

# Continuous Morbidity Registration at Dutch Sentinel Stations in 2000

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## Foreword

The necessity for surveillance of infectious diseases has not diminished. Vigilance is required even when little happens for a period of time.

As in previous years, this report provides information about such matters as the occurrence of some infectious illnesses. Influenza-like illnesses have been reported relatively infrequently in the past two seasons. In the 2000/2001 season, the lowest incidence rate was reported since 1970, the year that sentinel stations began keeping records. Nevertheless, the influenza virus remains unpredictable and the need to monitor it has not lessened. As each season passes the moment of a major shift in viral activity comes closer.

The figures for the incidence of acute gastroenteritis in general practice in the 1990s show the ebb and flow of infectious illnesses. In 2000 general practitioners reported 91 patients "with stomach flu" per 10,000 inhabitants. The corresponding figure in 1990 was 53 and in 1997 it was 54.

The National Institute of Public Health and Environmental Protection conducted a Sensor Study at a number of sentinel stations into the occurrence of acute gastroenteritis among the Dutch population. The findings indicate that short-lasting "stomach flu", caused mainly by viruses, occurs far more frequently among the population than the data gathered by GPs suggests. People do not consult their GP for problems of this kind. Therefore, the conclusion that may be drawn from these observations is that surveillance of infectious diseases needs to take place as close to the population as is desirable and possible.

The research into prostate complaints appears to suggest that GPs are changing their approach. The number of rectal touch examinations has been decreasing since 1997. The number of requested PSA tests is increasing. There has been no increase in the number of referrals for suspected prostate cancer.

Professor J. van der Zee  
Chairman Counselling Committee





# 1 Introduction

Continuous Morbidity Registration is a method of gathering data by means of records kept by general practitioners. A national network of general practices, called sentinel stations, covers approximately 1% of the Dutch population. The network structure makes allowance for the geographical distribution of the population and its distribution over areas with different degrees of urbanization (see pp 15-18).

The GPs in the network, called sentinel physicians, submit a weekly form to report certain illnesses, occurrences and procedures. The form is called the weekly return. A weekly return gives a breakdown by age and, when necessary, by gender (see p. 145). A census is held every two years among the practice populations to determine the size and make-up of the population to which the gathered data must be related. Frequencies are generally calculated by age group per 10,000 men or women (see p. 29).

Each year the Counselling Committee selects the topics to be placed on the weekly return. The committee also considers requests and suggestions received from other parties. At least five conditions must be met for a disease or occurrence to be placed on the weekly return:

- 1 The importance of the topic must be described.
- 2 Strict and unambiguous criteria must be definable for the disease or occurrence to be registered.
- 3 Application of these criteria must not take too much time and must fit in with the GP's work.
- 4 A need must exist for representative information at the national level.
- 5 The CMR Sentinel Stations must be the best source of information.

The recording of data for a topic is discontinued if the topic 'owner' feels that data has been collected for a sufficiently long period of time, or if a different registration system is going to gather more or less the same information, or if insurmountable problems have arisen in the recording of data.

This report gives background information on each topic included in the weekly return for the first time. Refer to previous reports for information about "old" topics. See pages 146-148 for an overview of the years when topics were first included in the weekly return.

An examination of the topics placed on the weekly returns over the years leads to the conclusion that Continuous Morbidity Registration is a name that fails to cover all aspects of the work. Some of the topics covered are interventions or occurrences rather than illnesses. The name sentinel stations is a more apt as it refers to the monitoring task which lasts for at least one year or even permanently.

Therefore this report is called Continuous Morbidity Registration, Sentinel Stations.

Besides completing the weekly returns, sentinel physicians have been providing data for "incidental studies" in the Netherlands since 1976. Doctors are questioned at the end of a year about illnesses or occurrences that occurred infrequently in the past year. This report contains neither an exhaustive statistical analysis nor a detailed discussion of the data. The purpose of the report is to compile and disseminate basic data on certain subjects.

## **1.1 International cooperation**

The CMR Sentinel Stations have been participating in international projects since 1985.

The oldest project at present is the European Influenza Surveillance Scheme (EISS). The networks of spotter GPs and the national influenza centres of the participating countries cooperate with each other in EISS. The participating countries are Belgium, Czech Republic, England, France, Germany, Italy, Netherlands, Portugal, Scotland, Spain and Switzerland. The European Commission has provided funds for the Netherlands Institute for Health Services Research (NIVEL) to coordinate EISS ([www.eiss.org](http://www.eiss.org)).

In 1998, NIVEL and Dr Douglas Fleming (UK), Project Leader of the British sentinel stations (Weekly Returns Service), jointly requested and obtained a grant for a project to harmonize health information from sentinel station networks in European Union member countries. The Dutch sentinel stations are participating in the project and gathered data for it in 2000.

## 2 Counselling Committee

A condition of the grant received from the Ministry of Health, Welfare and Sport is that the Counselling Committee that oversees the registration system must in principle consist of:

- 1 two representatives of the Ministry of Health, Welfare and Sport;
- 2 the Director of the Netherlands institute for health services research (Chairman);
- 3 one representative of the Netherlands institute for health services research;
- 4 two representatives of the Health Care Inspectorate;
- 5 two representatives of the sentinel physicians;
- 6 one representative of the joint Institutes for General Practice of Dutch Universities;
- 7 two members with special expertise.

The committee members in 2000 were:

Counselling Committee: Dr Y.T.H.P. van Duynhoven,<sup>7</sup> epidemiological medical researcher  
F.K.A. Fokkema, general practitioner<sup>5</sup>  
Dr F.G. Schellevis, general practitioner/epidemiologist<sup>3</sup>  
H.O. Sigling, general practitioner<sup>7</sup>  
Dr H. Verkleij, sociologist<sup>7</sup>  
J. Vesseur, doctor of medicine<sup>4</sup>  
A.A.M. Vloemans, doctor of medicine/epidemiologist<sup>1</sup>  
J.K. van Wijngaarden, doctor of medicine<sup>4</sup>  
Prof. J. van der Zee, Chairman<sup>2</sup>  
**Project leader:** A.I.M. Bartelds, general practitioner  
**Secretary:** Ms M. Heshusius-van Valen

Dr D.M. Fleming, Director of the Birmingham Research Unit of the Royal College of General Practitioners, was engaged as an adviser to the Dutch sentinel stations in 1997.

The committee met twice in 2000. There is one vacancy (for a representative of the sentinel physicians). The committee included three members appointed for their special expertise. The joint Dutch universities were not represented on the committee in 2000.



### 3 Sentinel station staff seminar in 2000

A project like CMR Sentinel Stations relies heavily on contacts between the participating general practice staff, the Counselling Committee, the topic owners and the project leaders. A meeting is held annually at the start of each new registration period to promote these contacts.

The Dutch sentinel stations have been participating in international projects since 1985. Initially participation was occasional but has been structural since the 1990s. Each year, some topics are placed on the weekly return as a result of participation notably in European projects that gather information in the primary health care sector. Dr D.M. Fleming, Director of Birmingham Research Unit of the Royal College of General Practitioners and adviser to the Netherlands institute for health services research (NIVEL), is the coordinator of the Weekly Returns Service of the English sentinel stations. He described the WRS, explains the procedures for recording data and presents some characteristic results. The results show a correspondence in the registered incidence rate of exacerbation of chronic non-specific lung disease in general practice by the WRS and registered general hospital admissions for exacerbations of CNSLD. The information obtained from different sources corresponds and one source validates the other. The steady change in the occurrence of chickenpox according to age requires confirmation through other registrations by GPs. Chickenpox was placed on the weekly return as part of the Health Monitoring Project.

Dr J. Schellevis, a medical microbiologist attached to the Laboratory for Surveillance of Infectious Diseases of the Netherlands Institute of Public Health and the Environment, says the spread of whooping cough in the Netherlands is worrying. Increases in whooping cough activity were recorded in 1998 and again in 1999. He discussed the discrepancies between the official reporting of whooping cough, the numbers of positive one-point and two-point serology tests and the recording of whooping cough by CMR sentinel stations based on the clinical definition.

Data is needed to evaluate the effectiveness of screening programmes for frequently occurring forms of cancer. The CMR sentinel stations record a number of topics to assist evaluation of screening for breast cancer and prostate cancer. The topics are

requests for mammograms, requests for rectal touch examinations, requests for PSA tests and referrals for suspected prostate carcinoma.

In her contribution to the seminar, J.M. Groenewoud, a research physician attached to the Institute for Social Health Care of the Erasmus University in Rotterdam, addressed the significance of the recorded data.

As part of the NIVEL/RIVM respiratory infection surveillance programme, the CMR sentinel stations are gathering important information to facilitate early warning with regard to influenza in the Netherlands. The surveillance system makes it possible to estimate the incidence (by age, week/period, degree of urbanization and region) of GP consultations for influenza-type illnesses, respiratory viruses associated with influenza-type illnesses and influenza virus infections among the population (with assumptions). Despite the information yielded by surveillance, there are some unanswered questions regarding the occurrence of respiratory viruses and bacteria among patients who visit their GP with and without symptoms of an acute bronchial infection or flu.

Dr M.L. Heijnen, attached to the Centre for Infectious Disease Epidemiology of the Netherlands Institute of Public Health and Environmental Protection, discussed a proposal for further study into acute respiratory infections in primary care. Using feedback from the sentinel physicians, the proposal will be revised prior to submission to the Counselling Committee for approval.

## 4 Distribution of sentinel stations in the Netherlands

Figure 4.1  
SENTINEL STATIONS  
Continuous Morbidity Registration  
2000



There were 47 sentinel stations in the Netherlands in 2000. The number of general practitioners working in the sentinel station practices was 69.

The following breakdown and codes are used in processing and discussing the data:

- A: stands for the Groningen, Friesland and Drenthe province group (northern provinces);
- B: stands for the Overijssel, Gelderland and Flevoland province group (eastern provinces);
- C: stands for the Utrecht, North Holland and South Holland province group (western provinces);
- D: stands for the Zeeland, North Brabant and Limburg province group (southern provinces);
- 1: stands for urbanization degree 5 (rural municipalities)<sup>1</sup>;
- 2: stands for urbanization degrees 4-3-2 (urbanised rural municipalities and municipalities with urban features):
- 3: stands for urbanization degree 1 (municipalities with 100,000 or more inhabitants).

Appendix 1 (pp 143-144) contains a list of the GPs who participated in the sentinel station project in 2000. Two or more GPs cooperate at fifteen of the sentinel stations (two GPs cooperate in 11 cases, three in 3 cases and six in 1 case). The percentage of GPs working in group practice nationwide was 56.7% in January 2000; the figure was 54% for the sentinel stations. There were five dispensing sentinel physicians, i.e. three in places with urbanization degree 1 and two in places with urbanization degree 2, or 7.3% of the total number of sentinel physicians. The figure for the Netherlands as a whole is 8.3%<sup>2</sup>.

Tables 4.1 and 4.2 show the distribution of the number of sentinel physicians and sentinel stations in each province group and urbanization group in the 1991-2001 period. Adjustment to the criteria for classification according to urbanization occurs as and when necessary. A comparison with the number of GPs in the Netherlands in the different sub-groups shows that the sentinel physicians form a proportional representation.

<sup>1</sup> Dulk C.J. den, H. Van der Stadt, J.M. Vliegen. Een nieuwe maatstaf voor stedelijkheid: de omgevingsadressendichtheid. Mnd, stat. Bevolk, (CBS) 92/7.

<sup>2</sup> Occupations in Extramurale Healthcare as of 1 January 2000. Nivel, Utrecht.



Table 4.1 Distribution of sentinel physicians (GPs) and sentinel stations per province group in the 1991-2000 period<sup>3</sup>

province-group	A; Groningen, Friesland and Drenthe		B; Overijssel, Gelderland and Flevoland		C; Utrecht, North and South Holland		D; Zeeland Noord-Brabant and Limburg	
	GPs	Sentinel Stations	GPs	Sentinel Stations	GPs	Sentinel Stations	GPs	Sentinel Stations
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
1995	12	6	14	11	24	17	15	10
1996	12	6	14	10	26	17	15	10
1997	12	6	15	11	19	15	18	10
1998	12	6	16	12	23	16	14	9
1999	12	6	17	12	24	16	14	9
2000	13	6	17	12	27	21	12	8

<sup>3</sup> Tables indicated only by figures are text tables.

Table 4.2 Distribution of sentinel physicians (GPs) and sentinel stations per urbanization degree in the 1991-2000 period

urbanization degree	1; Rural Municipalities <sup>4</sup>		2; urbanised rural municipalities together with municipalities with urban characteristics		3; municipalities with 100 000 or more inhabitants		total	
	GPs	Sentinel Stations	GPs	Sentinel Stations	GPs	Sentinel Stations	GPs	Sentinel Stations
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
1995	10	7	42	28	13	9	65	44
1996	10	7	43	27	14	9	67	43
1997	10	7	43	27	11	8	64	42
1998	11	8	44	28	10	7	65	43
1999	10	7	47	29	10	7	67	43
2000	10	7	46	29	13	11	69	47

<sup>4</sup> Vanaf 1994 is de nieuwe maatstaf voor mate van stedelijkheid zoals door het CBS wordt gehanteerd toegepast bij de indeling van de peilstations.

## 5 Practice populations

A census of all practice populations was held in 1999. The results of the census have been used in the processing of CMR Sentinel Station data since 1 January 2000. A new census was held in 2001. The CMR project was organised with the aim of achieving a sample of approximately 1% of the population of the Netherlands. The structure of the project takes geographical distribution (the 'province groups' referred to above) and distribution over areas with differing degrees of urbanization ('urbanization degree') into account. A check confirmed that this objective was by and large still being met, as the tables below show.

The population of the Netherlands increased in 1999 by 103,725 and stood at 15 863,950 on 1 January 2000.

Table 5.1 Comparison of the population of the sentinel practices with the total population of the Netherlands

	Population of the Netherlands <sup>2</sup>	Number of Sentinel Stations patients <sup>1</sup> (with percentages)
<b>province group:</b>		
A	1,656,952	24,584 (1.5%)
B	3,313,989	39,177 (1.2%)
C	7,023,947	62,485 (0.9%)
D	3,869,062	29,205 (0.7%)
<b>degree of urbanization:</b>		
1	2,428,864	21,303 (0.9%)
2	10,661,913	103,747 (1.0%)
3	2,773,173	30,350 (1.1%)
<b>sex:</b>		
men	7,846,317	75,780 (0.9%)
women	8,017,633	79,620 (1.0%)
total (1-1-2000)	15,863,950	155,400 (1.0%)

Province group A (the northern provinces) is over-represented. Province group D is under-represented. The different degrees of urbanization are more evenly represented. Statistics Netherlands (CBS) introduced a new urbanization criterion at the start of the 1992 statistics year. The criterion is the density of addresses in an area<sup>2</sup>.

The table below shows the percentages of men and women in the Dutch population who are registered with the sentinel practices, with a breakdown according to age group, province group and degree of urbanization.

<sup>1</sup> Praktijktelling 1999.

<sup>2</sup> 1-1-2000, Centraal Bureau voor de Statistiek, Personen, die zijn ingeschreven in het centraal persoonsregister (CPR) zijn buiten beschouwing gelaten.

Table 5.2 Percentage of men and women in the Dutch registered with sentinel practices by age province group and degree of urbanization

	province group						Degree of urbanization						Netherlands			
	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	1.3	1.4	1.0	1.0	0.8	0.8	0.7	0.7	0.6	0.6	0.9	0.9	1.0	1.0	0.9	0.9
5-9	1.4	1.4	1.2	1.2	0.8	0.8	0.8	0.7	0.8	0.7	1.0	0.9	1.1	1.2	0.9	0.9
10-14	1.5	1.4	1.2	1.2	0.7	0.7	0.7	0.7	0.8	0.8	0.9	0.9	1.1	1.0	0.9	0.9
15-19	1.5	1.6	1.1	1.1	0.8	0.8	0.7	0.8	0.9	0.9	0.9	0.9	0.9	1.0	0.9	0.9
20-24	1.5	1.6	1.0	1.2	0.9	1.1	0.7	0.8	0.8	1.0	1.1	1.0	0.8	1.0	0.9	1.1
25-29	1.7	1.8	1.4	1.4	0.9	1.1	0.8	0.8	1.0	1.1	1.0	1.1	1.0	1.4	1.0	1.2
30-34	1.6	1.6	1.3	1.2	1.0	1.1	0.8	0.8	1.0	0.9	1.0	1.0	1.3	1.4	1.1	1.1
35-39	1.5	1.6	1.2	1.2	0.9	0.9	0.8	0.7	0.8	0.9	1.0	1.0	1.2	1.2	1.0	1.0
40-44	1.4	1.5	1.2	1.1	0.9	0.9	0.7	0.7	0.8	0.8	0.9	1.0	1.2	1.3	1.0	1.0
45-49	1.5	1.5	1.1	1.1	0.9	1.0	0.7	0.7	0.8	0.8	0.9	1.0	1.3	1.2	1.0	1.0
50-54	1.4	1.4	1.1	1.1	0.8	0.8	0.7	0.8	0.8	0.9	0.9	1.0	1.1	1.0	0.9	1.0
55-59	1.3	1.3	1.2	1.3	0.8	0.9	0.8	0.8	0.9	0.8	0.9	1.0	0.9	1.0	0.9	1.0
60-64	1.4	1.4	1.2	1.2	0.8	0.8	0.8	0.7	0.9	1.0	1.0	0.9	1.0	0.9	1.0	0.9
65-69	1.4	1.3	1.3	1.2	0.8	0.8	0.8	0.8	1.0	0.9	1.0	1.0	0.9	0.9	1.0	1.0
70-74	1.3	1.3	1.2	1.1	0.8	0.9	0.8	0.8	1.0	0.9	1.0	1.0	0.8	0.8	1.0	0.9
75-79	1.2	1.3	1.2	1.0	0.9	0.9	0.8	0.7	1.1	0.9	1.0	0.9	0.8	0.9	1.0	0.9
80-84	1.5	1.3	1.4	1.0	0.0	0.9	0.8	0.8	1.2	1.0	1.1	1.0	0.8	0.8	1.0	1.0
> 85	1.4	1.5	2.0	1.2	1.1	1.1	0.9	0.9	1.9	1.4	1.3	1.1	0.8	1.0	1.3	1.1
total	1.5	1.5	1.2	1.2	0.9	0.9	0.7	0.8	0.9	0.9	1.0	1.0	1.1	1.1	1.0	1.0



## 6 Scale and continuity of reporting

The number of days per year that each sentinel station reports and the combined number of reporting days per week of all sentinel stations have been checked and processed since 1975. This check is made to monitor the scale and continuity of reporting. The sentinel physicians generally let it be known when they are unable to report due to holidays or personal circumstances. A sentinel physician is contacted by telephone if a weekly return is not received on time.

The maximum number of days on which reporting is possible depends on the number of weeks in the year and on the number of sentinel stations. The figure in 2000 was 12,220 (52 weeks x 5 days x 47 sentinel stations). Table 6.1 shows the absolute numbers and the percentages.

Table 6.1 Maximum number and actual number of reporting days per year

year	maximum number reporting days	actual number of reporting days	absolute number of percentage
1991	11,180	9,903	88.6%
1992	11,395	10,141	89.0%
1993	11,700	10,269	87.8%
1994	11,700	10,227	87.4%
1995	11,400	9,900	86.5%
1996	11,180	9,663	86.4%
1997	10,920	9,340	85.5%
1998	11,395	9,733	85.4%
1999	11,180	9,500	85.0%
2000	12,220	10,217	83.5%

The percentage of reporting days in 2000 was slightly lower than in previous years.

The table below contains a breakdown by province group and urbanization degree and shows that no major differences exist.

Reporting in the major cities of the Netherlands (78.8%) is the lowest in the urbanization degree groups. Reporting in the northern provinces (89.7%) is the highest in the province groups.

Table 6.2 Reporting by province group and degree of urbanization

province group		degree of urbanization	
A	89.7%	1	87.6%
B	84.7%	2	84.5%
C	80.3%	3	78.8%
D	86.0%		

Figure 6.1 shows the weekly returning of all sentinel stations. The influence of public holidays is clearly visible. The average number of non-reporting days per week is 38 (maximum  $47 \times 5 = 235$ ).

Figure 6.1 Number of days in 2000 that data was recorded

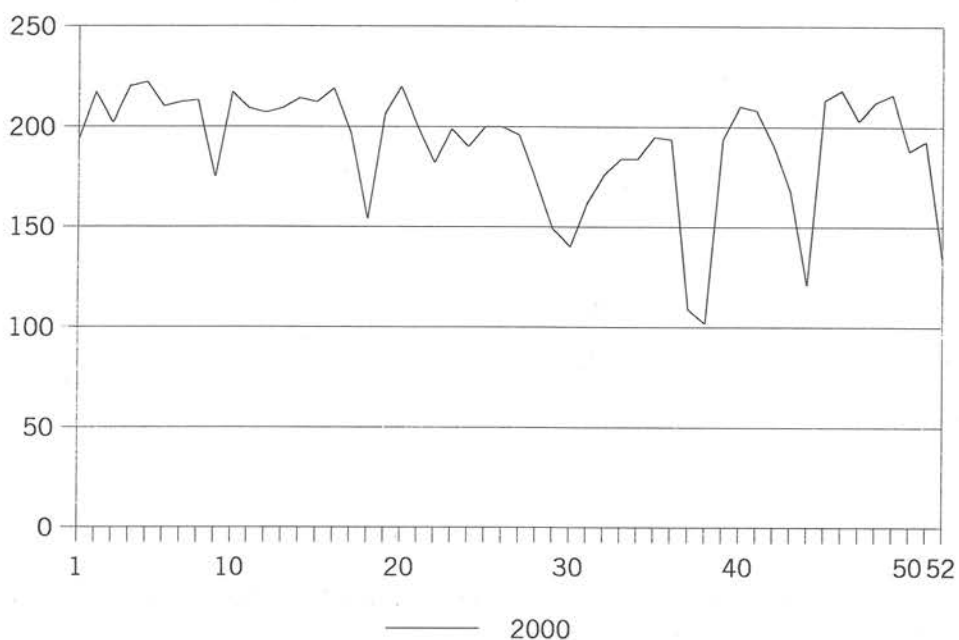




Table 6.3 shows the frequency distribution of the number of non-reporting days at each sentinel station. The average number of non-reporting days per sentinel station was 42, slightly higher than in 1999.

A breakdown into single and group practices reveals a significant difference, i.e. 51 and 24 days, respectively. This reflects the frequently voiced opinion that collaboration enhances the continuity of reporting.

Table 6.3 Frequency distribution of the number of non-reporting days per sentinel station

Number of days with no reporting	number of sentinel stations									
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0	1	2	3	4	3	4	3	3	3	3
1- 9	7	7	7	2	3	4	4	5	4	4
10-19	3	4	1	5	3	2	2	2	1	1
20-29	11	5	6	2	6	5	6	4	3	1
30-39	10	13	13	13	11	6	6	7	10	4
40-49	9	9	11	12	12	13	12	9	14	16
50-59	1	1	3	5	3	7	6	5	3	11
60-69	0	1	-	2	-	1	1	6	1	2
70-79	0	-	-	-	1	-	1	-	-	4
80-89	0	-	-	-	1	-	-	-	1	1
90-99	0	-	-	-	-	-	-	1	1	-
≥ 100	1	1	1	-	1	1	1	1	2	-
total number of sentinel stations	43	43	45	45	44	43	42	43	43	47
average	30	29	32	32	35	35	37	39	39	43
median	29	33	34	37	37	40	40	40	40	46

Closer examination of this table reveals a decrease in reporting over the years. A major failure to report – i.e. no reporting by a sentinel station on more than 50 days per year – occurred at almost 36% of the sentinel stations in 2000. Illness of the sentinel physician and changes of GP staffing at a sentinel station are the most frequent reasons for non-reporting over a prolonged period of time.



## 7 Weekly return (Appendix 2, page 145)

The topics contained in the weekly returns for 2000 are listed below. The year in brackets is the year the topic first appeared on the weekly return:

- 1 Influenza (and influenza-like illnesses) (1970);
- 2 Zanamivir prescription (2000);
- 3 Incontinence materials (2000);
- 4 Chickenpox (2000);
- 5 Depression (2000);
- 6 Herpes zoster (1997);
- 7 Diabetes mellitus (2000);
- 8 Suicide (and attempted suicide) (1979);
- 9 Outpatient mammography (1988);
- 10 Urethritis in men (1992);
- 11 Fear of AIDS (1988);
- 12 Gastroenteritis (1996);
- 13 Prostate complaints (1997);
- 14 Whooping cough (1998).

A report covering one week is the norm. Consequently, a sentinel physician also reports patients seen on his/her 'weekend off' by a locum (with the exception of influenza and influenza-like illnesses). Diagnoses and advice given by telephone are not recorded on the weekly returns, with the exception of those concerning influenza.

An alphabetical list of all topics since 1970 can be found in Appendix 3 (pp 146-148) together with the years in which data was recorded.



## 8 Data stated on weekly returns

This report contains the results of the weekly returns for 2000. The data from the returns were processed by NIVEL.

Three tables are produced routinely:

- 1 absolute number of patients by sex and age group;
- 2 absolute number of patients by sex and province group;
- 3 absolute number of patients by sex and degree of urbanization.

Tables 1, 2 and 3 are printed out each week for surveillance purposes, and each quarter and each year for reporting purposes. For the convenience of the sentinel physicians, the first table is also produced every quarter for every sentinel station.

With the exception of the information provided per sentinel station, the data is also presented per 10,000 of the total practice population (relative frequencies). Frequencies have been rounded off. A frequency below 0.5 per 10,000 inhabitants is rounded off to '0'. '\_' denotes that no cases were reported.

A frequency based on fewer than five reported cases is stated in brackets. A frequency of new cases of a disease in a certain period of time is referred to as 'incidence' or 'incidence rate' in epidemiology. The term 'prevalence' refers to all cases of the disease that exist in a certain period of time or at a certain moment in time. There are also absolute and relative incidences and prevalences.

The cumulative incidence or period prevalence is calculated in this report in all instances per 10,000 inhabitants, men or women. Appendix 5 (p 150) shows the age structure of the Dutch population on 1 January 2000 to allow the calculation of absolute numbers for the Netherlands.

The tables state instances where a sentinel station did not report over a full week because of circumstances such as the illness or holiday of a GP.

Data from practices that reported 0, 1 or 2 days of the week were not processed and their populations were disregarded in the calculation of frequency. Data from practices that did report on more than 2 days per week were processed. A correction factor used to be applied for this situation until 1978. An examination of the number of times that a correction was applied revealed that its influence on the total was negligible. Therefore, the correction was dropped with effect from 1 January 1978. Moreover,

enquiries among sentinel physicians revealed that an absence of 1 or 2 days merely resulted in the work being shifted to a different time.

The tables were produced using the weekly returns, with frequencies being calculated on the basis of the average population present in the period concerned.

As mentioned in the introduction, the purpose of this report is to present data, not to provide a complete analysis of that data.

The following annual tables are included (pp 151-159).

- 1 Cumulative, i.e. all sentinel stations in a standardised format, year 2000, weeks 01-52, pp 1-3<sup>1</sup>.
- 2 Province group standardised according to clinical picture, year 2000, weeks 01-52, pp 1-3<sup>1</sup>.
- 3 Degree of urbanization, standardised according to clinical picture, year 2000, weeks 01-52, pp 1-3<sup>1</sup>.

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<sup>1</sup> Unless stated otherwise, these tables and related text tables are based in all instances on frequencies per 10,000 men, women or inhabitants.

## 9 Influenza(-like illness)

Influenza<sup>1</sup> is the only topic to have appeared on the weekly returns since the start of the sentinel station project. The data on this subject are regularly disseminated and used internationally. As soon as an increase in the incidence is detected, the numbers, as well as the virological and serological results, are reported weekly to the WHO in Geneva. This is the Netherlands' contribution to the worldwide influenza surveillance effort.

Each year the incidence of influenza-like illnesses (ILI) is reported to the European Influenza Surveillance Scheme (EISS, [www.eiss.org](http://www.eiss.org)) on a weekly basis starting in week 40. The RIVM reports to EISS the results of its study of influenza viruses in the nose and throat swabs taken by the sentinel physicians.

### 9.1 Influenza 1999/2000 and 2000/2001

#### 9.1.1 1999/2000 season

Figures 9.1-9.3 show the number of cases of influenza-like illnesses per 10,000 inhabitants per week for the Netherlands and by province group and degree of urbanization for the 1999/2000<sup>2</sup> season. Figures 9.4-9.6 show the same data for the 2000/2001 season. The progress of influenza-like illness in the first weeks of 2000

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<sup>1</sup> This must satisfy the following criteria (Pel, 1965):

- a An acute initial stage, 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).

<sup>2</sup> Here and elsewhere in the text, incidence is defined as the relative frequency per 10,000 inhabitants (both men and women).

was covered in the report on 1999.

As early as week 40 of the 1999-2000 season, the Nationale Influenza Centrum in Rotterdam received the first virus isolates, which were identified as the influenza A H<sub>3</sub>N<sub>2</sub> subtype. There is a close resemblance between the isolated virus and the vaccine strain used for this subtype, A/Sydney/5/97. The sporadic influenza A viruses isolated in the following weeks were also of this subtype.

In week 45 the first influenza virus was detected in nose and throat swabs sent in by a sentinel physician. The influenza wave clearly began to build when the number of influenza A viruses isolated at the sentinel stations began rising in week 47. In week 51 the number of ILI cases exceeded 10 per 10,000 inhabitants. The isolates were identified as influenza A H<sub>3</sub>N<sub>2</sub> viruses, which closely resemble the vaccine strain used for this subtype.

The highest incidence of the season occurred in weeks 1 and 2 of 2000, with 32 cases per 10,000 inhabitants. The western provinces were hit the hardest, reporting 40 cases per 10,000 inhabitants. The large cities had the highest incidence, reporting 42 cases per 10,000 inhabitants in week 2.

The duration of the influenza wave was average, namely 8 weeks.

Figure 9.1 Number of patients with influenza(-like illness) per week and per 10,000 inhabitants in the Netherlands, 1999/2000

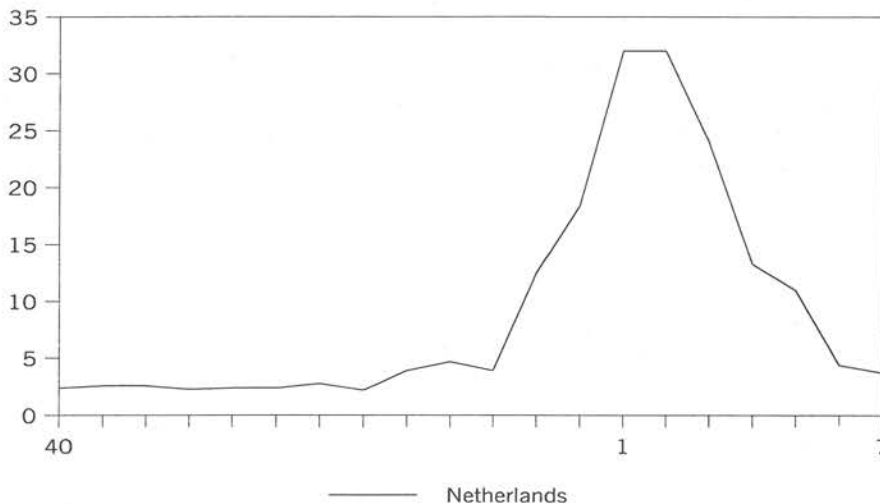




Figure 9.2 Number of patients with influenza(-like illness) per week and per 10,000 inhabitants, by degree of urbanization, 1999-2000

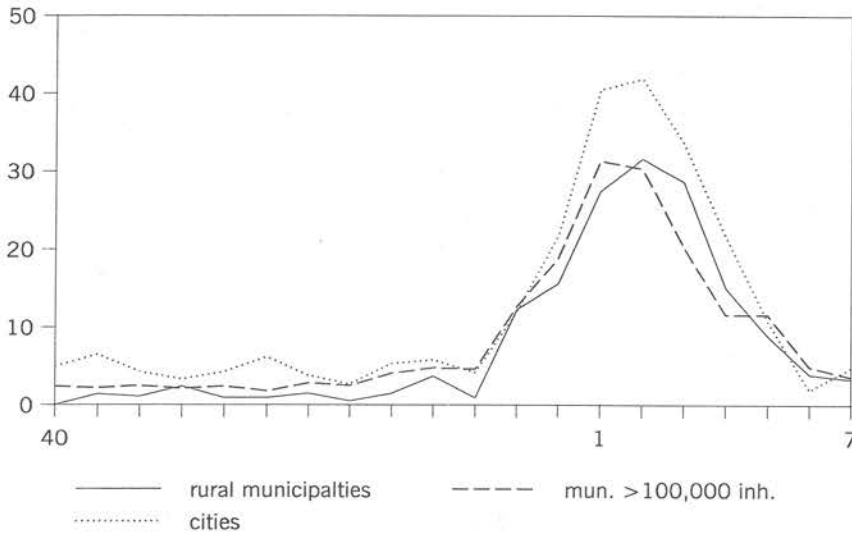
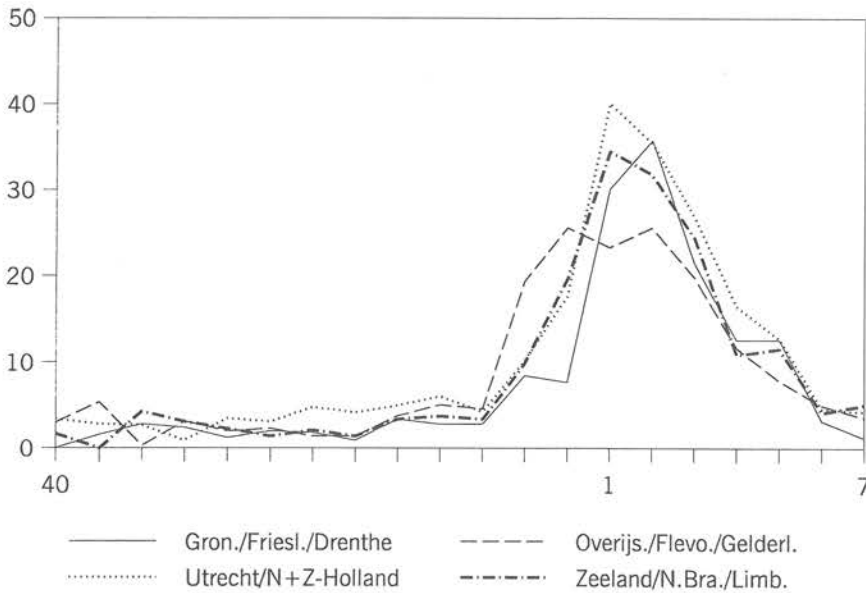


Figure 9.3 Number of people with influenza(-like illness) by province group per week per 10,000 inhabitants, 1999-2000



### 9.1.2 2000/2001 season

The 2000/2001 season was the mildest since CMR sentinel physicians began registering influenza-like illnesses (see table 9.1). The first influenza virus of the season was isolated by NIVEL/RIVM surveillance in week 48. The virus detected was of the influenza A/H<sub>1</sub>N<sub>1</sub> strain.

The clinical incidence of ILI rose insignificantly in the first weeks of 2001. The highest rate of activity was observed in weeks 4 and 5 with respectively 6.7 and 6.5 cases per 10,000 inhabitants. The highest incidence in the province groups was registered in the northern provinces in week 5: 13.4 per 10,000 inhabitants. Among the urbanization categories, the large cities showed the most activity, reporting 11.2 cases per 10,000 inhabitants in week 4 of 2001.

The influenza A/H<sub>3</sub>N<sub>2</sub> virus was largely absent and influenza B was spotted only sporadically (twice). Influenza A/H<sub>1</sub>N<sub>1</sub> was the dominant strain during the 2000/2001 season.

Figure 9.4 Number of people with influenza(-like illness) in the Netherlands per week per 10,000 inhabitants, 2000/2001

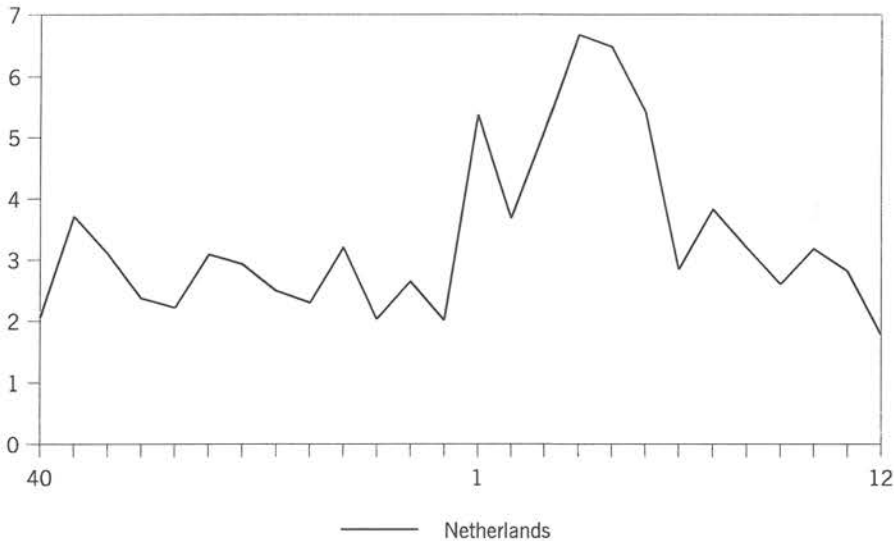


Figure 9.5 Number of people with influenza(-like illness) by degree of urbanization per week per 10,000 inhabitants, 2000/2001

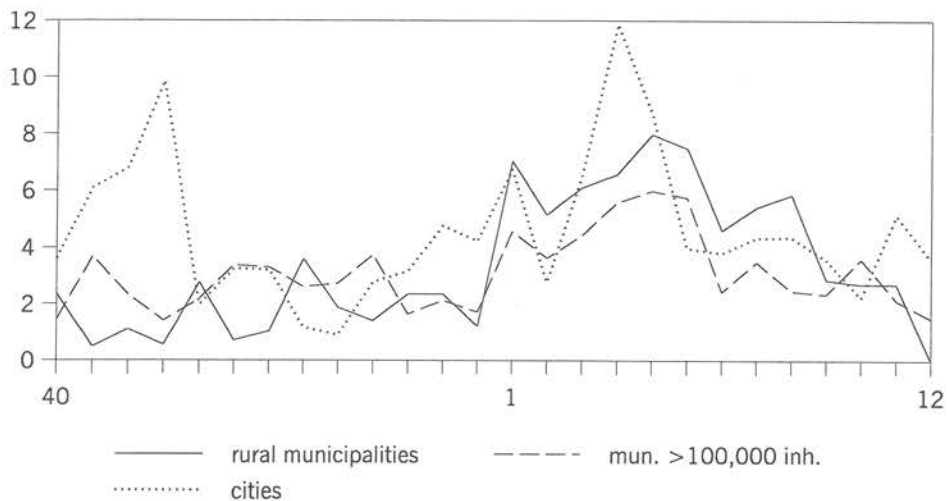


Figure 9.6 Number of people with influenza(-like illness) by degree of urbanization per week per 10,000 inhabitants, 2000/2001

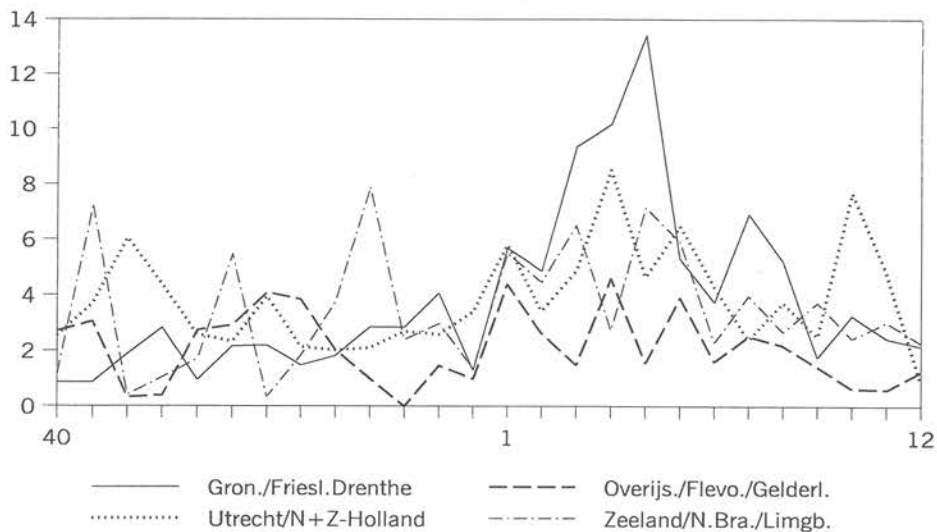


Table 9.1 Number of patients with influenza(-like illness), per 10,000 inhabitants, 1991-2001

jaar	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
total calendar year	348	244	484	107	315	155	233	248	254	197	
highest weekly inci- dence per 'season'	40	27	54	16	39	29	17	23	32	7	

## 9.2 ARI study (Acute respiratory infections in primary care)

The Nivel/RIVM surveillance of respiratory infections is an important contribution to the early-warning system for influenza in the Netherlands. Influenza-like illnesses are registered clinically so that their spread among the population can be charted. Virological surveillance confirms whether the reported influenza-like illnesses are being caused by an influenza virus.

The current surveillance system also provides information about the type and frequency of respiratory viruses (including *M. pneumoniae* and *C. pneumoniae*) detected in patients who consult their physician in the case of influenza-like illness or other acute respiratory infection. These data are important for the effective prevention and control of acute respiratory infections. They provide indications of possible target groups for new and existing vaccines (e.g. to prevent RS virus or rhinovirus) and antiviral medications (e.g. to control influenza and rhinovirus).

Although the surveillance of respiratory infections provides much information, there are still a number of questions that the current surveillance cannot answer. These questions include the following:

- 1 What is the incidence of respiratory viruses (including *M. pneumoniae* en *C. pneumoniae*) associated with ARI (acute respiratory infections) other than influenza-like illnesses (ILI) among GP patients by age and sex?
- 2 What is the incidence of various respiratory infections in the population?

- 3 What is the annual and seasonal incidence of respiratory viruses (including *M. pneumoniae* and *C. pneumoniae*) associated with ARI (including ILI) among GP patients and in the population by age and sex?
- 4 What is the incidence of respiratory bacteria associated with ARI (including ILI) among GP patients and in the population by age and sex?

GPs take nose and throat swabs from patients who report an ARI (including ILI) and give them questionnaires to fill in. Data collection for the ARI in primary care study began in week 40 of 2000 (project leader: Dr Ir M. L. Heijnen).

The nose and throat swabs are tested for viruses (including *M. pneumoniae* and *C. pneumoniae*) at the RIVM's Laboratorium voor Infectieziekten Diagnostiek en Perinatale Screening (Diagnostic Laboratory for Infectious Diseases and Perinatal Screening). The regional laboratory for public health in Tilburg tests the second throat swab for a number of bacterial pathogens. The RIVM's Centrum voor Infectieziekten Epidemiologie (Centre Epidemiology of Infectious Diseases) collects all the data and analyses the questionnaires.

The collected data should provide answers to the following questions: What are the medical needs that accompany an ARI (including ILI), what is the burden of illness in the case of ARI (including ILI) and how often do ARI (including ILI) occur asymptotically?

Data will be collected for a period of 2 to 3 years. The preliminary results will be presented in the report on 2001.

### 9.3 Influenza(-like disorders) in Europe in the 2000/2001 season ([www.eiss.org](http://www.eiss.org))

The 2000/2001 season progressed differently in the countries participating in the European Influenza Surveillance Scheme (EISS). Influenza activity on the continent of Europe began to show an increase at the end of December. Only influenza H<sub>1</sub>N<sub>1</sub> viruses were isolated in France, Germany, Belgium and Denmark. The influenza B virus was active primarily in England in Wales.

The incidence of influenza H<sub>1</sub>N<sub>1</sub> increased after the turn of the year. The peak of what was a mild influenza season was reached at the end of January. Influenza activity was greater in Central Europe (Czech Republic, Germany, Denmark) than in Western and Southern Europe.

The influenza B virus, too, was isolated on the continent at the end of the season. The influenza A(H<sub>3</sub>N<sub>2</sub>) virus was conspicuously absent in 2001.

This topic will remain on the weekly return.

### **Publications based fully or partly on continuous morbidity registration data**

FLEMING, D.M., M. ZAMBON, A.I.M. BARTELDLS.

#### **Population estimates of persons presenting to general practitioners with influenza-like illness in sentinel practice networks in England and Wales, and in the Netherlands**

Epidemiol. Infect. 2000, 124, 245-253

Incidence data by age of new episodes of influenza-like illness reported by sentinel general practice network in England and Wales and in The Netherlands over a 10-year period were examined to provide estimates of the consulting population during influenza epidemic periods. Baseline levels of recording in each group were calculated from weeks in which influenza viruses were not circulating and the excess over baseline calculated to provide the population estimates during influenza epidemics.

Influenza A/H<sub>3</sub>N<sub>2</sub> epidemics were associated with higher population estimates for consultations than influenza B. Especially in the age groups 0-4 and 65 years and over. In the intervening age groups, population estimates were more consistent regardless of the virus type. Both networks reported simultaneous peaking of incidence rates in all of the age groups. There were substantial increases in the number of persons reporting other respiratory illnesses during influenza epidemics.

Population estimates of the consulting population provide the only secure basis for which health services resource utilization during influenza epidemics can be estimated

FLEMING, D.M., M. ZAMBON, A.I.M. BARTELDLS, J.C. DE JONG.

#### **The duration and magnitude of influenza epidemics: A study of surveillance data from sentinel general practices in England, Wales and the Netherlands**

Eur. J. of Epid., 1999; 467-473

Weekly incidence data for influenza-like illness, routinely collected in sentinel general practices in England and Wales and in the Netherlands over 10 winter periods (week 37 in one year to week 20 in the next, 1987/1988-1996/1997) were examined in conjunction with matching virus isolate data to define epidemic periods of influenza in the two countries. We first defined the background rates of recording influenza-like illness which occurred at times when only sporadic or no isolations of virus were reported. The background rates were similar in the two networks with mean weekly incidence in England and Wales of 28.1 per 100,000 (all ages) and in the Netherlands 29.8. Epidemic periods defined as lying above the upper 95% confidence level of the background rate lasted on average for about 10 weeks. Once epidemics were recognised, peak incidence was generally achieved within 4 weeks. The excess population (all ages) consulting general practitioners during influenza epidemic periods was calculated and background incidence rates expressed as a percentage of the total population. In the 10 periods surveyed, the percentage of the population consulting and diagnosed with influenza-like illness in England and Wales ranged from 0.4% in 1991/1992 to 1.7% in 1989/1990 and the Netherlands from 0.5% in 1990/1991 to 2.1% in 1989/1990. The duration and epidemic periods were broadly similar in the two countries though the excess consulting population during the 10 epidemic studies averaged 0.85% in England and Wales compared with 1.39% in the Netherlands. There were substantial differences between the two countries in the impact of influenza in individual

years, as measured in the consulting population, even though the predominant virus (sub)type were similar.

RIMMELZWAAN, G.F., J.C. DE JONG, A.I.M. BARTELD, J.W. DORIGO-ZETSMA, R.A.M. FOUCHIER, A.D.M. OSTERHAUS.

**Het influenzaseizoen 1999/2000 en de vaccinsamenstelling voor het seizoen 2000/01.**

Ned Tijdschr. Geneesk. 2000, 144(41) 1968-1971

The first signs of influenza activity in the 1999/2000 season came when an influenza-A(H<sub>3</sub>N<sub>2</sub>) virus was isolated in week 40 of 1999 and another 2 in week 43. A considerable increase in clinical influenza activity was observed in week 50 and the peak was achieved in week 1 and 2 of 2000, followed by a decrease over the next 4 weeks. The influenza activity was associated primarily with influenza-A(H<sub>3</sub>N<sub>2</sub>) viruses. At the end of the epidemic period influenza B and influenza A(H<sub>1</sub>N<sub>1</sub>) strains were detected sporadically that closely resembled viruses isolated the year before and the vaccine strain A/Sydney/5/97. Influenza B viruses did not play a significant role and were largely similar to the vaccine strain B/Yamanashi/166/98. A number of A viruses of the H<sub>1</sub>N<sub>1</sub> subtype were also isolated. A number of these viruses showed close similarities with the old stain of influenza A(H<sub>1</sub>N<sub>1</sub>) viruses, A/Bayern/7/95, and a number appeared to be related to the vaccine strain for this subtype, A/New Caledonia/20/99, which is recommended for the next influenza season. World Health Organization guidelines for the 2000/01 season call for influenza vaccines to contain the following stains (or comparable strains): A/Moscow/10/99 (H<sub>3</sub>N<sub>2</sub>), A(new Caledonia/20/99 (H<sub>1</sub>N<sub>1</sub>) en B/Beijing/184/93.

WILBRINK, B., J.D.D. PRONK, A.I.M. BARTELD, J.W. DORIGO-ZETSMA, M.L.A. HEIJNEN.

**Surveillance of respiratory pathogens and influenza-like illnesses in general practices in The Netherlands, winter 1999/2000.**

European Society for Clinical Virology, Glasgow, Sept. 2000.

#### **Introduction**

NIVEL is running a surveillance network of 43 sentinel general practices (GP), covering 1% of the Dutch population, representative with respect to region, urbanisation, age and sex. The incidence of influenza-like illnesses (ILI) is calculated weekly during the winter season by NIVEL from the data of the network. On NIVEL request the system was extended with virus detection from nose/throat swabs by the RIVM. Swabs are obtained from patients with an acute respiratory infection (ARI), of whom about 70% are registered with ILI.

#### **Aim of the study**

To provide insight into the aetiology of ARI in the primary health care population.

#### **Results**

In 56% (169) of the samples at least one pathogen was detected. Influenza viruses were detected most often (29%), followed by rhinoviruses (13%) (Table 1, Fig.1)

In 18 samples (6%) multiple infections were observed; one triple infection of rhinovirus and both corona viruses, and 17 double infections (Table 2).

PCR improved the detection: 68% of the rhinoviruses (28 of 41), 100% of the enteroviruses (8) and 91% of RSV (20 of 22) were detected by PCR only (Fig. 2).

Registration of ILI and isolation of influenza viruses were in accordance with each other, although a short lag in the ILI peak behind that of influenza virus isolates was seen (Fig. 3). However, in 28% of the patients registered with ILI other respiratory pathogens than influenza virus were detected (25% rhinovirus) and 45% no pathogens was detected (Fig. 4).

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

**Geen paniek door griep.**

Medisch Contact, 2000, nr. 18

ALBERT, J. DE NEELING, WILFRID VAN PELT, CEES HOL, ERIC E.J. LIGTVOET, LUC J. M. SABBE, AAD BARTELD AND JAN D.A. VAN EMBDEN.

**Temporary Increase in Incidence of Invasive Infection Due to Streptococcus pneumoniae in the Netherlands**

CID 1999; 29, December; 1579-80

WILBRINK, B., J.W. DORIGO-ZETSMA, A.I.M. BARTELD, M.J.W. SPRENGER, M.L.A. HEIJNEN.

**Surveillance of respiratory pathogens and influenza-like illnesses in general practices in the Netherlands in winter 1998/99.**

European Society for Clinical Virology, Budapest, Sept. 1999.

DORIGO-ZETSMA, J.W.

**Respiratory infections in Nederland: voorlopige resultaten NIVEL/RIVM surveillance winter 1998/99.**

Infectieziekten Bulletin, 1999, volume 10 no. 6; 119-120

WILBRINK, B., J.W. DORIGO-ZETSMA.

**Respiratory infections in Nederland: Moleculaire diagnostiek.**

Infectieziekten Bulletin, 1999, volume 10 no. 4; 75-78

HEIJNEN, M.L.A., A.I.M. BARTELD, G.F. RIMMELZWAAN, J.W. DORIGO-ZETSMA, J.C. DE JONG, M.J.W. SPRENGER.

**Respiratory infections in Nederland: Update influenza en respiratory syncytial virus in winter 1998/99.**

Infectieziekten Bulletin, 1999, volume 10 no. 2; 81-84

HEIJNEN, M.L.A., J.W. DORIGO-ZETSMA, A.I.M. BARTELD, B. WILBRINK, M.J.W. SPRENGER.

**Surveillance of respiratory pathogens and influenza-like illnesses in general practices. The Netherlands, winter 1997/98.**

Eurosurveillance 1999, 4: 8-4

HEIJNEN, M.L.A., A.I.M. BARTELD, B. WILBRINK, C. VERWEIJ, K. BIJLSMA, H. VAN DER NAT, H. BOSWIJK, A.S. DE BOER, M.J.W. SPRENGER, J.W. DORIG-ZETSMA.

**Surveillance of acute respiratory infections in general practices - The Netherlands, winter 1997/98.**

RIVM, 1999, Report no. 217617 001

To provide insight into the virological aetiology of influenza-like illnesses and other acute respiratory infections, nose/throat swabs were taken by 30 general practitioners of the sentinel surveillance network of the Netherlands Institute of Primary Health Care from a random selection of patients seen for such infections in their consultancies during the 1997/98 winter. The swabs were analysed at the National Institute of Public Health and the Environment for respiratory viruses, Chlamydia pneumoniae and Mycoplasma pneumoniae using viral culture and polymerase chain reaction (PCR) analysis. At least one respiratory pathogen was detected in 52% of the 363 swabs. The most frequently detected viruses were influenza, mainly A(H3N2), and rhinoviruses, occurring in 23% and 21% of the swabs, respectively. Rhinoviruses predominated from September to December 1997, whereas influenza viruses prevailed from January to April 1998. Forty-five percent of respiratory pathogens (74% of the rhinoviruses and 86% of the enteroviruses and respiratory syncytial viruses) were detected by PCR analysis only. Influenza virus was isolated six times more often in swabs from patients with an influenza-like illness (i.e. in 30%) than in swabs from patients with another acute respiratory infection. In 23% of the



patients with influenza-like illness, however, respiratory pathogens other than influenza were detected and in 46% no micro-organisms were detected. Results were compared with those of the five previous winters. Insight into virological aetiology of acute respiratory infections obtained through this surveillance (the only one in the Netherlands carried out among general-practice patients) can contribute to effective prevention and control of such infections. Suggestions to improve the surveillance are offered.

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**Virological NIVEL/RIVM surveillance of respiratory virus infections in the 1996/97 season**  
RIVM, 1999, Report no. 245607 005

TJHIE, JEROEN H.T., R. ROOSEDAAL, A.J.C. VAN DEN BRULE, T.M. BESTEBROER, J.C. DE JONG, M.J.W. SPRENGER, A.I.M. BARTELD, C.M.J.E. VANDENBROUCKE-GRAULS.  
**PCR Detection of Chlamydia pneumoniae and Mycoplasma pneumonia in children with upper respiratory tract infections in general practices in the Netherlands during 1992-1997.**  
Proc. Of the 9<sup>th</sup> Int. Symp. on Hum. Chlamydia Inf., 1998. San Francisco CA, 9410 pp. 51-54

CLAAS, C.J. ERIC, JAN C. DE JONG, AAD I.M. BARTELD et al..  
**Influenza types and patient population.**  
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Ned. Tijdschr. Geneeskunde, 1999; 143(40): 2015-18

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**Het influenzaseizoen 1997/98 en de vaccinsamenstelling voor 1998/99.**

Ned Tijdschr Geneeskunde, 1998; 142(44) : 2423-7

RIMMELZWAAN, G.F., J.C. DE JONG, A.I.M. BARTELD, E.C.J. CLAAS, J.K. VAN WIJNGAARDEN EN A.D.M.E. OSTERHAUS.

**Influenza in het seizoen 1996/97; vaccinsamenstelling voor het seizoen 1997/98.**

Ned Tijdschr. Geneesk., 1997, 141: 1743-7

CLAAS, E.C.J., J.C. DE JONG, A.I.M. BARTELD, G.F. RIMMELZWAAN, J.K. VAN WIJNGAARDEN EN A.D.M.E. OSTERHAUS.

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**Sentinel surveillance of influenza in Europe, 1997/1998.**

Eurosurveillance vol. 3, no. 3 March 1998

## 10 Zanamivir (prescription of)

The availability of neuramidase inhibitors, the new influenza medications, was expected to have an affect on GPs and their practices<sup>1</sup>.

The results of the registration of influenza-like illness (ILI) were also expected to be affected. It is conceivable that if a rise in influenza activity was registered for the 1999/2000 season, Zanamivir would attract public attention. This publicity might encourage people with an influenza-like illness who normally would not have consulted their GP before, because no specific treatment was available, to do so.

This would distort the results of the registration in comparison to previous years. Consequently GPs were asked to register every request for Zanamivir so that this distortion could be measured.

The aim of the questionnaire is to obtain information about the background of the request and whether the request was granted.

Table 10.1 gives the number of persons in 10,000 who requested a prescription for Zanamivir by province group and by degree of urbanization.

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<sup>1</sup> Cox N.J., K. Subbaro. Influenza, *The Lancet* Vol. 354, October 9, 1999, pp. 1277-1282.

Table 10.1 The number of persons in 10,000 who requested a prescription for Zanamivir by province group, by degree of urbanization and for the Netherlands as a whole.

	Province group				Degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
Zanamivir prescription requests	1	2	3	1	2	2	4	2

Most requests for Zanamivir prescriptions were reported in the big cities in the western provinces. All requests were made during the first quarter of 2000. The absolute number of reports was 26. Additional information was obtained regarding 20 of the requests, all of which were granted. Eight of these 20 patients would not have visited their GP had Zanamivir not been available. In fact, not all of these 8 patients were ill at the time of the request.

Zanamivir was prescribed to 3 patients who had medical grounds for vaccination; two of them had been vaccinated and subsequently came down with an influenza-like illness. The third patient had not been vaccinated due to a chicken protein allergy and became ill.

In most cases, the request was made for a practical reason, such as an upcoming marriage or holiday. The wish to shorten the illness in order to reduce time off work was another reason patients gave for their requests.

It appears that the availability of Zanamivir had no effect on the registration of ILI during the 1999-2000 season.

This topic will remain on the weekly return.

## 11 Prescriptions for medical aids by general practitioners

In recent years interest in medical aids has grown considerably under the influence of demographic, social and technological developments. The government is exploring the possibilities of replacing hospital care with home-based care. Medical devices and aids can help people live longer independent lives in the home environment. As a result of technological developments ever more new and improved aids are becoming available on the market.

The costs of medical aids have risen at a higher rate in recent years than the total cost of health care. The cost of extramural medical aids increased by more than 11% between 1990 and 1995. Policy measures are needed to control soaring costs. The lack of numerical data, particularly regarding diagnoses, and of information on the effects of using medical aids is a problem.

GPs have an important role to play in prescribing medical aids in extramural health care. Gaining insight into that role would provide invaluable information about the scope of and variation in the use of medical aids. In most cases, the *Regeling Hulpmiddelen 1996*. (Medical Aids Regulations) govern the provision of medical aids by general practitioners. These regulations stipulate the conditions and grounds that determine whether a patient has a right to a particular medical aid. In many cases health insurers, by virtue of these regulations, require the prescribing physicians to provide a description of the diagnosis.

In many cases a GP may not be the one who initiates the prescription. Requests may come from patients, their family or other carers, such as district nurses, hospital carers, physiotherapists or occupational therapists.

The research questions below were drawn up in 1999 in order to obtain insight into the general practitioner's role:

- 1 What medical aids are prescribed by general practitioners and how often do they prescribe them?
- 2 What conditions do general practitioners prescribe medical aids for and what devices do they prescribe?

- 3 On whose initiative are medical aids prescribed?
- 4 Do GPs justify prescriptions by stating the diagnosis on the prescription, and if so, for which medical aids?

The following categories of aids were distinguished on the weekly returns in 1999:

- aids worn on the body (prostheses/orthoses, wigs, support, stockings, shoe accessories, hearing aids and other care articles);
- medical aids in support of regular daily activities (rollators and other walking equipment, adapted furniture etc.);
- medical aids required for medical treatment/care (syringes, portable external infusion pumps, nutritional preparations, diabetes aids, exhalation equipment etc.).

GPs are asked to report the name of the patient to whom a medical aid is prescribed and to fill in the supplementary questionnaire.

The answers to the research questions from 1999 are addressed in another, extensive report (Nivel, M. Biermans and Dr E. van den Ende).

In 2000 GPs were asked to register authorisations issued for incontinence products only.

General practitioners are thought to base the decision to prescribe incontinence material on a combination of factors. Firstly, the GP considers factors related to the patient, such as form and severity, cause and the extent of the patient's independence in daily life. Secondly, it can be presumed that the GP also takes guidance from the NHG standard and the regulations on incontinence material.

The aim of registering this information is to answer the following questions:

- 1 What forms of incontinence are prescriptions issued for and what is the cause of the incontinence?
- 2 To what extent are the patients who receive prescriptions for incontinence material able to perform regular daily activities?
- 3 Does the GP's treatment include instructions for bladder training and/or pelvis muscle exercises?

This report only indicates the frequency with which GPs write prescriptions for incontinence material. These research questions will be answered comprehensively in another report (M. Dorgelo and Dr E. van den Ende, NIVEL).

Table 11.1 gives the number per 10,000 people for whom a prescription was issued for incontinence material, by province group and by degree of urbanization and for the Netherlands as a whole.

Table 11.1 Number per 10,000 for whom a prescription was issued for incontinence material, by province group and by degree of urbanization and for the Netherlands as a whole, 2000

	Province group				Degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
prescription for incontinence material	15	25	34	25	18	28	29	27

Prescriptions for incontinence material are issued predominately in the western provinces and infrequently in rural areas.

## 11.2 Age distribution

Table 11.2 gives the number (per 10,000 persons) for whom a prescription was issued for incontinence material by age group.

Table 11.2 Number of persons for whom a prescription was issued for incontinence material by age group, per 10,000 people, 2000

age group	Number of patients who received prescriptions for incontinence material
≤1	(27)
1- 4	( 3)
5- 9	( 1)
10-14	8
15-19	(1)
20-24	(1)
25-29	0
30-34	4
35-39	(2)
40-44	6
45-49	19
50-54	18
55-59	22
60-64	37
65-69	43
70-74	107
75-79	185
80-84	276
≥ 85	266

The majority of prescriptions for incontinence material are written for patients of advanced years (> 70). From the age of 45 there is a clear rise in the number of prescriptions.

This topic does not appear on the 2001 weekly returns in this form. In 2001 the registration focuses on medical aids prescribed for walking disorders.

#### **Publications based fully or partly on continuous morbidity registration data**

BIERMANS MARION, JOOST DEKKER, AAD BARTELDIS, ELS VAN DEN ENDE.  
**Het voorschrijven van hulpmiddelen door de huisarts**  
 Nivel, 2000.



## 2 Chickenpox

The request to place chickenpox on the 2000 weekly return came from the project leaders of the 'Health Monitoring in Sentinel Practice Networks' project (Dr D.M. Fleming and Dr F.G. Schellevis). This project is a component of the large-scale EU undertaking: the European Community Health Indicators Project.

The aim of the Health Monitoring in Sentinel Practice Networks project is 'to contribute to the establishment of a Community health monitoring system with information from primary care by studying the feasibility of providing information about health indicators from primary care based sentinel practice networks'. GP networks from six European Member States are participating in this project (B, F, S, P, UK, NL).

The point of departure is that primary health care is in an ideal position to provide information on the following three topics:

- the public health risk of transmittable infectious diseases;
- the incidence and prevalence of chronic diseases; and
- health problems that have significant economic consequences (absence through illness).

Chickenpox is one of the infectious illnesses that can be treated by primary health care providers, in cases where people are unable to handle the situation themselves. Specialised hospital care is only required in cases in which dangerous complications arise, such as Varicella pneumonia or Varicella meningitis, especially among adults.

The registration of chickenpox at CMR Sentinel Stations involves three elements in 2000:

- the registration of patients with chickenpox in the weekly return;
- the collection of information about the incidence of index patient-related cases of chickenpox, in the dwellings of index patients, for which the GP is not consulted;
- the collection of information about the incidence of chickenpox cases for which the GP is not consulted.

This report exclusively contains information about the results of the registration of chickenpox on the weekly returns. Information on the other research questions is published elsewhere (Dr D.M. Fleming and Dr F.G. Schellevis).

The number of chickenpox patients per 10,000 inhabitants is shown in Table 12.1 by province group, by degree of urbanization and for the Netherlands as a whole.

Table 12.1 Number of chickenpox patients per 10,000 inhabitants by province group, by degree of urbanization and for the Netherlands as a whole in 2000

	Province group				Degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
2000	11	17	23	29	21	21	19	20

More than twice as many cases of chickenpox are reported in the southern and western provinces than in the northern provinces: 29 and 23 versus 11 in 10,000. There is less of a distinction in the incidence of chickenpox by degree of urbanization.

## 12.1 Seasonal influences

Patient numbers per 10,000 persons reported by GPs per quarter are given in Table 12.2.

Table 12.2 Number of patients with chickenpox per 10,000 persons per quarter in 2000

	week 1-13	week 14-26	week 27-39	week 40-52
2000	6	7	4	3

The incidence of chickenpox was noticeably higher in the first 26 weeks of 2000 than in the second half of the year.

## 1.2 Age distribution

The incidence of chickenpox in the Netherlands per 10,000 persons is given by age group in Table 12.3.

Table 12.3 Number of cases of chickenpox per 10,000 persons by age group and for the Netherlands as a whole in 2000

age group	≤1	1-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49
2000	298	253	64	5	3	4	4	5	(1)	(1)	(1)

Chickenpox occurs predominately in children under 10, and particularly under 5.

## 1.3 Incidence of chickenpox in several Western European countries

In the first six months of 2000 general practitioners in four countries - England and Wales, Portugal, Spain and the Netherlands - registered the incidence of chickenpox. Inquiries were made into whether other children in a family in which a GP identifies a chickenpox case had chickenpox in the three weeks before or three weeks after the GP was consulted.

The incidence of chickenpox as registered by GPs in several EU countries is given by age group in Table 12.4. The incidence per age group after correcting for cases in which a GP was not consulted is given in Table 12.4.

Table 12.4 Incidence of chickenpox cases (January - June 2000) per 10,000 persons in which a physician was consulted in five sentinel practice networks, by age and total

	0-4	5-14	15+	total all ages
Engeland & Wales	270	44	5	25
The Netherlands	166	22	1	13
Portugal	183	77	4	21
Spain (pais Vasco)	898	151	10	145
Spain (Castilla y León)	344	114	4	57

Table 12.5 Incidence of chickenpox (January - June 2000) per 10,000 persons corrected for extra identified cases in which a physician was not consulted, in five sentinel practice networks, by age group and total (in parentheses: percentage of increase after correction)

	0 - 4	5 - 14	15+	total all ages
Engeland & Wales	311 (15%)	50 (14%)	5 (0%)	28 (12%)
The Netherlands	220 (33%)	30 (36%)	1 (0%)	17 (31%)
Portugal	222 (21%)	92 (19%)	5 (25%)	25 (19%)
Spain (Pais Vasco)	930 (3%)	156 (3%)	10 (0%)	150 (3%)
Spain (Castilla y Leon)	356 (4%)	120 (5%)	4 (0%)	59 (4%)

In England and Wales, Portugal and the Netherlands the incidence of chickenpox is of the same order, varying between 13 and 25 per 10,000. The incidence in Spain, however, is much higher and leads to a considerable difference between the two networks.

The differences between countries persist after the data are corrected to take into account the traced patients who did not seek the assistance of a physician. The Dutch sentinel practice network shows the greatest degree of correction, which implies that Dutch parents take their children to the doctor less frequently when they have chickenpox.

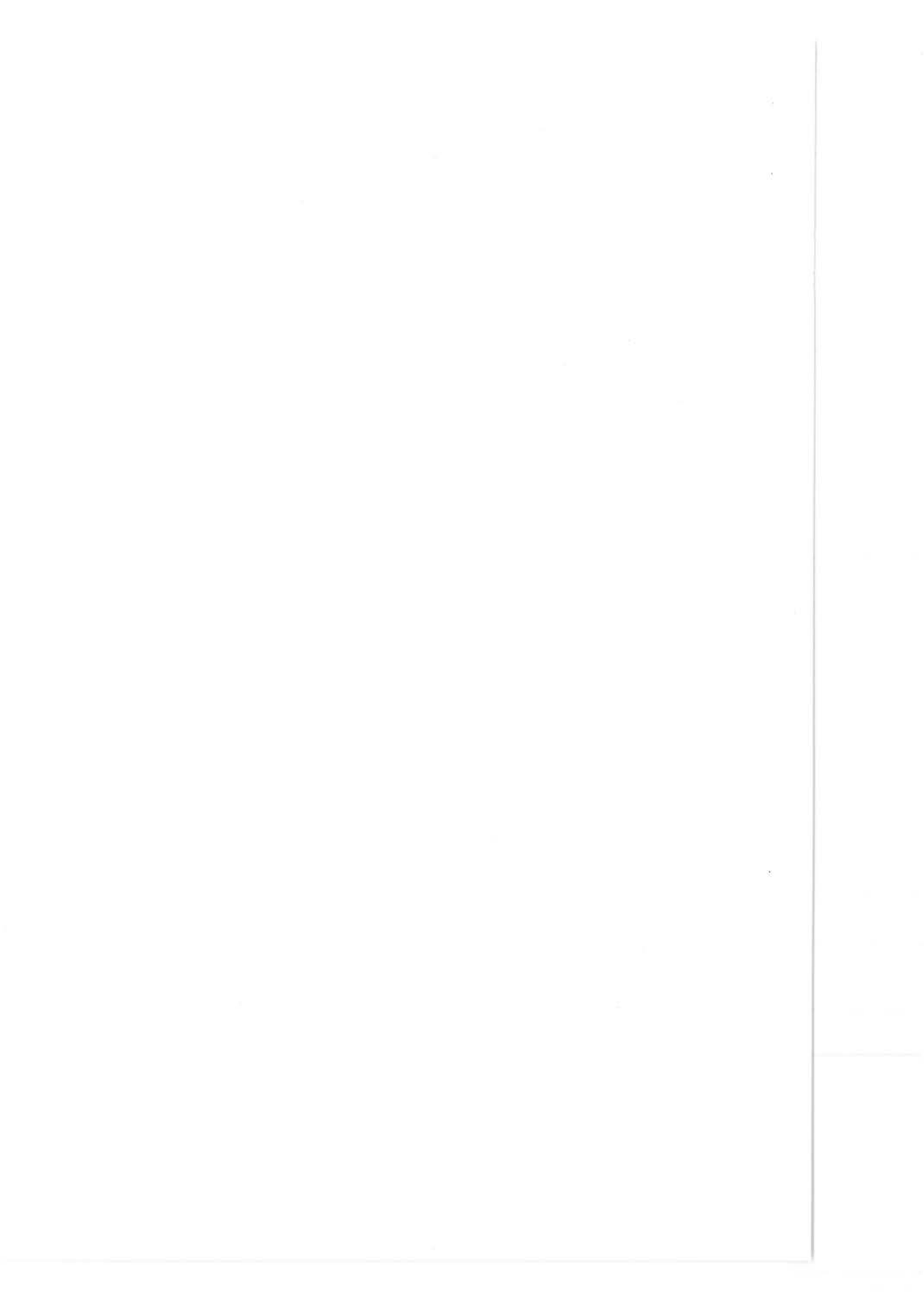
Chickenpox appears on the weekly return in 2001 because the Health Care Inspectorate (Inspectie voor de Gezondheidszorg) requires national statistics on the incidence of chickenpox to aid the decision-making process regarding the introduction of a chickenpox vaccination scheme.

### **Publications based fully or partly on continuous morbidity registration data**

FLEMING, D.M., F.G. SCHELLEVIS, W.J. PAGET.

**Health Monitoring in Sentinel Practice Networks.**

Final Report to the EU, Nivel, 2001



### 3 Depression

In the Netherlands a great deal of research has been done into the incidence of complaints of depression in general practices. In the course of various research projects GPs have been asked to register the incidence of depression among their patients (e.g. during the CMR Sentinel Stations studies from 1983 to 1985) and interviewed about their attitudes concerning the treatment of depressive patients (e.g. Sigling 1989)<sup>1 2</sup>. In addition the interaction between the patient and the GP has been recorded on videotape and studied.

The GP's diagnosis was the focus of the registration of depression on the weekly returns in 2000. The question was to what extent the NHG Standard for Depression was applied by GPs in diagnosing, supervising and treating patients with symptoms of depression. This means that the registration concentrated on incident cases, i.e. cases in which the application of the guidelines in the standard can be monitored from the beginning.

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<sup>1</sup> Sigling, H.O. Depression: a medical problem for the general practitioner? In: Bartelds A.I.M., J. Fracheboud, J. van der Zee (eds). The Dutch Sentinel Practice Network; relevance for public health policy. Utrecht, Nivel, 1989.

<sup>2</sup> Brink WVD, Ommel J. Depressie in de huisartspraktijk. Consequenties voor onderwijs onderzoek en beleid. Tijdschrift voor Psychiatrie, 1993; 35:94-109.

Marwijk HWJ, Zwan AAC, Mulder LDD. De huisarts en depressiviteit van ouderen. Tijdschrift Gerontol Geriart., 1991, 22:129-33.

Ommel J, Koeter MWJ, Brink WVD, Willege G. Recognition. Management and course of anxiety and depression in general practice. Arch Gen Psych, 1991, 48:700-6.

Ommel J, Tiemens BG, Os TWDPV, Meer KVD, Jenner RHSVD. Betere herkenning en behandeling van depressie en soms sneller herstel nascholing van huisartsen. Ned. Tijdschrift Geneeskunde., 1998; 142:252-7.

Tiemens BG, Brink WVD, Meer KVD, Ommel J. Diagnostiek van depressie en angst in de huisartspraktijk H&W, 1998, 41:109-16.

The sentinel physicians were asked to report each new patient diagnosed with depression, providing information about the severity of the depression, further diagnostic tests performed and the supervision method and treatment selected. Each patient was to be registered once.

This report gives information about the incidence of new patients suffering from depression. An extensive report on the data collected about diagnostics, supervision and treatment is published elsewhere (Dr P. Verhaak, Nivel).

Table 13.1 gives the figures for new patients suffering from depression per 10,000 men and per 10,000 women by province group, by degree of urbanization and for the Netherlands as a whole.

Table 13.1: Number of new patients suffering from depression by province group, by degree of urbanization and for the Netherlands as a whole per 10,000 men and per 10,000 women in 1983-1985 and 2000.

	Province group				Degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>men</b>								
1983-85	56	48	39	53	42	37	72	46
2000	20	28	21	38	19	28	25	26
<b>women</b>								
1983-85	109	89	75	102	81	73	145	90
2000	25	33	63	56	31	50	54	48
<b>total</b>								
1983-85	83	69	60	74	61	57	110	69
2000	23	31	43	47	25	39	40	37

In comparison with the period 1983-1985 fewer patients were diagnosed with depression throughout the country and in all subgroups in 2000.



Nearly twice as many women were newly diagnosed with depression in 2000 than men. This corresponds with the data from the period 1983-1985. In 2000 the highest number of new patients diagnosed with depression was reported in the southern provinces. In the northern provinces half as many new patients diagnosed with depression were reported. Just over 15 years ago the northern provinces reported the highest number, and the western provinces the lowest.

GPs reported the lowest number of new patients diagnosed with depression in rural areas. The numbers of patients in the large cities and in urban areas were comparable and clearly higher than in rural areas. In the years 1983-1985 significantly more new patients were reported in the large cities. The numbers for the countryside were lower then and comparable with commuter communities and small cities.

It is outside the scope of this report to compare the registration systems applied in the 1983-1985 period and in 2000. The aim of registration in 1983-1985 differed from that in 2000. Considering that registration took place in the 1983-1985 period only when the severity of the depression moved the GP to take some form of action, the difference in the reported number of new patients diagnosed with depression in the two registration periods is large.

## .1 Seasonal influences

Table 13.2 gives the numbers of new patients diagnosed with depression by quarter.

Table 13.2 Number of new patients diagnosed with depression per 10,000 men and per 10,000 woman, by quarter for all of the Netherlands in 2000

	Week 1-13	week 14-26	week 27-39	week 40-52
<b>men</b>	8	5	5	8
<b>women</b>	14	13	10	12
<b>total</b>	11	10	8	10

The highest number of new patients diagnosed with depression was reported in the first quarter of 2000 (11 per 10,000 inhabitants), and the lowest in the third quarter (8 per 10,000 inhabitants).

## 13.2 Age distribution

Table 13.3 gives the numbers of new patients diagnosed with depression by age group and sex for the Netherlands in 2000.

Table 13.3 Number of new patients diagnosed with depression per 10,000 persons by age group and sex for the Netherlands in 2000

Age group	men	women	total
0- 9	0	0	0
10-14	3	5	4
15-19	23	24	23
20-24	18	44	32
25-29	29	63	47
30-34	23	59	41
35-39	36	57	46
40-44	29	74	51
45-49	32	62	47
50-54	45	75	60
55-59	28	38	33
60-64	42	45	48
65-69	32	61	48
70-74	19	38	30
75-79	44	61	54
80-84	46	77	66
≤ 85	59	78	72

The oldest age groups (80-84 and >85) show the highest figures reported for new patients diagnosed with depression. Above the age of 19 consistently more women are diagnosed with depression than men. The number of female patients reported is relatively high in the age group 40-54. Men aged 50-54 and 60-64 also show a high incidence of depression. No new cases of depression involving children under the age of 10 were reported in 2000.

This topic appears on the weekly return for 2001.

## 4 Herpes Zoster

In a number of European countries sentinel station networks aid epidemiological research in health care. The sentinel physicians collect data in order to monitor defined problems among their patients. After appropriate analysis these data indicate a trend in the incidence of the problem.

The objective of sentinel station networks is to provide some degree of insight into the epidemiology of disease in the population. In this respect it is important to ask whether the data registered by a network of sentinel practices does, in fact, provide an accurate representation of the incidence of disease and problems among the population. Using accurate data about the size of the population in the sentinel practices (i.e. the denominator) can reduce uncertainties on this point.

Carefully maintained practice populations and age and sex records are universally accepted as the most desirable denominator. However, these records are not available in every health care system. To obviate this problem, mathematical models have been developed for estimating the 'population at risk'.

Despite the availability of these models other methods are being sought to assess the population at risk. One of the options is to use an indicator disease. The idea behind this is that when a disorder has a constant incidence rate it is probably possible to use this rate to infer the population at risk.

This idea was developed by D.M. Fleming and K.W. Cross of the Weekly Return Service of the Royal College of General Practitioners in Birmingham (UK)<sup>1</sup>. The next step is to find a disorder that nearly always leads to a visit to the GP, has a relatively constant incidence rate and is simple to diagnose. The study of data collected by the Weekly Return Service over 27 years show that herpes zoster meets these criteria. The next step in determining whether herpes zoster is suitable for use as an indicator

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<sup>1</sup> Fleming, D.M. Cross, Estimating the Population at Risk by Indicator Disease in Comparison and Harmonisation of Denominator Data for Primary Health Care Research in Countries of the European Community. Ed. M. Schlaud, 1999, Amsterdam; pp. 199-121.

disease is to register its incidence in a sentinel station network outside England.

The Dutch CMR Sentinel Stations Network was asked to perform this task. Consequently herpes zoster was added to the weekly return on 1 January 1997. The sentinel physicians were asked to report patients diagnosed with herpes zoster on the weekly returns. The disease is so distinctive that no further description was considered necessary.

Table 14.1 gives the incidence rate of Herpes zoster by province group and degree of urbanization and for the Netherlands as a whole per 10,000 men, per 10,000 women and per 10,000 persons.

Table 14.1 Number of new cases of Herpes zoster by province group and degree of urbanization and for the Netherlands as a whole per 10,000 men, per 10,000 women and per 10,000 persons in 1997-2000

		Province group				Degree of urbanization			Netherlands
		A	B	C	D	1	2	3	
1997	M	7	32	31	23	24	23	35	24
1998		11	33	36	26	32	30	33	28
1999		18	28	36	23	19	29	31	27
2000		21	25	35	41	18	32	40	31
1997	F	12	39	37	29	29	29	40	30
1998		22	32	44	46	41	24	45	37
1999		28	46	43	28	36	36	46	37
2000		26	37	32	46	36	36	31	35
1997	T	10	35	34	26	27	26	38	28
1998		16	32	40	36	36	22	39	33
1999		23	37	39	26	28	32	39	32
2000		23	31	34	43	27	34	36	33

GPs reported slightly more cases of herpes zoster among women than men. This concurs with the findings of the English sentinel practices. At first the number of cases reported by GPs in the northern provinces was remarkably low. The figure increased in 1999 in contrast to the other province groups, and levelled out in 2000. The most densely populated areas report a higher incidence of herpes zoster than rural areas.

## 1.1 Age distribution

Table 14.2 gives the age distribution of the number of new cases of herpes zoster per 10,000 men and per 10,000 women.

Table 14.2 Number of new cases of herpes zoster by age per 10,000 men and per 10,000 women in 1997-2000

age group	Men				Women				Total			
	1997	1998	1999	2000	1997	1998	1999	2000	1997	1998	1999	2000
≤1	-	-	-	-	-	-	(17)	(18)	-	-	(8)	(9)
1-4	(6)	(9)	(9)	(6)	(7)	(16)	(7)	(12)	(7)	(12)	(8)	(9)
5-9	(8)	12	12	16	(8)	22	23	10	8	17	17	15
10-14	(5)	13	8	18	14	10	24	13	9	12	16	15
15-19	13	20	28	20	(11)	23	5	24	12	21	17	22
20-24	18	14	15	35	(8)	13	17	13	13	14	16	23
25-29	15	12	16	20	12	24	24	16	14	18	20	18
30-34	13	30	23	20	13	23	22	22	13	27	22	21
35-39	21	20	30	20	12	13	13	14	17	17	22	17
40-44	32	24	21	34	26	27	27	48	29	25	34	41
45-49	29	41	19	22	40	34	42	31	34	38	30	26
50-54	40	32	28	31	52	43	39	56	46	37	33	44
55-59	31	39	46	45	52	64	74	54	42	51	60	49
60-64	35	55	66	58	52	98	105	55	44	77	86	56
65-69	30	41	57	75	39	71	92	61	35	57	76	68
70-74	81	92	67	53	88	99	102	84	85	96	87	71
75-79	61	59	48	75	77	83	82	91	71	73	66	84
80-84	98	54	94	116	111	90	41	77	106	78	58	91
≥85	(54)	120	58	74	94	92	36	60	82	160	42	64

This registration confirms the known fact that the incidence of herpes zoster increases with age. This finding concurs with that of the English sentinel stations.

The provisional conclusion of the four-year registration is that the incidence rate of herpes zoster is not constant over time. In the first year the rate was lower than in the three subsequent years, when the rate more or less stabilized.

Herpes zoster appears on the weekly return for 2001.

## 5 Diabetes Mellitus: incident patients (NIDDM and IDDM)

The incidence of new patients diagnosed with diabetes mellitus has been a registration topic on the weekly returns of the CMR Sentinel Stations on two other occasions.

Intermittent registration of the incidence rate of a chronic disease is an alternative when, due to space limitations on the weekly return, the incidence of new cases of the disease cannot be monitored continuously.

The third period of monitoring new diabetes mellitus patients began in 2000. The purpose of resuming the registration of this disease was twofold. Not only does the registration of diabetes mellitus fit in the policy of the CMR Sentinel Stations, the data collected in 2000 were also used for the benefit of the EU-funded project 'Health Monitoring in Sentinel Practice Networks'. (See Chapter 12 on Chickenpox).

Sentinel physicians registered new diabetes mellitus patients on the 2000 weekly return. At the end of the year they were asked to register the prevalent patients on 01-01-2001 and to provide additional information for each incident and prevalent patient about diagnostics and the treatment and supervision of diabetes mellitus patients in primary health care.

Table 15.1 gives the numbers of new diabetes mellitus patients per 10,000 men and per 10,000 women by province group and by degree of urbanization and for the Netherlands as a whole in 1990-93 and 2000.

Table 15.1 Number of new diabetes mellitus patients per 10,000 men and per 10,000 women by province group and by degree of urbanization and for the Netherlands as a whole in 1990-93 en 2000

	province group				Degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>men</b>								
1990-93	13	13	18	17	12	15	24	16
2000	16	26	18	35	30	23	17	23
<b>women</b>								
1990-93	13	17	20	17	16	16	24	17
2000	14	21	21	32	26	19	29	22
<b>total</b>								
1990-93	13	15	19	17	14	15	24	17
2000	15	24	20	33	28	21	24	23

Although in 2000, as in the 1990-1993 period, virtually the same number of men as women were reported to have recently been diagnosed with diabetes mellitus in the statistics for the Netherlands as a whole, the province group and degree of urbanization numbers painted a different picture.

Contrary to the three other province groups, in the eastern provinces significantly fewer women than men were reported to have been diagnosed with diabetes mellitus. The disease was found in more women than men in the large cities. In rural areas and urban areas more men than women were diagnosed with diabetes mellitus.

In the southern province group the number of incident diabetes mellitus patients was significantly higher than in the other province groups; the fewest new diabetes mellitus patients were reported in the northern provinces. The incidence of diabetes mellitus was higher in the south than in the northern and eastern provinces in the previous registration period, too. More new diabetes mellitus patients, both male and female, were reported in rural areas than in the big cities and urban areas. This is a remarkable finding in view of the figures for the 1980-1983 and 1990-1993 periods.



## 5.2 Age distribution

Table 15.2 gives the numbers of new diabetes mellitus patients per 10,000 men and per 10,000 women by age group.

Table 15.2 Numbers of new diabetes mellitus patients per 10,000 men and per 10,000 women by age group in 1990-93 and 2000

age group	1990-1993			2000		
	M	F	T	M	F	T
≤9	(1)	(1)	(1)	(2)	(0)	(1)
10-19	(2)	(2)	(2)	(1)	(0)	(1)
20-29	(3)	(3)	(3)	6	(3)	5
30-39	(7)	(3)	(4)	5	7	6
40-49	15	14	14	18	22	20
50-59	37	33	35	52	35	43
60-69	46	49	48	61	53	57
70-79	70	71	71	95	77	85
≥80	61	57	59	71	68	69

The increase in the number of new diabetes mellitus patients begins in the 45-49 age group. It is remarkable that the number of new patients with diabetes is highest among 70-74-year-olds (see Appendix 6). The next age group, 75-79, shows only half the number of cases (see Appendix no. 6).

Diabetes mellitus appears on the weekly return for 2001.



## 16 (Attempted) suicide

In consultation with the Health Care Inspectorate, this topic was added to the weekly return in 1979 and has remained there ever since. Research on suicide is also carried out in other areas (e.g. hospitals) in order to gain insight into the scope, trend and other aspects of suicide and attempted suicide. The name of the topic is also its definition.

At the same time the Health Care Inspectorate made a request for additional data to be collected about the reported cases. To this end a questionnaire was drawn up with the assistance of Dr R.F.W. Diekstra, then professor of clinical psychology at Leiden University. The form included questions about whether the attempt had been successful and about the method employed. Other questions covered contacts with health care institutions prior to the suicide (attempt). For the purposes of this study the primary question is not whether the patient's attempt was successful, but whether the patient intended to commit suicide.

The absolute number of reported cases (which exceeds the number of patients as recurrence is not rare) was, respectively, 95, 80, 76, 71, 61 and 87 in the years from 1995 to 2000.

The number of attempts by province group and degree of urbanization per 10,000 inhabitants is given in Table 16.1. Breaking down the numbers into subgroups is of limited value in view of the low incidence. With regard to the degree of urbanization the highest number of suicide attempts were reported in the large cities consistently until 1999; in 2000 few differences remained.

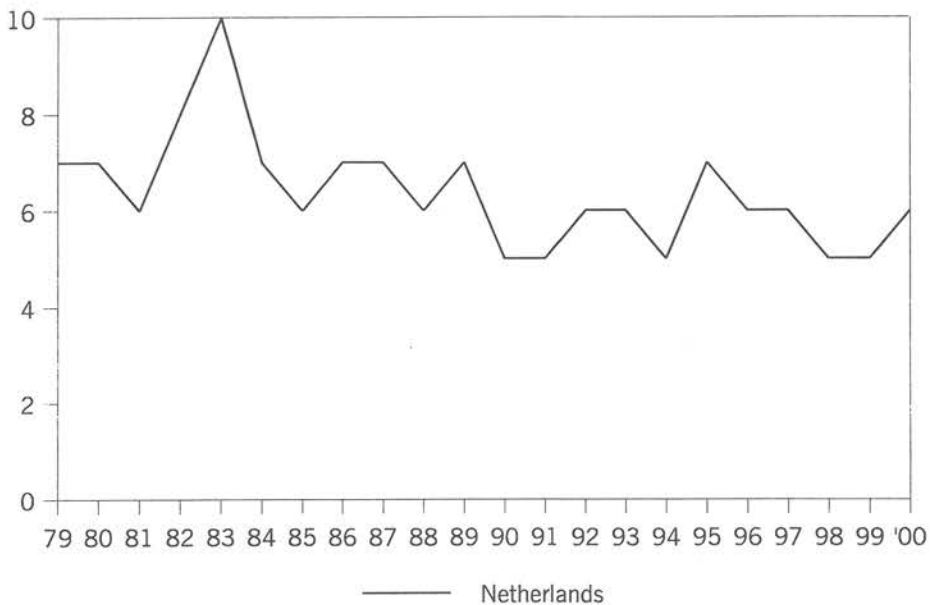
The distribution by province group paints a less consistent picture, possibly due to the small number of cases.

The numbers lend no support to the presumption among some that the incidence of suicide and attempted suicide is rising in the Netherlands.

Table 16.1 Number of (attempted) suicide cases reported per 10,000 inhabitants, by province group, degree of urbanization and for the Netherlands as a whole, 1991-2000

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
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
1995	5	5	7	10	3	7	10	7
1996	6	5	4	9	1	6	7	6
1997	3	3	9	8	3	6	12	6
1998	5	4	6	7	4	4	11	5
1999	2	5	4	7	5	4	8	5
2000	6	7	6	7	7	6	6	6

Figure 16.1 Number of (attempted) suicide cases reported per 10,000 inhabitants for the Netherlands as a whole, 1979-2000



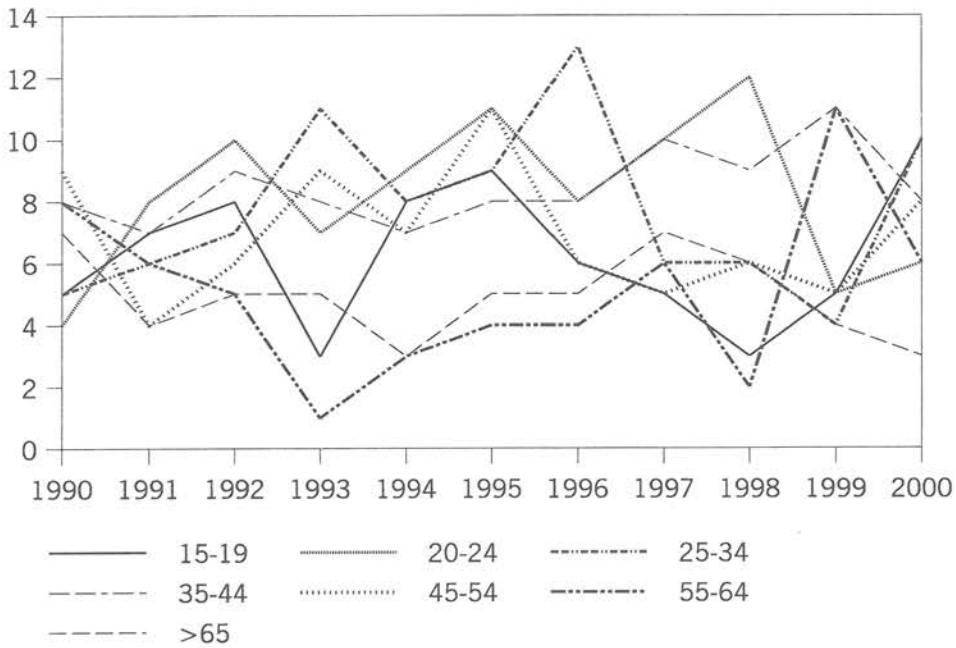
## 6.1 Age distribution

Table 16.2 gives the frequency of suicide and attempted suicide per 10,000 inhabitants, by age group (see also Figure 16.2).

Table 16.2 Number of (attempted) suicide cases reported per 10,000 inhabitants, by age group, 1991-2000

Age group	10-14	15-19	20-24	25-34	35-44	45-54	55-64	≥65
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
1995	-	9	11	9	8	11	4	5
1996	(1)	6	8	13	8	6	4	5
1997	(1)	(5)	10	6	10	5	6	7
1998	-	(3)	12	6	9	6	2	6
1999	(1)	(5)	5	4	11	5	11	4
2000	(5)	10	6	10	8	8	6	3

Figure 16.2 Number of (attempted) suicide cases reported per 10,000 inhabitants by age group, 1991-2000



The breakdown by age groups is also of limited value due to the small absolute numbers, which are susceptible to large fluctuations. The registered data shows that there is no age group in which the incidence rate is particularly high. It is notable, however, that the number of suicides and suicide attempts is consistently low among people aged 65 and older.

This topic appears on the weekly return for 2001.

## 17 Mammography

In 1987 the Health Council (Gezondheidsraad) and the National Council for Public Health (Nationale Raad voor de Volksgezondheid) issued a positive recommendation with respect to nationwide screening for breast cancer by means of mammography. The State Secretary for Health responded by provisionally deciding in favour of introducing nationwide screening from 1990. The definitive positive decision was taken on 29 April 1993. By the beginning of 1994, 40 of the 43 planned screening centres were operational. The national screening programme for women in the 50-69 age group covered the entire country by the spring of 1998. Women in the 70-74 group have been invited (in phases) to take part since 1998.

There are no accurate figures indicating the annual number of mammography examinations in Dutch hospitals. Even less is known about the medical grounds for requesting the tests.

The initial erratic nature of the screening programme, in terms of both the area and the age groups covered, has been resolved now that the programme has been implemented throughout the country, and has been extended to include 70-75 year-olds.

The data provided by the CMR Sentinel Stations will be used to chart "opportunistic screening" by monitoring:

- the number of mammography requests by GPs for women under 50 and over 69 (74 since 1998);
- the number of mammography requests by GPs for women aged 50-69 (74 since 1998), outside the nationwide screening programme.

The point of registration is to determine the scope of mammography requested by general practitioners. A distinction is drawn between first and repeat mammograms. In the nationwide breast cancer screening programme, screening rounds are performed at two-year intervals. The same interval is maintained in this registration procedure. Taking this into consideration, the criterion for distinguishing between a first and a repeat examination is whether the woman concerned has had a mammogram since 1-1-1999. If a woman has had a mammogram at any point since 1-1-1999 and then

has **another** one, the second mammogram should be registered under the subheading 'repeat examination'.

The direction in which images are made during the examination and any enlargements or detailed images taken are irrelevant to the registration. The entire examination is registered as one examination. Neither is it important if one breast or both are examined.

The registration data are made available to a research group commissioned by the Ministry of Health, Welfare and Sport to study the anticipated costs and effects of mass breast cancer screening (project leader Prof. dr P.J. van der Maas, Department of Public Health (Instituut Maatschappelijke Gezondheidszorg), Erasmus University Rotterdam). This research group is also evaluating the actual costs and effects.

Table 17.1 gives the numbers of mammography requests in general practice outside the national screening programme, by province group, degree of urbanization and for the Netherlands as a whole (compare Figures 17.1 and 17.2).

Table 17.1: Number of mammography requests in general practice, by province group, degree of urbanization and for the Netherlands as a whole, per 10,000 women in 1991-2000

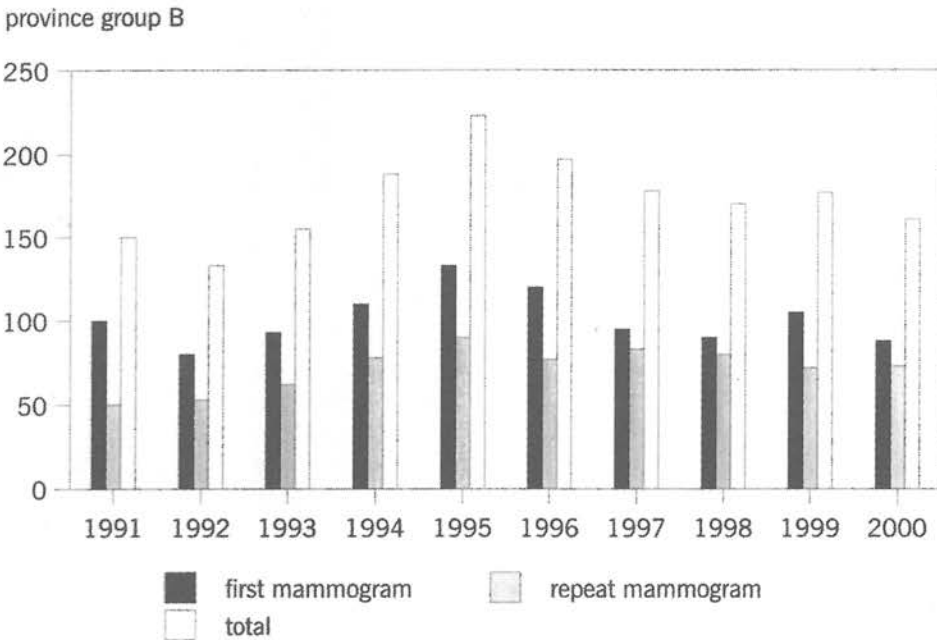
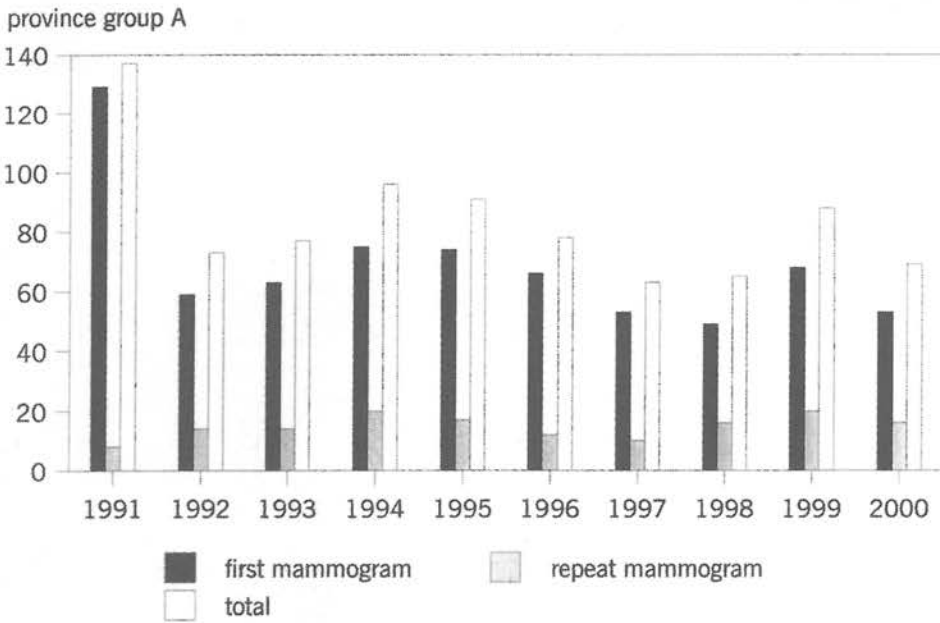
	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>first mammograms</b>								
1991	129	100	93	112	103	92	142	105
1992	59	80	105	101	87	95	90	93
1993	63	93	155	106	105	129	96	117
1994	76	110	116	128	97	119	101	111
1995	74	133	104	104	124	96	124	104
1996	66	120	70	97	104	87	73	87
1997	53	95	95	94	88	83	101	87
1998	49	90	82	108	81	90	61	84
1999	68	105	115	94	93	97	115	99
2000	53	88	80	99	72	84	76	81



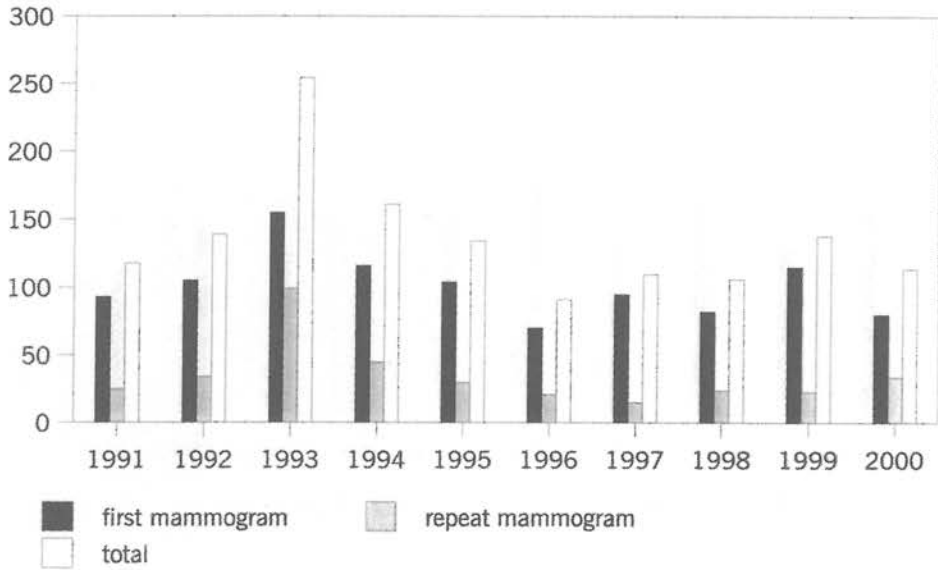
Table 17.1 Number of mammography requests in general practice, by province group, degree of urbanization and for the Netherlands as a whole, per 10,000 women in 1991-2000 (cont.)

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>repeat mammograms</b>								
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
1995	17	90	30	23	63	36	35	39
1996	12	77	21	25	45	33	22	32
1997	10	83	15	32	70	30	16	34
1998	16	80	24	24	24	43	17	36
1999	20	72	23	28	38	37	25	36
2000	16	73	34	35	44	37	52	41
<b>total</b>								
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
1995	91	223	134	127	187	132	159	143
1996	78	197	91	122	149	120	95	109
1997	63	178	110	126	158	113	117	121
1998	65	170	106	132	105	133	78	120
1999	88	177	138	122	131	134	140	135
2000	69	161	114	124	116	121	128	122

Figure 17.1 Number of mammography requests in general practice, by province group, per 10,000 women, 1991-2000



province group C



province group D

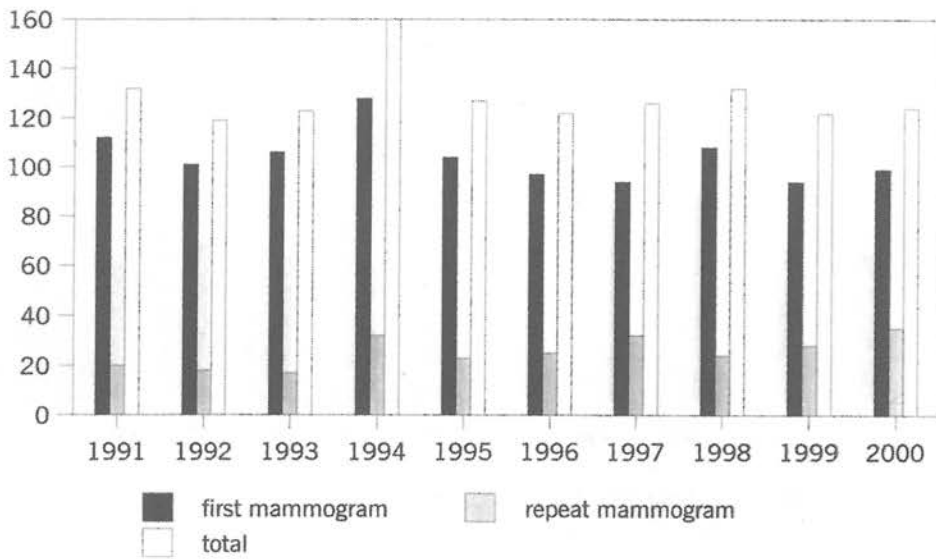
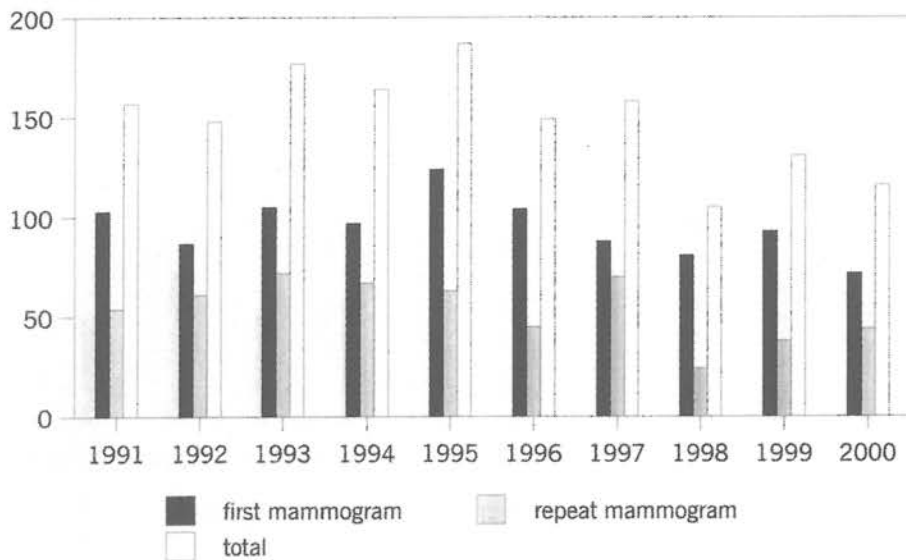
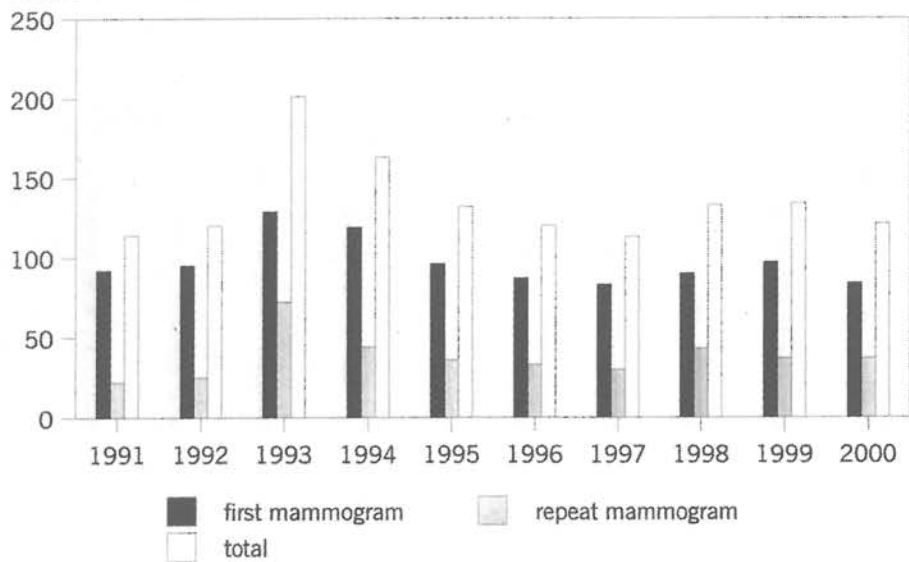


Figure 17.2 Number of mammography requests in general practice, by degree of urbanization and for the Netherlands as a whole, per 10,000 women, 1991-2000

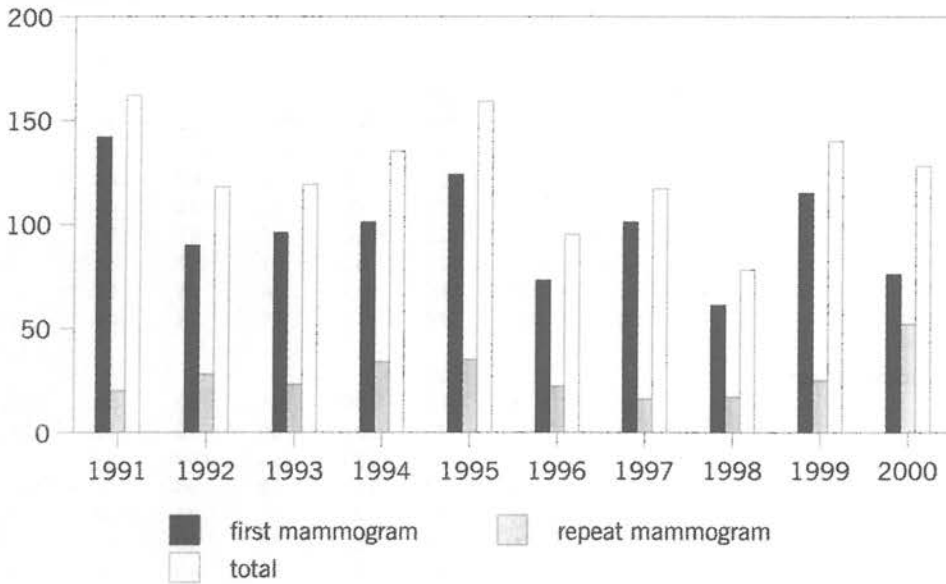
degree of urbanization 1



degree of urbanization 2



degree of urbanization 3



The number of mammograms requested by GPs rose in 1999 and then fell again in 2000. The decrease occurred in first mammograms. As yet no explanation has been found for the strong fluctuations in the number of registered requests for mammograms by GPs from year to year.

A study is being carried out to determine whether these results are in any way affected by the local timing of the introduction of breast cancer screening. The results for the period through 1995 have already been described. The analysis will soon be extended to cover the period 1995-2000 (Dr H.J. de Koning, Erasmus University Rotterdam).

Table 17.2 gives the number of mammograms per 10,000 women, by age group.

Table 17.2 Number of mammography requests in general practice per 10,000 women, by age group for the Netherlands as a whole, 1991-2000

age group	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79
<b>first mammograms</b>										
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
1995	142	207	225	221	208	179	94	89	84	48
1996	126	158	211	200	173	90	60	33	69	54
1997	97	160	214	241	128	114	48	61	96	57
1998	90	150	231	254	125	85	61	57	64	63
1999	121	188	246	295	166	123	64	78	66	53
2000	125	157	203	169	96	110	61	38	65	52
<b>repeat mammograms</b>										
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)
1995	22	69	105	115	104	76	57	26	33	(5)
1996	27	59	87	100	56	51	57	20	29	(14)
1997	27	58	59	99	92	81	48	43	28	(16)
1998	29	61	80	111	78	104	17	43	24	(5)
1999	20	51	101	112	84	64	51	25	20	19
2000	27	71	103	103	86	78	87	14	15	35
<b>total</b>										
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
1995	164	276	330	336	312	255	151	115	117	53
1996	153	217	298	300	228	141	117	53	98	68
1997	124	218	273	340	220	195	96	104	124	73
1998	119	211	311	365	203	189	78	100	88	68
1999	141	239	347	407	250	187	115	103	86	72
2000	152	228	306	272	182	188	148	52	80	87

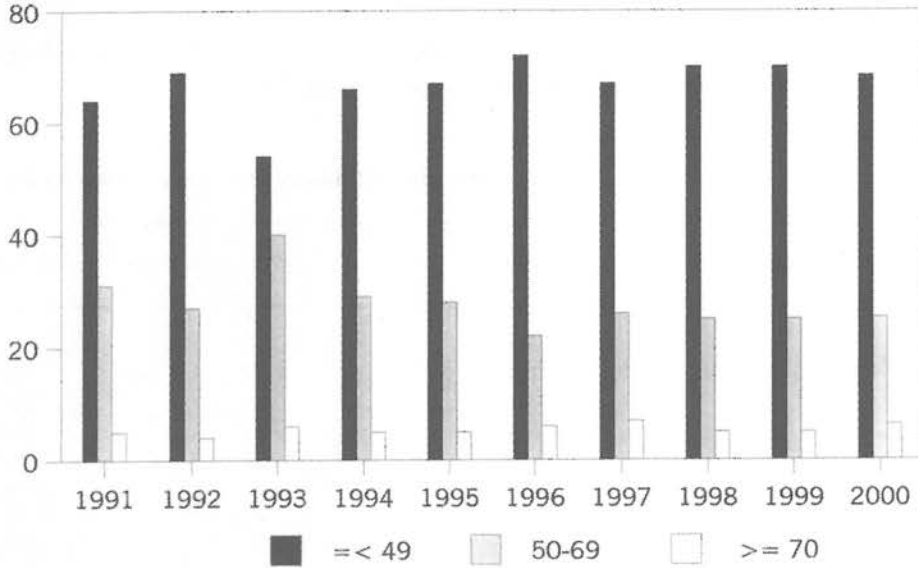
In recent years the majority of mammograms have been requested for women outside the age group targeted by the screening programme. Most of these cases involve women in the 35-49 age group. Mammography is performed relatively infrequently on women over the age of 75.

Table 17.3 Proportional distribution (in percentages) of all mammography requests in general practice over three age groups, 1991-2000

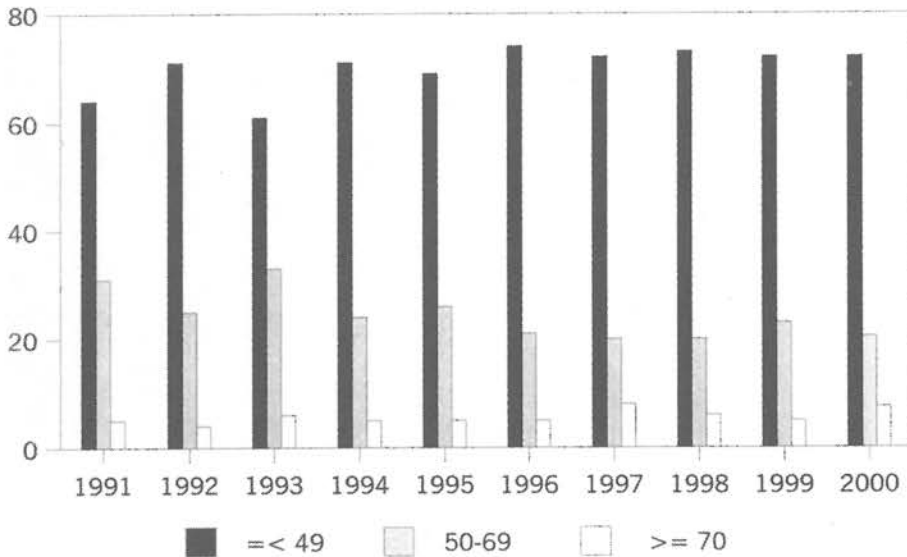
	mammograms age distribution for total number of mammograms			
	≤49	50-69	≥70	total
1991	64	31	5	100
1992	69	27	4	100
1993	54	40	6	100
1994	66	29	5	100
1995	67	28	5	100
1996	72	22	6	100
1997	67	26	7	100
1998	70	25	5	100
1999	70	25	5	100
2000	68	25	6	99
	age distribution for 'first' mammograms			
1991	64	31	5	100
1992	71	25	4	100
1993	61	33	6	100
1994	71	24	5	100
1995	69	26	5	100
1996	74	21	5	100
1997	72	20	8	100
1998	73	20	6	99
1999	72	23	5	100
2000	72	21	8	101

Figure 17.3 proportional distribution (in percentages) of all mammography requests in general practice over three age groups, 1991-2000

age distribution for total number of mammograms



age distribution for first mammograms





This topic does not appear in the weekly return for 2001.

### **Publications based fully or partly on continuous morbidity registration data**

BEEMSTERBOER, P.P.M., H.J. DE KONING, C.W.N. LOOMAN, G.J.J.M. BORSBOOM, A.I.M. BARTELDIS AND P.J. VAN DER MAAS.

**Mammography Request in General Practice During the Introduction of Nationwide Breast Cancer Screening, 1988-1995**

European Journal of Cancer, 1999, vol. 35, no 3 pp. 450-454

Introducing an organised breast cancer screening programme for certain age groups in a population might induce opportunistic screening in adjacent (non-invited) age groups and influence health behaviour in the target population. We analysed the effect of the start of the Dutch national screening programme on the number of mammographies requested by 43-45 general practices for the age groups 30-39, 40-49, 50-69 and 70+, using logistic regression analysis. In all age groups an immediate increase was observed in the number of mammography requests after the start of the screening, which was large and statistically significant in the target population of the screening programme (age 50-69). More than 2 years after the start of screening, the number of mammography requests in all age groups had decreased to the level before the start and in the age group 50-69 the number of mammographies was significantly lower than before the screening started. The unexpected increase in mammographies after the start of the breast cancer screening programme might be related to registry problems or to the process of building up the screening programme. Eventually there was a decrease in the number of mammographies in the target population, probably an effect of the introduction of the national screening programme. Opportunistic screening was not clearly demonstrated in adjacent age groups.

BEEMSTERBOER, P.P.M.

**Evaluation of Screening Programmes. Studies on breast cancer and prostate cancer**

Dissertation Rotterdam, 1999, Chapter 3.



## 8 Urethritis in men

In addition to acute respiratory infections, gastroenteritis and urinary infections, sexually transmitted diseases (STDs) are the most common infectious diseases in the Netherlands. Approximately 20 different pathogens cause a variety of symptoms. The principal illnesses are chlamydia, gonorrhoea, syphilis, herpes, HPV infection, hepatitis B and HIV.

Despite numerous small-scale studies, the epidemiology of STDs in the Netherlands remains partially obscure. Hepatitis B (group B disease) is a notifiable disease, as were gonorrhoea and syphilis (group C diseases) until 1 April 1999. It is recognized that notifiable diseases are frequently under-reported and under-diagnosed. It is debatable whether gonorrhoea is still usable as a tracer disease for all STDs. For chlamydia trachomatis, for example, there appear to be risk groups in addition to the traditional ones.

Insight needs to be acquired into the occurrence of STDs in the Netherlands. Small-scale studies are often of a regional nature and only uncover part of the picture. Sentinel station registration can provide useful additional information. Registration of the clinical picture circumvents the problem of under-diagnosis inherent in pathogen-specific data registration.

General practitioners are asked to report every patient with an acute or sub-acute discharge from the penis accompanied by dysuria. This definition is in line with the one used during the Amsterdam sentinel station project.

GPs may also report under the 'Fear of AIDS' topic any urethritis patients with whom they discussed AIDS during a consultation.

Table 18.1 shows the number of men with urethritis per 10,000 men by province group and degree of urbanization and also the number in the Netherlands as a whole.

Table 18.1 Number of patients with urethritis per 10,000 men, by province group, degree of urbanization and for the Netherlands as a whole, 1992-2000

	province group				degree of urbanization			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
1995	14	40	32	11	43	18	42	26
1996	9	41	21	11	47	15	22	21
1997	12	23	22	11	33	10	34	17
1998	15	16	23	12	18	17	20	17
1999	9	29	25	12	5	20	39	20
2000	19	24	23	17	10	21	31	19

After a decrease in the first half of the 1990s, the national incidence of urethritis has remained fairly constant since 1996, with 17-21 cases per 10,000 men. The decrease in the occurrence of urethritis in rural areas stopped in 2000. In all years prior to 2000, more cases of urethritis were reported in the eastern and western provinces than in other parts of the Netherlands. The difference was less pronounced in 2000 than in the previous years.

The most noteworthy finding to emerge from the registration of urethritis among men is its initially consistently low occurrence in smaller towns and commuter towns. A change occurred in 1999 when, for the first time, its occurrence was the lowest in rural areas. No explanation has as yet been found for this statistic.

## 18.1 Seasonal influences

No significant seasonal differences have been observed.

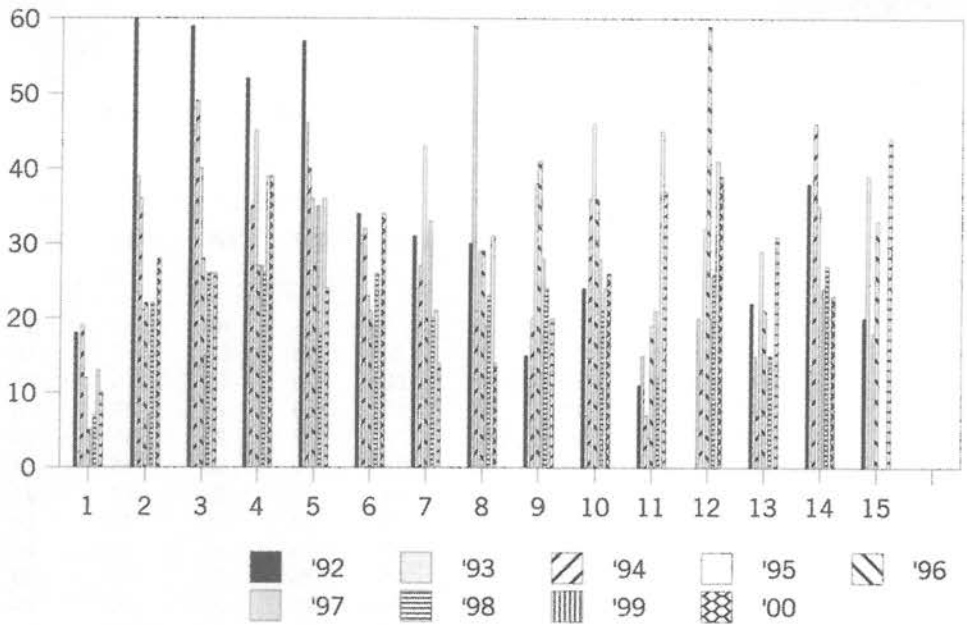
## 2 Age distribution

Table 18.2 shows the age distribution of urethritis patients reported by GPs (also see figure 18.1).

Table 18.2 Number of urethritis patients per 10,000 men, by age group, 1992-2000.

Age group	1992	1993	1994	1995	1996	1997	1998	1999	2000
≤ 15	(0)	-	-	(2)	-	-	(0)	-	(0)
15-19	18	(2)	19	12	(5)	(5)	(7)	13	(10)
20-24	60	39	36	21	22	(7)	22	15	28
25-29	59	45	49	40	28	15	26	26	26
30-34	52	23	35	45	27	27	26	39	39
35-39	57	46	40	36	27	35	18	36	24
40-44	34	31	32	23	21	19	26	12	34
45-49	31	24	27	43	20	33	20	21	14
50-54	30	59	21	29	29	19	23	31	14
55-59	15	(12)	20	38	41	28	24	15	20
60-64	24	(7)	36	46	36	28	21	24	26
65-69	(11)	(15)	(7)	(4)	19	21	12	45	37
70-74	-	(20)	(14)	32	59	(20)	26	41	39
75-79	(22)	(15)	(7)	(29)	(21)	0	15	-	31
80-84	(38)	(13)	(46)	(35)	-	(24)	27	-	(23)
≥ 85	(20)	(39)	-	(18)	(33)	0	0	-	(44)

Figure 18.1 Number of urethritis patients per 10,000 men, by age group, 1992-2000.



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 among males below the age of 15. The majority of patients fall into the 20-44 age bracket.

For the past two years, there has been a high incidence of urethritis among those aged 65-74. A conclusive explanation for this situation has not yet been found.

This topic appears on the weekly returns for 2001.

## 9 Fear of AIDS

As general practitioners in the Netherlands are not often confronted with cases of AIDS and seropositivity, they have little experience of dealing with patients who are seropositive or suffering from AIDS.

Nevertheless some concern about this illness is likely to exist among the Dutch population, despite or perhaps because of the extensive public information campaign. Such campaigns tend to be of a general nature and do not answer every question. One of the reasons why people have questions about the risk of HIV infection may be that many modern relationships involve sexual contact with more than one partner, sometimes concurrently. There is a need to gain insight into these phenomena. The "Fear of AIDS" topic was put on the weekly returns in 1988.

The registration objective is to identify patients' requests for help that indicate concern about or fear of AIDS. The sentinel physicians register only requests made by patients not suffering from AIDS or not confirmed as seropositive. Besides ascertaining to what extent GPs are faced with such requests, the aim is to obtain a picture of the people who make the requests and what action GPs take in response to them

Sentinel physicians are asked to keep a record of each consultation in which they or a patient raised the subject of AIDS. They use a questionnaire to record some additional data about the patient, the reason for the patient's visit, whether the patient requested a test for HIV antibodies, whether the GP granted the request, whether the GP suggested a test for reasons other than the patient's request and, if a test is performed, the result.

GPs are also asked to state any further action they took in relation to the patient or whether a follow-up appointment was scheduled. A detailed report on this additional study is published elsewhere<sup>1</sup>. (J.J. Kerssens and L. Peters, Nederlands Instituut voor Onderzoek van de Gezondheidszorg (netherlands institute for health care Research).

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<sup>1</sup> Kerssens J.J., L. Peters. Angst voor AIDS. Hulpvragen bij de huisarts in de periode 1988 tot en met 1998. Utrecht, NIVEL, 1999.

Table 19.1 Numbers of consultations in which AIDS was discussed, by province group and degree of urbanization and for the Netherlands as a whole, per 10,000 inhabitants, 1991-2000

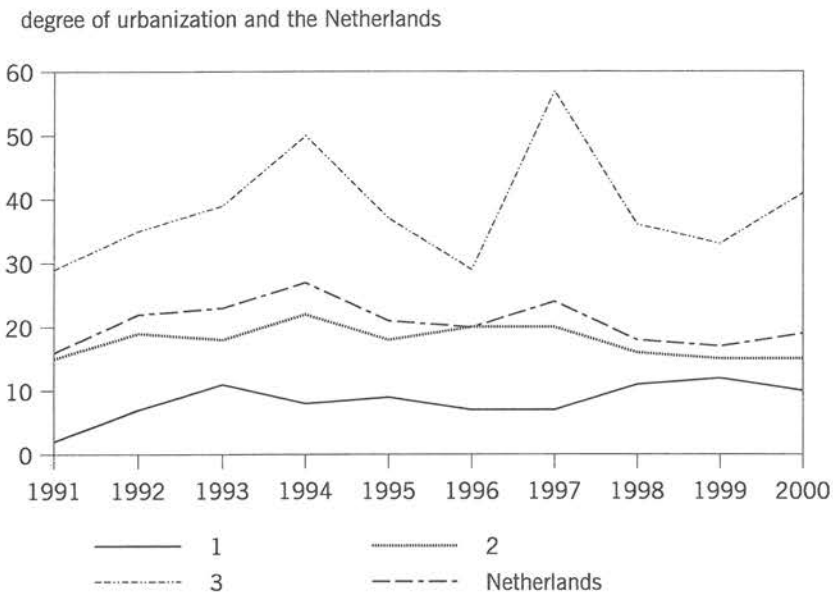
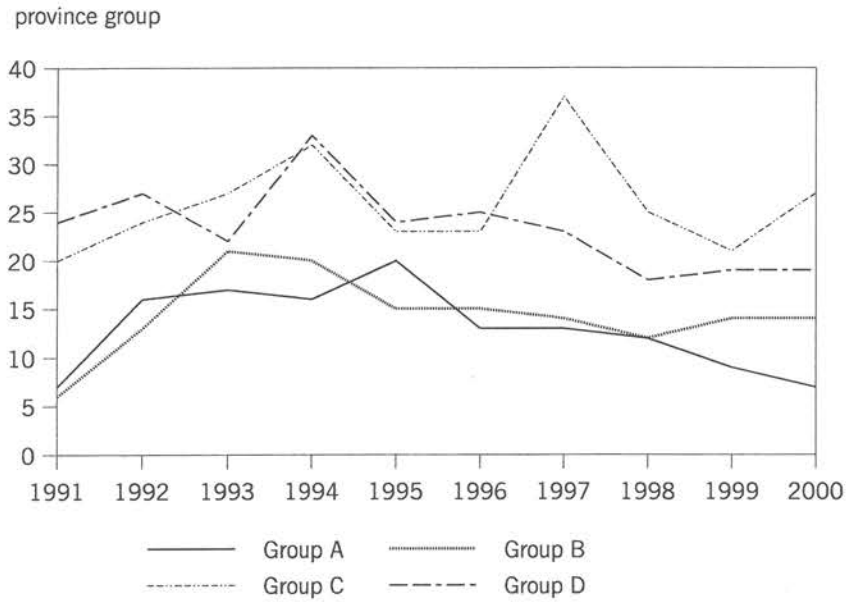
	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
1991	7	6	20	24	2	15	29	16
1992	16	13	24	27	7	19	35	22
1993	17	21	27	22	11	18	39	23
1994	16	20	32	33	8	22	50	27
1995	20	15	23	24	9	18	37	21
1996	13	15	23	25	7	20	29	20
1997	13	14	37	23	7	20	57	24
1998	12	12	25	18	11	16	36	18
1999	9	14	21	19	12	15	33	17
2000	7	14	27	19	10	15	41	19

Initially the number of AIDS consultations remained constant for several years. An increase was recorded in 1992 and continued into 1994. There has been a downward trend since 1995. The number has again been constant since 1998. However, compared with colleagues elsewhere in the country, GPs in the major cities have significantly more consultations in which the subject of AIDS is raised (cf. Figure 19.1). The highest numbers of reports continue to occur in the western provinces and to a lesser extent the southern provinces. The additional data recorded by the GPs show that the number of consultations that included a request for a test for HIV antibodies increased from 131 in 1990 to 321 in 1994. In 2000 a test was requested on 203 occasions.

Although the GPs did not grant every test request, the number of tests performed increased from 121 in 1990 to 259 in 1994. The number in 2000 was 204. The GP was the one who suggested the test in a small number of these cases.



Figure 19.1 Numbers of consultations in which AIDS was discussed, by province group and degree of urbanization and for the Netherlands as a whole, per 10,000 inhabitants, 1991-2000



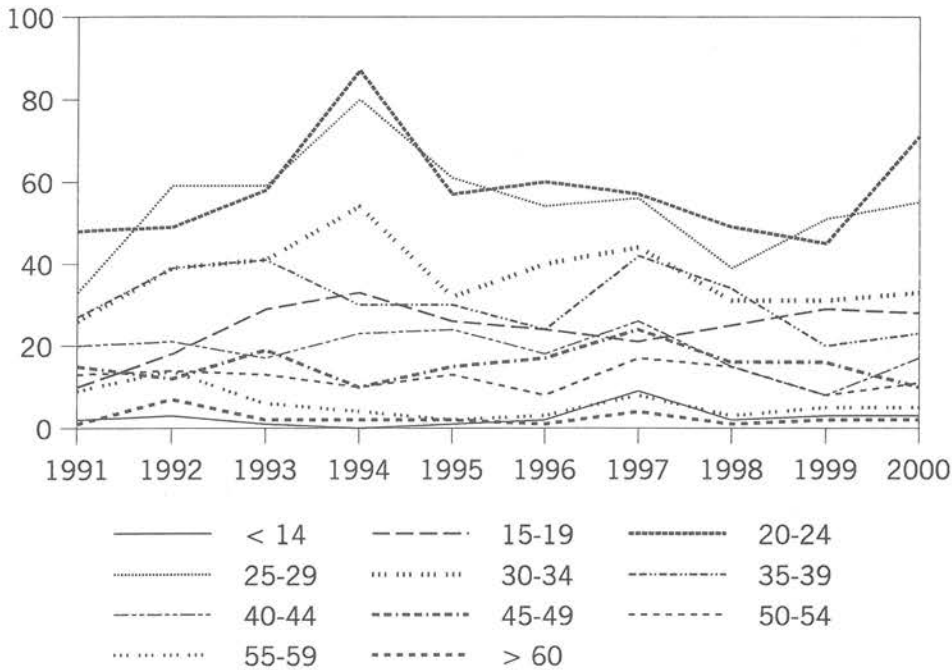
## 19.1 Age distribution

Table 19.2 shows the numbers of consultations in which AIDS was discussed, per 10,000 inhabitants by age group, for both sexes together (cf. Figure 19.2).

Table 19.2 Numbers of consultations in which AIDS was discussed, by age group, per 10,000 inhabitants, 1991-2000

age group	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
≤ 14	(2)	(3)	(1)	-	(1)	(2)	9	(2)	(3)	(3)
15-19	10	18	29	33	26	24	21	25	29	28
20-24	48	49	58	87	57	60	57	49	45	71
25-29	33	59	59	80	61	54	56	39	51	55
30-34	26	39	41	54	32	40	44	31	31	33
35-39	27	39	41	30	30	24	42	34	20	23
40-44	20	21	17	23	24	18	26	15	8	17
45-49	15	12	19	10	15	17	24	16	16	10
50-54	13	14	13	10	13	8	17	15	8	11
55-59	9	14	(6)	(4)	(2)	(3)	(8)	(3)	5	(5)
≥60	(1)	7	(2)	(2)	(2)	(1)	(4)	(1)	(2)	(2)

Figure 19.2 Numbers of consultations in which AIDS was discussed, by age group, per 10,000 inhabitants, 1991-2000



The majority of AIDS-related questions were raised by people in the 20-29 age group. As in 1999 more than 72% of people who went to their GPs to discuss AIDS were in the 20-40 age group. Up to and including 1994 the number of consultations in which AIDS was discussed increased in all age groups between 15 and 35. Starting in 1995 there was a sharp decrease among these age groups. Contrary to this downward trend, there has been a sharp rise in incidence among people in the 20-24 age group.

This topic appears on the weekly returns for 2001.

## Publications based fully or partly on continuous morbidity registration data

KERSSENS, J.J., L. PETERS.

**Angst voor AIDS: hulpvragen bij de huisarts in de periode van 1988 tot en met 1999.**

Utrecht, NIVEL 2000

KERSSENS, J.J., L. PETERS.

**Hulpvragen bij de huisarts in de periode 1988 tot en met 1998.**

Utrecht, NIVEL 1999

ROS, C.C., J.J. KERSSENS, M. FOETS AND L. PETERS.

**Trends in HIV-related consultation in Dutch general practice.**

International Journal of STD & AIDS, 1999; 10: 294-299

KERSSENS, J.J., L. PETERS.

**Tien jaar vragen over HIV en AIDS bij de huisarts.**

Aidsestrijding, 1998, No. 42, p. 10-12

Except for a few doctors in Amsterdam and Rotterdam, Dutch GPs are confronted only occasionally with AIDS patients and seropositivity. They have limited experience of providing care to HIV-infected clients and patients who have AIDS. Nevertheless GPs are well placed to help prevent and advise on HIV. A GP is usually familiar with the patient's background, is able to answer questions in a one-to-one conversation and can respond to a patient's concerns about AIDS and seropositivity. The results of therapy have improved in cases where treatment is provided early. Therefore, it is becoming increasingly important for GPs to be able to make a good assessment of the need for an HIV test.

### Action by GPs

The number of requests made to GPs for AIDS-related help between 1988 and 1998 shows that in most respects the last year of this period was much the same as the earlier years. There were no abrupt changes in the number of AIDS-related requests for help or in the number of appointments made for an HIV test. In the short term at least, the availability of improved medication has not significantly altered the number of AIDS-related requests for help made to Dutch GPs by patients who are not seropositive or not confirmed as being seropositive. Coutinho considers the benefits of early treatment to be so great now that doctors should mention the new treatment possibilities to patients who belong to a high-risk group but have not yet been tested. As 90% of contacts occur on the initiative of the patient, this policy has apparently not yet been adopted in general practice in the Netherlands. GPs continue to act reactively when it comes to AIDS. The subject of testing is seldom raised, even though the disinclination towards testing disappeared several years ago. This situation is by no means confined to the Netherlands. GPs are well aware of the risk factors and are of the opinion that they are adhering to the guidelines for recommending an HIV test. In reality, however, the situation is less satisfactory. English GPs apparently find it difficult to talk about an HIV test or about unsafe sexual behaviour. Similarly, American doctors routinely fail to raise the subject of an HIV test when talking to patients with unsafe sexual behaviour. Consequently, many people in the United States who have been exposed to risks in the past remain untested. Reality does not confirm the positive impression that doctors have of their screening capacity. The situation in the Netherlands is probably not different.

KERSSENS, J.J., L. PETERS.

**Angst voor AIDS: hulpvragen bij de huisarts in de periode van 1988 tot en met 1997.**

Nivel, July 1998, Utrecht

ROS, C.C., J.J. KERSSSENS, M. FOETS, L. PETERS.  
**Vragen over AIDS bij de huisarts in de periode 1988-1996**  
Nivel, April 1997, Utrecht

MOONS, MARIAN A.W., LOE PETERS, AAD I.M. BARTELDLS, JAN J. KERSSSENS  
**Concerns about AIDS in general practice.**  
BMJ, 1996; 312: 285-6

CASTEREN, VIVIANE VAN, HENK VAN RENTERGHEM, JOACHIM SZECSENYI.  
**Data collection on Patterns of demands for HIV-testing and other HIV/AIDS-related consultations in general practice. surveillance networks in various European Countries.**  
DG V Project "Europe Against AIDS". September 1995.



## 0 Acute gastroenteritis

Gastroenteritis is among the top ten illnesses in the Netherlands in terms of incidence. It is an illness that places a considerable burden on the primary health care system. Gastroenteritis was put back on the weekly returns in the Netherlands in 1996. It had previously been a topic in 1992 and 1993.

The objectives of the research up to and including 1999 were to:

- 1 follow trends in the incidence of gastroenteritis and the strain it places on the health care system, based on additional patient checks carried out between May 1996 and May 1999;
- 2 follow trends in the incidence of campylobacteriosis and salmonellosis in connection with implementation of the National Zoonoses Plan;
- 3 determine the extent of the burden on the health care system caused by specific pathogens.

The topic was placed on the weekly returns in 2000 to pursue the first of the objectives mentioned above. The results of the research into objectives 2 and 3 are reported elsewhere (Centre for Infectious Diseases Epidemiology, of the National Institute of Public Health and the Environment (RIVM) Ms M.A.S de Wit and Dr Y. van Duijnhoven).

Sentinel physicians are asked to report on persons with a new episode of gastroenteritis. A new episode is defined as the patient being seen for the first time during the current episode and who had no complaints for at least 14 days following an earlier report. Patients who consult their GP solely by phone are not reported on the weekly returns.

The sentinel physicians adhere to the following definition of gastroenteritis:

- thin bowel movements three or more times a day, differing from the normal situation for the person concerned, or;
- thin bowel movements and two of the following symptoms: fever, vomiting, nausea, stomach-ache, stomach cramps, blood or mucus in the motions;

- vomiting and two of the following symptoms: fever, nausea, stomach ache, blood or mucus in the stool.

Table 20.1 shows the number of reports of acute gastroenteritis, by province group and degree of urbanization and for the Netherlands as a whole.

Table 20.1 Numbers of cases of acute gastroenteritis by province group and degree of urbanization and for the Netherlands as a whole, per 10,000 men and per 10,000 women, 1992-1993 and 1996-2000

		province group				degree of urbanization			Netherlands
		A	B	C	D	1	2	3	
1992	Men	38	40	52	112	38	59	82	62
1993		32	53	49	88	31	53	80	56
1996		39	47	49	66	40	51	56	51
1997		26	54	68	51	29	51	85	52
1998		27	89	81	46	55	61	97	64
1999		26	111	67	53	52	65	95	67
2000		41	197	102	85	66	85	131	90
1992	Women	35	53	52	97	43	57	74	60
1993		34	55	42	69	34	45	71	50
1996		43	79	63	88	81	69	62	69
1997		25	64	68	59	48	52	89	57
1998		24	79	85	56	61	60	99	65
1999		22	109	84	66	76	66	117	74
2000		46	104	97	106	77	90	112	92



Table 20.1 Numbers of cases of acute gastroenteritis, by province group and degree of urbanization and for Netherlands as a whole, per 10,000 men and per 10,000 women, 1992-1993 and 1996-2000 (cont.)

		province group				degree of urbanization			Netherlands
		A	B	C	D	1	2	3	
1992	Total	37	47	52	104	41	48	78	62
1993		33	54	46	78	32	48	76	53
1996		41	63	56	77	60	60	59	60
1997		26	59	68	55	38	51	87	54
1998		26	84	83	51	58	60	98	65
1999		24	110	76	59	64	66	107	71
2000		44	105	99	96	71	87	121	91

The reported number of gastroenteritis cases in the 1996-1999 period was approximately at the same level as recorded in 1992-1993. A higher number of gastroenteritis patients were reported in 2000. In 1996-1999 more women than men were reported with gastroenteritis, i.e. 57-74 versus 51-67, respectively, per 10,000 women and per 10,000 men. In 2000, as in 1992 and 1993, this difference was less pronounced.

The number of gastroenteritis reports from the eastern province group has been rising since 1998. The highest number of reports again came from the eastern part of the Netherlands in 2000. In the southern and northern provinces, there were fewer reports in 1997 than in 1996. Since 1997 the number has remained more or less constant.

There was an increase in all province groups in 2000. The major cities have reported faster rising numbers of cases of gastroenteritis than the other two urbanization groups over all years.

## 1 Age distribution

Table 20.2 shows the data on gastroenteritis patients reported by the GP (see figure 20.1).

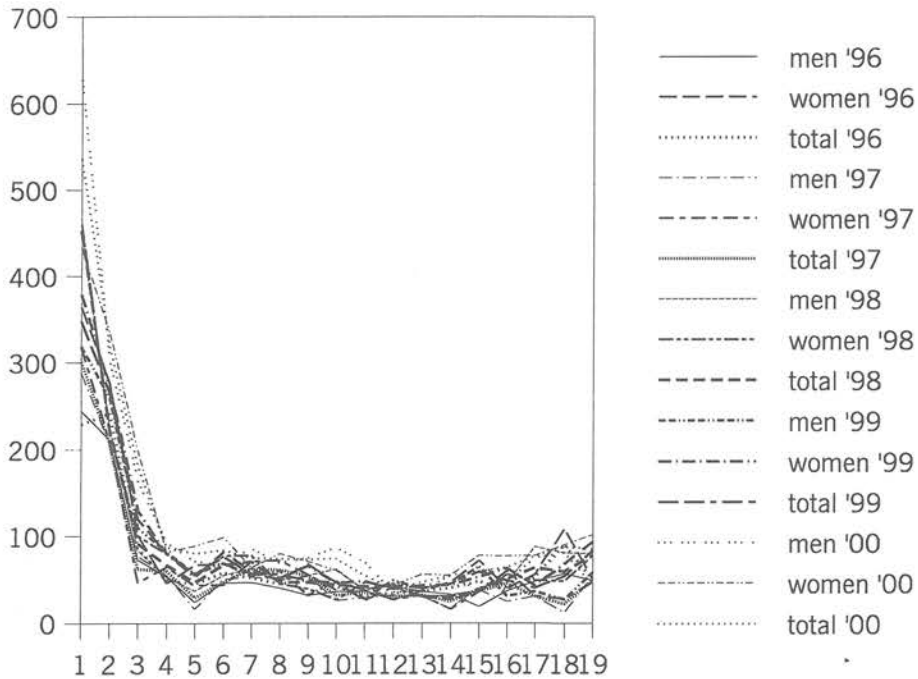
Table 20.2 Numbers of reports of acute gastroenteritis, per 10,000 men and per 10,000 women, 1996-2000

age group	Men					Women				
	1996	1997	1998	1999	2000	1996	1997	1998	1999	2000
≤1	244	288	447	319	628	364	317	460	379	432
1-4	211	206	226	259	302	276	208	217	271	335
5-9	73	77	84	110	164	102	47	101	130	198
10-14	53	55	53	82	93	46	65	80	80	82
15-19	24	16	37	57	71	67	43	57	53	89
20-24	46	51	55	69	68	68	44	77	82	99
25-29	47	53	63	54	86	57	71	78	60	64
30-34	40	50	49	60	69	50	72	45	52	80
35-39	32	54	55	32	75	68	56	39	66	71
40-44	36	26	62	48	87	47	38	27	46	61
45-49	37	29	37	28	70	26	42	47	48	39
50-54	27	32	46	49	35	41	27	40	39	44
55-59	35	31	30	39	37	36	32	30	43	56
60-64	33	32	17	45	55	47	16	31	44	55
65-69	19	38	41	65	37	72	36	36	53	78
70-74	37	25	46	31	48	40	60	56	63	77
75-79	48	31	88	36	75	56	31	49	43	78
80-84	57	(12)	81	27	81	109	28	48	68	90
≥85	49	54	80	58	44	51	47	77	94	102

Table 20.2 Numbers of reports of acute gastroenteritis, per 10,000 men and per 10,000 women, 1996-2000 (cont.)

age group	1996	Total 1997	1998	1999	2000
≤ 1	229	301	453	348	536
1- 4	242	207	222	265	318
5- 9	87	62	92	120	180
10-14	49	60	67	81	87
15-19	45	29	47	55	80
20-24	58	47	67	76	84
25-29	52	62	71	57	75
30-34	45	61	47	56	74
35-39	50	55	47	49	73
40-44	42	32	44	47	74
45-49	32	35	42	38	55
50-54	34	30	43	44	39
55-59	36	32	30	40	47
60-64	40	25	28	45	55
65-69	48	37	38	59	59
70-74	38	45	51	49	64
75-79	53	31	64	40	77
80-84	90	22	59	54	87
≥ 85	50	49	78	84	85

Figure 20.1 Numbers of reports of acute gastroenteritis by age group, per 10,000 men and per 10,000 women, 1996-2000



Age group					
1= ≤1	2= 1-4	3= 5-9	4=10-14	5=15-19	6=20-24
7=25-29	8=30-34	9=35-39	10=40-44	11=45-49	12=50-54
13=55-59	14=60-64	15=65-69	16=70-74	17=75-79	18=80-84
19= ≥85					

In both registration periods, most cases of acute gastroenteritis were diagnosed among babies and 1-4 year olds. In contrast with 1992 and 1993, a significantly higher incidence occurred among 5-9 year olds than among the 10-80 age groups in the 1996-2000 period. There was little difference in incidence among the 10-80 age groups in the 1996-2000 period. A striking increase in incidence occurred in 2000 in the number of babies below age 1 and in the number of 1-4 year-olds. To a lesser extent there was also an increase in incidence among 5-9 year olds.

## 2.2 Seasonal influences

Table 20.3 shows the numbers of cases of acute gastroenteritis by season of the year.

Table 20.3 Numbers of reports of acute gastroenteritis by quarter, per 10,000 inhabitants, 1997-2000

quarter	1	2	3	4	total
1997 Men	10	13	20	10	53
1998	20	10	17	17	64
1999	17	14	18	18	67
2000	22	25	20	25	90
1997 Women	12	15	19	11	57
1998	20	12	16	18	66
1999	21	17	22	15	75
2000	24	25	21	24	92
1997 Total	11	14	19	11	55
1998	20	11	16	17	66
1999	19	15	20	16	70
2000	23	25	20	25	91

The highest incidence usually occurs in the first or third quarter of a year. In contrast the highest incidences in 2000 occurred in the second and fourth quarters. Differences between the seasons are generally small.

This topic appears on the weekly returns for 2001, but in an amended form.

## **Publications based fully or partly on continuous morbidity registration data**

WIT DE M.A.S., M.P.G. KOOPMANS, L.M. KORTBEEK, N.J. VAN LEEUWEN, A.I.M. BARTELD, Y.T.H.P. VAN DUIJNHOFEN.

### **Gastroenteritis in Sentinel General Practices, the Netherlands**

Emerging Infectious Diseases, January 2001, Vol. 7, No. 1.

From 1996 to 1999, the incidence of gastroenteritis in general practices and the role of a broad range of pathogens in the Netherlands were studied. All patients with gastroenteritis who had visited a general practitioner were reported. All patients who had visited a general practitioner for gastroenteritis (cases) and an equal number of patients visiting for nongastrointestinal symptoms (controls) were invited to participate in a case control study. The incidence of gastroenteritis was 79.7 per 10,000 person years. *Campylobacter* was detected most frequently (10% of cases), followed by *Giardia lamblia* (5%), rotavirus (5%), Norwalk-like viruses (5%) and *Salmonella* (4%). Our study found that in the Netherlands (population 15.6 million), an estimated 128,000 persons each year consult their general practitioner for gastroenteritis, slightly less than in a comparable study in 1992 to 1993. A pathogen could be detected in almost 40% of patients (bacteria 16%, viruses 15%, parasites 8%).

WIT DE M.A.S., M.P.G. KOOPMANS, L.M. KORTBEEK, W.J. VAN LEEUWEN, J. VINJE, A.I.M. BARTELD, Y.T.H.P. VAN DUIJNHOFEN.

### **Interim report of a study on gastroenteritis in sentinel practices in the Netherlands (NIVEL) 1996-1999.**

Results of the first two years.

RIVM, Bilthoven, January 1999 Report No. 216852003.

GOOSEN, E.S.M., A.M.M. HOOGENBOOM-VERDEGAAL, A.I.M. BARTELD, M.J.W. SPRENGER, M.W. BORGdorFF.

### **Incidentie van gastro-enteritis in huisartsenpeilstations in Nederland, 1992-1993.**

RIVM, 1995, Report No. 149101012.

GOOSSEN, E.S.M., A.M.M. HOOGENBOOM-VERDEGAAL, A.I.M. BARTELD, M.J.W. SPRENGER, M.W. BORGdorFF.

### **Incidentie van gastro-enteritis in huisartsenpeilstations in Nederland, 1992-1993.**

Infectieziekten Bulletin, 1995, No. 4

## 2.1 Prostate complaints

Early detection of common forms of cancer is desirable as prompt treatment may avert further deterioration. Although prostate cancer occurs frequently among men, screening for this form of cancer remains a controversial subject. The effects of early detection need to be studied before introducing mass screening for cancer.

The Social Health Care Institute of Erasmus University in Rotterdam is helping to evaluate a randomized study into the effects of detecting prostate cancer at an early stage. Early detection is possible through rectal touch, transrectal ultrasonography by a urologist and a PSA blood test.

A GP can perform a rectal touch and may request a PSA test. For proper evaluation of the effect of early detection of cancer, it is necessary to chart how often a GP performs a rectal touch or requests a PSA test in a situation without screening. The recording of data by CMR sentinel stations is a good way of obtaining insight into these matters.

Sentinel physicians are asked to report all rectal touches that they perform and all PSA tests that they request for the purpose of determining prostate problems. They are also asked to report instances where these steps result in the referral of a patient with suspected prostate cancer.

Table 21.1 shows the number of times that GPs performed a rectal touch, requested a PSA test and (based on the results of these actions) referred a patient with suspected prostate cancer to a urologist. The figures are presented per 10,000 men by province group and degree of urbanization and for the Netherlands as a whole.

Table 21.1: Numbers of rectal touches, requested PSA tests and referrals for suspected prostate cancer by province group and degree of urbanization and for the Netherlands as a whole, per 10,000 men, 1997-2000

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>rectal touch</b>								
1997	64	144	147	97	164	100	147	116
1998	45	120	167	105	124	107	170	117
1999	46	102	124	99	84	91	153	98
2000	44	75	89	105	62	34	84	80
<b>PSA test</b>								
1997	26	113	85	90	134	70	78	81
1998	33	109	103	69	121	71	105	83
1999	42	111	108	62	151	63	123	84
2000	35	130	84	92	184	69	90	89
<b>referral</b>								
1997	7	12	11	7	15	8	12	9
1998	7	19	20	7	24	12	14	14
1999	3	18	14	5	15	11	17	11
2000	5	16	12	8	8	12	11	11

Each year the northern provinces reported the lowest numbers of rectal touches and PSA tests. They also had a lower number of referrals.

Significant differences exist between the degree of urbanization groups as regards the numbers of rectal touches and PSA tests. A shift has occurred in the examination of prostate complaints, i.e. rectal touches were performed less frequently in the 1997-2000 period, while the number of requested PSA tests increased. The number of referrals for suspected prostate cancer is relatively constant.



## 1.1 Age distribution

Table 21.2 shows the age distribution of men who underwent a rectal touch, for whom a PSA test was requested and who were referred with suspected prostate cancer.

Table 21.2 Numbers of men who underwent a rectal touch, for whom a PSA test was requested and who were referred, per 10,000 men by age group, 1997-2000

age group	rectal touch				PSA test				referral			
	1997	1998	1999	2000	1997	1998	1999	2000	1997	1998	1999	2000
≤15	-	(5)	-	(5)	-	-	-	-	-	-	-	-
15-19	(3)	7	(3)	(3)	(3)	(2)	-	-	-	-	-	-
20-24	11	7	-	(3)	-	-	-	(3)	-	-	-	-
25-29	15	(2)	(5)	7	-	-	(3)	-	-	-	-	-
30-34	27	21	28	20	(2)	(5)	(4)	6	-	-	-	-
35-39	39	31	21	15	12	(4)	11	7	-	-	-	-
40-44	59	52	48	32	17	18	23	25	-	-	(2)	(4)
45-49	112	94	61	58	62	53	28	64	(4)	(2)	(2)	-
50-54	252	151	101	105	138	101	94	136	(3)	(2)	(2)	12
55-59	326	281	254	200	245	194	260	219	16	33	18	17
60-64	347	419	372	282	333	357	316	380	25	48	49	26
65-69	453	523	438	366	381	365	421	444	55	81	45	67
70-74	505	672	526	304	308	477	397	420	86	103	72	96
75-79	428	374	380	342	321	440	416	299	69	103	93	50
80-84	390	578	442	301	463	349	416	277	61	134	54	58
≥85	144	321	155	236	162	361	214	281	(0)	20	78	44

Examination of prostate complaints occurs more systematically from the age of 45-49 upwards. The initial examination is usually in the form of a rectal touch. From the 55-59 age group upwards, there are relatively more requests for a PSA test. Referral of patients with suspected prostate cancer increases notably from the 60-64 age group upwards.

In 1997 approximately 4.5% of men in the 60-80 age bracket underwent a rectal touch. The corresponding figure in 1998 was 5% and in 1999 it was 4.3%. In 2000 GPs reported significantly fewer patients (3.4%) who had undergone a rectal touch. In 1997 approximately 3.4% of the men had a PSA test, compared with 4% in 1998

and 3.8% in 1999. The figure in 2000 was again 4%. The number of men in the 60-80 age bracket referred with suspected prostate cancer increased from 0.5% in 1997 to 0.8% in 1998. In 1999 the number decreased to 0.6%. In 2000 the percentage was the same as it was in 1999.

The prostate complaints topic appears on the weekly returns for 2001.

### **Publications based fully or partly on continuous morbidity registration data**

BEEMSTERBOER, P.P.M.

**Evaluation of Screening Programmes. Studies on breast cancer and prostate cancer**  
Dissertation, Rotterdam, 1999 (Chapter 6).

## 2 Whooping cough

Vaccination against whooping cough (*Bordetella pertussis*) is part of the national vaccination programme in the Netherlands, which has a degree of high coverage (>96%).

Surprisingly whooping cough re-emerged in a number of outbreaks in 1989-1990, 1993-1994 and 1996-1997. A detailed analysis revealed that the proportion of vaccinated persons among the indicated cases of whooping cough had increased<sup>1</sup>. The data used for the analysis consisted of mandatory notifications of the Health Care Inspectorate, hospital admissions registered by SIG Care Information, sera diagnosis by RIVM and *Bordetella* isolation recorded by the Regional Laboratories.

Information from general practice was unavailable or untraceable in other sources. However, general practice plays an indispensable role in the surveillance of infectious diseases by providing information supplemental to that obtained from other sources. Further research into the change in the epidemiology of whooping cough is desirable. Whooping cough was placed on the weekly returns in 1998.

Sentinel physicians are requested to record every case of whooping cough. The often atypical course of the illness among vaccinated individuals does not simplify case definition. The sentinel physicians adhere to the following definition of whooping cough:

- prolonged coughing complaints (longer than three weeks) with the more or less typical characteristics, and/or:
- confirmed *Bordetella pertussis* (as shown in the flow chart for optimum laboratory diagnosis issued by the National Coordination Structure for Infectious Diseases).

Table 22.1 shows the numbers of individuals with whooping cough per 10,000 persons, by province group, by degree of urbanization and for the Netherlands as a whole.

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<sup>1</sup> Melker H.E. de, M.A. Conyn-van Spaendonck, J.F.P. Schellekens, Pertusis surveillance 1989-1995, RIVM, 1996.

Table 22.1 Number of individuals with whooping cough by province group, degree of urbanization and for the Netherlands as a whole, per 10,000 persons, 1998-2000

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
1998	2	4	2	12	2	6	1	5
1999	3	5	11	17	5	11	7	10
2000	3	7	10	33	4	13	17	12

As in 1998-1999, there was an unequal distribution of whooping cough across the Netherlands in 2000. The number of whooping cough cases in the southern provinces was high at 33 per 10,000 persons compared with 3-7 per 10,000 in the northern and eastern province groups. A point that must be mentioned is that half of all reported whooping cough cases originated from a sentinel station in the south of the country. This exceptional situation is being investigated.

In urbanization group 3 (major cities with more than 100,000 inhabitants), the number of cases of whooping cough was high in comparison with the incidence rate in the two other urbanization groups.

Table 22.2 shows the number of persons with whooping cough by province group and degree of urbanization and for the Netherlands as a whole, disregarding the data supplied by the sentinel station in province group D.

Table 22.2 Number of persons with whooping cough by province group, by degree of urbanization and for the Netherlands as a whole, per 10,000 persons, 1998-2000, disregarding the data from one particular sentinel station.

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
1998	2	4	2	8	2	5	1	4
1999	3	5	11	8	5	8	7	7
2000	3	7	10	4	4	5	7	7

After this correction, the occurrence of whooping cough was highest in the western provinces, at least in 1999 and 2000. Whooping cough was reported mainly in the major cities in 2000.

## .1 Age distribution

Table 22.3 shows the age distribution of persons with whooping cough.

Table 22.3 Number of individuals with whooping cough per 10,000 persons, by age group, 1998-2000

age group	1998	1999	2000 <sup>2</sup>	2000 <sup>3</sup>
≤1	(17)	(17)	85	54
1- 4	37	6	61	46
5- 9	22	36	51	38
10-14	6	27	22	9
15-19	(4)	7	8	(3)
20-24	(1)	(2)	0	0
25-29	(2)	7	4	(2)
30-34	(2)	(4)	4	(1)
35-39	(2)	7	8	(4)
40-44	-	5	7	(3)
45-49	(1)	5	3	(3)
50-54	(2)	(2)	7	(1)
55-59	-	(3)	8	(3)
60-64	-	(7)	10	(5)
65-69	(2)	(2)	(5)	0
≥69	-	-	(3)	(2)

An interesting finding is that whooping cough occurred in all age groups. The highest incidence was recorded in the 0-4 years age group, followed by the 5-9 and 10-14 age groups.

The topic appears on the weekly returns for 2001, but in an amended form.

<sup>2</sup> All sentinel stations.

<sup>3</sup> All sentinel stations excluding one particular practice in province group D.

## 23 Extrapolation of observed frequencies to the Dutch population

This section of the report provides a general impression of the numbers of patients, consultations, actions and events in the Netherlands. The figures presented are based on frequencies calculated using data recorded by sentinel stations in the Continuous Morbidity Registration programme. As pointed out in previous reports, readers should bear in mind when examining the tables that while the populations of the sentinel stations represent the Dutch population as a whole with reasonable accuracy (also refer to pages 20-21), the sentinel physicians are a select group. Consequently it is impossible to determine conclusively to what extent the results vary from the situation that exists in reality. Variances may differ depending on the nature of the topic in the weekly returns. Special caution should be exercised when examining categories that include intervention by a GP. One example is 'mammography', because the sentinel physicians may differ in their approach from the modal GP. Similarly, the 'suicide and attempted suicide' topic appears to differ from data recorded elsewhere, probably because these occurrences are not always reported to a GP<sup>1</sup>. As regards the registration of data in general, the sentinel physicians almost definitely act as a select group, but this circumstance must inevitably benefit the project. Nevertheless, readers should not examine only the extrapolated numbers, but should also refer to the chapters concerned. To allow correct interpretation of the extrapolated figures, this chapter starts with details of the total Dutch population per year, in thousands.

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<sup>1</sup> Diekstra R.F.W., and M. van Egmond. Suicide and attempted suicide in general practice. In the Dutch Sentinel Practice Networks; relevance for public health policy, blz. 202. Nivel, Utrecht 1989.

Table 23.1 Dutch population by sex, in thousands, 1991-2000 (CBS)\*

year	men	women	total
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
1995	7,627	7,797	15,424
1996	7,662	7,832	15,494
1997	7,697	7,870	15,567
1998	7,740	7,914	15,654
1999	7,793	7,967	15,760
2000	7,846	8,018	15,864

\* Numbers as on 1 January of each year.



Table 23.2 Extrapolation of observed incidences to the Dutch population

topic year	frequency incidence (per 10,000)*			Netherlands** (absolute numbers)		
	men	women	total	men	women	total***
<b>Influenza-type illnesses</b>						
1991			348			522,000
1992			244			370,000
1993			484			772,500
1994			106			162,500
1995			315			480,000
1996			115			178,000
1997			233			360,000
1998			248			365,000
1999			254			400,000
2000			197			312,500
<b>Zanamivir prescription</b>						
2000			2			3,000
<b>Incontinence materials (authorization)</b>						
2000			27			43,000
<b>Chickenpox</b>						
2000			20			32,000
<b>Depression</b>						
2000	26	48	37	20,500	37,500	58,000
<b>Diabetes mellitus, new patients</b>						
1980-83			12			17,000
1990-93	16	17	17	12,250	13,250	25,500
2000	23	22	23	18,000	17,500	35,500

\* see page 117

Table 23.2 Extrapolation of observed incidences to the Dutch population (cont.)

Topic year	frequency incidence (per 10,000)*			Netherlands** (absolute numbers)		
	men	women	total	men	women	total***
<b>Suicide and attempted suicide</b>						
1991			5			7,500
1992			6			9,000
1993			6			9,000
1994			5			7,500
1995			7			10,750
1996			6			9,250
1997			6			9,250
1998			5			7,750
1999			5			7,750
2000			6			9,500
<b>First mammogram</b>						
1991		105			80,000	
1992		92			75,000	
1993		117			90,000	
1994		111			86,000	
1995		104			81,000	
1996		87			68,000	
1997		87			68,500	
1998		84			66,500	
1999		99			79,000	
2000		81			65,000	
<b>Repeat mammograms</b>						
1991		26			19,500	
1992		30			23,000	
1993		59			45,500	
1994		45			35,000	
1995		39			30,500	
1996		32			25,000	
1997		34			27,000	
1998		36			28,500	
1999		36			28,750	
2000		41			33,000	

\* see page 117

Table 23.2 Extrapolation of observed incidences to the Dutch population (cont.)

topic year	frequency incidence (per 10,000)*			Netherlands** (absolute numbers)		
	men	women	total	men	women	total***
<b>Total mammograms</b>						
1991		131			99,500	
1992		122			93,500	
1993		176			135,500	
1994		156			121,000	
1995		143			111,500	
1996		119			93,000	
1997		121			5,500	
1998		120			95,000	
1999		135			107,750	
2000		122			98,000	
<b>Urethritis in men</b>						
1992	31			23,000		
1993	23			17,500		
1994	25			19,000		
1995	26			20,000		
1996	21			16,000		
1997	17			13,000		
1998	17			13,000		
1999	20			15,500		
2000	21			16,500		
<b>Fear of AIDS</b>						
1991			16			24,000
1992			22			33,500
1993			23			35,000
1994			27			41,500
1995			21			32,000
1996			20			31,000
1997			24			37,500
1998			18			28,000
1999			17			27,750
2000			19			30,000

\* see page 117

Table 23.2 Extrapolation of observed incidences to the Dutch population (cont.)

topic year	frequency incidence (per 10,000)*			Netherlands** (absolute numbers)		
	men	women	total	men	women	total***
<b>Gastroenteritis</b>						
1996	51	69	60	9,000	54,000	93,000
1997	52	57	54	40,000	45,000	85,000
1998	64	65	65	50,000	51,000	101,000
1999	67	74	71	52,250	59,000	111,250
2000	90	92	91	70,500	73,750	144,250
<b>Herpes zoster</b>						
1997	24	30	28	18,500	23,750	43,000
1998	28	37	33	21,500	29,250	50,750
1999	27	37	32	21,000	29,500	50,500
2000	31	35	33	24,250	28,000	52,250
<b>Prostate complaints</b>						
<b>- rectal touch</b>						
1997	116			89,250		
1998	117			90,500		
1999	90			76,500		
2000	80			62,750		
<b>PSA test</b>						
1997	81			62,250		
1998	83			64,250		
1999	84			65,500		
2000	89			70,000		
<b>- Referral to urologist</b>						
1997	9			7,000		
1998	14			11,000		
1999	11			8,500		
2000	11			8,500		

\* see page 117

Table 23.2 Extrapolation of observed incidences to the Dutch population (cont.)

topic	frequency incidence (per 10,000)*			Netherlands** (absolute numbers)		
	men	women	total	men	women	total***
<b>Whooping cough</b>						
1998			5			7,500
1999			10			15,750
2000			12			19,000
1998****			4			6,250
1999			7			11,000
2000			7			11,000

• Numbers of patients, consultations, etc., per 10,000 men and/or women (sentinel station data)

\*\* Extrapolation of incidences to the Dutch population (in the year concerned), rounded off and in thousands.

\*\*\* Discrepancies may occur in the totals as a result of the rounding-off of numbers.

\*\*\*\* Minus the data from one sentinel station.

## 23.1 Confidence intervals

Reliability margins have to be applied when examining the incidence rates and prevalence rates estimated for the entire Dutch population. The table below provides an impression of the incidence rates and prevalence rates, for relative and absolute numbers.

The table should be read in the following way. If a frequency of 0.1 per 10,000 patients is observed in the sentinel stations' total population of approximately 144,000 patients (1st column), the 95% confidence interval is 0.011-0.5 per 10,000 (2nd column). It follows that the estimated absolute number in the Dutch population is 156 (3rd column) and that the 95% confidence interval is between 17 and 776. The table shows how these estimates relate to a found frequency at the sentinel stations of 0.1 to 1,000 per 10,000 patients with some intermediate 'steps'. The confidence intervals are particularly high at the lower frequencies.

Table 23.3 Confidence intervals of estimates of incidence and prevalence and sentinel station practices per 10,000 and the absolute numbers.

frequency per 10,000		Netherlands (absolute numbers)	
frequency	95%CI	frequency	95%CI
0.1	0.011-0.5	156	17-776
1.0	0.6-1.7	1,557	895-2,659
10	8-12	15,567	13,181-18,375
100	95-105	155,671	147,838-163,911
1,000	985-1016	1,556,711	1,532,761-1,580,992

For the total groups of men and women separately (which each form roughly half of the total population), the reliability margins are only a little wider than shown in the table. For separate 5 or 10-year age groups, the reliability margins are obviously far wider, because these groups are smaller in size. For example, the number of reported suicide attempts in 1997 was 6 per 10,000 persons (a reliability margin of 4.8-7.4 per 10,000). For the 25-34 age group, the number of suicide attempts was also 6 per 10,000 persons. However, the confidence interval (0.8-28) is far greater.

(With thanks to R. Gijsen and Dr H. Verkleij, RIVM).

## 4 Incidental studies

Incidental studies have been conducted since 1976 as part of the Sentinel Stations project. The studies focus on relatively uncommon diseases and occurrences. The second part of appendix 3 lists the subjects covered by the studies. This chapter reports on the data gathered in incidental studies in 2000. The difference compared with the weekly return topics is that the data is requested only once a year, usually immediately after the end of the year. This approach allows data to be gathered retrospectively on subjects for which the need for registration did not become apparent until after the start of the year.

### 1 Euthanasia requests

Euthanasia requests made to general practitioners were first included in the Sentinel Stations project in 1976. GPs are not asked to report on whether they complied with the requests.

At the start of the year, the sentinel physicians are informed that a study is going to be conducted. At the end of the year, all Sentinel Stations receive a form on which they are asked to state whether any patients have requested euthanasia or assistance in suicide in the past year and, if so, the reason for the requests. The physicians are also asked to state the age, sex, disease and nursing location and whether or not a 'euthanasia declaration'<sup>1</sup> was signed. The data on each patient can be found at the end of this section of the document. The table is largely self-explanatory.

There were 56 requests in 2000. Of the patients who requested euthanasia, 82% had a malignancy. The number of patients being nursed at home was 46. The place of residence of 7 patients was not recorded. Three patients were in a hospital or nursing home.

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<sup>1</sup> A euthanasia declaration is a written document in which an individual requests that euthanasia be carried out under specific conditions.

Forty-eight of the 56 requests were supported by a euthanasia declaration. Fifty-one patients requested euthanasia. Five requested assistance with committing suicide. For 44 of the 56 requests, the GP consulted another physician. In a few reported requests whereby another physician was not consulted, GPs stated that patient died naturally before euthanasia was applied. In other cases, GPs reported that they had not yet consulted another physician because it was not yet appropriate to do so.

Requests for euthanasia 1976-2000.

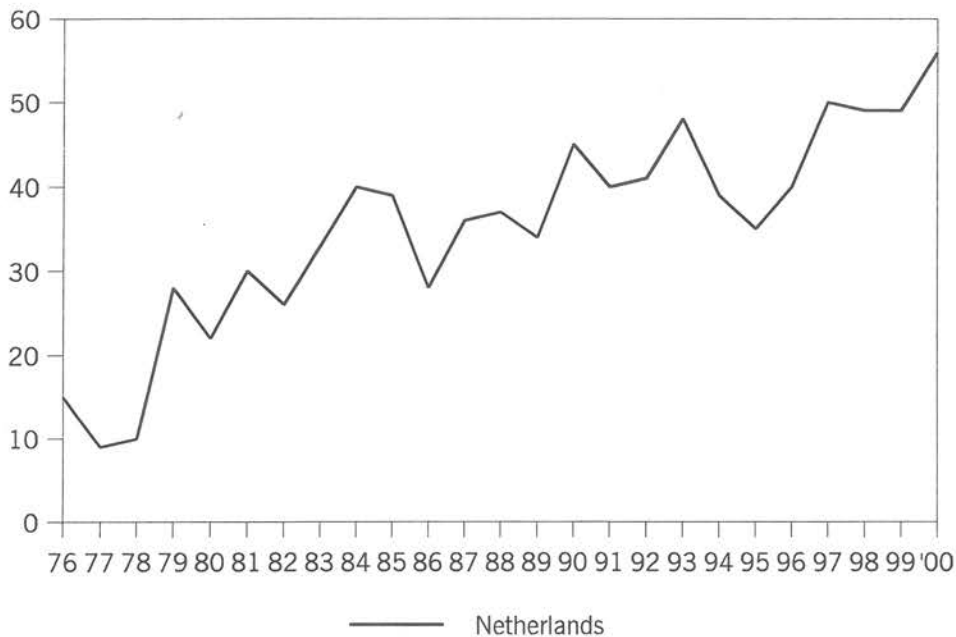
Table 24.1 shows the distribution of the number of requests by province group and degree of urbanization and by sex (cf. Figure 24.1).

Table 24.1: Absolute numbers of patients who asked GPs to participate actively in euthanasia, by sex, by province group and degree of urbanization and for the Netherlands as a whole, 1991-2000

absolute	Men	Women	province group				degree of urbanization			Netherlands
			A	B	C	D	1	2	3	
1991	21	19	7	5	2	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
1995	18	17	5	8	12	10	2	16	17	35
1996	24	16	8	9	19	4	7	20	13	40
1997	24	26	11	11	23	5	2	38	10	50
1998	27	22	3	14	25	7	5	32	12	49
1999	31	17	9	5	25	9	5	29	14	48
2000	30	27	7	10	30	9	9	34	13	56



Figure 24.1 Absolute numbers of patients that asked a sentinel physician for euthanasia or help in committing suicide, for the Netherlands as a whole, 1976-2000



Tables 24.2 and 24.3 show the average numbers of euthanasia requests in the 1976-2000 period per sentinel station (not per GP) and the distribution by province group and degree of urbanization.

Table 24.2 Average numbers of requests per sentinel station by province group 1976-2000

	province group			
	A	B	C	D
Number of sentinel stations	6	6	12	8
Average number of requests	19.8	19.3	26.5	13.1
distribution	1 - 41	8 - 43	13 - 41	8 - 22

\* Only sentinel stations that reported over the entire period.

Table 24.3 Average numbers of requests per sentinel station by degree of urbanization 1976-2000

	degree of urbanization		
	1	2	3
number of sentinel stations	5	19	10
average number of requests	19.8	16.7	24.4
distribution	12 - 30	0 - 41	13

\* Only sentinel stations that reported over the entire period.

These figures show that most euthanasia requests continue to be made in the western provinces and in the major cities.

## 2 Age distribution

Table 24.4 shows the age distribution.

Table 24.4 Absolute numbers of patients that asked GPs for euthanasia or help in committing suicide, by age group, 1991-2000

	≤54	55-64	65-74	75-84	≥85	total
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
1995	14	5	12	2	2	35
1996	5	10	14	7	4	40
1997	12	7	17	9	5	50
1998	6	10	19	7	7	49
1999	5	6	16	15	6	48
2000	13	13	11	18	1	56

## 3 Overview of reported requests

The sentinel stations project has now gathered data on 878 euthanasia requests, 453 (52%) of which were made by men.

The International Classification of Diseases (1975, 9th version) was used as a guide to obtain insight into the illnesses that occasion euthanasia requests. One of the classification problems that arises is the multiple pathology inherent in old age. Another problem is that sometimes no disease is reported at all. For example, the category of 'symptoms and insufficiently defined illnesses' included the request of a 92-year-old woman who was suffering from 'old age'.

Five groups of illnesses are used:

- malignant neoplasms;
- cardiovascular diseases;
- chronic obstructive pulmonary diseases;
- symptoms and insufficiently defined illnesses;

other diseases, including neurological and endocrinological illnesses and AIDS.

Despite the problems outlined above, it was fairly simple to classify the illnesses that led to patients requesting euthanasia. In the survey, GPs stated the illness that, in their opinion, occasioned the request.

Table 24.5 Diseases that occasioned euthanasia requests, 1976-2000

	n	%
malignancies	655	75
cardiovascular diseases	54	6
chronic obstructive pulmonary diseases	38	4
symptoms and insufficiently defined diseases	43	5
other diseases	89	10
total	878	100

Table 24.6 shows the distribution of the diseases that occasioned a euthanasia request, by age.

Table 24.6: Percentage of requests per disease of the total number of reported cases, by age (n= absolute number of requests) 1976-2000

	≤ 54 %	55-64 %	65-74 %	75-84 %	≥ 85 %
malignancies	76	89	89	63	25
cardiovascular diseases	0	1	2	13	23
chronic obstructive pulmonary diseases	1	3	2	8	10
symptoms and insufficiently defined diseases	3	1	1	4	30
other diseases	21	6	6	11	13

Malignancies are the principal reason why people below 85 ask a GP for euthanasia. Below 55, the group of other illnesses represented is extremely heterogeneous and includes cystic fibrosis, multiple sclerosis and AIDS and also vital depression.

Reasons stated for euthanasia requests by the elderly include the final stages of endocrinological diseases such as diabetes mellitus, terminal renal insufficiency and advanced stages of rheumatoid arthritis.

Individuals whose vascular systems are in poor condition and who suffer a non-fatal myocardial infarction or cerebrovascular accident may have a seriously impaired quality of life. Chronic obstructive pulmonary disease can also lead to serious infirmity and suffering and occasion a request for euthanasia.

Table 24.7 shows the age distribution per illness (patients younger and older than 65).

Table 24.7 Percentage of euthanasia requests by patients younger and older than 65, by disease, 1976-2000 (n=absolute numbers of requests)

	n	≤ 64 %	≥ 65 %
all diseases	878	36	64
all malignancies	655	40	60
cardiovascular diseases	54	4	96
chronic obstructive pulmonary diseases	38	13	87
symptoms and insufficiently defined diseases	43	16	84
other diseases	88	45	55

Table 24.8 shows a further breakdown of the malignancies according to the location of the tumour and the patient's age.

Table 24.8 Percentage of euthanasia requests by patients younger and older than 65 with a malignancy, by tumour location (n=absolute numbers), 1976-2000

	n	≤ 64 %	≥ 65 %
all malignancies	609	40	60
stomach	57	40	60
colon/rectum	90	32	68
trachea/lung	162	37	63
breast	63	55	45
other	235	41	59

No major changes have occurred in age distribution. In cases where breast cancer is the reason for a euthanasia request, the percentage of patients below 65 differs significantly from the percentage for other localizations. In recent years, there has been an increase in reported euthanasia declarations, i.e. from 15% in 1984 to 87% in 2000.

## 24.4 Discussion

Until the early 1990s, hardly any possibilities existed to compare data gathered in the Dutch sentinel stations project on requests for euthanasia and assisted suicide with the findings of other data registration projects and research (Bartelds 1989)<sup>2</sup>.

Since then, major studies have been carried out to determine the action taken by GPs and other doctors in the Netherlands with regard to euthanasia, assisted suicide and decisions concerning the end of patients' lives (Van der Maas et al 1991<sup>3</sup>, Pijnenborg

<sup>2</sup> Bartelds A.I.M. Request for application of euthanasia. In: Bartelds A.I.M. Fracheboud J, van der Zee J. (eds). *The Dutch Sentinel Practice Networks; relevance for public health policy*. Utrecht, NIVEL, 1989.

<sup>3</sup> Van der Maas P.J., J.J.M. van Delden, L. Pijnenborg, C.W.N. Looman. Euthanasia and other medical decisions concerning the end of life. *The Lancet* 1991; 338: 669-74.

et al 1994<sup>4</sup>, Van der Wal et al 1994)<sup>5</sup>. In 1995, another large-scale study was conducted into euthanasia and other end-of-life medical practices (Van der Maas et al 1996<sup>6</sup>). As part of the same study, there was an evaluation of the notification procedure introduced in 1991 for cases of euthanasia and assisted suicide (Van der Wal et al 1996<sup>7</sup>).

Substantial methodological differences exist between the above studies and the registration of data by GPs participating in the sentinel stations project. A discussion of these differences falls outside the scope of this report. However, there is one difference that bears mentioning: unlike the recent studies mentioned above, the data in the sentinel stations project comes exclusively from GPs.

The difference in the average numbers of euthanasia requests received by GPs annually was not great in 1990, i.e. an average of 0.74 per GP in the sentinel stations project compared with 0.8 in the study conducted by the CBS and Erasmus University of Rotterdam.

The number of more explicit requests for euthanasia at a certain time during the illness process increased by 9% between 1990 and 1995 (Van der Maas, 1996). The number of deaths increased by slightly more than 5%.

The number of explicit euthanasia requests registered by sentinel physicians in the 1990-1995 period also increased, albeit by less than the 9% stated by Van der Maas et al. The number of euthanasia requests appears to reach a 'natural' ceiling of approximately 3 in 10,000 patients, or an average of 0.75 requests per GP per year.

The relatively small absolute numbers of requests made to sentinel physicians may exhibit significant differences from year to year. This circumstance necessitates the use of progressive averages.

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<sup>4</sup> Pijnenborg L., J.J.M. van Delden, J.W.P.F. Kardaun, J.J. Glerum, P.J. van der Maas. Nationwide study of decisions concerning the end of life practices in the Netherlands. *BMJ* 1994; 308: 1346-9.

<sup>5</sup> Van der Wal G., R.L.M. Dillmann. Euthanasia in the Netherlands. *BMJ* 1994; 308: 1346-9.

<sup>6</sup> Van der Maas Paul J., Gerrit van der Wal, e.a. Euthanasia, physician-assisted suicide, and other medical practices involving the end of life in the Netherlands, 1990-1995. Special report from the Netherlands, Volume 335, number 22, 1699.

<sup>7</sup> Van der Wal Gerrit, Paul J. van der Maas, e.a. Evaluation of the notification procedure for physician-assisted death in the Netherlands. *The New England Journal Medicine*, 1996, 1706.

One of the few striking differences between the interview study and the death certificate research performed by Van der Maas et al is the sex distribution of patients whose euthanasia request physicians granted. The death certificate research revealed that more women than men were given euthanasia in 1995. The sex ratio was the other way round in the interview study conducted in 1995 and in the research conducted in 1990.

The sentinel stations have consistently reported a larger proportion of men than women who request euthanasia or help in committing suicide, i.e. 55% versus 45% in the 1976-1999 period.

One finding is consistently present in all the studies conducted so far, namely that patients who request euthanasia usually have a malignancy and that such requests are usually granted (approximately 80%). Another common finding is that the proportion of patients with a malignancy decreases as age increases.

Table 24.9 Requests made by patients for active euthanasia, 2000

age	sex	disease reported	reason for request
88	F	CVA and old age	tired of life
84	F	carcinoma of the ovary and ascites	cachexia, dyspnoea
83	F	carcinoma of the lung	unbearable suffering
82	M	myocardial infarct	heart failure
80	M	CVA relapse with hemiparesis	completely dependent on others
80	F	CVA relapse	repeated requests to be given a knife to end her life
79	M	carcinoma of the lung with COPD	utter exhaustion
79	M	carcinoma of the lung	pain
79	F	carcinoma of the lung	unbearable suffering and decline
78	F	carcinoma of the pancreas	unbearable suffering
78	F	carcinoma of the pancreas	did not want to go on in her condition
78	F	carcinoma of the colon and metastases	untreatable pains
77	M	cancer of the bladder and diabetes mellitus	pain and personal decline
77	M	carcinoma of the prostate	pain and general depression
76	M	carcinoma of the prostate	cachexia
76	F	carcinoma of the lung	dyspnoea, unable to go on
76	F	depression	
75	M	unknown primary tumour with metastases	hopelessness



Table 24.9 Requests made by patients for active euthanasia, 2000 (contd.).

age	sex	disease reported	reason for request
75	M	carcinoma of the prostate with metastases	unbearable suffering
74	M	carcinoma of the prostate	pain and humiliation
74	M	adenocarcinoma small intestine	pain and bedridden
73	M	carcinoma of the colon	general depression and pain
73	M	carcinoma of the bronchus	unbearable suffering
73	M	metastasized carcinoma of the colon	severe pain and tickling cough
73	F	terminal stage of lung fibrosis	dyspnoea
71	F	carcinoma of the mamma	fear of suffocation
69	M	carcinoma of the prostate and CVA	unbearable suffering
68	F	COPD	fear and panic
68	M	carcinoma of head of pancreas	pain
66	M	carcinoma of the prostate	hopeless painful suffering
64	M	carcinoma of the bronchus	
63	M	multiple sclerosis	completely dependent on others and difficulty swallowing
63	F	metastasized carcinoma of the stomach	untreatable nausea and ileus
62	F	metastasized carcinoma of the stomach	
61	F	carcinoma of the bronchus	fear of becoming dependent on others
59	F	carcinoma of the liver	unbearable suffering
57	M	multiple sclerosis	unable to do anything
57	M	carcinoma of the lung with metastases	loss of dignity
56	M	Hodgkin's disease	terminal
56	M	carcinoma of the lung and metastases	brain metastases
56	F	carcinoma of the lung with metastases	spinal cord lesion and pain
55	F	melanoma and metastases	increasing pain
55	F	carcinoma of head of pancreas	unbearable suffering
54	F	cancer of the liver and metastases	pain and decline
54	F	carcinoma of the ovary	cachexia
53	M	astrocytoma stage IV relapse	completely dependent on others
53	M	carcinoma of the colon	loss of dignity
51	F	carcinoma of the lung	
50	M	metastasized cancer of the bladder	untreatable pains
50	F	carcinoma of the mamma	terminal
44	F	carcinoma of the lung and metastases	pain difficult to treat and decline
43	M	carcinoma of the lung	fear of suffocation
40	F	metastasized carcinoma of the breast	fear of dyspnoea and pain
32	F	carcinoma of the cervix	pain and hopeless suffering
31	M	brain tumour	loss of dignity
31	F	unclear psychiatric clinical picture	confused and disoriented, no further treatment possible

The study will be continued in 2001.



## 5 Eating disorders

It is unclear whether the rate of occurrence of serious eating disorders such as anorexia nervosa and bulimia nervosa is increasing. Sentinel physicians registered both of these disorders in an incidental study conducted between 1985 and 1989. The renewal of registration in 1995 and subsequent years may reveal whether these disorders are on the rise.

The sentinel physicians who reported eating disorders were asked a number of retrospective questions about each patient in 2000. The questions included whether the disorder was first diagnosed in 2000 and whether the patient was referred to a different care provider on account of the disorder. The sentinel physicians were also asked to report on the composition of the patient's family and on some physical aspects of the disorder.

As was the case in the first registration period of 1985-1989, the study was headed by Dr H. W. Hoek, psychiatrist/epidemiologist and Chairman of the Eating Disorders Steering Group of the Netherlands.

Table 25.1 shows the distribution of the numbers of patients that GPs diagnosed as having an eating disorder (absolute numbers per 10,000 inhabitants), by province group and degree of urbanization and for the Netherlands as a whole, in the 1985-1989 and 1995-2000 periods. These numbers have not yet been corrected for duplications and contain both incidents and prevalent numbers. Therefore, the numbers given should be interpreted cautiously.

Table 25.1 Absolute numbers of patients for which GPs diagnosed an eating disorder, by province group and degree of urbanization and for the Netherlands as a whole, 1985-1989 and 1995-2000, and the numbers per 10,000 women

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
<b>absolute/year</b>								
<b>avg:</b>								
1985-1989	7	10	35	10	6	33	24	61
1995	11	11	26	16	5	49	10	64
1996	6	8	22	9	3	37	5	45
1997	12	10	11	9	8	29	4	42
1998	10	17	15	9	5	36	10	51
1999	4	14	12	13	1	38	4	43
2000	4	9	13	9	3	26	6	34
<b>per 10,000 women</b>								
1995	8.9	6.4	8.1	9.1	5.2	10.5	6.9	8.1
1996	4.7	4.7	8.9	4.8	3.0	8.9	3.3	6.2
1997	7.8	5.5	4.2	4.8	6.5	5.3	4.3	5.3
1998	7.2	9.1	6.7	5.6	8.6	7.1	11	7.1
1999	3.3	8.5	5.4	8.4	1.1	7.9	4.4	5.2
2000	3.2	4.6	3.9	6.1	2.3	4.9	3.8	4.2

The number of reports in 2000 was low compared with previous years. Women accounted for 97% of the reported cases.

The reported number of female patients with an eating disorder was highest in the southern province group in 2000. Most cases of eating disorders were reported in urbanized areas and commuter towns.

Table 25.2 shows the distribution of reported eating disorders by age group.

Table 25.2 Absolute numbers of patients for whom GPs reported an eating disorder, by age, 1985-1989 and 1995-2000

women	1985-1989 avg.	1995	1996	1997	1998	1999	2000
1-4	-	-	-	1	-	-	-
5-9	-	-	-	1	-	-	-
10-14	1	1	1	0	2	-	1
15-19	8	13	15	10	9	7	9
20-24	12	14	9	11	14	7	5
25-29	14	10	7	7	5	6	9
30-34	6	9	4	3	4	6	4
35-39	7	8	6	3	11	9	3
40-44	4	2	2	4	4	6	1
45-49	1	4	1	1	1	-	1
50-54	1	2	-	-	-	-	1
55-59	1	-	-	-	1	1	-

One male patient was reported in 2000.

Another eating disorder study will be conducted in 2001.

### Publications based fully or partly on continuous morbidity registration data

HOEK, W.HANS, AAD I.M. BARTELD, JACQUOLINE J.F. BOSVELD, YOLANDA VAN DER GRAAF, VERONIQUE E.L. LIMPENS, MARGO MAIWALD, CAROLINE J.K. SPAAIJ.

#### Impact of Urbanization on Detection Rates of Eating Disorders.

Am J Psychiatry, 1995; 152:1272-1278.

**Objective:** The purpose of this study was to examine the incidence of anorexia nervosa and bulimia nervosa among patients in primary care and to evaluate the impact of urbanization, age and sex differences, and changes over time. **Method:** During 1985-1989, 58 general practitioners, trained in diagnosing eating disorders, registered all of their patients who had diagnoses of anorexia nervosa and/or bulimia nervosa according to strict criteria. The study population (N=151,781) was 1% of the population of the Netherlands; the distribution of sexes, ages, geographical locations, and degrees of urbanization in the study group was representative of the Dutch population. Main outcome measures were rates of newly detected cases and age-adjusted rates ratios. **Results:** The crude annual incidence rate of detected cases in primary care per 100,000 person-years was 8.1 for anorexia nervosa and 11.5 for bulimia nervosa. The incidence of bulimia nervosa was lowest in rural areas, intermediate in urbanized areas, and highest in the cities (6.6, 19.9, and 37.9, respectively, per 100,000 females per year); no rural-urban differences for anorexia nervosa were found. Pronounced sex and age differences in incidence rates were observed. Over the 5-year period, there was no time trend in the incidence of

anorexia nervosa, but the incidence of bulimia nervosa tended to increase. **Conclusions:** The incidence rates of eating disorders as defined by detection rates in primary care are higher than previously reported. Urbanization seems to be a risk factor for bulimia nervosa but not for anorexia nervosa.

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

HOEK, H.W.

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

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

## 26 Aggression against GPs and practice staff

There is growing concern about aggression directed at people in the care sector. Consequently, this problem is receiving increasing attention. Professional associations organize conferences to discuss aggression against doctors and their staff.

Aggression against general practitioners and their staff is being registered by means of an annual survey. The first survey was held in 1997.

Sentinel physicians are asked to report whether they or their staff were subjected to aggression in their practice. For the purposes of the survey, a distinction is made between aggression during normal surgery hours and aggression while on call in the evening, at night or on the weekend. GPs are asked to state whether the aggressor was one of their own patients or a patient of a different practice.

A further distinction is made between threats of physical violence, threats with a weapon, actual violence, verbal and sexual intimidation and other acts considered threatening.

GPs state whether each recorded instance of aggression was aimed at them or at their practice staff.

Of the 45 sentinel stations, 26 reported one or more situations in which the GP or practice staff felt or were actually threatened in some way. The percentage was similar to that recorded in the previous two years.

Table 26.1 shows the distribution of the number of sentinel stations that reported aggression, by province group and by degree of urbanization.

Table 26.1 Number of sentinel stations that reported aggression against GP or practice staff, by province group and degree of urbanization, 1997-2000 (% in brackets)

	province group				degree of urbanization			Netherlands
	A	B	C	D	1	2	3	
1997	3 (50)	8 (72)	11 (73)	9 (90)	5 (71)	19 (70)	7 (83)	31 (74)
1998	2 (33)	4 (36)	9 (60)	6 (60)	1 (14)	15 (56)	5 (62.5)	21 (50)
1999	1 (26)	8 (67)	10 (13)	5 (55)	3 (43)	11 (38)	4 (57)	24 (56)
2000	5 (80)	5 (45)	11 (52)	4 (50)	4 (57)	14 (54)	6 (50)	26 (56)

More than half of all sentinel stations again reported aggressive behaviour in 2000. In contrast to previous years, a majority of the sentinel stations in the northern province groups were confronted by aggression in 2000. Over the years, the major cities have reported less aggression.

During normal surgery hours, most incidents of aggression are directed towards the GP's staff. Verbal intimidation occurs significantly more often than sexually tinged intimidation, threats of physical violence and threats with a weapon (81 incidents versus 16 incidents). One sentinel station reported that verbal intimidation was a weekly occurrence (53 incidents).

In absolute numbers, fewer instances of threatening behaviour and intimidation were reported in the evening, night and weekend. In relative terms, threats or intimidation are likely to occur more often at these times. However, the data needed to validate this assumption – i.e. the number of contacts with patients during surgery hours during the day and while on call in the evening/night/weekends - is unavailable. While on call, GPs are exposed mainly to verbal intimidation. Threats of physical violence and threats with a weapon occur significantly less often (8 reports of threats of violence versus 71 reports of verbal intimidation). Threats of physical violence or threats with a weapon while on call come mainly from patients registered with a practice other than the GP's own practice (1 versus 8).



Major differences occur between the GPs. Differences of interpretation may occur in the case of threats and intimidation. Actual instances of violence against GPs or their staff are rare. In 2000 one doctor's receptionist and two GPs were actually attacked.

This incidental study will not be repeated in 2001.



## 7 General comments

- 1 The Counselling Committee has decided to include the following topics on the weekly returns in 2001.
  - a Influenza and influenza-like illnesses
  - b Neuraminidase inhibitor (prescribed)
  - c Walking aids (prescribed)
  - d Chickenpox
  - e Depression
  - f Herpes zoster
  - g Diabetes mellitus (new patient)
  - h Suicide and attempted suicide
  - i Mental health care
  - j Urethritis in men
  - k Fear of AIDS
  - l Gastroenteritis
  - m Prostate complaints
  - n Whooping cough
  - o Acute respiratory infection
- 2 Incidental studies on euthanasia and eating disorders will be conducted in 2001.
- 3 The Counselling Committee welcomes suggestions concerning the questions to be included on the weekly returns.
- 4 Data contained in this report may be reproduced provided that the source is acknowledged.
- 5 A Dutch version of the report is available on request.

Dr A.I.M. Bartelds, GP/Project Leader



## 8 Publications based fully or partly on continuous morbidity registration data

### General

BARTELDIS, 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, 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 sentinel 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 sentinel 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 sentinel 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 Sentinel stations" 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 sentinel physicians over the country and by degree of urbanization. The presence of 1% of the population of the four provinces groups and the three urbanization groups has been observed in the practices of the sentinel physicians. The completeness of the registration, the internal and the external validity of the data collected by the physicians are discussed.

SCHWARTZ, F.W. PROF. DR. et al.

**The European Denominator Project.**

Comparison and Harmonisation of Denominator Data for Primary Health Care Research in Countries of the European Community.

Hanover, 1996

**Chronic benign pain**

KERSSENS, J.J. P.F.M. VERHAAK, A.I.M. BARTELD, M.J. SORBI, J.M. BENSING.

**The Epidemiology of Chronic Benign Pain Disorders in General Practice.**

European Journal of Pain: Accepted

**Diabetes Mellitus**

RUWAARD, DIRK, RONALD GIJSEN, AAD I.M. BARTELD, REMY A. HIRASING, HARRY VERKLEIJ, DAAN KROMHOUT.

**Is the Incidence of Diabetes Increasing in All Age groups in the Netherlands?**

Diabetes Care, volume 19, number 3. March 1996.

**Myocardial infarction**

VAN DER PAL-DE BRUIN, K.M., H. VERKLEIJ, J. JANSEN, A. BARTELD, D. KROMHOUT.

**The incidence of suspected myocardial infarction in Dutch general practice in the period 1978-1994.**

European Heart Journal, 1998, 19, 429-434

**Acute atypical headache**

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

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

The Lancet 1994; 344: 590-593.

# Appendix 1

## Continuous Morbidity Registration, Sentinel stations Participating physicians, 2000

Name:	Location	:Province:
A.A.E.E. Brockmöller	't Zand	Groningen
J.T. Ubbink/P. Strikwerda (group practice)	Groningen	Groningen
Y.Wapstra/K.Tanis (group practice)	Franeker	Friesland
S. Vriesinga (to 1-10-00)		
P.S. Wiersema (from 1-10-00)*)	Oostermeer	Friesland
F.M. van Soest/R.F. Sparenburg/ H.D.W.A.van Gijssel/M. Schellens/		
C.A. Hoeksema-de Vries/S.A. van Dijk (group practice)	Assen	Drenthe
H.E. Mailllette de Buy Wenniger*)	Schoonoord	Drenthe
S. Kranenborg	Deventer	Overijssel
T. J. van Dam/P.P.A. Kemps/B. Jansen (group practice)	Swifterbant	Flevoland
H. Kroeze Zeewolde	Zuid-Flevoland	
D. de Jong*)	Laren	Gelderland
D.G. de Jong	Barneveld	Gelderland
E.J. van Apeldoorn	Heerde	Gelderland
S. Verhoeven Heerde	Gelderland	
I. Bruin-van Ingen/M. Burger/		
J.G.B. van der Wielen (group practice)	Zelhem	Gelderland
B.G.W.M. Arts	Nijmegen	Gelderland
M.A.J. Janssen	Nijmegen	Gelderland
W.J.A. Besselink (to 1-10-00)		
N. Adamo (from 1-11-00)	Doesburg	Gelderland
M.T.W. van der Velden	Dieren	Gelderland
F.K.A. Fokkema/I.K.I.de Jongh-Kilian (group practice)	Amersfoort	Utrecht
A.M.C. Raat	Hoogland	Utrecht
A.M. Wesselius	Utrecht	Utrecht
P.B. den Hertog	Utrecht	Utrecht
C.J. Post Uiterweer	Utrecht	Utrecht
A.H.F. Eijgenstijn	Utrecht	Utrecht
G.B.A. Baars	Utrecht	Utrecht
A.I.M. Bartelds	Huizen	Noord-Holland

## Appendix 1 (cont.)

Participating physicians, 2000

C.W. Willeboordse/A.M. Kruize-Mosch (group practice)	Heiloo	Noord-Holland
M.M. Spoor Alkmaar	Noord-Holland	
Y.E.V. van Hazel/P. Olie (group practice)	Amsterdam	Noord-Holland
A.J. Arbouw/Y.M. van Dun (group practice)	Amstelveen	Noord-Holland
D.E. Kuenen	Haarlem	Noord-Holland
H.R. Neijs*)	Broek in Waterland	Noord-Holland
A. Verdam-de Witte	Hilversum	Noord-Holland
A.M. van Meurs	The Hague	Zuid-Holland
J.C.B.M. Rensing	The Hague	Zuid-Holland
Ms S.G. Vreugdenhil/R.J. Kuiper (group practice)	Dordrecht	Zuid-Holland
C.M. Limburg	Rotterdam	Zuid-Holland
J. Hoornweg/E. Hoornweg-Sleeboom (group practice)	Voorhout	Zuid-Holland
D. Pasman	Maassluis	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
C.H.G.M. van Moorsel	Uden	Noord-Brabant
A.M.P. Linsen	Oirschot	Noord-Brabant
J.A.M. Keulers/W.H. van der Laan (group practice)	Ravenstein	Noord-Brabant
M.G.A.M. de Gouw	Rosmalen	Noord-Brabant
A.F.A. van de Reepe/W.L.M. Rijnders (group practice)	Etten	Noord-Brabant
R.A.M. de Jong	Maastricht	Limburg

\*) With dispensary



# Appendix 2

## Weekstaat t.b.v. centrale registratie CONTINUE MORBIDITEITSREGISTRATIE, PEILSTATION 2000

Proj. no.	verslagjaar				Code peilstat.	Week no.																		
	4	0	0	0																				
Leefstijdsgroep	Prostaatlifden		Gastro-enteritis	C.A.I.D.S.* (concern about AIDS)	Urethritis bij man	Mammografie		Suicide(poging)*	Diabetes mellitus* (nieuwe patiënt)		Herpes Zoster		Depressie* 1 <sup>e</sup> consult		Waterpokken*)	Incontinentie materiaal*) (machtiging)	Zanamivir voorschrijft) (relenza*)	Influenza (-achtig) ziektebeeld*)	Leefstijdsgroep	Kinkhoest	verwijzing verdenking prostaats	PSA	rectaal toucher	Incidentieel onderzoek
	M+V	M				M	V		M	V	M	V	M	V										
1	<1																		<1				M+V	
2	1-4																		1-4				verzoek om euthanasie	
3	5-9																		5-9					
4	10-14																		10-14					
5	15-19																		15-19					
6	20-24																		20-24				anorexia/ boulimia	
7	25-29																		25-29					
8	30-34																		30-34					
9	35-39																		35-39					
10	40-44																		40-44					
11	45-49																		45-49				agressie tegen huisarts of assistentie	
12	50-54																		50-54					
13	55-59																		55-59					
14	60-64																		60-64					
15	65-69																		65-69					
16	70-74																		70-74				diabetes mellitus (bekende patiënt)	
17	75-79																		75-79					
18	80-84																		80-84					
19	≥ 85																		≥ 85					

Week nummer: \_\_\_\_\_

Opgemaakt d.d.: \_\_\_\_\_

Aantal dagen gerapporteerd  
(zie voetnoot 1)

0  1  2  3  4  5

Zie ommezijde voor voetnoten

## Appendix 3

Topics on the weekly returns 1970-2001 (in alphabetical order)

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### Topics

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abortion, spontaneous	1982-1983
abortion, induced	1971-1979
abortion requests	1970-1975
accidents	1971
accidents in a private setting	1981-1983
acute atypical headache	1988-1992
acute otitis media	1971 and 1986
acute respiratory infection (ARI)	2001
addiction to smoking (consultation)	1974
AIDS (fear of)	1988-2001
alcoholism	1975
anti-hypertensives and/or diuretics (prescription of)	1976
bee or wasp stings	1992-1993
bites by household pets	1986
burns	1988-1989
cerebrovascular accident	1986-1987
cervical smear	1976-1998
chickenpox	2000-2001
childbirth (at $\geq$ 28 weeks)	1982-1983
child abuse (suspicion of)	1973-1974
chronic benign pain disturbance	1995-1996
dementia	1987-1988
depression	1983-1985 and 2000-2001
diabetes mellitus	1980-1983 and 1990-1994 and 2000-2001
diarrhoea of unknown origin (acute)	1970
dog bite	1987 and 1998-1999
drug use (consultation)	1972-1973 and 1979-1981
dwelling (certificate issued for another)	1975
echography requests	1988

---

Topics on the weekly returns 1970-2001 (alphabetical) (cont.)

Topics

exanthema of unknown origin	1970
family planning (advice)	1970-1976
gastroenteritis	1992-1993 and 1996-2001
hay fever	1978-1982
hepatitis	1994
herpes zoster	1997-2001
infectious mononucleosis	1977-1979 and 1991
influenza and influenza-like illnesses	1970-2001
injuries to the skeletal and locomotor systems	1984-1985
liver, gall bladder and pancreas diseases	1995-1997
malignancies	1984-1985
mammography (outpatient)	1988-2000
measles	1975-1979
measles/mumps	1990
medical aids	1999-2001
mental health care (referral)	2001
morning-after pill, prescription of	1972-1991
myocardial infarction	1978 and 1983-1985 and 1991-1994
oestrogen, prescription of	1994-1998
Parkinson's disease	1980-1985
penicillin, prescriptions and side effects	1982-1983
peptic ulcer (first time/relapse)	1985-1986
physical violence	1996-1999
p.i.d. (pelvic inflammatory disease)	1994-1998
pregnancy (despite contraception)	1987-1991
premature birth	1982-1983
prostate complaints	1997-2001
psoriasis	1976-1977
psychiatric patients	
- discharged	1986-1988
- admitted	1988
referrals to a specialist	1984
referrals to a speech-language pathologist	1988-1989
referral/authorization for physiotherapy	1985
referral for psychosocial problems	1986-1987
rohypnol prescriptions	1987-1988
rubella and rubella-like illnesses	1971
side-effects of cosmetics (suspected)	1992-1993
sports injuries	1979-1983 and 1992

Topics on the weekly returns 1970-2001 (alphabetical) (cont.)

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Topics

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skull traumas in traffic accidents	1975-1977
sterilization of men (performed)	1972-1999
sterilization of women (performed)	1974-1999
suicide and attempted suicide	1970-1972 and 1979-2001
tonsillectomy or adenotomy	1971
tranquillizer prescribed	1972-1974
urethritis in men	1992-2001
urinary tract infection (medicine prescribed)	1977
ventricular/duodenal ulcer	1975
whooping cough	1998-2001
zanamivir (Relenza)	2000-2001

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## Appendix 4

### Incidental studies and other additional studies 1977-2001 (alphabetical)

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topics

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acute intoxication at work	1994-1995
aggression against GP and practice staff	1997-2000
alternative treatments (registration possible?)	1980
anorexia nervosa and bulimia	1985-1989 and 1995-2001
diabetes mellitus (prevalent cases)	2000
euthanasia (request for)	1976-2001
incest	1988
Lyme disease	1991-1994
malignancies	1982-1983
multiple sclerosis	1977-1982
puerperal mastitis	1982
regret after sterilization	1980-1984
serum collection	1980 and 1985
vaccination against influenza	1992

---

## Appendix 5

Age distribution of the population of the Netherlands, by sex, in thousands, 1 January 2000 (CBS)

Age	men	women	total
0- 4	504	480	984
5- 9	512	489	1.001
10-14	490	470	960
15-19	475	453	928
20-24	483	473	956
25-29	595	581	1.176
30-34	672	643	1.315
35-39	670	645	1.315
40-44	614	600	1.214
45-49	575	559	1.134
50-54	583	563	1.146
55-59	436	424	860
60-64	358	365	723
65-69	305	339	644
70-74	242	308	550
75-79	181	277	458
80-84	93	182	275
≥85	58	167	225
total	7,846	8,018	15,864

(Minor differences may occur as a result of rounding off)

# Appendix 6

CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS  
 LEEFTIJDGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDEISEERD  
 JAAR: 2000 WEEK: 1 t/m 52  
 BLAD 1 26.09.2001

LEEFTIJD- GROEP	ALLE PEILSTATIONS		POPULATIE		"INFLU- ENZA"		ZANA- MIVIR		HERPES ZOSTER		SUICIDE (POGING)		MAMMOGRAFIE		URETHRI- TIS		CAIDS	
	M	V	T	M+V	"INFLU- ENZA"	ZANA- MIVIR	HERPES ZOSTER	SUICIDE (POGING)	MAMMOGRAFIE	URETHRI- TIS	CAIDS	1-1- 1999	HER- HALING	URETHRI- TIS	CAIDS	M	V	M+V
<1-JR	621	556	1178	501	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1-4 JR	3319	3254	6573	376	0	6	12	9	0	0	0	0	0	0	0	0	0	0
5-9 JR	4338	4102	8440	167	0	16	10	13	0	0	0	0	0	0	0	0	0	0
10-14 JR	3989	3790	7780	127	1	18	13	15	5	3	0	3	0	3	0	3	0	3
15-19 JR	3948	3823	7770	118	1	20	24	22	10	18	0	10	0	10	0	10	0	28
20-24 JR	3992	4548	8540	167	2	35	13	23	6	37	7	28	7	28	7	28	7	73
25-29 JR	5456	6084	11540	164	2	20	16	18	12	58	16	26	16	26	16	26	16	55
30-34 JR	6388	6267	12654	171	2	20	22	21	7	124	29	39	29	39	29	39	29	33
35-39 JR	5893	5754	11647	211	3	20	14	17	9	156	73	24	73	24	73	24	73	23
40-44 JR	5261	5238	10499	209	3	34	48	41	8	202	105	34	105	34	105	34	105	17
45-49 JR	4985	4849	9834	207	4	22	31	26	6	169	103	14	103	14	103	14	103	10
50-54 JR	4859	4800	9659	211	3	31	56	43	9	96	85	14	85	14	85	14	85	11
55-59 JR	3555	3726	7282	198	3	45	54	49	5	110	78	20	78	20	78	20	78	5
60-64 JR	3088	3116	6204	235	2	58	55	56	6	61	87	26	87	26	87	26	87	2
65-69 JR	2682	2934	5616	180	2	75	61	68	0	37	14	37	14	37	14	37	14	0
70-74 JR	2074	2613	4687	235	0	53	84	70	4	65	15	39	15	39	15	39	15	0
75-79 JR	1608	2312	3920	176	0	75	91	84	5	52	35	31	35	31	35	31	35	0
80-84 JR	865	1553	2419	207	0	116	77	91	8	64	0	23	0	23	0	23	0	0
>85 JR	678	1674	2351	213	4	74	60	64	0	18	0	44	0	44	0	44	0	0
TOTAAL	67597	70994	138591	197	2	31	35	33	6	81	41	21	41	21	41	21	41	19

## LEEFTIJDGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDEISEERD

26.09.2001

ALLE PEILSTATIONS

JAAR: 2000

WEEK: 1 t/m 52

LEEFTIJD- GROEP	POPULATIE			GASTRO-ENTERITIS			PROSTAATLIJDEN			KINK- HOEST			DIABETES MELLITUS		
	M	V	T	M	V	T	M	M	M	M	M	M	V	T	
<1 JR	621	556	1178	628	432	535	0	0	0	0	85	0	0	0	
1-4 JR	3319	3254	6573	301	338	319	0	0	0	0	61	3	0	2	
5-9 JR	4338	4102	8440	164	197	180	0	0	0	0	51	2	0	1	
10-14 JR	3989	3790	7780	93	82	87	5	0	0	0	22	3	0	1	
15-19 JR	3948	3823	7770	71	89	80	3	0	0	0	8	0	0	0	
20-24 JR	3992	4548	8540	68	99	84	3	3	0	0	0	0	2	1	
25-29 JR	5456	6084	11540	86	64	75	7	0	0	0	4	11	3	7	
30-34 JR	6388	6267	12654	69	80	74	20	6	0	0	4	3	11	7	
35-39 JR	5893	5754	11647	75	71	73	15	7	0	0	8	7	3	5	
40-44 JR	5261	5238	10499	87	61	74	32	25	4	4	7	13	11	12	
45-49 JR	4985	4849	9834	70	39	55	58	64	0	0	5	22	33	27	
50-54 JR	4859	4800	9659	35	44	39	105	136	12	7	7	35	38	36	
55-59 JR	3555	3726	7282	37	56	47	200	219	17	8	8	73	32	52	
60-64 JR	3088	3116	6204	55	55	55	282	350	26	10	10	45	35	40	
65-69 JR	2682	2934	5616	37	78	59	365	444	67	5	5	78	72	75	
70-74 JR	2074	2613	4687	48	77	64	304	419	96	2	2	121	111	115	
75-79 JR	1608	2312	3920	75	78	77	342	299	50	5	5	62	39	48	
80-84 JR	865	1553	2419	81	90	87	301	277	58	0	0	81	97	91	
>85 JR	678	1674	2351	44	102	85	236	280	44	4	4	59	42	47	
TOTAAL	67597	70994	138591	90	93	91	80	89	11	12	23	22	22	23	



## LEEFTIJDGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD 26.09.2001

ALLE PEILSTATIONS JAAR: 2000 WEEK: 1 t/m 52

LEEFTIJD- GROEP	POPULATIE			DEPRESSIE			INCONTI- NENTIE	WATER- POKKEN
	M	V	T	M	V	T	INCONTI- NENTIE	WATER- POKKEN
<1 JR	621	556	1178	0	0	0	17	306
1-4 JR	3319	3254	6573	0	0	0	3	253
5-9 JR	4338	4102	8440	0	0	0	1	64
10-14 JR	3989	3790	7780	3	5	4	8	5
15-19 JR	3948	3823	7770	23	24	23	1	3
20-24 JR	3992	4548	8540	18	44	32	1	4
25-29 JR	5456	6084	11540	29	62	47	0	4
30-34 JR	6388	6267	12654	23	59	41	4	5
35-39 JR	5893	5754	11647	36	57	46	2	1
40-44 JR	5261	5238	10499	29	74	51	6	1
45-49 JR	4985	4849	9834	32	62	47	18	1
50-54 JR	4859	4800	9659	45	77	61	18	0
55-59 JR	3555	3726	7282	28	38	33	22	1
60-64 JR	3088	3116	6204	52	45	48	37	0
65-69 JR	2682	2934	5616	34	61	48	41	0
70-74 JR	2074	2613	4687	19	38	30	107	0
75-79 JR	1608	2312	3920	44	61	54	181	0
80-84 JR	865	1553	2419	46	77	66	281	0
>85 JR	678	1674	2351	59	78	72	268	0
TOTAAL	67597	70994	138591	26	48	37	27	20

## CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS

BLAD 1

PROVINCIEGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD 16.10.2001

PROVINCIE- GROEP	ALLE PEILSTATIONS		JAAR: 2000		WEEK: 1 t/m 52		'INFLU- ENZA'	ZANA- MIVIR	HERPES ZOSTER	SUICIDE (POGING)	MAMMOGRAFIE	URETHRI- TIS	CAIDS
	POPULATIE	M	V	T	M+V	T							
GR+FR+DR	11596	11949	23545	171	1	21	26	23	6	53	16	19	7
OV+GLD+FLE	17747	17579	35326	175	2	25	37	31	7	88	73	24	14
UTR+NH+ZH	24939	27916	52854	231	3	35	32	33	6	80	34	22	27
ZLD+NB+LIM	13316	13551	26866	181	1	41	46	43	7	99	35	17	19
TOTAAL	67599	70995	138592	197	2	31	35	33	6	81	41	21	19

## PROVINCIEGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD

16.10.2001

ALLE PEILSTATIONS	JAAR: 2000		WEEK: 1 t/m 52		PROSTAATLUIDEN		KINK- HOEST	DIABETES MELLITUS		
	M	V	T	M	M	M		M	V	T
GR+FR+DR	11596	11949	23545	41	35	44	3	16	14	15
OV+GLD+FLE	17747	17579	35326	108	130	108	7	26	21	23
UTR+NH+ZH	24939	27916	52854	102	84	99	10	18	21	20
ZLD+NB+LIM	13316	135521	26866	85	92	96	33	35	32	33
TOTAAL	67599	70995	138592	90	89	91	12	23	22	23

## PROVINCIEGROEP NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD 16.10.2001

ALLE PEILSTATIONS JAAR: 2000 WEEK: 1 t/m 52

PROVINCIE- GROEP	POPULATIE				DEPRESSIE		INCONTI- NENTIE		WATER- POKKEN	
	M	V	T	M	V	T	M+V	M+V	M+V	
GR+FR+DR	11596	11949	23545	19	25	22	15	12	12	
OV+GLD+FLE	17747	17579	35326	28	33	31	25	17	17	
UTR+NH+ZH	24939	27916	52854	26	63	43	35	22	22	
ZLD+NB+LIM	13316	13551	26866	39	56	48	25	28	28	
TOTAAL	67599	70995	138592	26	48	37	27	20	20	

## STEDELJKHEIDSGRAAD NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDEERD 16.10.2001

JAAR: 2000 WEEK: 1 t/m 52

ALLE PEILSTATIONS

STEDELJK- HEID	POPULATIE		"INFLU- ENZA"	ZANA- MIVIR	HERPES ZOSTER	SUIJIDE (POGING)	MAMMOGRAFIE	URETHRI- TIS	CAIDS			
	M	V										
5	9901	9689	171	2	18	36	27	7	72	44	10	10
4-3-2	46802	49376	181	1	32	35	34	6	84	38	21	15
1	10896	11929	286	4	40	31	35	6	76	52	31	41
TOTAAL	67599	70995	197	2	31	35	33	6	81	41	21	19

CONTINUE MORBIDITEITSREGISTRATIE PEILSTATIONS BLAD 2

STEDELJKHEIDSGRAAD NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD 16.10.2001

ALLE PEILSTATIONS JAAR: 2000 WEEK: 1 t/m 52

STEDELJK- HEID	POPULATIE			GASTRO-ENTERITIS			PROSTAATLIJDEN			KINK- HOEST			DIABETES MELLITUS		
	M	V	T	M	V	T	M	M	M	M	M	M	V	T	
5	9901	9689	19590	66	77	71	62	184	8	4	30	26	28		
4-3-2	46802	49376	96178	85	91	88	84	69	12	13	23	19	21		
1	10986	11929	22824	130	111	120	84	90	11	17	17	29	24		
TOTAAL	67599	70995	138592	90	93	91	80	89	11	12	23	22	23		

## STEDELIJKHEIDSGRAAD NAAR ZIEKTEBEELD CUMULATIEF ALLE PEILSTATIONS GESTANDAARDISEERD 16.10.2001

ALLE PEILSTATIONS JAAR: 2000 WEEK: 1 1/4m 52

STEDELIJK- HEID	POPULATIE			DEPRESSIE			INCONTI- NENTIE			WATER- POKKEN		
	M	V	T	M	V	T	M+V	T	M+V	T	M+V	
5	9901	9689	19590	18	31	25	18	25	18	25	22	
4-3-2	46802	49376	96178	28	50	39	28	39	28	39	20	
1	10896	11929	22824	26	54	40	28	40	28	40	19	
TOTAAL	67599	70995	138592	26	48	37	27	37	27	37	20	

## Appendix 7

### Bijlage 1

#### Bijlage

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

- Appendix 1
- 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

- Appendix 2
- 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)
- Zanamivir (prescription)
- Incontinence material (authorization)
- chickenpox
- depression
- Herpes zoster
- Diabetes Mellitus (incidents patients)
- (Attempted) suicide
- (clinical) mammography
- taken for the first time after 1-1-1999
- Repeat examination
- Urethritis of the man
- Concern about AIDS
- Gastro-enteritis
- Prostate trouble

#### Regel no.

Leeftijdsgroep  
Influenza (-achtig ziektebeeld)  
Zanamivir voorschrift  
Incontinentie materiaal (machtiging)  
Waterpokken  
Depressie  
Herpes zoster  
Diabetes Mellitus (nieuwe patiënt)  
Suicide(poging)  
(Poli) klinische mammografie  
na 1-1-1999 voor eerste maal  
herhalingsonderzoek  
Urethritis bij man  
C.A.I.D.S.  
Gastro-enteritis  
Prostaatlijden



rectaal toucher  
p.s.a.  
verwijzing verdenking prostaatca  
kinkhoest

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 S.v.p. apart formulier invullen en bij de weekstaat voegen.
- 4 S.v.p. apart formulier invullen en bij de weekstaat voegen.
- 5 Telefonische consulten melden.
- 6 S.v.p. apart formulier invullen en bij de weekstaat voegen.
- 7 S.v.p. apart formulier invullen en bij de weekstaat voegen.
- 8 S.v.p. apart formulier invullen en bij de weekstaat voegen.
- 9 S.v.p. apart formulier invullen en bij de weekstaat voegen.

Tables (p 151 - p 159)

Continue morbiditeits registratie  
peilstations

Kwartaal  
Leeftijdsgroep  
Influenza (-achtig ziektebeeld)  
Zanamivir (voorschrift)  
Incontinentie materiaal (machtiging)  
Waterpokken  
Herpes zoster  
Dabetes mellitus (nieuwe patiënt)  
Suicide(poging)  
(poli) klinische mammografie  
na 1-1-1999 voor de eerste maal  
Herhalingsonderzoek

rectal touch  
P.S.A.  
referral to urologist  
- whooping cough

- 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 Please complete a separate form and attach to the weekly return.
- 4 Please complete a separate form and attach to the weekly return.
- 5 Report telephone calls as well.
- 6 Please complete a separate form and attach to the weekly return.
- 7 Please complete a separate form and attach to the weekly return.
- 8 Please complete a separate form and attach to the weekly return.
- 9 Please complete a separate form and attach to the weekly return.

- Continuous morbidity registration  
sentinel stations

- Quarter
- Age group
- Influenza (-like illness)
- Zanamivir (prescription)
- Incontinence material (authorization)
- Chickenpox
- Herpes zoster
- Diabetes Mellitus (incidents patients)
- (Attempted) suicide
- (Clinical) mammography
- Taken for the first time after 1-1-1999
- Repeat examination

Urethritis bij man  
C.A.I.D.S.  
Gastro-enteritis  
Prostaatlijden  
rectaal toucher  
p.s.a.  
verwijzing verdenking prostaatca  
Kinkhoest

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

Stedelijkheidsgraad  
5  
4-3-2

1

Voetnoot

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

- Urethritis of the man
- Concern about AIDS
- Gastro-enteritis
- Prostate trouble  
rectal touch  
P.S.A.  
referral to urologist
- Whooping cough
  
- Province group  
Groningen, Friesland, Drenthe
- Overijssel, Gelderland, Flevoland
- Utrecht, North Holland, South Holland
- Zeeland, North Brabant, Limburg
  
- Degree of urbanization
- 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



