

continuous  
morbidity  
registration  
sentinel stations  
the netherlands



**1994**

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## FOREWORD

With a system running for years like the Continuous Morbidity Registration (CMR), Sentinel Stations, it is possible to follow developments in time, sometimes continuously, as in the case of the influenza figures or, to mention a quite different subject, with the requests for euthanasia, and sometimes by repeating a certain presentation of a question a number of years later, in order to see whether incidence, prevalence and interventions have increased or decreased.

The latter has happened with major disorders like acute myocardial infarction and diabetes mellitus. Compared with the beginning of the eighties the incidence of myocardial infarction has decreased and that of diabetes mellitus increased. The decrease in the number of myocardial infarctions presented to the general practitioner makes it clear that the decline in mortality from cardiovascular disease has its roots in a decrease of the **morbidity**, and that is an important conclusion for science and policy. The (causes of) increase in the number of cases of diabetes mellitus is less clear. It is not impossible that improved detection is responsible for this, for research has shown something of a discrepancy between the number of cases in general practice and in mass screening.

The trend in the number of requests for euthanasia is falling slightly. The new prosecution policy has in any case not led to an increase in the number of requests at the sentinel stations; if an effect of the political changes ought to be visible then that ought to be evident from the figures for 1995.

In 1994 influenza was hardly diagnosed if at all; the peak of the 1993-1994 season already fell in November 1993. A year without influenza is something special; the absence of an influenza wave puts the figures on the reduction of sickness absenteeism into perspective to some extent.

Finally, a word about the number of consultations of the general practitioner in which fear of infection with the HIV virus came up; this number increased again in 1994, and considerably so. This is at variance with reports that the growth in the number of AIDS patients has decreased.

Figures for 1995 must in a number of cases give a definite answer on possible paradoxes and contradictions.

Prof. dr. J. van der Zee,  
Chairman of the Sentinel Stations Counselling Committee

## INTRODUCTION

Continuous Morbidity Registration is a method of registration based on general practice. A national network of general practices, the sentinel stations, covers 1% of the Dutch population. In the composition of this network allowance has been made for a geographical spread and for a spread over regions with a varying degree of urbanization (see p. 8-11).

The participating general practitioners, the spotter physicians, submit a form every week on which certain illnesses, occurrences and actions are reported, the weekly return. This weekly return comprises a distribution by age and where necessary a distribution by sex (see p. 130).

Every two years a census takes place of the practice populations concerned. In this way the population to which the collected data must be related is known.

On the whole frequencies are calculated according to age group per 10 000 men or women (see p. 18).

Every year the topics that are to be placed on the weekly return are selected by the Counselling Committee. Requests or suggestions from others are also taken into consideration. In order that a disease or occurrence may be placed on the weekly return, three conditions must be met:

1. a description of the importance of the subject is obligatory;
2. it must be possible to formulate strict and clear criteria with respect to the disease or occurrence;
3. application of these criteria may not be too time-consuming and it has to suit the practice of the general practitioner.

When a topic is included for the first time in the weekly return, some background information is given in this report; for the 'old subjects' it is necessary to consult one of the previous reports.

When considering the subjects that have been included during the years on the weekly return (see p. 131 and 132) the conclusion is reached that the name of the project, Continuous Morbidity Registration, does not in fact cover the whole work. After all, in part it is not diseases that are registered but actions or occurrences. The name sentinel stations is better: a watch is kept, sometimes for one year, sometimes longer or even continuously. That is why the name "Continuous Morbidity Registration, Sentinel Stations the Netherlands" is used.

In addition to the submission of weekly returns, a start was made in 1976 with incidental investigations. This entails the physicians being asked at the end of the year questions about diseases or occurrences that did not happen frequently in the past year.

The report gives neither an exhaustive (statistical) analysis of the collected material nor an extensive study; the aim of the project is to collect basic details on certain subjects and to pass them on.

Since the end of 1988 participation has been taking place in a second international network. Eurosentinel is a cooperative effort of sentinel station networks in countries of the European Union and Switzerland, organized by the Institute for Hygiene and Epidemiology, Brussels. The objective of the project is to promote the creation of sentinel station networks in countries of the European Union and then cooperation between these networks. In 1989 the first research project was performed by Eurosentinel: in October of that year the general practitioners in the various countries collected data on the blood tests requested by them. In 1990-1991 joint registration took place of influenza(-like illnesses) and requests for blood tests for H.I.V. antibodies.

The Eurosentinel project ended in June 1991<sup>1</sup>. However, contacts have been maintained between the project leaders that have led to continuation of the joint activities in the registration of influenza(-like illnesses) and requests for blood tests for H.I.V. antibodies in 1993.

In 1994 the Management Group of the European Early Warning System for Influenza asked NIVEL to submit a project proposal for continuation of the joint activities in the registration of influenza(-like illnesses).



## COUNSELLING COMMITTEE

The subsidy arrangement with the Ministry of Public Health, Welfare and Sport lays down that the Counselling Committee for the implementation of the registration systems consist in principle of:

1. two representatives of the Ministry of Public Health, Welfare and Sport;
2. the Director of the Netherlands Institute of Primary Health Care (Chairman);
3. one representative of the Netherlands Institute of Primary Health Care;
4. two representatives of the Health Care Inspectorate;
5. two representatives of the spotter physicians;
6. one representative of the joint Institutes for General Practice of Dutch Universities;
7. two members on the basis of specific expertise.

In 1993 the committee functioned in the following composition:

F.K.A. Fokkema, M.D.<sup>5</sup>  
Dr. R.R.R. Huijsman-Rubingh<sup>4</sup>  
W. Reijmerink<sup>1</sup>  
H.O. Sigling, M.D.<sup>7</sup>  
W.A. van Veen, M.D.<sup>1</sup>  
J. van der Velden, epidemiologist<sup>3</sup>  
J.K. van Wijngaarden, M.D.<sup>4</sup>  
Prof. Dr J. van der Zee<sup>2</sup>, chairman

**Project leader:** A.I.M. Bartelds, M.D.  
**Secretaries:** Mrs E. Colet-van Woezik  
Mrs M. Heshusius-van Valen

This committee met three times in 1994. It had three vacancies in that year.

## MEETING OF SPOTTER CO-WORKERS 1994

The festive 25th annual meeting of the CMR Sentinel Stations on 8 January 1994 was opened by the chairman of the Counselling Committee, Prof. dr. J. van der Zee, with an extensive word of welcome for special guests: 'Even if this should be the last time that we meet together here, given the uncertain future of the CMR Sentinel Stations, you are sincerely welcome'. This word of welcome was directed towards the present co-workers and the topic-holders of the present but equally to the earlier spotter physicians and topic-holders, to specially invited officials of the Ministry of Public Health, Welfare and Sport, formerly the Ministry of Welfare, Public Health and Culture, and staff of the Health Care Inspectorate, formerly the Chief Medical Office of Health, and the former project leaders.

The Chief Medical Officer of Health, G.H.A. Siemons, after his cordial congratulations to those concerned for all their work, raised the point that a number of critical comments ought to be made about the CMR Sentinel Stations. Thus it can be established that the differences between the results of the registrations by the sentinel stations and other GP registration projects cannot always be explained. As regards impact on the outside world, it may be remarked that 'the limelight is not sought enough'.

The project is open to improvement on these and a few other more subordinate points.

The Health Care Inspectorate, formerly the Chief Medical Office of Health, has reflected on its tasks in the future. Changes in the objectives of the Government Health Inspectorate are reflected in a reorganization of the latter. The new tasks and objectives will give rise to new questions for the CMR Sentinel Stations.

Supervision will be exercised above all when there is a question of a health risk for persons or groups and if it is suspected that the care given is of an insufficiently sound level (incidents in care).

In this particular situation Mr Siemons sees possibilities for a project like the CMR Sentinel Stations: registration with a specific and limited set of questions. He expressed his confidence in a continuation of the cooperation between the Government Health Inspectorate and the project.

The subject of Dr. H. Bijkerk, former head of the infectious diseases division of the Health Care Inspectorate, formerly the Chief Medical Office of Health, and former project leader of the CMR Sentinel Stations, is and remains the surveillance and control of infectious diseases. Part of the surveillance and control is the registration of infectious diseases.

Mr Bijkerk places the surveillance and control, and therefore also the registration, of infectious diseases in a broader context. This relates to the epidemiological study of a disease as a dynamic process that comprises not only the ecology of the infectious agent, the host and the reservoirs (for instance the ticks) but also the complex mechanisms that are involved in the dissemination and spread of the infection. Surveillance and control are therefore separate activities.

Legislation and regulations regarding infectious diseases in the Netherlands date from the 15th century, when they were in many cases promulgated by municipal authorities. In the course of time an ultimately national and still later international approach followed. However, statutory regulation is still reserved for national governments. In 1928 the Infectious Diseases Act entered into effect, which was revised in 1974. The name of the Act also changed: 'Act for the control of infectious diseases and detection of causes of disease'. However, the revised Act does not speak of surveillance.

Since 1974 ideas have changed, according to Bijkerk. The discussion in the departmental working party 'Revision of the Act for the control of infectious diseases and detection of causes of disease' is a reflection of this. Proposals for introducing these new ideas into legislation and regulation are being formulated:

- in the Act, in contrast to the present Act, in addition to control measures attention should also be paid to surveillance on its own merits
- a division should be made between infectious diseases identified by the treating physician and those identified by the laboratory
- for many other diseases it must be possible for reasonably reliable information to be obtained otherwise than by compulsory notification

The national influenza surveillance by the Chief Medical Office of Health, the National Influenza Centre, the National Institute for Public Health and Environmental Protection (RIVM) and the NIVEL sentinel stations is a good example of this. Also conceivable is national or local gauging among certain categories of physicians or institute, of the incidence of more rarely occurring

infectious diseases.

On the international plane legislation and regulation are less self-evident. However, according to Bijkerk, on the basis of his study trip with a number of likewise experienced colleagues in the field of surveillance and control of infectious diseases, it is urgently advisable that a European epidemiological service be set up.

The primary task of this service should be to harmonize the European national surveillance systems. In Bijkerk's opinion the Netherlands can play a good part in this.

Mr Ketting, director of the National Institute for Social Sexological Research, described after the coffee break the developments in birth control in the Netherlands in the period from 1970 onwards.

Birth control has become fully accepted in the Netherlands. The greater part of the population now apply modern, safe and reliable methods.

Pregnancies are increasingly planned and wanted. The number of pregnancies among young people has drastically fallen. The number of abortions is extremely low compared with the countries surrounding the Netherlands. The Netherlands is granted a 'model' status as regards the high degree of perfection of birth control behaviour.

Despite this high degree of perfection, the number of abortions has remained more or less the same for 20 years now. One of the reasons is that unplanned pregnancies are increasingly less accepted. A second reason is that migrants in the Netherlands apply much less effective birth control than natives. The abortion rates among migrant groups is 4-9 times as high as among natives.

Insofar as reliable forms of contraception are used, the occurrence nevertheless of pregnancies is a matter of above all incorrect use. Research data show that at present the cause of one out of four cases of unwanted pregnancies lies with incorrect use of the pill.

On this point too improvement should be pursued: better information on the correct use of the pill and what to do in the case of irregularities.

There is an increase in the number of women becoming pregnant despite the use of condoms. It is suspected that the prevention of sexually transmitted diseases is competing with the prevention of unwanted pregnancy. In the information and advice it will have to be emphasized that a combination of condoms and for instance the pill is the safest procedure.

In the number of sterilizations of the man or woman the data of the CMR Sentinel Stations show that less and less sterilization is being performed, above all at a younger age. This new trend has two major causes: having children is increasingly often postponed until (far) after the age of 30, and the pill has undergone a remarkable rehabilitation in the past ten years. Practically all doubts about the possible health risks of the pill have been removed.

The in general positive development of birth control - and that is perhaps one of the most remarkable facets of it - has come about without there having really been a specific policy on the part of the government. The quality of contraceptive use is largely determined by good and responsible counselling the GP and optimum availability of the means.

It is Mr Ketting's firm conviction that it is wise to leave this situation unchanged.

Professor Diekstra, of the Clinical Psychology Department of Leiden University, closed the programme with an impressive account of an individual process in a young person that ultimately ends in suicide.

In an international perspective the numbers of suicides in the Netherlands are relatively low.

Insight into the phenomenon suicide and attempted suicide is furthered by registration of this by GPs too.

Continuation of the registration of suicide and attempted suicide by the CMR Sentinel Stations is therefore necessary, in Professor Diekstra's opinion.

If the results of the registration of suicide and attempted suicide by GPs are compared with other sources, an intriguing phenomenon appears.

For suicide the numbers of the GPs' registration after extrapolation for the whole population are somewhat higher than the numbers of the Central Statistical Office (CBS).

For attempted suicide a considerable difference exists between the extrapolated figures of the GPs' registration and the numbers after extrapolation of the Foundation for the Provision of Information on Health Care (SIG). It is striking that the graphs based on best sources for attempted suicide display great similarity. However, the GPs constantly report nearly 40% fewer cases of attempted suicide than the hospitals.

The possible explanations for this constant difference were discussed. However, a conclusive explanation is not yet available.

# DISTRIBUTION OF THE SPOTTER PHYSICIANS OVER THE NETHERLANDS

Figure 1  
 SENTINEL STATIONS  
 Continuous Morbidity Registration  
 1994



The number of sentinel stations in 1994 was 45. The number of general practitioners in the sentinel station practices is 64.

In the processing and discussion the following abbreviations or codes are used:

- A for the Groningen, Friesland and Drenthe province group (northern provinces);
- B for the Overijssel, Gelderland and Flevoland province group (eastern provinces);
- C for the Utrecht, North Holland and South Holland province group (western provinces);
- D for the Zeeland, North Brabant and Limburg province group (southern provinces);
- 1 for the A<sub>1</sub>-A<sub>4</sub> urbanization group (rural municipalities)<sup>2</sup>;
- 2 for the B<sub>1</sub>-B<sub>3</sub>, C<sub>1</sub>-C<sub>4</sub> urbanization group (urbanized rural municipalities together with municipalities with urban characteristics);
- 3 for the C<sub>5</sub> urbanization group (municipalities with a population of 100 000 or more).

Appendix 1 (p. 128-129) gives a survey of the general practitioners who took part in the sentinel station project during 1994. In 13 sentinel stations there is cooperation between two or more general practitioners, viz 9 times 2, twice between 3 practitioners and twice between 4 practitioners. In January 1994 the percentage of general practitioners cooperating throughout the Netherlands was 50.8, and among the spotter physicians 53. There are 7 dispensing spotter physicians, 3 in urbanization group 1 and 4 in urbanization group 2, that is 10.6% of the total number of spotter physicians. For the Netherlands as a whole this percentage is 9.8<sup>3</sup>.

Tables 1 and 2 give a distribution of the number of spotter physicians and sentinel stations per province and urbanization group in the years 1985-1994. Adjustment to the standards applicable to the classification by degree of urbanization takes place where and when necessary.

Comparison with the number of general practitioners in the Netherlands in the various subgroups shows that the spotter physicians form a proportional representation (see 1981 report, p. 13).

Table 1: distribution of the spotter physicians (general practitioners) and sentinel stations per province group in the years 1985-1994<sup>4</sup>

province group	A		B		C		D	
	Groningen, Friesland and Drenthe and		Overijssel, Gelderland Flevoland		Utrecht, North and South Holland		Zeeland, North Brabant and Limburg	
	number of GPs	sentinel stations	number of GPs	sentinel stations	number of GPs	sentinel stations	number of GPs	sentinel stations
1985	10	6	10	8	25	21	14	10
1986	10	6	10	8	26	21	14	10
1987	10	6	9	7	28	21	14	10
1988	10	6	10	8	28	21	14	10
1989	10	6	10	8	28	21	13	10
1990	10	6	10	8	28	20	13	10
1991	10	6	10	8	29	19	14	10
1992	10	6	10	8	29	19	14	10
1993	10	6	12	10	28	19	15	10
1994	10	6	13	11	26	18	15	10



Table 2: distribution of the spotter physicians (general practitioners) and sentinel stations per urbanization group in the years 1985-1994

urbanization group	1		2		3		Netherlands	
	rural municipalities		urbanized rural municipalities together with municipalities with urban characteristics		municipalities with a population of 100 000 or more			
	number of GPs sentinel stations		number of GPs sentinel stations		number of GPs sentinel stations		number of GPs sentinel stations	
1985	10	7	35	25	14	13	59	45
1986	10	7	36	25	14	13	60	45
1987	10	7	37	25	14	13	61	44
1988	9	6	39	26	14	13	62	45
1989	9	6	38	26	14	13	61	45
1990	10	6	37	25	14	13	61	44
1991	10	6	39	25	14	12	63	43
1992	10	6	37	24	16	13	63	43
1993	10	6	38	26	17	13	65	45
1994	9	7	41	29	14	9	64	45

## THE PRACTICE POPULATIONS

In 1993 a complete census of the practice populations took place; these details have been used for processing with effect from 1-1-1994. In 1995 a new census took place.

When the project was set up the aim was to take a sample of about 1% of the Dutch population. A geographical distribution (the above-mentioned province groups) was taken into account, as also a distribution of regions with various degrees of urbanization (urbanization groups). An enquiry was held as to whether this aim is still being met. This proved broadly, still to be so, as the following surveys demonstrate.

The Dutch population increased in 1993 by 102 371 inhabitants.

Table 3: comparison of the population of the practices of the spotter physicians with the total population of the Netherlands

		number of inhabitants of the Netherlands <sup>5</sup>	number of patients of sentinel stations <sup>6</sup> (with percentages)
province group	A	1 615 032	23 845 (1.5%)
	B	3 149 749	34 671 (1.1%)
	C	6 826 555	62 662 (0.9%)
	D	3 748 833	35 017 (0.9%)
urbanization group	1	2 870 284	21 032 (0.7%)
	2	9 543 858	102 716 (1.0%)
	3	2 926 027	32 447 (1.1%)
sex	men	7 585 887	77 044 (1.0%)
	woman	7 755 666	79 151 (1.0%)
total		15 341 553	156 195 (1.0%)

Province group A (the northern provinces) are relatively somewhat over represented.

\* With effect from the statistical year 1992 the Central Statistical Office has applied a new criterion for urbanization: the surrounding addresses density.

Reclassification of the sentinel stations by this new criterion is applied in Table 3. The data for 1994 have still been processed in accordance with the old classification.

The percentages of the men and women of the population of the Netherlands coming under the sentinel stations, per age group, province group and urbanization group, are as follows.

age in years	province group								'urbanization group**						Nether- lands	
	A		B		C		D		1		2		3		M	F
	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
0-4	1.4	1.3	0.9	0.9	0.8	0.8	0.9	0.8	0.5	0.5	1.0	0.9	1.1	1.2	0.9	0.9
5-9	1.4	1.5	1.0	1.0	0.9	0.9	0.9	0.9	0.6	0.6	1.0	1.0	1.3	1.3	1.0	1.0
10-14	1.5	1.6	1.0	1.0	0.9	0.9	0.9	0.9	0.7	0.7	1.1	1.1	1.2	1.3	1.0	1.0
15-19	1.4	1.5	1.0	1.0	0.9	0.9	0.9	1.0	0.7	0.7	1.1	1.1	1.0	1.1	1.0	1.0
20-24	1.5	1.6	1.2	1.3	0.9	0.9	0.9	1.0	0.9	0.9	1.1	1.2	0.9	1.0	1.0	1.1
25-29	1.6	1.8	1.3	1.2	0.9	0.9	0.9	1.0	0.8	0.8	1.1	1.2	1.0	1.1	1.0	1.1
30-34	1.6	1.6	1.2	1.1	0.9	0.9	0.9	0.9	0.7	0.7	1.1	1.1	1.1	1.2	1.0	1.0
35-39	1.4	1.5	1.0	1.0	0.9	0.9	1.0	1.0	0.6	0.6	1.1	1.1	1.2	1.2	1.0	1.0
40-44	1.5	1.6	1.0	1.0	0.9	1.0	0.9	0.9	0.6	0.6	1.1	1.1	1.1	1.2	1.0	1.0
45-49	1.4	1.4	1.0	1.0	0.9	0.9	0.9	1.0	0.7	0.7	1.1	1.1	1.1	1.1	0.9	1.0
50-54	1.3	1.4	1.1	1.1	0.9	0.9	0.9	0.9	0.7	0.7	1.1	1.1	1.0	1.0	1.0	1.0
55-59	1.5	1.4	1.1	1.1	0.9	0.9	0.9	0.9	0.8	0.8	1.1	1.0	1.1	1.1	1.0	1.0
60-64	1.3	1.3	1.2	1.1	0.9	1.0	0.9	1.0	0.8	0.8	1.1	1.1	1.1	1.2	1.0	1.0
65-69	1.3	1.3	1.2	1.1	1.0	1.0	0.9	0.9	0.8	0.9	1.1	1.0	1.0	1.1	1.0	1.0
70-74	1.3	1.3	1.2	1.1	1.0	0.9	0.9	0.9	0.9	0.9	1.1	1.0	1.1	1.0	1.0	1.0
75-79	1.3	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.9	0.9	1.1	1.0	0.9	1.0	1.0	1.0
80-84	1.3	1.3	1.5	1.0	0.9	0.9	1.0	1.0	1.0	0.9	1.1	1.1	1.0	0.9	1.1	1.0
≥ 85	1.3	1.4	1.7	1.1	1.1	0.9	1.0	1.0	1.4	1.1	1.2	1.0	1.0	1.0	1.2	1.0
total	1.4	1.5	1.1	1.1	0.9	0.9	0.9	0.9	0.7	0.7	1.1	1.1	1.1	1.1	1.0	1.0

With regard to the age groups in previous years a minor shift has occurred: in the youngest age groups, in comparison with the previous censuses there are more subgroups with a percentage less than one; in the oldest age groups, on the other hand, such subgroups are fewer. This points to a low degree of aging of the sentinel station population; the population as it were grows along with the spotter physicians who are faithful to the project.

\* see note on previous page.

## SCOPE AND CONTINUITY OF THE REPORTING

Since 1975 the number of days reported annually per sentinel station and the number of days per week of all sentinel stations together have been examined and processed. In this an effort was made to follow the scope and continuity of the reporting. In general the spotter physicians state - or have someone state - whenever they cannot report (vacation, personal circumstances). In the case of a weekly return not being submitted in time, telephone contact is made.

The maximum number of days that can be reported depends on the number of weeks in the year in question and the number of sentinel stations. In 1994 it was 11 700 (52 weeks x 5 days x 45 sentinel stations).

Table 4 shows the absolute numbers and the percentages.

Table 4: maximum and actual number of reporting days per year.

year	maximum number of days which can be reported	actual number of absolute	reported days percentage
1985	11 700	10 340	88.4%
1986	11 700	10 284	87.9%
1987	11 660	10 035	86.1%
1988	11 700	10 307	88.1%
1989	11 700	10 380	88.7%
1990	11 340	9 997	88.2%
1991	11 180	9 903	88.6%
1992	11 395	10 141	89 %
1993	11 700	10 269	87.8%
1994	11 700	10 227	87.4%

The percentage of reporting days is practically the same in 1994 as in previous years.

A breakdown by province and urbanization group may be seen in the following table. No great differences prove to exist.

The urbanized rural municipalities, together with municipalities with urban characteristics, are with 87.2% the lowest of the urbanization groups, and the northern provinces with 90.5% the highest of the province group.

Province group	Per urbanization group
A 90.5%	1 90.5%
B 86.4%	2 87.2%
C 85.8%	3 86.3%
D 89.5%	

In Fig. 2 the weekly reporting in all sentinel stations can be found. This figure clearly shows the influence of public holidays. The average number of non-reporting days per week is 27 (maximum  $45 \times 5 = 225$ ).

Figure 2  
The number of days registered in 1994 per week.

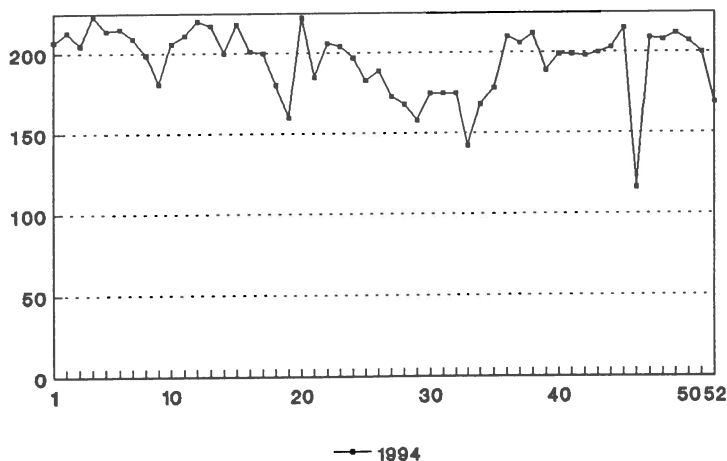


Table 5 presents the frequency distribution of the number of days not reported per sentinel station. The average number of non-reporting days per sentinel station in 1994 is 32, the same as in 1993.

A breakdown into single and group practices shows a clear difference here, viz 41 and 11 days respectively. This is in line with the frequent assertion that forms of cooperation of general practitioners increase the continuity of reporting.

Table 5: frequency distribution of the number of days not reported on per sentinel station

number of days not reported on	number of sentinel stations									
	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
≤ 0	1	0	0	1	1	2	1	2	3	4
1- 9	8	7	4	7	6	5	7	7	7	2
10-19	1	4	7	2	6	5	3	4	1	5
20-29	8	7	1	5	5	6	11	5	6	2
30-39	10	10	5	15	15	11	10	13	13	13
40-49	15	13	16	13	9	10	9	9	11	12
50-59	2	2	10	2	2	2	1	1	3	5
60-69	0	1	1	0	1	1	0	1	-	2
70-79	0	0	0	0	0	1	0	-	-	-
80-89	0	0	0	0	0	1	0	-	-	-
90-99	0	0	0	0	0	0	0	-	-	-
≥ 100	0	1	0	0	0	0	1	1	1	-
total number of sentinel stations	45	45	44	45	45	44	43	43	45	45
average	30	31	37	27	29	32	30	29	32	32
median	34	34.5	43	34	32	33	29	33	34	37

Further study of this table shows an improvement in reporting over the years. A major failure to report, i.e. more than 50 days per sentinel station, occurs in nearly 16% of the sentinel stations in 1994. This is a higher percentage than in 1993.

## THE WEEKLY RETURN (Appendix 2, p. 130)

The questions on the weekly return for 1994 were composed as follows; it is stated in brackets in which year the topics were added to the return.

1. New cases of influenza(-like illness) (1970);
2. Cervical smear (1976);
3. Myocardial infarction (1991);
4. Sterilization of the man performed (1972);
5. Sterilization of the woman performed (1974);
6. Oestrogens prescribed (1994);
7. Diabetes mellitus (1990);
8. (Attempted) suicide (1979);
9. Out-patient and clinical mammography (1988);
10. P.I.D. (1993);
11. Urethritis of the man (1992);
12. Concern about AIDS (1988);
13. Hepatitis (1994);

The basis in principle is weekly reporting, which means that patients seen by the locum in a "free weekend" are reported as well (influenza excluded). Diagnoses made or advice given by telephone are not entered in the weekly return in principle; here too influenza is an exception.

The subjects in alphabetical order can be found in Appendix 3 (p. 131-132) together with the years of registration.

## PROCESSING OF THE DATA ON THE WEEKLY RETURN

This report contains the results of the weekly return for 1994. The data were processed by the Computer Centre of the Ministry of Public Health, Welfare and Sport as usual.

Three tables are produced on a routine basis:

1. The absolute number of patients by sex and age group.
2. The absolute number of patients by sex and province group.
3. The absolute number of patients by sex and urbanization group.

Tables 1, 2 and 3 are produced per week on behalf of the surveillance and per quarter and per year on behalf of the reporting. Moreover, Table 1 is also produced every quarter per sentinel station for the convenience of the participating physicians.

With the exception of the information furnished per sentinel station, the data are likewise expressed per 10 000 of the total practice population (relative frequencies). The frequencies are given in round figures. In the case of frequencies of under 0.5 per 10 000 inhabitants, the figure is rounded off to '0'. When no cases at all have been reported, this is indicated by '-'. A frequency that is based on fewer than 5 reports is put between brackets.

When the frequency of new cases of a disease in a given period is concerned, one speaks in epidemiology of incidence; if, on the other hand, all existing cases of that disease in a given period or at a given moment in time are concerned, that is designated as prevalence. There is also a subdivision into absolute and relative incidence or prevalence.

In this report the incidence or prevalence is in all cases calculated per 10 000 inhabitants or men or women. So as to be able, if desired, to calculate absolute numbers for the Netherlands, in Appendix 4 (page 134) the age structure as on 1 January 1994 is given.

When a sentinel station does not report over the whole week (sickness, vacation, etc.), this is mentioned. The data from the physicians who have reported on 0, 1 or 2 days of the week are not processed, while the populations of these practices are not included in the calculation of the frequencies. The data from the practices that have reported on more than 2 days of the



week are processed.

Until 1978 a correction factor was applied to this. Consideration of the number of times it was applied showed that the influence on the total was so small that this correction has been done away with effect from 1 January 1978. Moreover, enquiries among the spotter physicians revealed that in the cases of 1 or 2 days' absence the work was simply moved to a later date.

The returns are built up from the weekly return figures, the frequencies being calculated on the average population present in the quarter.

This annual report will not attempt to give a complete analysis of the material, as already mentioned in the introduction.

The following annual tables are included (page 133-138).

1. Cumulative, all sentinel stations standardized. Year 1994, week 01-52, p. 1-3<sup>7</sup>.
2. Province group standardized by syndrome. Year 1994, week 01-52, p.1-3<sup>7</sup>.
3. Urbanization group standardized by syndrome. Year 1994, week 01-52, p. 1-3<sup>7</sup>.

## INFLUENZA(-like illness)

Influenza<sup>8</sup> is the only subject to have appeared on the weekly return since the start of the sentinel station project. The data on this subject are regularly distributed and used at international level. As soon as an increase in the incidence is noted, the numbers are reported weekly to the WHO in Geneva, together with virological and serological results. In this way the Netherlands participates in the worldwide influenza surveillance.

### Influenza 1993-1994 and 1994-1995

#### 1993-1994 season

Figs. 3.1-3.3 give the number of new cases of influenza per 10 000 inhabitants per week for the Netherlands and by province and urbanization group for the 1993-1994 season<sup>9</sup>. Figs. 4.1-4.3 give the number of new cases of influenza for the 1994-1995 season. The progress of influenza in the first weeks of 1994 was already discussed in the 1993 report.

Figure 3.1

Number of patients with influenza(-like illness) per week and per 10 000 inhabitants, for the Netherlands, 1993-1994

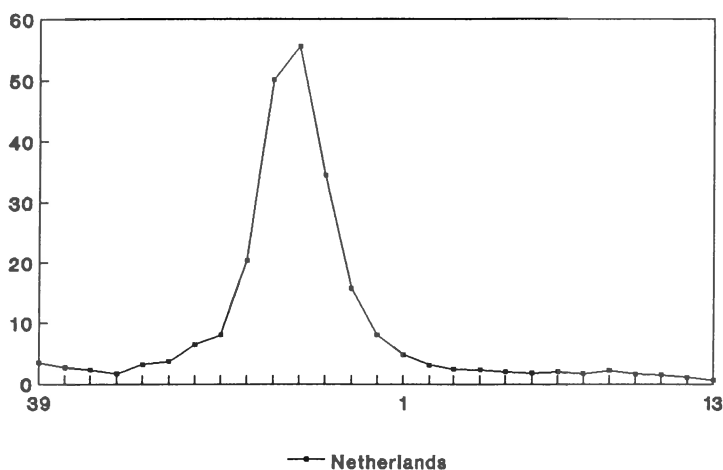


Figure 3.2

Number of patients with influenza(-like illness) per week and per 10 000 inhabitants, per urbanization group, 1993-1994

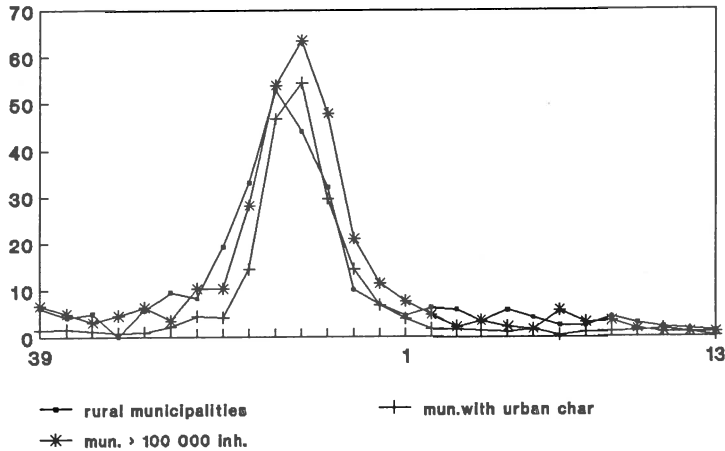
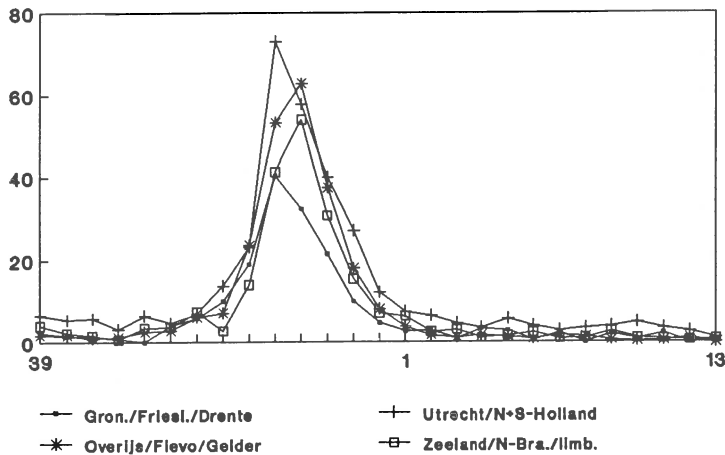


Figure 3.3

Number of patients with influenza(-like illness) per week and per 10 000 inhabitants, per province group, 1993-1994



### 1993-1994 season

Earlier than had been the case in previous seasons, the first case of influenza in the Netherlands was reported: on 13 October 1993 (week 41) an influenza A(H<sub>3</sub>N<sub>2</sub>) was isolated from the nose of a six-month-old girl.

In former seasons such an early isolate remained an isolated finding, but this time other similar virus strains were soon reported.

The weekly incidence of influenza-like syndromes also began to rise unusually early: from week 45 of 1993.

In week 49 the peak of the epidemic was reached: 54 per 10 000 inhabitants. The epidemic was the most violent in the eastern provinces: in week 48 73 per 10 000. In the cities the highest incidence was reported in week 49: 62 per 10 000.

The autumn epidemic of 1993 was caused almost completely by the influenza A(H<sub>3</sub>N<sub>2</sub>) virus (variant A/Beijing/32/92).

### 1994-1995 season

Figure 4.1

Number of inhabitants with influenza(-like illness) per week and per 10 000 inhabitants, for the Netherlands, 1994-1995 (up to and including week 17)

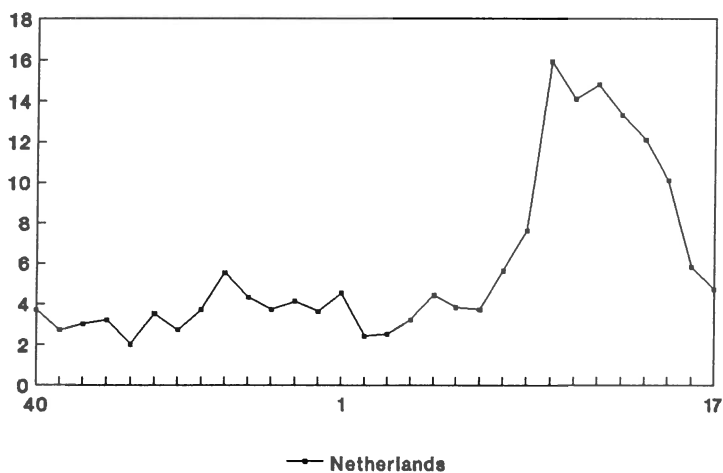


Figure 4.2

Number of inhabitants with influenza(-like illness) per week and per 10 000 inhabitants, per urbanization group, 1994-1995 (up to and including week 17)

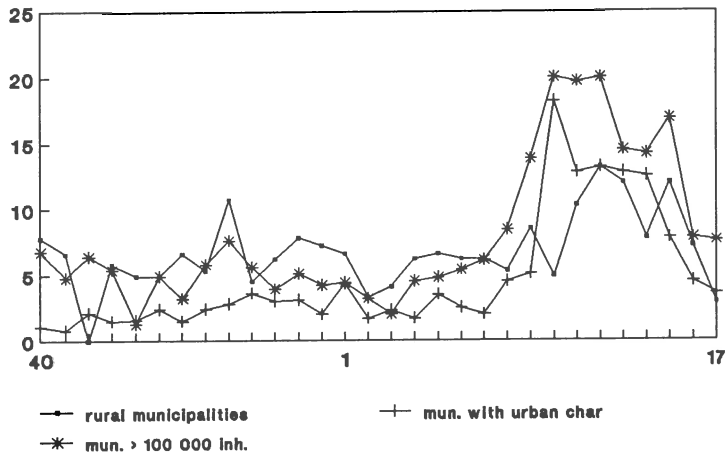
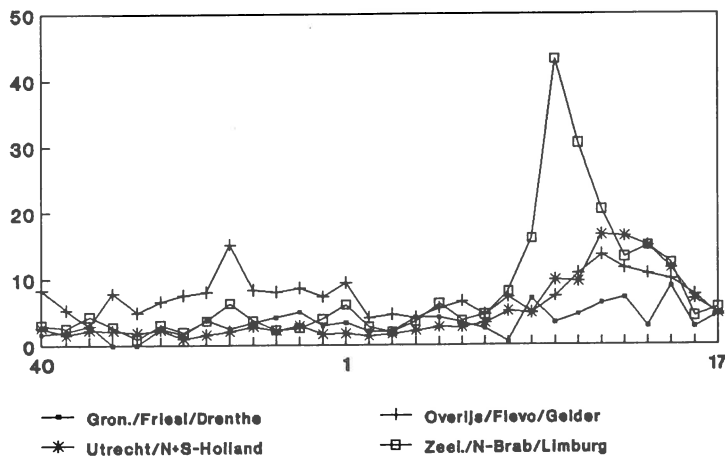


Figure 4.3

Number of inhabitants with influenza(-like illness) per week and per 10 000 inhabitants, per province group, 1994-1995 (up to and including week 17)



### 1994-1995 season

Not until the end of February was there any question of some increase in the index for influenza-like illnesses in the 1994-1995 influenza season. Before that time there was only something to be seen in this index of the increased activity of the RS virus at the end of November and the beginning of December 1994.

In week 9 of 1995 the first sign of increased influenza activity was found in the south of the country: 16 per 10 000 inhabitants. The number rose in the following week to 43 per 10 000 inhabitants: the highest value reached.

There was a gradual spread across the western and eastern provinces. The north remained relatively free from influenza in the 1994-1995 season: the highest value reached was 7 per 10 000 in week 13. The highest national incidence was 16 per 10 000 in week 10.

In the municipalities with more than 100 000 inhabitants the influenza activity was the highest (from week 10 to week 12 inclusive: 20 per 10 000).

The rural municipalities were less affected, which corresponds to the regional data.

Above all influenza B virus strains were isolated; influenza A(H<sub>3</sub>N<sub>2</sub>) and A(H<sub>1</sub>N<sub>1</sub>) were also present.

The influenza A virus strains were isolated relatively more frequently among hospital patients than the B strains. This points to a greater pathogenicity of the A virus in respect of the B virus (see also p. 26).

Table 6: number of patients with influenza(-like illness), per 10 000 inhabitants, 1985-1995

year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
total per calendar year	464	630	365	399	410	225	348	244	484	107	
highest weekly incidence per "season"	71	26	9	44	54	24	40	27	54	16	

If we examine the epidemics of the past ten years, those of the 1986-1987, 1990-1991 and 1992-1993 seasons were the mildest in that period. In the 1987-1988 season one may not speak of an influenza epidemic at all. In the 1988-1989 season an "influenza wave" occurred for the first time for years at the end of the calendar year. In the 1989-1990 season there was again an "influenza wave" at the end of the calendar year. In the 1990-1991 season most activity was seen in the second half of the first quarter.

At the end of 1991 there was again influenza activity around Christmas and New Year. In the 1992-1993 season there was increased influenza activity in February and March 1993. In the autumn of 1993 there was again an epidemic going on at an unusually early time of the year. As a result the calendar year 1993 was concerned with two influenza epidemics. In 1994 no influenza prevailed; there was, however a slight revival at the end of February 1995.

### **Age and sex distribution**

During the period of registration, no difference has ever been found in the frequency of influenza between men and women, so that a division is not included in the weekly return for this category.

The age distribution shows as in previous years that the general practitioner is consulted most frequently on influenza-like illnesses for the age group under 5 years. In the other groups the numbers are nearly identical.

This topic is to be maintained on the weekly return.

### **A PUBLICATION ON THE BASIS OR PARTLY ON THE BASIS OF DATA FROM THE CONTINUOUS MORBIDITY REGISTRATION**

BESTEBOER, T.M., A.I.M. BARTELD, K. BIJLSMA, H. BOSWIJK, C. VERWEIJ, M. VERWEIJ and J.C. DE JONG.

**Surveillance of respiratory pathogens in general practices in the Netherlands in 1994/95.**

RIVM, 1995 ,poster

#### **Introduction**

The Netherlands institute of primary health care (NIVEL) is running a registration network of 46 sentinel general practices (GP), spread over the country in proportion to the population density (figure 1). Since 1970 NIVEL calculates weekly the incidence of influenza-like illness from the data from this network. In 1992/93 this system was supplemented by RIVM with virus isolation from these patients and in 1994/95 with the PCR for several viruses and bacteria. Compared with virological surveillance based on virus isolations from hospital admitted patients the RIVM/NIVEL surveillance gives a better insight in the etiology of acute respiratory infections in the general population.

## Materials and Methods

The GP of the NIVEL network sent nose/throat swabs from part of their patients with respiratory illness. During the period of week 40 of 1994 to week 19 of 1995 551 respiratory specimens were examined by virus isolation and PCR.

## Results

In 195 (35%) of the samples a virus or bacterium was detected by either technique. Almost half of the agents were only recognized by PCR. Influenza B virus (9%) and rhinovirus (9%) were the predominant viruses, H<sub>1</sub>N<sub>1</sub> (1) (3%), RS virus (3%), and adenovirus (2%) (table 2 and figure 2). In 9 (4%) of the positive samples two etiologic agents were detected. From 69 PCR-positive patients a second sample could be obtained, taken on an average 24 days after the first specimen. In only four (3x Chlamydia pneumonia) of these second samples the agent could still be demonstrated (table 3).

When comparing the results of the surveillance among patients in GP with those of the data from virus diagnostic laboratories, the main differences were the higher proportion of influenza virus isolations and the lower proportion of RS virus isolation in the GP system. Among the isolated influenza viruses, type B prevailed in the GP system and type A(H<sub>3</sub>N<sub>2</sub>) in the diagnostic framework (figure 3).

## Conclusions

- The proportions of at least part of the virus species isolated from patients with respiratory complaints in a GP network differ considerably from those isolated in virus diagnostic laboratories, the samples of which are mainly derived from hospitalized patients.
- Illness from infections with influenza B virus appear to be less severe compared to influenza A(H<sub>3</sub>N<sub>2</sub>) virus.
- Application of the PCR technique enhances considerably the rate of positive results with respiratory specimens.
- The clinical relevances of the PCR technique appears to be high for most respiratory viruses.

SPRENGER, M.J.W., P.G.H. MULDER, W.E.P. BEGER and N. MASUREL.

**Influenza: Relation of Mortality to Morbidity Parameters-Netherlands, 1970-1989.**

International Journal of Epidemiology, 1991, vol. 20, no. 4, p. 1118-1124

The purpose of this study is to investigate the relationship between the number of influenza-like illness cases (ILI), weekly registered by the general practitioners (sentinel stations), and the monthly overall influenza mortality in people over 60 years of age, provided by the Dutch Statistical Bureau during the period July 1970 to June 1989.

The quantitative impact of influenza-morbidity is expressed by three summary parameters, calculated from the 52 (53) weekly ILI-figures per season-year, (i) their sum (i.e. global extent of an epidemic), (ii) their standard deviation, and (iii) their maximum (i.e. peak number of ILI during an epidemic). In the analysis influenza A subtype is also included. These four parameters are mutually compared with respect to their predictability for yearly total influenza mortality in the 19 season-years available.

In most cases, the standard deviation and the peak number of ILI are more powerful for prediction of mortality than the global extent of the epidemic.

The peak number of ILI is of special interest. It is particularly useful for estimating the



effect on current influenza mortality during an ongoing epidemic. From the model it is possible to calculate a threshold (of week ILI) beyond which mortality increases proportionately more than the number of illness episodes.

By using the peak value of morbidity it is possible to calculate the minimal impact of epidemic mortality.

This study indicates that the weekly number of influenza-like illness cases has a certain prognostic value for the real impact of influenza. An electronic surveillance system could detect immediately the threshold above which influenza mortality increases more than proportionally. When this level is reached electronic bulletins could stress the importance of prophylactic measures or, especially for the high-risk patient, the use of amantadine to reduce excess mortality.

The benefits of such an electronic surveillance system are not restricted to the epidemic. We believe that such a system could improve the involvement of general practitioners and in this way improve the awareness of the consequences of influenza. This might result in greater vaccination coverage.

JONG DE J.C., A.I.M. BARTELDI, T.M. BESTEBROER, K. BIJLSMA, C. VERWEIJ, M.W. VERWEIJ-UIJTERWAAL, A.G. WERMENBOL and A.M. VAN LOON.

**Virological NIVEL/RIVM surveillance of respiratory virus infections in the 1993/94 season.**

RIVM, 1994, Report No. 243614002

NIVEL (the Netherlands Institute of Primary Health Care) has organized a network of 46 Sentinel Stations, covering the whole of the Netherlands, in which 65 general practitioners are active. In the autumn and winter these physicians weekly report the number of influenza-like illnesses (ILI) among their patients, who together form some 1% of the Dutch population.

Since the 1992/93 season the participating GPs have been asked to mail twice a week respiratory material from their patients under treatment for acute respiratory complaints to the RIVM, where it is examined for viruses. This surveillance provides better insight into the etiology and the incidence of less seriously proceeding respiratory infections than the virus isolation for diagnostic purposes.

In the 1993/94 season the spotter physicians sent 298 samples from patients with respiratory disorders to the RIVM. Out of 92 (31%) a respiratory virus was cultivated of which 67 were influenza A(H<sub>3</sub>N<sub>2</sub>) virus. Practically all the influenza viruses isolated in the Netherlands and the rest of Europe belonged to this subtype. The antigen structure of the influenza viruses obtained in the surveillance was also identical with that of the other influenza viruses.

The trend in that time of the numbers of influenza virus isolates from the NIVEL network did not, however, tally well with that of the numbers of ILI reports that did run parallel to the numbers of influenza virus isolation in the diagnostic laboratories. This discrepancy points to a reduced readiness of the spotter physicians halfway through the epidemic to send samples from their respiratory patients to the RIVM for virus isolation. Converted per 10 000 inhabitants most influenza viruses were isolated in the 5-14 age group. Conversely, NIVEL registered most ILI among the 0-4-year-olds.

Among the other viruses isolated the rhino viruses dominated. So as to be (better) able to determine the incidence of the various pathogens, tests based on the polymerase chain reaction (PCR) will be developed for them.

Provisionally the influenza virus infections can be symptomatologically distinguished

from the other respiratory disorders with statistical significance only by the more frequent occurrence of fever equal to or above 39°C. The protective effect of influenza vaccination is estimated on the strength of the data available for the period 1991-1994 at 76%.

## CERVICAL SMEAR

Taking of a cervical smear was placed on the weekly return for the first time in 1976. The initial aim was to obtain insight into the extent of this work outside the mass screening for cervical cancer.

The question is subdivided into the indication for taking a cervical smear, i.e. following complaints and/or symptoms, on 'preventive' grounds at the initiative of the spotter physician or the woman, and a separate column in the case of a repeat smear, irrespective of the indication for taking the previous smear. Three years has been adhered to as the period within which a second or following smear has to be reported as a repeat smear. For 1993 that therefore means that a smear is reported as a repeat smear when the spotter physician himself has already taken a smear from the woman in question after 1 January 1992. This period is identical with the then valid interval between two mass screenings.

This topic has acquired a somewhat changed objective, since in March 1982 the then Minister of Public Health and Environment announced the intention to amend the policy regarding mass screening for cervical cancer. On 25 August 1988 agreement was reached between the Association of Netherlands Health Insurance Funds and the professional organizations of general practitioners on reimbursement for the taking of cervical smears from patients covered by a health insurance fund (provisionally directed towards women of 35-54 years, and with a screening interval of three years). This made it possible to start the mass screening for cervical cancer throughout the Netherlands in 1989.

Enquiry among the spotter physicians revealed that mass screening for cervical cancer was in fact a reality in 1994 in 44 of the 45 sentinel stations. In 1988 mass screening was a fact in only 22 of the 45 sentinel stations.

In Table 7 the total number of smears taken has been subdivided by indication for taking the smear, including the repeat smears.

Table 7: number of smears taken by spotter physicians by indication for taking a smear, per 10 000 women, 1985-1994

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
complaints and/or symptoms	62	65	59	76	72	55	73	72	70	60
"preventive"	324	398	345	369	521	577	537	523	485	474
repeat smear	184	170	211	246	237	273	239	233	225	268
total	570	633	615	691	830	905	849	828	780	802

The total number of smears (802 per 10 000 women) was somewhat higher in 1994 than in the previous year. This is explained by an increase in the number of repeat smears. In 1989 the new-style mass screening started at many places in the country. In 1990 this programme developed further. When considering these tables, as remarked in the previous reports, one must make allowance for the fixed period of three years within which a smear counts as a repeat smear.

The total number of first smears made on preventive indication, i.e. on the initiative of both the GP and the woman, nearly doubled in the period 1983-1990, from 294 to 577 per 10 000 women (see table 8). After 1990 the number of smears made on preventive indication decreased again, to 474 per 10 000 women. At the end of this chapter this remarkable fall is again considered.

The number of smears on account of complaints and/or symptoms has since 1980 been at a level of some 65 per 10 000 women. The years 1988-1989 and 1991-1993 displayed a higher level: over 70 per 10 000. In 1994 the number of smears on account of complaints and/or symptoms was 60 per 10 000. As regards this category, the arrangement to register each smear taken from one and the same woman within a certain period as a repeat smear should be borne in mind. The actual number of smears taken on account of complaints and/or symptoms will therefore be higher.

The number of repeat smears increased in the eighties to 273 per 10 000 women in 1990. From 1991 onwards this number falls. In 1994 a higher number of repeat smears was again taken: 268 per 10 000 women.

Since 1987 the subcategory repeat smear has also been subdivided into:

smears on account of complaints and/or symptoms, preventive on the initiative of the GP and preventive on the initiative of the woman. In 1987-1989 a practically constant number of approx. 60 repeat smears per 10 000 women were taken on account of complaints and/or symptoms. In 1990-1991 70 repeat smears per 10 000 women were taken on account of complaints and/or symptoms. In 1992-1994 this number was again some 60 per 10 000 women. The greater part of these repeat smears were taken among women in the 30-54 age group.

In Table 8 only the number of first smears per 10 000 are included, with a subdivision by indication for taking the smear and by province and urbanization group (see also Figs. 5 and 6). The table shows that the national fall after 1990 in the number of 'preventive' smears continued in 1994. The southern provinces and the cities form an exception. The fall in respect of 1990 amounts to 18 percent nationally, and seems largely ascribable to the fall in the northern provinces: by nearly half since 1990.

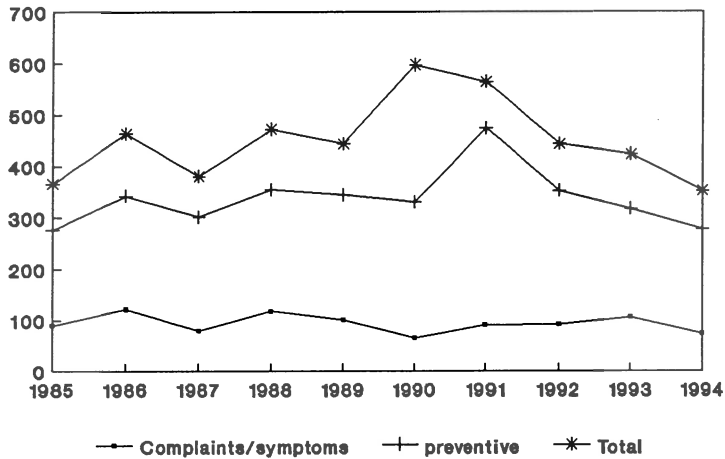
Table 8: number of "first" cervical smears taken per province group and urbanization group, by indication for taking a smear and for the Netherlands, per 10 000 women, 1985-1994

		province group				urbanization group			Nether-lands
		A	B	C	D	1	2	3	
complaints and/or symptoms	1985	90	92	45	52	85	49	78	62
	1986	121	106	42	43	93	54	75	65
	1987	79	92	46	48	79	49	69	59
	1988	117	127	56	51	118	58	96	76
	1989	100	127	54	48	102	57	90	72
	1990	65	95	43	41	66	52	56	55
	1991	90	91	57	79	72	64	102	73
	1992	91	89	65	59	42	68	93	72
	1993	106	60	60	73	45	71	81	70
	1994	74	68	51	57	47	58	71	60
"preventive"	1985	276	337	343	311	356	267	445	324
	1986	342	365	449	363	398	344	539	398
	1987	301	340	383	303	342	294	472	345
	1988	354	166	412	385	265	335	553	374
	1989	343	358	657	472	365	523	611	521
	1990	530	487	656	540	511	554	689	577
	1991	473	369	572	634	391	535	618	537
	1992	352	439	586	582	455	511	585	525
	1993	317	504	519	519	601	420	567	485
	1994	278	448	490	600	482	402	627	475
total	1985	366	429	388	363	441	316	523	386
	1986	463	471	491	406	491	398	614	463
	1987	380	432	429	351	421	343	541	404
	1988	471	393	468	436	383	393	649	450
	1989	443	485	711	520	467	580	701	593
	1990	595	632	699	581	577	606	745	632
	1991	563	460	629	713	463	599	720	610
	1992	443	618	651	641	487	579	678	597
	1993	423	564	579	592	646	491	648	555
	1994	352	516	541	657	529	460	698	535

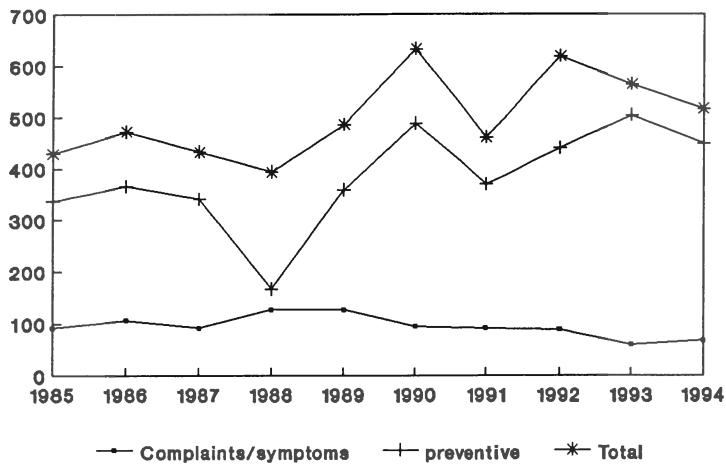
Figure 5

Number of cervical smears taken per province group by indication for taking a smear, per 10 000 women, 1985-1994

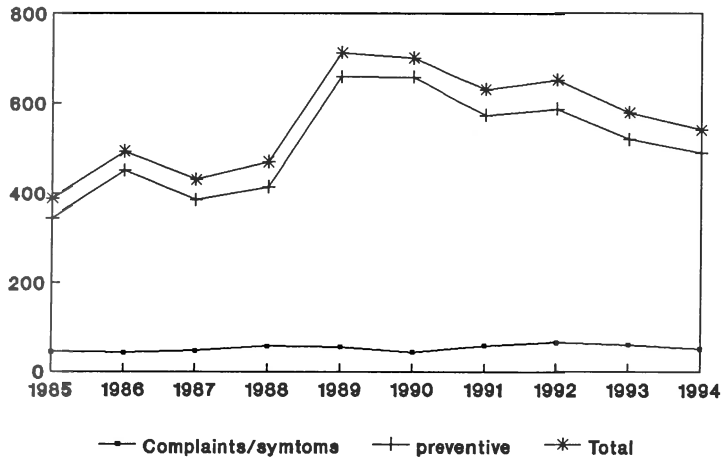
province group A



province group B



province group C



province group D

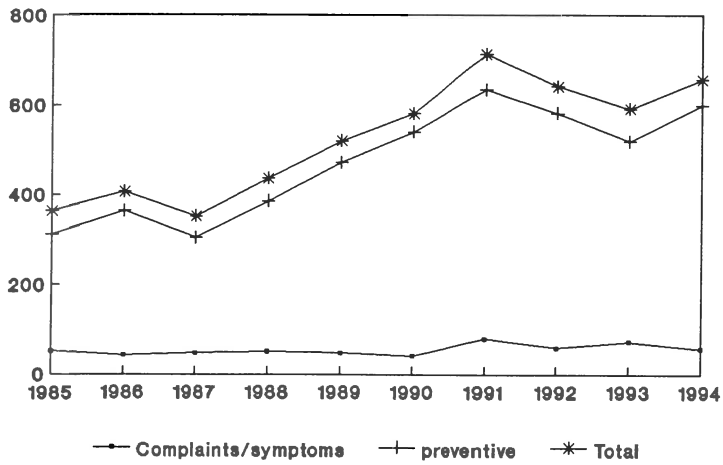
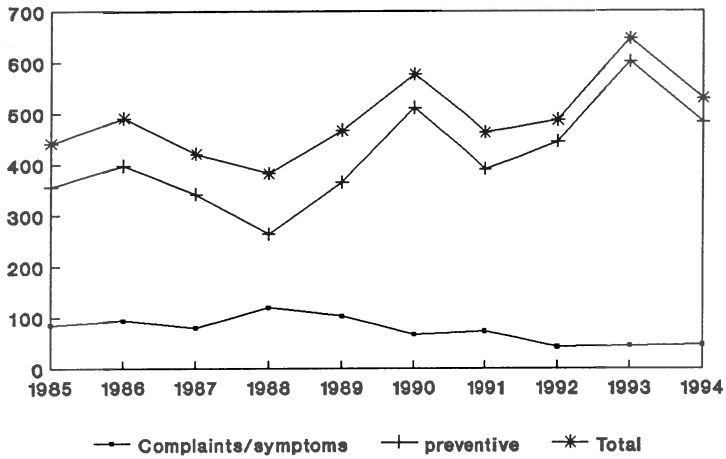




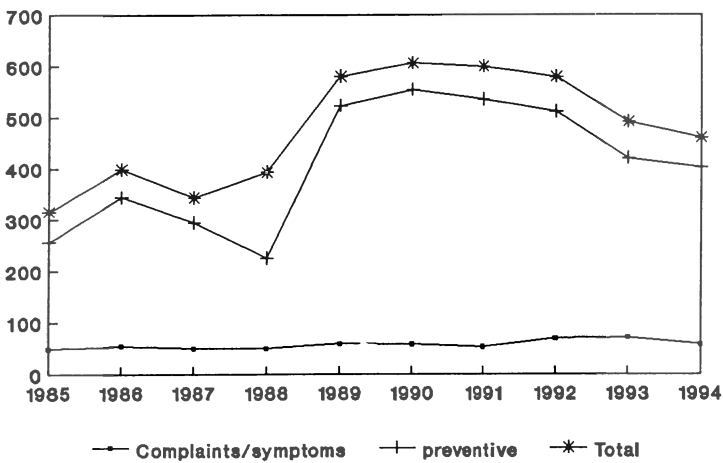
Figure 6

Number of cervical smears taken per urbanization group and for the Netherlands, by indication for taking a smear per 10 000 women, 1985-1994

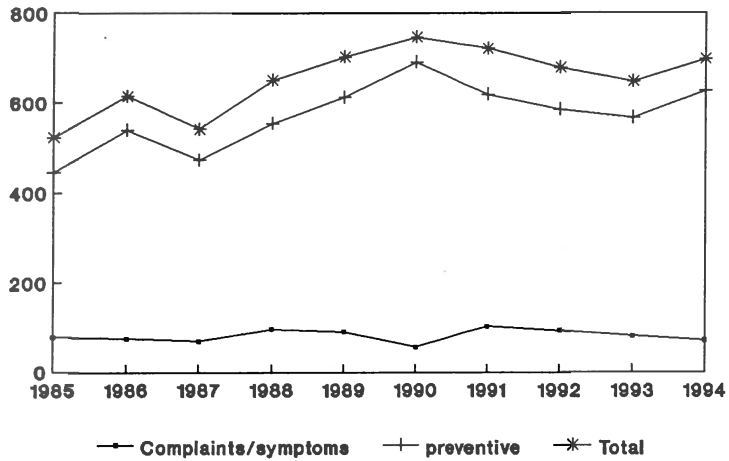
urbanization group 1



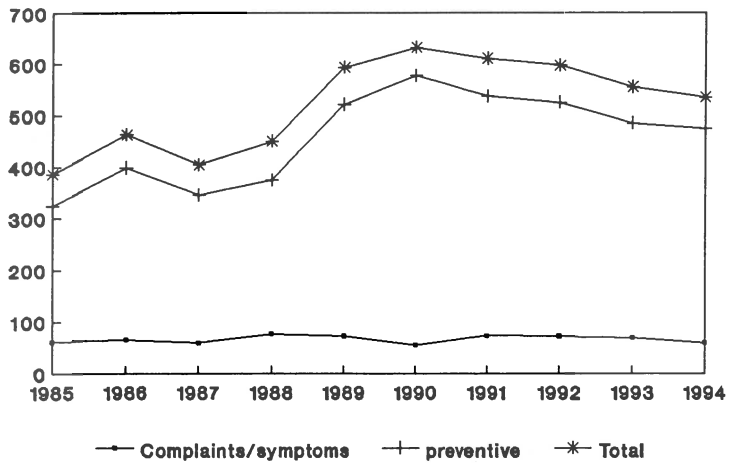
urbanization group 2



urbanization group 3



Netherlands



## Age distribution

Table 9 gives a survey of the number of "first" smears by age group per 10 000 women (cf. Fig. 7).

Table 9: number of "first" smears taken by spotter physicians by age group, per 10 000 women, 1985-1994

	age group							
	10-14	15-19	20-24	25-34	35-44	45-54	55-64	≥65
1985	(2)	86	446	908	724	543	212	38
1986	(2)	54	459	1008	991	729	273	42
1987	-	57	323	845	943	634	236	24
1988	(2)	33	319	777	1050	612	292	38
1989	(2)	32	353	919	1616	1187	253	32
1990	(2)	61	306	797	1805	1487	279	34
1991	(5)	20	270	760	1782	1459	229	34
1992	-	16	237	753	1739	1262	288	39
1993	(3)	23	188	674	1607	1353	179	40
1994	(2)	26	196	592	1588	1196	220	29

The increase in the number of 'first' smears taken after 1988, which, as expected, is found above all in the 35-54 age group, was converted in 1991 into a fall, which continued in 1994 too.

In the 25-34 age group there have been lower numbers ever since 1987 in comparison with the years 1984-1986. In the even younger age groups too there is a fall.

This table makes it possible to calculate the percentage of women who are reached by the GP at least once every three years. For the 35-44 age group is that for the period 1992-1994 49% and 38% for the 45-54 age group. For the same age groups these percentages were 21 and 15 respectively around 1983, when the old-style mass screening was still in full swing. The GP apparently reaches the older group apparently less well. That can in part be explained by the number of women increasing with age with a total uterus extirpation. This number is estimated for the total 35-54 age group at 14%, of which the 45-54 age group account for the majority.

Figure 7

Number of 'first' cervical smears taken by age group, per 10 000 women, 1985-1994

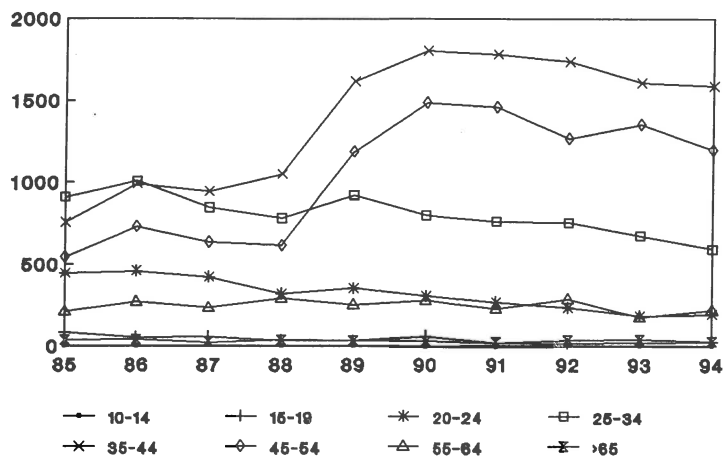


Table 10 gives a breakdown by age and indication for taking a smear, including the repeat smear (see also Figure 8).

Table 10: number of smears taken by spotter physicians by age group and by indication for taking the smear, per 10 000 women, 1985-1994

		age group						
		15-19	20-24	25-34	35-44	45-54	55-64	≥65
complaints and/ or symptoms	1985	20	71	128	129	93	32	14
	1986	14	67	117	131	11	63	16
	1987	13	63	94	124	110	51	11
	1988	11	72	126	170	148	51	9
	1989	13	75	123	151	125	54	12
	1990	27	57	73	114	89	64	10
	1991	12	76	109	160	149	32	14
	1992	(9)	83	113	135	124	72	19
	1993	14	71	119	111	149	52	24
	1994	19	56	106	105	87	68	18

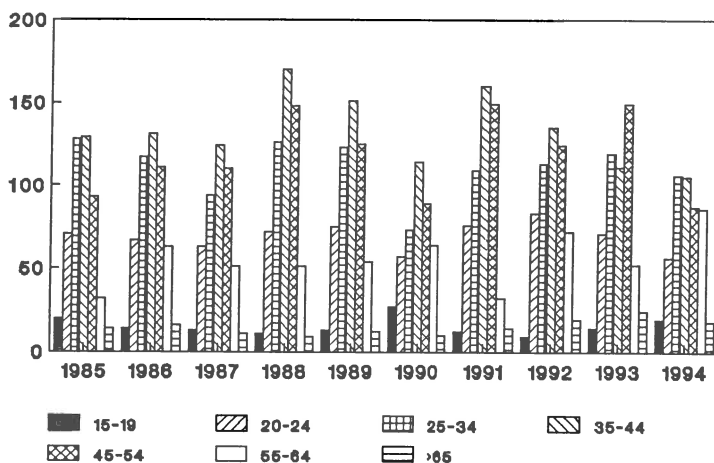
Table 10: number of smears taken by spotter physicians by age group and by indication for taking the smear, per 10 000 women, 1985-1994 (continuation)

		age group						
		15-19	20-24	25-34	35-44	45-54	55-64	≥65
preventive	1985	66	450	780	595	450	180	24
	1986	40	392	891	860	618	210	28
	1987	44	260	751	776	534	185	13
	1988	23	247	776	877	608	193	29
	1989	19	278	796	1466	1098	200	21
	1990	34	249	715	1690	1398	216	23
	1991	(8)	194	651	1612	1310	181	20
	1992	(7)	154	640	1604	1138	216	21
	1993	(9)	117	555	1495	1204	127	15
	1994	(7)	140	486	1483	1109	152	11
repeat smear	1985	7	82	296	457	461	146	19
	1986	-	64	325	459	369	125	9
	1987	(8)	79	353	532	483	154	15
	1988	6	78	408	612	607	123	12
	1989	12	86	282	657	624	137	13
	1990	(5)	79	293	789	734	143	17
	1991	-	63	244	746	614	104	11
	1992	(2)	46	226	699	622	106	10
	1993	(11)	44	182	643	706	92	11
	1994	-	34	246	803	709	121	8
total	1985	93	603	1204	1181	1004	358	57
	1986	54	523	1333	1450	1098	398	53
	1987	65	402	1198	1432	1127	390	39
	1988	40	397	1310	1659	1363	367	50
	1989	44	437	1201	2274	1847	391	46
	1990	60	385	1081	2593	2221	423	50
	1991	20	333	1004	2518	2073	317	45
	1992	18	283	979	2438	1882	394	50
	1993	34	232	856	2249	2059	271	50
	1994	26	230	838	2391	1905	341	37

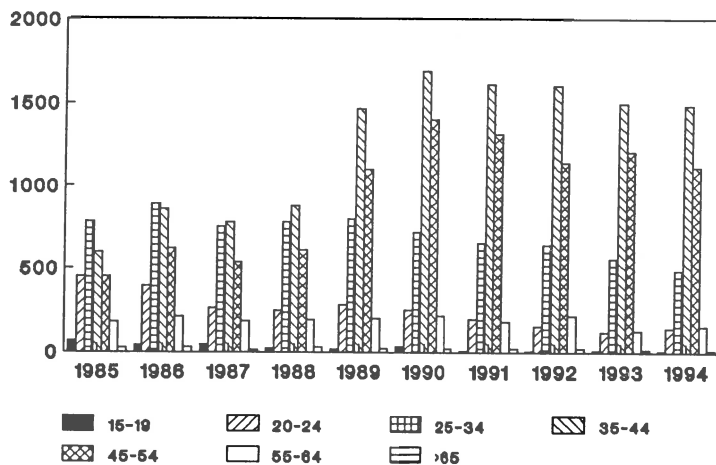
Figure 8

Number of smears taken by spotter physicians by age group and by indication for taking the smear, per 10 000 women, 1985-1994

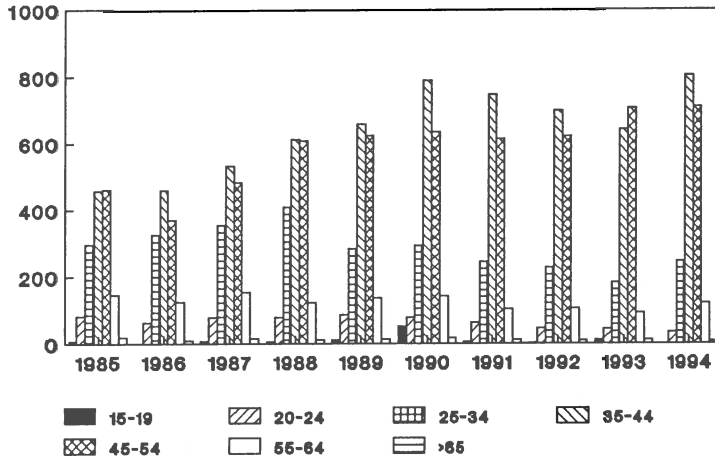
complaints and/or symptoms



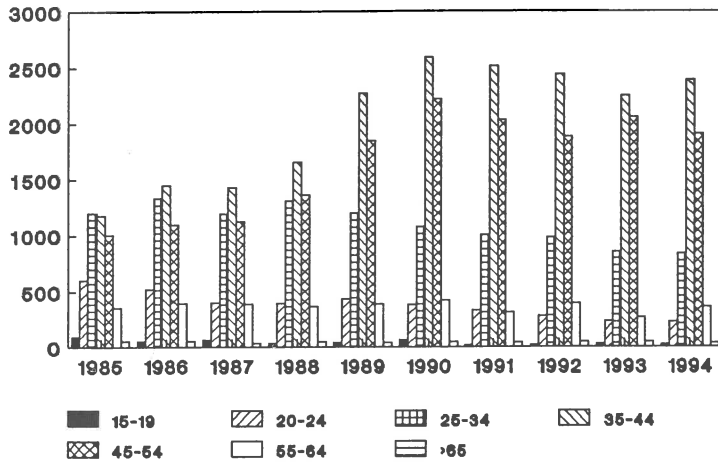
preventive



repeat smear



total



There are no great changes in the number of smears taken on account of complaints and symptoms.

In the case of the first smears made on first indication the numbers in the 35-54 age group are without change the highest. In all younger age groups up to 35 years the number of first preventive smears is still falling. In 1994 too practically no smears were made on preventive indication below the age of 20. The remarkable fall (by practically half) in 1993 in the 55-64 age group was partly made up again in 1994.

For both the total number of smears and the 'first' smears the share of the 35-54 age group again increased in 1994 (see Table 9).

Since cessation of the old-style mass screening (around 1985) and above all with the start of the new-style mass screening (after 1988) the share of the 35-54 age group had already strongly increased. The only exception is formed by 1992.

Among women younger than 35 years some decrease may still be noted. It applies to women in the 25-34 age group.

For the 20-24 age group stability seems to be occurring after the fall in 1992. Among women older than 54 years there is an increase in 1994.



Table 11: proportional distribution of smears taken per age group for all sentinel stations (as percentages), 1985-1994

per age group total number of smears				
year	< 34	35-54	> 55	total
1985	42.2	48.6	9.2	100
1986	42.5	49.8	7.6	100
1987	35.8	55.0	9.2	100
1988	36.1	57.4	6.5	100
1989	27.0	66.0	7.0	100
1990	24.0	71.0	5.0	100
1991	23.4	72.0	4.6	100
1992	23.0	71.5	5.5	100
1993	21.5	74.3	4.2	100
1994	20.4	74.9	4.7	100

per age group "first smear"				
year	< 34	35-54	> 55	total
1985	48.7	42.8	8.5	100
1986	45.4	47.1	7.5	100
1987	40.0	51.5	8.5	100
1988	39.7	53.6	6.7	100
1989	29.7	63.8	6.5	100
1990	25.0	70.0	5.0	100
1991	25.0	70.6	4.4	100
1992	24.8	69.5	5.7	100
1993	23.8	72.1	4.1	100
1994	22.3	73.0	4.7	100

**Conclusion\***

The principal developments may be summarized as follows. In the five -year period 1983-1987, when the old-style mass screening was ended, the number of preventive smears in the sentinel stations in the 35-54 age group gradually increased, by in total 30 percent. Thereafter the number doubled in the period 1988-1990, when the new-style mass screening began.

It is striking that after the peak year 1990 the number of preventive smears in the 35-54 age group steadily fell, returning in 1993 to the 1989 level. This development, which also applies to the repeat smears, is difficult to interpret. Is this a disturbing decrease in the interest in screening? Or is more selective use being made of screening, and for instance the extension of the screening interval from 3 to 5 years, which has been meanwhile decided upon by the professional groups, being anticipated? An indication of a more selective use

of screening can be derived from the constant, considerable decrease in the number of preventive smears in the age groups below 35 years, and above all below 25 years (Table 10). The number of smears among women younger than 35 years was lower in 1993 and 1994 than has ever been registered since 1978.

The results of this topic will continue to be important until introduction of the national information system on mass screening for cervical cancer, which has been developed on the instructions of the Ministry of Public Health, Welfare and Sport.

This topic has been maintained on the weekly return in 1995.

#### **A PUBLICATION ON THE BASIS OR PARTLY ON THE BASIS OF THE DATA FROM CONTINUOUS MORBIDITY REGISTRATION**

Veen van W.A. (Commentary)

**General Practitioner and Cervical Screening: achieving more with fewer smears.**

Huisarts en Wetenschap, 1994, 337(6); 226-9.

Practically everywhere in the Netherlands mass screening for cervical cancer was resumed in 1989. As a rule local authorities with the Municipal Medical and Health Service attend to the invitation system, while the GP performs the smear and supervises the follow-up of considerably differing smears. A high reach, above all for the older women in the target group, is by far the most important condition for effective mass screening.

What are the experiences so far with this mass screening? Do these already occasion the choice of a certain invitation system?

## MAMMOGRAPHY

The results of the H.I.P. (Health Insurance Plan) study that started in New York in 1963, which became available from 1971, displayed a clear decline in mortality from breast cancer in the group of women older than 50 years. These results were a reason to set up trial projects in Utrecht and Nijmegen and elsewhere outside the Netherlands. Data resulting from the two projects confirm that a well-organized mass screening for breast cancer for women 50-69 year old can have a favourable effect on mortality from this disorder.

In 1987 both the Health Council and the National Council for Public Health made a positive recommendation on the acceptability of national mass screening for breast cancer by means of mammography. Thereupon the State Secretary of Public Health took a positive decision in principle on national introduction of the screening from 1990 onwards. On 29 April 1993 the definitive decision likewise proved positive. By the beginning of 1994 40 of the in total 43 planned screening centres had started or were already engaged for some time in the mass screening. It is expected that the mass screening will cover the whole country by the end of 1995.

The number of mammograms made annually in the Dutch hospitals is not properly known. Even less is known about the indications on the basis of which examinations have been requested.

The Ministry of Public Health, Welfare and Sport and the Health Insurance Fund Council consider it important from a policy point of view to be well informed about the present number of mammograms and above all too about shifts that may occur in these when the mass screening is introduced in phases.

The phased introduction of national screening means that during a period of several years screening will be performed at one place but not at another. Where screening does take place, women younger than 50 and those older than 69 will for the time being not be enabled to participate in the screening, in anticipation of the results of further research. This is in anticipation of the results of further scientific research into the effects of the mass screening for the age group.

These two circumstances may lead to an additional call on the available capacity. Both women in areas where screening is not yet being performed

and women below the age of 50 or above the age of 69 may be of the opinion that they too should qualify for mammography. Such an effect is considered undesirable, because screening can be justified only if special requirements are met in addition to the quality, the (considerable) costs also play a part.

In this registration the issue is the extent of the mammographic diagnosis requested by the general practitioner. A breakdown has been made into first and repeat examination. In the mass screening for breast cancer an interval of two years between two scanning rounds has been adhered to. This is also the case with the present registration. With a view to this the criterion for the distinction between first and repeat examination is formed by the question whether a mammogram has been made for the woman in question at any time after 1 January 1993. If at any time after 1 January 1993 a mammogram has been made for a woman and such an examination is performed **again**, this should be registered under the subgroup "repeat examination".

It is not important whether during the examination photographs are taken in different directions along with any supplementary enlargements or close-ups. The total examination is registered as one examination. Nor is it important whether a mammogram is made of one or both breasts.

The data of this registration are made available to the group that is performing the investigation into the costs and effects of mass screening for breast cancer for the Ministry of Public Health, Welfare and Sport (Project leader Prof. Dr P.J. van der Maas, Social Health Care Institute, Erasmus University, Rotterdam<sup>10</sup>). The same group is evaluating the actual cost and effects.

Table 12 gives the numbers of mammograms per province and urbanization group and for the Netherlands (cf. Figs 9 and 10).

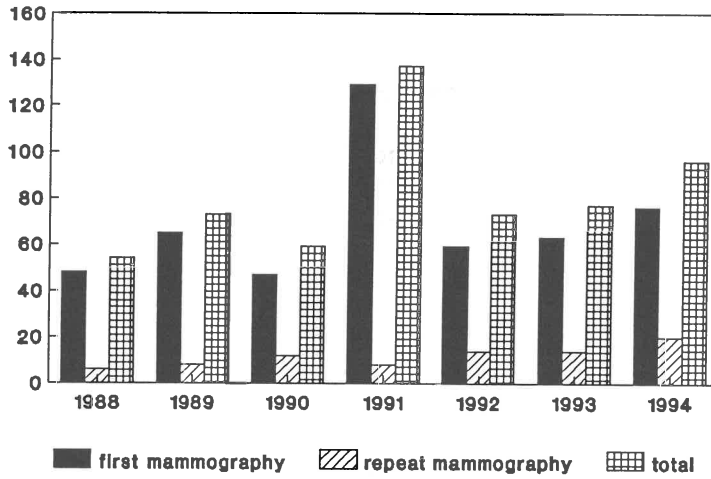
Table 12: number of mammograms per province and urbanization group and the Netherlands per 10 000 women in 1988-1994

		province group				urbanization group			Nether-lands
		A	B	C	D	1	2	3	
first mammography	1988	48	75	92	81	80	79	81	80
	1989	65	141	77	84	154	71	87	87
	1990	47	102	88	125	102	87	101	92
	1991	129	100	93	112	103	92	142	105
	1992	59	80	105	101	87	95	90	93
	1993	63	93	155	106	105	129	96	117
	1994	76	110	116	128	97	119	101	111
repeat mammography	1988	6	28	9	17	26	11	8	12
	1989	8	45	6	15	41	10	11	15
	1990	12	34	14	16	43	13	10	17
	1991	8	50	25	20	54	22	20	26
	1992	14	53	34	18	61	25	28	30
	1993	14	62	99	17	72	72	23	59
	1994	20	78	45	32	67	44	34	45
total	1988	54	103	101	98	106	90	89	92
	1989	73	186	83	99	195	80	98	102
	1990	59	136	102	141	145	100	111	109
	1991	137	150	118	132	157	114	162	131
	1992	73	133	139	119	148	120	118	123
	1993	77	155	254	123	177	201	119	176
	1994	96	188	161	160	164	163	135	156

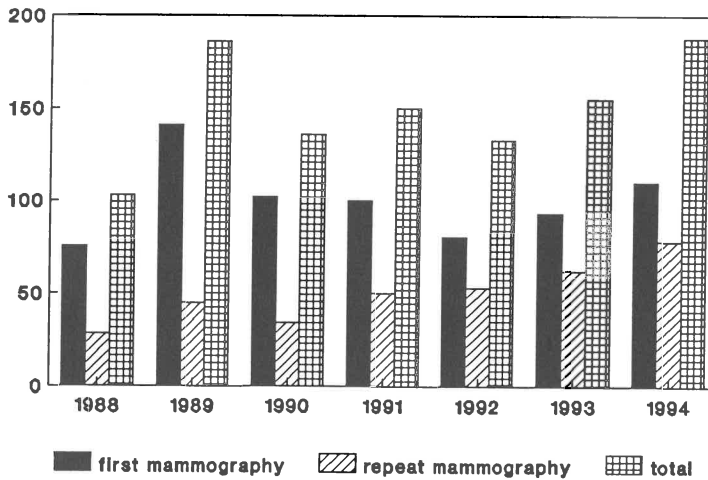
Figure 9

Number of mammograms per province group, per 10 000 women, 1988-1994

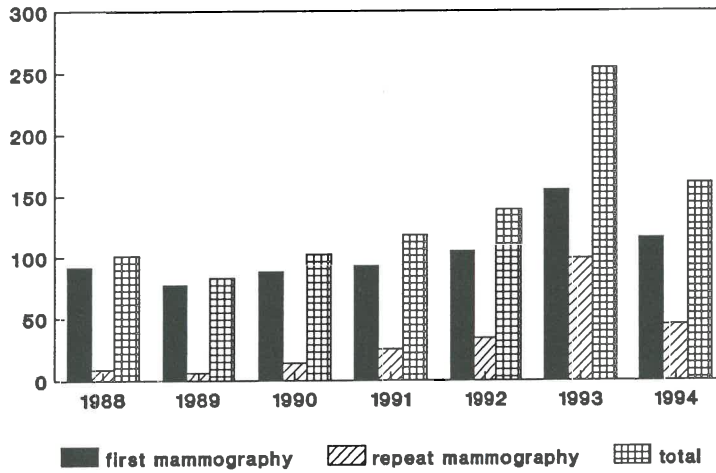
province group A



province group B



province group C



province group D

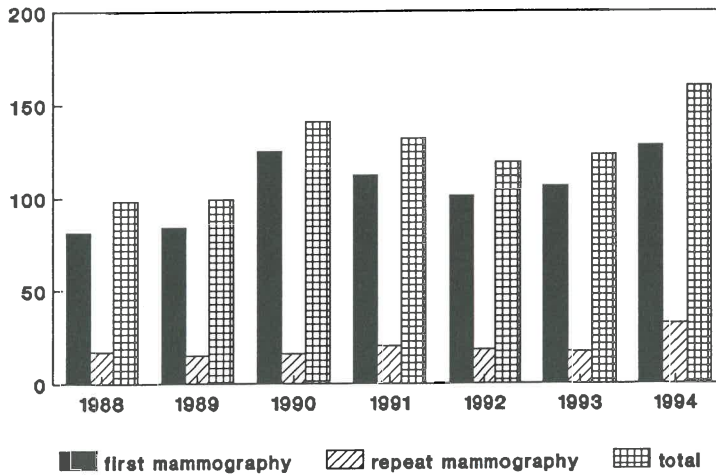
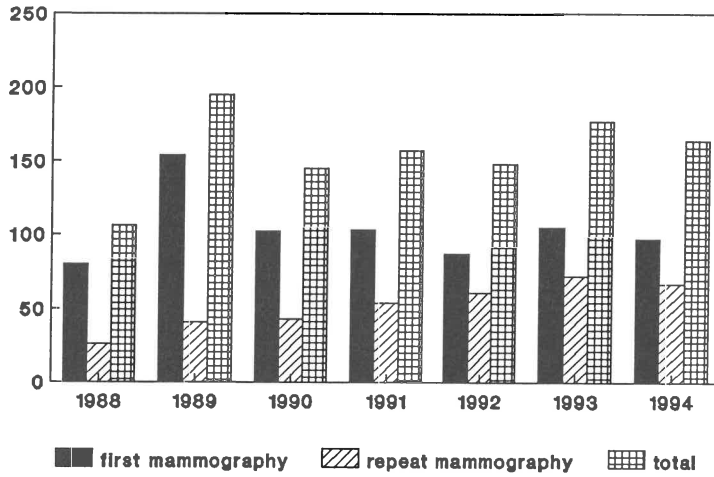
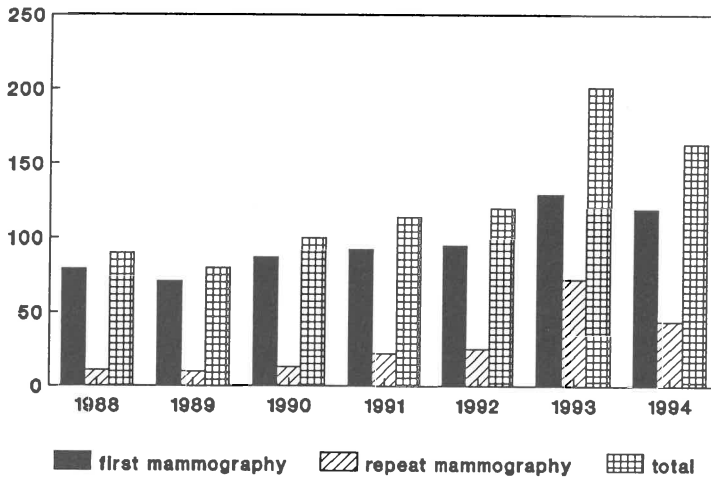


Figure 10  
 Number of mammograms per urbanization group and for the Netherlands per  
 10 000 women, 1988-1994

urbanization group 1

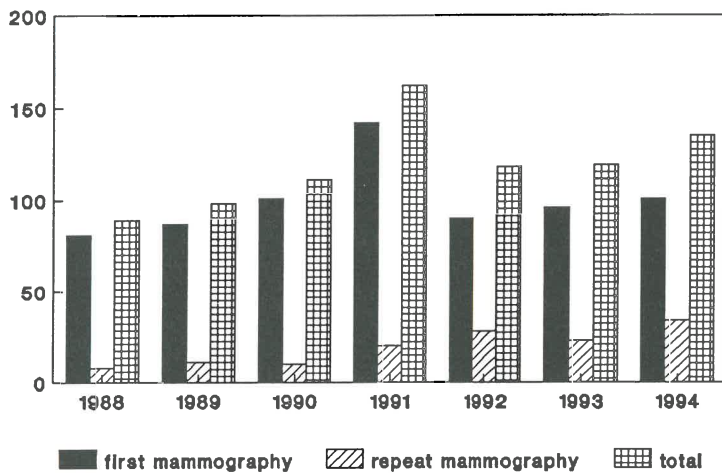


urbanization group 2

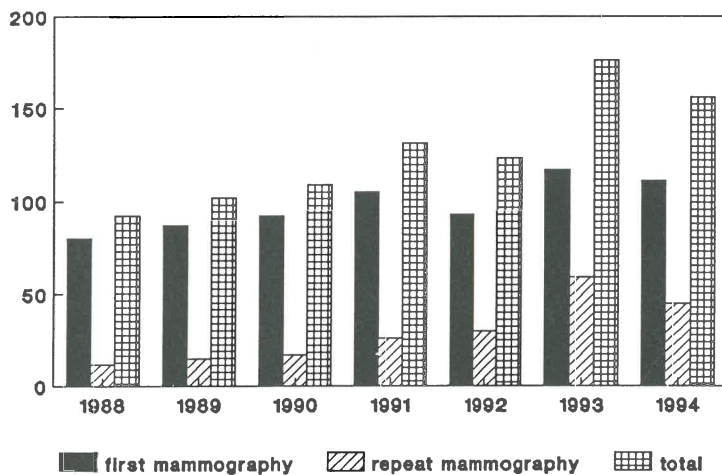




urbanization group 3



Netherlands



The number of mammograms in 1994 was lower than in the peak year 1993: 156 as against 176 per 10 000 women. In total there has been a doubling in six years.

The decrease occurs solely in the western provinces. In the rural municipalities, the small towns and the urbanized rural municipalities a decrease was registered. In the other than the western provinces and in the cities there is some increase in the number of mammograms.

It is striking that, when the number of 'first mammograms' clearly increases, there is also a clear increase in the number of repeat examinations. This suggests periodical screening outside the mass screening.

It is being investigated whether the local start of the mass screening for breast cancer affects these results (Dr H.J. de Koning, Erasmus University).

A remarkable feature is the continuing relatively low number of mammograms in the northern provinces, where the mass screening began relatively late and still has only a slight degree of cover.

In Table 13 the number of mammograms is stated by age group per 10 000 women.

Table 13: number of mammograms by age group per 10 000 women for 1988-1994

	Age group									
	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79
first mammography										
1988	144	170	195	179	124	95	96	71	37	15
1989	124	189	223	213	159	127	102	46	34	31
1990	104	186	230	189	204	174	115	66	83	26
1991	140	170	253	226	229	166	147	117	75	54
1992	119	187	260	201	162	121	117	58	51	39
1993	153	190	214	227	255	242	174	139	98	53
1994	149	246	260	234	216	131	122	162	90	57
repeat mammography										
1988	16	25	30	34	23	21	12	(4)	(8)	(10)
1989	17	34	42	37	28	31	18	8	(8)	(10)
1990	14	30	46	36	42	33	39	18	-	-
1991	15	35	89	70	67	50	41	20	25	10
1992	43	59	65	76	78	53	60	6	12	15
1993	27	69	85	114	132	159	235	159	79	43
1994	32	57	104	108	137	111	98	58	29	10
total										
1988	160	195	225	213	147	116	108	75	45	25
1989	141	223	275	250	187	158	120	54	42	41
1990	118	216	276	225	246	207	154	84	83	26
1991	155	205	342	296	296	216	186	137	100	64
1992	162	246	325	277	240	174	177	64	63	54
1993	180	259	299	341	387	401	409	298	177	96
1994	181	303	364	342	353	242	220	120	119	67

In 1993 a change seems to have taken place in the age distribution of the women on whom this examination is performed (Table 14).

The proportion of women younger than 50 years has fallen considerably compared with the years before. This is explained by the strong increase (absolute and relative) for the 50-69 age group.

However, in 1994 this 1993 change was not confirmed. The majority of the mammograms are still requested for women who fall outside the age group for which the mass screening has been organized.

Table 14: proportional distribution of mammograms by three age groups.  
Percentages, 1988-1994

age distribution, total number of mammograms				
year	≤49	50-69	≥70	total
1988	73	24	3	100
1989	72	25	3	100
1990	65	31	4	100
1991	64	31	5	100
1992	69	27	4	100
1993	54	40	6	100
1994	66	29	5	100
age distribution, "first" mammograms				
1988	74	24	2	100
1989	73	25	2	100
1990	65	30	5	100
1991	64	31	5	100
1992	71	25	4	100
1993	61	33	6	100
1994	71	25	5	100

In 1995 the topic is maintained on the weekly return.

## STERILIZATION OF THE MAN

Sterilization of the man has been a topic on the weekly return since 1972. The data obtained on this subject, together with those on the subject sterilization of the woman, are being used inter alia for the compilation of a Dutch contribution to the Council of Europe's report: "Country Report of the Netherlands" and for computing the population trend.

The annually published data form a partial but as yet indispensable instrument for assessing developments in the field of birth control behaviour.

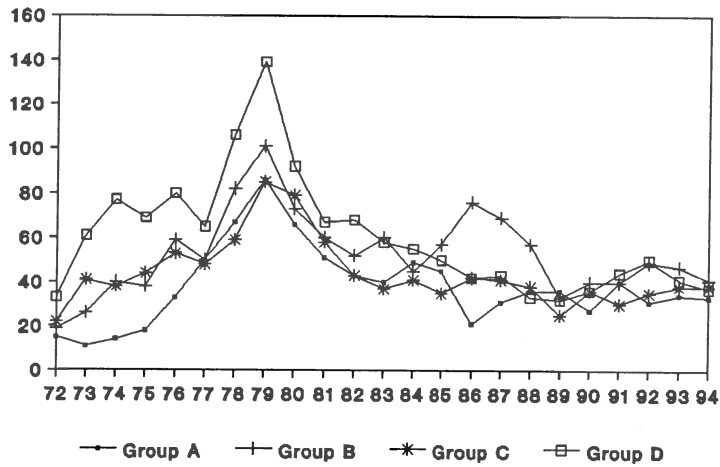
The number of sterilizations of men performed per 10 000 of all men and per province group and urbanization group is given in Table 15 (cf. Fig. 11).

Table 15: number of sterilizations of men performed, per province group and urbanization group per 10 000 men, 1985-1994

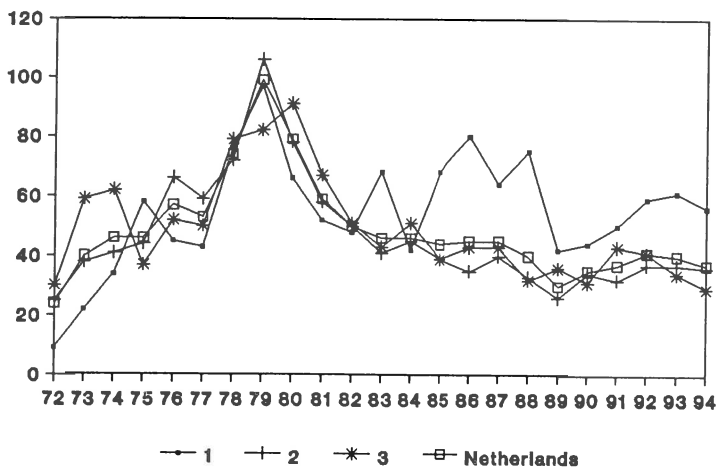
	province group				urbanization group			Nether-lands
	A	B	C	D	1	2	3	
1985	45	57	35	50	68	39	39	44
1986	21	76	42	42	80	35	43	45
1987	31	69	41	43	64	40	43	45
1988	36	57	38	33	75	33	32	40
1989	36	33	25	32	42	26	36	30
1990	27	40	36	36	44	34	31	35
1991	40	40	30	44	50	32	43	37
1992	31	49	35	50	59	37	41	41
1993	34	47	38	41	61	37	34	40
1994	33	41	38	37	56	36	29	37

Figure 11  
 Number of sterilizations of men performed, per province and urbanization group and for the Netherlands, per 10 000 men, 1972-1994

province group



urbanization group and the Netherlands



After peaks around 1979 the number of sterilizations stayed around 45 per 10 000 men for five years. In 1988 a fall in this number occurred; this development continued in 1989. In that year 30 sterilizations per 10 000 men still took place. However, in 1990 and 1991 the number was higher again: 35 per 10 000 men. In 1992 and 1993 the number again exceeded 40 per 10 000 men. In 1994 the number was slightly below 40: 37 per 10 000 men.

For a number of years now the number of sterilizations among men in rural municipalities is considerably higher than in the other two urbanization groups. Among women that is much less the case (see the following chapter, p. 59).

As also stated in the previous reports, it was to be expected that in the course of time, and after an initially strong increase, a stabilization would occur at a lower level. This would be the result of a short-lived 'historical catching-up effect'. This effect did in fact occur.

The number of sterilizations performed in 1994 was as high as the replacement factor (28 000). This 'replacement factor' indicates the number of sterilizations that have to be performed in a year to allow the percentage of those sterilized at some time to remain the same. It is the resultant of two factors, viz population growth and the fact that those sterilized at some time disappear through ageing from the fertile age group (in a statistical sense this means: become 52 years).

As a result, the percentage of men sterilized at some time remained the same in 1994 as in 1993. The percentage of men sterilized at some time who statistically speaking belong to the fertile age group (17-51 years)<sup>11</sup> was 12.2% in 1994. This percentage has already been practically constant since 1986. For women it is, however, falling (see below).

In Figure 13 (see p. 61) the number of sterilizations per 10 000 men per year of all subgroups together is compared with that of women. It is clear to see that in the past decade sterilization of the man in comparison with sterilization of the woman has become increasingly popular. In 1994 the sterilization ratio of men to women was 62:38.

### **Age distribution**

The age-specific distribution of the number of sterilizations performed per 10 000 men is given in Table 16 (cf. Fig. 12, see p. 60).

An interesting development is that the percentage of men in the younger age group who have had themselves sterilized at some time has displayed a clear decline in recent years. In 1981 5.5% of the men between 22 and 31 had been sterilized, whereas that was only 1.5% in 1993, and in 1994 only 1.0%.

Table 16: number of sterilizations performed on men by age group, per 10 000 men, 1986-1993

	age group						
	20-24	25-29	30-34	35-39	40-44	45-49	50-54
1986	(2)	30	191	167	122	62	(6)
1987	(2)	32	139	219	111	66	(3)
1988	(2)	27	128	166	111	66	-
1989	-	20	92	149	75	37	-
1990	(2)	15	98	175	94	49	(9)
1991	(4)	28	110	153	108	53	(3)
1992	-	12	108	200	114	51	25
1993	-	23	101	158	124	73	20
1994	-	(2)	62	186	139	61	21

Sterilizations of men are performed above all between the ages of 35 and 45; the largest number of sterilizations has since 1987 been performed between 35 and 39.

In 1990 an end seemed to have come to the declining trend in the number of sterilizations performed on men. In the 30-44 age group there was again an increase, for the first time in years. In 1994 too the number of sterilizations in this age group is above the 1989 level.

A striking feature is the larger number of sterilizations of men of 50-54 years. However, in absolute terms a relatively small number is involved (8).

A cumulative calculation shows that in the Netherlands since 1971 at least 791 000 sterilizations of the man have been performed, that is among 10.3% of the present male population. For a further study see the next section, in which the topic 'sterilization of the woman' dealt with.

The question has been maintained on the 1995 weekly return.



## STERILIZATION OF THE WOMAN

Sterilization of the woman performed was placed on the weekly return in 1974 (of the man performed in 1972). In 1994 22 sterilizations per 10 000 women were performed, practically equal to the preceding five years. Extrapolation of these figures to the whole of the Netherlands yields a number of over 17 000 sterilizations in 1994.

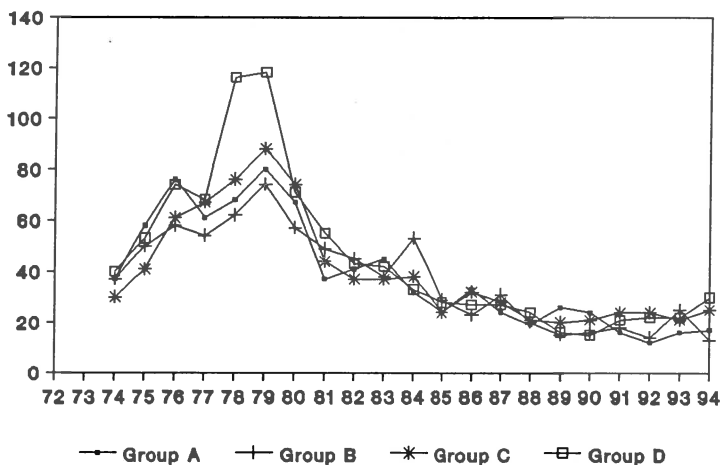
The number of sterilizations of women performed per 10 000 of all women and per province group and urbanization group is given in Table 17 (cf. Fig. 12).

Table 17: number of sterilizations of women performed, per province and urbanization group, and for the Netherlands per 10 000 women, 1985-1994

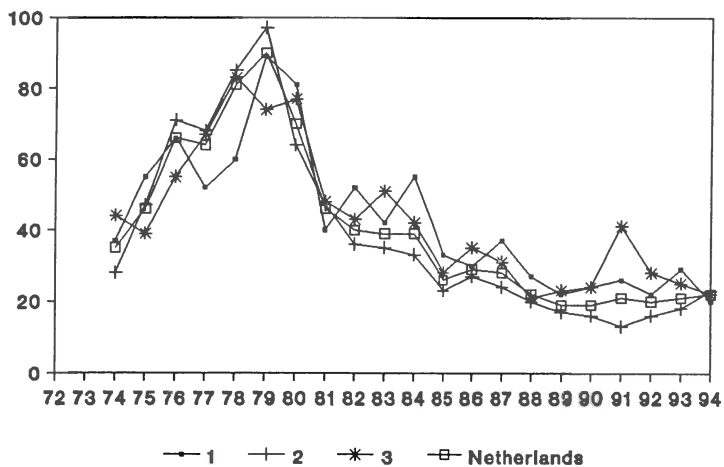
	province group				urbanization group			Nether-lands
	A	B	C	D	1	2	3	
1985	24	29	24	28	33	23	28	26
1986	33	23	32	27	30	27	35	29
1987	24	31	28	27	37	24	31	28
1988	19	20	21	24	27	20	21	22
1989	26	15	20	16	22	17	23	19
1990	24	16	21	15	24	16	24	19
1991	16	18	24	21	26	13	41	21
1992	12	14	24	22	22	16	28	20
1993	16	25	21	22	29	18	25	21
1994	17	13	25	30	20	23	22	22

Figure 12  
 Number of sterilizations of women performed, per province and urbanization group and for the Netherlands, per 10 000 women, 1972-1994

province group



urbanization group and the Netherlands

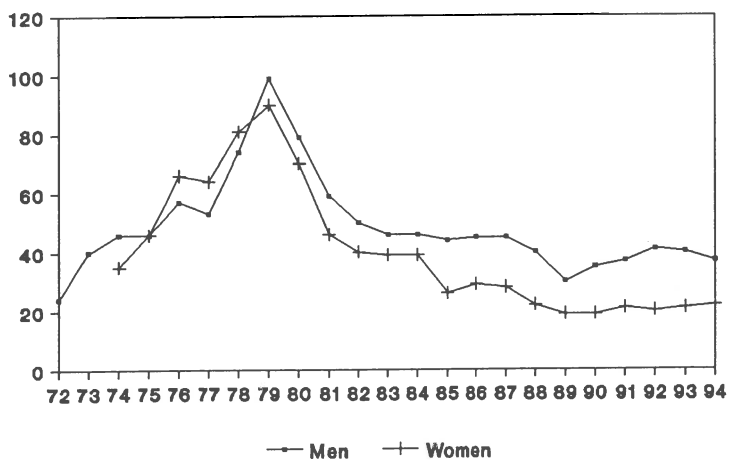


The southern provinces had the highest score in 1994; that does not apply to sterilizations of the man. There is now difference by degree of urbanization.

Since 1988 the number of sterilizations of women has remained at the same level. In the various subgroups a number of fluctuations do occur, but without an obvious trend.

Figure 13 gives a comparison between the number of sterilizations of women and of men per year. The curves display a great deal of similarity up to 1985. The remarks that were made on the trend also apply here. From 1985 onwards the curves for men and women have diverged.

Figure 13  
 Number of sterilizations performed per 10 000 men and 10 000 women, for the Netherlands, 1972-1994

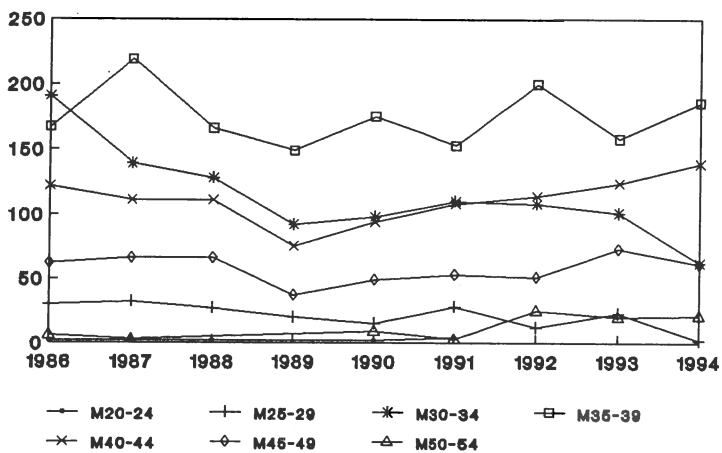


**Age distribution**

The age-specific distribution of the number of sterilizations performed per 10 000 women is given in Table 18 (cf. Fig. 14).

Figure 14  
 Number of sterilization performed by age group, per 10 000 men and women,  
 1986-1994

men



women

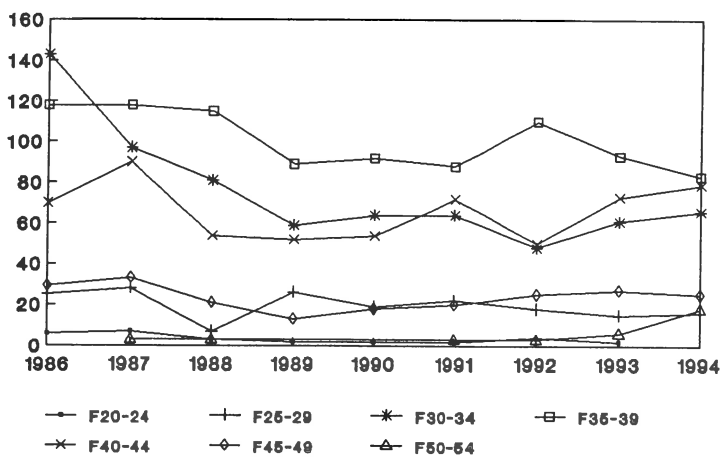


Table 18: number of sterilizations performed on women by age group, per 10 000 women, 1986-1994

	age group						
	20-24	25-29	30-34	35-39	40-44	45-49	50-54
1986	(6)	25	143	118	70	29	-
1987	(7)	28	97	118	90	33	(3)
1988	(3)	7	81	115	54	21	(3)
1989	(2)	26	59	89	52	13	-
1990	(2)	19	64	92	54	18	-
1991	(2)	22	64	88	72	20	(3)
1992	(4)	18	48	110	50	25	(3)
1993	(2)	15	61	93	73	27	(6)
1994	-	18	66	83	79	25	18

Sterilization of women is performed above all between the ages of 30 and 45; the largest number of sterilizations is -as with men- performed between 35 and 39.

A cumulative calculation shows that in the Netherlands since 1973 in total sterilization has been performed on at least 603 000 women, i.e. 7.8% of the present-day total female population. However, it is more realistic to relate the figures only to women of fertile age (15-49) and at the same time to bring in the sterilization pattern of the man. In that case it proves that in 1975 the woman or the man had been sterilized in approx. 6% of (married) couples. This percentage later rose from 18.5 in 1980 via 22.4 in 1984 to 23.0 in 1986. In 1987 it fell slightly for the first time. This fall continued. In 1990 this percentage was 22.1, in 1991 21.8, in 1993 21.3 and in 1994 21.0. The number of sterilizations (of men and women) that ought to have been performed in 1994 on the basis of this calculation to keep the total percentage equal to that of 1993 was 54 000. In reality this number was only 45 000 (28 000 men and 17 000 women).

Table 19: percentage of women and men belonging to the fertile age group that have undergone sterilization at some time 1980-1994.

Year	women per 100 15-49 y	men per 100 17-51 y	total m+f per 100 15-49 y
1980	9,3	9,2	18,5
1981	9,8	10,0	19,8
1982	10,2	10,6	20,8
1983	10,6	11,1	21,7
1984	10,9	11,5	22,4
1985	10,8	11,9	22,7
1986	10,8	12,2	23,0
1987	10,6	12,3	22,9
1988	10,4	12,4	22,8
1989	10,2	12,3	22,5
1990	9,9	12,2	22,1
1991	9,6	12,2	21,8
1992	9,4	12,2	21,6
1993	9,1	12,2	21,3
1994	8,8	12,2	21,0

Since 1985 there has been a fall in the percentage of sterilized women in the fertile age group. In 1984 this percentage reached its peak with 10.9, after which it gradually declined to 9.1 in 1993. Among men the percentage of those sterilized has remained practically constant since 1986 (see table 19). The percentage of sterilized women and men together has been falling since 1986. One can therefore speak of a decreasing popularity of sterilizations as a method of birth control. According to Dr E. Ketting, who made these calculations, the above is probably bound up with two factors. In the first place women want to have (further) children at a steadily later age, as a result of which a decision concerning sterilization is increasingly postponed and often also put off indefinitely. And in the second place objections to still using oral conception at a later age have clearly lessened in recent years, partly through the introduction of types containing a lighter dose, as a result of which the need for sterilization is decreasing.

Much more clearly even than among men, the popularity of sterilization among young women has consequently been declining quickly in recent years. In 1980 6.9% of women aged between 25 and 29 had been sterilized, as against 0.9% in 1994. Since 1984 there has now also been a considerable decline among the 30-34 age group of women (from 13.8% in 1985 to 4.3% in 1994). In the 35-44 age group the decline is much less (from 21.2% in 1985 to 16.4% in 1994).

Incidentally, it is interesting that the Netherlands, as far as is known, is the only country where clearly more men than women have been sterilized. This ratio is at present 58% men to 42% women. (In the fertile age group 513 000 men and 356 000 women are sterilized in 1994.)

The topic sterilizations has been maintained on the weekly return for 1995.

## OESTROGENS PRESCRIBED

Oestrogenic substances (whether or not combined with a progesterone) have a shifting field of application particularly around and after the menopause.

The pressure to prescribe oestrogens for women in the menopause is growing. Women are being informed via the mass media. It is conceivable that, just as with the pill, the use of oestrogens will increase under pressure from women.

However, Moors established earlier in 1992 that the reticence of GPs with regard to hormone replacement contrasts with the enthusiasm with which they almost simultaneously introduced the large-scale use of oral contraception in the Netherlands<sup>12</sup>. GPs are reserved and divided about the general introduction of hormone replacement, as are specialists, including gynaecologists and internists.

The demographic structure of the female population means that in the years to come the number of women in the target group will considerably grow.

The physicians were asked to register when they issue a prescription for oestrogens (whether or not combined with a progesterone). In 1994 they were asked to make a distinction between a first prescription and a repeat one.

Table 20 shows the number of first prescriptions and repeats for oestrogen by province group and degree of urbanization and for the Netherlands per 10 000 women in the 40-60 age group.



Table 20: number of first and repeat prescriptions for oestrogens by province group and degree of urbanization and for the Netherlands, per 10 000 women of 40-60 years in 1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
1st prescription	83	297	236	150	153	161	273	180
repeat prescription	468	687	854	669	890	616	809	732
ratio of 1st to repeat	1/5.6	1/3.5	1/3.6	1/4.5	1/5.8	1/3.8	1/3.0	1/4.1

In the eastern province groups the highest number of women receive a first prescription for oestrogens. In the northern provinces that number is the lowest. As regards the repeat prescriptions, they are issued the most in the western provinces and the least in the northern ones.

In the urbanization groups the picture is different. The number of first prescriptions for oestrogens is the least in the rural municipalities, where, however, the largest number of repeat prescriptions is issued. Most first prescriptions are issued in the cities.

When a relatively large number of first prescriptions are issued in proportion to the number of repeat prescriptions, more short-term use may be assumed. This proves to be the case in the eastern and western provinces and in the cities.

This can point to a greater inclination to use oestrogens 'on trial'. In a number of situations the woman and the physician then decide against long-term use.

### Age distribution

The age-specific distribution of the number of first and repeat prescriptions per 10 000 women appears in Table 21.

Table 21: Number of first and repeat prescriptions for oestrogens by age group per 10 000 women in 1994

age group	1st prescription	repeat prescription	ratio
40-44	57	175	3.1/1
45-49	185	662	3.6/1
50-54	381	1527	4.0/1
55-59	119	741	6.2/1
60-64	36	214	5.9/1
65-69	23	143	6.2/1
70-74	22	72	3.3/1
75-79	24	66	2.8/1
80-84	13	31	2.4/1
>85	22	15	0.7/1

Up to an advanced age women have oestrogens prescribed by their GPs. Around the menopause and in the first years after it the number is the highest: prescription of oestrogens started in 1994 for nearly 4% of the women in the 50-54 age group, while a repeat prescription was issued to 1517 per 10 000 women.

The number of women receiving a repeat prescription is, however, lower than 15 percent: several repeat prescriptions may have been issued to one woman in a year. The registration in this form does not allow of a pronouncement on this.

Other sources (pharmacies) are better able to trace the long-term users of hormone replacement.

After the 59th year the use of oestrogens declines considerably.

Long-term use for the prevention of osteoporotic fractures proves to be of limited occurrence in practice on the basis of these data. Insofar as lengthy use does occur, that is then above all by women of 55-69 years (the highest ratios for repeat prescriptions/first prescriptions).

The topic is retained on the weekly return in 1995, with a supplementary questionnaire.

## MYOCARDIAL INFARCTION

Knowledge of the number of cases of myocardial infarction is important for adjusting policy both with regard to health care and with regard to scientific research policy.

To obtain full insight into the incidence of myocardial infarction information should be collected at various levels. The Central Statistical Office compiles the cause-of-death statistics and registrations in the hospitals and nursing homes give insight into intramural morbidity. These data are supplemented by the information from registration projects by general practitioners. The Continuous Morbidity Registration Sentinel Stations is one of these GP registration projects.

The topic myocardial infarction already appeared on the weekly return in 1978 and in 1983-1985.

Two questions were formulated:

1. In how many cases did you take measures this week as if a myocardial infarction were concerned? (Both a primary and a recurrent infarction, even if it was a report on one and the same patient.)
2. How often did this lead to admission to hospital? (Within 48 hours.)

Between these two earlier registration periods no major differences have been found in the frequency of the reports (see the 1985 annual report of Continuous Morbidity Registration Sentinel Stations).

The registration from the years 1983-1985 was studied in depth by J. Fracheboud in the project 'Myocardial infarction - coronary care or home nursing?'<sup>13</sup>. In this project two questions occupied a central place:

1. how often does home nursing of a myocardial infarction occur, what does it entail and what are the results, and
2. is home nursing of a myocardial infarction medically justifiable and, if so, can this treatment be integrated in accordance with policy into the existing ways of treating myocardial infarction?

Fracheboud comes to the conclusion that home nursing of myocardial infarction in the Netherlands is an exceptional occurrence. In the group of patients investigated by him it related to patients of advanced age who did not live alone and most of whom lived in a city or in the west of the country.

Moreover, these patients had more frequently an unclear infarction picture and at most complications that could be well treated by the general practitioner. Medical policy after the myocardial infarction was more reserved in home nursing and perhaps a partial cause of these patients subjectively feeling somewhat worse. However, the death rate was not strikingly higher in comparison with the clinically treated group of patients if one takes into account the average advanced age and maintains some reservation on account of the small number.

However, despite the fall in mortality of above all the acute forms of ischemic heart disease, myocardial infarction remains one of the principal causes of death in the Netherlands.

The Public Health Future Survey of the RIVM shows that a shift is occurring from the acute to the chronic illness, i.e. from the acute myocardial infarction to the other (more chronic) ischaemic heart diseases.

In his discussion of the state of affairs regarding the epidemic of acute myocardial infarction Hoogendoorn, after analysis of data collected in the hospitals, finds that the elderly display an increasing admission frequency on account of other, more chronic ischemic heart diseases. In contrast, the numbers of admissions of young people in the years 1969-1987 declined<sup>14</sup>.

In addition to the information from the cause-of-death statistics and from the registrations in the hospitals and nursing homes, there proves to be a need for data from general practice.

At the request of the RIVM (Prof. Dr ir D. Kromhout and Dr H. Verkleij) registration of myocardial infarction was again set up in 1991.

Respondents were now asked to report both suspected and confirmed myocardial infarctions.

In the case of a suspected myocardial infarction the background of the suspicion was sought: medical history and examination by the physician and any previous cardiological history.

In the case of an acutely deceased patient an infarction may be suspected as cause of death without an autopsy. In the case of a confirmed myocardial infarction the possible previous cardiological history is also requested. The diagnosis can be confirmed on the basis of a positive ECG and/or enzyme increase or, when a fatal infarction is concerned, by autopsy.

For each report a practically person-unique set of data is requested on the patient: first three letters of the surname, sex and date of birth. This makes it

possible to investigate whether duplicate reports have occurred or reports of a suspected infarction that is then confirmed or not, and the occurrence of infarction more than once in a year with the same patient. The data in the table are of a provisional nature.

The comprehensive reporting on the registration is taken place at the RIVM, and will be available of the end of 1995.

In Table 22 the frequency data of the suspected and confirmed myocardial infarction per province and urbanization group and for the Netherlands are given. A suspected infarction that is then confirmed is reported in this table in the category suspected and in the category confirmed.

Table 22: number of patients with a suspected and confirmed myocardial infarction given per province and urbanization group and for the Netherlands per 10 000 men and per 10 000 women, 1991-1994

		province group				urbanization group			Netherlands
		A	B	C	D	1	2	3	
<b>men</b>									
suspected	1991	20	38	19	29	33	24	23	25
	1992	17	14	24	27	14	23	23	22
	1993	18	30	24	28	24	26	24	25
	1994	22	26	18	29	24	26	15	23
confirmed	1991	13	17	15	26	16	18	18	18
	1992	13	15	23	20	16	17	28	19
	1993	9	15	22	15	18	16	19	17
	1994	8	15	17	26	13	17	20	17
<b>women</b>									
suspected	1991	8	18	10	21	8	14	14	13
	1992	10	11	12	20	5	15	14	13
	1993	6	12	11	19	8	13	12	12
	1994	10	13	7	17	10	13	8	11
confirmed	1991	7	11	7	10	2	9	12	9
	1992	5	9	9	6	4	8	9	8
	1993	3	13	8	12	13	9	9	9
	1994	4	9	8	11	9	8	8	8
<b>total</b>									
suspected	1991	14	28	14	25	20	19	18	19
	1992	13	12	18	24	9	19	19	18
	1993	12	21	17	23	16	20	18	19
	1994	16	20	13	23	17	20	11	17
confirmed	1991	10	14	11	18	9	13	15	13
	1992	9	12	16	13	10	12	18	13
	1993	6	14	15	13	16	12	14	13
	1994	6	12	13	18	11	13	14	13

For men an infarction is more often suspected and also found than for women. The man-woman ratio for both suspected and confirmed infarction is about 2:1. The ratio of suspected to confirmed infarction is 3:2 for both sexes.

In 1994 the number of reports of a confirmed myocardial infarction in the northern provinces (province group A) was again lower than elsewhere. In

the cities (urbanization group 3) there were in 1991 and 1992 more reports of a confirmed myocardial infarction than in the two other urbanization groups. For 1993 and 1994 the number of reports per urbanization group does not seem to differ. For suspected myocardial infarction there is no clear difference present between the urbanization groups over the whole period.

In the cities (urbanization group 3) there are for men more reports of a confirmed myocardial infarction (this does not apply to suspected acute myocardial infarction) than in the other two urbanization groups.

### Age distribution

Table 23 gives the frequencies per age group.

Table 23: number of patients by age group with a suspected and confirmed myocardial infarction per 10 000 men, 1991-1994

age group	men							
	suspected				confirmed			
	1991	1992	1993	1994	1991	1992	1993	1994
≤ 24	-	-	-	-	-	-	-	-
25-29	(3)	-	-	-	(3)	-	-	-
30-34	(2)	(7)	(4)	(3)	-	(0)	(2)	(2)
35-39	(8)	(2)	(6)	(5)	(2)	(6)	(2)	(7)
40-44	21	11	12	11	13	13	(4)	9
45-49	18	20	31	25	15	31	24	21
50-54	34	33	47	23	23	36	33	28
55-59	60	43	56	52	54	49	28	60
60-64	70	54	79	75	84	64	62	62
65-69	116	80	88	59	68	65	65	48
70-74	143	171	133	99	74	93	89	76
75-79	122	104	97	191	23	60	67	71
80-84	93	139	150	138	134	76	88	104
≥ 85	75	80	177	174	75	80	118	17

Table 24: number of patients by age group with a suspected and confirmed myocardial infarction per 10 000 women, 1991-1994

age group	women							
	suspected				confirmed			
	1991	1992	1993	1994	1991	1992	1993	1994
≤ 24	-	-	-	-	-	-	-	-
25-29	-	-	-	-	-	-	-	-
30-34	-	( 2)	-	-	-	( 2)	-	( 2)
35-39	-	-	-	-	-	-	( 2)	-
40-44	-	( 2)	( 4)	( 2)	( 4)	( 2)	( 2)	( 2)
45-49	( 3)	( 5)	14	( 6)	( 3)	( 0)	9	( 6)
50-54	12	14	11	( 8)	( 6)	( 6)	9	( 5)
55-59	12	12	15	( 6)	-	( 3)	15	9
60-64	35	54	28	33	22	27	31	15
65-69	40	39	32	39	37	23	32	26
70-74	66	43	47	68	58	23	39	65
75-79	114	63	58	47	40	54	43	33
80-84	63	86	85	75	63	40	39	56
≥ 85	88	103	94	60	35	60	43	15

Table 25: incidence (per 10 000) of confirmed myocardial infarction calculated for the period 1991-1994 (denominator is the Gp population)

age	men	women
40-44	8	3
45-49	22	4
50-54	32	5
55-59	46	5
60-64	71	23
65-69	53	29
70-74	78	49
75-79	44	55
80-84	102	53
> 85	75	48

Among men confirmed myocardial infarction occurred in the period 1991-1994 above all from the 45th year onwards, with at the same time a strong increase in the incidence around the 60th year. Among women a strong



increase in the incidence of confirmed myocardial infarction is not seen until the 60th year onwards.

Among men the highest incidence rates of confirmed myocardial infarction are seen from the age of 70 (with an unexplained dip among the 75-79 age group). Among women the highest incidence occurs from the 75th year.

The topic has been removed from the weekly return in 1995.

## DIABETES MELLITUS

Diabetes mellitus is one of the most frequently occurring chronic diseases, which on account of the necessary checks on therapy and complications lays a considerable claim to health care. Because the disease occurs notably at an advanced age and the greying of the population is increasing, the general practitioner will in the future be confronted more and more frequently with the care for patients with diabetes mellitus.

The importance of diabetes mellitus in general practice has been endorsed by the Netherlands Society of General Practitioners, which in 1988 compiled the standard for the diagnosis and treatment of diabetes mellitus type II. In these guidelines it is advised to check the patient once every three months to a limited extent and once a year in detail.

As a result of the "Future Scenario Research into Chronic Diseases", which is being performed by the National Institute for Public Health and Environmental Protection (Prof. Dr ir. D. Kromhout, Dr H. Verkleij and drs D. Ruwaard), the subject was placed on the 1990 weekly return<sup>15</sup>.

The goal of the investigation is to obtain more insight into the claim that patients with diabetes mellitus make on health care. Information is sought on the incidence, prevalence and the occurrence of acute destabilization. In a supplementary questionnaire the spotter physicians report the way in which the diagnosis has been made, which doctor is treating the patient, and how, and the occurrence of complications and the risk factors for their development.

In the period 1980-1983 the topic diabetes mellitus likewise appeared on the weekly return. By comparison with the results from the period 1980-1983 it can be discovered whether and to what extent there is a rise in the number of patients and what the share of the general practitioner in the treatment of patients with diabetes mellitus is.

The diagnosis diabetes mellitus is certain, according to the WHO criteria from 1985, in the event of evident complaints (polyuria, thirst, hunger, loss of weight, dizziness etc.) and one deviant blood sugar value or two abnormal values without complaints (measured on different days).

Deviant blood sugar values are a fasting capillary blood sugar  $\geq 6.7$  mmol/litre and/or a capillary blood sugar  $\geq 11.1$  mmol/litre two hours after burdening with a carbohydrate-rich breakfast: two cups of heavily sugared tea and two slices of bread thickly spread with jam.

Extensive reporting on this registration is taking place elsewhere and will be available at the end of 1995. Here in the first instance the incidence registered in 1990-1994 is reported on.

In Table 26 the incidence of diabetes mellitus is shown by province and urbanization group and for the Netherlands per 10 000 men, per 10 000 women and per 10 000 persons.

Table 26: incidence of diabetes mellitus by province and urbanization group and for the Netherlands, per 10 000 men and per 10 000 women, 1990-1994

			province group				urbanization group			Netherlands
			A	B	C	D	1	2	3	
incidence	1990	M	26	16	20	24	13	19	33	21
	1991	M	7	13	17	16	8	13	23	15
	1992	M	12	9	21	15	16	15	19	16
	1993	M	9	14	15	15	10	12	20	14
	1994	M	9	16	14	11	15	12	15	13
	1990	F	14	18	24	25	14	20	33	22
	1991	F	15	16	19	13	13	13	28	16
	1992	F	14	18	16	14	17	15	15	15
	1993	F	11	18	20	16	20	16	20	17
	1994	F	11	16	14	10	16	10	17	13
	1990	M+F	20	17	22	24	13	19	33	21
	1991	M+F	11	14	18	14	10	13	26	15
	1992	M+F	13	13	18	14	17	15	17	16
	1993	M+F	10	16	18	16	15	14	20	16
	1994	M+F	10	16	14	10	16	11	16	13

Little difference has been established between men and women. There are no great consistent differences between the province groups. In 1993 and 1994 fewer new patients are reported in the northern provinces. Differences have, however, been established between the urbanization groups; there is a

clear gradient from rural municipality to city in the first two years of registration. In 1990-1991 the incidence in the cities was more than twice that in rural municipalities. In 1992 that was no longer the case. In 1993 the largest number of new diabetes patients was again reported in the cities. In 1994 the incidence in the cities and rural municipalities is equally high; in the small towns and urbanized rural municipalities the incidence is clearly lower.

### Age distribution

Table 27 gives the age-specific distribution of the incidence of diabetes mellitus.

Table 27: Incidence of diabetes mellitus by age group per 10 000 men and per 10 000 women, 1990-1994

age group	incidence									
	M					F				
	1990	1991	1992	1993	1994	1990	1991	1992	1993	1994
> 9	( 1)	(3)	-	(1)	(2)	(1)	(1)	(3)	(1)	(-)
10-19	( 4)	(1)	(2)	(-)	(0)	(2)	(1)	(1)	(1)	(2)
20-29	5	(2)	(2)	(2)	(2)	(2)	(1)	(3)	(4)	(1)
30-39	6	8	10	(3)	(4)	(2)	(4)	(2)	(2)	(2)
40-49	13	23	11	12	17	23	9	9	14	(7)
50-59	41	28	43	34	32	37	29	32	32	26
60-69	55	43	45	40	34	55	58	47	36	39
70-79	120	59	50	50	44	88	69	55	71	57
> 80	97	0	62	84	21	85	33	41	70	31

As expected, the incidence of diabetes mellitus increases with age. The highest incidence lies in the age group of 70 and older.

Compared with the period 1980-1983 the incidence in 1990-1994 has risen. Further reporting on the rise in the incidence follows.

In 1995 this topic has been removed from the weekly return.

## (ATTEMPTED) SUICIDE

In consultation with the Health Care Inspectorate, formerly the Chief Medical Office for Mental Health the topic was included in the weekly return in 1979 and is still on it.

In other fields too (hospitals), research into suicide is being performed at present. In this way it is being attempted to get an insight into the extent, the trend and other aspects of the problem. The name of the topic is also the definition.

The Chief Office of the same time requested that supplementary data be collected on the cases reported. For this purpose a questionnaire has been compiled in cooperation with Professor R.F.W. Diekstra, clinical psychologist, Leiden. On this form the question whether the attempt was successful or not and how the attempt was made appears. At the same time questions are asked about contacts with the medical sector prior to the (attempted) suicide. However, the essential aspect here is not whether the attempt was successful; the primary concern is the patient's intention, with the possibility that suicide is a consequence of the action.

The absolute number of reports (which is not equal to the number of patients, since recidivists are not uncommon) was 89, 67, 60, 84, 73 and 74 in 1988-1994.

The number of attempts per province and urbanization group per 10 000 inhabitants may be found in Table 28. This breakdown into subgroups is of limited value, because of the relatively small frequencies.

When the degree of urbanization is considered, most suicide attempts are consistently reported in the cities; two to three times as many as in rural municipalities.

The distribution by province group displays a less consistent picture, possibly on account of the small numbers.

The figures do **not** support an increase that some suspect in the incidence of (attempted) suicide in the Netherlands.

Table 28: number of reports of (attempted) suicide per province and urbanization group and for the Netherlands, per 10 000 inhabitants, 1985-1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
1985	6	3	8	5	2	6	11	6
1986	8	5	7	6	5	4	15	7
1987	6	6	8	7	5	5	14	7
1988	9	4	7	5	3	5	12	6
1989	6	9	6	8	7	6	10	7
1990	5	6	4	7	4	5	7	5
1991	5	6	5	4	4	3	10	5
1992	12	4	6	5	3	7	7	6
1993	6	4	5	8	3	5	9	6
1994	5	6	5	5	3	4	9	5

#### Age distribution

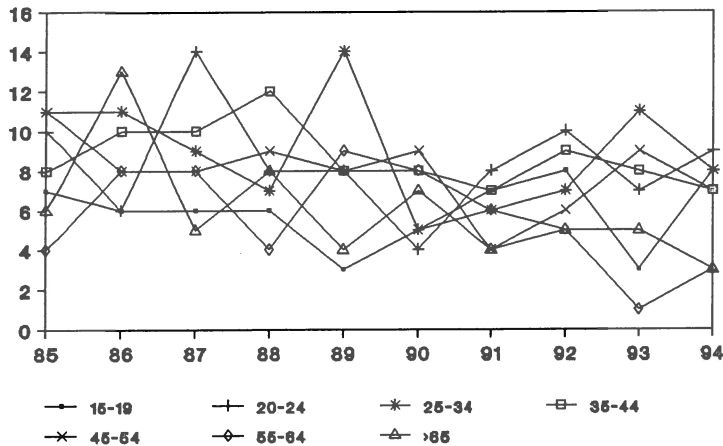
Table 29 gives the frequency of (attempted) suicide per 10 000 inhabitants by age group (see also Fig. 15).

Table 29: number of reports of (attempted) suicide by age group, per 10 000 inhabitants, 1985-1994

	age group							
	10-14	15-19	20-24	25-34	35-44	45-54	55-64	>64
1985	(1)	3	10	11	8	11	4	6
1986	(4)	6	6	11	10	8	8	13
1987	-	6	14	9	10	8	8	5
1988	-	6	8	7	12	9	4	8
1989	-	(3)	8	14	8	8	9	4
1990	(1)	5	(4)	5	8	9	8	7
1991	(1)	7	8	6	7	4	6	4
1992	(1)	8	10	7	9	6	5	5
1993	-	(3)	7	11	8	9	1	5
1994	(1)	8	9	8	7	7	3	3

Figure 15

Number of reports of (attempted) suicide by age group, per 10 000 inhabitants, 1985-1994



With regard to age groups too the breakdown is of limited value on account of the small absolute numbers and the ease with which oscillations can occur. No clear preferential age emerges from the registration.

This topic has been maintained on the weekly return for 1995.

## A PUBLICATION ON THE BASIS OR PARTLY ON THE BASIS OF THE DATA FROM CONTINUOUS MORBIDITY REGISTRATION

DIEKSTRA, R.F.W., M. VAN EGMOND.

**Suicide and attempted suicide in general practice, 1979-1986.**

Acta Psychiatrica Scandinavica; 79, 1989, p. 268-275

Using data from Continuous Morbidity Registration, Sentinel Stations over the period 1979-1986, the authors tried to determine the incidence and the characteristics of patients in general practice who attempted or committed suicide. Almost half of the suicide attempters and suicides had contacted their general practitioner (GP) shortly before the suicidal act. A minority of these cases were recognized by the GP as having a high suicide risk. In almost 70% of the suicides and 58% of the suicide attempters the GPs reported the existence, currently or previously, of a depressive episode. About half of both suicides and the suicide attempters had been treated or seen by mental health professionals or social workers. Given the fact that suicide and suicide attempts are relatively rare events in general practice, and given the fact that for the patients who

contact their GP shortly before the suicidal act it is not at all certain whether they present clearly recognizable signs of suicide risk at that time, the authors conclude that GPs cannot play an important role in the prevention of suicidal behaviour.



## PELVIC INFLAMMATORY DISEASE (P.I.D.)

Most cases of pelvic inflammatory disease (P.I.D.) are caused by a sexually transmitted agent (*Chlamydia trachomatis* or *Neisseria gonorrhoea*).

P.I.D. may have a number of consequences that call for more intensive medical counselling: infertility on account of a tubal closure, ectopic pregnancy and chronic abdominal complaints<sup>16</sup>.

The topic has been placed on the weekly return with the intention of intensifying the epidemiological research into the occurrence of 'new sexually transmittable diseases'. This policy was formulated by the former State Secretary Simons in a letter to the President of the Second Chamber (letter of 17 December 1991).

It is requested that every patient with acute P.I.D. (including salpingitis) be reported.

It has been elected to use the definition maintained in the Amsterdam Sentinel Station Project.

It relates to a patient with acute abdominal pain. The patient is clearly ill. Physical examination reveals pressure pain in the abdomen and in vaginal touch oscillating pain and painful adnexa. Fever ( $>38^{\circ}\text{C}$ ), leucocytosis ( $>12\text{-}15\ 000$ ) and an increased sedimentation ( $>30\ \text{mm}$ ) support the diagnosis.

The criterion for counting the patient is that antibiotics are prescribed, either by the GP or by a gynaecologist if the patient has been referred for further examination.

The number of women with P.I.D. per 10 000 women per province group and urbanization group is given in Table 30 with the number for the Netherlands.

**Table 30:** number of women with P.I.D. per province and urbanization group and for the Netherlands per 10 000 women, 1993-1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
1993	9	4	8	7	8	5	10	7
1994	4	10	9	10	10	6	12	9

The national incidence of P.I.D. is about one third of the incidence that was registered in Amsterdam in 1990: 7 and 24 per 10 000 women respectively. In the northern province group considerably fewer patients were reported with P.I.D. in 1994. The numbers in the other province groups differ little from one another.

In rural municipalities somewhat more women with P.I.D. are reported by the GP than in the commuting towns and the smaller towns: 10 and 6 per 10 000 women respectively. The highest incidence is found in the cities: 12 per 10 000 women.

### **Seasonal influences**

Major differences between the quarters were not found in 1994.

### **Age distribution**

Table 31 gives the age distribution of the patients with P.I.D. reported by the spotter physicians.

Table 31: number of women with P.I.D. per age group per 10 000 women, 1993-1994

age distribution	women	
	1993	1994
< 15	(1)	-
15-19	9	7
20-24	14	10
25-29	13	16
30-34	11	20
35-39	13	14
40-44	15	13
45-49	(5)	8
50-54	(9)	18
> 54	(1)	(2)

P.I.D. proves to be a disease above all of women in the 15-44 age group. This finding tallies with the results of the registration by the Amsterdam G.P.s in the period 1983-1990.

The topic will be continued in 1995.

## URETHRITIS OF THE MAN

Sexually transmitted diseases (STD) are, after influenza-like diseases, the most common infectious diseases in the Netherlands. There are some 20 different pathogens that lead to a variety of complaints. Chlamydia, gonorrhoea, syphilis, herpes, H.P.V. infection, hepatitis B and H.I.V. infection are the principal ones.

The epidemiology of STD in the Netherlands is unclear, despite a large number of small-scale studies.

Hepatitis B and scabies (B diseases) and gonorrhoea and syphilis (C diseases) are notifiable diseases. Under-reporting is a recognized problem with the notifiable diseases. It is further the question whether gonorrhoea can still be used as a tracer disease for all STD. There is also a registration system in existence for STD cases with the social nurses of the Municipal Health Services.

Insight is desired into the occurrence of STD in the Netherlands. Studies on a small scale can give only partial insight. Registration in the sentinel stations can provide a useful supplementation of such studies.

The general practitioner is asked to report every patient with a (sub)acute discharge from the penis whereby dysuria usually occurs. This definition ties in with that used in the Amsterdam Sentinel Station Project.

When the disease AIDS comes up for discussion with a patient with urethritis during the consultation, the patient is also reported in the category 'concern about AIDS'.

The number of patients with urethritis per 10 000 men per province and urbanization group, along with the number of the whole of the Netherlands, is given in Table 32.

Table 32: number of patients with urethritis per province and urbanization group and for the Netherlands, per 10 000 men, 1992-1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
1992	16	40	45	10	46	14	65	31
1993	15	32	25	19	36	16	33	23
1994	20	32	28	14	26	18	39	25

The national incidence of urethritis is about one third of that in Amsterdam: 27 and 99 per 10 000 respectively<sup>17</sup>.

In all three years urethritis is clearly reported more in the eastern and western provinces.

In the cities most men with urethritis are seen by the GP. Compared with 1992 there has been a drastic decline in the number of registered men with urethritis in 1993 and 1994 in the cities. In rural municipalities too the number of reports of urethritis fell.

### Seasonal influences

Major differences between the seasons were not found.

### Age distribution

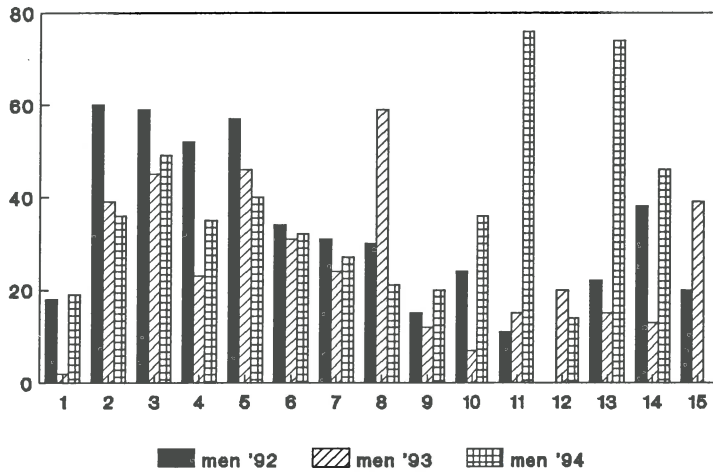
In Table 33 the age distribution is given of the patients with urethritis reported by the general practitioner (see also Figure 16).

Table 33: number of patients with urethritis per age group per 10 000 men, 1992-1994

age group	men	1993	1994
	1992		
< 15	( 0)	-	-
15-19	18	( 2)	19
20-24	60	39	36
25-29	59	45	49
30-34	52	23	35
35-39	57	46	40
40-44	34	31	(32)
45-49	31	24	27
50-54	30	59	21
55-59	15	(12)	20
60-64	24	( 7)	36
65-69	(11)	(15)	( 7)
70-74	-	(20)	(14)
75-79	(22)	(15)	( 7)
80-84	(38)	(13)	(46)
> 85	(20)	(39)	-

Figure 16

Number of patients with urethritis per age group per 10 000 men, 1992-1994



Age group

1=15-19 2=20-24 3=25-29 4=30-34 5=35-39 6=40-44 7=45-49 8=50-54  
9=55-59 10=60-64 11=65-69 12=70-74 13=75-79 14=80-84 15=> 84

Urethritis is seldom reported under the age of 15.

The majority of the patients are aged between 20 and 40. These results tally with those of the Amsterdam Sentinel Station Project.

The topic will be repeated in 1995.

## CONCERN ABOUT AIDS

General practitioners are confronted in their practice with AIDS patients and seropositivity to only a limited extent. Only general practitioners in Amsterdam and a few other cities and the occasional general practitioner outside these will have in their practice patients who are suffering from AIDS or who are seropositive.

Nevertheless it is expected that among the population, despite or because of the extensive publicity campaign, there exists a certain degree of anxiety about this disorder. Publicity campaigns are often general in nature and do not give an answer to every question.

The present pattern of (sexual) relationships, often comprising various partners, whether or not simultaneously, may be a reason for questions being asked about the risks of infection with H.I.V.

It is considered important to obtain insight into these phenomena.

In 1988 the topic "Concern about AIDS" started. In the Eurosentinel project sentinel station networks from various European countries are simultaneously registering a number of data that relate to the anxiety among the population about AIDS, insofar as this leads to a visit to a general practitioner.

The aim of the registration is to take stock of the requests for help from which concern about or fear of AIDS emerges. These include the requests by patients who do not suffer from AIDS or are not proven seropositive. In addition to insight into the extent to which general practitioners are confronted with these requests, the aim is to obtain a picture of those making the requests and of the action undertaken by the general practitioners in response to them.

The topic will appear on the weekly return for several years.

The spotter physicians are asked to register each consultation in which either the patient or the general practitioner brings up the subject of AIDS. In the supplementary questionnaire a number of supplementary data on the patient are recorded, the reasons for the patient's visit to the general practitioner, whether a request for determination of HIV antibodies is made and whether that request is granted, whether the physician for other reasons than the patient's request proposes that such a test be performed and, if an examina-



tion has been made, what the result is.

Finally, the general practitioners are asked to specify the action that they further undertake in relation to the patient's questions and whether a follow-up contact is arranged. Extensive reporting on this supplementary examination is being done elsewhere<sup>18</sup> (M. Moons and L. Peters, Netherlands Institute of Primary Health Care).

Table 34 lists the number of consultations in which AIDS comes up for discussion, by province and urbanization group and for the Netherlands, per 10 000 inhabitants, 1988-1994.

Table 34: numbers of consultations in which AIDS comes up for discussion, by province and urbanization group and for the Netherlands, per 10 000 inhabitants, 1988-1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
1988	7	9	13	8	5	8	21	10
1989	10	11	18	15	4	13	27	15
1990	8	8	21	22	4	15	30	16
1991	7	6	20	24	2	15	29	16
1992	16	13	24	27	7	19	35	22
1993	17	21	27	22	11	18	39	23
1994	16	20	32	33	8	22	50	27

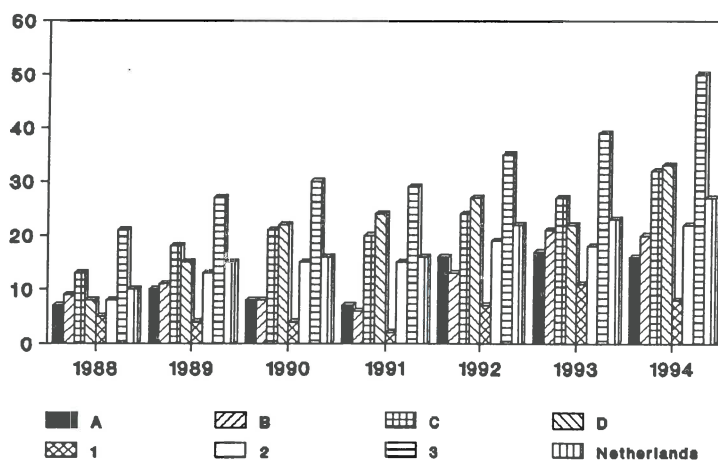
Initially, the number of consultations about AIDS was constant for several years. From 1992 onwards an increase occurs, which also continued in 1994. In the western and southern province groups the GP is consulted 1.5 to 2 times more often about AIDS than in the north and east. In the cities the GP is consulted about AIDS considerably more often. The GPs in the cities clearly have consistently more consultations in which AIDS is discussed than elsewhere (see Figure 17).

From the supplementary data it emerges that the number of consultations in which a request for a test on H.I.V. antibodies is made is steadily increasing: from 131 in 1990 to 321 in 1994.

Although not every request for a test is granted, the number of tests performed is also growing: from 121 in 1990 to 259 in 1994. In a small number of these cases the GP himself or herself takes the initiative for making a test.

Figure 17

Number of consultations in which AIDS comes up for discussion, per province and urbanization group and for the Netherlands, per 10 000 inhabitants, 1988-1994



### Age distribution

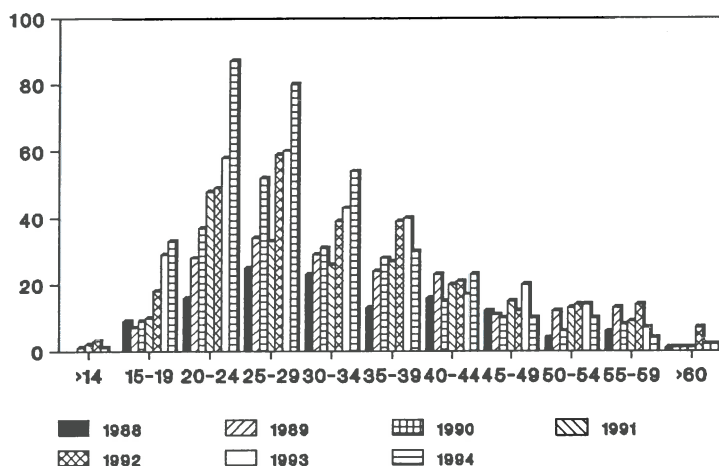
Table 35 gives the number of consultations in which AIDS comes up for discussion per 10 000 inhabitants per age group, for both sexes together (cf. Fig. 18).

Table 35: number of consultations in which AIDS comes up for discussion per age group, per 10 000 inhabitants, 1988-1994

Age group	1988	1989	1990	1991	1992	1993	1994
< 14	-	-	(1)	(2)	(3)	(1)	-
15-19	9	7	9	10	18	29	33
20-24	16	28	37	48	49	58	87
25-29	25	34	52	33	59	59	80
30-34	23	29	31	26	39	41	54
35-39	13	24	28	27	39	41	30
40-44	16	23	15	20	21	17	23
45-49	12	11	10	15	12	19	10
50-54	(4)	12	(6)	13	14	13	10
55-59	6	13	8	9	14	6	4
> 60	(1)	(1)	(1)	(1)	7	(2)	(2)

Figure 18

Number of consultations in which AIDS comes up for discussion per age group, per 10 000 inhabitants, 1988-1994



The majority of the questions about AIDS put to the GP are asked in the 20-49 age group. The annual report of the AIDS info line for 1988-1990 likewise gives a high percentage; about 70% of those ringing this line are between 20 and 50 years<sup>19</sup>. In the sentinel station registration 89% of the persons who come to talk about AIDS are between 20 and 50. In all age groups between 15 and 35 years the number of consultations in which AIDS comes up for discussion continues to increase.

The topic has been maintained on the weekly return for 1995. Registration under Eurosentinel is also being continued for 1995.

#### LIST OF PUBLICATIONS ON THE BASIS OR PARTLY ON THE BASIS OF THE DATA FROM THE CONTINUOUS MORBIDITY REGISTRATION

CASTEREN, V. van, P. LEURQUIN, A. BARTELD, et al

**Demand Patterns for H.I.V.-tests in General Practice: Information Collected by Sentinel Networks in 5 European Countries.**

European Journal of Epidemiology. 1993, Vol 9, p. 169-175

This study describes a 1 year international data collection on the demand pattern for HIV-antibody tests in general practice recorded by 6 sentinel networks in 5 European

countries. The purpose of the recording was to evaluate the use of HIV-testing by general practitioners and the demand for testing among the general population. Sentinel networks of general practitioners are a possible and available instrument for monitoring the perception of the HIV-test, and indirectly of the threat of the HIV-epidemic by the public and by the general practitioners (GPs). Differences were found between the countries in the frequency of testing, the person asking the test and the reason for testing. Possible explanatory factors, such as differences in the routine testing of specific groups, differences in the training and in the role of the GP, differences in the characteristics of prevention policy, are discussed. The European comparison also offers the opportunity to reflect on common medical practice in dealing with demands for HIV-tests.

MOONS, M.A.W., L. PETERS

**General practitioners and questions about AIDS:**

Anxiety and fear of non-seropositive patients in the period 1988-1993.

NIVEL, May 1994, Utrecht (CMR-Sentinel Stations the Netherlands)

The registration project 'General Practitioners and questions about AIDS' has been set up so as to gain a picture of the GP's role with regard to the prevention and provision of information on AIDS. Since 1988 the Continuous Morbidity Registration, the Netherlands, a national network of general practitioners (about 45 practices, 62 GPs) has collected data on physician-patient contacts in which anxiety or questions about AIDS are discussed. Only the contacts with patients of whom no seropositive status is known are included in the registration. After a contact of this kind the GPs have registered a number of data on the patient, on what has been discussed during the contact and on the actions taken by them. In this report the data on 5 years' registration are presented.

It emerges from the data that a GP in the Netherlands has on average been involved with 17 contacts in which the subject of AIDS has been discussed per 10 000 patients per year. Extrapolation of this number to the total Dutch population yields a total number of AIDS-related contacts per practice per year of 26 000. Starting from a standard practice of 2350 patients, this amounts to 4 AIDS-related contacts per practice per year. As regards the finding that the GP is confronted to only a limited extent with questions about AIDS, it must be remarked that the differences between the numbers of AIDS-related contacts per practice are fairly large and that over the period 1988-1993 there has been a significant growth in the number of contacts: from 3.4 to 5.7 contacts per year for a standard practice. The developments in rural municipalities diverge from this: the number of contacts (calculated for a standard practice) has declined in these municipalities from 2.8 in the first year of registration to 1.8 in the fifth year.

When the content of the contacts is examined, it proves that the HIV antibodies are an important subject of discussion: among two-thirds of the contacts a request for a test is discussed and in the majority (85%) of the cases an appointment for a test is also made. The number of requests for a test and the number of appointments proves to have undergone the same growth over the period 1988-1993 as the number of AIDS-related contacts: the HIV antibodies test has come to occupy a more important place during the contacts. In addition to the HIV antibodies test, and often in combination with it, during the contacts between physician and patient possible risks of sexual contacts are also discussed. Many patients want to discuss with the GP **whether** there is a question of

unsafe conduct and a risk run. Patients also come to the GP (a third of the contacts) with questions about physical complaints or symptoms of AIDS. Only a limited part of these complaints is considered alarming by the GP as well. In contacts in which complaints are discussed a test is requested much less. Patients who worry about complaints often pay a further visit to the GP. Very trivial questions about AIDS or risks of infection prove barely to be asked of the GP.

In prevention and information with regard to AIDS the GP proves to follow a pragmatic approach: the GP above all takes the initiative to bring up the matter of AIDS when the GP spots complaints that could possibly point in the direction of an HIV infection. In 89% of the contacts the patient takes the initiative in asking questions or discussing anxiety about AIDS.

The general and target-group-specific information campaigns via the media cannot supply an answer to all individual questions and uncertainty about AIDS and make people also precisely aware of risks of being infected with HIV. The GP proves for the questions and anxiety of the individual patient to play a clearly supplementary role to this general information. This emerges not only from the subjects that are discussed during the contacts but also from the fact that after some ten years of information campaigns the number of contacts with the GP in which AIDS is discussed is displaying a growth.

With alertness, frankness and extra attention by the GP to this side of the AIDS epidemic the role of the GP in the field of prevention and information could gain further in importance.

## VIRAL HEPATITIS

Every viral hepatitis can proceed asymptotically or subclinically. With the hepatitis A virus this percentage is estimated at 50%; with hepatitis B and C this is probably lower. These non-diagnosed patients are however, infectious at any moment.

Hepatitis A and B occur scattered throughout the world. In the Netherlands hepatitis A was in the past a disease of schoolchildren. Under the influence of improved hygiene the incidence among children has declined sharply in the last 20 years. The prevalence of anti-HAV antibodies is lower in the younger age groups than among older people: about 20% of the 20-year-olds have antibodies against the hepatitis A virus and some 50% of the 50-year-olds.

The chance of epidemics is increasing through the low degree of protection and increasing contacts with (sub)tropical countries.

Nobody in the Netherlands will come into quick contact with the hepatitis B virus. Estimates of the prevalence of antibodies against the hepatitis B virus in the western world vary from 3 to 10%.

Worldwide, millions of people are asymptomatic carriers of the hepatitis B virus. The virus is parenterally transmitted, notably via the blood. Sexual contact and the common use of infected needles form the principal transmission routes in the Netherlands. In health care transmission, above all via accidents with injections, is a real risk.

Viral hepatitis is a notifiable disease. In 1993 1078 cases of hepatitis A were notified; in 1994 978. Hepatitis B is of less frequent occurrence: in 1993 219 notifications and in 1994 213. Under-notification of these disorders is a problem.

In 1994 the spotter physicians were asked to report each infectious hepatitis diagnosed by them. They were asked to make a distinction between hepatitis A, hepatitis B and other forms.

For this serological confirmation of the diagnosis is nearly always necessary.

In Table 36 the numbers of reported patients with hepatitis A, hepatitis B and other forms of hepatitis are shown per province group and degree of urbani-

zation and for the Netherlands per 10 000 inhabitants.

Table 36: number of cases of hepatitis A, hepatitis B and other forms of hepatitis, per province group and degree of urbanization and for the Netherlands per 10 000 inhabitants in 1994

	province group				urbanization group			Netherlands
	A	B	C	D	1	2	3	
hepatitis A	(0.4)	(1.3)	2.0	(1.2)	(1.8)	1.2	1.6	1.4
hepatitis B	-	(1.3)	(0.5)	(0.6)	(1.8)	(0.5)	(0.3)	0.6
other forms	(1.3)	(0.6)	1.4	(0.9)	-	1.3	1.4	1.1

All the figures between brackets indicate that they have been calculated on an absolute number of reports that is less than 5. Viral hepatitis occurs in the whole country to a limited extent. Most cases are reported in the western provinces.

A striking feature is that the incidence of hepatitis A and B seems higher in the rural municipalities.

The incidence of the viral hepatitis found in the registration by the spotter physicians is considerably higher than the incidence calculated on the basis of the notified cases (at the end of 1994).

For hepatitis A the GHI incidence is 0.65 per 10 000; the CMR Sentinel Stations register 1.4 per 10 000.

For hepatitis B the GHI incidence is 0.14 per 10 000; the CMR Sentinel Stations register 0.6 per 10 000.

However, statements such as the above ones must be interpreted with caution. The absolute number of reports is low: for hepatitis A 20 reports, for hepatitis B 9 and for the other forms 16 reports. Moreover this is a registration over a period of only one year.

### Age distribution

In Table 37 the number of reported cases of hepatitis A, hepatitis B and the other forms of infectious hepatitis are given per age group, per 10 000 persons.

Table 37: number of cases of hepatitis A, hepatitis B and other forms of infectious hepatitis per age group per 10 000 persons

age group	hepatitis A	hepatitis B	others
< 1	-	-	-
1- 4	-	(1.4)	(1.4)
5- 9	(3.5)	-	-
10-14	(2.4)	-	-
15-19	(1.2)	(1.2)	(1.2)
20-24	(0.8)	-	-
25-29	(4.0)	(1.5)	(1.5)
30-34	(1.6)	-	(2.4)
35-39	(1.8)	-	(1.8)
40-44	-	(1.9)	(0.9)
45-49	-	(1.9)	(1.0)
50-54	(1.3)	(1.3)	(3.9)
55-59	(1.5)	-	-
60-64	-	-	(1.6)
65-69	-	-	-
70-74	(2.0)	-	(2.0)
75-79	(2.8)	-	-
80-84	-	-	-
> 85	-	-	-

Hepatitis A occurs above all among the age groups up to 40 years. Above this age there are only very incidental reports.

Hepatitis B has been found in a child and for the rest only in the age of 15-54 years. The other forms of infectious hepatitis, apart from a few exceptions, are reported in the 15-54 age group.

In 1995 the registration of viral hepatitis has been incorporated in the new topic liver, gall bladder and pancreas disease.



## EXTRAPOLATION OF FREQUENCIES FOUND TO THE DUTCH POPULATION

The following survey gives an approximate impression of the number of patients, consultations, actions and occurrences in the Netherlands, on the basis of the frequencies calculated from the results of the Continuous Morbidity Registration by Sentinel Stations. As was remarked in the previous reports, it must be borne in mind, when studying the following tables, that although the population of the sentinel stations is a reasonably good representation (see also p. 12-13) the spotter physicians are a selected group. Consequently, it cannot be automatically established to what extent the results differ from the actual situation; the differences can vary depending on the nature of the question. Particular caution should be observed regarding those topics for which there is intervention by a general practitioner. As an example one may think of the topic 'cervical smear' question; it is quite feasible that the spotter physicians differ from the typical general practitioner in this respect. In the '(attempted) suicide' topic there proves to be a difference in respect of registrations from elsewhere, as a result of the fact that this event is presumably not always reported to the general practitioner<sup>20</sup>.

With regard, too, to registration in itself it may be stated almost with certainty that the spotter physicians act as a select group. However, this can only be to the benefit of the project. Nevertheless, the reader is advised not only to look at the extrapolated numbers but also to consult the relevant chapters.

For a correct interpretation of the extrapolated numbers first the total Dutch population per year is given, in thousands.

Dutch population by sex in thousands, 1985-1994 (Central Statistical Office)\*

year	men	women	total
1985	7 150	7 305	14 455
1986	7 184	7 345	14 529
1987	7 224	7 391	14 615
1988	7 273	7 441	14 714
1989	7 317	7 488	14 805
1990	7 358	7 535	14 893
1991	7 419	7 591	15 010
1992	7 480	7 649	15 129
1993	7 535	7 704	15 239
1994	7 586	7 755	15 341

\* The numbers as on 1 January of the year in question.

## Extrapolation of frequencies found to the Dutch population

category	frequency* incidence (per 10 000)				Netherlands** (absolute numbers)		
	year	M	F	total	M	F	total***
influenza	1985			464			671 000
	1986			630			915 000
	1987			365			533 000
	1988			399			591 000
	1989			410			607 000
	1990			225			335 000
	1991			348			522 000
	1992			244			370 000
	1993			484			772 500
	1994			106			162 500
cervical smear -with complaints and/or symptoms	1985		62			45 000	
	1986		65			48 000	
	1987		59			43 500	
	1988		76			56 500	
	1989		72			54 000	
	1990		55			41 500	
	1991		73			55 500	
	1992		72			55 500	
	1993		70			55 500	
	1994		60			46 500	
-preventive	1985		324			237 000	
	1986		398			293 000	
	1987		345			255 000	
	1988		369			274 000	
	1989		521			389 500	
	1990		577			434 500	
	1991		537			407 000	
	1992		524			400 000	
	1993		485			370 500	
	1994		474			367 500	

\* see page 105

## Extrapolation of frequencies found to the Dutch population (continuation)

category	frequency* incidence (per 10 000)				Netherlands** (absolute numbers)		
	year	M	F	total	M	F	total***
-repeat examination (within 3 years)	1985		184			134 000	
	1986		170			125 000	
	1987		211			156 000	
	1988		246			183 000	
	1989		237			177 000	
	1990		273			205 000	
	1991		239			181 500	
	1992		233			178 000	
	1993		225			173 000	
	1994		268			208 000	
cervical smear total	1985		570			416 000	
	1986		633			465 000	
	1987		615			455 000	
	1988		691			514 000	
	1989		830			622 000	
	1990		905			682 000	
	1991		857			645 000	
	1992		829			632 500	
	1993		780			599 500	
	1994		802			622 000	
myocardial infarction							
- suspected	1991	25	13	19	18 500	10 000	28 500
	1992	22	13	18	16 500	10 000	27 000
	1993	25	12	19	19 000	9 050	28 000
	1994	23	11	17	17 500	8 500	26 000
- confirmed	1991	18	9	13	12 500	7 000	19 500
	1992	18	7	13	13 500	5 000	19 500
	1993	17	9	13	13 000	7 000	20 000
	1994	18	8	13	14 000	6 200	20 000

\* see page 105

Extrapolation of frequencies found to the Dutch population (continuation)

category	frequency* incidence (per 10 000)				Netherlands** (absolute numbers)		
	year	M	F	total	M	F	total***
sterilization	1985	44	26		32 000	19 000	51 000
	1986	45	29		32 500	21 500	54 000
	1987	45	28		32 500	20 500	53 000
	1988	40	22		29 500	16 500	46 000
	1989	30	19		22 000	14 000	36 000
	1990	35	19		26 000	14 000	40 000
	1991	37	21		27 500	16 000	43 500
	1992	41	20		30 500	15 500	47 000
	1993	40	21		30 000	16 000	46 000
	1994	37	22		28 000	17 000	45 000
cumulative					791 000 <sup>1</sup>	603 000 <sup>2</sup>	
diabetes mellitus incidence	1980			13			18 000
	1981			12			17 000
	1982			12			17 000
	1983			11			16 000
	1990	21	22	21	15 000	16 000	31 000
	1991	15	15	16	11 000	12 000	23 000
	1992	16	15	16	12 000	11 500	23 500
	1993	14	17	16	10 500	14 000	24 500
	1994	13	13	13	10 000	10 000	20 000
(attempted) suicide	1985			6			8 750
	1986			7			10 600
	1987			7			10 250
	1988			6			9 000
	1989			7			10 250
	1990			5			7 500
	1991			5			7 500
	1992			6			9 000
	1993			6			9 000
	1994			5			7 500

\* see page 105

1) from 1972

2) from 1974

Extrapolation of frequencies found to the Dutch population (continuation)

category	frequency* incidence (per 10 000)				Netherlands** (absolute numbers)		
	year	M	F	total	M	F	total***
first	1988		80			59 500	
mammograms	1989		87			65 000	
	1990		92			69 000	
	1991		105			80 000	
	1992		92			75 500	
	1993		117			88 500	
	1994		111			86 000	
repeat mammo- grams	1988		12			9 000	
	1989		15			11 000	
	1990		17			13 000	
	1991		26			19 500	
	1992		30			23 000	
	1993		59			21 000	
mammograms total	1988		92			68 500	
	1989		102			76 000	
	1990		109			82 000	
	1991		131			99 500	
	1992		122			93 500	
	1993		176			109 500	
P.I.D.	1993		7			5 500	
	1994		9			7 000	
urethritis of the man	1992	31			23 000		
	1993	23			17 500		
	1994	24			18 500		
concern about aids	1988			10			15 000
	1989			15			22 000
	1990			16			24 000
	1991			16			24 000
	1992			22			33 500
	1993			23			35 000
1994			27			41 500	

\* see page 105

## Extrapolation of frequencies found to the Dutch population (continuation)

category	frequency* incidence (per 10 000)				Netherlands** (absolute numbers)		
	year	M	F	total	M	F	total***
hepatitis A	1994			1.4			2 200
hepatitis B	1994			0.6			1 000
other hepatitis	1994			1.1			1 700

\* Number of patients, consultations etc. per 10 000 men and/or women (sentinel station data).

\*\* Extrapolation of the incidences to the Dutch population (of the year in question), in round thousands.

\*\*\* As a result of rounding-off, small differences may have occurred in the totals.

## INCIDENTAL INVESTIGATIONS

Since 1976 the "incidental investigations" have existed as part of the Sentinel Station Project. These are investigations into relatively uncommon diseases or occurrences. For a list of the subjects thus treated see the second part of Appendix 3. Here the data accordingly collected for 1994 are reported. These differ from the weekly return subjects in that they are asked for only once a year, in principle immediately at the end of the year. This makes it possible to collect retrospectively data on subjects for which registration is requested in the course of the year. However, one condition in that case is that it must be something that is firmly implanted in the physician's memory.

### **Euthanasia (request for application)**

In 1976 attention was devoted for the first time to requests made to the general practitioner for the application of euthanasia. In this registration the question is not asked whether the GP granted such a request.

The spotter physicians are informed at the beginning of the year of the coming investigation. A form is sent to all spotter physicians at the end of the year with the request that they report whether the question was asked of them in the past year by a patient himself or herself for the application of active euthanasia directly or indirectly and, if so, what the motive was for this. In addition, information is sought on the age, sex, disease, place of care or nursing and the use or otherwise of a 'euthanasia declaration'<sup>21</sup>.

The results per patient can be found at the end of this section.

This table does not require much explanation.

In 1994 the number of requests was 39. Of the patients making a request for application of euthanasia, 85% have a malignity.

The number of patients nursed at home is 34; four patients live in a nursing home. The were abouts of one patient are not stated.

In 26 cases the request was supported by a written 'euthanasia declaration'. Requests for euthanasia were made by 38 patients; two patients likewise asked for assistance with suicide. Two patients asked only for assistance with suicide. In 27 of the 39 requests the general practitioner consulted another physician. In the case of a number of reports whereby no other physician was consulted, it is indicated that the patient already died naturally before the



possible application of euthanasia.

It also happened that no other physician was consulted because that had not yet come up for discussion.

Requests for application of euthanasia 1976-1994.

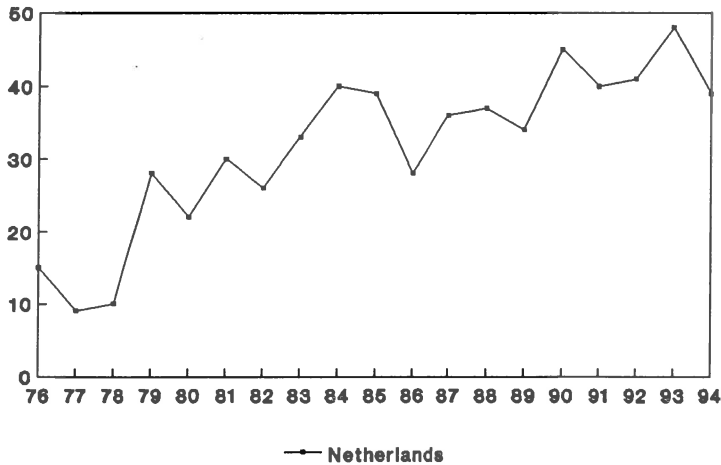
The distribution of the number of requests per province and urbanization group and per sex may be found in Table 38 (cf. Fig. 19).

Table 38: absolute number of patients who requested the general practitioner to apply active euthanasia by sex, per province and urbanization group and for the Netherlands 1976-1994

absolute			province group				urbanization group			Netherlands
	M	F	A	B	C	D	1	2	3	
1976	5	10	1	2	11	1	4	7	4	15
1977	6	3	1	2	5	1	3	2	4	9
1978	6	4	3	2	4	1	2	8	-	10
1979	13	15	5	6	15	2	4	18	6	28
1980	10	12	2	3	16	1	3	12	7	22
1981	20	10	4	4	13	9	3	20	7	30
1982	17	9	2	6	17	1	3	7	16	26
1983	15	18	7	4	19	3	5	14	14	33
1984	24	16	5	2	25	8	3	24	13	40
1985	19	20	3	6	25	5	1	24	14	39
1986	14	14	3	5	16	4	3	15	10	28
1987	19	17	1	8	22	5	3	17	16	36
1988	19	18	3	1	22	11	1	23	13	37
1989	21	13	7	1	21	5	6	17	11	34
1990	28	17	14	2	22	7	4	24	17	45
1991	21	19	7	5	23	5	2	21	17	40
1992	22	19	7	8	20	6	4	20	17	41
1993	23	25	2	9	23	14	5	19	24	48
1994	26	13	4	14	14	7	10	18	11	39

Figure 19

Absolute number of patients who requested the general practitioner for the application of active euthanasia or assistance with suicide, for the Netherlands, 1976-1994



Over the whole period 1976-1994 per sentinel station (i.e. not per general practitioner) the average number of requests for euthanasia and the distribution per province and urbanization group appears in Table 39 and Table 40.

Table 39: average number of requests per sentinel station by province group 1976-1994\*

	province group			
	A	B	C	D
number of sentinel stations	6	7	16	10
average number of requests	12,5	10,5	17,5	9,5
scatter	0 - 27	3 - 32	0 - 36	2 - 20

\* only sentinel stations that have reported over the whole period.

Table 40: average number of requests per sentinel station by degree of urbanization 1976-1994\*

	degree of urbanization		
	1	2	3
number of sentinel stations	6	20	13
average number of requests	10,5	11,5	18
scatter	2 - 23	0 - 27	2 - 36

\* only sentinel stations that have reported over the whole period.

These data show that requests for application of euthanasia are made more in the western provinces and in the cities.

### Age distribution

The age distribution may be found in Table 41.

Table 41: absolute number of patients who requested the general practitioner for application of active euthanasia or assistance with suicide by age group, 1976-1994

	≤54	55-64	65-74	75-84	≥85	total
1976	2	4	3	3	3	15
1977	2	3	2	2	-	9
1978	3	2	3	2	-	10
1979	3	7	12	2	4	28
1980	2	5	5	7	3	22
1981	8	4	5	10	3	30
1982	-	6	10	8	2	26
1983	3	10	9	9	2	33
1984	5	13	9	10	3	40
1985	8	8	9	11	3	39
1986	7	3	12	3	3	28
1987	6	9	8	9	4	36
1988	6	7	11	10	4	37
1989	4	6	12	11	-	34
1990	7	5	13	16	4	45
1991	9	5	11	10	5	40
1992	7	7	9	12	6	41
1993	10	5	17	13	3	48
1994	4	7	15	11	2	39

### Survey of the reported requests

In the collection published on the occasion of the twentieth anniversary of the Continuous Morbidity Registration Sentinel Stations the requests reported up to the end of 1987 are described: in total 316 requests<sup>22</sup>.

Meanwhile the data are known on 600 requests for application of euthanasia. Of these requests, 328 were made by a man (55%).

Insight into the disorders for which application of euthanasia is requested has been obtained by using the International Classification of Diseases (1975, 9th revision) as a guide. One of the problems in classification is the multiple pathology that is inherent in old age. Another problem is that sometimes there is no question of known pathology: the group symptoms and incompletely described disorders includes the request of a 92-year-old lady suffering from the disorder "old age".

Five groups of disorders are used:

- malignant neoplasms,

- cardio-vascular disease,
- chronic obstructive pulmonary disease,
- symptoms and incompletely described disorders,
- other diseases, including neurological and endocrinological disorders and AIDS.

The classification of the disorders from which the patients who request euthanasia are suffering proceeded in general without difficulty, despite the above-mentioned problems; the general practitioner indicated in the questionnaire what in his or her opinion was the relevant disorder within the framework of the request.

The disorders for which euthanasia was requested are stated in Table 42.

Table 42: disorders for which euthanasia was requested, 1976-1994

	n	%
malignant neoplasms	433	72
cardio-vascular disease	41	7
chronic obstructive pulmonary disease	29	5
symptoms and incompletely described diseases	34	6
other diseases	63	10
total	600	100

The distribution of the disorders for which euthanasia was requested by age is given in Table 43.

Table 43: percentage of requests per disorder of the total number of reports by age (absolute numbers between parentheses), 1976-1994

	≤54 %	55-64 %	65-74 %	75-84 %	≥85 %
malignant disorders	76	89	88	60	20
cardio-vascular disease	0	1	3	13	23
chronic obstructive pulmonary disease	1	4	2	9	10
symptoms and incompletely described diseases	4	2	1	5	33
other diseases	19	4	6	13	14
	100	100	100	100	100

Below the age of 85 it is above all the malignant disorders that form a reason to ask the general practitioner for euthanasia. Below the age of 55 the group other diseases forms an extremely heterogeneous group: cystic fibrosis, multiple sclerosis and AIDS are mentioned, but also vital depression.

At a later age final stages of endocrinological disorders like diabetes mellitus and terminal renal insufficiency and advanced stages of rheumatoid arthritis are given as reasons for a request.

When someone with a poor vascular system does not die from a myocardial infarction or a cerebro-vascular accident, the quality of life can be seriously impaired at a later age. Chronic obstructive pulmonary disease can also entail serious infirmity and suffering and lead to a request for euthanasia.

Table 44 gives the percentage distribution of the number of requests for application of euthanasia by patients younger and older than 65 per disorder.

Table 44: percentage of requests for application of euthanasia by patients younger and older than 65 by disorder, 1976-1994 (n=absolute numbers of requests)

	n	≤ 64 %	≥ 65 %
all disorders	600	35	65
all malignancies	433	40	60
cardio-vascular disease	41	2	98
chronic obstructive pulmonary disease	29	17	83
symptoms and incompletely described diseases	34	17	83
other diseases	63	38	62

A further subdivision of the malignancies by localization of the tumour and the age of the patient displays the following picture (Table 45).

Table 45: percentage of requests for application of euthanasia by patients younger and older than 65 with a malignancy by localization of the tumour (n=absolute numbers), 1976-1994

	n	≤ 64 %	≥ 65 %
all malignancies	433	40	60
stomach	48	38	62
colon/rectum	65	35	65
trachea/lung	113	36	64
breast	43	54	46
other	164	43	57

In the age distribution no major changes occur. When breast cancer is the motive for the request, the percentage of female patients below the age of 65 clearly differs from the percentage for the other localizations.

The use of a "euthanasia declaration" has increased in recent years: from 15% in 1984 to 81% in 1993.

In 1994 this percentage was lower: 67%.

Extrapolation of these data to the Dutch population is possible, but rather pointless. It should be borne closely in mind that one is relating that number to the total population, whereas this should really be done to the number of

persons who are in circumstances in which the possibility of asking the question is envisaged. However, the latter data (morbidity) are not available.

#### Request by the patient for active euthanasia, 1994

age	sex	disease reported	motive for the request
92	F	RA, cachexia through respiratory disease	general decline
89	M	cerebrovascular accident, broken neck vertebra	
84	M	none	no further use in this world
84	M	carcinoma of the lung, terminal kidney function	hopeless situation, extreme fatigue
83	M	carcinoma of the lung	pain and decline
82	F	emphysema	dyspnoea
81	F	metastasized carcinoma of the mamma	
81	F	metastasized carcinoma of the colon	steady decline with epilepsy, cerebral metastases
79	M	carcinoma of the lung	diagnosis and untreatability
77	M	carcinoma of the lung	lost courage after wife's death
76	M	adeno carcinoma	exhaustion
75	M	carcinoma of the prostate with bone metastases	pain and lacklustre
75	F	carcinoma of the lung	depressive reaction after diagnosis
74	M	carcinoma of the stomach	untreatable pain and vomiting
74	F	carcinoma of the ovary	treatment ended, increase in complaints
73	F	metastasized carcinoma of the mamma	complaints of pain, increasing dependence
71	M	carcinoma of the pancreas	terminal suffering
71	M	terminal non-Hodgkin's disease	generally lacklustre
70	M	carcinoma of the bronchus	fear of suffocating
69	M	carcinoma of the lung	increasing dyspnoea and pain
68	M	carcinoma of the lung	pain, problems with defecation
67	M	carcinoma of the prostate	hopelessness, pain
66	M	carcinoma of the pancreas head	
66	M	carcinoma of the stomach	hopeless situation and personal devaluation



Request by the patient for active euthanasia, 1994 (continuation)

age	sex	disease reported	motive for the request
65	F	carcinoma of the pancreas head	hopeless situation and personal devaluation
65	F	carcinoma of the lung	dyspnoea
64	M	carcinoma of the pancreas head	rapid decline
64	M	cardiocarcinoma	fear of becoming lacklustre
63	M	carcinoma of the lung	pain and decline
63	F	metastasized carcinoma of the mamma	hopeless suffering, pain
62	M	carcinoma of the gall bladder	pain
62	F	liver metastases, unknown primary tumour	untreatable nausea and vomiting
56	M	carcinoma of the stomach	terminal stage, pain
56	F	metastasized carcinoma of the mamma	fear of suffocating, suffering
56	F	carcinoma of the mamma with bone and hepatogenic metastases	pain, threatening paraplegia and treatment ended
54	M	carcinoma of the floor of the mouth, local relapse and lung metastases	bleeding, disturbed swallowing
51	M	adeno carcinoma, primary tumour unknown, liver metastases	fear of lengthy suffering
47	M	astrocytoma degree III	too great invalidity and lack of self-control
34	M	non-Hodgkin's disease	dyspnoea in terminal phase

The investigation is being continued in 1995

## Lyme disease

In 1989 Nohlmans and co-workers collected ticks at 20 places in the Netherlands and examined them on their infection with the spirochaete *Borrelia burgdorferi*, which causes the disease Lyme borreliosis in man. The infection comes about through a bite from an infected tick.

At all locations investigated by Nohlmans infected ticks were encountered; on trees, on paths and in car parks around the woods, in the dunes and on moorland. In the home too man can come into contact via a domestic animal carrying the tick and be bitten.

In the Netherlands an investigation has been made among blood donors into the percentage that prove to have antibodies against *B. burgdorferi*<sup>23</sup>. This varies by region from 2 to 17 with an average of 8.7. On the strength of this average about 1 300 000 persons in the Netherlands ought to have antibodies. In only 2-3% of the persons in whom antibodies are demonstrable do clinical symptoms occur. This would mean a prevalence of 30-45 000 patients. At an average life expectancy of 75 years the incidence to be expected is 400-600 patients per year.

The spotter physicians were asked in 1994 to report the new patients with Lyme borreliosis. In addition to age and sex the patient's occupation was asked for, the possible place of infection, the stage at which the disease became manifest and whether serological confirmation of the diagnosis was obtained.

In 1994 15 reports were made. The age varies from 29 to 87 years. Of the 15 reports, 7 have been serologically confirmed. The probable place of infection is unknown for five patients; two patients were bitten abroad by a tick. Seven patients were infected outdoors in the Netherlands. Usually woods were stated as the place of infection. One patient was infected at home by a cat with a tick.

The majority of the infections took place during recreational activities, and rarely during practice of an occupation.

In the south no patient was reported in 1994. Nor, which is striking, in rural municipalities.

The investigation is continued in 1995.

## SUSPICION OF ACUTE INTOXICATION IN THE WORK SITUATION

The increasing use of chemical substances and the enormous diversity of chemicals have led to an increase in the risk of accidents involving a chemical substance. Whether this has actually resulted in an increase in the number of cases of acute intoxication in the Netherlands is, however, not known.

Accidents with chemicals may occur in the private sphere. Children too can come into contact with toxic substances.

The greatest risk with chemical agents is run by workers who have to work with these substances. There is no proper understanding of the nature of these accidents and the distribution among the various branches of industry.

The Reanimation and Toxicology Department of the Medical Faculty of Utrecht, in cooperation with the National Poisonings Information Centre of the National Institute for Public Health and the Environment, started a project in 1994 in which a method will be developed for optimum registration of cases of suspected acute intoxication in the work situation in the Netherlands.

Three sources of registration have been selected for a pilot study:

- firms with their registering bodies
- GPs (spread over the Netherlands)
- first-aid departments of hospitals.

At the end of 1994 the spotter physicians were asked to report the cases of suspected acute intoxication in the work situation for which they were consulted in 1994.

Suspected intoxication in the work situation means the occurrence of symptoms after an accident that has happened during the performance of paid work (self-employed or in paid employment) and in which a single or intermittent short-term exposure to a high concentration or dose of chemical substances has taken place.

Three reports were made for the year 1994. Unfortunately the data of one report have been lost.

A patient inhaled acetyl chloride after a hose became detached during maintenance of a machine.

On account of difficulty with breathing the patient was admitted to hospital.

The patient was absent from work for more than three days.

The second patient, during production of a detergent, got some in his eye. He was troubled by painful swollen conjunctivae. The patient was referred to an oculist for washing-out of the eyes.

It is not known whether this patient had to miss work.

The incidental investigation is to be repeated in 1995.

## GENERAL REMARKS

1. The weekly return for 1995 has been compiled as follows by the Counseling Committee.
    - a. Influenza(-like illness)
    - b. Cervical smear
    - c. Liver, gall bladder and pancreas disease
    - d. Chronic benign pain disturbance
    - e. Sterilization of the man performed
    - f. Sterilization of the woman performed
    - g. Oestrogens prescribed
    - h. (Attempted) suicide
    - i. Out-patient or clinical mammography
    - j. P.I.D. (pelvic inflammatory disease)
    - k. Urethritis of the man
    - l. Concern about AIDS
  2. The incidental investigations for 1995 relate to the subjects euthanasia, eating disturbance and acute intoxication in the work situation.
  3. Suggestions relating to the questions on the weekly returns will be gladly received by the Counselling Committee.
  4. Data from this report may be reproduced with acknowledgment of the source.
- A.I.M. Bartelds M.D., General practitioner/project leader.

## LIST OF REPORTS ON THE BASIS OR PARTLY ON THE BASIS OF THE DATA FROM CONTINUOUS MORBIDITY REGISTRATION SENTINEL STATIONS

### Survey as per 1 January 1995 (from 1 January 1989)

- BARTELDLS, A.I.M. Continue Morbiditeits Registratie Peilstations, Nederland, 1986. Huisarts en Wetenschap; 1989, 32, 1989, no. 10, p. 392-394
- BARTELDLS, A.I.M. Continue Morbiditeits Registratie Peilstations, Nederland, 1987. Huisarts en Wetenschap; 1990, 33, 1990, no. 2, p. 74-77
- CASTEREN, V. van, DECLERCQ, E, et al Study of the use of some selected groups of laboratory tests in general practice Brussel: Eurosentinel, Instituut voor Hygiëne en Epidemiologie, 1991
- EGMOND, M. VAN. De beoordeling van suiciderisico door de huisarts. Kan de huisarts suicidepogingen voorkomen? Leiden: Rijksuniversiteit, 1988. Dissertatie (Hoofdstuk 1)
- MEER, K., VAN DER, R.J.A. SMITH, G.J. BREMER. Cerebrovasculaire aandoeningen gepeild. Utrecht, Nivel, 1990
- NIEUWSBRIEF Influenza Surveillance 1992-1993. Uitgave NIC, NIVEL, RIVM en GHI. Uitgebracht door NIC, 1992-1993
- NIEUWSBRIEF Influenza Surveillance 1993-1994. Uitgave NIC, NIVEL, RIVM en GHI. Uitgebracht door NIC, 1993-1994
- NIEUWSBRIEF Influenza Surveillance 1994-1995. Uitgave NIC, NIVEL, RIVM en GHI. Uitgebracht door NIC, 1994-1995
- SPRENGER, M.J.W. The impact of influenza. Dissertatie Rotterdam, 1990
- VECHT-HART, C.M., P.A.H. VAN NOORD. Kankerregistratie gepeild. Utrecht: Nivel, 1989

## LIST OF PUBLICATIONS ON THE BASIS OR PARTLY ON THE BASIS OF THE DATA FROM CONTINUOUS MORBIDITY REGISTRATION SENTINEL STATIONS

BARTELD, A.I.M., J. FRACHEBOUD, J. VAN DER ZEE.

### **The Dutch Sentinel Practice Network; relevance for public health policy.**

Nivel, Utrecht, 1989

The Dutch sentinel practice network; relevance for public health policy, Nivel 1989, considers the now 20-year history of the Continuous Morbidity Registration Sentinel Stations the Netherlands.

The book consists of two parts.

In the first part general aspects are discussed: the origin of the project at the end of the sixties and the objectives, organization and procedure. For a number of characteristics (age and sex, size of practice etc.) a comparison is made between the spotter physicians and the total population of Dutch general practitioners. On other aspects, including the attitude of the physicians with regard to a number of facets of the work of the GP, the spotter physicians are compared with populations of GPs who have participated in other Nivel studies. Finally, the results are discussed of the analysis of the registration pattern of the spotter physicians over five years.

Topics varying from influenza(-like) illness to requests for application of euthanasia are discussed in the second part. A choice has been made among the long series of topics that have appeared on the weekly return during the existence of the sentinel stations or have been the subject of an incidental investigation.

The authors of the chapters in the second part of the book are often also the applicants for registration of a certain topic. One of the questions that is discussed in the chapters is what the importance has been of registration of the topics by the CMR Sentinel Stations.

The results of registration of topics are presented in a number of chapters in a different way from that usual in the annual reports, of which to date 18 have been published (1970 to 1987 inclusive).

In several respects this publication is therefore an extension of the usual publication policy of the CMR Sentinel Stations.

The book has been published in English to meet the need that exists in other countries for information on both Dutch health care and more specifically, the functioning of the Dutch general practitioner. The CMR Sentinel Stations is one of the projects in which information is collected on a continuous basis on problems and diseases submitted to the GP and action taken by the GP.

BARTELD, A.I.M.

### **Validation of Sentinel Data.**

Das Gesundheitswesen. 55 (1993) 3-7. Sonderheft 1.

The Dutch Sentinel Practice Network "de Peilstations" started in 1970. The purpose of this

network is to gain a better insight into the epidemiology of a number of illnesses and conditions as they are presented to the general practitioner. The network is sponsored by the Ministry of Welfare, Public Health and Culture. Value was attached to the distribution of the spotter physicians over the country and by degree of urbanisation. The presence of 1% of the population of the four province groups and the three urbanisation groups has been observed in the practices of the spotter physicians. The completeness of the registration, the internal and the external validity of the data collected by the physicians are discussed.

FRACHEBOUD, J., J. BERKEL, F.H. BONJER, H.J.A. COLLETTE.

**Home treatment after an acute myocardial infarction: how often and which patients?**

Huisarts en Wetenschap; 32, 1989, No. 5, p. 162-164

It was possible to calculate from the figures of the Continuous Morbidity Registration Sentinel Stations the Netherlands that in 1978 one of the five patients with a possible acute myocardial infarction was not yet being admitted to hospital. Renewed registration in the period 1983-1985 yielded the same picture. However, a further investigation of 249 patients shows that more than half of the 'non-admitted' patients had already died before medical aid could be given. Of the 137 patients with a later confirmed myocardial infarction, only eight proved to have actually been treated at home. These were above all (very) old patients. A comparison with registration data from 1985 shows that the suspicion of an acute myocardial infarction was correct in some 60 percent of the cases reported.

FROOM, J., L. CULPEPPER, P. GROB.

**Diagnosis and antibiotic treatment of acute otitis media: report from International Primary Care Network;**

British Medical Journal; vol. 300, 1990, p. 582-586

**Study objective**-The relation between a history of disorders suggestive of acute otitis media, symptoms, and findings of an examination of the tympanic membrane and doctors' certainty of diagnosis. Also, to examine differences in prescribing habits for acute otitis media among doctors from different countries.

**Design**-Questionnaires were completed by participating doctors for a maximum of 15 consecutive patients presenting with presumed acute otitis media.

**Setting**-General practices in Australia, Belgium, Great Britain, Israel, The Netherlands, New Zealand, Canada, Switzerland, and the United States.

**Patients**-3660 Children divided into the three age groups 0-12 months, 13-30 months, and >31 months.

**Main outcome measures**-General practitioners' responses to questions on their diagnostics certainty and resolution of patients' symptoms after two months.

**Results**-The diagnostic certainty in patients aged 0-12 months was 58.0%. This increased to 66.0% in those aged 13-30 months and 73.3% in those aged >31 months. In all age groups diagnostic certainty was positively associated with the finding of a tympanic membrane that was discharging pus or bulging. Redness of the membrane and pain were also associated with certainty in patients aged 13-30 months, and a history of decreased hearing or recent upper respiratory infection was positively associated in patients aged >31 months. The proportion of patients prescribed antibiotics varied greatly among the countries, from 31.2% in The Netherlands to 98.2% in both Australia and New Zealand, as did the duration of treatment. Patients who did not take antibiotics had a higher rate of recovery than those who did; rate of recovery did not differ between different types of antibiotic.



**Conclusion-**Doctors' certainty of diagnosis of acute otitis media was linked to patient's age. Improved criteria or techniques for diagnosing acute otitis media, especially in very young children, need to be developed. Antibiotic treatment did not improve the rate recovery of patients in this study.

FROOM, J., L. CULPEPPER.

**Otitis Media in Day-Care Children.**

A Report From the International Primary Care Network. *Journal of Family Practice*, Vol 32, no. 3 1991 p. 289-294

The relationship between day care and acute otitis media and its adverse consequences was analyzed as part of a collaborative multinational study. Data from primary care research networks in eight countries were collected on 1335 children, aged 0 to 60 months, at the time of initial visits to their primary care physicians for acute otitis media. A history of recurrent acute otitis media, poor hearing, and tonsillectomy or adenoidectomy were all more evident in day-care children aged 25 to 60 months, compared with those cared for at home. Day-care children were brought to their physicians more promptly after the onset of symptoms and received more referrals to the otolaryngologist at the time of the index visit for acute otitis media. Day care may pose a significant risk for otitis media and its adverse consequences.

CULPEPPER, L., J. FROOM,

**Acute Otitis Media in Adults.**

*Journal of the American Board of Family Practice*, 1993 in press

**Background:** Of 22 million visits annually to United States physicians for acute otitis media (AOM), almost 4 million are by patients 15 years or older. Yet the clinical spectrum and variables related to recovery have not been reported for adults.

**Method:** Data originated from 3,224 primary care patients with AOM, of whom 500 were 15 years and older, enrolled in a prospective study in eight countries. At initial visit, past history, symptoms, physical findings, and treatment were recorded. Follow-up at two months identified changes in treatment and recovery.

**Results:** Compared with children, adults sought care more quickly after symptoms onset, were more likely to have a tonsillectomy and/or adenoidectomy, and to complain of ear pain, decreased hearing, sore throat, and ear discharge. Children were more likely to have a history of recent upper respiratory infection, serous otitis, and ear tubes; symptoms of fever, diarrhoea and vomiting; and tympanic membrane (TM) findings of redness, bulging, and ear tubes in place.

History of reduced hearing, allergy, prophylactic antibiotics, and TM findings characterized as opaque or dull, fluid, draining pus, perforation, and not visualized were equally frequent in both age groups. For adults, neither type nor duration of antibiotic affected outcome. Patients receiving antibiotics had lower rates of recovery than those who did not. The likelihood of a poor outcome increased with an increasing number of past episodes of OAM and with increasing age.

**Conclusion:** Although past history and symptoms differ in adults and children, the similarity of TM findings probably indicates similar pathophysiological mechanisms in both groups. Recovery is more related to individual patient characteristics and past history than to

antibiotic therapy.

DEKKER, J., J.M. DRIESSEN, H. STUMPEL et al.

**Referrals by general practitioners to speech therapists**

Huisarts en Wetenschap; 35, 1992, No. 11, p. 425-427

For two years the participants in the Continuous Medical Registration the Netherlands kept a record of the patients who were referred to the speech therapist, for which disorders this happened and which persons had been the first to point out that referral was called for. On average 1.7 per 1000 patients were referred per year; however, there was a great interdoctor variation. A minority (38 percent) of the patients were identified by the general practitioner, the patients themselves or parents/guardians. The majority were identified by the school doctor, the school advisory service, other speech therapists, teaching staff or others. General practitioners identified above all voice/respiratory disorders. Language disorders were identified above all by school advisory and speech therapy services; patients themselves and general practitioners played a less great role in identifying these disorders. Stuttering was identified above all by patients themselves and by parents/guardians, less by school advisory services.

HOEK, H.W.

**The incidence and prevalence of anorexia nervosa and bulimia nervosa in primary care.**

Psychological Medicine, 1991, 21, p. 455-460

General practitioners using DSM-III criteria have studied the incidence and prevalence of anorexia nervosa and bulimia nervosa in a large (N=151,781) representative sample of the Dutch population. The incidence rate for anorexia nervosa is 6.3 and for bulimia nervosa 9.9 per year per 100 000 population. The prevalence of bulimia nervosa is three times higher in larger cities than in smaller urbanized or rural areas, while anorexia nervosa is found with almost equal frequency in areas with a different degree of urbanization.

HOEK, H.W., M. MAIWALD, A. BARTELD, J. BOSVELD.

**The incidence of eating disorders and the influence of urbanization.**

1992. Abstract Fifth International Conference on Eating Disorders, New York

From 1985-1989 general practitioners using DSM-III criteria studied the incidence of anorexia nervosa and bulimia nervosa in a large (N=151,781) representative sample of the Dutch population. The first results (prevalence at 1-1-1985 and the incidence 1985-1986) have been published recently (Hoek, Psychological Medicine, 1991, 21, 455-460).

During 1985-1989 the mean incidence of anorexia nervosa was 8.1 per year per 100 000 population and 11.4 for bulimia nervosa. The period 1987-1989 shows an increase of the incidence rates compared to 1985-1986, which will be discussed.

The prevalence of bulimia nervosa is four times higher in larger cities than in rural areas. Anorexia nervosa is found about equally frequently in areas with a different degree of urbanization. The question will be discussed, whether there is a causal relation between degree of urbanization and bulimia nervosa. There seems more evidence for a causal theory than a drift hypothesis, which has been put forward before (Hoek, 1991). Possible causal factors may be more social control in rural areas and more provoking stimuli in cities.

HOFMAN, A., H.J.A. COLLETTE, A.I.M. BARTELDLS.

**Incidence and Risk Factors of Parkinson's Disease in The Netherlands.**

Neuro-Epidemiology; 1989, no. 8, p. 296-299

The incidence and some risk factors of Parkinson's disease were investigated in a study performed in The Netherlands. The study was based on a disease register of the Sentinel Stations, which provide a complete ascertainment of new patients with Parkinson's disease in 60 general practices in The Netherlands. The incidence rate of Parkinson's disease in The Netherlands is estimated to be 11/100 000 person-years for men and 12/100 000 person-years for women. Risk factors for Parkinson's disease were investigated in a case-control study in which 86 cases, with the diagnosis of Parkinson's disease confirmed by a neurologist, were compared with 172 reference subjects, matched for age and gender. Cigarette smoking was associated with a lower risk of Parkinson's disease (relative risk 0.6, 95% confidence interval 0.3-1.0). No association was observed between Parkinson's disease and severe head trauma with loss of consciousness, or surgery with total anaesthesia.

KERSSENS, J.J., P.P. GROENEWEGEN.

**Referrals to physiotherapy: the relation between the number of referrals and the inclination to refer.**

Social Science Medicine; 30, 1990, no. 7, p. 797-804

This article studies the relation between the referral rate and the type of patients general practitioners refer for physiotherapy. The study population consists of GP's participating in the Netherlands Sentinel Stations Network who recorded data on all referrals to physiotherapy during one year and filled in a questionnaire. Results show that the pattern of referral indications of high referring GP's does not differ systematically from that of low referring GP's. High referring GP's evaluate their patients complaints more as purely or mainly somatic. High referring GP's were no more inclined to give in to their patients demands, had busier practices, closer relations with physiotherapists and viewed their knowledge of physiotherapy as more satisfactory than low referring GP's. Some policy implications are discussed in respect to these results.

LINN, F.H.H., E.F.M. WIJDEKES, Y. VAN DER GRAAF, F.A.C. WEERDESTEYN-VAN VLIET, A.I.M. BARTELDLS, I. VAN GIJN.

**Prospective study of sentinel headache in aneurysmal subarachnoid haemorrhage.**

The Lancet 1994; 344: 590-593.

Retrospective surveys of patients with subarachnoid haemorrhage suggest that minor episodes with sudden headache (warning leaks) may precede rupture of an aneurysm, and that early recognition and surgery might lead to improved outcome. We studied 148 patients with sudden and severe headache (possible sentinel headache) seen by 252 general practitioners in a 5-years period in the Netherlands.

Subarachnoid haemorrhage was the cause in 37 patients (25%) (proven aneurysm in 21, negative angiogram in 6, no angiogram done in 6, sudden headache followed by death in 4). 103 patients had headache as the only symptom, 112 of whom proved to have subarachnoid haemorrhage (6 with a ruptured aneurysm). Previous bouts of sudden headache had occurred in only 2. Other serious neurological conditions were diagnosed in 18. In the remaining 93, no underlying cause of headache was found; follow-up over 1 year showed no subsequent subarachnoid haemorrhage or sudden death. In this cohort, acute, severe

headache in general practice indicated a serious neurological disorder in 37% (95% CI 29-45%), and subarachnoid haemorrhage in 25% (18-32%). 12% (5-18%) of those with headache as the only symptom.

The notion of warning leaks as a less serious of subarachnoid haemorrhage is not supported by this study. Early recognition of subarachnoid haemorrhage is important but will probably have only limited impact on the outcome in the general population.

MEER, K. VAN DER, R.J.A. SMITH.

**Cerebrovascular accident patients in general practice: an investigation among 1 percent of The Dutch population.**

Huisarts en wetenschap; 33, 1990, No. 4, p. 141-144

In 1986 and 1987 general practitioners of the NIVEL sentinel stations registered all new cerebrovascular accident (CVA) patients. Of the 273 patients reported, two thirds were older than 70 years. The total incidence was 1.3 per 1000 inhabitants per year; for the 65-69 age group that was 4 per 1000, and for the >80 group 20 per 1000. The disorder was equally divided between the sexes. In the first week after the occurrence of the CVA 72 percent of the patients were admitted to hospital; the very old patients in particular were kept at home. The distribution of the patients over the various places of abode was after eight weeks and after one year practically identical: nearly half of the patients were again (or still) at home, 10 percent were in an old people' home and 10 percent in a nursing home. Mortality among the CVA patients was high. In the first week 16% died, half of whom in the first two days. After eight weeks 26% of all CVA patients had died and after a year one third. In the case of 20 percent of the patients a CVA recurred within a year. A quarter of the people were severely infirm within a year.

MEER, K. VAN DER, R.J.A. SMITH.

**Transient ischaemic attack patients in general practice: an investigation among 1 percent of the Dutch population.**

Huisarts en wetenschap, 33, 1990, No. 5, p. 184-188

In 1986 and 1987 the general practitioners who cooperate with the NIVEL Sentinel Stations project reported 132 patients with a transient ischaemic attack (TIA). The average incidence was 0.7 per 1000 inhabitants per year. Three quarters of the patients were older than 70. In the case of 48 percent speech defects occurred. The general practitioners referred over 40 percent of the patients to a specialist, nearly always a neurologist. Half of the patients were prescribed aspirin. Within one year after the TIA 11 patients had died: 6 of the 30 that had already experienced a TIA before and 5 of 102 new TIA patients. In the case of 11 patients a CVA was reported within one year of the TIA. Of the patients who experienced a first TIA, a TIA recurred and deaths occurred more often in the group that had been referred to the specialist. Evidently general practitioners are well capable of selecting the patients with a greater chance of complications for referral.

RIJN, O.J.L. van.

**Burn injuries among young children.**

Dissertatie Maastricht, 1991 (hoofdstuk 2)

During the period of January 1988 to December 1989, medically treated burn injuries in the Netherlands were recorded prospectively by three registration systems. These systems cover

patients treated in burns units, in general and university hospitals, and by general practitioners. Incidence rates and 95% confidence intervals were calculated, and basic epidemiologic data about severity and localization of the burns and about accident circumstances were collected. The overall incidence rate of medically treated burns over all levels of medical care is estimated to be about 280 per 100 000 persons per year. This overall incidence figure appeared to be about 34 times as high for 0-4 year old children: 775 per 100 000 persons per year. At all levels of medical care, scalds are the most frequent type of burns, resulting in an overall incidence rate among 0-4 year old children of 430 per 100 000 persons per year. Incidence rates are lowest among the elderly (55+), but this age group suffers a higher mortality from burns. Furthermore, it turned out that males are more prone to serious burns than females, whereas females are more often treated for less severe burns. Most of the accident circumstances for serious burns were related to profession, whereas most of the circumstances for less severe burns were related to household activities.

## Appendix 1

### CONTINUOUS MORBIDITY REGISTRATION, SENTINEL STATIONS Participating General Practitioners in 1994

Name:	Residence:	Province:
A.A.E.E. Brockmöller	't Zand	Groningen
J.Th. Ubbink	Groningen	Groningen
Y. Wapstra/K. Tanis (group practice)	Franeker	Friesland
S. Vriesinga	Oostermeer	Friesland
F.M. van Soest/R.F. Sparenburg/ H.D.W.A. van Gysel/Mw. J.Kappert (group practice)	Assen	Drenthe
H.E. Maillette de Buy Wenniger*)	Schoonoord	Drenthe
H. Nap*)	Gramsbergen	Overijssel
S. Kranenborg	Deventer	Overijssel
Th.J. van Dam/P.P.A. Kempes (group practice)	Swifterbant	Flevoland
E.J. van Apeldoorn	Heerde	Gelderland
D. de long	Laren	Gelderland
D.G. de Jong	Barneveld	Gelderland
J.H. de Boer/J. van Noort (group practice)	Zelhem	Gelderland
B.G.W.M. Arts	Nijmegen	Gelderland
M.A.J. Janssen	Nijmegen	Gelderland
W.J.A. Besselink	Doesburg	Gelderland
H.W.M. van der Velden	Dieren	Gelderland
Ms. I.K.I. de Jongh-Killian/F.K.A. Fokkema (group practice)	Amersfoort	Utrecht
P.J. Kromeich/J.J. Dijkstra (group practice)	Utrecht	Utrecht
W.J. van Bodegom*)	Linschoten	Utrecht
M.M. Spoor	Alkmaar	Noord-Holland
A.I.M. Bartelds	Huizen	Noord-Holland
C.W. Willeboordse	Heiloo	Noord-Holland
H.R. Neijs*)	Broek in Waterland	Noord-Holland
D.E. Kuenen	Haarlem	Noord-Holland
Ms. Y.E.V. van Hazel/P. Olie(from 1-7-'94)	Amsterdam	Noord-Holland
J.Th. Koop(to 1-7-'94)		
J.G. Hofstee (from 1-7-'94)	Amstelveen	Noord-Holland

## Appendix 1 (continuation)

### Participating General Practitioners in 1994

Name:	Residence:	Province:
J. Hoornweg/Ms. E. Hoornweg-Sleeboom/ J. Schinkelshoek (group practice)	Voorhout	Zuid-Holland
A.M. van Meurs	The Hague	Zuid-Holland
R. Kanters	The Hague	Zuid-Holland
J.C.B.M. Rensing	The Hague	Zuid-Holland
D. Pasman	Maassluis	Zuid-Holland
B. Adèr	Rotterdam	Zuid-Holland
G.C.J.M. van Rooy/C.J.J. Kloos P. van Dijk/Ms. B. Hart (group practice)	Schiedam	Zuid-Holland
A. Lagendijk	Dordrecht	Zuid-Holland
R.R. Lankhorst	Middelburg	Zeeland
P.R.L. Vercauteren/H.J.W.A. Meijerink J.A.P.A. Warringa(group practice)	Terneuzen	Zeeland
A.F.A. van der Reepe/W.L.M. Rijnders (group practice)	Etten	Noord-Brabant
J.A.M. Keulers/Ms. W. van der Laan (group practice)	Ravenstein	Noord-Brabant
S.H.H.M. van der Meer	Rosmalen	Noord-Brabant
M.G.A.M de Gouw	Rosmalen	Noord-Brabant
C.H.G.M. van Moorsel	Uden	Noord-Brabant
A.P.M. Linsen	Oirschot	Noord-Brabant
S.P.F. van Rijn/M. Klomp (group practice)	Eindhoven	Noord-Brabant
R.A.M. de Jong	Maastricht	Limburg

\*) With dispensary





## Appendix 3a

### Subjects on the weekly returns in alphabetical order 1970-1995

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subjects

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abortion (spontaneous)	1982-1983
abortion (request)	1970-1975
abortus provocatus	1971-1979
accidents	1971
accidents in the private sector	1981-1983
acute unusual headache	1988-1993
admission of psychiatric patient	1988
AIDS (concern about)	1988-1995
alcoholism	1975
anti-hypertensivum or diuretic (prescription)	1976
battered child syndrome (suspicion of)	1973-1974
bee or wasp sting	1992-1993
bites by pets	1986
burns	1988-1989
cervical smear	1976-1995
cerebrovascular accident	1986-1987
chronic benign pain disturbance	1995
dementia	1987-1988
depression	1983-1985
diabetes mellitus	1980-1983 and 1990-1994
diarrhoea e causa ignota (acute)	1970
discharged psychiatric patient	1986-1988
dog bites	1987
drug-use (consultation)	1972-1973 and 1979-1981
dwelling (certificate for another)	1975
echography applied for	1988
exanthema e causa ignota	1970
family planning (consultations)	1970-1976
gastro-enteritis	1992-1993
hay fever	1978-1982
hepatitis	1994
influenza (-like illness)	1970-1995
liver, gall bladder and pancreas disease	1995
malignancies	1984-1986
measles	1975-1979
measles/mumps	1990
mononucleosis infectiosa	1977-1979 and 1991
morning-after pill (prescription)	1972-1991
musculo-skeletal system (trauma of)	1984

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## Subjects on the weekly returns in alphabetical order 1970-1995 (continuation)

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subjects	
myocardial infarction (suspicion of and/or confirmed)	1978 and 1983-1985 and 1991-1994
oestrogens prescribed	1994-1995
otitis media acuta	1971 and 1986
out-patient or clinical mammography	1988-1995
Parkinson's disease	1980-1985
partus immaturus	1982-1983
partus at gravidity $\geq 28$ weeks	1982-1983
penicillin (prescription and side-effects)	1982-1983
p.i.d. (pelvic inflammatory disease)	1994-1995
pregnancy (despite contraception)	1987-1991
prescription of Rohypnol	1987-1988
psoriasis	1976-1977
referrals	1984
referrals for physiotherapy	1985
referrals for psycho-social problems	1986-1988
referrals for logopedics	1989-1990
rubella (-like illness)	1971
side-effect of cosmetics (suspicion of)	1992-1993
skull traumas in traffic	1975-1977
smoking (consultation with regard to addiction)	1974
sport traumas	1979-1983 and 1992-1993
sterilization of the man performed	1972-1995
sterilization of the woman performed	1974-1995
suicide (attempted)	1970-1972 and 1979-1995
tonsillectomy or adenotomy	1971
tranquillizer (prescription)	1972-1974
ulcus ventriculi/duodeni	1975
ulcus pepticum	1985-1986
urinary tract infection (prescription of medicine)	1977
urethritis of the man	1992-1995

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## Appendix 3b

### Incidental investigations and other extra investigations, 1977-1995 (alphabetical)

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#### subjects

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acute intoxication in the work situation	1994-1995
alternative forms of treatment (registration feasible?)	1980
anorexia nervosa and boulimia	1985-1989 and 1995
euthanasia (request for application)	1976-1995
incest	1988
influenza (vaccination against)	1992
Lyme disease	1991-1994
malignancies	1982-1983
mastitis puerperalis	1982
multiple sclerosis	1977-1982
serum collection	1980 and 1985
regretting sterilization	1980-1984

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## Appendix 4

Age structure of the population of the Netherlands by sex, in thousands, 1 January 1994 (C.B.S.)

age	men	women	total
0- 4	502	480	982
5- 9	476	455	931
10-14	462	442	904
15-19	478	457	935
20-24	615	594	1 209
25-29	669	635	1 304
30-34	663	634	1 297
35-39	611	590	1 201
40-44	584	562	1 146
45-49	581	555	1 136
50-54	436	418	854
55-59	372	371	743
60-64	335	357	692
65-69	284	336	620
70-74	231	309	540
75-79	147	236	383
80-84	88	179	267
≥ 85	52	145	197
total	7 586	7 755	15 341

(As a result of rounding-off, small differences may have occurred in the totals.)

CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD

JAAR 1994 WEEK 1.01 T/M 52

CUMULATIEF ALLE PEILSTATIONS

JAAR 1994 WEEK 1.01 T/M 52

LEEFTIJDS- GROEP	POPULATIE			"INFLU- CERVIJUITSTRIJKJE ENZA"			HARTINPARK			"INFLU- 1.1.92 1.1.92 ENZA" 1E MAAL 1E MAAL MEGENS. PREVENT HEGENS. PREVENT			VERHOED. AMI			BEVESTIGD. AMI		
	M	V	T	M+V	V	T	M	V	T	M	V	T	M	V	T	M	V	T
20 <1 JR	528	495	1023	303	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21 1-4 JR	3480	3448	7148	188	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24 5-9 JR	4377	4116	8493	101	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26 10-14 JR	4301	4137	8438	64	0	2	0	7	0	0	0	0	0	0	0	0	0	0
28 15-19 JR	4290	4284	8574	78	19	7	0	0	0	0	0	0	0	0	0	0	0	0
30 20-24 JR	5854	5918	11769	94	56	140	19	15	0	0	0	0	0	0	0	0	0	0
32 25-29 JR	6361	6249	12600	99	88	349	80	120	0	0	0	0	0	0	0	0	0	0
34 30-34 JR	6341	6036	12377	133	124	628	96	229	3	0	2	2	2	2	2	2	2	2
36 35-39 JR	5707	5574	11281	116	104	1497	142	542	5	0	3	7	0	0	4	0	0	4
38 40-44 JR	5316	5301	10617	119	106	1469	142	787	11	2	7	9	2	2	6	2	2	6
40 45-49 JR	5248	5179	10427	101	91	1087	145	593	25	6	15	21	6	13	6	13	6	13
42 50-54 JR	3907	3804	7711	99	82	1138	121	549	23	8	16	28	5	17	5	17	5	17
44 55-59 JR	3475	3348	6823	116	95	212	45	105	52	6	29	60	9	35	9	35	9	35
46 60-64 JR	3078	3365	6444	126	42	92	42	51	75	33	53	62	15	37	15	37	15	37
48 65-69 JR	2706	3087	5793	85	45	32	10	7	59	39	48	48	26	36	48	26	36	48
50 70-74 JR	2225	2776	5000	92	14	7	0	7	99	68	82	76	65	70	82	76	65	70
52 75-79 JR	1414	2116	3530	111	5	0	5	0	191	47	105	71	33	48	105	71	33	48
54 80-84 JR	866	1595	2461	61	0	0	6	0	138	75	97	104	55	73	97	104	55	73
56 >85 JR	575	1343	1918	21	7	0	0	0	174	60	94	17	15	16	60	94	17	15
58 TOTAAL	70239	72186	142427	107	60	474	57	211	23	11	17	17	8	13	23	11	17	8
60																		

CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS  
CUMULATIEF ALLE PEILSTATIONS GESTANDARDISEERD  
JAAR: 1994 WEEK: 01 T/M 52

ALLE PEILSTATIONS

LEEFTLIJDS- GROEP	POPULATIE				STERILISATIE				OSTROGENEN VOOR SCHRIF.				DIABETES MELLITUS				SUICIDE (POGINGS)	
	M	V	T	H	V	T	M	H	V	T	V	M	V	T	I	H+V		
<1 JR	526	496	1023	0	0	0	0	0	0	0	0	0	0	0	0	0		
1-4 JR	3680	3468	7148	0	0	0	0	0	0	0	3	0	0	1	0	0		
5-9 JR	4377	4116	8493	0	0	0	0	0	0	0	2	0	0	1	0	0		
10-14 JR	4301	4137	8438	0	0	0	0	0	0	0	0	0	0	0	1	0		
15-19 JR	4290	4284	8574	0	0	0	0	26	12	2	5	4	8	0	0	9		
20-24 JR	5684	5916	11769	0	0	0	32	34	0	0	0	0	0	0	0	9		
25-29 JR	6351	6249	12600	2	18	10	21	62	3	2	2	2	6	0	0	6		
30-34 JR	6341	6036	12377	62	66	64	2	50	2	2	2	2	10	0	0	6		
35-39 JR	5707	5574	11281	186	83	136	14	32	7	2	4	6	0	0	0	6		
40-44 JR	5316	5301	10617	139	79	109	57	175	17	6	11	8	0	0	0	6		
45-49 JR	5248	5179	10427	61	25	43	186	662	17	8	13	9	0	0	0	6		
50-54 JR	3907	3804	7711	21	16	20	381	1527	33	29	31	4	0	0	0	6		
55-59 JR	3475	3348	6823	6	6	6	119	741	32	24	28	6	0	0	0	6		
60-64 JR	3078	3366	6444	0	0	0	36	214	36	24	30	0	0	0	0	6		
65-69 JR	2706	3087	5793	0	0	0	23	143	33	55	45	0	0	0	0	6		
70-74 JR	2225	2776	5000	0	0	0	22	72	64	68	62	6	0	0	0	6		
75-79 JR	1414	2116	3530	0	0	0	24	66	28	43	37	3	0	0	0	6		
80-84 JR	866	1595	2461	12	0	4	13	31	36	36	37	4	0	0	0	6		
>85 JR	575	1343	1918	0	0	0	22	15	0	22	16	5	0	0	0	6		
TOTAAL	70239	72188	142427	37	22	30	55	213	13	13	13	5	0	0	0	6		

CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD

WEEK 01 T/M 52

LEEF TIJDS- GROEP	POPULATIE		HEPATITIS		P.I.D. URETHRI- CAIDS		TIS	
	M	V	V	M+V	M+V	V	M	M+V
1-4	528	495	0	0	0	0	0	0
5-9	3680	3468	0	0	1	1	0	0
10-14	4377	4116	2	4	0	0	0	0
15-19	4301	4137	0	2	0	0	0	0
20-24	4290	4284	16	2	1	1	7	19
25-29	5884	5915	41	3	1	0	10	36
30-34	6361	6249	80	13	4	2	16	49
35-39	6341	6036	149	32	2	0	20	36
40-44	5707	5574	246	57	2	0	14	40
45-49	5316	5301	260	104	0	2	13	32
50-54	5248	5179	234	108	0	2	8	27
55-59	3907	3804	216	137	1	1	4	21
60-64	3475	3348	131	111	2	0	6	20
65-69	3078	3366	122	98	0	0	0	36
70-74	2706	3087	62	58	0	0	3	7
75-79	2225	2775	90	29	2	0	4	14
80-84	1414	2116	57	10	3	0	0	7
>85	866	1595	38	13	0	0	0	46
TOTAAL	575	1343	7	0	0	0	0	0
	70299	72186	111	45	1	1	9	24





PROVINCIE-GRUOP	POPULATIE	HEPATITIS	P.T.D. URETHRI-TIS									
			A					B				
			M	V	T	M+V	M+V	M+V	V	M	M+V	CAIDS
GR+FR+DR	10911	11807	22418	76	20	0	0	1	4	22	16	
OV+SLD+FLLE	15687	15469	31198	110	70	1	1	1	10	32	20	
UTR+NH+ZH	27439	28772	56213	116	40	2	1	1	9	29	32	
ZLD+NH+LIM	16192	16447	32640	128	37	1	1	1	10	14	33	
TOTAAL	70229	72196	142429	111	40	1	1	1	9	25	27	

URBANISATIE-GRUOP	POPULATIE	"INFLU-ENZA"	HARTINFARKT											
			"INFLU-ENZA" MEGENS PREVENT					VERMOED. AMI						
			M	V	T	M+V	V	V	M	V	T	M	V	T
A1+A4	11405	11190	22593	185	47	482	33	134	24	10	17	13	9	11
B1-B3+C1-C4	40960	42227	83196	65	58	402	66	279	26	13	20	17	8	13
C5	17864	18778	36641	105	71	627	71	101	15	8	11	20	8	14
TOTAAL	70229	72196	142429	107	60	475	67	211	23	11	17	17	6	13

4 CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS ..... BLAD 2  
 6 URBANISATIEGROEP NAAR ZIETEBEELD GESTANDARDEERD ..... 30-05-95

8 JAAR 1994 ..... WEEK: 01 T/M 52

10 URBANISATIE- POPULATIE ..... STERILISATIE ..... GESTROGENEN VOOR ..... DIABETES MELLITUS ..... SUICIDE  
 GROEP ..... SCHRIFT ..... (POBING)  
 12 ..... STERILISATIE ..... 1E MAAL HERHALIN ..... INCIDENTIE ..... SUICIDE  
 14 ..... (POBING)

	M	V	T	M	V	T	V	M	V	T	M+V	
20 A1+A4	11405	11190	22593	56	20	36	36	233	15	16	16	3
22 B1-B3-C1-C4	40960	42227	83195	36	23	29	57	210	12	10	11	4
24 C5	17864	18778	36641	29	22	25	63	209	15	17	16	9
26 TOTAAL	70229	72195	142429	37	22	30	56	214	13	13	13	5

4 CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS ..... BLAD 3  
 6 URBANISATIEGROEP NAAR ZIETEBEELD GESTANDARDEERD ..... 30-05-95

8 JAAR 1994 ..... WEEK: 01 T/M 52

10 URBANISATIE- POPULATIE ..... MAMMOGRAFIE ..... HEPATITIS ..... P.I.D. URETHRI- CAIDS  
 GROEP ..... TIS  
 12 ..... 1.1-93 HERHAL. A B OVERIGE P.I.D. URETHRI- CAIDS  
 14 ..... 1E MAAL TIS

	M	V	T	V	M+V	M+V	V	M	M+V		
20 A1+A4	11405	11190	22593	97	67	2	2	0	10	26	8
22 B1-B3-C1-C4	40960	42227	83195	119	44	1	1	1	6	18	22
24 C5	17864	18778	36641	101	34	2	0	1	12	39	50
26 TOTAAL	70229	72195	142429	111	45	1	1	1	9	25	27

## FOOTNOTES

1. Casteren V. van, P. Lerquin. Eurosentinel: Development of an International Sentinel Network of General Practitioners. *Meth. Inform. Med.* 1992; 31:147-52
2. Typology of the Dutch municipalities by degree of urbanization, 1-1-1971 (Central Statistical Office).
3. Beroepen Extramurale Gezondheidszorg. Per 1 Januari 1994. NIVEL, Utrecht.
4. The tables indicated only by figures are text tables.
5. 1-1-1994, Central Statistical Office. Persons who are entered in the Central Register of Vital Statistics (CPR) have been left out of consideration.
6. Practice census 1993.
7. In these tables and the tables in the text derived from them frequencies are given in all cases per 10 000 men, women or inhabitants, unless stated otherwise.
8. This must satisfy the following criteria (Pel, 1965):
  - a. An acute beginning, i.e. at most a prodromal stage of three to four days (including pre-existent infection of the respiratory organs at a non-pathogenic level);
  - b. The infection must be accompanied by a rise in rectal temperature to at least 38°;
  - c. At least one of the following symptoms must be present: cough, coryza, sore throat, frontal headache, retrosternal pain, myalgia.

Pel, J.Z.S. (1965) Proefonderzoek naar de frequentie en de aetiologie van griepachtige ziekten in de winter 1963-1964. (*Huisarts en Wetenschap* 8, 321).
9. Here and elsewhere in the text incidence or frequency means the frequency per 10 000 inhabitants (either men or women).
10. De Koning H.J., Van Ineveld B.M. Van Ootmarsum G.J. De kosten en effecten van bevolkingsonderzoek naar borstkanker. Rotterdam: Instituut Maatschappelijke Gezondheidszorg, 1990.
11. The calculations made in this chapter have been performed by Dr E. Ketting, now employed by the Netherlands Institute for Socio-Sexological Research
12. Moors, J.P.C., Met overgangsklachten bij de huisarts. Voordracht Vereniging Studie Climacterium, 1992.
13. Fracheboud, J., Hartinfarct, hartbewaking of thuisblijven. Nivel, Utrecht, 1987.
14. Hoogendoorn D., Enkele opmerkingen over de stand van zaken betreffende de epidemiologie van het acute hartinfarct. *NTvG*; (1990); 134; blz 592-594.

15. Stuurgroep Toekomstscenario's Gezondheidszorg: Chronische ziekten in het jaar 2005. Deel 1 Scenario's over Diabetes Mellitus 1990-2005. Utrecht, Bohn, Scheltema en Holkema, 1990.
16. Bleker O.P., W.I. van der Meijden. Chlamydia trachomatis-infecties: complicaties bij de vrouw SOA-bulleting 13, (1992) 6, blz. 8-9.
17. Amsterdam Sentinel Station Project, Annual Report, 1990. Municipal Medical and Health Service, Amsterdam, p. 10-12.
18. Moons, M.A.W., L. Peters. Vragen over AIDS bij de huisarts. Ongerustheid en angst van niet-seropositive patiënten in de periode 1988-1993. Nivel, Utrecht, mei 1994.
19. National Committee for AIDS control, AIDS info line, annual report. 1988-1989, Amsterdam 1991.
20. R.F.W. Diekstra and M. van Egmond. Suicide and attempted suicide in general practice. In the Dutch Sentinel Practice Network; relevance for public health policy, p. 202. Nivel, Utrecht 1989.
21. A euthanasia declaration is a written request for euthanasia on certain conditions.
22. A.I.M. Bartelds. Requests for application of euthanasia. In the Dutch Sentinel Practice Network; relevance for public health policy, p. 259. Nivel, Utrecht 1989.
23. Nohlmans M.K.E., Bogaard A.F.J.M. van den, Blaauw A.A.M. et al. Prevalentie van Lyme borreliosis in Nederland. Ned Tijdschrift Geneeskunde, 1991.

## Explanatory notes pertaining to:

### Bijlage 1

Bijlage  
Continue morbiditeits registratie,  
peilstations  
Deelnemende artsen  
Naam  
Plaats  
Provincie  
Comb.-praktijk  
Apotheek-houdend

- Appendix
- Continuous morbidity registration,
- sentinel stations
- Participating general practitioners
- Name
- Residence
- Province
- Group practice
- With dispensary

### Bijlage 2

Bijlage  
Weekstaat t.b.v. centrale  
registratie  
Continue morbiditeits registratie,  
peilstations  
Proj. no.  
Verslagjaar  
Code peilstations  
Week no.  
Rapport. dagen  
Regel no.  
Leeftijdsgroep  
Influenza (-achtig ziektebeeld)  
Cervixuitstrijkje  
Na 1-1-1992 voor de eerste maal  
afgenomen op grond van  
Klachten/symptomen  
Louter preventieve overwegingen  
Hartinfarkt  
- vermoed  
- bevestigd  
Sterilisatie verricht  
Oestrogenen voorschrift  
Diabetes Mellitus  
- incidentie  
Suicide(poging)  
(Poli) klinische mammografie  
na 1-1-1993 voor eerste maal  
Herhalingsonderzoek  
P.I.D.  
Urethritis bij man  
C.A.I.D.S.  
Hepatitis

- Appendix
- Weekly return for central registration
- Continuous morbidity registration,
- sentinel stations
- Project number
- Year under review
- Code number sentinel stations
- Number of the week
- Number of days over which reporting took place
- Line number
- Age group
- Influenza (-like illness)
- Cervical smear
- Taken for the first time after 1-1-1992 on the ground of
- Complaints/symptoms
- Purely preventive considerations
- Myocardial infarction
- - suspected
- - confirmed
- Sterilization performed
- Oestrogens prescribed
- Diabetes Mellitus
- - incidence
- (Attempted) suicide
- mammography
- Taken for the first time after 1-1-1993
- Repeat examination
- P.I.D.
- Urethritis of the man
- Concern about AIDS
- Hepatitis

Weeknummer

Opgemaakt d.d.

Aantal dagen gerapporteerd  
(zie voetnoot<sup>1</sup>)

Zie ommezijde voor voetnoot

1. Door vakantie, ziekte en andere oorzaken zal deze rapportage zich echter ook over minder dan 5 dagen kunnen uitstrekken. Het wordt van belang geacht om, zo mogelijk, ook tijdens het weekeinde waargenomen patiënten te rapporteren. (M.u.v. influenzapatiënten.)
  2. Betreft uitsluitend nieuwe patiënten, ook telefonisch consult melden
  3. Betreft rapportering van vrouwen bij wie na 1-1-1992 om welke reden dan ook een cervixuitstrijkje heeft plaatsgevonden. Indien bij een vrouw na 1-1-1992 opnieuw een cervixuitstrijkje wordt gemaakt, dient dit altijd onder de subrubriek "herhalingsonderzoek" geboekt te worden (zie ook voetnoot 5).
  4. Bijvoorbeeld in het kader van pilcontrole, op verzoek van de vrouw zonder dat ze klachten heeft of in het kader van het bevolkingsonderzoek.
  5. Bijvoorbeeld wegens verdacht preparaat of wegens technische onvolkomenheden bij onderzoek vorig preparaat.
  6. per melding invullen  
Vermoed hartinfarct  
patiënt 1  
1e 3 letters achternaam:.....  
geboorte datum:..-.-..  
Fataal: ja/nee  
waarop is vermoeden gebaseerd\*  
- cardiologische voorgeschiedenis  
ja/nee  
- anamnese/onderzoek arts  
ja/nee  
- hetero anamnese ja/nee
- Number of the week
  - Completed on
  - Number of days over which reporting took place
  - (See footnote number<sup>1</sup>)
  - For footnotes see reverse
  - 1. As a result of vacation, sickness and other causes this reporting may extend over fewer than 5 days. It is considered to be of importance to report, if possible, patients observed during the weekend as well. (Influenza patients excluded.)
  - 2. Relates solely to new patients. Report telephone calls as well.
  - 3. Concerns reporting of women on whom a cervical smear was taken after 1-1-1992 for whatsoever reason. If a cervical smear was taken again of a women after 1-1-1992 this should always be entered under the subheading "Repeat examination" (see also footnote 5).
  - 4. For example as part of check-up for the pill, of the woman's request without for having complaints or as part of the mass screening.
  - 5. For example on account of suspect preparation or technical imperfections in the examination of the previous preparation.
  - 6. complete per report  
Suspected myocardial infarction  
patient 1  
first three letters of surname .....  
date of birth ..-.-..  
fatal yes/no  
on what is suspicion based?\*  
- previous cardiological history  
yes/no  
- anamnesis/examination by GP  
yes/no  
- hetero anamnesis yes/no

Bevestigd hartinfarct  
 patiënt 1  
 1e 3 letters achternaam  
 geboortedatum: .....  
 datum diagnose: .....  
 fataal: ja/nee  
 cardiologische voorgeschiedenis?  
 ja/nee  
 diagnose door : specialist/  
 huisarts/andere arts  
 diagnose op basis van\*  
 - positief ECG ja/nee  
 - enzymverhoging ja/nee  
 - obductie ja/nee

Confirmed myocardial infarction  
 patient 1  
 first three letters of surname  
 date of birth  
 date of diagnosis  
 fatal: yes/no  
 previous cardiological history  
 yes/no  
 diagnosis by specialist/  
 GP/other physician  
 diagnosis on basis of\*  
 - positive ECG yes/no  
 - enzyme increase yes/no  
 - autopsy yes/no

\*several answers possible

7. Indien het een patient(e) betreft uit een van de leeftijdsgroepen, waarvan het vak gerasterd is, dus jonger dan 20 jaar en ouder dan 49 jaar, tevens exacte leeftijd hierachter vermelden.

Leeftijd:.....

8. S.v.p. apart formulier invullen en bij de weekstaat voegen.

Code

Geboortedatum.....

Geslacht

Incident

9. S.v.p. apart formulier invullen en bij de weekstaat voegen.

10. S.v.p. apart formulier invullen en bij de weekstaat voegen.

7. If a patient is concerned in one of the age groups whose box is filled in, younger than 20 years and older than 49 years, also give the exact age here.

Age:.....

9. Please complete a separate form and attach to the weekly return.

Code

Date of birth: .....

Male/female

Incidence

10. Please complete a separate form and attach to the weekly return.

12. Please complete a separate form and attach to the weekly return.

Tables (p 135 - p 140)

Continue morbiditeits registratie peilstations

- Continuous morbidity registration sentinel stations

Kwartaal

- Quarter

Leeftijdsgroep

- Age group

Influenza (-achtig ziektebeeld)

- Influenza (-like illness)

Cervixuitstrijkje

- Cervical smear

Klacht/symptoom

- Complaint/symptom

Herhalingsonderzoek

- Repeat smear

Hartinfarct

- Myocardial infarction

Sterilisatie verricht

- Sterilization performed

Oestrogenen voorsschrift

- Oestrogens prescribed

Diabetes Mellitus  
Suicide(poging)  
(poli) klinische mammografie  
na 1-1-1992 voor de eerste maal  
Herhalingsonderzoek  
P.I.D.  
Urethritis bij man  
C.A.I.D.S.  
Hepatitis

Provinciegroepen  
Gr + Fr = Dr  
Ov + Gld + Fl  
Utr + NH + ZH  
Zld + NB + Lim

Urbanisatiegroepen  
A<sub>1</sub> - A<sub>4</sub> -  
B<sub>1</sub> - B<sub>3</sub> + C<sub>1</sub> - C<sub>4</sub>  
C<sub>5</sub>

#### Voetnoot

N.B. Als gevolg van het afronden bij het berekenen van de relatieve frequenties kunnen kleine verschillen in de totalen zijn ontstaan

- Diabetes Mellitus
  - (Attempted) suicide
  - (Clinical) mammography
  - Taken for the first time after 1-1-1992
  - Repeat examination
  - P.I.D.
  - Urethritis of the man
  - Concern about AIDS
  - Hepatitis
- 
- Province group  
Groningen, Friesland, Drenthe
  - Overijssel, Gelderland, Flevoland
  - Utrecht, North Holland, South Holland
  - Zeeland, North Brabant, Limburg
- 
- Urbanization groups  
Rural municipalities
  - Municipalities with urban characteristics and urbanized municipalities
  - Municipalities with a population of 100 000 or more
- 
- Footnote  
N.B. As a result of rounding off when calculating relative frequencies, small differences may have occurred in the totals