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Continuous Morbidity Registration at Dutch Sentinel Stations 2003

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Foreword

The decrease in the number of requests for euthanasia or assisted suicide, a trend that started in 2001, was not sustained in 2003. In 2003 more requests by less sentinel GPs were registered than in 2001 and 2002.
This development was not reflected by the number of cases of euthanasia reported to the Regional Review Committees. The number of reported cases in 2003 was lower than in 2002. It should be noted that in the Netherlands, by law, every case of euthanasia has to be reported to such a Committee. The question therefore arises whether the discrepancy between number of requests and reported cases of euthanasia is due to a decreased willingness of physicians to report cases of euthanasia to the Committee, or is due to the fact that a request for euthanasia is not granted by euthanasia but by terminal sedation. For terminal sedation, which is regarded as a normal medical procedure, reporting is not mandatory.
In 2005 terminal sedation will be included in the weekly returns of the sentinel network.

Contrasting developments were also observed with regard to the incidence of two infectious diseases: influenza and acute gastroenteritis. Just like the previous season the influenza season 2003-2004 was quiet and uneventful; by contrast, acute gastroenteritis was reported with increasing frequency; a trend that started in 2000. From a publication by the European Food-borne Viruses Network we know that this increase is mainly due to infection with a new type of norovirus. Monitoring of patients in 1998-1999 already had demonstrated that infection with norovirus is the predominant cause of acute gastroenteritis in the Dutch population.

Although virologists emphasize repeatedly that the influenza virus is unpredictable, they still were surprised about the low activity of influenza in the past seasons. They are convinced that influenza will strike again; therefore surveillance remains important.

The study of resistance of urinary tract infections to antibiotics, performed in unselected urine samples in extramural health care and executed in collaboration with the Working group on Antibiotic Management (Stichting Werkgroep Antibioticabeleid, SWAB), may lead to a revision of the guidelines by the Dutch General Practitioners Association (Nederlands Huisartsen Genootschap, NHG). The first results of this study show a high degree of resistance to one of the agents currently recommended as first choice for the treatment of urinary tract infections.

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 takes account of the geographical distribution of the population and its distribution over areas with different degrees of urbanisation (see pp 15-18).
The GPs in the network, the Sentinel Doctors, 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. 181).
A census is held every two years among the practice populations involved 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. 26).
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. If a decision is made for the inclusion of a new topic a supervisor who is responsible for the registration is assigned.
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 182-184 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 the name ‘Continuous Morbidity Registration’ does not actually cover all aspects of the work. After all, some of the topics covered are interventions or occurrences and not illnesses. The name ‘Sentinel Stations’ is more apt because monitoring is performed, sometimes for a year or more and sometimes permanently. Therefore this report is called Continuous Morbidity Registration at Dutch Sentinel Stations.
Besides completing the weekly returns, sentinel doctors have been providing data for "incidental studies" since 1976.

The incidental 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 2003.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. One condition is that the subject must be well imprinted on the memory of the doctor.

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 the basic data that is reported in the year in question.

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 at sentinel stations 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, Ireland, Italy, Netherlands, Norway, Poland, Portugal, Romania, Scotland, Slovakia, Slovenia, Spain and Switzerland. The European Commission has provided funds for the Netherlands Institute of Primary Care (NIVEL) to coordinate EISS (www.eiss.org).

In 1998, NIVEL and Dr Douglas Fleming (UK), Project Leader of the English 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 also participated in the project and gathered data for it in 2000 (see chapter 8).
At the end of 2001, the 'Health Monitoring Project' was followed up by the 'Health Information from Primary Care' project, which enabled the cooperation with other sentinel networks in the EU to continue in 2002 and 2003.

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:

The committee members in 2003 were:

Counselling Committee:

Dr Y.T.H.P. van Duynhoven, epidemiological medical researcher, (National Institute for Public Health and the Environment; RIVM)
Ir. J. Geraedts senior policy assistant, (Ministry of Health, Welfare and Sport; VWS)
F.K.A. Fokkema, general practitioner, (Sentinel GP)
R.C. Sardeman, medical doctor, (Health Care Inspectorate)
Dr F.G. Schellevis, general practitioner/epidemiologist, (Netherlands Institute for Health Services Research; NIVEL)
Dr. E.E. Stobberingh, (University Hospital Maastricht: Working group on Antibiotic Management; SWAB)(from 01-10-2003)
Dr H. Verkleij, sociologist (ministry of Health, Welfare and Sport; VWS)
A.A.M. Vloemans, medical doctor/epidemiologist (Health Care Inspectorate)
J.K. van Wijngaarden, medical doctor (Health Care Inspectorate)
Prof. J. van der Zee, Chairman, (Netherlands Institute for Health Services Research; NIVEL)

Project leader:	A.I.M. Bartelds, general practitioner, (Sentinel GP)
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 2003.

3 Sentinel station staff seminar in 2003

For the appropriate functioning of the Sentinel Network it is of utmost importance that Sentinel GPs and their co-workers, the Counselling Committee, the topic managers and project leaders meet regularly. Every year, at the start of a new registration period, which runs from the first of January to December 31, an annual meeting is held.
The next paragraph is a brief summary of the 2003 meeting.

Since 1976 Sentinel GPs register requests for euthanasia and assisted suicide in their practice. Additional data on underlying disease and reasons for the request are also documented. The GPs have been instructed not to mention whether the request for euthanasia is granted or not. Dr. R. Marquet, senior investigator at NIVEL, presented an overview of this registration during the period 1977-2001. He showed that, following a steep increase in the first 15 years of registration, the number of request for euthanasia or assisted suicide has stabilized. The majority of patients requesting euthanasia suffer from cancer, predominantly lung cancer and gastrointestinal cancer. The proportion of patients with a so-called living will increased over the years to 87% in 2001. It is remarkable that unbearable pain gradually decreased as reason to request for euthanasia, whereas fear for deterioration and hopelessness increased.

A new topic on the weekly returns sometimes requires additional information. The new topic: “Environmental-related health complaints”, introduced in 2003, was elaborated on by Dr. R. van Poll. He is scientist at the National Institute for Public Health and the Environment (RIVM). In the Netherlands there are several centres where environmental-related complaints can be reported. It is estimated that the yearly number of complaints is in the range of 10,000s. From the results of a pilot study it has become clear that also GPs are confronted regularly with such complaints, suggesting that GPs may be an important source of information about environmental-related health

problems. Dr. van Poll elucidated the definition of “environmental-related health problems”. They relate to: “a physical and/or mental complaint ascribed by the patient to a chemical or physical agent in the inner or outer environment”. With the GPs in the audience van Poll discussed which health complaints might be relevant in this respect and which complaints (i.e. caused by biological agents) should be excluded.

Registration of events and diseases by GPs during the years provides valuable information, even if the event is rare, such as eating disorder. Sentinel GPs have registered eating disorders from 1985-1989 and in a follow-up study from 1995-2001. Investigators of the National Knowledge and Treatment Centre for Eating Disorders (“Robert Fleury Foundation”) in Leidschendam have analysed the data. Mrs. Drs. G. van Son, psychologist at the National Centre, reported the first results of the follow-up study. She also explained that from 2003 onwards binge eating, a newly distinguished eating disorder, will be included in the weekly returns.

Virologists are convinced that the outbreak of a new influenza pandemic is only a matter of time. Since a couple of years the notion has emerged that it is wise to develop scenarios in case such a pandemic would occur. The objective of the scenarios is to cope with the effects of the pandemic and to enable continuation of normal life as much as possible. Also in the Netherlands such an “Influenza pandemic preparedness plan” has been composed. The plan emphasizes the importance of appropriate surveillance of influenza in the inter-pandemic period and in the early phases of the new pandemic. Dutch Sentinel GPs play a key role in this surveillance, said Dr. J. van der Velden, chairman of the “European Influenza Surveillance Scheme” (EISS).

4 Distribution of sentinel stations in the Netherlands

Figure 4.1
SENTINEL STATIONS
Continuous Morbidity Registration
2003

4.1 Practices

There were 42 sentinel stations in the Netherlands in 2003. The number of general practitioners working in the sentinel station practices was 63.

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

N: stands for the Groningen, Friesland and Drenthe province group (northern provinces);
E: stands for the Overijssel, Gelderland and Flevoland province group (eastern provinces);
W: stands for the Utrecht, Noord Holland and Zuid Holland province group (western provinces);
S: stands for the Zeeland, Noord Brabant and Limburg province group (southern provinces);
1: stands for urbanisation degree 5 (rural municipalities);[1]
2: stands for urbanisation degrees 4-3-2 (urbanised rural municipalities and municipalities with urban features):
3: stands for urbanisation degree 1 (municipalities with 100,000 or more inhabitants).

Appendix 1 (pp 179-180) contains a list of the GPs who participated in the sentinel station project in 2003. Two or more GPs cooperate at fourteen of the sentinel stations (two GPs cooperate in 10 cases, three in 3 cases and six in 1 case). The percentage of GPs working in group practice nationwide was 61.4% in January 2003 the figure was 65% for the sentinel stations. There were five dispensing sentinel doctors (three in places with urbanisation degree 1 and two in places with urbanisation degree 2), which is 12% of the total number of sentinel doctors. The figure for the Netherlands as a whole is 8.1%.[2]

Tables 4.1 and 4.2 show the distribution of the number of sentinel doctors and sentinel stations in each province group and urbanisation group in the 1993-2003 period. Starting with the statistics for 1992, the *Centraal Bureau voor de Statistiek* (Netherlands Statistics) has been applying a new criterion to classify the degree of urbanisation: the density of addresses in the area.

Adjustment to the criteria for classification according to urbanisation occurs as and when necessary. A comparison with the number of GPs in the Netherlands in the different sub-groups shows that the sentinel doctors form a proportional representation.

Table 4.1 Distribution of sentinel physicians (GPs) and sentinel stations per province group in the 1994-2003 period[3]

	N; Groningen, Friesland and Drenthe		E; Overijssel, Gelderland and Flevoland		W; Utrecht, Noord- and Zuid-Holland		S; Zeeland, Noord-Brabant and Limburg	
province-group	GPs	sentinel stations	GPs	sentinel stations	GPs	sentinel stations	GPs	sentinel stations
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
2001	13	6	15	10	23	19	14	10
2002	13	6	15	10	23	18	14	10
2003	11	5	14	9	24	18	14	10

Table 4.2 Distribution of sentinel physicians (GPs) and sentinel stations per urbanisation degree in the 1994-2003 period

	1; rural municipalities*		2; urbanised rural municipalities together with municipalities with urban characteristics		3; municipalities with 100 000 or more inhabitants		total	
urbanisation degree	GPs	sentinel stations	GPs	sentinel stations	GPs	sentinel stations	GPs	sentinel stations
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
2001	10	7	43	27	13	11	66	45
2002	10	7	43	27	12	10	65	44
2003	8	5	44	28	11	9	63	42

* From 1994 the sentinel stations are classified using the new scale for measuring the degree of urbanisation as used by Netherlands Statistics (CBS).

4.2 Practice populations

A census of all practice populations was held in 2003. The results of the census have been used in the processing of CMR Sentinel Station data since 1 January 2004. A new census will be held in 2005.

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 urbanisation ('urbanisation degree'). 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 2002 by 87,287 and stood at 16,192,572 on 1 January 2003.

Table 4.3 Comparison of the population of the sentinel practices with the total population of the Netherlands, 2003

	population of the Netherlands**	population of sentinel stations* (with percentages)	
province group:			
N	1,724,038	22,965	(1.3)
E	3,412,779	30,258	(0.9)
W	7,543,668	54,064	(0.7)
S	3,542,087	34,834	(1.0)
gender:			
men	8,015,471	70,220	(0.9)
women	8,177,101	71,899	(0.9)
total (1-1-2003)	16,192,572	142,119	(0.9)

* Practices census 2001

** 1-1-2003, Netherlands Statistics *(Centraal Bureau voor de Statistiek)*: People on the Central Persons Register *(Centraal Persoonsregister (CPR))* are not included.

Province group N (the northern provinces) is over-represented. Province group W is under-represented. The representation of the various degrees of urbanisation was more equal up to and including 2000. 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 and province group.

Table 4.4 Percentage of men and women in the Dutch population registered with sentinel practices, by age group and province group and for the Netherlands as whole in 2003

	province group								Netherlands	
	N		E		W		S			
	M	F	M	F	M	F	M	F	M	F
0-4	1.4	1.4	0.8	0.8	0.6	0.6	1.0	1.0	0.8	0.8
5-9	1.4	1.4	0.9	0.9	0.6	0.6	1.0	1.0	0.9	0.8
10-14	1.3	1.3	0.8	0.9	0.6	0.6	0.9	0.9	0.8	0.8
15-19	1.5	1.5	0.8	0.8	0.6	0.6	0.9	0.9	0.8	0.8
20-24	1.4	1.4	0.8	0.8	0.7	0.8	0.9	1.1	0.8	0.9
25-29	1.5	2.6	1.0	1.0	0.8	0.9	1.1	1.2	1.0	1.0
30-34	1.5	1.5	1.0	0.9	0.8	0.8	1.1	1.1	1.0	1.0
35-39	1.4	1.4	0.9	0.9	0.7	0.7	1.0	0.9	0.9	0.9
40-44	1.4	1.5	0.9	0.9	0.7	0.7	0.9	0.9	0.9	0.9
45-49	1.4	0.9	0.9	0.8	0.7	0.7	0.9	0.9	0.9	0.9
50-54	1.4	1.4	0.9	0.9	0.8	0.7	1.0	1.0	0.9	0.9
55-59	1.1	1.1	0.9	0.9	0.6	0.6	0.9	0.9	0.8	0.8
60-64	1.3	1.2	1.0	1.0	0.7	0.7	1.0	1.0	0.9	0.9
65-69	1.2	1.2	1.0	0.9	0.7	0.7	1.0	1.0	0.9	0.8
70-74	1.0	1.1	0.9	0.8	0.7	0.7	0.9	1.0	0.8	0.9
75-79	1.1	1.1	0.9	0.8	0.7	0.7	1.0	1.0	0.9	0.9
80-84	1.1	1.1	0.9	0.7	0.8	0.8	1.0	1.0	0.9	0.9
>84	1.1	1.0	1.2	0.8	0.9	0.9	1.2	1.2	1.0	0.9
total	1.3	1.3	0.9	0.9	0.7	0.7	1.0	1.0	0.9	0.9

4.3 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 doctors generally let it be known when they are unable to report due to holidays or personal circumstances. A sentinel doctor 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 maximum number in 2003 was 10,920 (52 weeks x 5 days x 42 sentinel stations). Table 4.5 shows the absolute numbers and the percentages.

Table 4.5 Maximum number and actual number of reporting days per year (1994-2003)

year	maximum number of reporting days	actual number (absolute)	reporting day percentage
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%
2001	11,700	9,455	80.8%
2002	11,440	8,948	78.2%
2003	10,920	8,445	77.3%

The percentage of reporting days in 2003 as lower than in previous years. The table below contains a breakdown by province group and urbanisation degree.

Reporting in the major cities of the Netherlands (74 %) is the lowest in the urbanisation degree groups. Reporting in the northern provinces (84.5%) is the highest in the province groups.

Table 4.6 Reporting by province group and degree of urbanisation, 2003

province group		degree of urbanisation	
N	84.5%	1	86.2%
E	82.3%	2	76.6%
W	75.2%	3	74%
S	73.3%		

Figure 4.2 shows the weekly reporting of all sentinel stations. The influence of public holidays is clearly visible. The average number of non-reporting days per week is 48 (maximum 42 x 5 = 210).

Figure 4.2 Number of days in 2003 that data was recorded

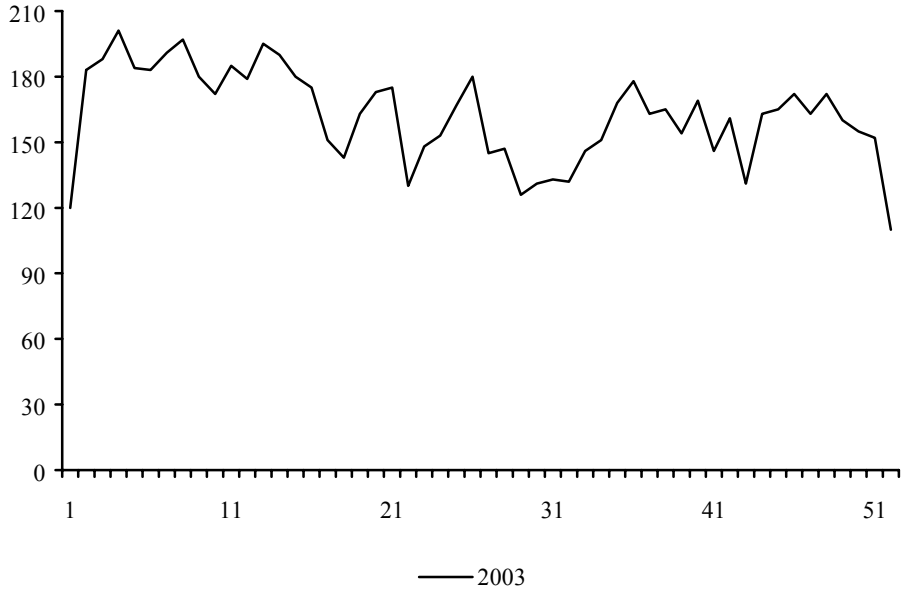

Table 4.7 shows the frequency distribution of the number of non-reporting days at each sentinel station. The average number of non-reporting days per sentinel station was 59, which is higher than in 2003.
A breakdown into single and group practices reveals a significant difference, i.e. 66 and 43 days, respectively. This reflects the frequently voiced opinion that collaboration enhances the continuity of reporting.

Table 4.7 Frequency distribution of the number of non-reporting days per sentinel station (1994-2003)

number of non reporting days	number of sentinel stations									
	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
0	4	3	4	3	3	3	3	3	3	2
1-9	2	3	4	4	5	4	4	1	1	1
10-19	5	3	2	2	2	1	1	2	1	1
20-29	2	6	5	6	4	3	1	1	-	2
30-39	13	11	6	6	7	10	4	3	7	5
40-49	12	12	13	12	9	14	16	14	12	12
50-59	5	3	7	6	5	3	11	7	8	7
60-69	2	-	1	1	6	1	2	5	2	3
70-79	-	1	-	1	-	-	4	3	1	1
80-89	-	1	-	-	-	1	1	3	2	-
90-99	-	-	-	-	1	1	-	2	-	-
>99	-	1	1	1	1	2	-	1	7	8
total number of sentinel stations	45	44	43	42	43	43	47	45	44	42
average	32	35	35	37	39	39	43	49	56	59
median	37	37	40	40	40	40	46	48	48	48

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 40% of the sentinel stations in 2003. Illness of the GP or assistant are the reasons for non-reporting over a prolonged period of time.

4.4 Weekly return (Appendix 2, page 181)

The topics contained in the weekly returns for 2003 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 Prescription of neuraminidase inhibitor (2000);
3 Chickenpox (2000);
4 Environment-related health complaints (2003);
5 Consultation for smoking addiction (2003);
6 Suicide (and attempted suicide) (1979);
7 Referral to and consultation of Mental Health Services (GGZ) (2001);
8 Urethritis in men (1992);
9 Fear of AIDS (1988);
10 Gastroenteritis (1996);
11 Unwanted pregnancy (2003);
12 Sexual problems and sexual harassment (2003);
13 Whooping cough (1998).
14 Acute respiratory infections (2001)

A report covering one week is the norm. Consequently, a sentinel doctors 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 182-184) together with the years in which data was recorded.

4.5 Analyses

This report contains the results of the weekly returns for 2003 NIVEL processed the data from the returns.

Three tables are produced routinely for each subject:
1 absolute number of patients by gender and age group;
2 absolute number of patients by gender and province group;
3 absolute number of patients by gender and degree of urbanisation.

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 doctors, 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 186) shows the age structure of the Dutch population on 1 January 2003, which can be used to calculate 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 i.e. the reported cases not included in the "numerator" and the practice population was not included in the "denominator". Data from practices that did report on more than 2 days per week were processed. A

correction factor used to be applied because enquiries among sentinel doctors 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 187-192).

1 Cumulative, i.e. all sentinel stations in a standardised format, year 2003, weeks 01-52, pp 1-3.[4]
2 Province group standardised according to illness, year 2003, weeks 01-52, pp 1-3.[4]
3 Degree of urbanisation, standardised according to illness, year 2003, weeks 01-52, pp 1-3.[4]

4.6 Extrapolation of observed frequencies to the Dutch population as a whole

For each topic a general impression is given 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 (see also pages 18-20), the sentinel doctors 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. Caution should be exercised when examining topics that include intervention by a GP. One example is 'consultation for smoking addiction' because the sentinel doctors may differ in their approach from the modal GP. Similarly, the 'suicide and attempted suicide'[5] topic appears to differ from data recorded elsewhere, probably because these occurrences are not always reported to a GP. As regards the registration of data in general, the sentinel doctors almost definitely act as a select group, but this must inevitably benefit the project. Nevertheless, readers should examine **not only** the extrapolated numbers, but should also refer to the chapters concerned. To allow correct interpretation of the extrapolated figures, the details of the total Dutch population per year are given first, in thousands.

Table 4.8 Dutch population by gender, in thousands, 1994-2003 (CBS)*

year	men	women	total
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
2001	7,910	8,077	15,987
2002	7,972	8,133	16,105
2003	8,016	8,177	16,193

* Numbers as on 1 January of each year.

4.7 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 1 per 10,000 patients is observed in the sentinel stations' total population of approximately 142,119 patients (1st column), the 95% confidence interval is 0,48 - (1,5) per 10,000 (2nd column). It follows that the estimated absolute number in the Dutch population is 1619 (3rd column) and that the 95% confidence interval is between 777 and 2461. The table shows how these estimates relate to a found frequency at the sentinel stations of 1 to 1,000 per 10,000 patients with some intermediate 'steps'. The confidence intervals are particularly high at the lower frequencies.

Table 4.9 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	absolute number	95%CI
1	0,48-1,52	1619	77-2461
10	8,36-11,64	16193	13532-18854
100	94,83-105,17	161930	153553-170307
1,000	984,40-1015,60	1619300	1594043-1644557

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.

(With thanks to Drs. M. van den Berg, Netherlands Institute for Health Service Research) (NIVEL).

5 Influenza(-like illness)

Topic owner: National Influenza Centre *(Nationaal Influenza Centrum)*
(1970-2003)

Introduction

Influenza is a significant public health problem.
Influenza has been linked to an increase in the number of consultations and visits by GPs, as well as to an increased workload in health care and nursing institutions, an extra load on hospitals as a result of more referrals and admissions and an increase in the mortality rate. In addition, absenteeism due to influenza means loss of production from the workforce and pupils absent from schools.

Cases of influenza occur every year in the Netherlands and throughout the rest of the world. The 'influenza season' runs from week 40 to week 20 of the following year. In the so-called interpandemic situation an influenza epidemic actually only occurs in the winter in the northern hemisphere; since registration of influenza-like illnesses began the influenza epidemics have always started between mid-November and the beginning of March.

The history of well-described outbreaks of respiratory infections goes back to 1173-1174. The incidence of airway infection described in that season is considered to be a good description of an influenza epidemic. Since the end of the 12th century there have been a number of descriptions of (sometimes worldwide) outbreaks of what appeared to be influenza.
In the 20th century the world was hit by three pandemics (the Spanish flu (1918-19), the Asian flu (1957-58) and the Hong Kong flu (1968-1970)) of which the flu outbreak in 1918-1919 made the most impression and left frightened people in its wake: approximately 40 million dead throughout the entire world.
In 1933 various parts of the influenza puzzle started to fall into place and the influenza virus was identified and held responsible for small or larger

outbreaks of acute respiratory infections where it was not unusual for the infected person to die. It was also proven that influenza could be transmitted from animal to animal, from animal to human and from human to human.

After the 2nd World War the newly set up World Health Organisation decided in 1949 to monitor influenza. National Influenza Centres were established to track the occurrence of influenza and report to the WHO. However, it was only at the start of the 1960s that sentinel doctors began to register the occurrence of influenza among the population (in England and Wales). Other European countries followed. For example, the Netherlands set up the CMR Sentinel Station system in 1970 as a representative national network that succeeded the local networks in a number of large cities.
At the start of the 1990s the quality of the influenza surveillance system was further improved. From 1992/1993, sentinel doctors in an increasing number of European countries took a nose and/or throat swab from patients with an influenza-like illness or an acute respiratory infection. These swabs were then sent for further tests at the laboratory of the National Influenza Centre. One of the European countries to take this approach was the Netherlands.

Method

The sentinel doctor registers the patients who consult him with an acute respiratory infection (known as an influenza-like illness) that meets the Pel criteria.[6] The patient is also recorded as belonging to a particular age group. The doctor is asked to take a nose and throat swab from a maximum of 2 patients per week, which is then sent for further testing to the National Institute for Public Health (RIVM) (Infectious Diseases Diagnostics and Screening Laboratory). This laboratory tests for a number of pathogens, including the influenza and RS viruses. The number of pathogens for which tests are performed can differ from year to year. See also the chapter on the ARI-EL study (acute respiratory infection in primary care).
Unlike the normal approach in the other chapters, the results are given per 'flu' season (which runs from week 40 up to and including week 20 of the following year).

Results

Despite the emergence of a new type of influenza A H3N2-virus (A/Fujian/411/02), the influenza season 2003-2004 was uneventful: the highest incidence, reported in week 51 of 2003, was 15 cases per 10.000 persons (see Figure 5.1). Although this incidence is twice as high as the highest incidence reported in the previous season, it compares favourably with the incidence in the 10 preceding years during which it often exceeded 20 cases per 10.000.
The most patients with flu-like symptoms were reported in the southern provinces. The fewest number of cases was in the eastern provinces (see Figure 5.2).
People who live in the countryside suffered less this season from flu than the inhabitants of cities and towns and commuter municipalities (see Figure 5.3).

Figure 5.1 Number of patients with influenza (an influenza-like illness) per week per 10,000 inhabitants, for the Netherlands in 2001/2002, 2002/2003 and 2003/2004

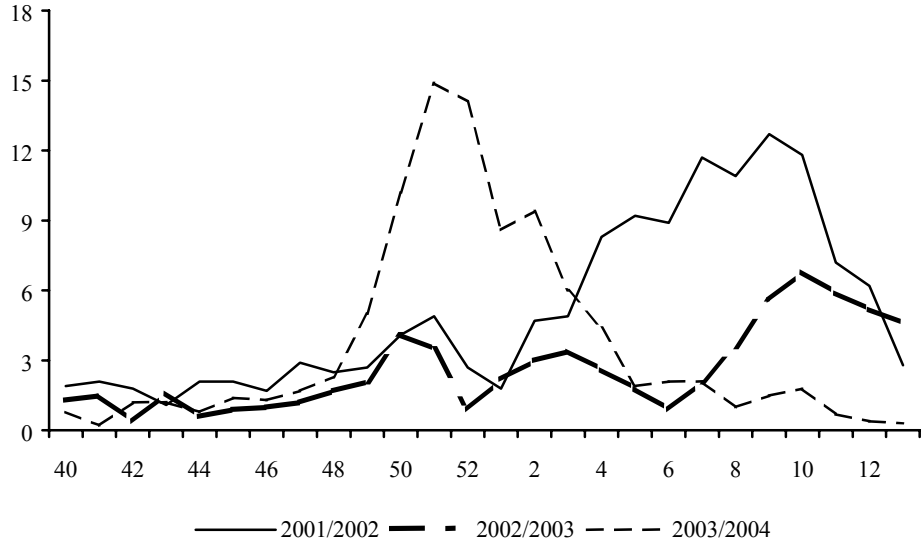

Figure 5.2 Number of patients with influenza (an influenza-like illness) per week per 10,000 inhabitants, according to degree of urbanisation in 2003/2004.

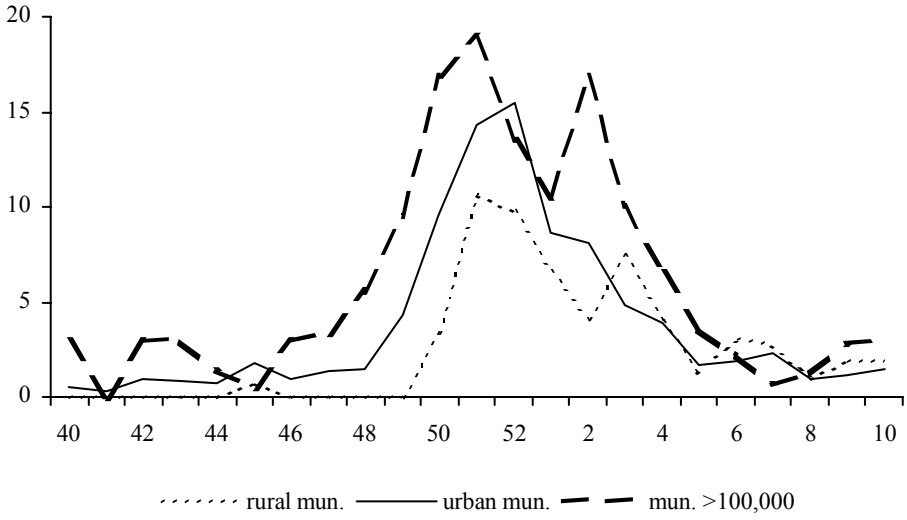

Figure 5.3 Number of patients with influenza (an influenza-like illness) per week per 10,000 inhabitants, per province group in 2003/2004.

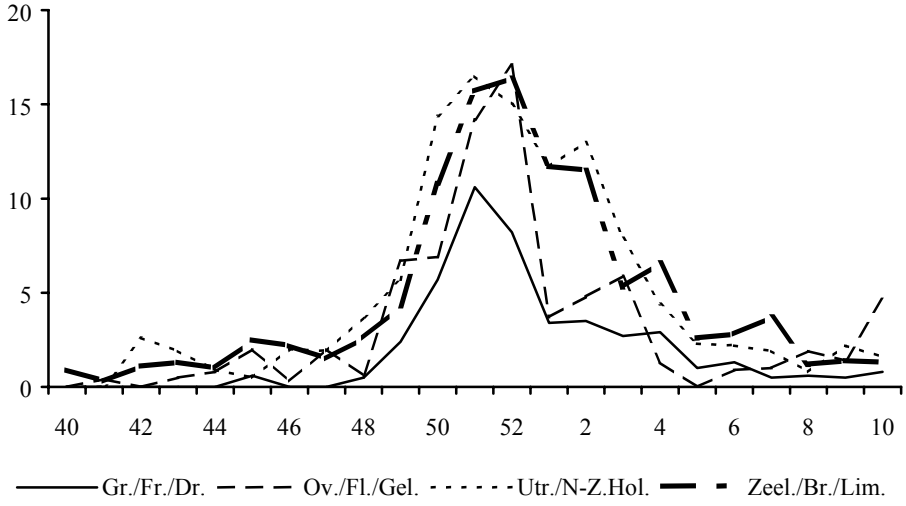

Table 5.1 Number of patients with influenza(-like illness), per 10,000 inhabitants, 1994-2004

year	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
total calendar year	107	315	155	233	248	254	197	113	157	122	
highest weekly incidence per 'season' (from week 40 - week 20)		16	39	29	17	23	32	7	13	7	15

Extrapolation

Table 5.1 Extrapolation of incidence rates to the Dutch population as a whole

	frequency incidence rate (per 10.000)*	Netherlands** (absolute numbers)
topic year	total (m+f)	total*** (m+f)
influenza like complaints		
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
2001	113	180,500
2002	157	253,000
2003	122	197,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

It is noticeable that this is the 4 th season in a row with low influenza activity in The Netherlands.
The incidence rate in humans never went during this season above 15 cases per 10,000 inhabitants in any one week. In previous seasons incidences higher than 20 per 10,000 persons were normal.
There were differences in the occurrence of flu in the different province groups and according to the degree of urbanisation, but these differences were slight in comparison with other years and also compared with previous (also quiet) influenza seasons.

Influenza (influenza-like illness) in Europe in the 2003/2004 season (www.eiss.org)

The increase in the appearance of the influenza virus occurred relatively early in the 2003/2004 season.
From week 43 there was an increase in influenza activity in Scotland and Ireland. In week 45 Spain reported influenza activity in the whole country, followed by Portugal and Norway in week 46. Except for Portugal the activity in these countries was low, in all countries the new influenza type A/Fujian was identified. It is conspicuous that during this influenza season children were predominantly affected. In December the virus spread via France and Belgium to the Netherlands. In January the virus became active in the middle and eastern European countries and peaked there from week 4 to week 8 from 2004.

In week 12/2004 the Coordination Centre of EISS mentioned in its "Weekly Electronic Bulletin" that 97% of all isolates were A/Fujian. Despite some initial concern about A/Fujian the influenza season 2003/2004 elapsed uneventful and mild in the whole of Europe.

This topic remains on the weekly return.

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6 Neuraminidase inhibitors (prescription of)

Topic owner: A.I.M. Bartelds (NIVEL) (2000-2003)

Introduction

The availability of neuraminidase inhibitors, the new specific anti-influenza medications, was expected to have an affect on GPs and their practices.[7]

It was also expected that the results of the registration of influenza-like complaints would also be affected. It is conceivable that if a rise in influenza activity were registered in the winter season, neuraminidase inhibitors would attract public attention.

This publicity for an anti-flu medication introduced a few years ago might encourage people with an influenza-like illness who normally would not have consulted their GP, because no specific treatment was available, to consult their GP now. This would distort the results of the registration in comparison to previous years. Consequently GPs were asked to register every request for a neuraminidase inhibitors so that this distortion could be measured.

Method

Every request for a prescription of a neuraminidase inhibitors was to be recorded.
There was also an additional list of questions concerning the background to the request and whether the request was granted.

Results

Table 6.1 gives the number of persons in 10,000 who requested a prescription for a neuraminidase inhibitors by province group and by degree of urbanisation.

Table 6.1 The number of persons in 10,000 who requested a prescription for a neuraminidase inhibitors by province group, by degree of urbanisation and for the Netherlands as a whole, 2000-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
2000	1	2	3	1	2	2	4	2
2001	(0)	(0)	(0)	(2)	(1)	(1)	(0)	(0)
2002	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
2003	-	(0)	2	(1)	(1)	1	(2)	1

Extrapolation

Table 6.2 Extrapolation of incidence rates tot the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute numbers)
topic year	total (m+f)	total*** (m+f)
prescription of neuraminidase inhibitors		
2000	2	3,000
2001	(0)	-
2002	(0)	-
2003	1	1,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

Requests for prescriptions of a neuraminidase inhibitors were seldom reported between 2000 and 2003.

The majority of requests involved a practical reason: an upcoming exam, holiday plans or the funeral of a deceased parent.

It appears that the availability of a neuraminidase inhibitors had no effect on the registration of influenza-like illness during the 2000-2001, 2001-2002 and 2002-2003 season.

The exceptional situation that occurred as a result of the outbreak of fowl pest (avian influenza) and the attention given to it in the media might have increased the demand for a neuraminidase inhibitors in 2003. However, this was not the case.

This topic will remain on the weekly return in 2004.

7 Acute respiratory infections in primary care (ARI-EL study)

Topic owner: Dr. S. van der Plas (RIVM-CIE) (2000-2003)

Introduction

Since 1970, the CMR Sentinel Station doctors have been registering the patients that they receive with influenza-type symptoms by week and age. However, based on the clinical symptoms it is not possible to unequivocally pinpoint the pathogen causing the illness. This explains in part why approximately three quarters of the sentinel station GPs started taking nose and throat swabs in the 1992-1993 influenza season from a random group of their patients who report an influenza-like illness. The nose and throat swabs are tested for respiratory viruses, *Mycoplasma pneumoniae* and *Chlamydia pneumoniae* using a virus culture and PCR (Polymerase Chain Reaction) at the RIVM's Laboratorium voor Infectieziekten Diagnostiek en Screening (Infectious Diseases Diagnostics and Screening Laboratory). A submission form containing information on the patient's first day of illness, age and gender, symptoms, diagnosis, influenza vaccination status and a number of risk factors accompanies each sample.

The NIVEL/RIVM surveillance of influenza-like illnesses 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 an influenza virus is causing the reported influenza-like illnesses.
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 GP in the case of influenza-like illness. 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 system cannot answer. These questions include the following (which the ARI-EL study seeks to answer):

1 What is the incidence by age and gender of respiratory viruses (including *M. pneumoniae* and *C. pneumoniae*) associated with ARI (acute respiratory infections) other than influenza-like illnesses (ILI) among GP patients?
2 What is the incidence of various respiratory infections in the population?
3 What is the annual and seasonal incidence by age and gender of respiratory viruses (including *M. pneumoniae* and *C. pneumoniae*) associated with ARI (including ILI) among GP patients and in the population?
4 What is the incidence by age and gender of respiratory bacteria associated with ARI (including ILI) among GP patients and in the population?
5 What type of medical consumption is coupled with having an ARI (including ILI), what is the burden of illness of ARI (including ILI) and how often does ARI (including (ILI) occur asymptomatically?

Method

To answer these questions, the RIVM's Centre for Infectious Diseases Epidemiology together with the RIVM's Infectious Diseases Diagnostics and Screening Laboratory, the Public Health regional laboratory in Tilburg and the CMR Sentinel Stations set up the ARI-EL study: ARI-EL = acute respiratory infections in primary care. (Project Manager until 1-4-2003: Dr. M-L. Heijnen, after 01-04-2004 Dr. R. van Gageldonk, of RIVM-CIE). ARI-EL is a case-control study (patients with and without acute respiratory complaints).
The NIVEL/RIVM surveillance of influenza-like illnesses forms part of the ARI-EL study for the duration of the study.

The GPs register consultations for influenza-like illnesses and other acute respiratory infections according to age and week. Nose and throat swabs are taken and questionnaires are handed out to a random group of patients with an ARI (including ILI) as well in the event of controls. Data compilation commenced in week 40 of 2000.

The nose and throat swabs are tested for viruses (including *M. pneumoniae* and *C. pneumoniae*) using a virus culture and PCR (RIVM-LIS). The regionnal laboratory for Public Health in Tilburg tests the second throat swab for a number of bacterial pathogens using a bacteria culture. The RIVM's Centrum voor Infectieziekten Epidemiologie (Centre for Infectious Diseases Epidemiology) collects all the data and analyses the questionnaires.

Detailed reporting will appear elsewhere; a report of preliminary results for the first year of the study has already been issued.[8] Here we will only give the number of reported cases, divided up according to various characteristics.

Results

The number of patients with an acute respiratory infection is given in table 7.1 per 10,000 inhabitants, per province group and degree of urbanisation, and for the Netherlands in 2001-2003.

Table 7.1 Number of patients per 10,000 with an ARI by province group and by degree of urbanisation for the Netherlands in 2001-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
ARI(-ILI)								
2001	118	384	296	667	231	429	275	374
2002	109	413	421	709	289	439	497	426
2003	161	374	489	762	270	536	503	481
ILI								
2001	144	59	116	136	109	100	166	113
2002	156	81	168	214	135	156	178	156
2003	91	81	140	145	88	112	193	122
ARI(+ILI)								
2001	262	443	412	803	340	529	441	487
2002	265	494	589	923	424	595	675	582
2003	252	455	629	907	358	648	696	603

The southern provinces reported by far the most patients with an ARI (+ILI) while the northern provinces reported the fewest. Not only in major cities but also in small cities and suburban areas more patients with ARI(+ILI) were reported in 2003 than previous years.

Age distribution

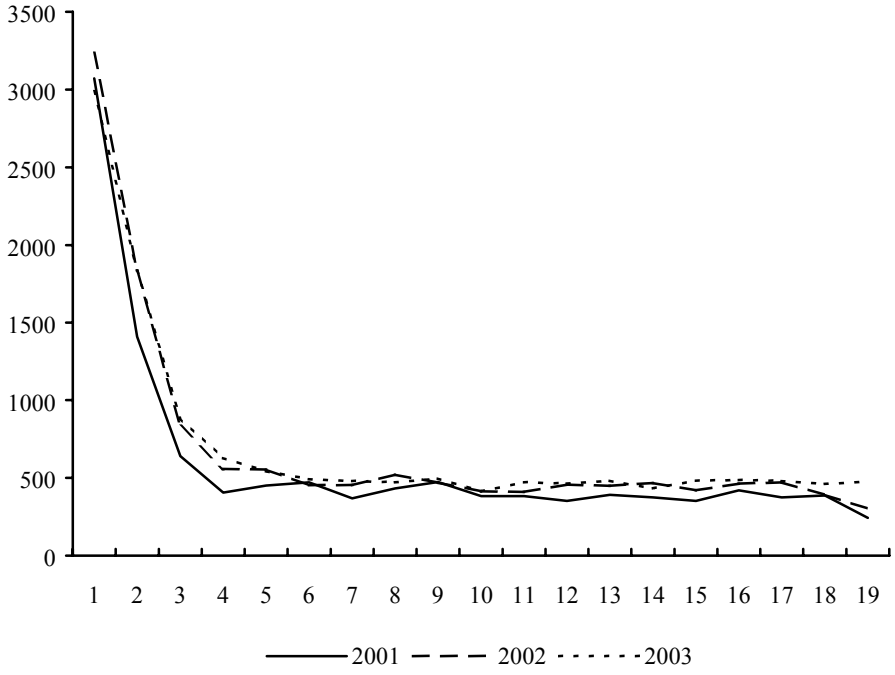
Table 7.2 lists data on patients with an ARI (excluding ILI) or ILI reported by GPs according to age group.

Table 7.2 Number of patients with an ARI (-ILI) and ILI, per age group in 2001-2003, per 10,000 people

age group	ILI			ARI(-ILI)			Total		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
<1	356	445	277	2,715	2,791	2,716	3,071	3,236	2,990
1-4	212	330	230	1,199	1,504	1,610	1,411	1,834	1,836
5-9	112	190	153	528	643	738	640	833	886
10-14	87	174	148	318	384	479	405	558	627
15-19	101	125	113	350	429	430	451	554	543
20-24	119	111	117	352	342	376	471	453	493
25-29	103	131	102	266	322	378	369	453	480
30-34	124	152	110	309	369	361	433	521	471
35-39	138	152	128	335	318	368	473	470	496
40-44	96	142	108	286	272	305	382	414	413
45-49	108	142	108	274	268	363	382	410	471
50-54	107	154	114	245	304	350	352	458	464
54-59	109	132	123	283	316	358	392	448	481
60-64	97	154	92	278	313	340	375	467	432
65-69	90	151	127	263	269	355	353	420	482
70-74	99	120	114	320	343	371	419	463	485
75-79	73	130	74	302	342	405	375	472	479
80-84	70	129	57	307	263	404	377	392	461
>84	27	106	81	216	196	395	243	302	476

The majority of acute respiratory infection registrations concerned young patients (< 10 years old). The difference according to age is greater for ARI(-ILI) than for ILI. This is not to say that acute respiratory infections either do not occur or occur in significantly lower numbers at other ages. After all, this registration involves patients who consulted their GP.

Figure 7.1 Number of patients with ARI per age group per 10,000 people in 2001-2003



age distribution

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=> 84	

Seasonal influences

Table 7.3 shows the number of patients with acute respiratory infections (-ILI) and influenza-like illnesses reported by GPs per 10,000 people in the Netherlands for each quarter of 2001-2003.

Table 7.3 Number of registrations by quarter of patients with an ARI (-ILI) and ILI by 10,000 patients in 2001-2003

quarter	1	2	3	4
ILI				
2001	54	15	8	33
2002	101	17	11	22
2003	46	12	4	57
ARI(-ILI)				
2001	128	70	57	114
2002	148	78	61	135
2003	140	95	75	175
total				
2001	128	85	65	147
2002	249	95	72	157
2003	286	107	79	232

The highest incidence rates appeared in the first and final quarter of the year. This corresponds to expectations, given the seasonally-influenced presence of respiratory pathogens.

Extrapolation

Table 7.4 Extrapolation of incidence rates tot the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute numbers)
topic year	total (m+f)	total*** (m+f)
acute respiratory infections (-ILI)		
2001	374	598,000
2002	426	686,000
2003	481	800,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

The highest number of reported cases of acute respiratory infections was in young children (<10 years old). This is undoubtedly because parents take their children to the doctors whenever they have a bad cold. The same pattern can also be seen for other infectious diseases (see acute gastro-enteritis in chapter 15 and whooping cough in chapter 18).

Registration of acute respiratory infections will continue in 2004.

Publications about the ARI-EL study that are based entirely or in part on data from the continual morbidity registration

Bartelds A.I.M. *Is de kans groot dat een verkouden huisarts zijn patiënten aansteekt?* Vademecum Permanente nascholing huisartsen. 2003, 21(41)

Wilbrink B., Hoogen van den, Heijnen M.L.A. *Humaan MetaPneumoVirus, een nieuw ontdekt virus. Vóórkomen in de ARI-EL studie.* Infectieziekten Bulletin, 2002, jaargang 13, nr. 9, 360-61

Last year, scientists in the virology department of the Erasmus University of Rotterdam discovered a new virus: the human Metapneumo Virus (hMPV). This virus belongs to the family of paramyxoviruses that also includes the Respiratory Syncytial Virus (RSV). The clinical symptoms of infection with hMPV are comparable to those of RSV, which vary from mild complaints of the upper bronchial tubes to serious bronchiolitis and pneumonia and are often accompanied by serious coughing, muscle pains and vomiting. The material from the ARI-EL study was used to more accurately determine the clinical relevance of the virus.

Brandhof van den W.E., Bartelds A.I.M., Peeters M.F., Wilbrink B., Heijnen M.L.A. *ARI-EL: een case-controle onderzoek naar Acute Respiratoire Infecties in de eerste Lijn. Tussenrapportage over okt. 2000 t/m 2001*. RIVM rapport 21617006, 2002

Heijnen M.L.A., Brandhof van der W.E., Bartelds A.I.M., Peeters M.F., Wilbrink B. *ARI-EL: studie acute Respiratoire Infecties in de Eerste Lijn.* Infectieziekten Bulletin, 2002, jaargang 13, nr.3; 104-110

In October 2000 the ARI-EL study started: a case-control study on acute respiratory tract infections (ARI) in general practitioner (GP) patients. The aim is to gain insight into the incidence and aetiology of ARI, into risk factors for ARI and into health care demand and burden of illness due to ARI. GPs register visits for ARI weekly, and sample a maximum of 1 case and 1 control per week. The samples are analysed for respiratory pathogens by culture and PCR. Participating patients fill in a questionnaire at home. Some of the results of the first study year are presented. It appears that the study is feasible, despite the burden for the GPs. The ARI-EL study continues until at least September 2002 to obtain sufficient data for statistical analyses with sufficient power to draw conclusions. The loss of data by applying the precise case and control definitions plus the fact that winter 2000/2001 was an extremely calm influenza season emphasize the need for data collection

during a sufficiently long period. Then this unique study will provide information on the yearly and seasonal incidence of ARI and associated pathogens, the burden of illness of ARI and health care demand and risk factors for ARI.

Heijnen M.L.A., e.a. *Start ARI-EL-studie*. Infectieziekten Bulletin, 2000, jaargang 11, nr. 9, blz. 178-180

8 Chickenpox

Topic owner: A.I.M. Bartelds (NIVEL) (2000-2003)

Introduction

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. In 2001-2003 registration continued at the request of the Health Care Inspectorate.

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 seven European countries are participating in this project (Belgium, France, Spain, Portugal, England and Wales and the Netherlands).

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. Chickenpox infection at the end of pregnancy is a very serious condition, both for mother and child.[9]

Method

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.

In 2001-2003 only the number of patients who the GP diagnosed as having chickenpox was recorded.

This report exclusively contains information about the results of the registration of chickenpox on the weekly returns. Information on the other research questions from 2000 is published elsewhere (Dr D.M. Fleming and Dr F.G. Schellevis).

Results

The number of chickenpox patients per 10,000 inhabitants is shown in Table 8.1 by province group, by degree of urbanisation and for the Netherlands as a whole.

Table 8.1 Number of chickenpox patients per 10,000 inhabitants by province group, by degree of urbanisation and for the Netherlands as a whole in 2000-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
2000	11	17	23	29	21	21	19	20
2001	17	28	25	22	17	24	27	24
2002	18	45	31	30	21	33	32	32
2003	15	38	27	28	46	22	26	27

Following the increased incidence in 2000-2002 the number of reported cases declined in 2003. As usual, the highest incidence occurred in the eastern provinces. The lowest incidence rate was consistently in the northern provinces. In 2001 and 2002 the lowest incidence rate was in the rural municipalities. By contrast, in 2003 more chickenpox was observed in rural municipalities.

Seasonal influences

Patient numbers per 10,000 persons reported by GPs per quarter are given in Table 8.2.

Table 8.2 Number of patients with chickenpox per 10,000 persons per quarter in 2000-2003

	weeks 1-13	weeks 14-26	weeks 27-39	weeks 40-52
2000	6	7	4	3
2001	9	8	5	3
2002	9	11	7	5
2003	10	8	6	3

The incidence of chickenpox was noticeably higher in the first 26 weeks of 2000 than in the second half of the year. This was also the case in the years 2000-2002.

Age distribution

The incidence of chickenpox in the Netherlands per 10,000 persons is given by age group in Table 8.3.

Table 8.3 Number of cases of chickenpox per 10,000 persons by age group and for the Netherlands as a whole in 2000-2003

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	4	(1)	(1)	(1)
2001	320	281	70	12	(4)	6	7	5	(3)	(3)	-
2002	301	359	136	11	(3)	(4)	8	6	(3)	(3)	(1)
2003	284	358	63	9	(3)	8	(4)	7	(4)	-	-

The decreased incidence in 2003 compared to 2002 appears to be mainly due to a lower incidence rate among 5-9 years-olds.

Extrapolation

Table 8.4 Extrapolation of incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute numbers)
topic year	total (m+f)	total*** (m+f)
chickenpox		
2000	22	32,000
2001	24	38,500
2002	32	51,500
2003	27	44,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

Since 2000 the number of cases of chickenpox reported by GPs has increased. In 2003 the incidence has decreased. Chickenpox occurs mostly in children under 10 and even more so in children under 5. In England and

Wales chickenpox also occurs at a younger age. This is in contrast to Portugal and Spain where chickenpox occurs more often in older children. One consequence of the occurrence of chickenpox in especially the youngest age groups (< 5 years old) is that women who are pregnant for at least the second time run a greater risk of coming into contact with chickenpox.

As in 2003, most of the cases of chickenpox in 2002 were in the eastern provinces. Unlike in previous years, most cases of chickenpox are now reported in suburban areas.

This topic of chickenpox will be maintained in 2004.

Publications based fully or partly on continuous morbidity registration data

Fleming D.M., Schellevis F.G., Paget W.J. *Health Monitoring in Sentinel Practice Networks.* Final Report to the EU, Nivel, 2002

Fleming D.M., Schellevis F.G., Bartelds A.I.M., Falcao I., Alonso T.V., Padilla M.L. *The incidence of chickenpox in the Community. Lessons for disease surveillance in sentinel practice networks.* European Journal of Epidemiology 17: 1023-1027, 2001

Sentinel practice networks have been established in many European countries to monitor disease incidence in the community. To demonstrate the value of sentinel networks an international study on the incidence of chicken pox has been undertaken. Chickenpox was chosen as an acute condition for which incidence data are important to the determination of health policy on vaccine use. The project examined the incidence of chickenpox reported in sentinel networks in England and Wales, the Netherlands, Portugal and Spain (two regional networks) in January-June 2000 and the potential underestimate from patients who did not consult. An investigation of secondary household contact cases was undertaken. Reported incidence of chickenpox (all ages) in England and Wales was 25 per 10,000, in the Netherlands 13 per 10,000, in Portugal 21 per 10,000, in Spain Castilla y Leon 27 per 10,000 and in Spain Basque 55 per 10,000. Analysis of secondary contact cases suggested underestimation of incidence between 2.4% in Spain Castilla y Leon and 32.2% in The Netherlands. There was a trend towards incidence at an earlier age in

England and Wales and in the Netherlands compared with Portugal and Spain. Whilst there was little problem in reliably identifying the number of incident cases in the recording networks and relating the non-consulting contact cases to them, the security of the denominator remains a problem where networks are comprised of differing categories of health care provider. It is essential that numerator and denominator information are made available specifically for each category.

9 Environment-related health problems

Topic owner: Dr. R. van Poll (RIVM) (2003)

Introduction

In The Netherlands there are several centres where environment-related health problems can be reported, for example: the Municipal Health Service (GGD), the Municipal Environmental Service, the Complaints Telephone, and the Complaints Department for Health and Environment. For the ministry of Health Welfare and Sports (VWS) environment-related health complaints have an important warning function. The Department of Health Management of the ministry has requested the National Institute of Public Health and the Environment (RIVM) to make an inventory of the extent of environment-related complaints in the Netherlands.

From earlier results of two pilot studies it had become clear that also GPs are frequently consulted for such complaints. Accurate figures are lacking but it is estimated that the annual rate ranges to a multiple of ten thousand. The joint GPs in the Netherlands therefore represent the largest complaints network for environment-related health problems.

Method

In the weekly returns of 2003 the question was included whether the complaint for which the patient consulted the GP was environment-related. The basic assumption was that a complaint was registered only as environment-related **when this assumption was put forward by the patient.** The GP has a list of possible complaints and possible causes. He also has an exclusion list, predominantly stating complaints caused by biological agents,

such as allergic reactions caused by pollen or house dust mites, and complaints from stings by bees, wasps, mosquitoes, ticks etc.

The definition of an environment-related health problem is: a mental or physical complaint ascribed by the patient to a physical or chemical agent in the inner or outer environment.

If the health complaint is considered to be environment-related, the GP fills in a form containing three items: description of the complaint; description of the cause; and whether or not the patient has mentioned these problems before to other agencies.

Results

The number of patients per 10.000 inhabitants consulting the GP in 2003 for environment-related health problems, also itemised for 4 clusters of provinces and degree of urbanisation, is presented in table 9.1.

Table 9.1 Number of patients consulting the GP for environment-related health problems per 10.000 persons by province group and by degree of urbanisation and for the Netherlands, 2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
2003	(1)	(2)	2	(1)	(2)	1	3	2

Most environment-related health problems were reported in the eastern and western provinces. However, it should be noted that the absolute number of cases was very low: 20.
The majority of complaints are reported in big cities, followed by the countryside.

Extrapolation

Table 9.2 Extrapolation of the incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*			Netherlands** (absolute numbers)		
topic year	m	f	total	m	f	total***
environment-related health complaint						
2003	1	2	2	1,000	2,000	3,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

The number of environmental-related health complaints registered by GPs appeared to be lower than was anticipated on the base of pilot studies: only 20 complaints were registered during the whole year. The complaints came

from all over the country, but mostly from the eastern and western part of the country and the major cities. Complaints were more expressed by women than by man.

The topic has been removed from the weekly returns in 2004.

10 Consultation for smoking addiction

Topic owner: A.I.M. Bartelds (2003)

Introduction

"Smoking still is the most important determinant of disease and death in The Netherlands and a major cause of the limited increase in life expectancy of women. Almost 15% of all deaths can be ascribed to smoking".[10]

The policy of the government is to prevent young people to start smoking, and to discourage continuation when smoking has become a habit. However, in the report entitled: "Public health on course" (Volksgezondheid op koers) it is stated that in the Netherlands a lifestyle of smoking, excessive drinking, lack of physical exercise and unhealthy eating is disturbingly common. This unfavourable development also affects young persons: more of them have started smoking and more of them have unsafe sex.

Because smoking is a threat to health it is not surprising that when stopping is considered help is summoned from health care services. With high expectations about possible solutions some people express their desire to stop, whereas other categories of patients are urgently advised that they should quit smoking. It is not known how often such assistance is requested from GPs.
The topic: "Consultation for smoking addiction" has been placed on the weekly returns on request by the Ministry of Health Welfare and Sport. The objective is to determine how often GPs are consulted when patients want to quit smoking.

Method

The GPs were asked to register requests for help only if smoking addiction was a substantial part of the consultation.

Results

The number of patients per 10,000 men or women that consulted their GP about smoking in 2003, subdivided per province group and degree of urbanisation is given in table 10.1.

Table 10.1 Number of patients per 10,000 men and per 10,000 women consulting the GP about smoking, by province group and by degree of urbanisation and for the Netherlands, 2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
men								
2003	53	111	77	87	108	67	102	81
women								
2003	47	96	71	102	97	63	112	79
total								
2003	50	104	74	94	103	65	107	80

The number of men and women consulting the GP about their smoking addiction was almost the same. The incidence was the highest in the eastern

provinces: more than twice as high as in the northern provinces where the lowest incidence was registered.
In big cities and the country site GPs were consulted considerably more frequent than in smaller cities and urbanised areas.

Seasonal influence

The number of patients per 10,000 men or women and per trimester, consulting their GP in 2003 about smoking is given in table 10.2.

Table 10.2 Number of patients consulting their GP about smoking, given per 10,000 men and women per quarter in 2003

	weeks 1-13	weeks 14-26	weeks 27-39	weeks 40-52
consultation smoking addiction				
men	25	18	18	21
women	22	15	18	23
total	24	16	18	22

The number of patients consulting their GP about smoking was the highest in the first trimester, but also in the last trimester the number was considerable.

Age distribution

The number of men and women per 10.000 persons consulting the GP in 2003 about their smoking addiction, itemized per age group, is given in table 10.3.

Table 10.3 Number of patients consulting the GP about their smoking, per 10,000 men and per 10,000 women, by age group in 2003

age group	men	women	total
	2003	2003	2003
10-14	(3)	(9)	(6)
15-19	26	64	45
20-24	55	73	64
25-29	77	88	83
30-34	76	93	85
35-39	92	76	84
40-44	113	167	140
45-49	126	159	142
50-54	163	155	159
55-59	197	140	169
60-64	146	78	112
65-69	111	50	79
70-74	56	22	37
75-79	38	10	22
80-84	-	(7)	(4)
>84	-	(7)	(5)

Even at young age (10-14) there were persons who did regret that they ever started smoking. However, this was rare and the number increased rapidly

from 15 years onwards. Most consultations were by persons in the age group 40-60 years; the highest incidence was in the age group of 55-60 years.

Extrapolation

Table 10.4 Extrapolation of incidence rates to the Dutch population as a whole

	frequency incidence rate (per 10,000)*			Netherlands** (absolute numbers)		
topic year	m	f	total	m	f	total***
consultation smoking addiction						
2003	81	79	80	65,000	65,000	130,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

The GP is predominantly consulted for smoking addiction during winter-time, but not particularly at the turn of the year. Even at young age, shortly after starting the habit, there are persons who want to talk about their smoking addiction. From the age of 15 the number of persons consulting their GP about smoking rapidly increases. Most of them are between 40 and 60 years of age. This makes sense because it is known that from he age of 35

people increasingly are aware of their declining health.[11] This perception leads to the deliberation to change lifestyle and quit smoking.

Continuation of the registration for a number of years will provide information about possible trends in GP consultation for smoking addiction.

The topic is maintained in 2004

11 (Attempted) suicide

Topic owner: Dr. P. Verhaak (NIVEL) (1979-2003)

Introduction

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.

Method

The name of the topic is also its definition. The primary question is not whether the patient's attempt was successful, but whether the patient intended to commit suicide.

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 draw up. 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 (attempted suicide)

Results

The absolute number of reported cases (which exceeds the number of patients as recurrence is not rare) was, respectively, 71, 61, 87, 93, 47 and 43 in the years from 1998 to 2003.

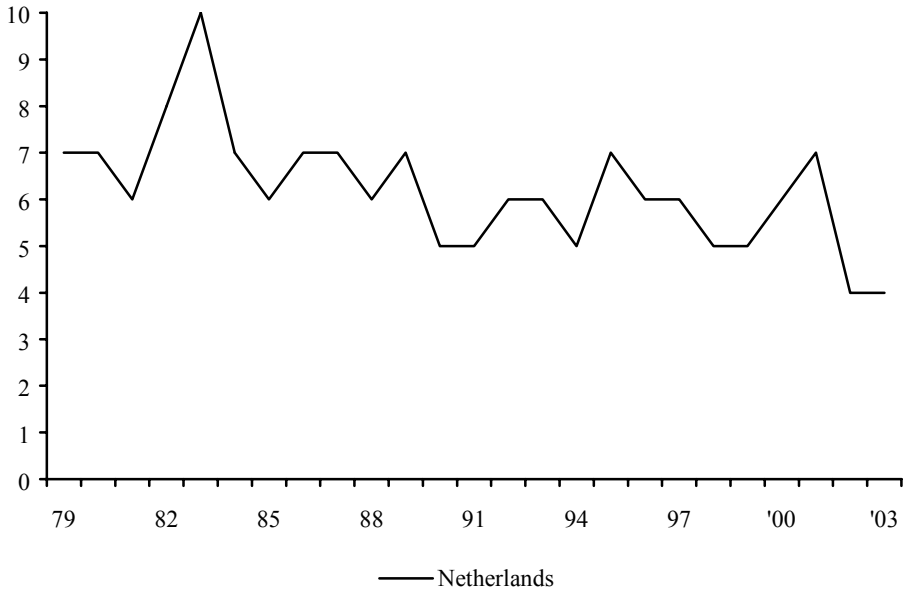
The number of attempts by province group and degree of urbanisation per 10,000 inhabitants is given in Table 11.1. Breaking down the numbers into subgroups is of limited value in view of the low frequency.
The fewest number of suicides (suicides attempts) in the last 10 years was just like 2002 reported in 2003.
With regard to the degree of urbanisation the highest number of suicide attempts were reported in the large cities consistently, with the exception of 2000 and 2002.

The distribution by province group paints a less consistent picture, possibly due to the small number of cases. In 7 of the last 10 years the largest number of suicides (suicide attempts) was registered in the southern provinces.

Table 11.1 Number of suicides (attempted suicides) reported per 10,000 inhabitants, by province group, degree of urbanisation and for the Netherlands as a whole, 1994-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
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
2001	6	5	7	11	5	7	10	7
2002	3	5	4	3	5	4	4	4
2003	(1)	5	3	6	4	3	6	4

Figure 11.1 Number of suicides (attempted suicides) reported per 10,000 inhabitants for the Netherlands as a whole, 1979-2003



Age distribution

Table 11.2 gives the frequency of suicide and attempted suicide per 10,000 inhabitants, by age group in the last 10 years.

Table 11.3 shows the frequency per 100,000 inhabitants by age group in the last 5 years.

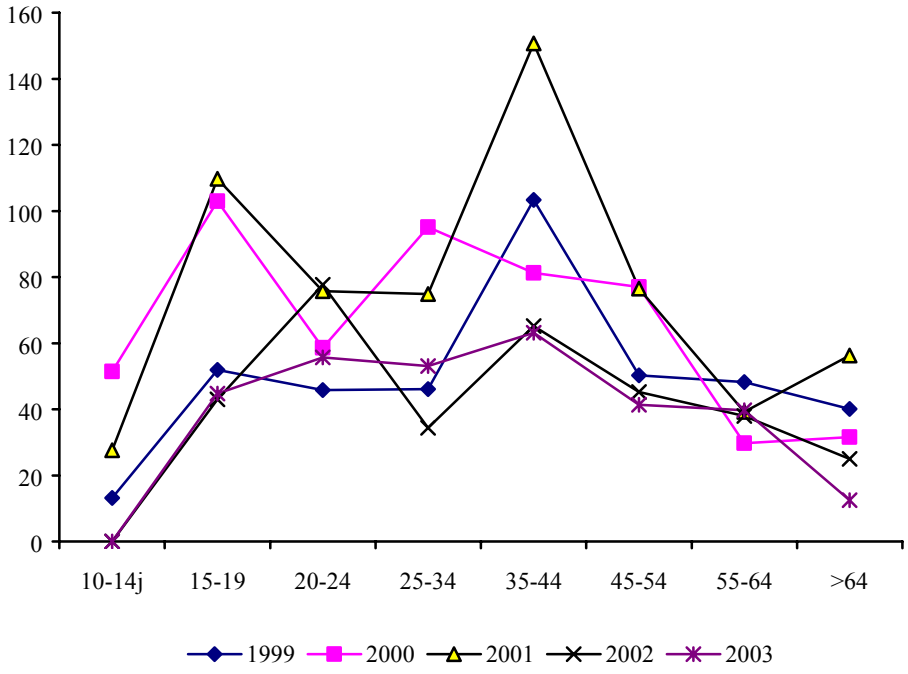
Table 11.2 Number of suicides (attempted suicides) reported per 10,000 inhabitants, by age group, 1994-2003

age group	10-14	15-19	20-24	25-34	35-44	45-54	55-64	>64
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
2001	(3)	11	8	7	15	8	3	7
2002	-	4	8	3	6	5	4	3
2003	-	(4)	6	5	6	4	4	(1)

Table 11.3 Number of suicides (attempted suicides) reported per 100,000 inhabitants, by age group, 1999-2003

age group	10-14	15-19	20-24	25-34	35-44	45-54	55-64	>64
1999	(13,2)	(51,9)	45,8	46,1	103,3	50,3	48,2	40,1
2000	(51,4)	(103,0)	58,6	95,1	81,3	77,0	29,7	31,6
2001	(27,6)	(109,7)	75,7	75,9	150,7	76,5	39,2	56,3
2002	-	(43,0)	77,7	34,4	65,2	45,2	38,0	(25,0)
2003	-	(44,7)	56,7	53,1	63,1	41,4	39,7	(12,5)

Figure 11.2 Number of suicides (attempted suicides) reported per 100,000 inhabitants by age group, 1999-2003



Extrapolation

Table 11.4 Extrapolation of the incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute number)
topic year	total (m+f)	total*** (m+f)
suicides (attempted suicide)		
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
2001	6	9,500
2002	4	6,500
2003	4	6,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

The numbers lend no support to the suspicion among some that the incidence of suicide and attempted suicide is rising in the Netherlands. The number of registered patients in 2002 was the lowest since registration of this topic started in 1979.

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 does not show any age group in which the incidence rate is particularly high. It is notable, however, that the number of suicide attempts is consistently low among people aged 65 and older.

This topic appears on the weekly return for 2004.

12 Referrals to and consultations of Mental Health Services (GGZ)

Topic owner: Dr.P. Verhaak (NIVEL) (2001-2003)

Introduction

The minister of Public Health, Welfare and Sport has implemented a policy to reinforce primary mental health care: the idea is to increase general social work capacity, provide more money to facilitate cooperation among GPs, social workers and primary care psychologists, and provide additional means to offer consultations, from specialised mental health care to primary care.

Studies will have to be conducted to determine whether the policy has achieved the desired result, namely cohesive primary mental health care with sufficient capacity.
One aspect is the procedure that GPs follow for making referrals and for consulting with specialised mental health care professionals on patients with psychiatric disorders.

The CMR Sentinel stations started registering mental disorder referrals and consultations in 2001 with a view to answering the following questions:

- On an annual basis, how often do GPs refer patients with psychiatric disorders/psychosocial problems to a social worker, primary care psychologist, private psychotherapist, private psychiatrist, the RIAGG ('Regional Institute for Mental Welfare') or the psychiatric outpatient clinic?
- On an annual basis, how often do GPs consult with the above-mentioned institutions/individuals on patients with psychiatric disorders/psychosocial problems?
- During the three-year registration, are there any notable developments related to referrals and consultations?

- Are there regional differences regarding referrals and consultations in connection with psychiatric disorders?

Method

GPs are requested to register patient referrals involving psychiatrics problems as well as consultations with a mental health care (GGZ) professional.

This report indicates the frequency of referrals and consultation. Detailed information on data collected regarding place of referral/consultant, GP diagnosis (ICPC-code) and whether a case involves recidivism, the severity of the most important disorder and the motivation behind the referral/consultation appears elsewhere (P. Verhaak, Nivel).

Results

Table 12.1 gives the numbers of referrals and consultations per 10,000 inhabitants per province group and degree of urbanisation in the Netherlands in 2001-2003.

Table 12.1 Number of patient referrals to and number of consultations of mental health services per 10,000 inhabitants per province group and degree of urbanisation, and for the Netherlands in 2001-2003.

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
GGZ consultations								
2001	3	3	18	7	3	5	31	9
2002	0	5	8	7	6	4	13	6
2003	2	5	9	6	4	5	14	6
GGZ referrals								
2001	24	53	103	67	52	57	128	69
2002	16	53	72	66	43	52	82	55
2003	23	47	94	80	29	73	104	70

The highest number of consultations and referrals occurred in the western provinces, which exceeded the northern provinces by a factor of 4-5. The northern provinces had the lowest number of consultations and referrals.

A clear gradient exists between the rural and urban areas. Consultations with a GGZ professional were ten well over three as frequent in the big cities in 2003 than in rural areas. Almost four times as many referrals are made in big cities.

Seasonal influences

Table 12.2 shows the number of referrals and consultations for patients with psychiatric disorders per quarter.

Table 12.2 Number of patient referrals to and number of consultations of mental health services per 10,000 inhabitants per quarter in 2001-2003

	weeks 1-13	weeks 14-26	weeks 27-39	weeks 40-52
GGZ consultations				
2001	3	3	2	1
2002	2	1	2	1
2003	2	1	1	2
GGZ referrals				
2001	24	16	14	14
2002	15	16	12	12
2003	18	17	16	18

Different from 2001 there was hardly any difference between the incidences per quarter in 2002 and 2003.

Age distribution

Table 12.3 gives the number of referrals and GGZ consultations for patients with a psychiatric disorder per 10,000 inhabitants and per age group.

Table 12.3 Number of GGZ patient referrals to and consultations of mental health services per 10,000 inhabitants and per age group in 2001-2003

	GGZ consultations			GGZ referral		
	2001	2002	2003	2001	2002	2003
<5	-	-	(1)	-	(5)	10
5-9	-	(1)	-	31	11	39
10-14	6	(4)	(1)	39	21	29
14-19	8	13	(6)	73	73	88
20-24	10	8	(3)	124	98	126
25-29	13	5	8	109	102	115
30-34	8	4	9	103	76	119
35-39	19	4	12	82	75	97
40-44	11	7	9	91	81	82
45-49	16	5	11	92	67	92
50-54	17	6	6	68	52	62
55-59	4	1	(1)	67	41	69
60-64	2	7	(5)	31	37	34
65-69	4	6	(4)	30	22	26
70-74	5	5	(10)	23	26	17
75-79	5	6	(9)	35	32	12
80-84	26	25	(18)	53	21	40
>84	9	15	(5)	50	25	33

One notable result is that almost no referrals or consultations were made for patients younger than 5 years with a psychiatric disorder. The number of GGZ referrals and consultations rapidly increases in from the age of 15.

Extrapolation

Table 12.4 Extrapolation of incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute number)
topic year	total (m+f)	total*** (m+f)
GGZ		
- consultations		
2001	9	14,500
2002	6	10,000
2003	6	10,000
- referrals		
2001	69	110,500
2002	55	90,000
2003	70	111,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

For patients with a psychic or psychosocial problem GPs consults a GGZ in 10% of the cases and refers his patients to GGZ professionals in 90% of the cases.
What is particularly striking is that there are almost no reported cases of young children (< 5 years old) with psychiatric problems or psychosocial problems who were referred or about whom consultation took place. Maybe any problems raising children with psychiatric disorders were registered as parents' problems. Otherwise it is possible that parents are referred from a health centre for parent and childcare. This needs to be determined by further analysing the lists of supplementary questions.

A consultation is most often sought for patients over 80. However, there are relatively few referrals of patients who are 65 and above.

Most referrals take place between the age of 25 and 35 years.

Registration of this topic has stopped in 2004.

13 Urethritis in men

Topic owner: A.I.M. Bartelds (NIVEL) (1992-2003)

Introduction

Apart from infections in the respiratory tract, stomach, intestines and urinary tract, Sexually Transmitted Diseases (STDs) are the most common infectious diseases in the Netherlands. Approximately 20 different pathogens cause a variety of complaints. 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.

In 2002 a new structure of surveillance was implemented for STDs and HIV infections in the Netherlands in cooperation with a number of Municipal Health Services (GGDs), the STD clinics and those treating AIDS.

Method

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

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

Results

Table 13.1 shows the number of men with urethritis per 10,000 men by province group and degree of urbanisation and also the number in the Netherlands as a whole.

Table 13.1 Number of patients with urethritis per 10,000 men, by province group, degree of urbanisation and for the Netherlands as a whole, 1994-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
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
2001	12	24	26	24	13	23	32	23
2002	8	30	28	23	8	26	26	23
2003	17	31	29	25	32	18	39	25

After a decrease in the first half of the 1990s, the national incidence of urethritis has remained fairly constant from 1996-2000. From 2001 the incidence is increasing.
In all years prior to 2001, more cases of urethritis were reported in the eastern and western provinces than in other parts of the Netherlands. From 2001 difference has been less pronounced than in the previous years. The fewest number of cases is consistently reported in the northern provinces. In 2003 the incidence has increased considerably in the northern provinces.
The decrease in the occurrence of urethritis in rural areas stopped in 1999. Since then the incidence rate has fluctuated around 10 per 10,000 men.
In 2003 a marked increased incidence in rural areas was observed, this was also the case in the big cities.

Seasonal influences

No significant seasonal differences have been observed.

Age distribution

Table 13.2 shows the age distribution of urethritis patients reported by GPs .

Table 13.2 Number of urethritis patients per 10,000 men, by age group, 1994-2003

age group	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<14	-	(2)	-	-	(0)	-	(0)	(0)	(0)	5
15-19	19	12	(5)	(5)	(7)	13	(10)	(5)	(8)	(12)
20-24	36	21	22	(7)	22	15	28	45	27	34
25-29	49	40	28	15	26	26	26	37	25	51
30-34	35	45	27	27	26	39	39	33	35	36
35-39	40	36	27	35	18	36	24	18	22	41
40-44	32	23	21	19	26	12	34	39	29	22
45-49	27	43	20	33	20	21	14	19	18	19
50-54	21	29	29	19	23	31	14	11	31	17
55-59	20	38	41	28	24	15	20	38	33	34
60-64	36	46	36	28	21	24	26	37	64	(4)
65-69	(7)	(4)	19	21	12	45	37	26	38	53
70-74	(14)	32	59	(20)	26	41	39	31	37	43
75-79	(7)	(29)	(21)	0	15	-	31	(13)	-	(8)
80-84	(46)	(35)	-	(24)	27	-	(23)	0	(12)	(12)
>84	-	(18)	(33)	-	-	-	(44)	(31)	(18)	(20)

Urethritis is reported rarely in children under 15, however, in 2003 for the first time the number was higher than before.
Most of the patients (58%) are between 20 and 44 years old. The highest incidence rate was registered in 65-69 age-olds, followed by 25-29 age-olds

Extrapolation

Table 13.3 Extrapolation of incidence rates to the Dutch population as a whole

	frequency incidence rate (per 10,000)*		Netherlands** (absolute number)	
topic year	m	total	m	total***
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	
2001	23		18,000	
2002	23		18,500	
2003	25		20,000	

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

The most striking finding to emerge from the registration of urethritis among men is its initially consistently low occurrence in smaller towns and commuter municipalities. A change occurred in 1999 when, for the first time, its occurrence was the lowest in rural areas. In 2003 the incidence increased markedly in rural areas and less markedly in the big cities.
Big cities consistently have the highest registered incidence rate.

Overall, the incidence increased in since 1999. In 2003 for the first time an increased was noticed among persons younger than 15.

The topic will be maintained in 2004. In 2004 GPs are requested to take care of additional microbiological analyses.

14 Fear of AIDS

Topic owner: L. Peters and J.J. Kerssens,(NIVEL) (1988-2003)

Introduction

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. When someone enters into a more permanent relationship they need to know for certain whether their partner is infected.
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 doctors register only requests made by patients not suffering from AIDS or who are 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 these requests.

Method

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 the result of any test that is performed.

GPs are also asked to state any further action they took in relation to the patient's request or whether a follow-up appointment was scheduled.

A detailed report on this additional study is published elsewhere.

Results

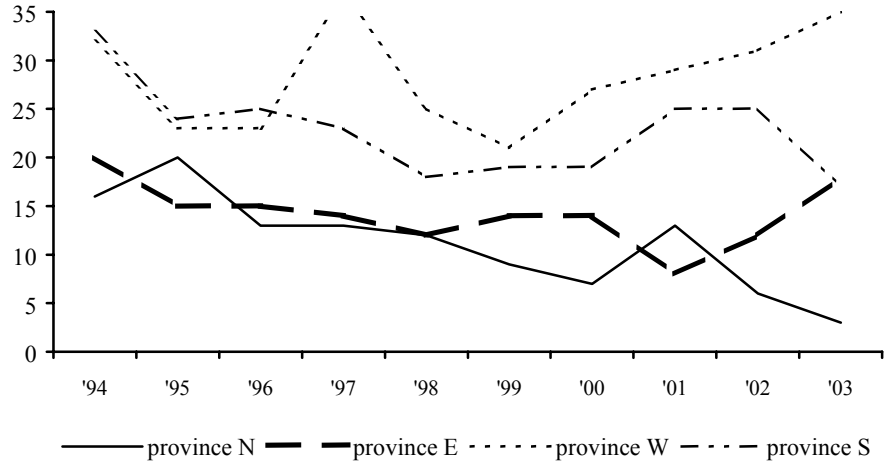
Table 14.1 gives the number of consultations relating to AIDS per 10,000 inhabitants, per province group, according to degree of urbanisation and for the Netherlands as a whole.

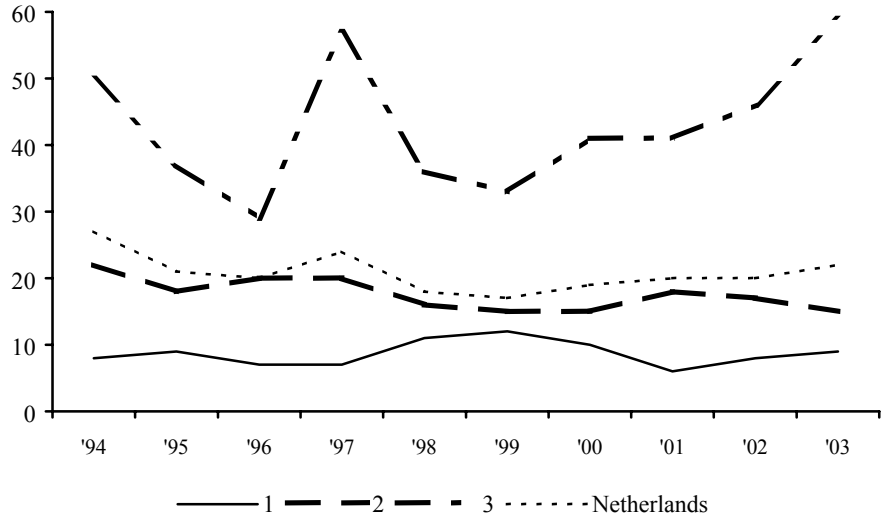
Table 14.1 Numbers of consultations in which AIDS was discussed, by province group and degree of urbanisation and for the Netherlands as a whole, per 10,000 inhabitants, 1994-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
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
2001	13	8	29	25	6	18	41	20
2002	6	12	31	25	8	17	46	20
2003	3	18	35	17	9	15	59	22

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 14.1). The highest numbers of reports continue to occur in the western 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 steadily from 131 in 1990 to 321 in 1994. The number of requests for a test for HIV antibodies has been dropping since 1995. In 2000 this falling trend ended because the number of requests increased again. In 2000 a test was requested 204 times and in 2002 the figure was 228 times.
Although the GPs did not grant every request for a test, the number of tests performed initially increased from 121 in 1990 to 259 in 1994. The number in 2003 was 236. The GP was the one who suggested the test in a small number of these cases.

Figure 14.1 Numbers of consultations in which AIDS was discussed, by province group and degree of urbanisation and for the Netherlands as a whole, per 10,000 inhabitants, 1994-2003





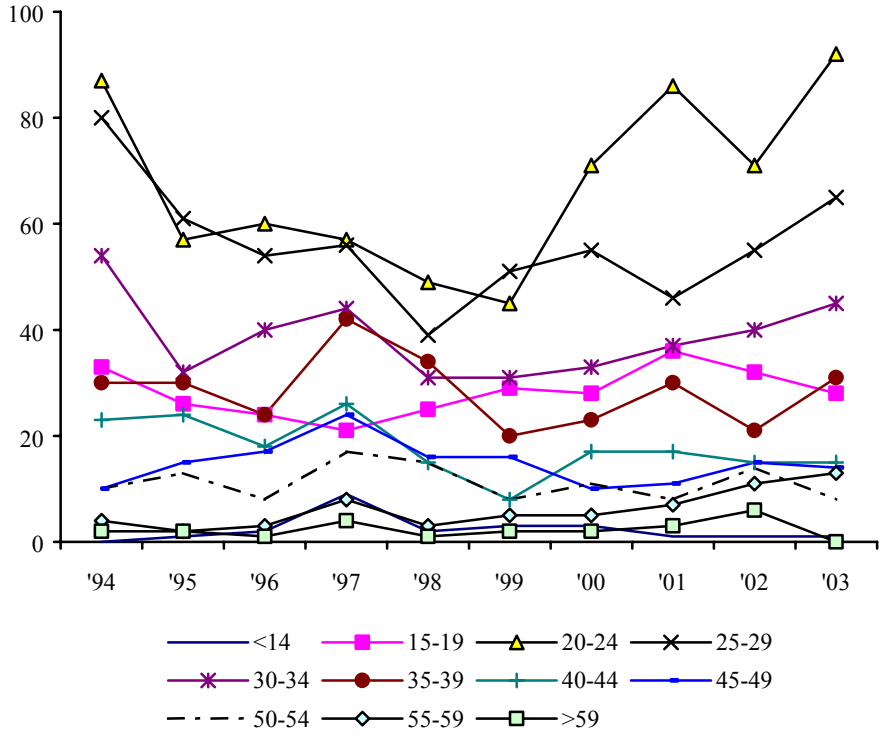
Age distribution

Table 14.2 shows the numbers of consultations in which AIDS was discussed, per 10,000 inhabitants by age group, for both genders together (cf. Figure 14.2).

Table 14.2 Numbers of consultations in which AIDS was discussed, by age group, per 10,000 inhabitants, 1994-2003

age group	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
<14	-	(1)	(2)	9	(2)	(3)	(3)	(1)	(1)	(1)
15-19	33	26	24	21	25	29	28	36	32	28
20-24	87	57	60	57	49	45	71	86	71	92
25-29	80	61	54	56	39	51	55	46	55	65
30-34	54	32	40	44	31	31	33	37	40	45
35-39	30	30	24	42	34	20	23	30	21	31
40-44	23	24	18	26	15	8	17	17	15	15
45-49	10	15	17	24	16	16	10	11	15	14
50-54	10	13	8	17	15	8	11	8	14	8
55-59	(4)	(2)	(3)	(8)	(3)	5	(5)	7	11	13
>59	(2)	(2)	(1)	(4)	(1)	(2)	(2)	(3)	6	-

Figure 14.2 Numbers of consultations in which AIDS was discussed, by age group, per 10,000 inhabitants, 1994-2003



Extrapolation

Table 14.3 Extrapolation of incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute number)
topic year	total (m+f)	total*** (m+f)
fear of aids		
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
2001	20	32,000
2002	20	32,000
2003	22	35,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

After an initial increase from the start of registration in 1988, the number of consultations have levelled of from 1995-2000 at a lower level than before. From 2000 an increase was noticed.

The majority of AIDS-related questions put to GPs were raised by people in the 20-29 age group. Over 76% of the people who went to talk about AIDS in the sentinel station registration in 2003 were in the 20-40 age group. In 2003 this percentage was higher than in previous years. 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 in the period 2000-2003.

This topic appears on the weekly returns for 2004.

Publications based fully or partly on continuous morbidity registration data

Kerssens J.J., Peters L. *Angst voor AIDS: hulpvragen bij de huisarts in de periode van 1988 tot en met 2000.* Utrecht, NIVEL, 2001

Bergen van J.E.A.M., Kerssens J.J. *Huisarts en h.i.v. Veranderd contact tussen huisarts en patiënt.* Soa-bulletin, 2001; 22 (nr. 5): 4-5

Kerssens J.J., Peters L. *Angst voor AIDS: hulpvragen bij de huisarts in de periode van 1988 tot en met 1999.* Utrecht, NIVEL 2000

Kerssens J.J., Peters L. *Hulpvragen bij de huisarts in de periode 1988 tot en met 1998.* Utrecht, NIVEL 1999

Ros C.C., Kerssens J.J., Foets M., Peters L. *Trends in HIV-related consultation in Dutch general practice.* International Journal of STD & AIDS, 1999; 10: 294-299

Kerssens J.J., Peters L. *Tien jaar vragen over HIV en AIDS bij de huisarts.* Aidsbestrijding, 1998, no. 42, p. 10-12

15 Acute gastroenteritis

Topic owner: Dr.Y. van Duynhoven (RIVM-CIE) (1992-1993) (1996-2003)

Introduction

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.[12]
Gastroenteritis was put back on the weekly returns of the Continuous Morbidity Registration Sentinel Stations 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 results of the research into objectives 2 and 3 are reported elsewhere (RIVM Centre for Infectious Diseases Epidemiology, Dr M.A.S de Wit and Dr Y. van Duijnhoven).
Since 2000 this topic has been maintained in connection with the first of the above aims: following trends in the incidence of acute gastroenteritis in general practice. In 2001-2003 supplementary information was collected about laboratory diagnosis of patients sent for consultation within the framework of regular health care.

Method

Sentinel doctors are asked to report on persons with a new episode of gastro-enteritis. 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 any earlier report. Patients who consult their GP solely by phone are not reported on the weekly returns.

In 2001 and 2002 the doctors were also asked to indicate where the GP decided as part of regular health care to perform a faeces test. The doctors were asked to indicate the reason why the test was requested, the micro-organisms for which the test was performed and whether antibiotics were prescribed.
Where a faeces test was requested the GP was asked a few weeks later to inform NIVEL of the results of the test.

In 2003 it was requested to only report the occurrence of acute gastro-enteritis and to indicate whether or not a faeces test was performed. More details were not asked for.

The sentinel doctors 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.

Results

Table 15.1 shows the number of reports of acute gastroenteritis, by province group and degree of urbanisation and for the Netherlands as a whole.

Table 15.1 Numbers of cases of acute gastroenteritis by province group and degree of urbanisation and for the Netherlands as a whole, per 10,000 men and per 10,000 women, 1996-2003

		province group				degree of urbanisation			Netherlands
		N	E	W	S	1	2	3	
1996	M	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	108	102	85	66	85	131	90
2001		76	98	78	122	102	90	95	93
2002		65	109	106	113	81	99	151	104
2003		111	127	103	104	121	103	117	109
1996	F	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
2001		55	108	97	169	100	106	127	109
2002		58	108	113	110	70	95	135	98
2003		93	142	103	118	134	104	115	112

Table 15.1 Numbers of cases of acute gastroenteritis, by province group and degree of urbanisation and for Netherlands as a whole, per 10,000 men and per 10,000 women 1996-2003(cont.)

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
1996 T	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
2001	65	103	88	145	101	98	112	101
2002	58	109	113	110	76	97	143	101
2003	102	134	103	111	128	103	116	110

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 2001-2003 than in the previous years.

The highest number of gastroenteritis reports in 2003came from the eastern regions. The number of reports in the eastern provinces has been high since 1999 and increased further in 2003.
It is striking that in 2003 the incidence in the northern provinces was twice as high as in 2002. In 2003 the incidence also increased markedly in rural areas, rating highest for the first time, also as a results of the sharp decrease in the big cities.

Age distribution

Table 15.2 shows the data on gastroenteritis patients reported by the GP (see figure 15.1).

Table 15.2 Numbers of reports of acute gastroenteritis, per 10,000 men, 1996-2003

	men							
age group	1996	1997	1998	1999	2000	2001	2002	2003
<1	244	288	447	319	628	765	733	490
1-4	211	206	226	259	302	365	464	440
4-5	73	77	84	110	164	164	181	166
10-14	53	55	53	82	93	81	92	156
15-19	24	16	37	57	71	94	68	85
20-24	46	51	55	69	68	85	76	103
25-29	47	53	63	54	86	43	105	97
30-34	40	50	49	60	69	68	83	97
35-39	32	54	55	32	75	71	71	65
40-44	36	26	62	48	87	69	67	52
45-49	37	29	37	28	70	50	47	61
50-54	27	32	46	49	35	52	58	58
55-59	35	31	30	39	37	50	49	51
60-64	33	32	17	45	55	92	30	82
65-69	19	38	41	65	37	44	76	62
70-74	37	25	46	31	48	83	85	56
75-79	48	31	88	36	75	47	78	53
80-84	57	(12)	81	27	81	58	58	110
>84	49	54	80	58	44	47	(53)	98

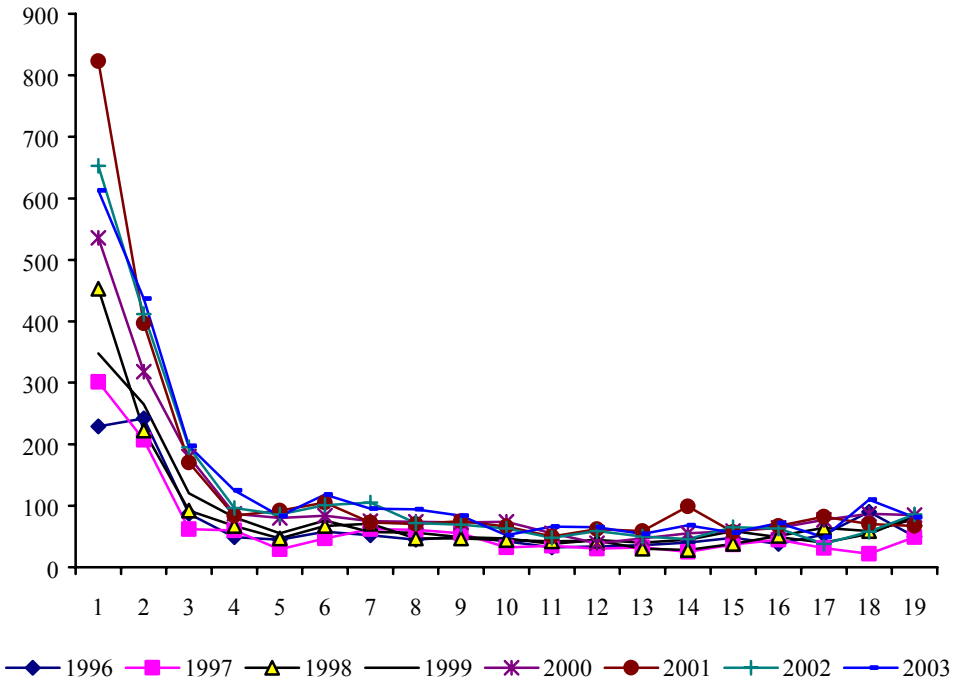
Table 15.2 Numbers of reports of acute gastroenteritis, per 10,000 women, 1996-2003 (cont.)

	women							
age group	1996	1997	1998	1999	2000	2001	2002	2003
<1	364	317	460	379	432	886	653	738
1-4	276	208	217	271	335	428	357	435
5-9	102	47	101	130	198	176	210	230
10-14	46	65	80	80	82	88	96	91
15-19	67	43	57	53	89	90	86	82
20-24	68	44	77	82	99	122	101	132
25-29	57	71	78	60	64	101	105	93
30-34	50	72	45	52	80	72	72	91
35-39	68	56	39	66	71	79	69	105
40-44	47	38	27	46	61	62	63	53
45-49	26	42	47	48	39	51	48	72
50-54	41	27	40	39	44	73	59	72
55-59	36	32	30	43	56	68	50	58
60-64	47	16	31	44	55	106	46	53
65-69	72	36	36	53	78	70	65	50
70-74	40	60	56	63	77	54	63	53
75-79	56	31	49	43	78	106	(38)	47
80-84	109	28	48	68	90	82	58	110
>84	51	47	77	94	102	76	86	75

Table 15.2 Numbers of reports of acute gastroenteritis, per 10,000 inhabitants, 1996-2003 (cont.)

	total							
age group	1996	1997	1998	1999	2000	2001	2002	2003
<1	229	301	453	348	536	823	653	613
1-4	242	207	222	265	318	397	412	437
5-9	87	62	92	120	180	170	195	197
10-14	49	60	67	81	87	84	96	125
15-19	45	29	47	55	80	92	86	83
20-24	58	47	67	76	84	105	101	118
25-29	52	62	71	57	75	73	105	95
30-34	45	61	47	56	74	70	72	94
35-39	50	55	47	49	73	75	69	84
40-44	42	32	44	47	74	66	63	52
45-49	32	35	42	38	55	50	48	66
50-54	34	30	43	44	39	62	59	65
55-59	36	32	30	40	47	59	50	54
60-64	40	25	28	45	55	99	46	68
65-69	48	37	38	59	59	57	65	56
70-74	38	45	51	49	64	67	63	72
75-79	53	31	64	40	77	82	38	49
80-84	90	22	59	54	87	70	58	110
>84	50	49	78	84	85	67	86	81

Figure 15.1 Numbers of reports of acute gastroenteritis by age group, per 10,000 inhabitants, 1996-2003



Age distribution

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=> 84	

In both registration periods, most cases of acute gastroenteritis were diagnosed among babies and 1-4 year olds.
In 2000-2003 there was differently from the years 1996-1999 a significantly higher incidence level among 5-9 year olds compared with the incidence level in the 10-80 age groups. The increased incidence in 2003 was caused primarily by an increase among 80-84 age-olds and less by the increase among 10-14 age-olds and 20-24 age-olds.

Seasonal influences

Table 15.3 shows the numbers of cases of acute gastroenteritis that were reported per season.

Table 15.3 Numbers of reports of acute gastroenteritis by quarter, per 10,000 inhabitants, 1997-2003

quarter		1	2	3	4
1997	M	10	13	20	10
1998		20	10	17	17
1999		17	14	18	18
2000		22	25	20	25
2001		29	20	24	19
2002		31	26	22	25
2003		41	22	29	15
1997	F	12	15	19	11
1998		20	12	16	18
1999		21	17	22	15
2000		24	25	21	24
2001		32	26	30	21
2002		23	25	25	25
2003		39	24	26	21
1997	T	11	14	19	11
1998		20	11	16	17
1999		19	15	20	16
2000		23	25	20	25
2001		30	23	27	20
2002		27	25	23	25
2003		40	23	28	18

The highest incidence usually occurs in the first or third quarter of a year. Differences between the seasons are generally small. In the first quarter of 2003 the incidence not only was the highest but also higher than in previous years.

Faeces test in cases of acute gastroenteritis

Table 15.4 gives the number of reports of acute gastroenteritis where the GP asked for a faeces test, per province group and according to degree of urbanisation and for the Netherlands as a whole.

Table 15.4 Number of times that the GP requested a faeces test in cases of acute gastroenteritis, per province group and according to degree of urbanisation and for the Netherlands as a whole, per 10,000 inhabitants for 2001-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
2001	5	16	16	15	17	13	14	14
2002	7	11	16	19	14	13	19	14
2003	20	31	26	25	34	23	20	25

The number of requests in 2003 suddenly was higher than in the two previous years.
A faeces test was requested most frequently in the eastern province group. The test was requested the least frequently in the northern province group.
A faeces test in a case of acute gastroenteritis was requested most in 2003 in rural areas; in 2002 the test was requested most in the major cities.

Age distribution

Table 15.5 gives the number of requests for a faeces test in cases of acute gastroenteritis per age group and per 10,000 people.

Table 15.5 Number of requests for a faeces test in cases of acute gastroenteritis per age group per 10,000 inhabitants for 2001-2003

	2001	%	2002	%	2003	%
<1	69	7	86	13	90	15
1-4	39	10	50	12	78	18
5-9	13	8	11	6	36	18
19-14	7	8	13	13	15	12
15-19	12	12	19	22	13	16
20-24	13	12	17	17	32	27
25-29	9	11	13	12	32	34
30-34	14	19	15	21	26	31
35-39	10	15	13	18	19	37
40-44	9	15	10	17	22	33
45-49	14	26	9	19	19	29
50-54	17	26	6	10	19	29
55-59	12	20	14	28	16	30
60-64	11	12	12	26	11	16
65-69	8	17	(4)	6	17	30
70-74	10	17	(5)	7	15	21
75-79	8	10	(6)	15	31	63
80-84	23	31	-	0	13	12
>84	23	33	-	0	5	6

% = number of faeces tests: number of reports of acute gastroenteritis x 100

Overall, the number of registered faeces tests per 10,000 people per age group shows the same pattern as for the total number of reports of acute gastroenteritis per age group. In absolute numbers most requests for a faeces test were made for babies under 1, followed by 1-4 age-olds.

However, this is not the case for the number of faeces tests per age group as a percentage of the total number of reported cases of acute gastroenteritis in that age group.
Children (< 15 years old) with acute gastroenteritis go to see their GP more often than older children or adults. When people older than 14 go to see their GP with these complaints of acute gastroenteritis the GP will more often ask for a faeces test. In 2003 there was a significant increase in the number of requests for 20-29 year-olds and 65-79 year-olds.

Extrapolation

Table 15.6 Extrapolation of incidence rates to the Dutch population as a whole

	frequency incidence rate (per 10,000)*			Netherlands** (absolute numbers)		
topic year	m	f	total	m	f	total***
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
2001	93	103	101	73,500	83,000	156,500
2002	104	98	101	83,000	79,500	162,500
2003	109	112	110	87,500	91,500	179,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

Since the start of 2000 the number of reports of acute gastroenteritis has been significantly higher than in the previous years. In 2003 the incidence predominantly was high in the first quarter. This may be associated with the high incidence of norovirus in the season of 2002-2003.[13]

The fewest number of reports is consistently in the northern provinces. However, the incidence was increased markedly in 2003. This was also observed in rural areas, coinciding with a decreasing trend in the big cities.

There was a marked increase in the number of requests for a faeces test: it almost doubled.

As part of regular health care GPs request a faeces test relatively more often in cases involving patients who are older than 14. This is the result of a difference in consultation behaviour between cases of acute gastroenteritis involving children (< 15 years old) and cases involving young people and adults (> 15 years old). This second group goes to see the doctor when they have more serious complaints that last longer. Diarrhoea following a trip abroad occurs more often in young people and adults.
In 2003 GPs requested more faeces test for elderly persons above 69 years.

This topic remains unchanged on the weekly return in 2004.
The additional list of questions in the event of a request for a faeces test will no longer be used in 2003. The registration of the number of requests for a faeces test in 2003 and the results of the microbiological analyses has led the CIE and RIVM to advise that from now on it will suffice to only register whether a faeces test has been requested or not.

Publications based fully or partly on continuous morbidity registration data

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16 Unwanted pregnancy

Topic owners: Mrs. Dr. I. Vanwesenbeeck (Ritgers Nisso Group) (2003)

Introduction

From the beginning of the 90s of the last century the number of abortions in the Netherlands started to increase. In 1993 the number of abortions per 1000 women was 5,7; in 2003 this number had increased to 8,5 per 1000. In 2003 this steady increase levelled of: it decreased from 8,7 in 2002 to 8,5 in 2003.[14] The incidence is calculated by dividing the number of abortions by the number of women living in the Netherlands in the fertile age of 15-44 years. Because of the steady increase in the number of abortions in our country, contrasted by a decreased incidence in neighbouring countries, the incidence in the Netherlands no longer ranks as the lowest since 2000.[15] Nevertheless, worldwide the number of 8,5 per 1000 is still low. For comparison: in 2000 the incidence in England and Wales was 16,2 per 1000; in 1999 the incidence in Sweden was 18,1 per 1000 women.

The increasing incidence during the last 10 years raises some questions: is it due to a quantitative or qualitative failure of preventive measures or due to an increasing intolerance to accomplish a pregnancy full-term? For years the Netherlands had an integrated system of sexual education and provision of anti-conceptive means leading to an effective use of these means. However, there are indications that the use of the anti-conception pill is waning and that the incidence of sexually transmitted diseases is increasing. Both developments suggest that the use of anti-conceptive means is deteriorating. It is therefore important to obtain information about the number of unwanted pregnancies and to follow the developments during forthcoming years.

Method

The GP is requested to register every patient who seeks advise for unwanted pregnancy.

Results

The number of women consulting the GP for unwanted pregnancy per 10.000 women, per province group, by degree of urbanisation and for the whole of the Netherlands is presented in table 16.1.

Table 16.1 Number of women consulting the GP for unwanted pregnancy per 10,000 women, per province group, by degree of urbanisation and for the Netherlands, 2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
2003	29	31	32	17	36	21	39	28

The number of women consulting the GP for unwanted pregnancy was the lowest in the southern provinces. In the other three province groups the number per 10,000 women was about 30. The highest score was observed in the big cities (39 per 10,000), but also in rural areas the number was high (36 per 10,000). The number of women with unwanted pregnancy was remarkably lower in smaller cities and the urbanised country site: only 21 per 10,000.

Age distribution

The number of women consulting the GP for unwanted pregnancy, by age group, is shown in table 16.2

Table 16.2 Number of women consulting the GP for unwanted pregnancy by age group per 10,000 women, in 2003

age distribution	2003
<10	-
10-14	30
15-19	79
20-24	108
25-29	53
30-34	48
35-39	52
40-44	22
45-49	10
50-54	7
>54	-

As the age at which sexual maturity starts continues to decrease it is not surprising that unwanted pregnancy may occur at a young age. By the sentinel GPs 10 unwanted pregnancies were registered in the age group of 10-14 years, which amounts to 30 per 10,000 girls. In the age group of 15-19 years 26 unwanted pregnancies were reported, which amounts to 79 per 10,000 girls. Twenty two percent of all unwanted pregnancies were registered for girls under 20. Unwanted pregnancies did occur up to the age of 54. The highest number was reported in the age group of 20-24 years.

Extrapolation

Table 16.3. Extrapolation of the incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*		Netherlands** (absolute numbers)	
topic year	f	total	f	total***
unwanted pregnancy				
2003	28		22,000	

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

Not every unwanted pregnancy inevitably ends in abortion. Nevertheless, the increasing number of abortions since the early nineties raises questions about the quality of the anti-conceptive measures. From 1987-1991 GPs from the sentinel stations registered how many women became pregnant despite assumed adequate anti-conception. The mean number amounted to 8 per 10,000 women. Since not every pregnancy resulting from failing anti-conception is unwanted, this number is low as compared to the number of unwanted pregnancies (28 per 10,000) registered in 2003. On the other hand 8 per 10,000 pregnancies because of failing anti-conception is only part of the story: unwanted pregnancies also occur if no anti-conceptive measures are taken.

If the number of unwanted pregnancies is calculated for the age group of 15-44 years, which is the same category for which the abortion rate was calculated, the number amounts to 5.7 unwanted pregnancies per 1000 women. This is lower than the number of women that underwent abortion (8.5 per 1000). In addition, not all women consulting the GP for unwanted pregnancy will chose for abortion. The impression emerges that a number of women directly contact an abortion clinic without interference of the GP. Data from the National Abortion Registry support this opinion: three out of ten women visiting an abortion clinic were not referred by a GP.[15]

The topic is maintained in 2004. In 2004 GPs are asked to fill in a questionnaire dealing with the background and cause of unwanted pregnancy.

17 Sexual problems and sexual violence

Topic owner: Mrs. Dr. I. Vanwesenbeeck (Rutgers Nisso Group) (2003)

Introduction

Recent data on the incidence of sexual problems and sexual violence in general practice are scarce. Only remote information on the extent of the problem can be obtained from centres for sexuality and fertility where specific assistance is provided. To obtain a better insight into sexual problems and sexual violence occurring in general practice this topic was included in the weekly returns in 2003.

Sexual problems may vary from relatively minor problems such as frequency of sexual contact to more serious problems such as paraphilias and gender identity problems. Sexual violence not only includes the reports from victims and committers but also from other persons involved. A methodical registration by GPs may help to gain insight into the scope of this problem.

Method

GPs are requested to register every patient who seeks consultation for a sexual problem or sexual violence. Gender and age are also noted. In addition, a questionnaire is filled in pertaining to the following items: sexual preference of the patient, nature of the current problem, and which actions are undertaken by GP (anamnesis, examination performed or requested, advice or information given, referral to a health care professional). The data are analysed and will be published by the Rutgers Nisso Group (Mrs. Dr. I. Vanwesenbeeck).

Results

Sexual problems and sexual violence are, except for their common sexual denominator, two quite distinct features with different backgrounds. A joint presentation of the results would therefore give a false impression of the data. For that reason they are reported separately.

Sexual violence

In 2003 the sentinel stations registered 11 cases of sexual violence, affecting 3 men and 8 women. Their age varied from 5-60 years, six of them were younger than 20. In table 1 the numbers are presented per 100,000 men or women, and not per 10,000 because of the small numbers. For the same reason a subdivision per province group or degree of urbanisation would not make sense and therefore is omitted.

Women consult their GP more frequently than men for sexual violence: 13 per 100,000 versus 3 per 100,000 respectively.

Table 17.1 Number of registrations of sexual violence by GPs per 100,000 men and per 100,000 women, in 2003

		Netherlands
2003	M	3
	F	13

Sexual problems

The number of patients per 10,000 inhabitants consulting the GP for sexual problems, per province group, by degree of urbanisation and for he whole of the Netherlands is shown in table 17.2.

Table 17.2 Number of patients consulting the GP for a sexual problem or sexual violence per province group and by degree of urbanisation, and for the whole of the Netherlands per 10,000 men and per 100,000 women in 2003

		province group				degree of urbanisation			Netherlands
		N	E	W	S	1	2	3	
2003	M	5	14	25	19	10	19	22	18
	F	4	6	5	9	7	4	10	5

Men consulted the GP 3 times as often as women for a sexual problem. For the females the highest incidence was in the southern provinces; for males in the western provinces. Sexual violence was higher in the big cities than on the country site.

Age distribution

The number of men and women consulting their GP for a sexual problem listed per age group is depicted in table 17.3.

Table 17.3 Number of men and women per 10,000 consulting the GP for a sexual problem by age group, in 2003

	2003 M	2003 F
1-4	-	-
5-9	-	-
10-14	-	-
15-19	-	-
20-24	3	11
25-29	5	14
30-34	6	10
35-39	8	4
40-44	26	7
45-49	12	5
50-54	42	5
55-59	45	9
60-64	32	4
65-69	35	-
70-74	72	-
75-79	23	-
80-84	24	-
>84	-	-

There were marked age differences at which men and women visit their GP for a sexual problem. Up to the age of 35, women visit their GP more frequently than men. With increasing age this difference is reversed: men visit the GP more often than women. The highest frequency for women occurs between 25 and 29 years, for men the highest incidence was registered between 70 and 74 years. Women over 65 no longer visit their GP for a sexual problem.

Extrapolation

Table 17.4 Extrapolation of the incidence rate to the Dutch population as a whole

	frequency incidence rate (per 10,000)*			Netherlands** (absolute numbers)		
topic year	m	f	total (m+f)	m	f	total*** (m+f)
sexual problem/sexual violence						
2003	18	5		14,500	6,000	20,500

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

Discussion

In 2003 reports on sexual violence were made the most by girls under 20. The incidence rate for women was higher than for men; however, the total number of reports was low.

Men consult their GP 3 times as often than women for a sexual problem, the highest incidence was registered for men over 40. Women consulting the GP for a sexual problem were younger. Analysis of the additional information from the questionnaires is expected to provide more insight into the underlying causes.

Registration of this topic by the sentinel stations was first started in 2003. Continuation of the registration in the forthcoming years may reveal trends in frequency and reasons for consultation of GPs with regard to sexual violence and sexual problems.

The topic remains unchanged in the weekly returns of 2004.

18 Whooping cough

Topic owner: Dr. H. de Melker, (RIVM-CIE) (1998-2003)

Introduction

Whooping cough is an acute, very infectious disease of the upper airways that is caused by the bacteria *Bordetella pertussis* and in some cases by *Bordetella parapertussis*.
Whooping cough can have very serious complications such as brain damage and convulsions**,** actelectasis of the lungs, pneumothorax, and pulmonary emphysema. The mortality rate from whooping cough is high, particularly in babies less than 4 months old. The antibodies that the mother may well have, and that can also pass through the placenta, do not protect the baby. Breast-feeding is also no protection against whooping cough.
Immunity is built up both after having had whooping cough and after having a vaccination, but in both cases the immunity decreases again with the passage of time.
Vaccination against *Bordetella pertussis* has been included in the Dutch government's vaccination programme since the beginning of the 1950s (1952 to be precise). The percentage of people reached by this programme is high (> 96%).

The vaccine that was developed in the 1950s was effective in combating the infection but did not wipe out the bacteria. The bacteria remained in circulation and in spite of the large numbers of people who have been vaccinated the incidence of whooping cough in the Netherlands has been increasing since 1996. Every few years it reaches epidemic levels. Analysis of the available data showed that the proportion of vaccinated people among the indicated cases of whooping cough had increased.[16] From July 2001 children at the age of 4 are therefore re-vaccinated with a specific a-cellular vaccine.

Whooping cough is one of the diseases that must be reported by law. However, the development of the illness and the criteria for registration lead to significant under-reporting and the Inspectorate's figures do not reflect the real picture. Registration can go wrong on 3 levels: adults who have been coughing for a few weeks do not quickly decide to go to the doctor; if someone does go to the doctor and the doctor suspects whooping cough, then a laboratory test will not always be requested; and although the doctor may have all the necessary data, not every doctor will register the patient with the Municipal Health Service (GGD).

Direct registration of whooping cough in general practice is one way of reducing the problem of under-reporting. At the end of the 1990s information about the incidence of whooping cough was not available in general practice and was just as difficult to obtain from other sources. Further research into the changes in the epidemiology of whooping cough was considered desirable, especially after the introduction of an improved vaccine in 1998. It was decided to put whooping cough on the weekly return in 1998.
In 2000 it was decided that all children born from 1998 onwards would be offered the opportunity of a revaccination with an acellular vaccine around the age of 4.

Method

The sentinel doctor is asked to register every patient with whooping cough, divided up into gender and age group. A case description is not easy because of the often atypical development of whooping cough in vaccinated people. The sentinel doctors use the following definition for whooping cough: long-term cough (longer than 3 weeks) with the more or less typical characteristics and/or proof of *Bordetella pertussis/parapertussis* infection (from the protocol on optimum laboratory diagnosis by the National Coordination Centre for Combating Infectious Diseases (*Landelijke Coördinatiestructuur Infectieziektebestrijding*)).

In the application of this definition a difference is made between clinical whooping cough that is not confirmed by a laboratory and a symptomatic

(although maybe not typical) *Bordetella pertussis/Bordetella parapertussis* infection that is confirmed by a laboratory test. A few weeks after registering a case of whooping cough the GP is asked to give additional information about the registration and about the results of the laboratory test if one was requested. This additional information will include what test was carried out: serology, culture and/or PCR. The GP will also be asked whether the patient has ever been inoculated against whooping cough and if so, how many doses of inoculation have been applied.
The additional information is used by the Centre for Infectious Diseases and Epidemiology of the RIVM at Bilthoven to interpret the progress of Whooping cough in the Netherlands.

Making this difference in the registration system gives an insight into the frequency with which the GP diagnoses whooping cough based on the clinical picture alone. This information is supplemented from other sources regarding the incidence rate of whooping cough in the population in general.

Results

Distribution by province group and degree of urbanisation.

There 31 patients registered as having whooping cough in 2003, in other words 3 in every 10,000 patients.
This incidence rate is significantly lower than in 2001 (see Table 18.1.)

Table 18.1 Number of people with whooping cough by province group, and degree of urbanisation and for the Netherlands as a whole, per 10,000 people, 1998-2003

	province group				degree of urbanisation			Netherlands
	N	E	W	S	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
2001	3	5	15	22	6	11	22	12
2002	2	2	5	7	2	4	7	4
2003	0	(1)	4	3	0	2	7	3

The distribution of the incidence of whooping cough over the country was uneven in 2003, as it was between 1998 and 2002. In the western provinces and the southern provinces the number of cases of whooping cough was high at 4 and 3 per 10,000 people as compared with 0-1 per 10,000 people in the northern and eastern province groups.
In urbanisation group 3 (the major cities with > 100,000 inhabitants) the number of cases of whooping cough was high compared with the incidence rates in the other two urbanisation groups.

Table 18.2 gives the number of people with whooping cough by province group and degree of urbanisation and for the Netherlands as a whole. The data from the previously mentioned sentinel station in province group D are not included.

Table 18.2 Number of people with whooping cough by province group, by degree of urbanisation and for the Netherlands as a whole, per 10,000 people, 1998-2003 (not including 1 sentinel station)

	province group				degree of urbanisation			Netherlands
	N	E	W	S	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
2001	3	5	15	7	6	9	22	11
2002	2	2	5	6	2	4	7	4
2003	(0)	(1)	4	3	(0)	2	7	3

Distribution by age group

Table 18.3 gives the numbers of people registered as having whooping cough per 10,000 inhabitants.

Table 18.3 Number of people with whooping cough per 10,000 people, 1998-2003

age group	1998	1999	2000[1]	2000[2]	2001[1]	2001[2]	2002[1]	2002[2]	2003[1]
<1	(17)	(17)	85	54	46	29	14	5	(7)
1-4	37	6	61	46	104	99	23	21	14
5-9	22	36	51	38	56	15	19	20	11
10-14	6	27	22	9	19	19	13	10	(3)
15-19	(4)	7	8	(3)	10	9	(1)	(2)	(4)
20-24	(1)	(2)	-	-	-	-	(1)	(1)	-
25-29	(2)	7	4	(2)	(2)	(2)	(2)	(2)	(2)
30-34	(2)	(4)	4	(1)	4	4	(3)	(1)	(1)
35-39	(2)	7	8	(4)	7	6	(1)	(1)	(3)
40-44	-	5	7	(3)	(3)	(2)	(4)	(0)	-
45-49	(1)	5	(3)	(3)	7	6	-	-	(1)
50-54	(2)	(2)	7	(1)	(2)	0	(1)	(1)	(1)
55-59	-	(3)	8	(3)	(2)	(2)	-	-	-
60-64	-	(7)	10	(5)	(5)	(4)	(2)	(2)	(2)
65-69	(2)	(2)	(5)	0	-	-	-	-	-
>64	-	-	(3)	(2)	(2)	(1)	(1)	(1)	-

1 All sentinel stations

2 All sentinel station except for one in province group D

Whooping cough occurs in all age groups. The highest incidence rate is found in the 1-4 age group, which is followed by the 5-9 year-olds and then babies under 1. This is still the case in a year with few cases of whooping cough, such as 1998 and 2002-2003.

Extrapolation

Table 18.4 Extrapolation of incidence rates to the Dutch population as a whole

	frequency incidence rate (per 10,000)*	Netherlands** (absolute numbers)
topic year	total (m+f)	total*** (m+f)
whooping cough		
1998	5	7,500
1999	10	15,750
2000	12	19,000
2001	12	6,500
2002	4	
2003	3	5,000
1998****	4	6,250
1999	7	11,000
2000	7	11,000
2001	11	17,500
2002	4	6,500
2003	3	5,000

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

** Extrapolation of the incidence rates to the Dutch population as a whole (for the year in question), rounded off to the nearest thousand

*** Rounding off can make a difference to the totals.

**** Minus the data from one sentinel station

Discussion

In spite of a large number of people being vaccinated against whooping cough it continues to occur in the population. The incidence of whooping cough recorded in general practice is higher than the officially declared number of cases.
There is agreement as regards a number of other points between the officially declared cases of whooping cough and the registration of whooping cough by GPs.
Whooping cough occurs all year round and in all age groups, therefore also in the older age groups. However, there is a clear seasonal trend: most reports occur in the 3rd quarter (data not shown). The incidence rate is highest among 1-4 year-olds. Whooping cough also occurs to a relatively large extent in both recording systems among babies under1, among 5-9 year-olds and among 10-14 year-olds.
In the second half of 2001 and the first 3 months of 2002 the incidence of whooping cough reached epidemic proportions. The previous epidemic was in 1999-2000.

The topic remains on the weekly return in 2004.

19 Antibiotic resistance of uropathogens

Topic owner: Dr. E. Stobberingh, Maastricht University (2003)

Introduction

Resistance of bacteria against antibiotics is a source of concern. In 'Medisch Contact' of July 12 2002 this concern has been clearly put forward by microbiologist Dr. J. Kluytmans: "Together with Scandinavia the Netherlands maintain a peculiar position with regard to the problem of antibiotic resistance. It resembles the situation described in Asterix and Obelix where courageous Gaul's in their small village continue to show resistance against the almighty Romans. It is remarkable that we do persist in our resistance. The magic potion consist of a restricted use of antibiotics and the implementation of preventive measures". This statement of Kluytmans is supported by the first results of the study by the European Antibiotic Resistance Surveillance System (EARRS).[17]

A restricted policy with regard to the use of antibiotics, assessed by continuous monitoring, is one of the tools to prevent antibiotics resistance. The Working Group Antibiotic Policy Foumdation (SWAB) is assigned to develop national guidelines for rational use of antibiotics and is subsidised bu the Ministry of Health Welfare and Sport. The Working Group Surveillance Antibiotic Resistance in the Netherlands (SARIN), which is a subdivision of SWAB, stimulates and coordinates surveillance programmes and provides updated information. From 2003 the study on antibiotic resistance of uropathogens has become a part of the SERIN programme (Surveillance of Extramural Resistance in the Netherlands). Between SWAB and NIVEL a declaration of intent to cooperate has been authorized.

Method

The participating sentinel GPs were requested to include patients with acute and recurrent complaints of urinary tract infection, irrespective of the result of the nitrite assay and whether antibiotic therapy already was started or not. For microbiological analyses an uricult/dipslide was dipped into freshly discharged morning urine, coded and sent to the microbiological laboratory of the University Hospital Maastricht. The isolation and identification of pathogens was performed by routine procedures and the antibiotic resistance was determined according to the quidelines from SWAB. The results were reported to the referring GP.

Result

In 2003 a total of 2233 samples were sent for analysis by 21 sentinel stations (31 GPs). Eighty-six percent of the patients were female, in 2% no sex was mentioned on the request form. Seventy-nine percent of the cultures were positive in women and 56% is positive in men. Seven percent of the cultures is derived from the northern provinces, 26% from the eastern provinces, 47% from western and 20% from the southern provinces, representing 16%, 21% 38 and 25% of the sentinel population, respectively.

In table 19.1 the total number of cultures and the number of positive cultures subdivided by age and sex is shown.

Table 19.1 Total number of cultures and positive cultures subdivided by age and sex in 2003

age group	men	women
<=1	3/3	1/1
2-10	10/19	79/118
11-20	6/9	97/116
21-30	5/15	174/238
31-40	12/29	172/246
41-50	20/37	143/190
51-60	15/35	146/193
61-70	30/46	224/258
>=71	44/66	455/519

Discussion

Because women get urinary tract infections more often than men, it was not surprising that number of samples from women far exceeded that of men. Most uricults were sent in from the eastern and western provinces, the northern and southern provinces were less well represented.

Pasteur already had the insight: bacteria have the final word. "The physician should be aware that the antibiotic he is using to cure a patient might turn against the cure of other patients in the future"[18]

If GPs send in urine samples for culturing and sensitivity assays 'spontaneously' a high percentage of resistance is found (35% for amoxicillin and 28% for trimetroprin). The reason for these high percentages is that GPs have the tendency to request for a sensitivity test only when the first course of antibiotic treatment has failed. In the SERIN project unselected urine samples are analysed for uropathogens. It is expected that the results of this

project will lead to adjustment of the antibiotic policy laid down in the NHG-standard 'urinary tract infection'.

The topic will be maintained in 2004.

20 Euthanasia requests

Topic owner: A.I.M. Bartelds, (NIVEL) (1976-2003)

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 doctors are informed that a study is going to be conducted. At the end of the year, all sentinel doctors 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 doctors are also asked to state the age, gender, disease and nursing location and whether or not a 'euthanasia declaration' was signed. The data per patient can be found at the end of this section of the document.[19] The table is largely self-explanatory.

There were 37 requests in 2003. Of the patients who requested euthanasia, 76% had a malignancy. This is agreement with the mean percentage (75%) during the period 1976-2003. There were 34 patients receiving home nursing; 2 of them were living in a hospice.

Thirty three (90%) of the requests were supported by a written euthanasia declaration. Thirty-sixs patients requested euthanasia. On requested assistance in committing suicide. For 29 (78%) of the 37 requests, the GP consulted another doctor. In the cases of a few reported requests whereby another doctor 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 doctor because it was not yet appropriate to do so.

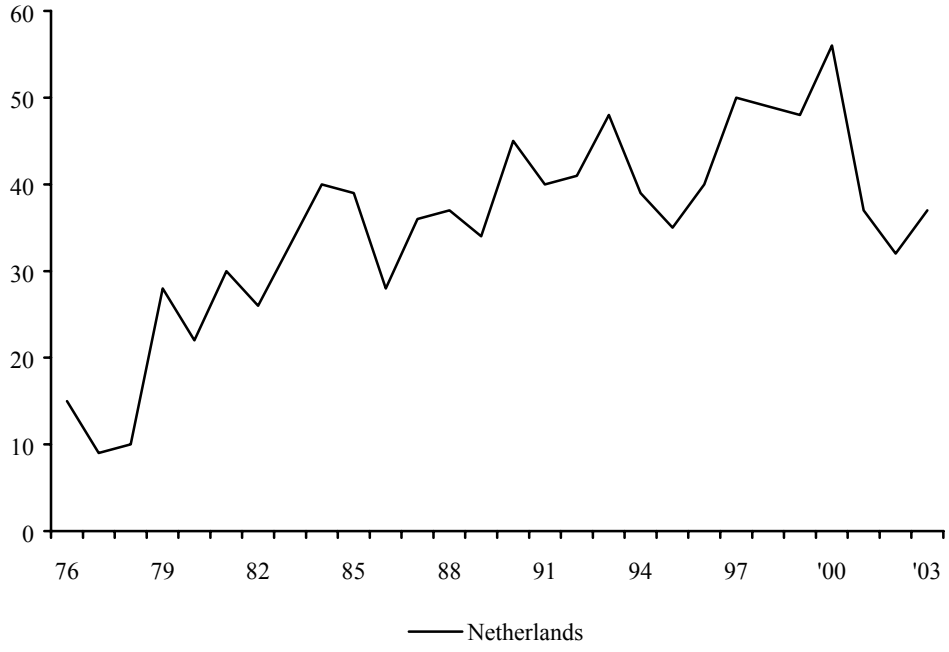
Requests for euthanasia 1976-2003

Table 20.1 shows the distribution of the number of requests by province group and degree of urbanisation and by gender (cf. Figure 20.1).

Table 20.1 Absolute numbers of patients who asked GPs to participate actively in euthanasia, by gender, by province group and degree of urbanisation and for the Netherlands as a whole, 1994-2003

			province group				degree of urbanisation			Netherlands
absolute	M	F	N	E	W	S	1	2	3	
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
2001	19	18	4	8	16	9	5	21	11	37
2002	19	11	4	7	17	4	4	19	9	32
2003	16	21	4	8	21	4	3	25	9	37

Figure 20.1 Absolute numbers of patients that asked a sentinel doctor for euthanasia or help in committing suicide, for the Netherlands as a whole, 1976-2003



Tables 20.2 and 20.3 show the average numbers of euthanasia requests in the 1976-2003 period per sentinel station (therefore not per GP) and the distribution by province group and degree of urbanisation.

Table 20.2 Average numbers of requests per sentinel station by province group 1976-2003*

	province group			
	N	E	W	S
number of sentinel stations	5	4	12	7
average number of requests	18.2	16.8	30.3	16.1
distribution	1-46	9-27	17-46	10-25

* Only those stations that reported over the entire period.

Table 20.3 Average numbers of requests per sentinel station by degree of urbanisation, 1976-2003*

	degree of urbanisation		
	1	2	3
number of sentinel stations	4	19	8
average number of requests	23.3	19.2	27.7
distribution	14-33	1-46	13-46

* Only those 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.

Age distribution

Table 20.4 shows the age distribution.

Table 20.4 Absolute numbers of patients that asked GPs for euthanasia or help in committing suicide, by age group, 1994-2003

	<54	55-64	65-74	75-84	>84	total
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
2001	8	3	9	12	5	37
2002	6	5	6	9	6	32
2003	5	6	12	6	8	37

Overview of reported requests

The sentinel stations project has now since 1976 gathered data on 984 euthanasia requests, 507 (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 is the multiple pathology that is 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 20.5 indicates the diseases that occasioned euthanasia requests.

Table 20.5 Diseases that occasioned euthanasia requests, 1976-2003

	N	%
malignant neoplasmas	738	75
cardiovascular diseases	58	6
chronic obstructive pulmonary diseases	43	4
symptoms and insufficiently defined diseases	46	5
other diseases	99	10
total	984	100

Table 20.6 shows the distribution of the diseases that occasioned a euthanasia request, by age.

Table 20.6: Percentage of requests per disease of the total number of reported cases, by age (n= absolute number of requests) 1976-2003

	<54 %	55-64 %	65-74 %	75-84 %	>84 %
malignancies	78	87	89	66	30
cardiovascular diseases	0	1	2	12	20
chronic. obstructive pulmonary diseases	1	2	2	8	10
symptoms and insufficiently defined diseases	3	1	1	4	26
other diseases	19	8	6	10	13

Malignancies are the principal reason why people below 85 ask a GP for euthanasia. Under 55, the group of other illnesses is extremely heterogeneous and includes cystic fibrosis, multiple sclerosis and AIDS, as well as 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 in their old age. Chronic obstructive

pulmonary disease can also lead to serious infirmity and suffering in old age and occasion a request for euthanasia.

Table 20.7 shows the age distribution per illness (patients younger and older than 65).

Table 20.7 Percentage of euthanasia requests by patients younger and older than 65, by disease, 1976-2003 (n=absolute numbers of requests)

	n	<64 years %	>64 years %
all diseases	984	35	65
all malignancies	738	31	61
cardiovascular diseases	58	4	96
chronic cbstructive pulmonary diseases	41	12	88
symptoms and insufficiently defined diseases	48	16	84
other diseases	99	46	54

Table 20.8 shows a further breakdown of the malignancies according to the location of the tumour and the patient's age.

Table 20.8 Percentage of euthanasia requests by patients younger and older than 65 with a malignancy, by tumour location (n=absolute numbers), 1976-2003

	n	<65 years %	> 64 years %
all malignancies	738	39	61
stomach	63	39	61
colon/rectum	110	29	71
trachea/long	189	36	64
breast	73	56	44
other	275	40	60

No major changes have occurred in age distribution. In cases where breast cancer was the reason for a euthanasia request, the percentage of patients below 65 differs significantly from the percentage for other locations.

In recent years, there has been an increase in reported euthanasia declarations, from 15% in 1984 to 90% in 2002 and 2003.

Discussion

Until the early 1990s, hardly any possibilities existed to compare data gathered in the Dutch CMR Sentinel Stations project on requests for euthanasia and assisted suicide with the findings of other data registration projects and research (Bartelds 1989).[20]

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,[21] Pijnenborg et al[22] 1994, Van der Wal et al 1994,[23] Van der

Maas et al 1996[24]). In 2001, another large-scale study was conducted into euthanasia and other end-of-life medical practices.

Substantial methodological differences exist between the above-mentioned studies and the registration of data by GPs participating in the CMR 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 CMR Sentinel Stations project comes exclusively from GPs.

The difference in the average numbers of euthanasia requests received by a GPs annually was not great in 1990, i.e. an average of 0.74 per GP in the CMR Sentinel Stations project compared with 0.8 in the study conducted by the Netherlands Statistics (CBS) and Erasmus University of Rotterdam.

The number of more explicit requests for euthanasia at a given moment in the development of illness increased by 9% between 1990 and 1995. It did not increase between 1995 and 2001, although the number of deaths did increase (Van der Wal, 2003[25]).

The number of explicit euthanasia requests registered by sentinel doctors in the 1990-1995 period also increased, albeit by less than the 9% stated by Van der Maas. Between 1995 and 2001 the number of requests for euthanasia and assisted suicide increased slightly: from 35 to 37. There can be significant differences from year to year in the relatively small absolute numbers of requests made to the sentinel doctors, so it is necessary to work with progressive averages. 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.[26]

In their study of 2001 Van der Wal et al (Van der Wal, 2003) found that there were more cases where euthanasia had been performed or assistance had been given with suicide for men than for women (54% versus 46% and 60% versus 40%, respectively).

The records kept by CMR Sentinel Stations of requests for both euthanasia and assisted suicide consistently show a larger proportion of men than women: approximately 52% versus 48% between 1976 and 2003.

In the three studies mentioned thus far there is one very consistent result: it is mostly patients with a malignancy who request euthanasia and for whom the request is approved (77% in 2001). It has also been determined that the proportion of patients with a malignancy decreases as the patients get older.

This picture is also shown by the CMR Sentinel Station data: between 1976 and 2003 cancer was the reason for 75% of the requests from patients for euthanasia or assisted suicide. This percentage drops to 66% in the 75-84 age group and is only 27% in patients aged 85 and above.

The data gathered over a prolonged period of time show that the reasons to request for euthanasia have changed gradually. Unbearable pain and physical suffering have become less important, whereas hopelessness and loss of dignity increasingly have become more important. (Marquet et al. 2003).

Table 20.9 Requests made by patients for active euthanasia, 2003

age	gender	disease reported	reason for request
94	F	gynaecological tumour	pain
93	M	Pick's disease	confusion
88	M	lung carcinoma	pain, agitation
86	M	old age	death wish
86	M	colon carcinoma	"it is enough"
86	F	COPD	terminal phase
86	F	metastases from unidentified primary tumour	pain
86	F	pharyngeal carcinoma	terminal phase
83	F	breast cancer	loss of dignity
81	F	lung carcinoma	terminal phase
80	M	disseminated gastric cancer	loss of dignity, vomiting
80	F	COPD	pain, dyspnoea
75	M	hepatocellular carcinoma	no treatment available, nausea, pain

Table 20.9 Requests made by patients for active euthanasia, 2003 (contd.).

age	gender	disease reported	reason for request
75	F	walking problems arthrosis	deterioration, depression
73	M	lung carcinoma	terminal phase
73	M	disseminated pancreatic cancer	fear of deterioration, pain
73	F	disseminated breast cancer	dyspnoea, lung oedema
72	M	disseminated lung vancer	unbearable suffering
72	M	mesothelioma	dependency, bedridden
72	F	colon carcinoma	hopelessness
72	F	hepatocellular carcinoma	fear of unbearable suffering, terminal phase
71	M	gastric cancer	pain
71	F	disseminated kidney cancer	pain
69	F	uterus cancer	terminale phase
68	M	colon carcinoma	fear of unbearable suffering, terminal phase
67	M	pancreatic carcinoma	deterioration, dependency, pain, hopelessness
63	M	progressive spinal muscular dystrophy	fear of deterioration, dependency
63	F	lung cancer	no treatment
62	M	gastric cancer	fear of dying
62	F	breast cancer	terminal suffering
62	F	disseminated colon cancer	unbearable suffering
61	F	ALS	pain, weakness, unable to drink/eat
53	F	lung cancer	
52	F	ALS	terminal phase
50	F	disseminated gastric cancer	unbearable suffering
49	F	phayngeal carcinoma	
45	M	spinal cord lesion, diabetes	neuropathic, gangre toes

The study will be continued in 2004.

Publications based fully or partly on continuous morbidity registration data

Marquet R.L., Bartelds A., Visser G.J., Spreeuwenberg P., Peters L. *Twenty five years of requests for euthanasia and physician assisted suicide in Dutch general practice: trend analysis.* BMJ, 2003; 327: 201-2.

Concern have been expressed that the Dutch policy on euthanasia (e) and physician assisted suicide (PAS) may lead to an exponential increase in the number of requests and use. Many Dutch general practitioners, nursing home physicians, and pharmacists have a fairly positive attitude and have become more tolerant over the years. We investigated the effect of increasing acceptance on the number of and underlying reasons for requests for E/PAS in Dutch general practice from 1977 to 2001.

21 Eating disorders

Topic owner: Prof. H.W. Hoek, Parnassia Psycho-Medical Centre (*Parnassia Psycho-Medisch Centrum)* (1985-1989, 1995-2003)

It is unclear whether the rate of occurrence of serious eating disorders such as anorexia nervosa and bulimia nervosa is increasing. Sentinel doctors 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 GPs of the sentinel stations were asked to provide some additional data for each patient. The questions included whether the disorder was first diagnosed in 2003 and whether the patient was referred to a different care provider on account of the disorder. The sentinel doctors 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 Prof. H. W. Hoek, psychiatrist/epidemiologist and in cooperation with the National Centre for Knowledge and Treatment of Eating Disorders (Ursula Clinic).

Table 21.1 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 urbanisation and for the Netherlands as a whole, in the 1985-1989 and 1995-2003 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 21.1 Absolute numbers of patients for whom GPs diagnosed an eating disorders, by province group and degree of urbanisation and for the Netherlands as a whole, 1985-1989 and 1995-2003, and the numbers per 10,000 women

	province group				degree of urbanisation			Netherlands
	N	E	W	S	1	2	3	
absolute/year average:								
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
2001	5	6	6	7	4	19	1	24
2002	2	12	14	8	5	24	7	36
2003	1	14	24	4	2	29	12	43
per 10,000 women								
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
2001	3.4	4.0	2.5	4.6	(4.4)	4.0	0.9	3.6
2002	(1.5)	7.3	5.4	3.5	4.9	4.5	4.5	4.6
2003	(0.8)	11.6	7.8	(2.3)	(1.8)	5.9	9.0	6.0

The number of reports in 2003 compared with has increased slightly in 2003 as compared to 2002. Women accounted for 96% of the reported cases.

The reported number of female patients with an eating disorder was highest in the eastern province group in 2003. Most cases of eating disorders were reported in urbanized areas and commuter municipalities in 2003.

Table 21.2 shows the distribution of reported eating disorders by age group.

Table 21.2 Absolute numbers of patients for whom GPs reported an eating disorder, by age, 1985-1989 and 1995-2003

women	1985-1989 average	1995	1996	1997	1998	1999	2000	2001	2002	2003
1-4	-	-	-	1	-	-	-	-	-	-
5-9	-	-	-	1	-	-	-	1	-	-
10-14	1	1	1	0	2	-	1	1	1	-
15-19	8	13	15	10	9	7	9	6	5	5
20-24	12	14	9	11	14	74	5	2	3	7
25-29	14	10	7	7	5	6	9	4	8	7
30-34	6	9	4	3	4	6	4	5	2	5
35-39	7	8	6	3	11	91	3	3	5	5
40-44	4	2	2	4	4	6	1	-	4	6
45-49	1	4	1	1	1	-	1	-	2	5
50-54	1	2	-	-	-	-	1	1	2	2
55-59	1	-	-	-	1	1	-	-	-	-
60-64	-	-	-	-	-	-	-	-	-	1

One male patient was reported in 2003.

A random study of eating disorder will be conducted in 2004.

Publications based fully or partly on continuous morbidity registration data

Hoek W.Hans, Bartelds Aad I.M., Bosveld Jaqueline J.F., Graaf van der Yolanda, Limpens Veronique E.L., Maiwald Margo, Spaaij Caroline J.K. *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. *The incidence and prevalence of anorexia nervosa and boulimia nervosa in primary care*. Psychological Medicine, 1991, 21, p. 455-460

22 General comments

1 The Counselling Committee has decided to include the following topics on the weekly returns in 2004.

   a Influenza and influenza-like illnesses
   b Neuraminidase inhibiter (prescribed)
   c Chickenpox
   d Consultation for smoking addiction
   e Suicide and attempted suicide
   f Urethritis in men
   g Fear of AIDS
   h Gastroenteritis
   i Unwanted pregnancy
   j Sexual problems and sexual harasment
   k Whooping cough
   l Acute respiratory infection

2 Incidental studies on euthanasia and eating disorders will be conducted in 2004.

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.

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

23 Literature list

List of other publications based fully or partly on the data from Continuous Morbidity Registration Sentinel Stations

General

Bartelds A.I.M., Fracheboud J., Zee van der J. *The Dutch Sentinel Practice Network; relevance for public health policy.* Nivel, Utrecht, 1989

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

The book consists of two parts.

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

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

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

Bartelds A.I.M. *Validation of Sentinel Data*. Das Gesundheitswesen. 55 (1993) 3-7. Sonderheft 1.

The Dutch Sentinel Practice Network "de Peilstations" started in 1970. The purpose of this network is to gain a better insight into the epidemiology of a number of illnesses and conditions as they are presented to the general practitioner. The network is sponsored by the Ministry of Welfare, Public Health and Culture. Value was attached to the distribution of the spotter physicians over the country and by degree of urbanisation. The presence of 1% of the population of the four provinces groups and the three urbanisation groups has been observed in the practices of the spotter physicians. The completeness of the registration, the internal and the external validity of the data collected by the physicians are discussed.

Schwartz F.W. Prof. Dr. e.a. *The European Denominator Project. Comparison and Harmonisation of Denominator Data for Primary Health Care Research in Countries of the European Community.* Hannover, 1996

Chronic benign pain

Kerssens J.J., Verhaak P.F.M., Bartelds A.I.M., Sorbi M.J., Bensing.J.M. *Unexplained severe chronic in general practice.* European Journal of Pain 2002; 6: 203-212

The aim of this study was to estimate the prevalence of unexplained severe chronic (USCP) in general practice ant to the report medical as well as psychological descriptions of patients suffering from this condition.
A total of 45 GPs in 35 different practices included patients throughout the year 1996. Patients were included according to the following criteria: between 18 and 75 years of age; pain which had lasted at least 6 months; pain is the most prominent aspect in the clinical presentation; pain is serious enough to justify clinical attention; pain has led to obvious discomfort and disability in daily life at least for 1 month. Medical aspects were measured with the IASP taxonomy while psychological aspects were derived from the MPI.
The overall prevalence of USCP was 7.91 per 1000 enlisted patients. Estimates ranged between 1.87 in the youngest age group and 13.50 in the 55-59 age category. The lower back and lower limbs were most frequently affected and 31% of the patients had pain in more than three major body sites. Pain was most frequently associated by the musculos-keletal system and most often (nearly) continuous. Mean severity of current pain was 3.7 on a scale from 0 (indicating no pain) to 6 (indicating a lot of pain). Mean rating of 'average pain in the last week' was 4.1. Regarding the psychosocial and behavioural aspects of pain, 27% of the patients could be described as perceiving severe pain while gaining social support for it. Fourteen per cent felt in the category 'pain combined with affective and relational distress' and 10% was classified as 'coping well with pain intensities lower than those of the other groups'. The other half of the patients were on average or not classifiable on these aspects.
Unexplained severe chronic pain lasting more than 6 months had on overall prevalence of 7.91 per 1000 enlisted patients, ranging from 1.87 in the youngest to 13.50 in the oldest patients in these 35 general practices in The Netherlands. Our prevalence estimate of USCP is low compared to other studies on chronic pain. Probably for three reasons: Firstly, our study was confined to unexplained pain and not all chronic pain. Secondly, our inclusion criteria focused the attention of very severe chronic pain patients, and thirdly, we have defined 'chronic' as more than 6 months, while others have been using shorter time spans.

Depression

Verhaak P.F.M., Bartelds A.I.M., Schellevis F.G. *Hoe behandelt de huisarts nieuwe gevallen van depressie.* Huisarts Wet. 2002; 45 (13): 122-5.

Introduction Depression is a frequent complaint in general practice. This article describes the extent to which the approach actually used by GPs is in line with the recommendations of the NHG Practice Guideline on Depression of 1994.
Method GPs who participate in the Continuous Morbidity Registration Sentinel Stations in the Netherlands recorded data on symptoms, medication, referrals, and policy regarding all new cases of depression in 2000.
Results According to the NHG Practice Guideline, most of the patients registered were suffering from a serious case of depression. Medication is prescribed in many cases. The medication is an SSRI, even where there is no reason to prescribe in the majority of cases according to the NHG Practice Guideline.
Referrals only occur occasionally and then mostly in cases involving young people. GPs often ask patients to come back within two weeks.
Discussion Medication policy in particular deviates from the proposed standard. In addition, younger patients receive relatively more therapeutic attention.

Myocardial infarction

Pal van der-de Bruin K.M., Verkleij H., Jansen J., Bartelds A., Kromhout D. *The incidence of suspected myocardial infarction in Dutch general practice in the period 1978-1994*. European Heart Journal, 1998, 19, 429-434

Mammography

Beemsterboer, P.P.M., Koning de H.J., Looman C.W.N., Borsboom G.J.J.M., Bartelds A.I.M., Maas van der P.J. *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

Beemsterboer P.P.M. *Evaluation of Screening Progammes. Studies on breast cancer and prostate cancer.* Dissertatie Rotterdam, 1999, hoofdstuk 3.

Prostate complaints

Otto Suzie J., Cruijsen van der Ingrid W., Liem Michael K., e.a. *Effective PSA contamination in the Rotterdam section of the European randomized study of screening for prostate cancer.* Int. J. Cancer, 2003; 105, 394-399.

Beemsterbroer P.M.M., Koning de H.J., Kranse R., e.a. *Prostate specific antigen testing and digital rectal examination before and during a randomized trial of screening for prostate cancer: European randomized study of screening for prostate cancer, Rotterdam*. The Journal of Urology, 2000, vol 164, 1216-1220.

Beemsterboer P.P.M. *Evaluation of Screening Programmes. Studies on breast cancer and prostate cancer.* Dissertatie, Rotterdam, 1999 (hoofdstuk 6).

Prescribing of oestrogens

Donker G.A., Spreeuwenberg P., Bartelds A.I.M, Velden van der K., Foets M. *Hormone replacement therapy: changes in frequency and type of prescription by Dutch Gps during the last decade of the millennium*. Family Practice, 2000, vol. 17; no.6

24 Footnotes

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

2 Occupations in Extramural Healthcare as of 1 January 2002. Nivel, Utrecht.

3 The tables indicated by figures only are tables containing text.

4 In these tables and the text tables derived from them the frequencies are always per 10,000 men, women or inhabitants, unless otherwise indicated.

5 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, p. 202. Nivel, Utrecht 1989

6 This must meet the following criteria (Pel, 1965):
   a An acute beginning, therefore a prodromal phase of not more than three to four days (including pre-existing airway infections at a non-pathogenic level).
   b The infection must be accompanied by a rectal temperature increase of at least 38º.
   c At least one of the following symptoms must be present: cough, coryza, sore throat, frontal headache, retrosternal pain, myalgins.
   (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).

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8 Heijnen MLA, WE van den Brandhof, AIM Bartelds, etc. Infectiezieken Bulletin (13) 3, 2002, p. 104.

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10 Gezondheid op koers? Voksgezondheid Toekomst Verkenning 2002. RIVM-rapportnr.: 270551001. Bohn Stafleu Van Loghum, Houten, 2002

11 Gezondheid op koers? Volksgezondheid Toekomst Verkenning 2002 RIVM-rapportnr.: 270551001. Bohn Stafleu Van Loghum, Houten, 2002, blz. 33.

12 Rijksinstituut voor Volksgezondheid en Milieuhygiëne Volksgezondheid. Toekomst Verkenning. SDU Ruwaard D., Kramers P.G.M. Den Haag. Sdu Uitgeverij, 1993: 42-47.

13 Lopman B., Vennema H., Kohli E., e.a. Increase in viral gastroenteritis outbreaks in Europe and epidemic spread of new norovisus variant. Lancet 2004; 363: 682-88.

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16 Melker H.E. de, M.A. Conyn-van Spaendonck, J.F.P. Schellekens. Pertussis surveillance 1989-1995, RIVM, 1996.

17 EARSS, Annual Report 2001, ISBN 90-6960-098-6.

18 Everdingen J.J.E. van, G. Feenstra, J. Dankert. De balans verstoord in: 'Als Vanco valt'. De falende verdediging van geneesmiddelen tegen micro-organismen. 1996, Overveen ISBN 90-73459 13 3.

19 A euthanasia declaration is a written request for euthanasia to be performed in certain circumstances.

20 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.

21 Maas van der 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.

22 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 practice in the Netherlands. BMJ, 1994; 309: 1209-9.

23 Wal van der G., R.L.M. Dillmann. Euthanasia in the Netherlands. BMJ, 1994; 308: 1346-9.

24 Maas van der 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, 1996.

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26 Marquet Richard L., A. Bartelds, G.J. Visser, P. Spreeuwenberg and L. Peters. Twenty-five years of requests for euthanasia and physician-assisted suicide in Dutch general practice, BMJ, 2003, 327: 201-2.

Appendix 1: participating doctors in 2003

Name:	Location:	Province:
A.A.E.E. Brockmöller	't Zand	Groningen
Y.Wapstra/K.Tanis (comb. -praktijk)	Franeker	Friesland
P.S. Wiersema*	Oostermeer	Friesland
F.M. van Soest/H.D.W.A. van Gijsel/ Mw. M. Schellens/Mw. I. Hummelen Mw. C.A. Hoeksema-de Vries/S.A. van Dijk (comb.-praktijk)	Assen	Drenthe
H.E. Maillette de Buy Wenniger*)	Schoonoord	Drenthe
Th.J. van Dam/P.P.A. Kemps/B. Jansen (comb.-praktijk)	Swifterbant	Flevoland
D. de Iong*)	Laren	Gelderland
D.G. de Jong	Barneveld	Gelderland
E.J. van Apeldoorn	Heerde	Gelderland
Dr. S. Verhoeven	Heerde	Gelderland
Mw. I. Bruin-van Ingen/Mw. M. Burger/ J.G.B. van der Wielen(comb.-praktijk)	Zelhem	Gelderland
B.G.W.M. Arts/M.W.M. van Loenen (comb. -praktijk)	Nijmegen	Gelderland
N. Adamo	Doesburg	Gelderland
M.T.W. van der Velden	Dieren	Gelderland
F.K.A. Fokkema/Mw. I.K.I.de Jongh-Kilian (comb.-praktijk)	Amersfoort	Utrecht
P.B. den Hertog	Utrecht	Utrecht
A.H.F. Eijgenstijn	Utrecht	Utrecht
G.B.A. Baars	Utrecht	Utrecht
A.I.M. Bartelds	Huizen	Noord-Holland

C.W. Willeboordse/Mw. A.M. Kruize-Mosch (comb.-praktijk)	Heiloo	Noord-Holland
M.M. Spoor	Alkmaar	Noord-Holland
Mw. Y.E.V. van Hazel/P. Olie (comb. -praktijk)	Amsterdam	Noord-Holland
Mw. M.C. Duijn/E. Simons (comb.-praktijk)	Amsterdam	Noord-Holland
D.E. Kuenen	Haarlem	Noord-Holland
H.R. Neijs*)	Broek in Waterland	Noord-Holland
Mw. A. Verdam-de Witte	Hilversum	Noord-Holland
A.M. van Meurs	Den Haag	Zuid-Holland
J.C.B.M. Rensing	Den Haag	Zuid-Holland
Mw. S.G. Vreugdenhil/R.J. Kuiper (comb. praktijk)	Dordrecht	Zuid-Holland
C.M. Limburg	Rotterdam	Zuid-Holland
J. Hoornweg/Mw.E. Hoornweg-Sleeboom (comb.-praktijk)	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 (comb.-praktijk)	Terneuzen	Zeeland
C.H.G.M. van Moorsel	Uden	Noord-Brabant
A.M.P. Linsen	Oirschot	Noord-Brabant
J.A.M. Keulers/Mw. W.H. van der Laan (comb.-praktijk)	Ravenstein	Noord-Brabant
M.G.A.M. de Gouw	Rosmalen	Noord-Brabant
A.F.A. van de Reepe/W.L.M. Rijnders (comb.-praktijk)	Etten	Noord-Brabant
J.J.J. Meulenberg	Eindhoven	Noord-Brabant
J.D.M. Schelfhout	Eindhoven	Noord-Brabant
P. Smeets	Maastricht	Limburg

*) With dispensary

Appendix 2: Weekly return in 2003

Appendix 3: topics on the weekly returns 1970-2004

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	2001-2004
addiction to smoking (consultation)	1974 and 2003-2004
AIDS (fear of)	1988-2004
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	2000-2004
childbirth (at 28 weeks)	1982-1983
child abuse (suspicion of)	1973-1974
chronic benign pain disturbance	1995-1996
dementia	1987-1988
depression	1983-1985 and 2000-2002
diabetes mellitus	1980-1983 and 1990-1994 and 2000-2002
diarrhoea of unknown origin (acute)	1970

Appendix 3: topics on the weekly returns 1970-2004 (alphabetical) (cont.)

dog bite	1987 and 1998-1999
drug use (consultation)	1972-1973 and 1979-1981
dwelling (certificate issued for another)	1975
echography requests	1988
environment-related health complaints	2003
exanthema of unknown origin	1970
family planning (advice)	1970-1976
gastroenteritis	1992-1993 and 1996-2004
hay fever	1978-1982
hepatitis	1994
herpes zoster	1997-2001
infectious mononucleosis	1977-1979 and 1991
influenza and influenza-like illnesses	1970-2004
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	1999-2002
mental health care (referral)	2001-2003
morning-after pill, prescription of	1972-1991
myocardial infarction	1978 and 1983-1985 and 1991-1994
neuraminidase inhibitor (prescription)	2003-2004
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

Appendix 3: topics on the weekly returns 1970-2004 (alphabetical) (cont.

pregnancy (despite contraception)	1987-1991
premature birth	1982-1983
prostate complaints	1997-2002
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
sexual problems and sexual violence	2003-2004
side-effects of cosmetics (suspected)	1992-1993
sports injuries	1979-1983 and 1992
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 1979-2004
tonsillectomy or adenotomy	1971
tranquillizer prescribed	1972-1974
unwanted pregnancy	2003-2004
urethritis in men	1992-2004
urinary tract infection (medicine prescribed)	1977
ventricular/duodenal ulcer	1975
whooping cough	1998-2004
zanamivir (Relenza)	2000-2002

Appendix 4: list of incidental studies

Incidental studies and other additional studies 1977-2004 (alphabetical)

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 1995-2004
diabetes mellitus (prevalent cases)	2000
euthanasia (request for)	1976-2004
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

Age distribution of the population of the Netherlands, by gender, in thousands, 1 January 2003 (CBS)

age	men	women	total
0-4	523	499	1,022
5-9	504	481	985
10-14	513	490	1,003
15-19	492	467	959
20-24	492	481	973
25-29	519	512	1,031
30-34	656	639	1,295
35-39	676	649	1,325
40-44	646	630	1,276
45-49	590	578	1,168
50-54	570	554	1,125
55-59	526	513	1,039
60-64	386	387	773
65-69	312	337	649
70-74	257	315	572
75-79	184	271	455
80-84	109	202	311
>84	61	172	233
total	8,016	8,177	16,193

Appendix 6: annual tables

Appendix 7: explanatory notes

Bijlage 1	-	Appendix 1
Bijlage	-	Appendix
Continue morbiditeits registratie,	-	Continuous morbidity registration,
peilstations	-	sentinel stations
Deelnemende artsen	-	Participating general practitioners
Naam	-	Name
Plaats	-	Residence
Provincie	-	Province
Comb.-praktijk	-	Group practice
Apotheek-houdend	-	With dispensary
Bijlage 2	-	Appendix 2
Bijlage	-	Appendix
Weekstaat t.b.v. centrale	-	Weekly return for central
registratie	-	registration
Continue morbiditeits registratie,	-	Continuous morbidity registration,
peilstations	-	sentinel stations
Proj. no.	-	Project number
Verslagjaar	-	Year under review
Code peilstations	-	Code number sentinel stations
Week no.	-	Number of the week
Rapport. dagen	-	Number of days over which reporting took place
Regel no.	-	Line number
Leeftijdsgroep	-	Age group
Influenza (-achtig ziektebeeld)	-	Influenza (-like illness)
Neuraminidaseremmer voorgeschreven	-	Neuramindase inhibitor prescribed
Waterpokken	-	chickenpox
Milieu gerelateerde gezondheidsklacht	-	Environment-related health problems

Consult rookverslaving	-	Consultation for smoking addiction
Suïcide(poging)	-	Suicide (suicide Attempt)
GGZ	-	Mental health
Urethritis bij man	-	Urethritis in man
C.A.I.D.S. (concern about AIDS	-	C.A.I.D.S. (concern about AIDS)
Gastro-enteritis	-	Gastroenteritis
Ongewenste zwangerschap	-	Unwanted pregnancy
Seksuele problematiek en	-	Sexual problems and
seksueel geweld	-	sexual violence
kinkhoest	-	whooping cough
Acute respiratoire infectie	-	Acute respiratory infection
Weeknummer	-	Number of the week
Opgemaakt d.d.	-	Completed on
Aantal dagen gerapporteerd	-	Number of days over which reporting took place
(zie voetnoot[1])	-	(See footnote number[1])
Zie ommezijde voor voetnoot	-	For footnotes see reverse
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.	1	As a results 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 Betreft uitsluitend nieuwe patiënten, ook telefonisch consult melden		Relates solely to new patients. Report telephone calls as well.
3 S.v.p. apart formulier invullen en bij de weekstaat voegen.	3	Please complete a separate form and attach to the weekly return.
4 S.v.p. apart formulier invullen en bij de weekstaat voegen.	4	Please complete a separate form and attach to the weekly return.
5 S.v.p. apart formulier invullen en bij de weekstaat voegen.	5	Please complete a separate form and attach to the weekly return.
6 S.v.p. apart formulier invullen en bij de weekstaat voegen.	6	Please complete a separate form and attach to the weekly return.

7 S.v.p. apart formulier invullen en bij de weekstaat voegen.	7 Please complete a separate form and attach to the weekly return.
8 S.v.p. apart formulier invullen en bij de weekstaat voegen.	8 Please complete a separate form and attach to the weekly return.
9 S.v.p. apart formulier invullen en bij de weekstaat voegen.	9 Please complete a separate from and attach to the weekly return.
10 S.v.p. geboortedatum noteren en 1e 3 letters achternaam.	10 Please record date of birth and first 3 characters of family-name.

Tables (p 187-p 192)

Continue morbiditeits registratie peilstations	Continuous morbidity registration sentinel stations
Kwartaal	Quarter
Leeftijdsgroep	Age group
Influenza (-achtig ziektebeeld)	Influenza (-like illness)
Neuraminidaseremmer voorgeschreven	Neuramindase inhibitor (prescription)
Suïcide(poging)	Suicide (suicide.attempt)
Urethritis bij man	Urethritis in men
C.A.I.D.S. (concern about AIDS)	C.A.I.D.S. (concern about AIDS)
Gastro-enteritis	Gastro-enteritis
- geen feceskweek	- no faeces culture
- feceskweek	- faeces culture
Kinkhoest	Whooping cough
Waterpokken	Chickenpox
GGZ	Mental health
- verwijzing	- referral
- consultatie	- consultation
Acute respiratory infectie	Acute respiratory infections
Milieu gerelateerde gezondheidsklacht	Environment-related health problems
Consult rookverslaving	Consulting for smoking addiction
Ongewenste zwangerschap	Unwanted pregnancy
Seksuele problematiek en seksueel geweld	Sexual problems and sexual violence

Provinciegroepen	Province group
Gr + Fr + Dr	Groningen, Friesland, Drenthe
Ov + Gld + Fl	Overijssel, Gelderland, Flevoland
Utr + NH + ZH Holland	Utrecht, North Holland, South
Zld + NB + Lim	Zeeland, North Brabant, Limburg
Stedelijkheidsgraad	Degree of urbanisation
5	Rural municipalities
4-3-2	Municipalities with urban characteristics and urbanised municipalities
1	Municipalities with a population of 100,000 or more

Voetnoot	Footnote
N.B. Als gevolg van het afronden bij het berekenen van de relatieve frequenties kunnen kleine verschillen in de totalen zijn ontstaan	N.B As a result of rounding off bij when calculating relative frequencies, small differences may have occurred in the totals