

A Healthy Judgement?

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*Health and Health Care in the Netherlands
in international perspective*

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FOREWORD

National health data provide information to guide evidence-based health policies. International comparisons (benchmarking) add further relevant information. Declining national mortality trends, for instance, may seem satisfactory until other countries are seen to show stronger declines. Rising health care costs may be worrying until one becomes aware that other national health systems are even more costly. Proven effectiveness of a health policy in one country can provide inspiration to implement a similar strategy in another. International benchmarking may thus stimulate additional knowledge and inspiration.

Growing globalisation and the opening up of European markets encourage EU governments to look for added value in sharing common challenges and opportunities in the public health field. Laws and regulations will increasingly become 'European' laws and regulations generally based on common needs and concerns in EU countries. Comparing health and health care data may again be a driving force for identifying common policy priorities.

In many countries health care systems are nowadays considered as economical burdens. Policy makers are therefore focusing on data covering health care and costs in relation to the underlying burden of disease. Historically, the WHO Health for All programme has produced an impressive collection of comparable health data. The OECD is increasing its activities in this area. The expansion of the European Union has stimulated the collection of common statistics (Eurostat) in many areas, recently including health data. The latter is very much stimulated by the EU Health Monitoring Programme. In various public health areas European networks are active and focusing on comparable data definition and collection.

The Dutch Ministry of Health (VWS) has highlighted the importance of international comparisons in its Policy Agenda for 2001. This was stimulated by the release in 2000 of several reports in which Dutch health and health care were analysed from an international perspective. What can be learned from these comparisons? The Ministry has asked the National Institute for Public Health and the Environment (RIVM) to analyse these reports for policy relevance and to further investigate two emerging observations. These are 1) the relatively unfavourable trend in Dutch life expectancy and 2) the stagnation in the decline in Dutch infant and perinatal mortality. This report summarises those analyses.

SUMMARY AND CONCLUSIONS

International comparisons of health and health care are gaining importance and are increasingly used to 'benchmark' national health system performances. They serve as sources of inspiration, to identify common or unique policy problems and put observed trends in a wider perspective. International comparisons have proven their worth, also from a political point of view. They are often quickly picked up by the media and can have a high agenda-setting value.

WHO's World Health Report 2000 report has clearly engaged this challenge. WHO has developed composite indices as tools for international benchmarking, and by focusing on rankings of national health systems WHO has succeeded in putting health systems on the political agenda. Although judged as visionary in its approach, the report does not pass the test for usefulness in national policy setting. In addition, the lack of data and its ambiguous methodologies have provoked many critical reactions from public health experts.

Other reports that we reviewed, such as the OECD survey for the Netherlands, have focused more on specific data and indicators and have proven more informative with regard to actual policy choices. Conclusions and commentaries in these reports with regard to Dutch health care generally confirm current policy intentions of the Dutch Ministry of Health. Although waiting lists were mentioned as a negative aspect, the reports also mention a high satisfaction of the Dutch with their health care system, as compared to many other EU countries. The Dutch health care system is judged a bit expensive, but the care package that is received for the money is rather broad.

We learned from these reports (chapter 1) that in many aspects of health and health care the Netherlands ranges around the average for the European Union. This is contrary to earlier days, when our country ranked rather high among this set of countries. In many instances this is caused by the catching up of especially the southern European countries. Specific examples of a less favourable performance are the Dutch life expectancy and perinatal mortality, which we have analysed in more detail in chapters 2 and 3.

Dutch life expectancy is lagging behind, especially for women, which is similar to earlier Danish developments. This is related to causes of death which are negatively influenced by behavioural factors, e.g. smoking.

The causes of the stagnating decline of perinatal mortality in the Netherlands include: a rapid growth of the age of Dutch mothers at birth of their (first) child; a considerable increase in births given by women in ethnic minority groups (related to socio-economic status) and an increase in multiple births (related to the age of the mothers and increased infertility treatment). In addition, smoking by pregnant women still has a significant contribution to the risk of perinatal mortality in The Netherlands.

From these two analyses we conclude that it remains essential not to just compare trends in certain general indicators or composite measures. One should also look for relevant explanations by investigating the underlying causes, preferably from an international perspective as well. This requires a conceptual approach, linking health to its determinants, consequences and policy instruments. Usually this requires more comparable data than are readily available. Especially good comparable data on health determinants and health care are currently often lacking.

Our results point to the fact that lifestyle factors (e.g. smoking) are responsible for major differences in mortality and in life expectancy between European countries. The international comparisons that we studied did not point at differences in mortality or life expectancy that can be related to differences in health care. This points again at the importance of prevention as a major source of further health status improvements in the European Union.

We also learned that becoming the best in the world on a certain aspect of health is not always a real policy option, as demographic, social or cultural factors are difficult to influence by health policies. In the case of trying to lower perinatal mortality rates it is not easy, or maybe even not acceptable, to try and influence the average age at which women give birth. Similarly, high birth rates in ethnic minority groups rather reflect a given state of affairs than a policy item. Health policy has to look for what is feasible and realistic. In the case of Dutch ethnic minorities the accessibility and effectiveness of health care may be relevant factors for further improvement.

In order to be able to carry out international comparisons countries should collect data of high quality and provide them to international organisations. Although WHO, OECD and Eurostat are active in the health information area, much can be improved by a more pro-active approach of their Member States. Our analysis also revealed that the Dutch perinatal data collection showed many possibilities for improvement. Within the EU the future 'action programme on public health' may provide a stimulus, as health information will be a major 'strand'.

Our reports contained recommendations for the Dutch Minister of Health and she has immediately taken on board several of them. This clearly shows the added value of international comparisons.

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1 PASSING A HEALTHY JUDGEMENT ON THE NETHERLANDS?

Analysis of international comparative reports on Dutch health and health care

Introduction

In the year 2000 several reports analysed Dutch health care and health status from an international perspective. These include the 'World Health Report 2000: Health Systems: Improving Performance' (WHO, 2000), a country-analysis for the Netherlands by OECD (OECD, 2000), and two reports produced in the Netherlands, i.e. by the Dutch Ministry of Social Affairs and Employment (SZW, 2000) and the Social and Cultural Planning Office (SCP, 2000). The Dutch Ministry of Health, Welfare and Sports has addressed the issue of international comparisons in its policy agenda for 2001 (VWS, 2001) and asked the RIVM to analyse the above reports for policy significance.

Approach

The reports mentioned above were compared with regard to their positioning, goals, scope, content and structure. Several questions were asked: What aspects of health and health care were compared? What indicators and data were used? What are the results of the comparisons? Are the conclusions justifiable? What are the lessons for Dutch health policy? A draft summary of findings was presented to Dutch public health experts for peer review. The results were first published in Dutch (Achterberg et al., 2001) and the final conclusions are summarised below.

World Health Report 2000

WHO has developed a new, visionary model to describe the 'health system performance' of all 191 member countries. The broadly defined concept of a '*health system*' includes all actions contributing to better health. Five major goals of a health system were defined for which indicators (in parentheses) have been developed: *Health status* (level and distribution), *Responsiveness* of the health system (level and distribution) and *Fairness* (of financial contribution). Composite scores were computed for 'attainment' and 'performance' of health systems.

For the 'level of health' the 'DALE' (Disability-adjusted life expectancy) was used as an indicator. It is calculated as the life expectancy minus a weighted number of years spent in less good health. Especially the latter part is the result of a complex and not very transparent mix of data, assumptions and extrapolations, whereas the life expectancy finally seems to dominate the outcome. The 'distribution of health' was expressed as the distribution of infant mortality over households. The explicit choice was made not to calculate differences according to e.g. socio-economic strata.

For the level and distribution of ‘responsiveness’, a questionnaire was submitted to about 2000 ‘key respondents’ in 35 countries. Under responsiveness seven domains were included: dignity, autonomy, confidentiality, prompt attention, quality of basic amenities, access to social support networks, and choice of care provider. This is narrower than the original definition of health systems and it also does not include items of medical effectiveness. The calculation of ‘fairness of financing’ was based on differences in household expenditures, related to actually available budgets.

From the scores for the five indicators, ‘attainment’ was calculated as a weighted combi-score. Next, this has been corrected for differences in resources spent in health care and for differences in the educational level, the latter taken to reflect the general development rate of a country. This corrected value has been called ‘health system performance’. The Indicator scores for the Netherlands in the WHO report are summarised in table 1.1.

The basic approach as well as the methods to compute the indicators and the substantial lack of real data have been subject to much international discussion and criticism. This has been expressed in the scientific literature (e.g. Braveman et al., 2000; Navarro, 2001; McKee, 2001a; Almeida et al., 2001; Williams, 2001; see also McKee 2001b and the website www.who.dk/observatory-/whr.htm for more references, including replies from the WHO team), as well as in consultations held in the various regions of the WHO. Major issues of criticism included: the underlying political values, the face validity of the rankings, the coherence of the indicators, the data availability, a range of methodological concerns, the acceptability of the method to estimate ‘performance’, and finally the general doubts about the usefulness for policy making of a composite measure at this high level of aggregation (McKee, 2001b).

Table 1.1: WHO indicators for national health systems: Scores, rank and uncertainty for the Netherlands (WHO, 2000).

	Rank for the Netherlands	uncertainty
Attainment scores		
Health		
Level (DALE)	13	9-17 (a)
Division	15	6-33 (a)
Responsiveness		
Level	9	2-27 (a)
Division	3-38	3-38 (b)
<i>Fairness (financial)</i>	20-22	2-48 (a)
Final attainment score	8	4-15 (b)
Performance scores		
<i>Level of Health</i>	19	17-24 (b)
Overall performance	17	14-21 (b)

(a): Scores of countries and uncertainty interval in the computed outcome; these uncertainty intervals do only pertain to the statistical computation and not to the numerous assumptions made.

(b): Uncertainty interval of the rank according to WHO.

Our own analysis led to the conclusion that the rankings appear to have little meaning in view of the many uncertainties and implicit assumptions. The apparent ‘black box’ approach leaves no clear messages for Dutch national health policy neither from looking at the overall ranking nor from any of the other indicator rankings. Our message has been that instead of the construction of an overall index of health performance and ranking, a transparent profile of generally agreed indicators would be much more useful for policy purposes. Given the heavy debate and criticism we concluded that WHO’s focus on the overall index may lead to a loss of credibility and a loss of the good elements of the approach taken in the report, such as its overall philosophy and some of the instruments that are being developed. The WHO report did, however, succeed in one of its major goals, i.e. to put national health systems on the political agenda.

Despite the many criticisms mentioned, it was recommended to the Dutch Ministry of Health that the Netherlands should actively participate in the further development of the valuable elements of the WHO approach and improve the delivery of relevant national data. Dutch participation in the more modest but more realistic approach of the OECD in this area was also recommended.

OECD country report for the Netherlands

The OECD country report for the Netherlands (OECD, 2000) has used an audit approach in its methodology and contained, for the first time, a chapter on the health care system. The recommendations in this chapter more-or-less confirmed the current policy intentions of the Dutch Ministry of Health: more competition in the health care sector, further development of guidelines and standards in health care and of a uniform registration of waiting lists, and improve the control over the rising costs of pharmaceuticals. Along with the recommendations, some data from the OECD health database were presented. Dutch health care costs were judged to be ‘average’, with a relatively low number of doctors and (too) limited capacity for university education of doctors. Health status, as measured by life expectancy, perinatal and infant mortality, is judged to be about average in the group of OECD-countries. However, self-perceived health and satisfaction with the health care system rate relatively high.

Report by the Ministry of Social Affairs and Employment (SZW)

The SZW report was motivated by the issue of whether a good social policy can be combined with a situation of high economic growth. Several larger EU countries and the US were taken as reference countries. Six indicators were considered: health care costs, efficiency of care, health status, accessibility of care, satisfaction of care and cost containment measures. The Netherlands scored relatively high for ‘social’ aspects of health care (accessibility, satisfaction), average for costs and for health status but relatively poor for financial aspects of cost-containment and efficiency. However, the validity of some of the applied indicators is for the time being considered rather limited.

Report by the Social and Cultural Planning Office (SCP)

In one of its sections the SCP-report describes various aspects of Dutch health status, health care and selected health determinants, mainly from an EU-perspective.

The report mentions some unfavourable trends: Dutch infant mortality rates have decreased less than in most other EU-countries, and similarly, Dutch male and especially female life expectancies at birth have recently shown relatively less increase than the EU average. The Dutch are among the heaviest smokers in Europe. Health care consumption appears to be relatively low, when compared to other European countries. The Netherlands favours a gatekeeper function for general practitioners and stimulates the use of standards for stimulating 'evidence-based health care'. Equal access to care is considered very important in the Netherlands. A rather high satisfaction of the Dutch with their health care system has also been noticed and although the Dutch health system is judged not very cheap, the health care package offered for this money is fairly broad-based.

Conclusions

The four reports that were reviewed have different scopes. WHO and SZW claim to present a summary judgement of a country's health (care) system, although with very different degrees of ambition and sophistication. OECD mainly presents a private advice to the Dutch Ministry of Health, whereas SCP focuses on comparison of separate data sets and indicators.

As was stated before, the WHO2000 report has succeeded in raising healthcare systems on political agendas, but not in the sense that the actual ranking values should be taken

Table 1.2: Position of the Netherlands as compared to EU and OECD countries, as presented in the four reports discussed: WHO, OECD, SZW and SCP.

Netherlands performing worse than average	Netherlands performing about average	Netherlands performing better than average
<ul style="list-style-type: none"> <i>Trends</i> in life expectancy, infant mortality (SCP) (Trends in) smoking behaviour (SCP) Physician density, no. of medical students (OECD) Waiting lists (OECD) % Of health personnel in direct patient care (SZW) <i>Trends</i> of pharmaceutical expenditures (OECD) 	<ul style="list-style-type: none"> <i>Level</i> of life expectancy, infant mortality (all reports) DALE (WHO) Premature death in women (SCP) Level of responsive-ness Fairness of financial contribution (WHO) No. of consultations in ambulatory care (OECD) Physicians per capita (OECD) (Trends in) health expenditures (all reports) <i>Level</i> of pharmaceutical expenditures (OECD) 	<ul style="list-style-type: none"> Premature death in men (SCP) Self-perceived health (OECD) Patient satisfaction (OECD, SZW, SCP) Medical consumption (SCP)

serious at this point in time. In order to be able to recognise where actual policy problems exist and what should be the priorities, policy-makers are not helped by overall indices but rather by concrete data. Table 2.1 summarises such data as presented in the four reports. Some of these conclusions provided starting points for more in-depth analyses, which have been carried out by the RIVM and are summarised in chapters 2 and 3.

For the WHO 2000 report, much of the underlying data were collected or constructed by WHO itself. For the other reports, the data collected by international agencies from national sources, such as the OECD and HFA databases, provided the information base. This highlights the fact that data delivery to international organisations is an increasingly essential element of national information policy, especially since nowadays many Ministries of Health consider international 'benchmarking' important. Therefore, all sound initiatives by WHO, OECD and the EU to design conceptual frameworks and comparable data and indicator sets to assess health and health systems deserve further support by their member states. Good co-ordination and avoiding double work by the international organisations is necessary, however.

2 LONG LIVE THE NETHERLANDS!

An analysis of trends in Dutch life expectancy in a European context

Introduction

Life expectancy is still regarded as an important indicator for public health. In the Netherlands, life expectancy has recently increased less rapidly than in many neighbour countries, especially for women. A detailed analysis was undertaken (Van der Wilk et al., 2001) to obtain possible handles for improving the situation.

Approach

In order to analyse these unfavourable trends in more detail we looked at life expectancies at different ages in the 15 EU countries, as well as age-specific mortality patterns. To put these further into perspective we looked at important causes of death in EU countries and some of their major determinants. Finally, we translated our findings into recommendations for health policy interventions.

Analysis

Since 1970 Dutch male life expectancy at birth has been increasing, although a little less rapidly than the EU average (*Figure 2.1*). Swedish men now live the longest, whereas Portuguese men have the shortest life expectancies within the EU.

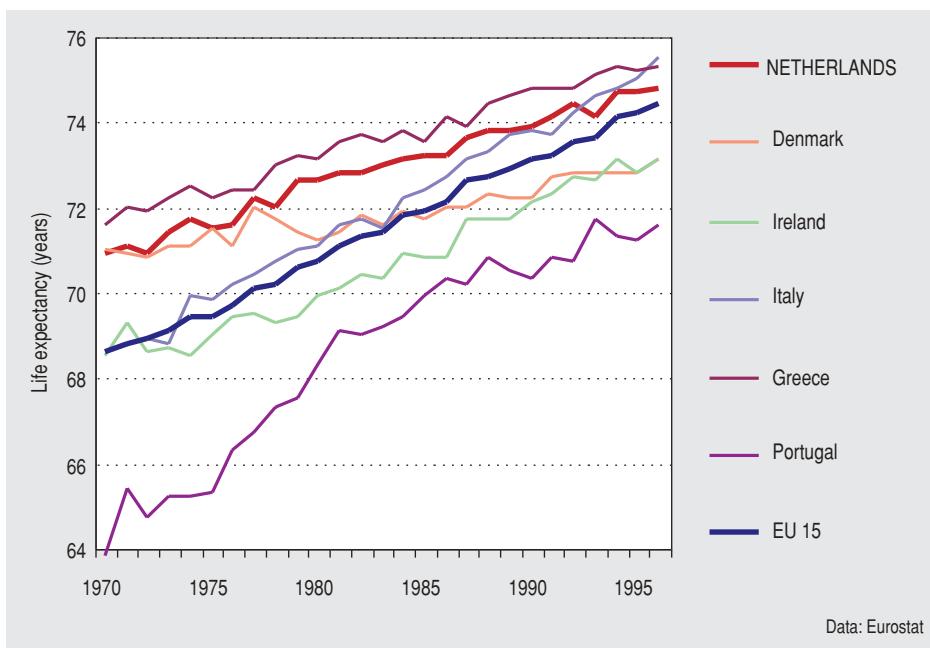


Figure 2.1: Life expectancy at birth (men)

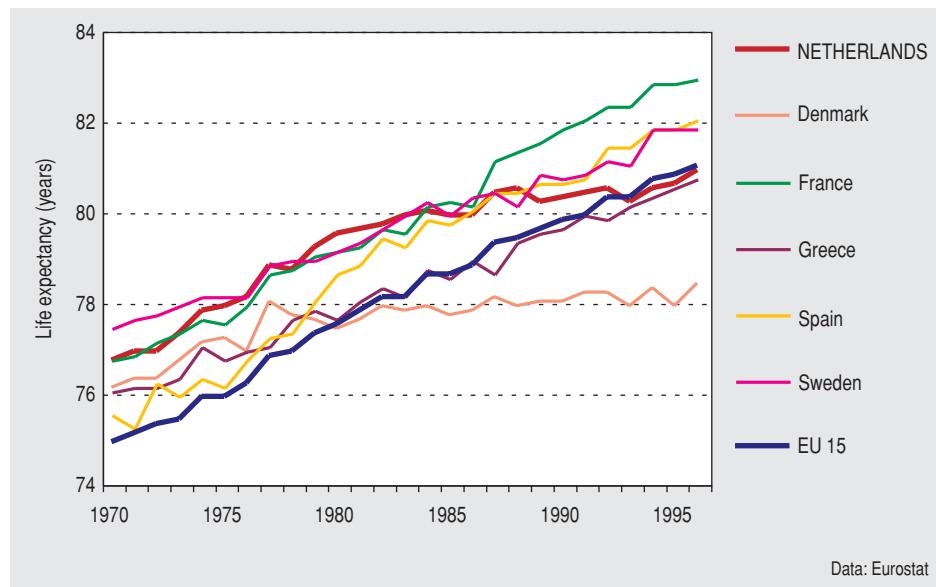


Figure 2.2: Life expectancy at birth (women)

The trends in life expectancy are more worrying for Dutch women (*Figure 2.2*). Their life expectancy at birth fell from a leading position within the European Union down to below the EU-average. During this period, Danish women have shown the worst development within the EU whereas French women have consistently been doing very well over the last decades.

Age-specific mortality trends in the Netherlands

Life expectancy is calculated by means of age-specific death rates. A closer look at these mortality rates provides a more detailed picture of what age- classes are responsible for the changing patterns in Dutch life expectancy.

From 1970 onwards Dutch males show a continuous downward mortality trend for all age groups (5 year intervals) except for the oldest groups (80 years and older), where trends have recently stabilised (*Figure 2.3*).

Since the 1950s Dutch women (*Figure 2.4*) show decreasing mortality rates for all age groups, but since these declining mortality rates are flattening off, again most clearly in the oldest age-groups.

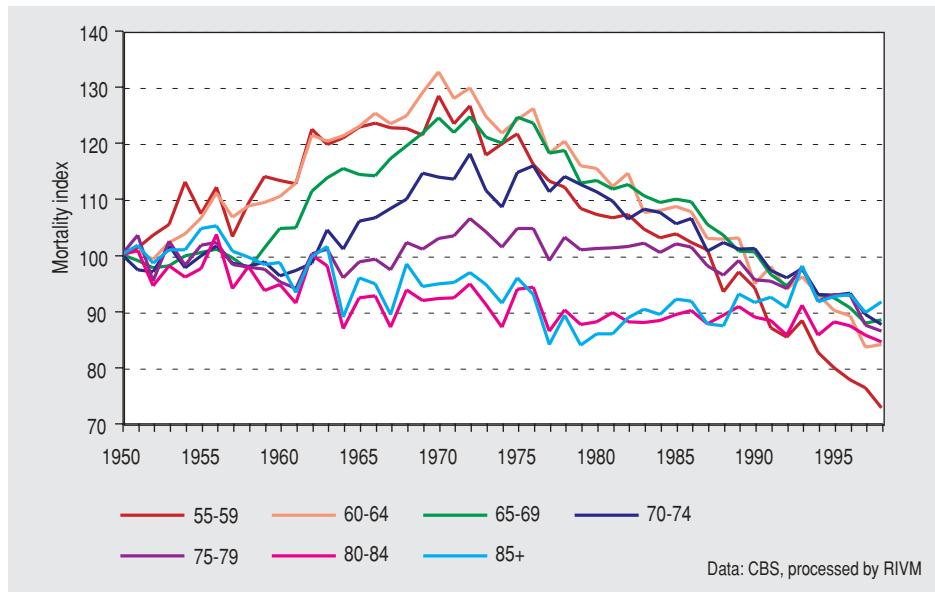


Figure 2.3: Mortality trends in Dutch men by age-group (1950 = 100)

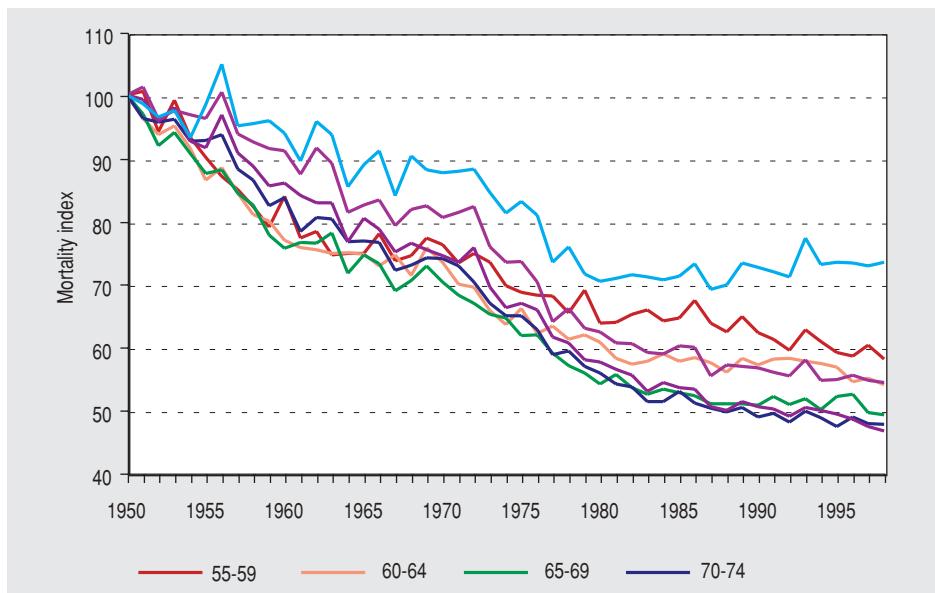


Figure 2.4: Mortality trends in Dutch women by age-group (1950 = 100)

Figures 2.5 and 2.6 show age-specific mortality patterns in various countries relative to the EU-average. It turns out that Dutch male mortality is higher than the EU-average from the age of approximately 65 years upwards. Dutch female mortality is relatively

high between the ages of 40 and 70 years. At younger ages both Dutch men and women seem to have fairly low mortality rates compared to the EU-average.

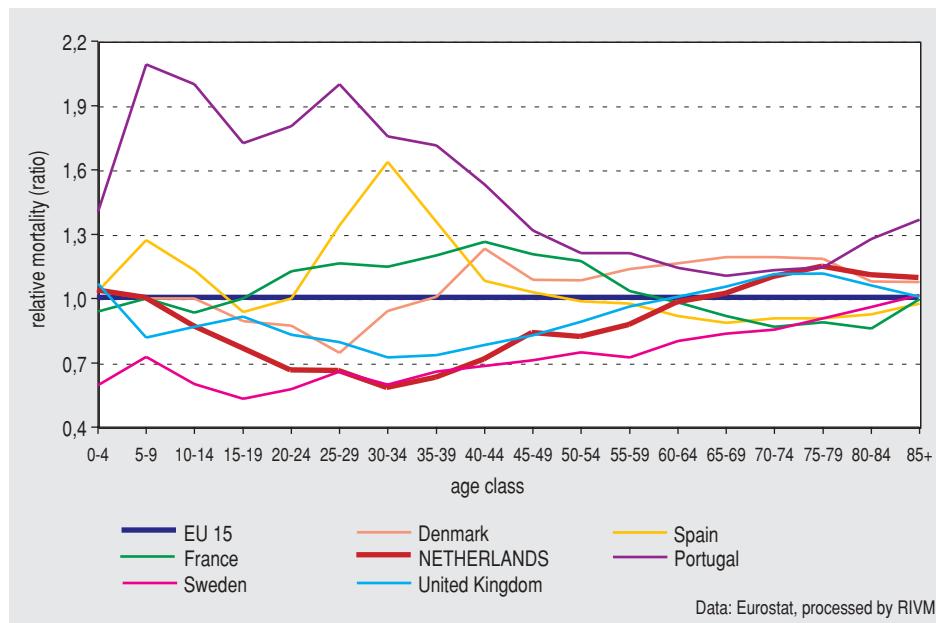


Figure 2.5: Age specific mortality relative to the EU average (men: 1995)

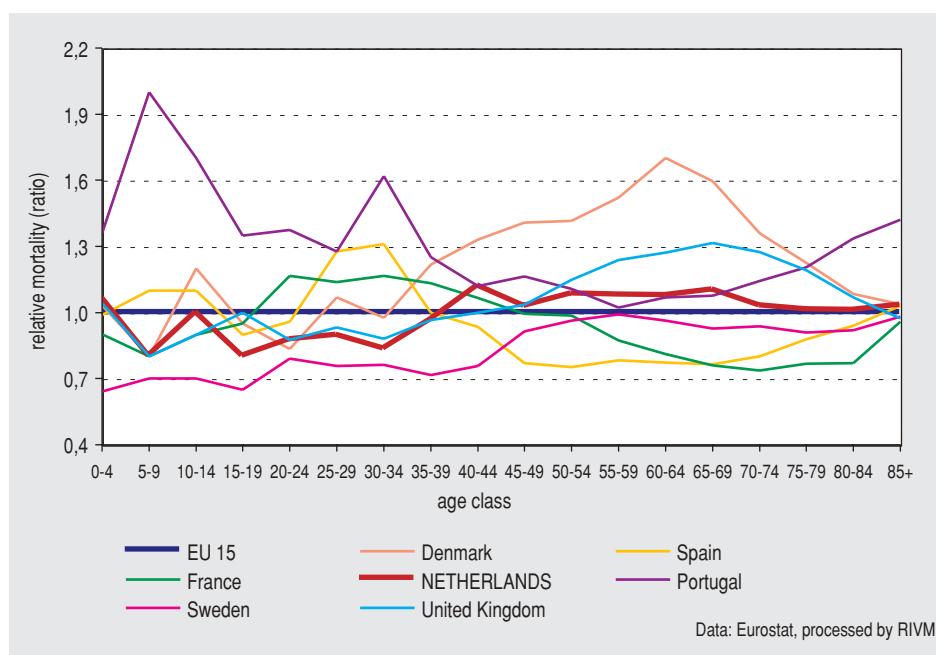


Figure 2.6: Age specific mortality relative to the EU average (women: 1995)

When we focus on major causes of death in the older age-classes we find that mortality in the Netherlands is low or medium compared to the EU-average for: coronary heart disease, cardiovascular accidents (CVA) and 'accidental fall'. However, Dutch mortality rates are relatively bad for breast cancer, prostate cancer, lung cancer (males >65 years, females <70 years), pneumonia / acute bronchitis, colorectal cancer and asthma / COPD (older men, all women). *Figure 2.7 and 2.8* present the data for lung cancer (highest, lowest in EU and EU average).

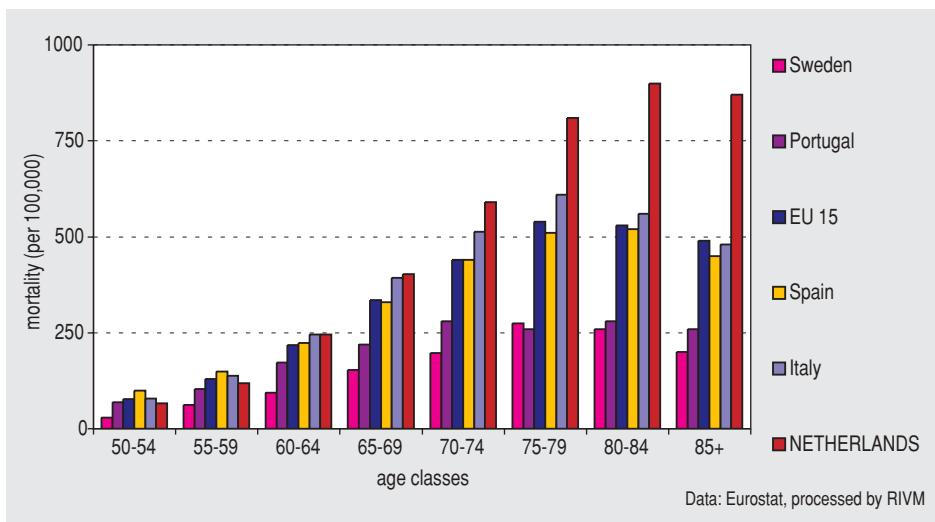


Figure 2.7: Lung cancer mortality (men) (1996)

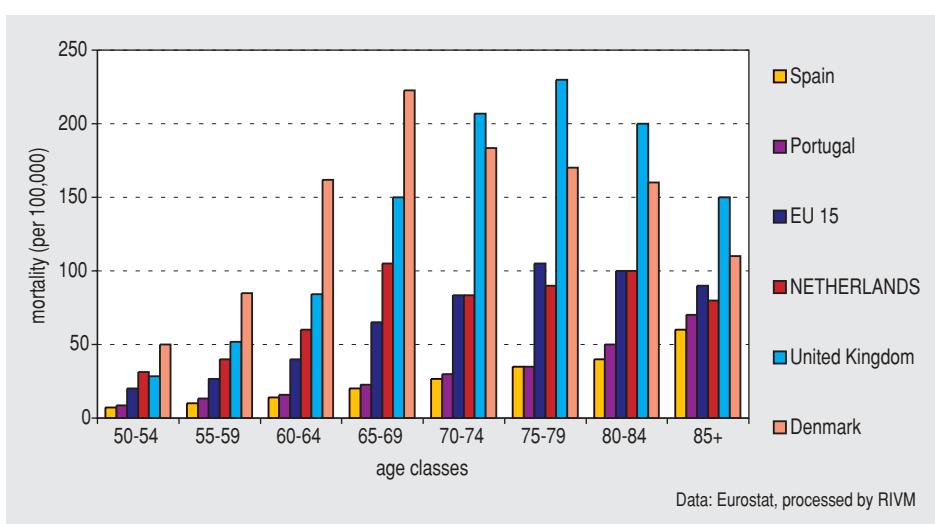


Figure 2.8: Lung cancer mortality (women) (1996)

The age-specific differences in death patterns for all causes in the Netherlands are reflected very well in the differences in death patterns of breast cancer, prostate cancer, lung cancer and COPD. In other words, these causes of death appear largely responsible for the currently different mortality trends in the Netherlands.

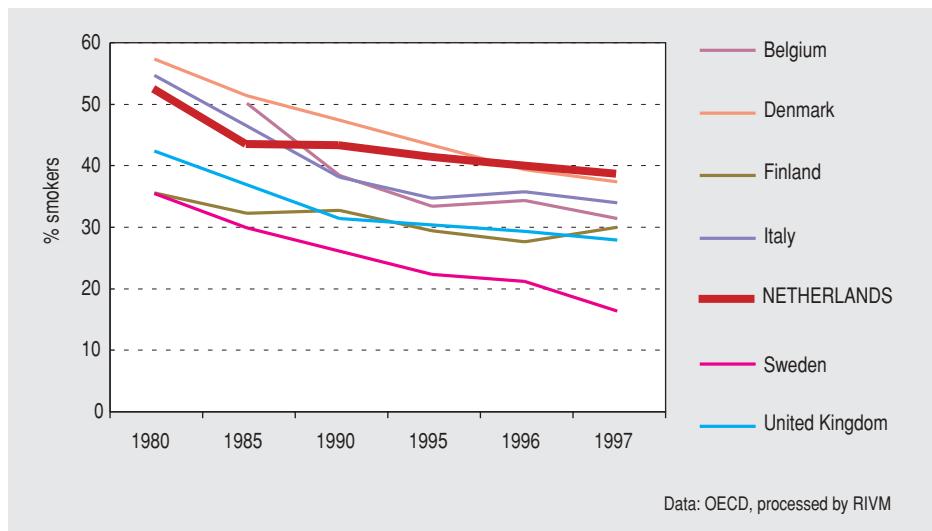


Figure 2.9: Trend in daily smokers (men)

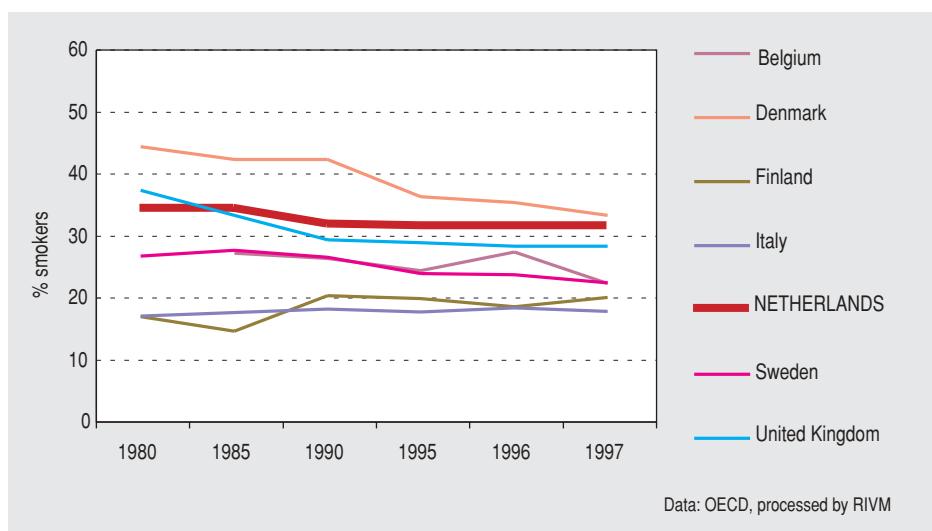


Figure 2.10: Trend in daily smokers (women)

We now turn to the determinants of these major causes of death. For breast cancer and colorectal cancer these are complex, but for lung cancer and COPD the most prominent risk factor is *smoking*. When analysing death patterns one has to take into account smoking behaviour in the past 20 years. Trends in Dutch smoking (*Figure 2.9 and 2.10*) are characterised by a slowly decreasing smoking rate for men over the past 40 years and a continuously increasing rate for women. The patterns of lung cancer mortality are consistent with these smoking trends. The Dutch now hold almost a leading position within the EU with respect to smoking.

Conclusions and recommendations

Our findings indicate that a considerable part of the stagnating life expectancy in the Netherlands can be attributed to patterns of smoking behaviour, especially that of women. Here the Netherlands follows in the footsteps of Denmark where similar adverse trends in mortality and life expectancy have given rise to a thorough analysis, from which similar conclusions were drawn (Lifetime in Denmark, 1994). Besides smoking other aspects of adopting a more male-like lifestyle were determining the observed adverse Danish trends as well. Our results confirmed the Danish observations that considerable parts of international differences in mortality and life expectancy are related to lifestyle factors that are amenable to prevention.

All this means that continued attention for anti-smoking policy in the Netherlands is a necessity. This should be directed at specific groups with high smoking prevalence, such as younger age-classes and groups with lower socio-economic status.

Screening practice for breast cancer is closely monitored in the Netherlands and the screening policy is evaluated on a regular basis. Screening for prostate cancer, however, is still subject to debate because of uncertainties with regard to treatment. Screening practices for colorectal cancer are tailored to specific groups, i.e. people with genetic predisposition, and technological developments may increase their effectiveness. More insight is needed for each of these highly relevant causes of death into their determinants, their prevention and new opportunities for treatment.

With respect to the relatively stagnating mortality trends among the most aged in the Netherlands, it should become clearer to what extent deficits in living conditions and health care may each be responsible as well. Although beyond the scope of this study, it is clear that especially in the elderly the progression of morbidity and comorbidity requires a different strategy in terms of prevention and care; one that is less disease-specific and more generally age-specific both with respect to mortality and morbidity.

3 A HEALTHY START?

Mortality around birth in the Netherlands: trends and causes from an international perspective

Introduction

Infant mortality is considered to be an important indicator for public health and *perinatal mortality* is often used as an indicator for the quality of perinatal care (Richardus et al., 1998). A comparison of these indicators has pointed out that less favourable trends exist for these indicators in the Netherlands than in other countries. A detailed analysis (Achterberg & Kramers, 2001) has been presented to the Dutch Ministry of Health.

Approach

After a short comparative analysis of the trends in infant and perinatal mortality in the countries of the European Union we paid attention to the underlying risk factors. We focused on those, which might explain the specific Dutch trends and on those that might be accessible for health policy interventions. Next we reviewed the evidence that points at opportunities for improved prevention and health care in this area in the Netherlands. Finally, we looked at opportunities for Dutch health policy that may result in a better knowledge of the situation and in further improvements in Dutch perinatal mortality rates.

Analysis of infant and perinatal mortality trends

Both infant and perinatal mortality show continuous declines in all developed countries as well as a large decrease of the differences between the countries. For infant mortality (death in the first year of life), the Dutch rates declined somewhat less than in most other EU-countries, (17.9 to 5.7 per 1000 liveborn children; *Figure 3.1*).

For perinatal mortality (foetal deaths from 24-28 weeks of pregnancy plus mortality in the first week after birth) (*Figure 3.2*), the Dutch rates declined from 26.6 to 8.0 per 1000 births. Here the relative developments for the Netherlands have been worse than for infant mortality. For perinatal mortality, the Netherlands dropped from a second best place within the 15 countries of the current EU in 1960 to a tenth place in 1996. Denmark and the United Kingdom also showed relatively adverse trends.

Within the European Union, Sweden and Finland are the countries with the lowest perinatal mortality rates and these countries are currently among the world leaders.

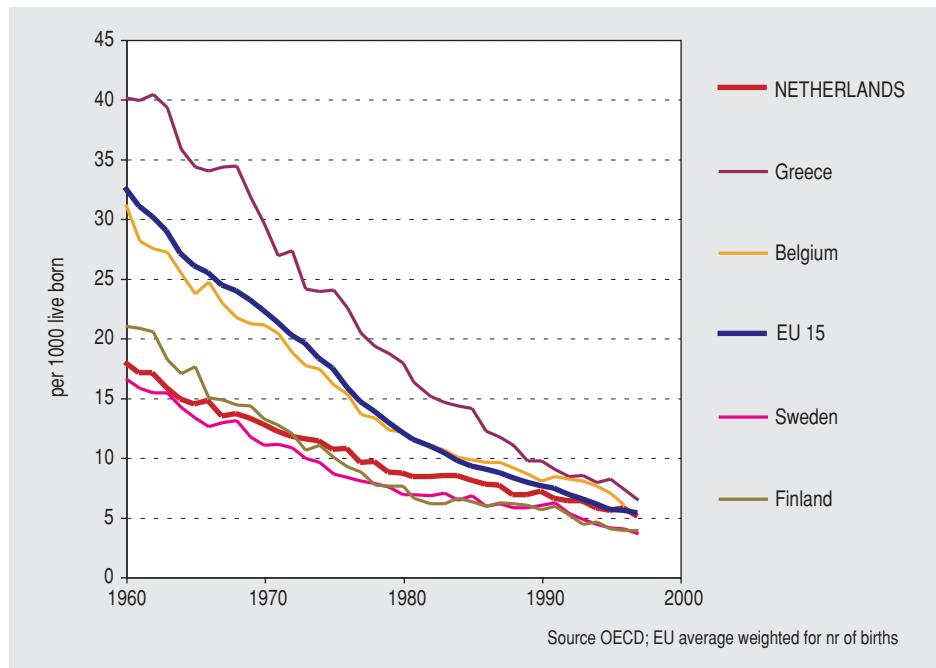


Figure 3.1: Trend in Infant Mortality in the European Union

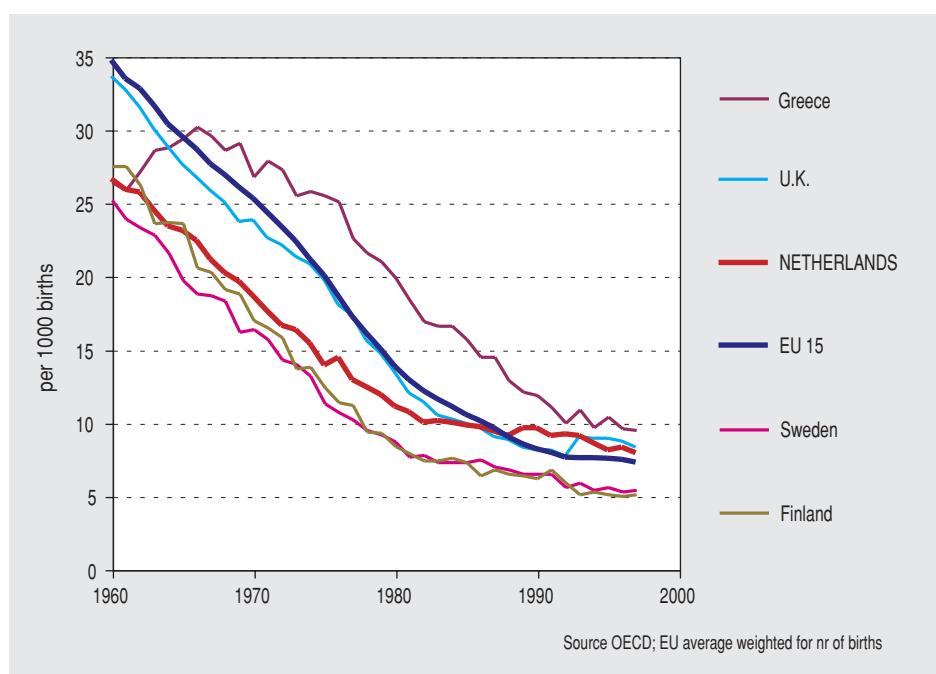


Figure 3.2: Trend in Perinatal Mortality in the European Union

Perinatal and infant mortality overlap for mortality occurring in the first week after birth. This first-week mortality makes up a considerable part of perinatal mortality (> 60%). This indicates that perinatal mortality is the most important indicator for further scrutiny of the Dutch situation. This is confirmed by our observation (not shown) that no adverse trends exist for the 'late' part of Dutch infant mortality, i.e. mortality between the ages of 4 weeks and 1 year (post-neonatal mortality).

Explaining the trends: risk factors for perinatal mortality

Low birth weight, premature birth and congenital malformations are the most important among the child-associated risk factors for perinatal mortality. It was not possible however to compare Dutch figures for low birth weight and premature birth with other countries as no data are collected on a continuous basis for the whole country. This is due to incomplete geographical coverage and limited linkage of several perinatal registries for birth-related parameters and congenital defects in the Netherlands.

A significant part of perinatal and infant mortality is caused by congenital anomalies. International comparisons of mortality around birth caused by congenital anomalies (Rosano et al., 2000) indicate that the rate in the Netherlands is relatively high (period: 1990-1994) as compared to other countries of the European Union. This proved especially so for mortality caused by spina bifida (neural tube defects).

Besides the above-mentioned risk factors (prematurity, low birth weight) there are several factors that are associated with the mother and are also indicative of increased perinatal mortality risks. Having a baby at an older (35+) or a younger (teenage) age, the ethnic minority origin of the mother, often related low socio-economic status, as well as having a multiple pregnancy and smoking during pregnancy are important, mother-associated, risk factors for increased perinatal mortality. The prevalence and trends in these risk factors have been investigated and compared, where possible, with other countries. These mother-associated risk factors were selected for further investigation, as they are useful for targeting health care and prevention policies towards specific groups.

Age of mothers at birth

Between 1975 and 2000 the average age at birth of a first child of Dutch mothers has increased several years and the percentage of Dutch children born to an older (35+) mother has increased in that period from 5 to 20%.

International comparison indicates that both the average age at birth of a first child (see *Figure 3.3*) and the percentage of children born to an older (35+) mother in the Netherlands are among the highest in Europe (and the world) and have increased relatively fast. Within the EU especially the differences in average age of mothers at birth are large between the Netherlands and Austria and Portugal.

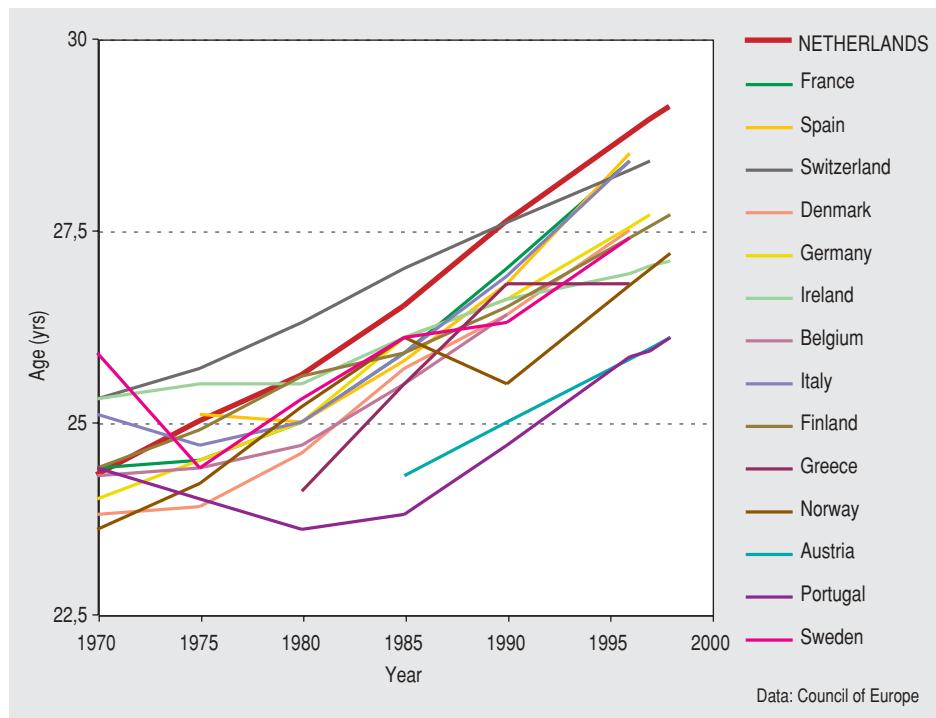


Figure 3.3: Age of European mothers at birth of their first child

Currently teenage births (age 15-19 yr.) are quite infrequent in the Netherlands (5-6 per 1000) and among the lowest in the EU. The rates of teenage pregnancies in Dutch ethnic minority groups are much higher, however, than the Dutch average and currently 60% of childbirth's to teenage mothers occurs in girls of ethnic minority origin. Still, the relatively high birth rates (from a Dutch perspective) in Turkish teenage girls are comparable to the overall rates in the US (around 50 per 1000). The birth rates for Moroccan teenagers are comparable to the average teenage birth rate in the UK (20-25 per 1000). In Dutch ethnic minorities it is often socially fully acceptable, however, to marry and have children at a young age and the majority of teenage births occur between 18 and 19 years of age.

Ethnic origin of the mother

Between 1975 and 2000 the percentage of total Dutch births of children with at least one parent who was 'born outside the Netherlands' (the definition used for ethnic minority origin) increased from about 5 to about 20%. The average number of children born to mothers that belong to an ethnic minority group is currently much higher, although slowly decreasing, than for native Dutch mothers. International comparisons are difficult because of differences in definitions and the corresponding lack of adequate data. Still, the available data suggest that this increase has been larger in the Netherlands than in most other EU-countries.

In the Netherlands mothers with a Turkish, Moroccan, Surinam and Antillian background constitute the four larger minority groups with increased perinatal mortality risks. Recently migrants and refugees from Africa, Asia and Eastern Europe have added to the group with increased risks. These groups often live in the four largest Dutch cities (Amsterdam, Rotterdam, The Hague and Utrecht). There is a strong association between these ethnic minority groups and lower socio-economic status as well. Dutch studies have presented indications for the extent of perinatal mortality differences for these groups (Schulpen, 1996).

Multiple pregnancies

Chances of having a multiple pregnancy increase with the increasing age of the mother. The chances of fertility problems increase with age as well. Medical treatment of infertility (In Vitro Fertilisation, hormonal treatment) is now frequently applied in the Netherlands; the resulting pregnancies may be more prone to multiple births with accompanied increased risks of perinatal mortality, especially for larger (i.e. > 2) multiplets.

Between 1980 and 2000 the percentage of children born as one of a multiplet has about doubled in the Netherlands. About half of this increase was estimated as being caused by treatment for infertility.

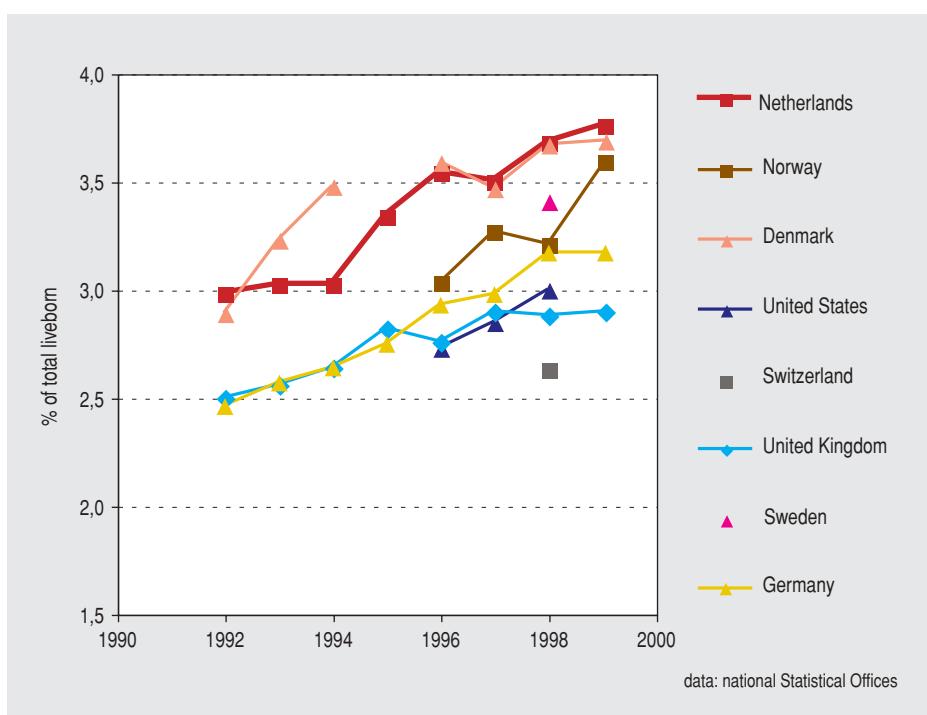


Figure 3.4: Percentage of children born as one of a multiplet in selected countries

Although data could not be easily retrieved for all EU-countries the available data suggest (*Figure 3.4*) that the percentage of children born as one-of-a-multiplet in the Netherlands is now among the highest in Europe and possibly in the world. Denmark and Norway also have relatively high rates of multiple births. The rates of 'larger' multiplets (3 or more) have recently been significantly reduced in the Netherlands, however, by limiting the number of replaced embryos after IVF. Larger multiplets have 15-20 fold increased perinatal mortality risks. Other countries (United States, Germany, data not shown) appear not to have succeeded in reducing the increasing rates of 'higher' multiplet births yet.

Smoking during pregnancy

Dutch women in the fertile age are, along with Danish women, among the heaviest smokers in Europe. About 20% of Dutch women still smoke during pregnancy, which is a known risk factor for low birth weight and increased perinatal mortality. Smoking in the presence of the baby is a risk factor for infant mortality (especially for SIDS: Sudden Infant Death Syndrome). However, international comparable data for smoking during pregnancy is lacking. Finland and Sweden appear to have lower prevalence of smoking during pregnancy than the Netherlands.

Do the risk factor trends explain the mortality trends?

It was estimated (Achterberg et al., 2001) that the combined population attributable risks for three of these factors (older mother, ethnic minority origin of mother and multiple birth) increased from 10% to about 26 % in the Netherlands over the 1975-2000 period. The available data suggest that this increase in risk has been higher in the Netherlands than in most other EU-countries. It was also concluded that no sudden and positive changes in these risk factors are expected in the Netherlands in the near future. Dutch perinatal mortality trends have declined sharply from 1960 to 1980 and then the decreased flattened off. Notwithstanding the increased contribution by the risk factors shown above, the rates have stabilised without increasing, however. This strongly suggests that other determinants of perinatal mortality must have developed in a positive way in the Netherlands. These factors would include lifestyle factors, living conditions (housing, nutrition) and aspects of prevention and health care during pregnancy and around birth.

Our analysis was extended to take into account aspects of Dutch health care around pregnancy and birth, where possible also from an international perspective, in order to indicate opportunities for improvement.

Potential improvements in health care and prevention

A review of Dutch and international studies on aspects of health care and prevention during pregnancy and around birth revealed the following observations.

The Dutch system of antenatal and perinatal care is characterised by a relatively high, although declining, percentage of home births and by relatively low rates of medical interventions, such as caesarean sections. There are no indications that the Dutch practice of home births carries any increased risk in the case of complication-free pregnancies. The historically very favourable position of the Netherlands as a country with low perinatal mortality rates existed in a period when far more home births took place than nowadays.

A recent study showed that, in several European countries, some 25-30% of perinatal mortality may still be avoidable by improvements in prevention, antenatal and perinatal care. This 'avoidable fraction' is not higher in the Netherlands than in most other EU-countries, but is lower in Sweden and Finland (Vredevoogd et al., 2001). These are in fact the two EU-countries with the lowest perinatal mortality rates.

Sudden Infant Death Syndrome was combatted relatively quickly and successfully in the Netherlands in the eighties and early nineties as compared to other countries (McKee et al., 1996). Information about the preferred sleeping position of babies has apparently been taken up quickly, resulting in a temporary rapid decline in this aspect of infant mortality. Smoking in the presence of the baby, however, is a remaining risk factor for SIDS for which improvement is still possible in the Netherlands.

In the Netherlands screening before birth (e.g. for Down's syndrome and especially neural tube defects) followed by abortion is not performed as frequently as in some other European countries. The Dutch Ministry of Health has recently been advised to enlarge the potential for screening by routine testing and echoscopy in the last trimester of pregnancy. Although these screening activities have not the primary intention to lower perinatal and infant mortality rates, they may in the end contribute to it as well as contribute to reducing the number of children with serious handicaps. Ethical considerations related to abortion remain important, however, in the Netherlands with regard to this issue.

Folic acid suppletion has been advocated in the Netherlands and some positive, although not yet significant, outcomes have been suggested. Further improvement appears possible, however. In other EU-countries, e.g. Denmark, significantly positive effects have been reported (Ulrich et al., 1999).

Although smoking during pregnancy has been the subject of Dutch health education projects it is obvious that higher success rates are needed and specific groups should be targeted more intensively.

There is a potential for improvement in the social and economic situation of Dutch women, which will make it more attractive to have a (first) child at a younger age (more flexible working conditions, more facilities for day-nurseries). However, this is an area where effective policy influence is quite difficult to realise.

A final remark must be made with regard to the fact that our analysis has focused mainly on mortality, thereby ignoring changes in morbidity (burden of disease) around and after birth. In this respect a clear-cut problem area is the increased survival of (very) immature and (very) low birth weight babies by technological innovations. This increased survival is accompanied by an increased number of children that suffer from long-term ill effects in terms of decreased quality of life, such as cognitive, neurological and behavioural impairments (Den Ouden et al., 1998).

Conclusions and recommendations

Adverse trends exist in Dutch perinatal mortality rates and, to a lesser extent, in infant mortality rates as compared to several other European countries. This can be explained in part by the relatively large increase over the last decades in the average age at birth of Dutch mothers and the accompanying increase of multiplet births along with a relatively high increase in births to mothers with an ethnic minority origin. Smoking during pregnancy is still relatively high in the Netherlands. The observed trends in these risk factors do not suggest a quick improvement. The available evidence also suggests that improvements in prevention and health care during pregnancy and around birth are still possible in the Netherlands as they are in many other countries.

Some specific recommendations were made:

- ◊ Reduce smoking during pregnancy
- ◊ Improve the continuity and quality of Dutch antenatal and perinatal care, especially with regard to prenatal diagnosis
- ◊ Strengthen the 'intercultural' approach to prevention and health care during pregnancy and around birth aiming at adequately outreaching to Dutch ethnic minority groups
- ◊ Pay attention to the 'older mother' problem from the intersectoral policy perspective. This includes more education about the increased risks of having a baby at an older age, increasing day-care facilities for young children and improving working conditions and benefits during and after pregnancy. Past Swedish policies have been mentioned as a positive example in this regard
- ◊ Intensify Dutch prevention aiming at the reduction of congenital malformations and the associated mortality, e.g. by nutritional education or well-timed suppletion of folic acid, but also by more intensive screening during pregnancy

The current Dutch system of data collection during pregnancy and around birth has been found to be substandard from an international perspective and needs to be improved. Data delivery to international organisations may be improved.

Stimulating and programming research in this area followed by better implementation of the results would also be potentially beneficial. The negative effects of long-term health problems in surviving premature babies after advanced medical intervention around birth deserve continued attention and longitudinal follow up.

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