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HEALTH AND MORBIDITY IN THE ACCESSION COUNTRIES
COUNTRY REPORT – SLOVAK REPUBLIC
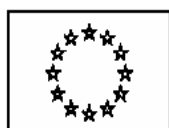
VLADIMÍR KVETAN AND VILIAM PÁLENÍK

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Health and Morbidity in the Accession Countries
Country Report – Slovak Republic

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Vladimír Kvetan and Viliam Páleník[*]

Abstract

Over the last 15 years, dramatic changes have been underway in the Slovak Republic in terms of both the health of the population and healthcare provision. This study provides information and key findings on the morbidity, health status and utilisation of healthcare services in the Slovak Republic.

In presenting the demographic picture in the country, the report highlights trends in fertility, morbidity and mortality rates. It points to the rising age of the population and stagnating population growth. An overview is also given of the current Slovak healthcare system and its organisation. The key legislative reforms that have driven changes in social benefits are summarised, along with their impact on the delivery of healthcare services.

The main characteristics of the health status of the population are then identified, from the perspectives of self-assessed health and healthcare utilisation, drawing on data from national surveys. Further analyses are undertaken using a logit model, which seeks to identify the factors that influence health status and the use of medical services. Detailed findings are presented by age group, gender, type of economic activity and marital status.

[*]Vladimír Kvetan and Viliam Páleník are with the Institute of Slovak and World Economy, Slovak Academy of Sciences, Bratislava.

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1. Introduction

Health status indicators of the population in a given country are representative of the social welfare situation. These indicators also identify the amount of present and future expenditures by the healthcare system. After the societal changes in the late 1980s, Slovakia, as well as the other post-communist countries, had to change its way of providing healthcare. It had to build an efficient and cost-oriented healthcare system from the widespread, mostly demand-oriented system in existence before. Knowledge of the health status of the population and its future trends will surely help healthcare system administrators to predict the costs and sustainability of the new system.

The research described in this report has been carried out as part of the AHEAD project (Ageing, Health Status and Determinants of Health Expenditure), Work Package II (WP II) on Health and Morbidity in the Accession Countries. This report presents information on the morbidity, health status and utilisation of healthcare services in the Slovak Republic.

At the beginning of the report, the current situation in the Slovak healthcare system is described. Section 2 focuses on the demographic picture in Slovakia, highlighting the key trends in fertility, morbidity and mortality. The main characteristics of the health status of the population are identified in section 3, and the results of healthcare survey analyses are summarised in section 4. Section 5 gives an outline of the present status of the healthcare system, along with its development, financing and changes during the transition period. Further sections of the report describe data availability and the methodology used for additional analyses. The analyses, as discussed in sections 6 and 7, mostly concentrate on healthcare services utilisation and self-assessed health. Finally section 8 presents the logit model used for additional analyses of healthcare utilisation. This model and the empirical analyses help us to identify the most significant factors influencing self-assessed health and healthcare utilisation. The results also enable us predict healthcare utilisation in future terms, revealing information about the factors we can and cannot affect through internal policy. Section 9 concludes.

The analyses in this report are based on three main sources of data – the Health Statistic Yearbook of the Slovak Republic (UZIŠ, 1996–2002), *Health Habits and the Quality of Adult Population Health in Slovakia in the Year 2002* (Avdičová et al., 2003) and *Health Awareness and Behaviour of the Population in the Slovak Republic* (Institute of Public Health, 1992-2001). Additional sources are the diverse publications of the Demographic Research Centre, Institute of Health Information and Statistics, Ministry of Health, Statistical Office of the Slovak Republic, etc.

The Health Statistic Yearbook provides an annual overview of health services and the health status of the Slovak population. It is issued by UZIŠ [Institute of Health Information and Statistics] in Bratislava. The yearbook has been issued since 1996, with the latest yearbook (in terms of this report) presenting the situation in 2002. The yearbook is divided into seven sections by theme: demographics, the health status of the population, the network and activity of health establishments, employees and health education, economic indicators, international comparisons and enclosures. The yearbook produces official administrative data for the public, which is widely accessible by the Internet.

Health Habits and the Quality of Adult Population Health in Slovakia in the Year 2002 (Avdičová et al., 2003) is a publication of the State Health Institute in Banská Bystrica. The publication is based on the Countrywide Integrated Non-communicable Diseases Intervention (CINDI) programme of the World Health Organisation (WHO). It provides results of the nationwide Health Monitor project in 2002. Aimed at respondents aged 15-64, the main goal of this project was to monitor the quality of health and the factors that influence it on a national level.

The methodology of this screening consisted of a questionnaire (reproduced in Appendix I) distributed by ordinary mail. Some 3,000 respondents (1,500 men and 1,500 women) were asked to complete the questionnaire. The age structure of the respondents matched the age structure of the population. The response rate was 50.2%. The primary data of this screening (answers to question groups 1 and 2) were used for the empirical analyses in this report.

Health Awareness and Behaviour of the Population in the Slovak Republic, published by the Institute of Public Health (1992-2001), is based on regular surveys conducted in 1992, 1995, 1998 and 2001. The questions cover health status, dietary habits, psychological state, sex life, misuse of alcohol, drugs and tobacco. They also monitor the attitudes and opinions that influence health education and satisfaction with healthcare.

The health awareness and behaviour of the population at large can be derived from the attitudes of individuals towards their own health and the possible impact on their health status. Together these factors form the basis for diminishing morbidity and mortality rates, and create the conditions for the rise of the average age.

Unfortunately, we were not able to use this data in our empirical analyses, as all primary data were lost during an office move of the Institute of Public Health and a change in personnel. We could only use a brief report.

2.   Demographic changes

This section of the report focuses on the demographic changes of the past decades. Generally, the demographic situation in Slovakia has been characteristic of the radical societal changes after the late 1980s. The changeover of the economic system went hand-in-hand with significant uncertainty about the future. During the transition, the economic forces at work resulted in value shifts among the population. These shifts dramatically impacted the family structure, the fertility rate and attitudes towards 'settling down' – namely marrying and having children. The changes in migration patterns were significant as well. Visible numbers of young persons (legally) left the country and started new lives elsewhere, mostly in Canada, Germany and the Czech Republic. Yet the process of becoming an EU member state has since rendered the Slovak Republic an interesting country of destination for immigrants (legal and illegal) from other countries, rather than the primarily transition country it was before.

The population of the Slovak Republic has increased in the last 50 years by about 2 million persons. In 1950, the population of Slovakia was 3.45 million and the total number of inhabitants in 2002 was 5.38[1] million (see Figure 1). Overall, the average yearly growth rate has been positive over the period, at about 1.08%, but the trend of the past decade or so is alarming. Population growth since 1990 has stagnated significantly. The average growth rate of the population between 1990 and 2002 was only 0.14%. The growth of the population in 2001 and

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[1] Demographic data are based on the UN's Population Information Network (POPIN) database (if no other source is mentioned). The data represent information from 1 January of the year in question. The time series of demographic indicators are provided in Appendix II.

2002 was zero. The gender structure of the population may be considered stable, as for example the proportion of men in the total population remains steady, at between 48.4%-49.5%.

Figure 1. Population growth in Slovakia
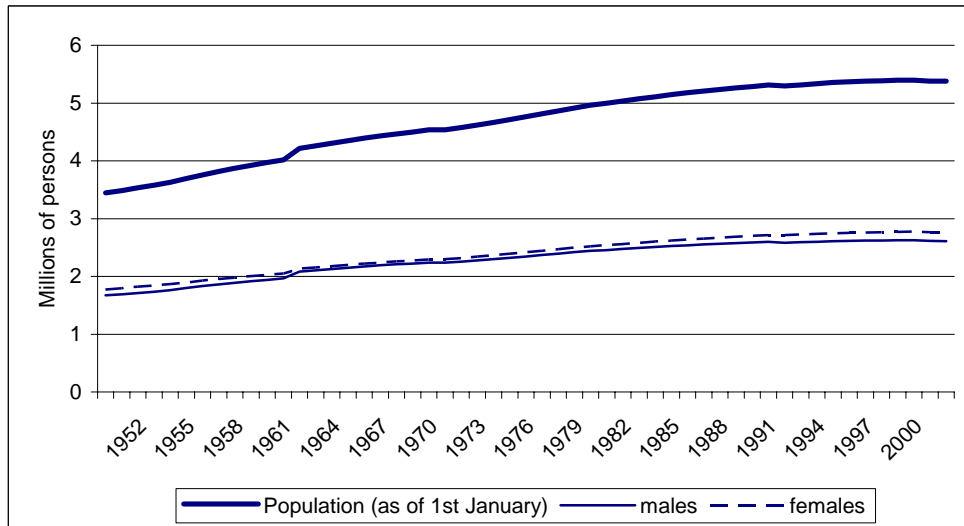
Source: UN POPIN.

The situation has also worsened in terms of the age structure of the population (see Figure 2). The share of individuals of productive age is still growing at nearly the same speed as the total population, as is the share of those of post-productive age. The opposite and undesirable situation concerns the pre-productive age group. Since the late 1990s, the population in this age group has seen a sharp decline. In 2002, the pre-productive population was almost at the same level as in 1950 (1 million), while in 1989 it was at 1.3 million.

Figure 2. Development of the population structure in Slovakia
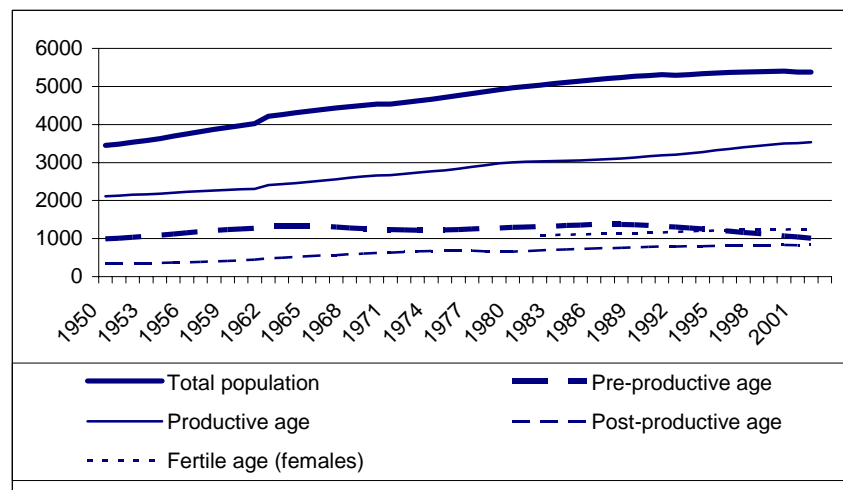
Source: UN POPIN.

The decrease of the population of pre-productive age is connected to the extreme fall in the total fertility rate (see Figure 3) in the late 1980s and early 1990s. Socioeconomic changes led to

more difficulties in the economic situation in the early 1990s, which had a direct impact on fertility. The total fertility rate fell from 2.15 in 1988 to 1.67 in 1994 (after the first year of Slovakian independence). By 2002, the total fertility rate had decreased to 1.19.[2]

Figure 3. Index of ageing and the total fertility rate
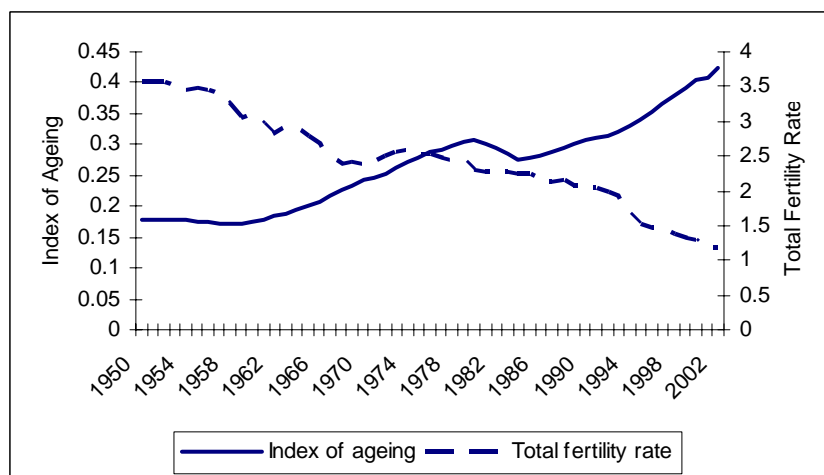
The index of ageing (Figure 3) describes the share of the population at post-productive and pre-productive ages. The index of ageing has typically seen considerable growth, starting in 1960. Deviation from this trend occurred at the beginning of the 1980s, a period that may be characterised as a baby boom. One causal factor was the relatively high proportion of the population in the age group 18-25 at that time. A second (and more important) factor was the strong support of the family by the communist government. Building families and having children was extensively supported by means both financial (interest-free or even irrecoverable loans, direct payments in the cases of newborn children and other direct transfers as well as a bachelor tax) and non-financial (huge housing developments and better job positions). An additional factor that may have played an important role in this deviation was the retirement of the World War II (WWII) generation in the early 1980s. The WWII and post-war periods (noted for the migration and displacement of German and Hungarian populations) significantly reduced the population, primarily among those in the age group 18-30.

If we focus on the development of the natural (respective total) growth in the population (Figure 4), a noticeably diminishing trend is clear. In 2001 and 2002, the natural decline in the population was by more than 1,500 persons. Against this background, it is interesting to note the positive balance of migration since 1993, whereas previously the migration balance had been mostly negative. This development may be linked to the division of former Czechoslovakia, because many of those living in what is now the Czech Republic returned to Slovakia or applied for dual citizenship. The fact remains that after the changes to its political regime, Slovakia began to be attractive to migrants from the Third World.

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[2] Demographic data are in Appendix II.

Figure 4. Increases/decreases in the population
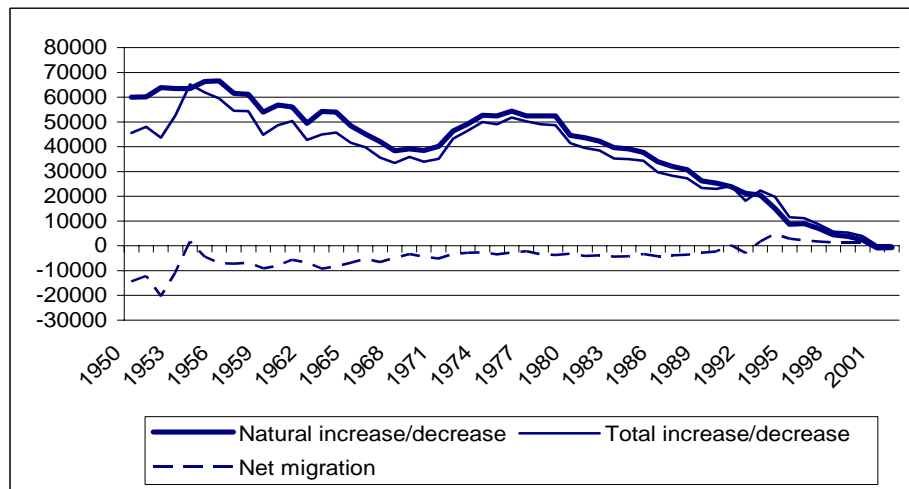
Source: UN POPIN.

3.   Health status of the population

A significant shift in life expectancy[3] has also taken place over the last 50 years (see Figure 5). The upward shift in men's life expectancy is by about 10 years. Men's life expectancy was 69.5 years in 2002. A more remarkable shift has been recorded for women, taking place over the last 15 years, with life expectancy reaching 77.5 years. It is necessary to mention that the difference between men's and women's life expectancies has grown as well. In 1950 the difference was about four years (with life expectancy at 58.9 for men and 62.4 for women), whereas in 2002 it was about eight years (69.5 for men and 77.5 for women).

Figure 5. Development of life expectancy at birth
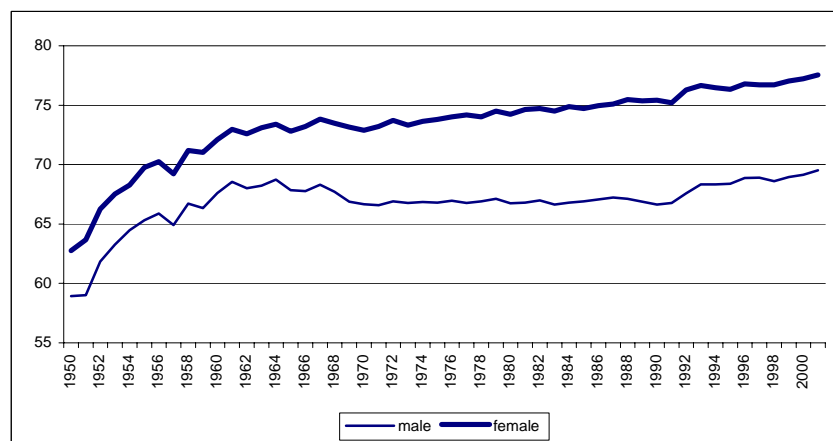
Source: UN POPIN.

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[3] We infer life expectancy (without any modifier) to be life expectancy at birth.

Taking into consideration the main causes of death (Figure 6), circulatory diseases and malignant neoplasms are the leading causes among the population of Slovakia (76.7% in the total population in 2002). In comparing genders, circulatory diseases are attributable for a higher share of deaths for women than for men (61.7% and 48.1% respectively). Women also are more likely to succumb to diabetes mellitus (1.7% for women and 1.2% for men). The most significant causes of death among men are malignant neoplasms (21.6% for men and 17.5% for women), external causes (9.9% for men and 4.6% for women) and chronic liver diseases (3.9% for men and 1.7% for women).

Figure 6. Main causes of death in 2002
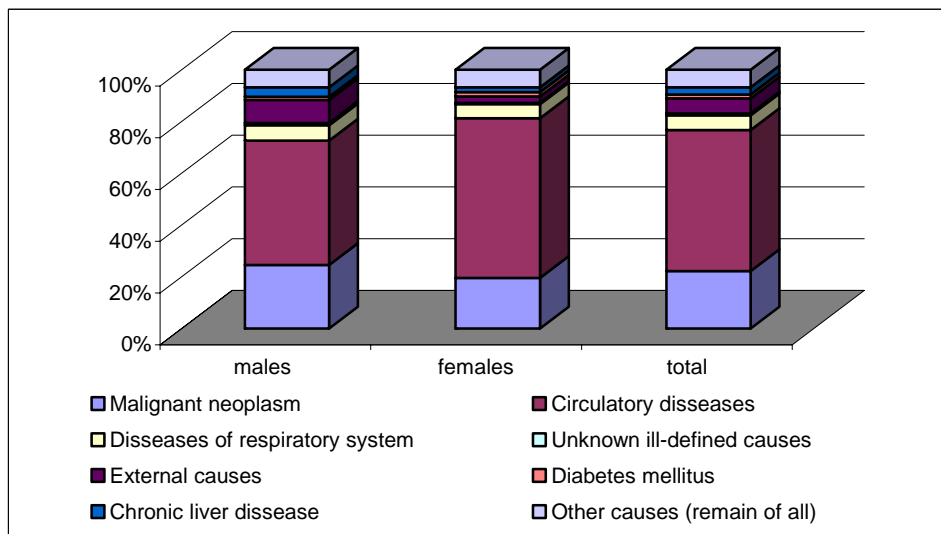
Source: UN POPIN.

Focusing on the main causes of death over time (Figure 7 and Appendix III), we can draw the following conclusions. Trends in the most serious causes of death – circulatory diseases – may be considered as stable. There was a slight increase in the number of women's deaths attributed to these causes. In the last 10 years, the number of deaths among women linked to circulatory diseases rose by 30 per 1,000. There has also been an upward trend for both genders in the cases of malignant neoplasms by about 30 per 1,000. The number of deaths caused by respiratory diseases fell by about 20 per 1,000. External causes remain a typical explanatory factor for death among men. The share of the total population whose death was related to external causes declined by 13 per 1,000 in total; among men the proportion declined by fewer than 9 per 1,000, while for women it fell by nearly 17 deaths.

Figure 7. Trends in the main causes of death
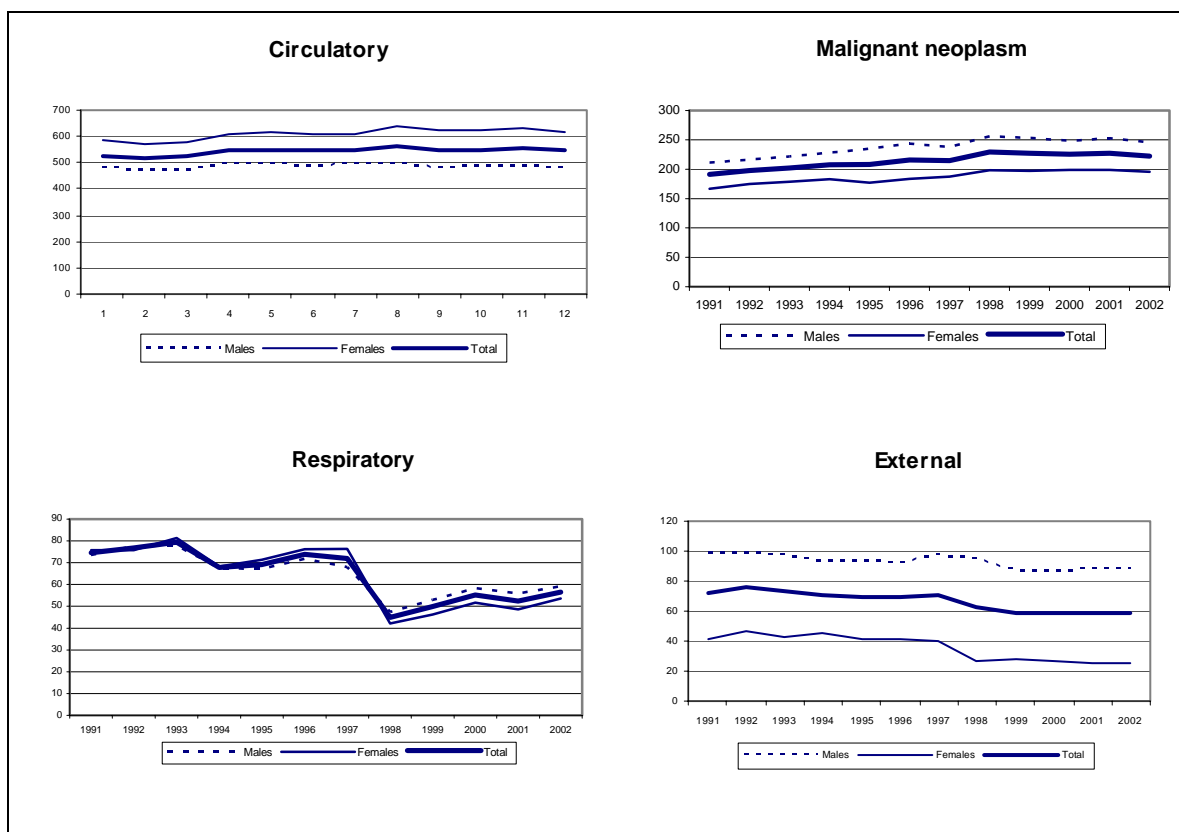
Source: UN POPIN.

4. Morbidity

The analyses of morbidity are based on the CINDI Health Monitor Questionnaire (see Appendix I). The objective of this section is to give an overview of the incidences of the most serious diseases among the population of Slovakia. The principle methodology used – cross-tabulation analyses – will help us to identify the main groups of the population affected by particular diseases.

Figure 8 describes the diseases reported in the population of the Slovak Republic, by representing the share of yes answers (by both genders) to the question: "During the last 12 months have you been diagnosed as having or been treated for any of following conditions?" (See questionnaire in Appendix I.) We can see that the most common disease is high blood pressure (HBP), at 22%. The gender difference is no more than 0.5%. The second most frequent diagnosis is high blood cholesterol (HBC) levels and rheumatism. Both of these diagnoses affect women more than men. The gender difference is 4.5% for the case of HBC and 7% for rheumatism. Men suffer more from myocardial infarction. There was no cancer-related question in the questionnaire.

Figure 8. Reported diseases in the population
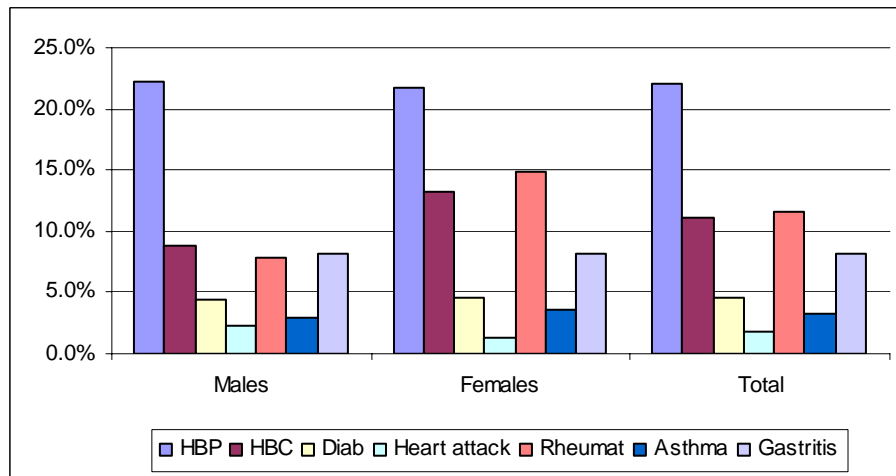
Source: Based on findings from WHO's CINDI Health Monitor Questionnaire.

The presence of selected diagnoses is shown in Figure 9. A general trend is evident that the distribution of diseases increases with age. The critical finding is that more than 61% of persons interviewed in the group aged 61 or older report HBP. The only exception to the general trend is in the diagnosis of asthma. Its presence in particular age groups is at a level of less than 10%. Curiously, the prevalence of asthma does not consistently rise with age. Persons who are younger than 20 or aged between 31 and 40 reported a higher incidence of asthma than did those aged 21-30 or 41-50, almost at the level of the group aged 51-60.

Figure 9. Diseases in the population by age group
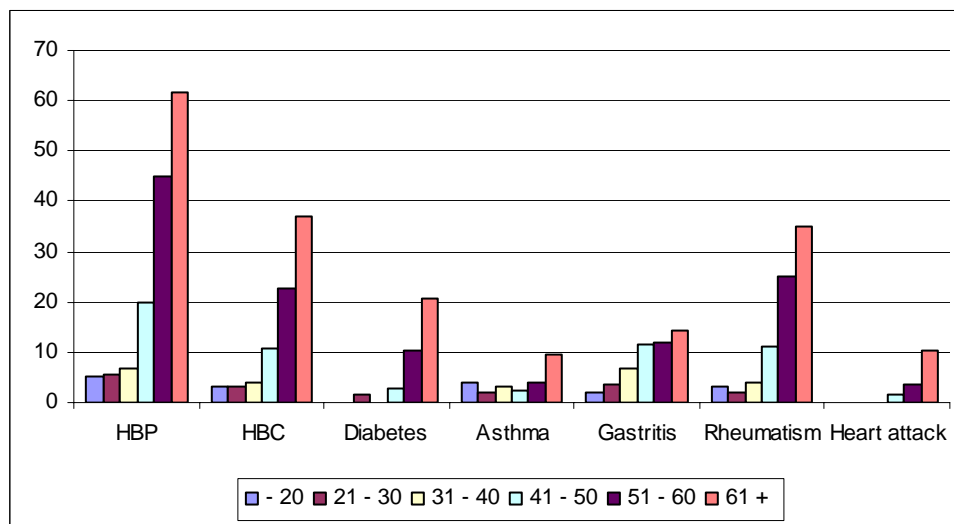
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

When comparing health status among persons grouped by economic activity (see Figure 10), pensioners are naturally those who are most frequently ill. Because the group comprising students is made up of young persons, the presence of particular diagnoses is less than average. In comparing professions, those employed in the agricultural sector have relatively poorer health than industrial or office workers do, mainly owing to HBP, HBC or rheumatism. This finding may be connected with residence in rural areas. These areas tend to be characterised by relatively higher average age and different dietary habits and attitudes towards smoking and drinking alcohol, in comparison with urban areas with wider industrial or office work opportunities. Unemployed persons are more prone to report poor health. This group has relatively high incidences of gastritis (almost at the level of pensioners) and rheumatism. Curiously, the prevalence of HBC or HBP is at the level as that for industrial or office workers. There are two hypotheses for this. One is that these illnesses are somewhat difficult to diagnose. This allows the unemployed to use these diagnoses as justification to receive healthcare and sickness benefits. The second possible explanation may be that these illnesses are the very reason for their unemployment.

Figure 10. Diseases by type of economic activity
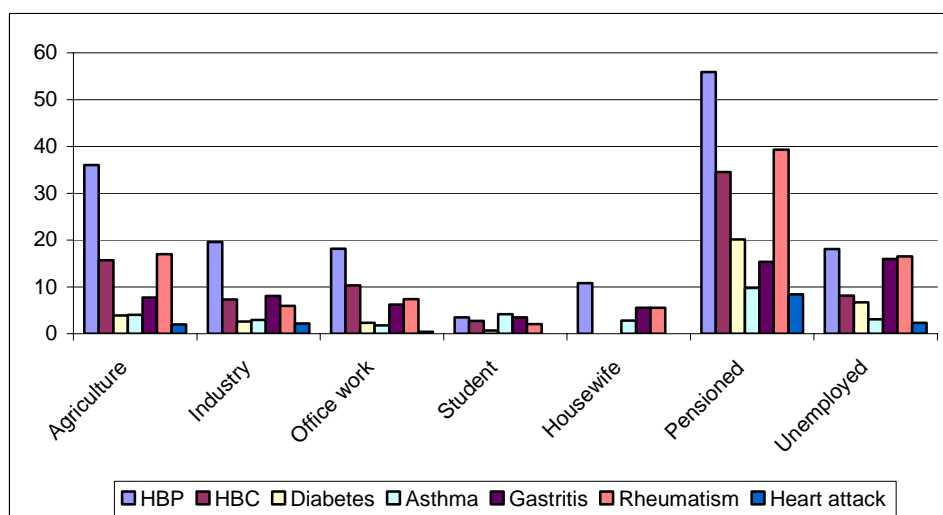
Source: Based on findings from WHO's CINDI Health Monitor Questionnaire.

5. Basic information on the healthcare system

5.1 Changes in the institutions for social welfare associated with the transition period

One of the important effects of the societal changes that began in the former Czechoslovakia in the late 1990s, apart from the transition of economic relations, was the transformation of social welfare institutions. The previous social security system was part of a widespread social policy of the communist regime. The basic framework of the social security system was built in the 1950s and 1960s. Until 1993, the whole social programme was financed by the state budget. The existing system of social benefits took care of people from the birth to death (Haulíková, 2000). This system involved the state as a monopoly owner and holder of all financial resources.

This approach led to stagnation in the quality of the healthcare offered and an unsuitable structure for delivering medical services. It was necessary to undertake fundamental changes to social care during the process of transition.

The basic legislative framework for providing social welfare and healthcare was established in 1992, alongside the adoption of the Law for Social and Healthcare Insurance. The *Národná poisťovňa* [National Insurance Company or NP] was set up to manage all the funds for social assistance, retirement, healthcare insurance and sickness benefits. The NP was divided into several specific organisations in 1995 by legislation approved in 1994. To deal with the social security aspects of state welfare, the *Sociálna poisťovňa* [the Social Insurance Company or SP] was created and given responsibility for several kinds of benefit payments: social assistance, retirement contributions and sickness benefits.

The successor to the NP in the field of healthcare insurance was the *Všobecná zdravotná poisťovňa* [General Health Insurance Company or VZP]. The legislation also allowed private health insurance companies to enter the market. This move was intended to ensure a functioning and competitive market in healthcare insurance. In reality, competition in this field took hold only at the beginning of this process. Insurance companies really differed in the services they offered after the liberalisation of healthcare insurance. At present, however, the insurance companies only differ by the height of their debts (Pažitný & Zajac, 2001)

A new concept for the social security system was developed in 1996, which laid the framework of the system currently under reform. It is based on three elements – social insurance (including the pension system), state social assistance, social aid, and sickness and disability benefits.

Social insurance covers sickness insurance, retirement benefits, supplementary retirement insurance and recovery from occupational illnesses and injuries. Today, social insurance provision is undergoing radical reform. The main task is to rebuild the pension system. The idea in principle is to establish a three-pillar pension system – with current provision (that aspect of pensions paid by the present labour force), supplementary provision (a savings mechanism largely based on state legislation) and the savings system (based on commercial insurance products).

State social assistance involves direct financial benefits. The focus here is on child benefits. The State Social Assistance Law has undergone several revisions. The previous system of state social assistance aimed at providing general support. The present reform is based on the principle of addressing need, i.e. benefits will go to those persons who can prove they need the additional resources.

The foundation for *social aid* was laid in 1992, although the Social Aid Law was not ratified until 1998. Social aid is given only under conditions of social or material need. The major change is that the system is moving from providing general support to that which is more specifically addressed. Social aid is assessed against the given living wage, i.e. the level of aid is determined by the difference between the living wage and income.

The infrastructure for providing *sickness and disability benefits* is the subject of huge changes these days as well. The main task is to solve the dilemma of moving sickness benefits from the social security system to the healthcare insurance system, with the view that the latter will be motivated to increase the effectiveness of treatment in order to decrease the costs of sickness benefits. The voices against this change have drawn attention to very different nature of these two systems. The present legislation distinguishes between short-term and long-term disability. Short-term disability is understood to be the first 10 days of sickness, which is fully paid by the employer. Disability longer than 10 days is paid by the social insurance system.

5.2 Basic principles and structure of the healthcare system in the Slovak Republic

The Slovak healthcare system is based on Parliamentary Acts detailed in the Code of Law. The most important acts are presented below.

- Act No. 272/1994 of Code NR SR (the National Council of the Slovak Republic) on the Protection of Citizens' Health. This act establishes the rights and duties of governmental institutions, civic bodies, other juridical and natural persons, the execution of governmental guidance and state health surveillance over the protection of citizens' health. This Act came into effect on 1 January 2001 and revised the former Act. An element of the new Act is a complex provision concerning protection against ionising radiation.

- Act No. 273/1994 of Code NR SR on Health Insurance, the Financing of Health Insurance, the Establishment of General Health Insurance (*Všeobecná zdravotná poisťovňa*) and the Establishment of Professional, Industrial and Municipal Health Insurance Companies, subject to subsequent regulations (amended up to 18 times). This Act regulates healthcare insurance, its financing and legislative relationships within the system.

- Act No. 277/1994 of Code NR SR on Healthcare, subject to subsequent regulations. This act defines and regulates the provision of healthcare services, their management, and the rights and duties of natural and juridical persons engaged in providing healthcare services. This Act has been amended six times since 1994. The related Act No. 303/1998 of Code NR SR incorporates the former Act and a complete list of subsequent amendments.

- Act No. 98/1995 of Code NR SR on Healthcare Order, subject to subsequent regulations. This Act regulates the conditions and scope of healthcare services and provision of medical aids according to health insurance as well as partial or complete reimbursement of insured citizens. This Act was substantially changed by Act No. 3/2000 of Code NR SR, which updates and completes the former Act on Healthcare Order. The main change made by the new Act is to define the conditions for providing drugs and medical aids on the basis of healthcare insurance. The lists of specified drugs and medical aids as well as the levels of reimbursement on the basis of healthcare insurance are specified by government regulations.

- Act No. 140/1998 of Code NR SR on Drugs and Medical Aids, subject to subsequent regulations. This Act regulates conditions for drug and medical treatments, the testing and registration of drugs and the approval of medical aids; furthermore, the Act defines the role of governmental institutions in pharmacy services.

There are several levels in the structural organisation of the Slovak healthcare system:

- legislative bodies (parliament) – the National Council of the Slovak Republic;

- executive bodies (government) – the Ministry of Health, Ministry of Defence, Ministry of the Interior, Ministry of Justice, Ministry of Transport, Post and Telecommunication and the Chief Hygienist of the Slovak Republic;

- financial bodies – the Ministry of Finance and health insurance companies;

- providers of healthcare services – out-patient and in-patient facilities; and

- professional bodies – e.g. the Slovak Medical Chamber.

Educational institutions were not incorporated into this scheme. Medical schools are attached to universities and are hence governed by the Ministry of Education. Nursing schools were governed by the Ministry of Health during examined period of 1993-2001 (Páleník et al., 2002).

Figure 11. The organisational structure of the Slovak healthcare system
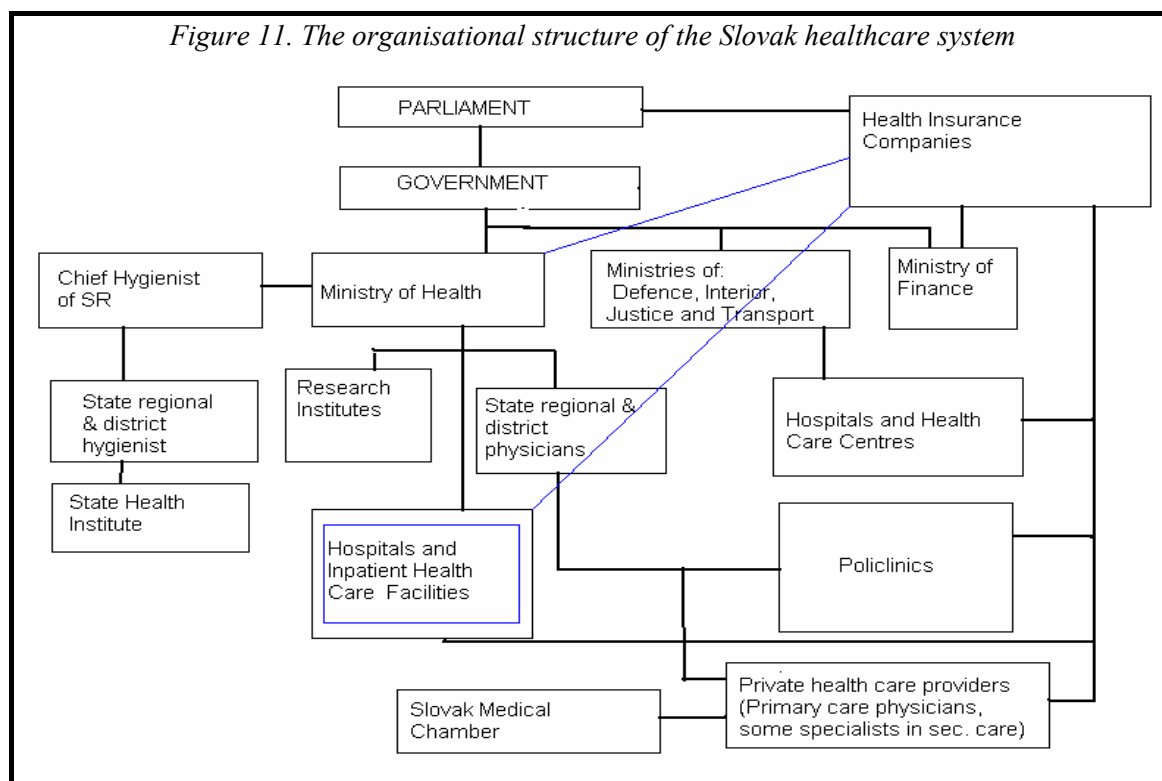
5.3   Financing the Slovak healthcare system

Prior to 1989, the model of central planning allocated resources amounting to 5% of GDP for the healthcare system. The socialist healthcare system was built on a regional structure and aimed at accessible and free healthcare services for all citizens. Specifically, it involved the development of in-patient care facilities with extensive numbers of beds and a complex mix of services, including health services provided by spas and health resorts.

The transformation of the Slovak healthcare system, which began after the 1990 change in the political regime and continued after the establishment of the Slovak Republic in 1993, led to the introduction of compulsory health insurance for all citizens, with free healthcare guaranteed by the Slovak Constitution. The conditions of healthcare were defined by a specific law (the Healthcare Order) for this purpose. A system of complementary health insurance has not been introduced yet, hence compulsory health insurance is a basic pillar of healthcare financing.

The period 1993-2001 involved continually rising costs for healthcare and an increasing volume of liabilities for individual entities in the Slovak healthcare system. Expenditures on healthcare reached the sums of 40 billion SKK and 50.7 billion SKK in 1996 and 1999 respectively, which represented 7.5% and 6.45% of GDP (Páleník et al., 2003). These values were higher than the overall average for other Central and Eastern European countries, which was 5.3% of GDP. On the other hand, these percentages for the Slovak Republic were less than the typical averages of European Community countries, which were higher around the same period (see Table 1).

Table 1. Proportion of public finances spent on healthcare in selected European countries

Country	Proportion (%)	Year *
Luxembourg	92.3	1998
Czech Republic	91.8	1999
Slovak Republic	90.1	1999
Great Britain	84.2	1999
Hungary	76.5	1998
France	76.4	1998
Germany	75.3	1999
Poland	72.2	1999
Austria	71.6	1999

* Year of last available data.

Source: OECD health data (2000).

Next, 10% of healthcare expenditures were paid from different sources. A structural review of financial resources was referred to in the document *Analysis of financial resources for healthcare and their proportion of GDP*, based on a proposal for the state budget for the year 2002 (Appendix 1 of the document), submitted by the Ministry of Finance for government negotiations. The sources were subdivided into four groups, A-D.

Group A contained:

- Insurance fees for economically active, insured citizens
    - Employers
    - Employees
    - Self-employed persons

- Insurance fees for state-insured citizens
    - Children
    - Retired persons
    - Disables persons

- Insurance fees for the National Institute of Labour (*Národný úrad práce*)
    - Unemployed persons

- Other income from health insurance fees

Group B contained:

- resources for the Ministry of the Economy from the state budget, structured to support healthcare service establishments and financed through the health insurance system and other sources;

- income from VPS not specified;

- ŠFZ [the National Health Fund] financed by the state budget and structured to support healthcare service establishments and funded through the healthcare insurance system and other sources;

- income from lotteries and games; and

- other resources for healthcare that fall under the management of other Slovak government departments and ministries.

Group C should contain:

- income from the profits of privatisation, after the planned coverage of liabilities. This category of funding is the least stable and, despite the fact that it contains an important volume of finance for 2001 (representing about 10% of the approved budget) it is dependent on the privatisation of strategic public enterprises such as ST (Slovak Telecom) and SPP (the Slovak Gas Industry).

Group D was defined as:

- the contributions of citizens; and

- provisions for administrative funds; notably, the planned contributions to healthcare resources was 1,900 million SKK in 2002.

After the election in 2002, the new government started to prepare a radical reform of public finances. The main objective of this reform was to reduce the public deficit to fit the Maastricht criteria. This reform was imposed on income, management and expenditure.

The most important aspect of the reform concerned tax. A 19% flat tax rate was introduced for all crucial taxes – income tax, corporate tax and VAT. With regard to management, the state treasury was to establish the secure administration of payments. Expenditure was modified by means of set of legislative acts dealing with particular areas of public spending, including healthcare.

Healthcare reform was introduced to reduce the deficit of the healthcare system. The greater part of this reform impacted the management of resources and the administration of payments. In this mainly administrative change one crucial new feature was introduced – partial co-payments.

The reason for these co-payments was not to secure income for the system, but to involve consumers of healthcare services in the process of healthcare utilisation. There are fees for each day spent in a hospital or in other institutional care facilities in the amount 50 SKK (around €1.25), and 20 SKK (about €0.50) for each medical consultation and for each medicine prescription. As one can see, the fees are rather low and do not generate an income for any particular healthcare facility that may be considered a significant source of financing. These fees are often considered 'entrance fees'. The main reason for them is to avoid any misuse of healthcare services by persons who do not really need them. In the past, it was common practice for elderly persons without any serious health problems to visit a doctor – just to talk. In addition, young students would misuse the medical system as part of simulating illness in order to avoid school and get a few days off. One of the side effects of the fee introduction is a reduction of under-the-table payments, as people have already paid for the treatment. Another aspect is the effort to familiarise the public with paying for the treatment. There is a common argument for increasing these payments and for involving the public more in the process. The main idea of future reform (still not in effect) is that ordinary illnesses (e.g. flu or tonsillitis) will be fully (or the higher proportion) covered by the patient, as opposed to cases of serious illnesses (cancer or surgical treatments), for which the higher proportion will covered by insurance.

6.   Healthcare utilisation

Healthcare utilisation analyses are based on the findings from the WHO's CINDI Health Monitor Questionnaire. There is, for instance, question 2.1 (see Appendix I): "How many times did you visit the doctor during the last year?" This question includes hospitalisation and visits to the out-patient department but excludes the dentist. In order to make the analysis friendlier, it was necessary to create six groups according to average yearly utilisation: no visits, one visit per six months, one per every three months, one every other month, once a month and more than once a month. Through analysing particular groups of the population using healthcare services, we can identify groups with higher and lower healthcare demands.

From comparing healthcare utilisation by gender we can conclude that men and women have the same average utilisation of about five visits per year. But after excluding one outlier (a man with 240 visits of doctor) the average utilisation by gender becomes different. Men's average utilisation is about four times and women's is about five times per year.[4]

The result, that women visit doctors more often, is also visible in Figure 12. There are more men in the groups with no or a maximum of two visits per year. In all other frequency categories the shares of women are higher.

Figure 12. Utilisation of healthcare by the population of Slovakia
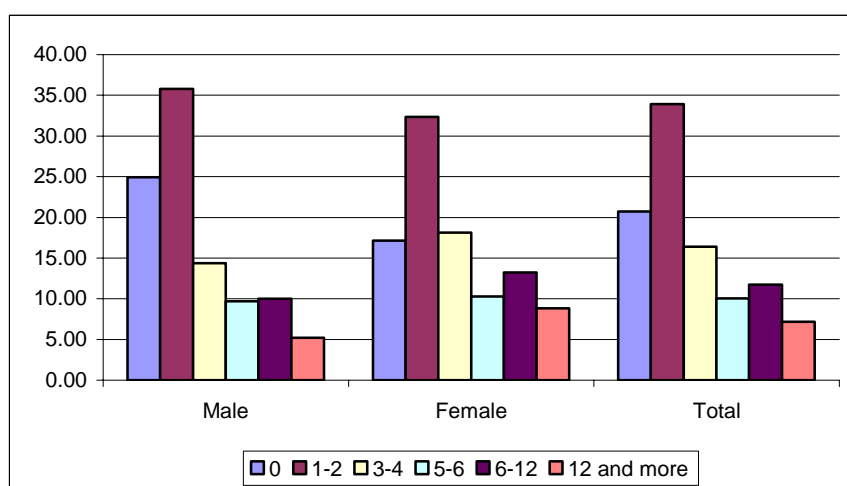
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

Healthcare utilisation by age group reveals surprising results (Figure 13). We expected a gradual decrease in the size of the group with no visits to the doctor and a gradual rise in higher utilisation of healthcare services. The reality (based on findings from the questionnaire) is that the highest share of persons who do not visit doctors is found in the group aged 41-50. The largest proportion of persons reporting a maximum of two visits per year is among the age group 31-40. Conversely, among young persons aged younger than 20 the share of those who visit a doctor on average every other month is almost the same as the relative share in the group aged 51-60. The proportion of those in the youngest age group who visit a doctor almost every month is near the relative share for the group aged 41-50. The reason for such a distribution of healthcare utilisation may be connected with economic activity and having time to visit a doctor. It is also true that working individuals are more often willing to suffer with a non-serious illness (headache or cold) compared with students, who prefer to escape from school.

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[4] This finding was tested by a T-test.

Figure 13. Utilisation of healthcare by age group
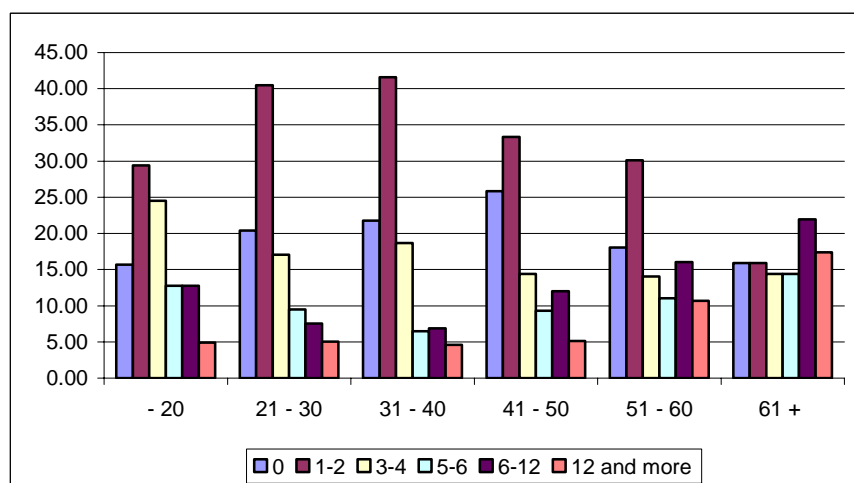
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

The above-mentioned results may be validated by examining the healthcare utilisation of individuals as differentiated by economic activity (see Figure 14). Among the population, students comprise the largest share of persons visiting doctors about quarterly, and the number of students who visit a doctor every other month is almost the same as the relative share of the unemployed. Pensioners understandably form the largest share of persons who visit the doctor most frequently (6-12 times per year).

Figure 14. Utilisation of healthcare by type of economic activity
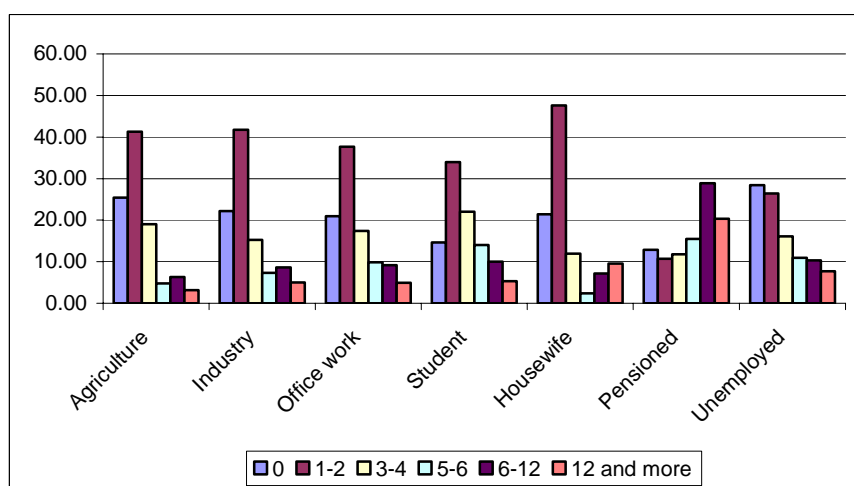
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

7.   Health status based on self-assessment

One indicator that competently describes health status is self-assessed health as reported by survey respondents. There are two sources of such surveys in the Slovak Republic. The study *Health Awareness and Behaviour of the Population in the Slovak Republic* (Institute of Public Health, 1992-2001) provides us with data revealing self-assessed health over time. Figure 15 shows an increase in positively assessed health status between 1992 and 2001. This trend may be connected with the increase in assessed living standards (Figure 16). The tendency to

generalise plays an important role in self-assessment surveys. If a respondent considers his/her life position and living standards (as affected by unemployment or low wages) negatively, s/he has a higher propensity to negatively evaluate his/her health status as well. This tendency can be demonstrated in a correlation analysis. The correlation coefficient of a positive assessment of health (with the categories being perfect health, minimal health problems and health problems appropriate to age) and a positive assessment of living standards (excellent, good and satisfactory) is about 0.96. The correlation of the two highest evaluations of self-assessed health and living standards is 0.87.

Figure 15. Assessment of health status in the Slovak Republic
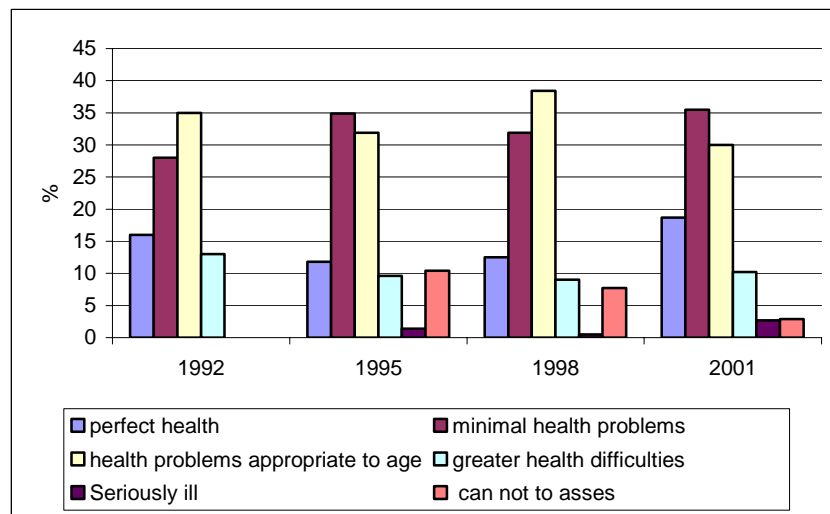
Source: Institute of Public Health (1992-2001).

Figure 16. Assessment of living standard
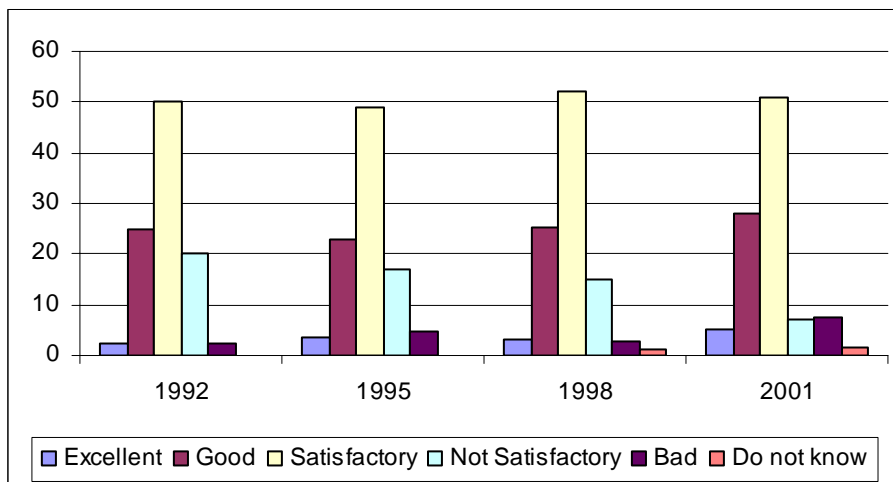
Source: Institute of Public Health (1992-2001).

The CINDI Health Monitor Questionnaire gives us data on self-assessed health, differentiated by particular groups of the population. The distribution of good and poorly evaluated health for both genders as well as the population at large is skewed to the left in Figure 17, as the highest shares of men and women assess their health status as 'very good'. The skew is driven by a basic characteristic of this survey, which focused only on the population of economically active age.

Figure 17. Assessment of health in the Slovak population

Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

The assessment of health by age group provides expected results. Positive assessments of health decline among the older age groups. Over 60% of the population in the age group of 20 and younger evaluated their health as good, as opposed to slightly above 10% in the group aged 61+. Few among those aged 20 and younger evaluated their health negatively, with less than 1% rating their health as poor and 2% as rather poor, compared with the group aged 61+ (17.4% and 9.1% respectively).

There is more proof of the influence of age on health assessment (Figure 18). The highest share of persons with positively assessed health status occurs among single persons, compared with the highest share of negatively assessed health among widowed persons (Figure 19). It is obvious that the singles group mostly comprises young persons, in contrast to the widowed group. There is also a difference in the self-assessed health between the group of married persons/those living with a partner and their divorced or separated counterparts. Although the average age of these two groups is the same (45 years), there is a higher distribution of persons aged 51-60 among the separated or widowed categories (Figure 20). We can conclude that the older group has a worse self-assessed health status than the younger groups.

Figure 18. Assessment of health by age group
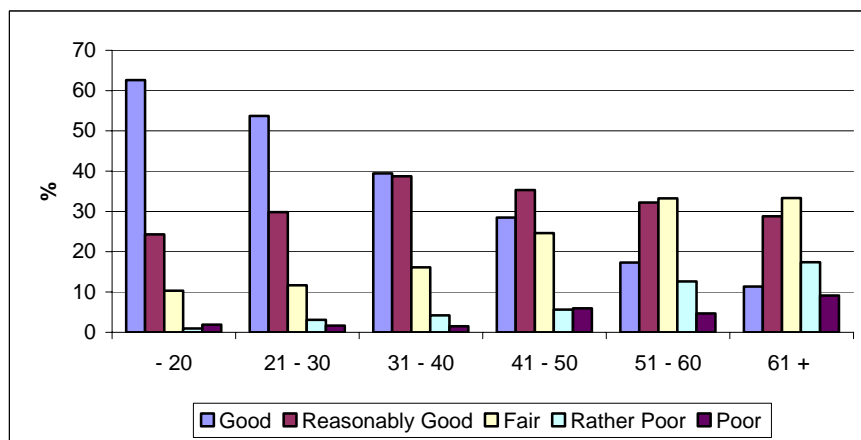
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

Figure 19. Assessment of health by marital status
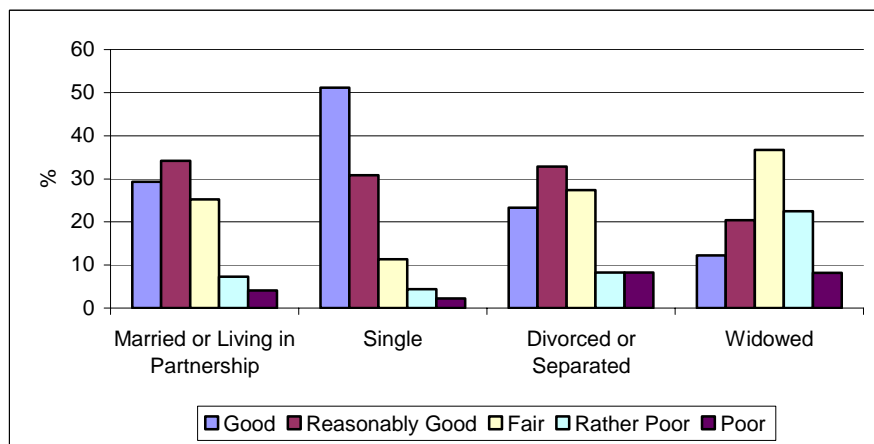
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

Figure 20. Marital status and age groups
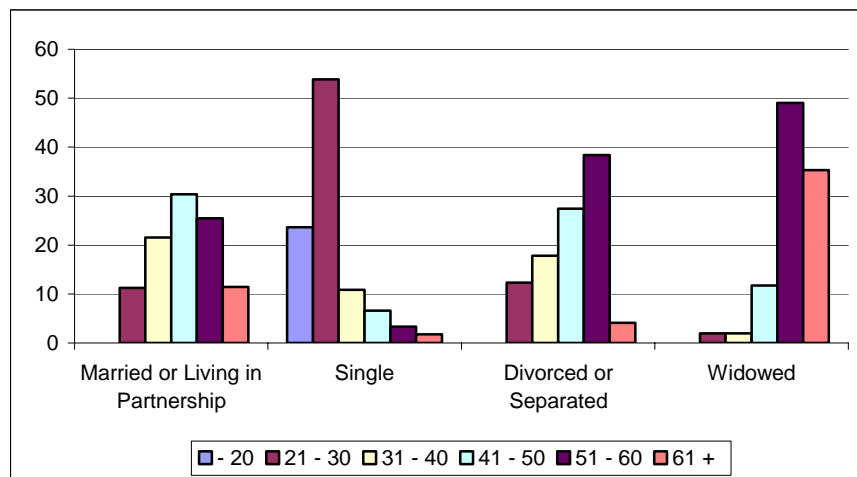
Source: Based on findings from the WHO's CINDI Health Monitor Questionnaire.

Students report the best health status, when examined in terms economic activity. Conversely, the worst health statuses are held by pensioners and the unemployed. The reasons for these trends are quite obvious. Students represent the youngest age group and pensioners the oldest. The situation for unemployed persons may be connected with their living standards and a propensity to have a more negative perception of their position. Within the group of economically active persons (differentiated by those who work in offices or in the agricultural or industrial sectors), office workers have a higher frequency of assessing their health as good. An explanatory factor for this result may be that their health problems do not have the same impact on their work performance and thus the even same health problems are evaluated more positively than in other sectors.

Figure 21. Assessment of health by type of economic activity
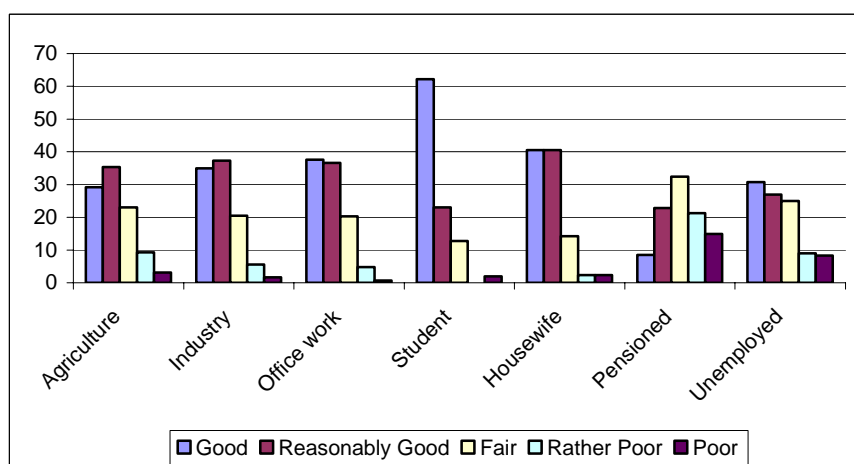
8. Influence of gender and other factors on health status and health utilisation (logit model analysis)

To evaluate the influence of particular factors on health status and healthcare utilisation more exactly, a logit model was constructed. Two basic models were calculated. The first model describes self-assessed health status and the second explains healthcare utilisation. The explanatory dummy variables are described in Table 2.

Table 2. Dummy variable coding of independent variables

Variable	Category	Parameter coding					
		1	2	3	4	5	6
Occupation	Farming	1	0	0	0	0	0
	Industrial	0	1	0	0	0	0
	Office	0	0	1	0	0	0
	Student	0	0	0	1	0	0
	Housewife	0	0	0	0	1	0
	Pensioner	0	0	0	0	0	1
	Unemployed	0	0	0	0	0	0
Marital status	Single	0	0	0	–	–	–
	Married or with a partner	1	0	0	–	–	–
	Separated	0	1	0	–	–	–
	Widowed	0	0	1	–	–	–
Education	Basic	0	0	0	–	–	–
	Lower secondary	1	0	0	–	–	–
	Secondary	0	1	0	–	–	–
	University	0	0	1	–	–	–
Gender	Female	1	–	–	–	–	–
	Male	0	–	–	–	–	–
Age group	Young	0	–	–	–	–	–
	Old	1	–	–	–	–	–

8.1   Factors impacting good health

In this analysis, the factors affecting self-reported health status are evaluated, particularly those related to good health. As dependent variables, two dummy variables of reported health status were created: 0 for bad health (i.e. representing the categories of rather poor or poor health) and 1 for good health (representing the categories of very good, good and fair). As explanatory variables, those from Table 2 were used. Some of the results are presented briefly in Table 3, with the complete results given in Appendix V.

Table 3. Results of logit model regressions on health status

Variable	Coeff.	Prob.
C	2.040	0.000
Female	0.046	0.812
Old	-0.600	0.057
Farming	0.429	0.340
Industrial	0.873	0.007
Office	0.902	0.004
Student	2.214	0.001
Housewife	1.320	0.086
Pensioner	-0.924	0.001
Lower sec.	-0.744	0.004
Secondary	0.334	0.148
University	0.545	0.094
Married	0.107	0.702
Separated	-0.236	0.580
Widowed	-0.138	0.759

Source: Authors' calculations.

The model showed that there was no statistical significance between the assessment of health and gender. The significant negative impact of age was estimated. The variable 'old' represents respondents aged over 41. Taking into consideration the type of economic activity, students assessed their health status the most positively and pensioners the most negatively compared with others. Office workers have better self-assessed health compared with industrial workers, and both of these groups fare better than those who work in the agricultural sector. The reasons for this relate to both the type of work involved (office work does not tax the body to the same degree as jobs in industry or agriculture do) and a higher education level on average, which corresponds to better health habits.

In comparing levels of education, we find that the higher the level of education, the better is the health status reported by respondents. The reasons are obvious. Highly educated individuals tend to have, on average, a different lifestyle compared with those of less education. A more conscientious attitude towards health is one of the notable differences. Another factor underlying the trend may be higher wages and thus greater possibilities for the consumption of healthier food and participation in beneficial leisure activities, etc. Greater knowledge and access to information may also play a role. Marital status has no impact on the assessment of health.

8.2   Factors impacting healthcare utilisation

The healthcare utilisation logit models were based on the same scale of independent variables as previous analyses of self-assessed health. One more variable, good, was added to this analysis. This variable describes respondents who reported their health status in the good categories (i.e. very good, good and fair). Its addition should help us to identify whether persons with good health are demanding healthcare to the same extent as those who assessed their health as bad. As a dependent variable, the frequency of visiting a doctor was used.

In looking at the results (Table 4), we can see that women consume more healthcare than men do. We can accept this conclusion only at a significance level 0.1,[5] which means that the finding of higher consumption of healthcare by women should be interpreted with a bit of caution. This corresponds to the results of average healthcare utilisation in section 0. The model results prove the lack of influence of age on healthcare utilisation. The coefficient is not significant and the signs do not even match the expected trend. Possible reasons for this outcome are discussed in section 0. The findings for healthcare utilisation for individuals grouped by economic activity are interesting. Positive levels of healthcare consumption are estimated for industrial workers, office employees and students. Conversely, consumption of healthcare services by pensioners is not significantly different and the sign of the coefficient even points to a lower healthcare-utilisation rate of pensioners. The impact of civil status and education is not estimated to be significant. Overall, the analyses of healthcare utilisation and self-reported health status did not give us the expected results.

Table 4. Results of model regressions on healthcare utilisation

Variable	Coeff.	Prob.
C	-0.601	0.250
Female	0.291	0.078
Old	-0.046	0.843
Farming	0.709	0.069
Industrial	0.887	0.001
Office	0.611	0.023
Student	0.713	0.042
Housewife	0.758	0.108
Pensioner	-0.090	0.817
Lower sec.	0.416	0.147
Secondary	0.290	0.131
University	0.252	0.303
Married	-0.126	0.564
Separated	0.089	0.817
Widowed	-0.109	0.840
Good	0.273	0.567

Source: Authors' calculations.

9.   Conclusions

The situation concerning the health of the Slovak population and the healthcare system has changed dramatically over the last 15 years. Meanwhile, population growth has also diminished greatly. Against this background, the whole system of healthcare has changed from being one

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[5] For most of the analysis, we use a significance level of 0.05.

that is demand-oriented to one that is driven by costs. A significant number of hospitals and other healthcare facilities have either closed or radically changed their activities. On the other hand, many new ones have appeared. Dynamic changes in the healthcare system cannot be described easily; during the last 10 years, more than 25 laws that are directly focused on healthcare have come into force.

Several empirical studies have been performed to give a reliable overview of health status in Slovakia. One of these is the WHO's CINDI Health Monitor project, the findings from which give significant information about subjective and objective issues pertaining to the health status of respondents. The sample consisted of 3,000 individuals, representing the population of Slovakia. Together with other studies, the CINDI project partially proved what is generally accepted as fact.

The results of these studies can be summarised as follows. Women tend to have a higher incidence of high blood cholesterol and rheumatic illnesses than men have, with the latter group being more vulnerable to heart attacks. Older persons suffer more from illness and from a wider range of diseases, with the exception of asthma, for which the same incidence (more or less) is reported for most age groups.

Standard statistical methods have echoed the finding that older persons are generally more ill than their younger counterparts are. As for economic status, pensioners and the unemployed have poorer health statuses. In the case of pensioners this finding relates to the fact that they are generally among the older population; for the unemployed, illness constitutes a reason for unemployment as well as grounds for benefits.

Results from a different perspective are given by subjective assessments of health by respondents describing their health as 'good' or 'poor'. From this standpoint, men usually consider themselves healthier than women do. Also, the older a person is, the worse his/her assessment of health is likely to be. As far as marital status goes, the widowed are more ill (also tending to be older) while the healthiest persons are single (and usually younger). Economic activity also has an expected impact on self-assessed health. Students tend to have good health (being younger) and pensioners usually have poor health (being older). The unemployed tend not to have good health (arising from lower living standards and a generally negative outlook). Among employed persons, those who work in an office have the best self-reported health.

Another view of the health of the population is provided by healthcare utilisation data, represented by the number of visits to doctors during the past few years. The findings for these indicators partially replicate those from previous analyses. Women visit doctors more often than men do (on average five times per year compared with four). Analyses by economic activity reveal that pensioners visit doctors most often. Mixed results are shown for the unemployed, who comprise the highest shares of those who have no visits per year as well as those who visit a doctor six or more times. Students also report a high number of doctor visits, probably related to obtaining approved absences from school. The impact of age on visits to the doctor is relatively surprising. Older persons visit doctors most often, followed by those in the age group 51-60 and then the group aged 20 and younger (probably owing to students, for the reason noted above). Visits by middle-aged persons are relatively stable.

The final part of this report focused on statistically more advanced procedures (the logit model), which has allowed a simultaneous consideration of several possible factors underlying the health of the population. Generally, the findings from these analyses confirmed previous results obtained by simple statistical methods.

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Appendix I – CINDI Health Monitor Questionnaire

Note: The category of the importance of the question is indicated in brackets after the number of each question: (1)=Obligatory (2)=Highly recommended

BACKGROUND INFORMATION

1.1 (1) *Sex?*

    1. male
    2. female

1.2 (1) *Year of birth?*

    19~ ~ ~

1.3 (1) *Marital status?*
    1. Married or living in a partnership
    2. single
    3. separated or divorced
    4. widowed

1.4 (1) *How many children under the age of 18 are living in your home?*

    ... persons

1.5 (1) *Total number of years of full-time education (including school, study)?*

.   ... years

1.6 (2) *Occupation*
    1. farming, cattle-raising, forestry
    2. industrial, mining, construction or other similar type of work
    3. office work, intellectual work, services
    4. student
    5. housewife
    6. pensioned
    7. unemployed

2.   HEALTH SERVICES AND HEALTH STATUS

2.1 (1) *How many times did you visit the doctor during the last year (12 months)?*
(Include hospitalisation or visits to the outpatient department; do not include visits to the dentist).

    ... times

2.2 (1) Do you receive disability pension?
      1. no
      2. yes, partial pension
      3. yes, for a limited period
      4. yes, permanently

2.3 (2) During the last year (12 months), how many days were you absent from work or unable to carry out normal duties because of illness?
(If you do not remember exactly, please give an estimate. Do not include absence owing to a normal pregnancy.)

      ... days

2.4(2) *During the last year (12 months), have you been diagnosed as having, or been treated for, any of the following conditions?*

	yes	no
High blood pressure, (hypertension)	1	2
High blood cholesterol, (hypercholesterolemia)	1	2
High blood sugar (diabetes)	1	2
Myocardial infarction (heart attack)	1	2
Angina pectoris (chest pain during exercise)	1	2
Heart failure	1	2
Rheumatism or arthritis	1	2
Back illness	1	2
Chronic bronchitis or emphysema	1	2
Bronchial asthma	1	2
Gastritis or ulcer	1	2

2.5(2) *During the last year (12 months), have you had persistent coughs with phlegm that persist for a while and that occur almost daily?*

      1. no
      2. yes, for less than 1 month
      3. yes, for a period of 1-2 months
      4. yes, for a period of 3 months or longer

2.6(1) Have *you had any of the following symptoms or complaints during the last month (30 days)?*

	Yes	No
Chest pain during exercise	1	2
Joint pain	1	2
Back-pain	1	2
Neck/shoulder pain	1	2
Swelling of feet	1	2
Varicose veins	1	2

Eczema 1 2
Constipation 1 2
Headache ....i 2
Insomnia 1 2
Depression 1 2
Toothache ....I 2

2.7(1) How would you assess your present state of health?
1. good
2. reasonably good
3. average
4. rather poor
5. poor

2.8(1) Have you taken any tablets, pills or other medication during the last week (7 days):

                          yes   no
for high blood pressure 1 2
for high cholesterol 1 2
for headache 1 2
for other aches and pains 1 2
for cough 1 2
sedatives 1 2
vitamins, minerals or trace
elements 1 2
contraceptives 1 2

2.9(1) Have you been feeling tense, stressed or under a lot of pressure during the last month (30 days)?
1. not at all
2. yes - somewhat but not more than is usual for people in general
3. yes - more than is usual for
4. people in general
5. yes - my life is almost unbearable

2.10 (1) When was the last time your blood pressure was measured?
1. during the previous year
2. between I and 5 years ago
3. more than 5 years ago
4. never
5. I do not know

2.11(1) When was the last time your blood cholesterol was measured?
1. during the previous year
2. between 1 and 5 years ago
3. more than 5 years ago
4. never
5. I do not know

2.12(1) How many teeth are you missing?
1. none
2. between 1 and 5

3. between 6-10
4. more than 10 - but not all
5. all your teeth are missing or you have dentures

2.13(1) How often have you seen a dentist during the last year (12 months)?

... times

2.14(1) How often do you brush your teeth?
1. more than once daily
2. once daily
3. less than once daily
4. never

3 SMOKING

3.1(1) Do you or any family members smoke at home?
1. No, nobody smokes
2. Yes, somebody smokes

3.2(1) How many hours a day do you spend at your workplace where somebody smokes
1. more than 5 hours
2. between 1 and 5 hours
3. less than one hour a day
4. almost never
5. I do not work outside the home

3.3(1) Have you ever smoked in your life?
1. no
2. yes

3.4(1) Have you ever smoked at least 100 cigarettes, cigars or pipefuls in your lifetime?
1. no (proceed to question 4. l)
2. yes

3.5(1) Have you ever smoked daily-(=almost every day for at least one year)? If so, how many years altogether?
1. no
2. yes, I have smoked daily for a total of … years

3.6(1) Do you smoke at the present time (cigarettes, cigars, pipe)?
1. yes, daily
2. occasionally
3. not at all

3.7(1) When did you last smoke?
If you smoke currently, please circle alternative 1.

1. yesterday or today
2. 2 days - 1 month ago

3. 1 month - half a year ~ago
4. half a year to one year ago
5. 1-5 years ago
6. 5-10 years ago
7. more than ten years ago

3.8(2) Hove much do you smoke, or did you smoke before you stopped, on average per day?
(please give an answer to each item)

manufactured cigarettes
    … Cigarettes per day
self-rolled cigarettes
    … Cigarettes per day
pipe   … pipefuls a day
cigars …   cigars a day

3.9 Would you like to stop smoking?
1. no
2. yes
3. I am not sure
4. I do not smoke at present

3.10 (l) Have you ever tried seriously to stop smoking and been without smoking for at least 24 hours? If so, when was the last time?
1. during the last month
2. a month to half a year ago
3. half a year to one year ago
4. more than one year ago
5. never

3.11(1) Are you concerned about the harmful consequences that smoking can have on your health?
1. very concerned
2. somewhat concerned
3. not much concerned
4. not at all concerned

3.12(1) During the last year (12 months), have you been advised to stop smoking by any of the following:

	yes	no
a doctor	1	2
a dentist	1	2
other health care personnel	1	2
a family member	1	2
others	1	2

4.   FOOD HABITS

4.1 (2) Do you eat breakfast at all?
   1. no
   2. yes

4.2(1) What kind of fat do you mostly use for food preparation at home? (Please circle only one alternative
   1. vegetable oil
   2. margarine
   3. butter or product consisting mainly of butter
   4. lard or other animal fat
   5. no fat at all
   6. I do not know
   7. I do not usually prepare food

4.3(2) How often do you prepare food at home?
   1. never
   2. a few times a year
   3. 2-3 times a month
   4. once a week
   5. 2-3 times a week
   6. daily

4.4(1) What kind of fat do you use on bread mostly? (Please circle only one alternative)
   1. none
   2. low fat margarine
   3. ordinary margarine
   4. butter product consisting mainly of butter
   5. lard or other animal fat
   6. butter

4.5(2) If you drink milk do you usually use? (please circle only one alternative)
   1. whole milk (ordinary cow's milk, about 4.3% fat or more)
   2. consumer milk (ordinary shop milk, about 3.9% fat)
   3. low-fat milk (about 1.9% fat)
   4. skim milk (about 0.05% fat)
   5. I do not drink milk

4.6(1) How many cups of coffee or tea do you usually drink a day? Please answer both items.
   coffee   … cups
   tea   … cups

4.7 (2) How many lumps of sugar or spoonfuls of granulated sugar do you use for one cup of coffee or tea? (Please mark 0 if you don't use sugar.)
   … lumps or teaspoonfuls in a cup of coffee
   … lumps or teaspoonfuls in a cup of tea

4.8(2) How many slices of bread do you usually eat per day?
   rye bread … slices a day
   white bread … slices a day

other bread … slices a day

4.9(2) How often during the last week have you consumed the following foods and drinks?

	never	1-2 times	3-5 times	6-7 times
boiled potatoes	1	2	3	4
fried potatoes(excl. crisps)	1	2	3	4
rice/pasta	1	2	3	4
cereals (cornflakes, porridge)	1	2	3	4
cheese	1	2	3	4
chicken	1	2	3	4
fish	1	2	3	4
meat	1	2	3	4
meat products (sausages etc.)	1	2	3	4
fresh vegetables	1	2	3	4
other vegetables	1	2	3	4
fresh fruit/berries	1	2	3	4
other fruit/berries	1	2	3	4
sweet pastries (cookies, cakes)	1	2	3	4
sweets (candy, chocolate)	1	2	3	4
soft drinks	1	2	3	4
eggs	1	2	3	4

4.10 (2) Do you add salt to your meals at the table?
> 1. never
> 2. when the food is not salty enough
> 3. almost always before tasting

4.11(1) During the last year (12 months), have you been advised to change your dietary habits for health reasons by any of the following:

	yes	no
a doctor	1	2
other health care personnel	1	2
a family member	1	2
by others	1	2

5. ALCOHOL

5.1(2) During the last year (12 months), have you consumed any alcoholic drinks (beer, wine or spirits)?
> 1. yes
> 2. no

5.2(1) How many glasses (regular restaurant portions) or bottles of the following drinks have you had during the last week (7 days).
(If you have not had any, mark 0)

medium strong or strong beer … bottles
mixed drinks … glasses
strong alcohol, spirits … restaurant portions (4 cl)
wine or equivalent … glasses

5.3(1) How often do you usually have strong spirits?
      1. never
      2. a few times a year
      3. 2-3 times a month
      4. once a week
      5. 2-3 times a week
      6. daily

5.4 (2) How often do you usually drink wine?
      1. never
      2. a few times a year
      3. 2-3 times a month
      4. once a week
      5. 2-3 times a week
      6. daily

5.5 (1) How often do you usually drink beer?
      1. never
      2. a few times a year
      3. 2-3 times a month
      4. once a week
      5. 2-3 times a week
      6. daily

5.6 (1) How often do you drink six glasses (regular restaurant portions) or bottles of alcohol, or more, at once?
      1. never
      2. less than once a month
      3. once a month
      4. once a week
      5. daily or almost daily

5.7 (1) During the last year (12 months), have you been advised to drink less by any of the following:

	Yes	no
a doctor	1	2
other health care personnel	1	2
a family member	1	2
others	1	2

6.   HEIGHT, WEIGHT AND PHYSICAL ACTIVITY

6.1 (1) How tall are you?

… cm

6.2 (1) How much do you weigh in light clothing?

… kg

6.3 (2) In your opinion, are you?
1. underweight?
2. normal weight?
3. overweight?
4. I do not know

6.4 (1) Vigorous physical activities: refer to activities that take hard physical effort and make you breathe much harder than normal.

During the last 7 days, on how many days did you do vigorous *physical activities such as heavy lifting, digging, aerobics or fast bicycling?* *Include* only *those physical activities that you did for at least 10 minutes at a time. (please mark 0 if you did not do any vigorous physical activity)*

On … days

6.5 (1) How much time did you usually spend on one of those days doing vigorous physical activity?

… hours … minutes

6.6 (1) Moderate physical activities: refer to activities that take moderate physical effort and make you breathe somewhat harder than normal.

During the last 7 days, on how many days did you do moderate physical activities such as carrying light loads, bicycling at a regular pace, or doubles tennis? *Include only those physical activities that you did for at least 10 minutes at a time. Do not include walking. (please mark 0 if you did not do any moderate physical activity)*

On … days

6.7 (1) How much time in total did you usually spend on one of those days doing moderate physical activity?

… hours … minutes

6.8 (1) During the last 7 days, on how many days did you walk for at least 10 minutes at the time? *Include walking at work and at home, walking to travel from place to place, and any other walking that you did solely for recreation, sport, exercise or leisure. (please mark 0 if you did not do any vigorous physical activity)*

On … days

6.9 (1) How much time in total did you usually spend walking on one of those days?

… hours … minutes

6.10 (1) How much time do you spend sitting on a usual week day?
Include sitting at the desk, visiting friends, reading, travelling on a bus or sitting or lying down to watch television.

… hours … minutes

6.11 (2) How many minutes a day do you spend walking or riding a bicycle to and from work?
(Combine time spent both ways).
    1   do not work at all or I work at home
    2   I go to work by car
    3   less than 15 minutes a day
    4   15-30 minutes a day
    5   30-60 minutes a day
    6   more than one hour a day

6.12 (2) In your leisure time, how often do you do physical exercise for at least 30 minutes which makes you at least mildly short of breath or perspire?
    1. daily
    2. 4-6 times a week
    3. 2-3 times a week
    4. once a week
    5. 2-3 times a month
    6. a few times a year or less
    7. I cannot exercise because of illness
    8. I cannot exercise because of disability

6.13 (2) How physically strenuous is your work?
    1. very light (mainly sitting)
    2. light (mainly walking)
    3. medium (lifting, carrying light loads)
    4. heavy manual work (climbing, carrying heavy loads)

6.14 (1) During the last year (12 months), have you been advised to increase your physical activity by any of the following?

	Yes	no
doctor	1………	2
other health care	1………	2
personnel	1………	2

7.   TRAFFIC SAFETY

7.1 (1) Do you use a reflector when walking on streets without lights when it is dark?
    1. almost always
    2. sometimes
    3. never
    4. I never walk on unlit streets when it is dark

7.2 (1) Do you use a seat-belt when driving or as a passenger in the front seat?
    1. almost always
    2. sometimes
    3. never
    4. I never use a car

7.3 (1) Do you use a seat-belt in the back seat?
    1. almost always
    2. sometimes
    3. never
    4. there is no seat-belt in the backseat
    5. I never travel in the back of the car

7.4 (2) Are you aware if any of your close friends have driven a car under the influence of alcohol during the last year (12 months)?
    1. no
    2. yes
    3. difficult to say

8   OTHERS

8.1 (1) During the last year (12 months), have you changed your diet or other habits for health reasons?

	yes	no
I eat less fat	1	2
I have changed type of fat I eat	1	2
I eat more vegetables	1	2
I eat less sugar	1	2
I eat less salt	1	2
I have been on a weight-reducing diet	1	2
I drink less alcohol	1	2
I do more physical exercise	1	2

8.2 (1) In your opinion, what is the most important reason for the rather high death rate among the adult population in our country. (please mark only one alternative)
    1. wrong diet
    2. stress
    3. difficult living conditions
    4. strenuous work
    5. smoking

6. lack of physical exercise
7. lack of vitamins, minerals etc.
8. overweight
9. genetic factors
10. alcohol
11. lack of health services
12. other, please specify

8.3 (2) Do you know anyone who has tried drugs (hashish, marihuana, amphetamines, heroine) during the last year (12 months)?
1. no
2. one person
3. 2-5 persons
4. more than five persons

Appendix II – Main demographic indicators

	1950	1960	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002
Population (as of 1st January)	3447085	3969682	4536555	4963301	5287663	5356207	5367790	5378932	5387650	5393382	5398657	5378783	5378951
- males	1671836	1941448	2240915	2441734	2586495	2608901	2613712	2618434	2622005	2623692	2625126	2612512	2611921
- females	1775249	2028234	2295640	2521567	2701168	2747306	2754078	2760498	2765645	2769690	2773531	2766271	2767030
Population (as of 1st July)	3463446	3994270	4528459	4984331	5297774	5363676	5373793	5383233	5390866	5395324	5400679	5379780	-
- males	1678970	1954011	2234330	2451661	2590571	2612229	2616334	2620329	2623086	2624080	2625691	2612684	-
- females	1784476	2040259	2294129	2532670	2707203	2751447	2757459	2762904	2767780	2771244	2774988	2767096	-
Main age groups - males													
0-14	499540	638784	637741	661814	686911	626676	610853	595837	579980	563558	546980	532951	515164
15-59	1025525	1121565	1323914	1494976	1576044	1654683	1674682	1694468	1713600	1731671	1748560	1752922	1767676
60+	146771	181099	279260	284944	323540	327542	328177	328129	328425	328463	329586	326639	329081
0-19	653259	794300	869307	872727	903283	869460	852886	834776	815769	796183	775742	761991	741694
20-64	920090	1035276	1194170	1347538	1465915	1514223	1532896	1553045	1573064	1593487	1614342	1619238	1638795
65+	98487	111872	177438	221469	217297	225218	227930	230613	233172	234022	235042	231283	231432
Main age groups - females													
0-14	490197	612158	610658	634368	659054	599312	584435	569060	553970	538283	522394	509317	491806
15-59	1090385	1171662	1338859	1512181	1585601	1666439	1684085	1701982	1718880	1734765	1749832	1757225	1769882
60+	194667	244414	346123	375018	456513	481555	485558	489456	492795	496642	501305	499729	505342
0-19	645199	767151	832944	835577	866928	833019	816646	799009	780942	761489	741398	728493	708557
20-64	999142	1102345	1227370	1383576	1508622	1561029	1577917	1595416	1612614	1631893	1651988	1659675	1677220
65+	130908	158738	235326	302414	325618	353258	359515	366073	372089	376308	380145	378103	381253
Youth dependency ratio	67,7	73,0	70,3	62,5	59,5	55,4	53,7	51,9	50,1	48,3	46,4	45,5	43,7
Old dependency ratio	12,0	12,7	17,0	19,2	18,3	18,8	18,9	19,0	19,0	18,9	18,8	18,6	18,5
Total dependency ratio	79,6	85,7	87,3	81,7	77,8	74,2	72,6	70,8	69,1	67,2	65,3	64,0	62,2
Index of ageing	0,1767	0,1733	0,2425	0,3067	0,3067	0,3398	0,3519	0,3652	0,3791	0,3918	0,4055	0,4089	0,4225
Deaths	39668	31609	42240	50579	54619	52686	51236	52124	53156	52402	52724	51980	51532
of which: under 1 year	10306	2528	2072	1988	959	675	615	514	506	467	473	316	388
of which: under 28 days	4154	1243	1347	1319	669	483	415	321	310	289	297	211	238
Immigrants	15814	11297	10441	7479	8618	3055	2477	2303	2052	2072	2274	2023	2312
Emigrants	30272	19377	14898	10608	10940	213	222	572	746	618	811	1011	1411
Net migration	-14458	-8080	-4457	-3129	-2322	2842	2255	1731	1306	1454	1463	1012	901

	1950	1960	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002
Natural increase/decrease	60053	56803	38426	44521	25370	8741	8887	6987	4426	3821	2427	-844	-691
Total increase/decrease	45595	48723	33969	41392	23048	11583	11142	8718	5732	5275	3890	168	210
Crude death rate	11,45	7,91	9,33	10,15	10,31	9,82	9,53	9,68	9,86	9,71	9,76	9,66	-
Rate of net migration	-4,17	-2,02	-0,98	-0,63	-0,44	0,53	0,42	0,32	0,24	0,27	0,27	0,19	-
Rate of natural increase/decrease	17,34	14,22	8,49	8,93	4,79	1,63	1,65	1,30	0,82	0,71	0,45	-0,16	-
Growth rate	13,16	12,20	7,50	8,30	4,35	2,16	2,07	1,62	1,06	0,98	0,72	0,03	-
Total female first marriage rate	1,22	1,03	0,88	0,87	0,94	0,59	0,58	0,58	0,56	0,56	0,52	0,48	-
Mean age at first marriage													
- males	-	-	-	-	-	24,71	24,99	25,30	25,58	25,88	26,4	26,6	27,1
- females	-	-	-	-	-	22,31	22,59	22,87	23,08	23,43	23,9	24,1	24,6
Total divorce rate	6,14	7,40	10,72	17,56	22,90	24,07	25,74	25,40	26,20	27,70	26,9	28,7	-
Total pregnancy rate	-	-	3,54	3,39	3,53	2,43	2,24	2,12	2,03	1,96	1,87	1,75	-
Total fertility rate	3,56	3,07	2,40	2,31	2,09	1,52	1,47	1,43	1,37	1,33	1,292	1,198	1,187
Mean age													
- at childbirth	27,57	26,84	25,55	25,09	25,25	25,36	25,50	25,67	25,82	25,99	26,21	26,5	26,7
- at birth of first child	23,18	22,66	22,22	22,68	22,67	22,71	22,87	23,08	23,31	23,56	23,93	24,1	24,5
Gross reproduction rate	1,73	1,49	1,16	1,12	1,01	0,74	0,71	0,69	0,67	0,64	0,63	0,58	-
Net reproduction rate	1,48	1,43	1,13	1,10	0,99	0,73	0,70	0,69	0,66	0,64	0,62	0,57	-
Percentage of births out of wedlock	5,29	4,62	6,15	5,69	7,57	12,56	13,97	15,03	15,25	16,78	18,25	19,7	21,6
Percentages of premarital conceptions	24,72	30,82	43,36	51,73	55,45	53,83	54,16	53,54	51,49	50,39	47,76	47,64	45,26
Total induced abortion rate	-	-	-	0,83	1,23	0,76	0,63	0,55	0,52	0,49	0,45	0,44	-
Induced abortions per 100 births	-	23,26	34,27	32,67	60,25	48,90	41,70	37,60	36,48	35,32	33,36	35,1	34,1
Miscarriages per 100 births	-	9,62	9,46	9,84	9,63	9,28	9,46	9,23	9,59	9,93	9,25	9,3	9,3
Life expectancy at exact age - males													
0	58,94	67,61	66,67	66,75	66,65	68,39	68,87	68,89	68,61	68,95	69,14	69,51	-
-1	66,28	68,82	67,67	67,35	66,59	68,22	68,63	68,54	68,25	68,57	68,83	68,99	-
-20	49,47	50,97	49,62	49,05	48,09	49,70	50,10	50,05	49,75	50,03	50,26	50,46	-
-40	31,99	32,73	31,50	30,60	29,65	31,01	31,35	31,39	31,09	31,31	31,52	31,68	-
-65	12,90	12,98	12,31	12,09	12,22	12,68	12,86	12,91	12,76	12,89	12,91	14,72	-

	1950	1960	1970	1980	1990	1995	1996	1997	1998	1999	2000	2001	2002
Life expectancy at exact age - females													
0	62,76	72,12	72,88	74,24	75,43	76,33	76,80	76,72	76,70	77,03	77,22	77,54	-
-1	69,12	73,05	73,59	74,56	75,19	76,04	76,53	76,33	76,32	76,61	76,77	76,94	-
-20	52,07	54,76	55,26	56,01	56,59	57,38	57,85	57,68	57,71	57,93	58,08	58,23	-
-40	34,34	35,65	36,02	36,63	37,21	37,90	38,33	38,19	38,23	38,42	38,51	38,69	-
-65	14,09	14,09	14,51	15,13	15,71	16,07	16,41	16,37	16,28	16,47	16,38	16,64	-
Infant mortality rate	103,35	28,59	25,69	20,90	11,99	10,99	10,23	8,70	8,79	8,31	8,58	6,24	7,63
Perinatal mortality rate	44,04	21,24	21,86	18,34	11,68	9,39	8,60	7,61	8,53	8,09	7,49	7,21	7,13
Neonatal mortality rate	41,66	14,06	16,70	13,87	8,36	7,86	6,90	5,43	5,38	5,14	5,39	4,13	4,68

Appendix III – Main causes of death

Table A3 1. Main causes of death (per 1000 deaths)

		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malignant neoplasm	Males	211.5	216.3	221.7	228.3	234.6	243.3	237.9	255.9	253.1	248.1	252.6	245.4
	Females	166.8	174.7	178.7	183.1	177.1	183.6	187.3	198.0	196.9	198.9	198.5	195.5
	Total	191.3	197.6	202.2	207.4	207.8	215.6	214.3	229.2	227.1	225.2	227.3	222.1
Circulatory diseases	Males	481.8	470.2	474.3	495.2	495.1	489.4	493.9	493.3	482.3	483.2	484.6	480.8
	Females	585.4	573.5	580.5	606.8	614.7	608.5	608.0	636.3	622.0	626.0	629.0	617.3
	Total	528.6	516.5	522.6	546.7	550.9	544.5	547.2	559.3	547.1	549.7	552.0	544.7
Diseases of respiratory system	Males	73.6	77.6	77.8	67.4	67.2	71.8	68.0	47.4	53.1	58.3	55.9	59.2
	Females	75.8	75.8	81.4	68.3	71.4	76.2	76.3	42.2	46.3	51.7	48.5	53.5
	Total	74.6	76.8	79.5	67.8	69.1	73.9	71.9	45.0	49.9	55.2	52.4	56.5
Unknown ill-defined causes	Males	6.2	6.4	4.0	4.0	3.9	5.3	5.7	7.0	9.3	10.8	7.9	9.2
	Females	5.3	5.2	3.5	3.0	3.3	2.5	4.3	4.4	5.1	6.0	4.3	5.4
	Total	5.8	5.9	3.8	3.5	3.6	4.0	5.0	5.8	7.4	8.6	6.2	7.4
External causes	Males	98.2	98.9	97.9	93.3	93.0	92.3	97.5	94.1	86.4	87.1	87.7	88.5
	Females	41.4	46.5	43.2	45.6	41.7	41.8	40.5	27.3	27.4	27.0	25.0	24.7
	Total	72.5	75.4	73.0	71.3	69.1	69.0	70.9	63.3	59.0	59.1	58.5	58.6
Diabetes mellitus	Males	9.9	13.5	12.4	10.4	10.2	9.6	9.3	10.2	15.8	11.4	11.9	11.6
	Females	19.1	24.9	18.4	14.5	15.5	13.8	14.5	18.2	23.5	17.8	17.8	17.1
	Total	14.0	18.6	15.1	12.3	12.7	11.5	11.8	13.9	19.4	14.4	14.7	14.2
Chronic liver disease	Males	39.5	39.4	34.7	34.8	34.9	30.9	32.6	37.3	38.5	37.9	36.6	37.9
	Females	16.4	16.8	15.4	13.4	13.2	13.0	14.5	16.3	16.6	13.3	16.5	18.5
	Total	29.1	29.3	26.0	24.9	24.8	22.6	24.1	27.6	28.4	26.4	27.2	28.8
Other causes (remain of all)	Males	79.4	77.7	77.0	66.6	61.0	57.4	55.1	54.8	61.5	63.3	62.8	67.3
	Females	89.9	82.6	79.1	65.3	63.1	60.5	54.6	57.4	62.1	59.3	60.4	68.0
	Total	84.1	79.9	78.0	66.0	62.0	58.9	54.8	56.0	61.8	61.4	61.7	67.7

Table A3.2. Main causes of deaths (per 1000 population)

Per 1000 population		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Malignant neoplasm	Males	2.5	2.5	2.5	2.4	2.5	2.6	2.5	2.8	2.7	2.7	2.7	2.6
	Females	1.5	1.5	1.6	1.6	1.6	1.6	1.6	1.8	1.7	1.8	1.7	1.7
	Total	2.0	2.0	2.0	2.0	2.0	2.1	2.1	2.3	2.2	2.2	2.2	2.1
Circulatory diseases	Males	5.6	5.4	5.3	5.3	5.3	5.2	5.2	5.4	5.2	5.2	5.1	5.0
	Females	5.3	5.1	5.1	5.2	5.5	5.2	5.4	5.6	5.5	5.5	5.5	5.4
	Total	5.5	5.2	5.2	5.3	5.4	5.2	5.3	5.5	5.3	5.4	5.3	5.2
Diseases of respiratory system	Males	0.9	0.9	0.9	0.7	0.7	0.8	0.7	0.5	0.6	0.6	0.6	0.6
	Females	0.7	0.7	0.7	0.6	0.6	0.7	0.7	0.4	0.4	0.5	0.4	0.5
	Total	0.8	0.8	0.8	0.7	0.7	0.7	0.7	0.4	0.5	0.5	0.5	0.5
Unknown ill-defined causes	Males	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	Females	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
	Total	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
External causes	Males	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9
	Females	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.2	0.2
	Total	0.7	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
Diabetes mellitus	Males	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
	Females	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.1
	Total	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Chronic liver disease	Males	0.5	0.4	0.4	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.4
	Females	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
	Total	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3
Other causes (remain of all)	Males	0.9	0.9	0.9	0.7	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.7
	Females	0.8	0.7	0.7	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6
	Total	0.9	0.8	0.8	0.6	0.6	0.6	0.5	0.6	0.6	0.6	0.6	0.6

Appendix IV – Cross-tabulation results

1. Cross-tabulations of visiting the doctor

Table I.1. Frequency of visiting the doctor

Value	Count	Percent
0	312.00	20.70
1-2	511.00	33.91
3-4	248.00	16.46
5-6	151.00	10.02
6-12	177.00	11.75
12 and more	108.00	7.17
Total	1507.00	100.00

Table I.2. Tabulation of visiting the doctor by gender

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
Gender	Male	Count	172.00	247.00	99.00	67.00	69.00	36.00
		% Row	24.93	35.80	14.35	9.71	10.00	5.22
		% Col	55.13	48.34	40.08	44.37	38.98	33.33
	Female	Count	140.00	264.00	148.00	84.00	108.00	72.00
		% Row	17.16	32.35	18.14	10.29	13.24	8.82
		% Col	44.87	51.66	59.92	55.63	61.02	66.67
	Total	Count	312.00	511.00	247.00	151.00	177.00	108.00
		% Row	20.72	33.93	16.40	10.03	11.75	7.17
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

Table I.3. Tabulation of visiting the doctor by marital status

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
MARSTA	Married or Living in Partnership	Count	196.00	308.00	149.00	86.00	115.00	75.00
		% Row	21.10	33.15	16.04	9.26	12.38	8.07
		% Col	63.02	60.51	60.08	56.95	65.71	69.44
	Single	Count	92.00	163.00	79.00	53.00	41.00	22.00
		% Row	20.44	36.22	17.56	11.78	9.11	4.89
		% Col	29.58	32.02	31.85	35.10	23.43	20.37
	Divorced or Separated	Count	15.00	27.00	12.00	6.00	9.00	3.00
		% Row	20.83	37.50	16.67	8.33	12.50	4.17
		% Col	4.82	5.30	4.84	3.97	5.14	2.78
	Widowed	Count	8.00	11.00	8.00	6.00	10.00	8.00
		% Row	15.69	21.57	15.69	11.76	19.61	15.69
		% Col	2.57	2.16	3.23	3.97	5.71	7.41
	Total	Count	311.00	509.00	248.00	151.00	175.00	108.00
		% Row	20.71	33.89	16.51	10.05	11.65	7.19
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

Table I.4. Tabulation of visiting the doctor by age group

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
AGEGROUP	- 20	Count	16.00	30.00	25.00	13.00	13.00	5.00
		% Row	15.69	29.41	24.51	12.75	12.75	4.90
		% Col	5.21	5.93	10.25	8.84	7.43	4.67
	21 - 30	Count	73.00	145.00	61.00	34.00	27.00	18.00
		% Row	20.39	40.50	17.04	9.50	7.54	5.03
		% Col	23.78	28.66	25.00	23.13	15.43	16.82
	31 - 40	Count	57.00	109.00	49.00	17.00	18.00	12.00
		% Row	21.76	41.60	18.70	6.49	6.87	4.58
		% Col	18.57	21.54	20.08	11.56	10.29	11.21
	41 - 50	Count	86.00	111.00	48.00	31.00	40.00	17.00
		% Row	25.83	33.33	14.41	9.31	12.01	5.11
		% Col	28.01	21.94	19.67	21.09	22.86	15.89
	51 - 60	Count	54.00	90.00	42.00	33.00	48.00	32.00
		% Row	18.06	30.10	14.05	11.04	16.05	10.70
		% Col	17.59	17.79	17.21	22.45	27.43	29.91
	61 +	Count	21.00	21.00	19.00	19.00	29.00	23.00
		% Row	15.91	15.91	14.39	14.39	21.97	17.42
		% Col	6.84	4.15	7.79	12.93	16.57	21.50
	Total	Count	307.00	506.00	244.00	147.00	175.00	107.00
		% Row	20.66	34.05	16.42	9.89	11.78	7.20
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

Table I.5. Tabulation visiting the doctor and number of children

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
NCHILDGROUP	0	Count	128.00	210.00	109.00	73.00	80.00	57.00
		% Row	19.48	31.96	16.59	11.11	12.18	8.68
		% Col	42.81	42.94	45.04	52.90	50.63	58.16
	1	Count	78.00	128.00	54.00	35.00	45.00	27.00
		% Row	21.25	34.88	14.71	9.54	12.26	7.36
		% Col	26.09	26.18	22.31	25.36	28.48	27.55
	2	Count	70.00	110.00	54.00	23.00	23.00	9.00
		% Row	24.22	38.06	18.69	7.96	7.96	3.11
		% Col	23.41	22.49	22.31	16.67	14.56	9.18
	3 and more	Count	23.00	41.00	25.00	7.00	10.00	5.00
		% Row	20.72	36.94	22.52	6.31	9.01	4.50
		% Col	7.69	8.38	10.33	5.07	6.33	5.10
	Total	Count	299.00	489.00	242.00	138.00	158.00	98.00
		% Row	21.00	34.34	16.99	9.69	11.10	6.88
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

Tab I.6. Tabulation visiting the doctor by education

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
EDUC	Basic	Count	32.00	58.00	41.00	22.00	40.00	16.00
		% Row	15.31	27.75	19.62	10.53	19.14	7.66
		% Col	10.46	11.46	17.01	14.77	22.60	15.09
	Lower secondary	Count	89.00	117.00	33.00	31.00	38.00	36.00
		% Row	25.87	34.01	9.59	9.01	11.05	10.47
		% Col	29.08	23.12	13.69	20.81	21.47	33.96
	Secondary	Count	129.00	237.00	117.00	67.00	74.00	40.00
		% Row	19.43	35.69	17.62	10.09	11.14	6.02
		% Col	42.16	46.84	48.55	44.97	41.81	37.74
	University	Count	56.00	94.00	50.00	29.00	25.00	14.00
		% Row	20.90	35.07	18.66	10.82	9.33	5.22
		% Col	18.30	18.58	20.75	19.46	14.12	13.21
	Total	Count	306.00	506.00	241.00	149.00	177.00	106.00
		% Row	20.61	34.07	16.23	10.03	11.92	7.14
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

Table I.7. Tabulation of visiting the doctor by occupation

			DOCOFGROUP					
			0	1-2	3-4	5-6	6-12	12 and more
OCCUP	Agriculture	Count	16.00	26.00	12.00	3.00	4.00	2.00
		% Row	25.40	41.27	19.05	4.76	6.35	3.17
		% Col	5.25	5.15	4.90	1.99	2.33	1.85
	Industry	Count	67.00	126.00	46.00	22.00	26.00	15.00
		% Row	22.19	41.72	15.23	7.28	8.61	4.97
		% Col	21.97	24.95	18.78	14.57	15.12	13.89
	Office work	Count	123.00	221.00	102.00	58.00	54.00	29.00
		% Row	20.95	37.65	17.38	9.88	9.20	4.94
		% Col	40.33	43.76	41.63	38.41	31.40	26.85
	Student	Count	22.00	51.00	33.00	21.00	15.00	8.00
		% Row	14.67	34.00	22.00	14.00	10.00	5.33
		% Col	7.21	10.10	13.47	13.91	8.72	7.41
	Housewife	Count	9.00	20.00	5.00	1.00	3.00	4.00
		% Row	21.43	47.62	11.90	2.38	7.14	9.52
		% Col	2.95	3.96	2.04	0.66	1.74	3.70
	Pensioned	Count	24.00	20.00	22.00	29.00	54.00	38.00
		% Row	12.83	10.70	11.76	15.51	28.88	20.32
		% Col	7.87	3.96	8.98	19.21	31.40	35.19
	Unemployed	Count	44.00	41.00	25.00	17.00	16.00	12.00
		% Row	28.39	26.45	16.13	10.97	10.32	7.74
		% Col	14.43	8.12	10.20	11.26	9.30	11.11
	Total	Count	305.00	505.00	245.00	151.00	172.00	108.00
		% Row	20.52	33.98	16.49	10.16	11.57	7.27
		% Col	100.00	100.00	100.00	100.00	100.00	100.00

2. Cross-tabulations of self-assessment of health

Table II.1. Tabulation of assessment of health

Value	Count	Percent
Good	531	35
Reasonably Good	495	32.63
Fair	327	21.56
Rather Poor	106	6.99
Poor	58	3.82
Total	1517	100

Table II-2. Tabulation of assessment of health by gender

			ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
Gender	Male	Count	259	232	133	46	25	695
		% Row	37.27	33.38	19.14	6.62	3.6	100
		% Col	48.87	46.87	40.67	43.4	43.1	45.84
	Female	Count	271	263	194	60	33	821
		% Row	33.01	32.03	23.63	7.31	4.02	100
		% Col	51.13	53.13	59.33	56.6	56.9	54.16
	Total	Count	530	495	327	106	58	1516
		% Row	34.96	32.65	21.57	6.99	3.83	100
		% Col	100	100	100	100	100	100

Tab II.3. Tabulation of assessment of health by marital status

			ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
MARSTA	Married or Living in Partnership	Count	273	319	235	68	38	933
		% Row	29.26	34.19	25.19	7.29	4.07	100
		% Col	51.51	64.57	72.31	64.76	65.52	61.71
	Single	Count	234	141	52	20	10	457
		% Row	51.2	30.85	11.38	4.38	2.19	100
		% Col	44.15	28.54	16	19.05	17.24	30.22
	Divorced or Separated	Count	17	24	20	6	6	73
		% Row	23.29	32.88	27.4	8.22	8.22	100
		% Col	3.21	4.86	6.15	5.71	10.34	4.83
	Widowed	Count	6	10	18	11	4	49
		% Row	12.24	20.41	36.73	22.45	8.16	100
		% Col	1.13	2.02	5.54	10.48	6.9	3.24
	Total	Count	530	494	325	105	58	1512
		% Row	35.05	32.67	21.49	6.94	3.84	100
		% Col	100	100	100	100	100	100

Table II.4. Tabulation of assessment of health by age-groups

			ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
AGEGROUP	- 20	Count	67	26	11	1	2	107
		% Row	62.62	24.3	10.28	0.93	1.87	100
		% Col	12.74	5.33	3.42	0.97	3.45	7.15
	21 – 30	Count	193	107	42	11	6	359
		% Row	53.76	29.81	11.7	3.06	1.67	100
		% Col	36.69	21.93	13.04	10.68	10.34	23.98
	31 – 40	Count	103	101	42	11	4	261
		% Row	39.46	38.7	16.09	4.21	1.53	100
		% Col	19.58	20.7	13.04	10.68	6.9	17.43
	41 – 50	Count	96	119	83	19	20	337
		% Row	28.49	35.31	24.63	5.64	5.93	100
		% Col	18.25	24.39	25.78	18.45	34.48	22.51
	51 – 60	Count	52	97	100	38	14	301
		% Row	17.28	32.23	33.22	12.62	4.65	100
		% Col	9.89	19.88	31.06	36.89	24.14	20.11
	61 +	Count	15	38	44	23	12	132
		% Row	11.36	28.79	33.33	17.42	9.09	100
		% Col	2.85	7.79	13.66	22.33	20.69	8.82
	Total	Count	526	488	322	103	58	1497
		% Row	35.14	32.6	21.51	6.88	3.87	100
		% Col	100	100	100	100	100	100

Table II.5. Tabulation assessment of health and number of children

			ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
NCHILDGROUP	0	Count	205	217	151	57	26	656
		% Row	31.25	33.08	23.02	8.69	3.96	100
		% Col	40.51	45.02	50.33	64.04	50.98	45.94
	1	Count	142	126	65	20	13	366
		% Row	38.8	34.43	17.76	5.46	3.55	100
		% Col	28.06	26.14	21.67	22.47	25.49	25.63
	2	Count	120	105	55	10	3	293
		% Row	40.96	35.84	18.77	3.41	1.02	100
		% Col	23.72	21.78	18.33	11.24	5.88	20.52
	3 and more	Count	39	34	29	2	9	113
		% Row	34.51	30.09	25.66	1.77	7.96	100
		% Col	7.71	7.05	9.67	2.25	17.65	7.91
	Total	Count	506	482	300	89	51	1428
		% Row	35.43	33.75	21.01	6.23	3.57	100
		% Col	100	100	100	100	100	100

Table II.6. Tabulation of assessment of health by education

EDUC				ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
	Basic	Count	76	45	45	27	19	212
		% Row	35.85	21.23	21.23	12.74	8.96	100
		% Col	14.62	9.18	14.02	25.47	34.55	14.21
	Lower secondary	Count	110	101	95	30	15	351
		% Row	31.34	28.77	27.07	8.55	4.27	100
		% Col	21.15	20.61	29.6	28.3	27.27	23.53
	Secondary	Count	232	240	135	36	17	660
		% Row	35.15	36.36	20.45	5.45	2.58	100
		% Col	44.62	48.98	42.06	33.96	30.91	44.24
	University	Count	102	104	46	13	4	269
		% Row	37.92	38.66	17.1	4.83	1.49	100
		% Col	19.62	21.22	14.33	12.26	7.27	18.03
	Total	Count	520	490	321	106	55	1492
		% Row	34.85	32.84	21.51	7.1	3.69	100
		% Col	100	100	100	100	100	100

Tab. 1.7. Tabulation of health assessment and visiting the doctor

ASSHEAL			DOCOFGROUP						
			0	1-2	3-4	5-6	6-12	12 and more	Total
	Good	Count	164	200	83	46	18	12	523
		% Row	31.36	38.24	15.87	8.8	3.44	2.29	100
		% Col	52.56	39.6	33.6	30.46	10.4	11.21	34.98
	Reasonably Good	Count	96	196	96	41	47	14	490
		% Row	19.59	40	19.59	8.37	9.59	2.86	100
		% Col	30.77	38.81	38.87	27.15	27.17	13.08	32.78
	Fair	Count	42	99	57	44	59	22	323
		% Row	13	30.65	17.65	13.62	18.27	6.81	100
		% Col	13.46	19.6	23.08	29.14	34.1	20.56	21.61
	Rather Poor	Count	6	7	9	13	28	40	103
		% Row	5.83	6.8	8.74	12.62	27.18	38.83	100
		% Col	1.92	1.39	3.64	8.61	16.18	37.38	6.89
	Poor	Count	4	3	2	7	21	19	56
		% Row	7.14	5.36	3.57	12.5	37.5	33.93	100
		% Col	1.28	0.59	0.81	4.64	12.14	17.76	3.75
	Total	Count	312	505	247	151	173	107	1495
		% Row	20.87	33.78	16.52	10.1	11.57	7.16	100
		% Col	100	100	100	100	100	100	100

Tab II.8. Tabulation of assessment of health by occupation

			ASSHEAL					
			Good	Reasonably Good	Fair	Rather Poor	Poor	Total
OCCUP	Agriculture	Count	19	23	15	6	2	65
		% Row	29.23	35.38	23.08	9.23	3.08	100
		% Col	3.63	4.71	4.66	5.66	3.57	4.35
	Industry	Count	106	113	62	17	5	303
		% Row	34.98	37.29	20.46	5.61	1.65	100
		% Col	20.27	23.16	19.25	16.04	8.93	20.27
	Office work	Count	220	214	119	28	4	585
		% Row	37.61	36.58	20.34	4.79	0.68	100
		% Col	42.07	43.85	36.96	26.42	7.14	39.13
	Student	Count	97	36	20	0	3	156
		% Row	62.18	23.08	12.82	0	1.92	100
		% Col	18.55	7.38	6.21	0	5.36	10.43
	Housewife	Count	17	17	6	1	1	42
		% Row	40.48	40.48	14.29	2.38	2.38	100
		% Col	3.25	3.48	1.86	0.94	1.79	2.81
	Pensioned	Count	16	43	61	40	28	188
		% Row	8.51	22.87	32.45	21.28	14.89	100
		% Col	3.06	8.81	18.94	37.74	50	12.58
	Unemployed	Count	48	42	39	14	13	156
		% Row	30.77	26.92	25	8.97	8.33	100
		% Col	9.18	8.61	12.11	13.21	23.21	10.43
	Total	Count	523	488	322	106	56	1495
		% Row	34.98	32.64	21.54	7.09	3.75	100
		% Col	100	100	100	100	100	100

3. Cross-tabulations of high blood pressure

Tab III.1. Frequency of reporting of high blood pressure

Value		Count	Percent
	Yes	309	22.01
	No	1095	77.99
Total		1404	100

Tab III.2. Frequency of reporting of high blood pressure by age-groups

			AGEGROUP						
			- 20	21 - 30	31 - 40	41 - 50	51 - 60	61 +	Total
HIGHBP	Yes	Count	5	19	17	62	124	76	303
		% Row	1.65	6.27	5.61	20.46	40.92	25.08	100
		% Col	5.05	5.71	6.94	20	45.09	61.79	21.88
	No	Count	94	314	228	248	151	47	1082
		% Row	8.69	29.02	21.07	22.92	13.96	4.34	100
		% Col	94.95	94.29	93.06	80	54.91	38.21	78.12
	Tota	Count	99	333	245	310	275	123	1385
		% Row	7.15	24.04	17.69	22.38	19.86	8.88	100
		% Col	100	100	100	100	100	100	100

Tab III.3. Frequency of reporting of high blood pressure by gender

			GENDER		
			Male	Female	Total
HIGHBP	Yes	Count	146	163	309
		% Row	47.25	52.75	100
		% Col	22.29	21.79	22.02
	No	Count	509	585	1094
		% Row	46.53	53.47	100
		% Col	77.71	78.21	77.98
	Total	Count	655	748	1403
		% Row	46.69	53.31	100
		% Col	100	100	100

Tab III.4. Frequency of reporting high blood pressure by number of children

			NCHILDGROUP			
			0	1	2	3 and more
HIGHBP	Yes	Count	167	61	29	14
		% Row	61.62	22.51	10.7	5.17
		% Col	27.2	17.73	10.66	13.73
	No	Count	447	283	243	88
		% Row	42.13	26.67	22.9	8.29
		% Col	72.8	82.27	89.34	86.27
	Total	Count	614	344	272	102
		% Row	46.1	25.83	20.42	7.66
		% Col	100	100	100	100

Tab III.5. Frequency of reporting high blood pressure by occupation

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemployed	Total
HIGHBP	Yes	Count	22	56	99	5	4	95	25	306
		% Row	7.19	18.3	32.35	1.63	1.31	31.05	8.17	100
		% Col	36.07	19.58	18.13	3.45	10.81	55.88	18.12	22.13
	No	Count	39	230	447	140	33	75	113	1077
		% Row	3.62	21.36	41.5	13	3.06	6.96	10.49	100
		% Col	63.93	80.42	81.87	96.55	89.19	44.12	81.88	77.87
	Total	Count	61	286	546	145	37	170	138	1383
		% Row	4.41	20.68	39.48	10.48	2.68	12.29	9.98	100
		% Col	100	100	100	100	100	100	100	100

Tab III.6. Frequency of reporting high blood pressure by education

			EDUC				
			Basic	Lower secondary	Secondary	University	Total
HIGHBP	Yes	Count	52	86	113	56	307
		% Row	16.94	28.01	36.81	18.24	100
		% Col	27.37	26.63	18.52	21.62	22.21
	No	Count	138	237	497	203	1075
		% Row	12.84	22.05	46.23	18.88	100
		% Col	72.63	73.37	81.48	78.38	77.79
	Total	Count	190	323	610	259	1382
		% Row	13.75	23.37	44.14	18.74	100
		% Col	100	100	100	100	100

Tab III. 7. Frequency of reporting high blood pressure by marital status

			MARSTA				
			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
HIGHBP	Yes	Count	226	40	15	27	308
		% Row	73.38	12.99	4.87	8.77	100
		% Col	26.1	9.46	23.08	58.7	22
	No	Count	640	383	50	19	1092
		% Row	58.61	35.07	4.58	1.74	100
		% Col	73.9	90.54	76.92	41.3	78
	Total	Count	866	423	65	46	1400
		% Row	61.86	30.21	4.64	3.29	100
		% Col	100	100	100	100	100

4. Cross-tabulations of high blood cholesterol

Tab IV.1. Frequency of reporting high blood cholesterol

Value	Count	Percent
Yes	148	11.16
No	1178	88.84
Total	1326	100

Tab IV.2. Frequency of reporting high blood cholesterol by gender

			Gender		
			Male	Female	Total
HIGHCHOL	Yes	Count	54	94	148
		% Row	36.49	63.51	100
		% Col	8.77	13.26	11.17
	No	Count	562	615	1177
		% Row	47.75	52.25	100
		% Col	91.23	86.74	88.83
	Total	Count	616	709	1325
		% Row	46.49	53.51	100
		% Col	100	100	100

Table IV.3. Frequency of reporting high blood cholesterol by age

			AGEGROUP						
			- 20	21 - 30	31 – 40	41 - 50	51 - 60	61 +	Total
HIGHCHOL	Yes	Count	3	11	10	32	54	38	148
		% Row	2.03	7.43	6.76	21.62	36.49	25.68	100
		% Col	3	3.31	4.13	10.77	22.78	36.89	11.29
	No	Count	97	321	232	265	183	65	1163
		% Row	8.34	27.6	19.95	22.79	15.74	5.59	100
		% Col	97	96.69	95.87	89.23	77.22	63.11	88.71
	Total	Count	100	332	242	297	237	103	1311
		% Row	7.63	25.32	18.46	22.65	18.08	7.86	100
		% Col	100	100	100	100	100	100	100

Table IV.4. Frequency of reporting high blood cholesterol by marital status

% Row			MARSTA				
% Col			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
HIGHCHOL	Yes	Count	112	18	7	11	148
		% Row	75.68	12.16	4.73	7.43	100
		% Col	13.83	4.33	12.07	28.21	11.19
	No	Count	698	398	51	28	1175
		% Row	59.4	33.87	4.34	2.38	100
		% Col	86.17	95.67	87.93	71.79	88.81
	Total	Count	810	416	58	39	1323
		% Row	61.22	31.44	4.38	2.95	100
		% Col	100	100	100	100	100

Table IV.5. Frequency of reporting high blood cholesterol by number of children

% Row			NCHILDGROUP				
% Col			0	1	2	3 and more	Total
HIGHCHOL	Yes	Count	76	39	11	5	131
		% Row	58.02	29.77	8.4	3.82	100
		% Col	13.22	11.71	4.14	5.21	10.31
	No	Count	499	294	255	91	1139
		% Row	43.81	25.81	22.39	7.99	100
		% Col	86.78	88.29	95.86	94.79	89.69
	Total	Count	575	333	266	96	1270
		% Row	45.28	26.22	20.94	7.56	100
		% Col	100	100	100	100	100

Table IV.5. Frequency of reporting high blood cholesterol by occupation

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemp.	Total
HIGHCHOL	Yes	Count	8	20	54	4	0	49	11	146
		% Row	5.48	13.7	36.99	2.74	0	33.56	7.53	100
		% Col	15.69	7.3	10.34	2.74	0	34.51	8.15	11.18
	No	Count	43	254	468	142	36	93	124	1160
		% Row	3.71	21.9	40.34	12.24	3.1	8.02	10.69	100
		% Col	84.31	92.7	89.66	97.26	100	65.49	91.85	88.82
	Total	Count	51	274	522	146	36	142	135	1306
		% Row	3.91	20.98	39.97	11.18	2.76	10.87	10.34	100
		% Col	100	100	100	100	100	100	100	100

Table IV.6. Frequency of reporting high blood cholesterol by education

% Row			EDUC				
% Col			Basic	Lower secondary	Secondary	University	Total
HIGHCHOL	Yes	Count	24	41	58	24	147
		% Row	16.33	27.89	39.46	16.33	100
		% Col	13.64	13.62	9.9	9.96	11.27
	No	Count	152	260	528	217	1157
		% Row	13.14	22.47	45.64	18.76	100
		% Col	86.36	86.38	90.1	90.04	88.73
	Total	Count	176	301	586	241	1304
		% Row	13.5	23.08	44.94	18.48	100
		% Col	100	100	100	100	100

5. Cross-tabulations of diabetes

Table IV.1. Frequency of reporting diabetes

Value	Count	Percent
Yes	59	4.5
No	1252	95.5
Total	1311	100

Table IV.2. Frequency of reporting diabetes by gender

			Gender		
			Male	Female	Total
DIAB	Yes	Count	27	32	59
		% Row	45.76	54.24	100
		% Col	4.38	4.62	4.5
	No	Count	590	661	1251
		% Row	47.16	52.84	100
		% Col	95.62	95.38	95.5
	Total	Count	617	693	1310
		% Row	47.1	52.9	100
		% Col	100	100	100

Table IV.3. Frequency of reporting diabetes by age

			AGEGROUP						
			- 20	21 - 30	31 - 40	41 – 50	51 - 60	61 +	Total
DIAB	Yes	Count	0	5	0	8	24	20	57
		% Row	0	8.77	0	14.04	42.11	35.09	100
		% Col	0	1.52	0	2.75	10.17	20.62	4.4
	No	Count	99	325	243	283	212	77	1239
		% Row	7.99	26.23	19.61	22.84	17.11	6.21	100
		% Col	100	98.48	100	97.25	89.83	79.38	95.6
	Tota	Count	99	330	243	291	236	97	1296
		% Row	7.64	25.46	18.75	22.45	18.21	7.48	100
		% Col	100	100	100	100	100	100	100

Table IV.4. Frequency of reporting diabetes by marital status

			MARSTA				
			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
DIAB	Yes	Count	43	7	2	6	58
		% Row	74.14	12.07	3.45	10.34	100
		% Col	5.39	1.69	3.51	15.38	4.44
	No	Count	755	406	55	33	1249
		% Row	60.45	32.51	4.4	2.64	100
		% Col	94.61	98.31	96.49	84.62	95.56
	Total	Count	798	413	57	39	1307
		% Row	61.06	31.6	4.36	2.98	100
		% Col	100	100	100	100	100

Table IV.5. Frequency of reporting diabetes by number of children

			NCHILDGROUP				
			0	1	2	3 and more	Total
DIAB	Yes	Count	38	9	3	1	51
		% Row	74.51	17.65	5.88	1.96	100
		% Col	6.63	2.75	1.14	1.05	4.05
	No	Count	535	318	261	94	1208
		% Row	44.29	26.32	21.61	7.78	100
		% Col	93.37	97.25	98.86	98.95	95.95
	Total	Count	573	327	264	95	1259
		% Row	45.51	25.97	20.97	7.55	100
		% Col	100	100	100	100	100

Table IV.6. Frequency of reporting diabetes by education

			EDUC				
			Basic	Lower secondary	Secondary	University	Total
DIAB	Yes	Count	16	20	15	8	59
		% Row	27.12	33.9	25.42	13.56	100
		% Col	9.04	6.78	2.6	3.33	4.58
	No	Count	161	275	562	232	1230
		% Row	13.09	22.36	45.69	18.86	100
		% Col	90.96	93.22	97.4	96.67	95.42
	Total	Count	177	295	577	240	1289
		% Row	13.73	22.89	44.76	18.62	100
		% Col	100	100	100	100	100

Table IV.1. Frequency of reporting diabetes

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemp.	Total
DIAB	Yes	Count	2	7	12	1	0	28	9	59
		% Row	3.39	11.86	20.34	1.69	0	47.46	15.25	100
		% Col	3.92	2.57	2.34	0.69	0	20.14	6.67	4.57
	No	Count	49	265	500	144	36	111	126	1231
		% Row	3.98	21.53	40.62	11.7	2.92	9.02	10.24	100
		% Col	96.08	97.43	97.66	99.31	100	79.86	93.33	95.43
	Total	Count	51	272	512	145	36	139	135	1290
		% Row	3.95	21.09	39.69	11.24	2.79	10.78	10.47	100
		% Col	100	100	100	100	100	100	100	100

6. Cross-tabulations of bronchitis and asthma

Table V.1. Frequency of reporting bronchitis and asthma

Value	Count	Percent
Yes	43	3.32
No	1251	96.68
Total	1294	100

Table V.1. Frequency of reporting bronchitis and asthma by gender

% Row			Gender		
% Col			Male	Female	Total
BRASTH	Yes	Count	18	25	43
		% Row	41.86	58.14	100
		% Col	2.95	3.67	3.33
	No	Count	593	657	1250
		% Row	47.44	52.56	100
		% Col	97.05	96.33	96.67
	Total	Count	611	682	1293
		% Row	47.25	52.75	100
		% Col	100	100	100

Table V.1. Frequency of reporting bronchitis and asthma by age

			AGEGROUP						
			- 20	21 - 30	31 - 40	41 - 50	51 – 60	61 +	Total
BRASTH	Yes		4	6	8	7	9	9	43
			9.3	13.95	18.6	16.28	20.93	20.93	100
			4.04	1.82	3.28	2.44	3.96	9.68	3.36
	No		95	324	236	280	218	84	1237
			7.68	26.19	19.08	22.64	17.62	6.79	100
			95.96	98.18	96.72	97.56	96.04	90.32	96.64
	Total		99	330	244	287	227	93	1280
			7.73	25.78	19.06	22.42	17.73	7.27	100
			100	100	100	100	100	100	100

Table V.1. Frequency of reporting bronchitis and asthma by marital status

			MARSTA				
			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
BRASTH	Yes	Count	21	16	3	3	43
		% Row	48.84	37.21	6.98	6.98	100
		% Col	2.69	3.86	5.26	7.69	3.33
	No	Count	759	399	54	36	1248
		% Row	60.82	31.97	4.33	2.88	100
		% Col	97.31	96.14	94.74	92.31	96.67
	Total	Count	780	415	57	39	1291
		% Row	60.42	32.15	4.42	3.02	100
		% Col	100	100	100	100	100

Table V.1. Frequency of reporting bronchitis and asthma by number of children

			NCHILDGROUP				
			0	1	2	3 and more	Total
BRASTH	Yes	Count	20	11	5	1	37
		% Row	54.05	29.73	13.51	2.7	100
		% Col	3.54	3.38	1.91	1.05	2.97
	No	Count	545	314	257	94	1210
		% Row	45.04	25.95	21.24	7.77	100
		% Col	96.46	96.62	98.09	98.95	97.03
	Total	Count	565	325	262	95	1247
		% Row	45.31	26.06	21.01	7.62	100
		% Col	100	100	100	100	100

Table V.1. Frequency of reporting bronchitis and asthma by education

			EDUC				
		Count	Basic	Lower secondary	Secondary	University	Total
BRASTH	Yes	% Row	8	14	14	5	41
		% Col	19.51	34.15	34.15	12.2	100
			4.62	4.83	2.46	2.09	3.22
		Count					
	No	% Row	165	276	556	234	1231
		% Col	13.4	22.42	45.17	19.01	100
			95.38	95.17	97.54	97.91	96.78
		Count					
	Total	% Row	173	290	570	239	1272
		% Col	13.6	22.8	44.81	18.79	100
			100	100	100	100	100

Table V.1. Frequency of reporting bronchitis and asthma by occupation

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemp.	Total
BRASTH	Yes	Count	2	8	9	6	1	13	4	43
		% Row	4.65	18.6	20.93	13.95	2.33	30.23	9.3	100
		% Col	4	2.96	1.77	4.14	2.78	9.77	3.05	3.38
	No	Count	48	262	500	139	35	120	127	1231
		% Row	3.9	21.28	40.62	11.29	2.84	9.75	10.32	100
		% Col	96	97.04	98.23	95.86	97.22	90.23	96.95	96.62
	Total	Count	50	270	509	145	36	133	131	1274
		% Row	3.92	21.19	39.95	11.38	2.83	10.44	10.28	100
		% Col	100	100	100	100	100	100	100	100

7. Cross-tabulations of gastritis

Table VI.1. Frequency of reporting gastritis

Value	Count	Percent
Yes	108	8.18
No	1212	91.82
Total	1320	100

Table VI.1. Frequency of reporting gastritis by gender

			Gender		
			Male	Female	Total
GASTR	Yes	Count	51	57	108
		% Row	47.22	52.78	100
		% Col	8.16	8.21	8.19
	No	Count	574	637	1211
		% Row	47.4	52.6	100
		% Col	91.84	91.79	91.81
	Total	Count	625	694	1319
		% Row	47.38	52.62	100
		% Col	100	100	100

Table VI.1. Frequency of reporting gastritis by age

% Row			AGEGROUP						
% Col			- 20	21 - 30	31 - 40	41 - 50	51 - 60	61 +	Total
GASTR	Yes	Count	2	12	17	34	28	14	107
		% Row	1.87	11.21	15.89	31.78	26.17	13.08	100
		% Col	2.02	3.63	6.94	11.49	11.81	14.43	8.2
	No	Count	97	319	228	262	209	83	1198
		% Row	8.1	26.63	19.03	21.87	17.45	6.93	100
		% Col	97.98	96.37	93.06	88.51	88.19	85.57	91.8
	Total	Count	99	331	245	296	237	97	1305
		% Row	7.59	25.36	18.77	22.68	18.16	7.43	100
		% Col	100	100	100	100	100	100	100

Table VI.1. Frequency of reporting gastritis by marital status

			MARSTA				
			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
GASTR	Yes	Count	76	22	5	5	108
		% Row	70.37	20.37	4.63	4.63	100
		% Col	9.44	5.28	8.77	13.16	8.2
	No	Count	729	395	52	33	1209
		% Row	60.3	32.67	4.3	2.73	100
		% Col	90.56	94.72	91.23	86.84	91.8
	Total	Count	805	417	57	38	1317
		% Row	61.12	31.66	4.33	2.89	100
		% Col	100	100	100	100	

Table VI.1. Frequency of reporting gastritis by number of children

% Row			NCHILDGROUP				
% Col			0	1	2	3 and more	Total
GASTR	Yes	Count	57	18	15	12	102
		% Row	55.88	17.65	14.71	11.76	100
		% Col	9.83	5.49	5.64	12.37	8.03
	No	Count	523	310	251	85	1169
		% Row	44.74	26.52	21.47	7.27	100
		% Col	90.17	94.51	94.36	87.63	91.97
	Total	Count	580	328	266	97	1271
		% Row	45.63	25.81	20.93	7.63	100
		% Col	100	100	100	100	100

Table VI.1. Frequency of reporting gastritis by education

% Row			EDUC				
% Col			Basic	Lower secondary	Secondary	University	Total
GASTR	Yes	Count	21	34	32	20	107
		% Row	19.63	31.78	29.91	18.69	100
		% Col	11.73	11.3	5.55	8.26	8.24
	No	Count	158	267	545	222	1192
		% Row	13.26	22.4	45.72	18.62	100
		% Col	88.27	88.7	94.45	91.74	91.76
	Total	Count	179	301	577	242	1299
		% Row	13.78	23.17	44.42	18.63	100
		% Col	100	100	100	100	100

Table VI.1. Frequency of reporting gastritis by occupation

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemp.	Total
GASTR	Yes	Count	4	22	32	5	2	21	22	108
		% Row	3.7	20.37	29.63	4.63	1.85	19.44	20.37	100
		% Col	7.69	8.03	6.18	3.45	5.56	15.33	15.94	8.31
	No	Count	48	252	486	140	34	116	116	1192
		% Row	4.03	21.14	40.77	11.74	2.85	9.73	9.73	100
		% Col	92.31	91.97	93.82	96.55	94.44	84.67	84.06	91.69
	Total	Count	52	274	518	145	36	137	138	1300
		% Row	4	21.08	39.85	11.15	2.77	10.54	10.62	100
		% Col	100	100	100	100	100	100	100	100

8. Cross-tabulations of rheumatism

Table VII.1. Frequency of reporting rheumatism

Value	Count	Percent
Yes	153	11.55
No	1172	88.45
Total	1325	100

Table VII.2. Frequency of reporting rheumatism by gender

			Gender		
			Male	Female	Total
RHEUANT	Yes	Count	48	105	153
		% Row	31.37	68.63	100
		% Col	7.8	14.81	11.56
	No	Count	567	604	1171
		% Row	48.42	51.58	100
		% Col	92.2	85.19	88.44
	Total	Count	615	709	1324
		% Row	46.45	53.55	100
		% Col	100	100	100

Table VII.3. Frequency of reporting rheumatism by age

			AGEGROUP						
			- 20	21 - 30	31 - 40	41 - 50	51 - 60	61 +	Total
RHEUANT	Yes	Count	3	6	10	32	61	36	148
		% Row	2.03	4.05	6.76	21.62	41.22	24.32	100
		% Col	3.06	1.81	4.1	11.07	25.21	34.95	11.31
	No	Count	95	326	234	257	181	67	1160
		% Row	8.19	28.1	20.17	22.16	15.6	5.78	100
		% Col	96.94	98.19	95.9	88.93	74.79	65.05	88.69
	Total	Count	98	332	244	289	242	103	1308
		% Row	7.49	25.38	18.65	22.09	18.5	7.87	100
		% Col	100	100	100	100	100	100	100

Table VII.4. Frequency of reporting rheumatism by marital status

			MARSTA				
% Col			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
RHEUANT	Yes	Count	104	18	12	18	152
		% Row	68.42	11.84	7.89	11.84	100
		% Col	13	4.31	19.67	42.86	11.51
	No	Count	696	400	49	24	1169
		% Row	59.54	34.22	4.19	2.05	100
		% Col	87	95.69	80.33	57.14	88.49
	Total	Count	800	418	61	42	1321
		% Row	60.56	31.64	4.62	3.18	100
		% Col	100	100	100	100	100

Table VII.5. Frequency of reporting rheumatism by number of children

			NCHILDGROUP				
			0	1	2	3 and more	Total
RHEUANT	Yes	Count	77	35	11	10	133
		% Row	57.89	26.32	8.27	7.52	100
		% Col	13.23	10.8	4.17	10.42	10.51
	No	Count	505	289	253	86	1133
		% Row	44.57	25.51	22.33	7.59	100
		% Col	86.77	89.2	95.83	89.58	89.49
	Total	Count	582	324	264	96	1266
		% Row	45.97	25.59	20.85	7.58	100
		% Col	100	100	100	100	100

Table VII.6. Frequency of reporting rheumatism by education

			EDUC				
			Basic	Lower secondary	Secondary	University	Total
RHEUANT	Yes	Count	28	42	58	23	151
		% Row	18.54	27.81	38.41	15.23	100
		% Col	15.64	14.05	9.95	9.5	11.59
	No	Count	151	257	525	219	1152
		% Row	13.11	22.31	45.57	19.01	100
		% Col	84.36	85.95	90.05	90.5	88.41
	Total	Count	179	299	583	242	1303
		% Row	13.74	22.95	44.74	18.57	100
		% Col	100	100	100	100	100

Table VII.7. Frequency of reporting rheumatism by occupation

			OCCUP							
			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unemp.	Total
RHEUANT	Yes	Count	9	16	38	3	2	59	23	150
		% Row	6	10.67	25.33	2	1.33	39.33	15.33	100
		% Col	16.98	5.97	7.39	2.08	5.56	39.33	16.55	11.5
	No	Count	44	252	476	141	34	91	116	1154
		% Row	3.81	21.84	41.25	12.22	2.95	7.89	10.05	100
		% Col	83.02	94.03	92.61	97.92	94.44	60.67	83.45	88.5
	Total	Count	53	268	514	144	36	150	139	1304
		% Row	4.06	20.55	39.42	11.04	2.76	11.5	10.66	100
		% Col	100	100	100	100	100	100	100	100

9. Cross-tabulations of myocardial infarction

Table VIII.1. Frequency reporting myocardial information

Value	Count	Percent
Yes	23.00	28126.00
No	1275.00	98.23
Total	1298.00	100.00

Table VIII.2. Frequency reporting myocardial information by gender

			MYOCINF		
			Yes	No	Total
SEX	Male	Count	14.00	598.00	612.00
		% Row	2.29	97.71	100.00
		% Col	60.87	46.94	47.19
	Female	Count	9.00	676.00	685.00
		% Row	1.31	98.69	100.00
		% Col	39.13	53.06	52.81
	Total	Count	23.00	1274.00	1297.00
		% Row	1.77	98.23	100.00
		% Col	100.00	100.00	100.00

Table VIII.3. Frequency reporting myocardial information by age

			AGEGROUP						
			- 20	21 - 30	31 - 40	41 - 50	51 - 60	61 +	Total
MYOCINF	Yes	Count	0.00	0.00	0.00	5.00	8.00	10.00	23.00
		% Row	0.00	0.00	0.00	21.74	34.78	43.48	100.00
		% Col	0.00	0.00	0.00	1.74	3.52	10.42	1.79
	No	Count	99.00	331.00	243.00	283.00	219.00	86.00	1261.00
		% Row	7.85	26.25	19.27	22.44	17.37	6.82	100.00
		% Col	100.00	100.00	100.00	98.26	96.48	89.58	98.21
	Total	Count	99.00	331.00	243.00	288.00	227.00	96.00	1284.00
		% Row	7.71	25.78	18.93	22.43	17.68	7.48	100.00
		% Col	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Table VIII.4. Frequency reporting myocardial information by marital status

			MARSTA				
			Married or Living in Partnership	Single	Divorced or Separated	Widowed	Total
MYOCINF	Yes	Count	21.00	0.00	0.00	2.00	23.00
		% Row	91.30	0.00	0.00	8.70	100.00
		% Col	2.66	0.00	0.00	5.41	1.78
	No	Count	767.00	413.00	57.00	35.00	1272.00
		% Row	60.30	32.47	4.48	2.75	100.00
		% Col	97.34	100.00	100.00	94.59	98.22
	Total	Count	788.00	413.00	57.00	37.00	1295.00
		% Row	60.85	31.89	4.40	2.86	100.00
		% Col	100.00	100.00	100.00	100.00	100.00

Table VIII.5. Frequency reporting myocardial information by number of children

			NCHILDGROUP				
			0.00	1.00	2.00	3 and more	Total
MYOCINF	Yes	Count	13.00	5.00	1.00	2.00	21.00
		% Row	61.90	23.81	4.76	9.52	100.00
		% Col	2.29	1.54	0.38	2.11	1.68
	No	Count	555.00	320.00	262.00	93.00	1230.00
		% Row	45.12	26.02	21.30	7.56	100.00
		% Col	97.71	98.46	99.62	97.89	98.32
	Total	Count	568.00	325.00	263.00	95.00	1251.00
		% Row	45.40	25.98	21.02	7.59	100.00
		% Col	100.00	100.00	100.00	100.00	100.00

Table VIII.6. Frequency reporting myocardial information by education

			EDUC				
			Basic	Lower secondary	Secondary	University	Total
MYOCINF	Yes	Count	7.00	10.00	4.00	2.00	23.00
		% Row	30.43	43.48	17.39	8.70	100.00
		% Col	4.02	3.41	0.70	0.84	1.80
	No	Count	167.00	283.00	567.00	236.00	1253.00
		% Row	13.33	22.59	45.25	18.83	100.00
		% Col	95.98	96.59	99.30	99.16	98.20
	Total	Count	174.00	293.00	571.00	238.00	1276.00
		% Row	13.64	22.96	44.75	18.65	100.00
		% Col	100.00	100.00	100.00	100.00	100.00

Table VIII.7. Frequency reporting myocardial information by occupation

% Row			OCCUP							
% Col			Agriculture	Industry	Office work	Student	Housewife	Pensioned	Unempl.	Total
MYOCINF	Yes	Count	1.00	6.00	2.00	0.00	0.00	11.00	3.00	23.00
		% Row	4.35	26.09	8.70	0.00	0.00	47.83	13.04	100.00
		% Col	1.96	2.21	0.39	0.00	0.00	8.40	2.29	1.80
	No	Count	50.00	266.00	509.00	145.00	36.00	120.00	128.00	1254.00
		% Row	3.99	21.21	40.59	11.56	2.87	9.57	10.21	100.00
		% Col	98.04	97.79	99.61	100.00	100.00	91.60	97.71	98.20
	Total	Count	51.00	272.00	511.00	145.00	36.00	131.00	131.00	1277.00
		% Row	3.99	21.30	40.02	11.35	2.82	10.26	10.26	100.00
		% Col	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Appendix V – Results of logit model regressions

Results for good assessed health

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	2.039669	0.32042	6.365604	0
FEMALE	0.046497	0.195529	0.237799	0.812
OLD	-0.59962	0.31552	-1.90041	0.0574
FARMING	0.428789	0.449268	0.954418	0.3399
INDUSTRIAL	0.873291	0.324783	2.688843	0.0072
OFFICE	0.902112	0.313197	2.880331	0.004
STUDENT	2.213656	0.651352	3.398556	0.0007
HOUSEWIFE	1.31989	0.769208	1.715908	0.0862
PENSIONED	-0.92405	0.283929	-3.25451	0.0011
LOWSEC	-0.74386	0.260112	-2.85976	0.0042
SECONDARY	0.333886	0.230883	1.446125	0.1481
UNIVERSITY	0.545438	0.325227	1.677098	0.0935
MARRIED	0.106832	0.279217	0.382612	0.702
SEPARATED	-0.23607	0.42645	-0.55357	0.5799
WIDOWED	-0.13806	0.450679	-0.30633	0.7594

Mean dependent var	0.89274	S.D. dependent var		0.309544
S.E. of regression	0.288879	Akaike info criterion		0.596349
Sum squared resid	126.3453	Schwarz criterion		0.648661
Log likelihood	-440.909	Hannan-Quinn criter.		0.615819
Restr. log likelihood	-521.003	Avg. log likelihood		-0.28836
LR statistic (14 df)	160.1876	McFadden R-squared		0.15373
Probability(LR stat)	0			
Obs with Dep=0	164	Total obs		1529
Obs with Dep=1	1365			

Results for health care utilisation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	-0.60113	0.522722	-1.15001	0.2501
FEMALE	0.290581	0.164897	1.762193	0.078
OLD	-0.04591	0.231673	-0.19816	0.8429
FARMING	0.70945	0.389586	1.821035	0.0686
INDUSTRIAL	0.886903	0.27508	3.224164	0.0013
OFFICE	0.610704	0.269466	2.266347	0.0234
STUDENT	0.712904	0.35012	2.036172	0.0417
HOUSEWIFE	0.758005	0.470889	1.609731	0.1075
PENSIONED	-0.09017	0.389477	-0.23152	0.8169
LOWSEC	0.416266	0.286944	1.45069	0.1469
SECONDARY	0.29022	0.191988	1.511661	0.1306
UNIVERSITY	0.252373	0.244865	1.030661	0.3027
MARRIED	-0.12604	0.218375	-0.57716	0.5638
SEPARATED	0.088954	0.383587	0.231901	0.8166
WIDOWED	-0.10895	0.537969	-0.20252	0.8395
GOOD	0.273316	0.476882	0.573131	0.5666

Mean dependent var	0.620899	S.D. dependent var		0.485458
S.E. of regression	0.482083	Akaike info criterion		1.335177
Sum squared resid	187.5501	Schwarz criterion		1.426802
Log likelihood	-533.425	Hannan-Quinn criter.		1.370328
Restr. log likelihood	-546.161	Avg. log likelihood		-0.64815
LR statistic (15 df)	25.47139	McFadden R-squared		0.023319
Probability(LR stat)	0.04396			
Obs with Dep=0	312	Total obs		823
Obs with Dep=1	511			

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