics of the individual and of the individual's household;

the past and current morbidity profile of the individual and of the members of the household;

the past experience of the individual with health care services;

the health perspective of the individual

the illness behaviour developed by the individual on the basis of perceived morbidity;

the presence and actual operation of the medical supply;

the socio-structural context of the individual.

In the descriptive section the heterogeneous character of utilization behaviour has already been illustrated, as well as the quantitative differences in the occurrence of the various forms of use of services. The further exposition will therefore be limited to a number of quantitatively sufficiently large forms of utilization behaviour. Thus attention will be paid to general practitioners, specialists, global medication and self-medication. This explanatory schema of utilization behaviour is obviously very complex. It will be clear to the reader that complete testing of this schema requires very advanced procedures of multivariable analysis. Moreover, the controlling possibilities are limited by the size of the sample and the broad definition of the test population. No doubt, future research will have to concentrate on specific hypotheses and on specific populations such as young people or the chronically ill. The results given below, consequently, are of an exploratory nature and, perhaps, can give rise to more well-founded hypotheses, which may be tested by further research. The analysis has been carried out by means of factorial experiment, in which the dependent variable is expressed as a mean per unit of analysis. The variables 'urbanization', 'sex' and 'age' have always been held under control.

The influence of perceived morbidity and disability on utilization behaviour

Perceived presence of morbidity. Already more than once the predominantly curative character of Belgian care has been stressed. Therefore, one may expect that the perceived morbidity as indicated by the formulation of complaints, will be a necessary condition for medical consumption. The research results indeed show a strong relationship between the presence or absence of health complaints and utilization behaviour. The people with health complaints account for 90.6% of the total use of general practitioners, 91.4% of the specialists, 84% of the global use of medicines and 93.5% of the self-medication. On the basis of this observation, it was decided to keep the complaint variable under control for all of the further

analysis in order to exclude its possible intervening influence between the other explanatory variables and utilization behaviour. This means limiting the population to people with health complaints, which yielded a total number of 1.127 units. Although the manifestation of complaints was a necessary condition for medical consumption, it was not a sufficient condition: from the descriptive results, it appeared that 23.7% of the complaints were not followed by any form of utilization behaviour, and there was still a portion of use of services that was not based on complaints.

Perceived seriousness of morbidity. The statement on the influence of perceived morbidity on utilization behaviour can be further refined: the more serious the complaint, the greater the chance of utilization behaviour. Because the present study is a health interview study, the degree of seriousness was not indicated by means of medical criteria. Rather, seriousness is here indicated by:

- the average duration of the complaint;
- the inability to carry out activities essential to daily living;
- the development of several forms of illness behaviour.

A longer average duration of the complaints is clearly associated with more utilization (general practitioner services and medicines).

The so-called 'Activities of Daily Living' (ADL) and 'Sickness Impact Profile' (SIP) are sufficiently well-known as attempts to measure the behavioural limitations of illness. The application of a very limited measurement instrument on the level of ADL in this study shows a clear relationship between the manifestation of behavioural impact and utilization behaviour. In the present study illness behaviour is operationalized by: complete or partial disruption of daily activities, confinement to bed and lay referral. Over the entire range, a clear relationship appears: the development of illness behaviour is clearly associated with more utilization behaviour.

The influence of socio-cultural factors on utilization behaviour. Several research results [14] point to the importance of socio-cultural factors in the explanation of illness behaviour. In the delineation of the conceptual framework, the central role of the health perspective in the explanation of utilization behaviour already has been indicated. In the present study an attempt was made to operationalize these determinants by distinguishing different dimensions within the global concept of health perspective. For each of those dimensions one or more scales were constructed. The most important aspects of the health perspective, included in this research project are:

Medical knowledge, including both the knowledge of illness and health problems, and the knowledge of the existence and the functioning of health care services.

The basic concepts of health and illness, which may be ration-scientific or irrational, compared to the concepts currently present by the health care providers.

The evaluation of different services (general practitioners, specialists, etc.).

The feeling of powerlessness, both in the area of illness and health, and in other areas of life.

On the basis of the research results two hypotheses can be formulated, which, in any event, must be tested by further research.

- (1) The health perspective is not of decisive significance for the volume of the medical consumption. But it does play an important role in the choice that is made between utilization alternatives.
- (2) Differences in age and social background are associated with different health perspectives, which in turn lead to different patterns of utilization behaviour. Thus the health perspective intervenes in the relationship between age and social background, and utilization behaviour.

Hypothesis I. The most striking relationship between health perspective and utilization behaviour can be stated as follows:

More feelings of powerlessness in general and towards health, lead to more appeals to general practitioners, specialist services and to more use of medicines.

More rational concepts of illness, expressed in a lack of faith in methods of natural healing and in the absence of moral and religious concepts of illness, lead to more use of specialist and general practitioner services. On the other hand more irrational concepts increase the use of medicines. A high degree of medical knowledge leads to more use of specialist services; it seems to have little or no influence on the use of general practice service. Nor is there a univocal conclusion possible with respect to the relationships between medical knowledge and the use of medicines. The influence of medical knowledge in this regard seems not only to act differently in various groups of respondents, but also to be different for the various pharmaceutical categories.

Hypothesis II. In relating the variables of age and social level to the health perspective variables and the various consumption categories, the major types of consumers appear. On the one hand are the respondents with a rather magical-traditional approach to illness and health, who often call upon the general practitioner and take a considerable amount of medication. One encounters them mostly among the elderly and on the lower social levels. On the other hand are the respondents with more modern, scientific conceptions, who turn less to the general practitioner, are more critical on the use of medicine, but are the largest consumers of specialist services. One meets them among the younger people and on the higher social level.

A magical-traditional approach to illness and health is characterized by less medical knowledge, more irrational concepts of illness and strong anomic feelings. The relationship between age and social level on the one hand, and the various consumption categories on the other, were indeed confirmed in the present study. Elderly people and people from lower social levels do have a greater degree of utilization of the general practitioner services and a greater use of medicine. Younger people and people from higher social levels manifest a higher degree of consumption

of specialist services. The question is now whether the health perspective intervenes, and, if yes, in what sense.

The relationships uncovered suggest the following:

A higher age and a lower social level do lead to more feelings of powerlessness, more irrational concepts of illness and less knowledge of medicine, factors that each in their turn augment the utilization of general practitioner services as well as that of medications. A younger age and a higher social level, on the contrary, lead to more rational concepts of illness and a high degree of medical knowledge, factors that in their turn positively influence the utilization of specialist services. This group is also characterized by a more critical approach to the medical supply, which can account for the lesser degree to which they use medicines.

Accessibility and utilization behaviour. In addition to perceived morbidity and the health perspective, the utilization of general practitioners, specialist services and medicines, is also determined by a number of factors that can be combined under the common denominator of accessibility. Accessibility refers in the first place to psychological thresholds. Different factors, included in the explanatory scheme, fulfill a socialization function to the entire health care system. In other words, they have a threshold lowering effect with respect to the consultation of physicians and the used medicines. Past experiences with serious illness and experience with chronic diseases are factors increasing the different forms of utilization behaviour. The treatment of those conditions undoubtedly include a more or less intensive contact with the medical supply. These contacts probably lower the threshold for utilization behaviour with respect to actual health complaints. This socialization hypothesis is indeed further supported by the positive relationship between the consultation of general practitioners and the use of medicines on the one hand, and the past use of a number of medical services on the other. The same decreased social distance is also seen when there are elderly people and/or children in the household: through their utilization behaviour, one becomes more familiar with the medical supply upon which the social distance decreases and the consultations of general practitioners as well as the use of medicine consequently increases.

Financial accessibility also plays a role. Employees, a category with complex coverage by the health insurance, call more upon the general practitioner and the specialist than do the self-employed who are not insured against 'minor' risks. In the same perspective, one can explain the observation that the self-employed manifest a higher degree of self-medication and a longer period of global medication than do those with complete coverage.

Further, accessibility may be associated with the manner in which the medical supply is evaluated. Thus, a positive evaluation of the general practitioner leads to more consultations of general practitioner services and a higher use of medicines. Also, negative evaluations of specialist services go together with more consultations of general practitioners. The observation that the elderly and people from lower social levels evaluate the general practitioner positively and the specialist negatively and also are the largest consumers of general practitioner services and medications illustrates the intermediating effect of this satisfaction threshold.

The influence of socio-structural factors on utilization behaviour. Because individual behaviour cannot be explained only by individual characteristics, our explanatory scheme also includes a number of factors characterizing the broader social context to which the respondent belongs. Both, socio-structural variables and the proximity and the way of functioning of the medical supply are taken up in the explanatory scheme.

A high degree of urbanization of the community in which the respondent lives seems to have a positive effect on the consultation of specialist services. The relationships are unclear with regard to the consultation of general practitioners and the use of medicines.

Previous studies have revealed few connections between medical supply and utilization behaviour. The present study, therefore, provides new information on this regard. In contrast to what is generally expected, a greater density of physicians does not lead to more consultation of physicians. A greater concentration of general physicians—on the other hand—decreases the utilization of general practice services, and a greater concentration of specialists decrease the utilization of specialist services. This may indicate that there is a critical threshold above which a higher supply does not result in more utilization behaviour. Moreover it suggests the existence of a market regulating mechanism, already mentioned in other research [15].

There is also a noteworthy connection between a low availability (indicated by a little amount of time available for the patient) of general practitioners and a greater use of general practitioner services. Formulated positively, a greater accessibility of the general practitioner, indicated by a more patient-oriented organization of his practice, can depress the use of general practitioner services.

CONCLUSION

The explanation of utilization behaviour is approached theoretically as a complex phenomenon. Therefore, a very broad explanatory schema was sketched. So far, the research results have successfully shown that:

There is a clear and strong relationship between the perceived presence and perceived seriousness of morbidity on the one hand and utilization behaviour on the other.

The health perspective seems to have a differential influence on utilization behaviour depending on age and social background of the respondent.

The factors of accessibility and socialization have a very clear influence on the use of general practitioner services, and partly confirm the importance of the supply of the explanation of utilization behaviour.

The inclusion of a number of socio-structural variables is an innovation for this field of research. The hypothetical character of the relationships found here is largely supported by the research conducted simultaneously in the French-speaking region of Belgium [15].

Any explanatory schema that does not take account of the influence of all these variables threatens to

oversimplify the complexity of the phenomena of illness and utilization behaviour. Nevertheless, we must stress the temporary and exploratory character of this study. A large number of the relationships discovered undoubtedly need further testing and are, in this sense, subject to refinement and correction.

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