Estonian Ministry of Social Affairs
Estonian Statistical Office
National Institute for Health Development

ESTONIAN REPORT FOR EUROSTAT PILOT PROJECT 2001
PUBLIC HEALTH

ESTONIA 2004

Contents

1. National Programme in Health Statistics of Estonia

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In the sphere of health statistics Estonia is currently in a phase of working out a national plan for health statistics, to be presented to the government in the second half of 2004. For the implementation of the national plan, in the Ministry of Social Affairs a new department was formed in July 2003, which is focusing mainly on 4 main fields: development of digital patient record system starting from the end of 2004, development of the centre for health classifications, centralized coordination of health-related registers and review of health statistics organization in the new health statistics unit within the department. Of great relevance for the further developments in the area is the establishment of National Health Development Institute (NHDI) in 2003 with whom the new department foresees important interactions. Estonian Statistical Office has delivered the task of compiling national health statistics to the Ministry of Social Affairs, except for cause of death register which is still maintained by the Office. The interactions between the Estonian Statistical Office and Department of Health Information and Analysis, Ministry of Social Affairs are regulated by an agreement, to be renewed in the second half of 2004. However, legally the data collection in the sphere of health statistics has not yet found solid solutions which restricts data exchange between the mentioned statistical units, in particular at the personal data level and is an impediment to some of our outcomes in health statistics (cancer morbidity, tuberculosis morbidity, delivery-related indicators of perinatal death etc cannot be computed since 2002). Part of the problems are addressed in the national plan, however, part of them remain to be solved in the future.

1.1. Causes of death

Currently the cause of death register in an electronic format is kept by the Estonian Statistical Office. Individual level data is available since 1983, personalized data since 1989. Currently new software for data entry is being developed in Progress, the next step will be development a semi-automated coding system using ACME decision tables, creation of Estonian dictionary for MICAR/ACME is not planned. As a small country with a qualification of all doctors to code cause of death according to ICD-10, the full automation of the process is not foreseen, although it might arise as a possibility when digital health record system has been fully implemented by around 2010. Estonia will maintain 1 coder to overview whether the coding has been done according to the ICD rules at the statistical unit.

Ministry of Social Affairs has planned for 2004-2005 data evaluation project for the data on causes of death in 3 different data sources: the mentioned death of cause register at ESO, medical birth register (perinatal deaths) and population register (civil registration and basis for estimation of coverage) for the purposes to estimate the coverage, personal data certification quality, differences in reporting cause of death. Estonia acknowledges the urgent need to promote analytical research in the field, for which the health statistics unit has been formed, participation in EU projects is seeked and Ministry of Social Affairs tries to plan resources within its own budget.

The need is to go further with the analysis into the quality of cause of death certification and establish the needs for further training of certifiers. In the Department of Health Information and Analysis, Ministry of Social Affairs, the results of the analysis will be used in the development of classification centre as well as their responsibility is to plan and organize routine training of the usage of classifications, including ICD-10. One of the target groups for acquiring better quality in cause of death certification are the family doctors, whose training would essentially better the quality (currently very big proportion of overdiagnosing of cardiovascular diseases as the underlying cause of death). To promote training both in best practices of diagnosing and coding, Ministry of Social Affairs is seeking possible funding resources from EU facilities.

The national plan on health statistics foresees initiation of medical death register under Ministry of Social Affairs. For these purposes a special working group has been working over 1,5 years and the new form has been developed to be implemented in the medical sphere in relation with the advancement of digital patient record project. The first possibility to launch a new register is foreseen for 2006-2007. At the moment, the legal situation in Estonia in relation to exchange of personal level data is greatly hindering possibilities to evaluate the data quality, promote analysis and deliver health statistics. Ministry of Social Affairs is in the process at the governmental level to promote new items concerning health-related statistics, prevention, promotion and research into the Law on Personal Data. Estonia would need to launch some international seminars with the participation from Nordic countries to promote the ideas at the level of officials and politicians, for which EU funding is seeked.

1.2. Health Interview Survey

Estonia has implemented Health interview survey based on the event history methodology in 1996, which is also the only nationally representative survey sample until now. Currently Ministry of Social Affairs in collaboration with the National Health Development Institute is planning to launch a new round of the survey in 2006-2007. However, in 2004 the second round of the Estonian Family and Fertility Survey, carried out in the framework of the Ge3nerations and Gender Programme, coordinated by UN ECE PAU, is going to be launched with the sample size around 8000 persons (both male and female) in the age range 20-85. EFFS is carried out under the supervision of Estonian Demographic Institute. Ministry of Social Affairs is participating in the relevant working group together with the head for the future Health Interview Survey from NHDI and scientists from Health Care Institute of Tartu University. Within the EFF survey a special health module is going to be implemented, which is also going to address the issues lacking so far in the previous HIS data for Estonia.

Another source for some HIS-related items more frequently are covered by the Estonian Health Behaviour Survey, implemented in every 2 years (also in 2004) within the framework of Finnish-Baltic joint project can be used. However, the survey is not so flexible to introduce HIS-items due to the history of comparability between 4 countries throughout the last 12 years. Also, the survey is carried out as the mailed interview, which reduces its representativeness, until to the last survey also owing to a very small survey sample (around 1000).

Estonia would like to promote the idea to carry out all-European health interview surveys based on an event history methodology, which relying on the positive outcomes of the coordinated European Family and Fertility Surveys, can be a much more effective tool on evaluation of cumulative effects of individual life experience on health outcomes. Estonia would be willing to share its experience, which has been obtained in 1996 Estonian Health

Interview Survey. However, there is also a need to promote the analysis of survey outcomes in order to substantiate the ideas of the many-folded cumulative effects, for which reason Estonia would be willing to promote a joint EU project on this issue. It would be beneficial to all countries to methodologically coordinate such a survey and pull together some all-European funding schemes, in order to promote such a large-scale undertaking, for which the resources on a national level might be lacking in full.

In the new round of Health Interview Survey in Estonia the Working Group will pay special attention to (1) mental health related assessments
(2) drug consumption and relevant risk behaviours
(3) functions in personal care, reasons for limited functions overall
Dietary habits and food consumption and relevant behaviours are going to be addressed in the future in the health behaviour surveys, with some main indicative questions in the nation-wide representative Health Interview Survey.

However, Health Inteview Survey will address youth, adult and elderly population, for which reason it would be benefitial to launch an all-European based methodological working group to address similar problems for children, not maybe in all aspects covered in Health Behaviour Surveys for School Children.

To encourage wider usage of the unique possibility to assess the effect of life events on the cumulative health outcomes on a personal level, Ministry of Social Affairs is planning to advertise the possibility to use the individual level data widely through administering the forthcoming applications and disseminating the results of the analyses.

1.3. Disability survey

Estonia is going to implement the proposed disability module within the coming Health Interview Survey in 2006/2007. Parts of the module are going to be tested in the second round of the EFFS in 2004. The questionnaire was proposed in one of our report chapters together with the overview of the general situation with disabled in Estonia. Methodological coordination might be of use when working further with implementation of ICF at the national level and trying to assess similar values, covered in ICF. In sphere of disability at the all-European level the assessment criteria for social disability should be methodologically addressed.

Starting from 2006-2007, Ministry of Social Affairs has planned to evaluate the current database on disabled persons, currently kept by the Social Security Fund and together with the general implementation of ICF its correlation with health sector actors. In that timeframe the general reviewal of the structure of the data in the database of the disabled is foreseen. If the legal constraints have been eliminated by the time, its linkage to digital patient record system as well as the linkage with the system of their enrollment in labour force can be established and the general performance of the disabled in the society better assessed. In implementation of ICF Estonia is seeking collaboration with EU funds to find possible contributions to facilitate large scale training courses.

1.4. System of Health Accounts

Estonia has implemented health accounts system since 1999 on the basis of four types of data sources: aggregate state and local budget data, specifically addressed questionnaires to some organizations, statistics on social welfare institutions and data from Household Budget Survey on individual consumption of health services. This

situation creates the basis for several overlaps not easily followed and several items remain not addressed. More detailed overview of these problems is given in the relevant chapter of our report. Estonia needs a methodological assessment of the current data collection and the exchange of ideas and best practices in the field.

The current methodology of system of health accounts should be addressed also from the viewpoint of better matching with other international classifications in the field, in particular in the system of national accounts. At the all-European level it would be beneficial to address the discrepancies in the methodology and refine the guidelines for data collection in order to create basis for higher comparability.

For 2005, Ministry of Social Affairs has been planning to initiate a working group on reviewal of the methodological issues in collaboration with the Estonian Statistical Office, Health Insurance Fund and other possible data providers to start the discussions on the reviewal of the data collection for the system of health accounts. The data on the health accounts has been more to inner usage in the Ministry of Social Affairs. It is planned to publish the data on our website and through wider usage get the feedback on the possible mismatches currently in the data.

1.5. Morbidity statistics

Ministry of Social Affairs and its Health Statistcs Unit is the main body in morbidity data collection. However, the system of data collection has not been reformed since the 1980s, but due to big reforms in health care system in general, the previous institution-based aggregated data collection fails to describe the reality. For that reason, the main aim is to set up a system of well-organised personal data level registers (in operation Cancer Register, Tuberculosis Register, Medical Birth Register, individual level data in Abortion Register, Database on Communicable Diseases). The national plan foresees the inititiation of several more registers in the period of 2005-2008 (Myocardical Infarction Register, HIV-register, Drug-related care register, Injury register, Register of Disabled etc). It is also foreseen that every register is responsible for delivery of corresponding statistics according to the methodological guidelines monitored at the health statistics unit.

Another source which would be carefully analyzed for the future needs is the database of the Health Insurance Fund, Ministry of Social Affairs foresees in-depth analysis of the data quality from different aspects for the years 2005-2006.

Health statistics would benefit to a great extent from the digital patient record project and would rely on the possibilities which can be realized through such an infosystem. However, there several needs which have to be resolved, among others quite restricted resources in general in health care and the lack of understanding of the general value of the investments into the data collection.

One of the many problems that have to be solved are related to legal matters, among others a very restricted Personal Data Act in Estonia, in operation since 2003. There also need to be solved the relations between the health statistics and other fields of statistics to be regarded from the similar viewpoint and level, at the moment institutionally restricted data exchange between Estonian Statistical Office and Health Statistics Unit, Ministry of Social Affairs, has to find its solution. At the all-European level, it would be valuable to address the need of exchange of personalized data in health care over the borders, owing to the possible surge for patient' nad health care professionals' mobility. In the process of planning national health care resources, it would be beneficial to have the data concerning one citizen's health care episodes in another country, also the first diagnosed morbidity

will soon have enormous gaps, if they data cannot be exchanged over the borders on a personalized level and together with the diagnosis.

It would be beneficial to address at the all-European level possibilities of funding schemes in order to recalculate trends according to comparable definitions, address data availability and bringing data into usage (often not in electronic format) to get the better understanding why health indicators in Europe differ so much.

There is an essential need to promote methodologically coordinated work on international classifications and their comparability and commonly address some specific needs in health sector (like elaboration or usage of a general classification of activities and procedures in overall health sector (additional to surgical procedures of NCSP) , coordinated elaboration of recoding schemes between different classification systems (Nomesco classifications into ICD-9_CM, latter into ICD-10_CM etc.). In the filed of taking into usage internationally or regionally comparable classifications the possibilities of funding schemes should be commonly addressed as well as the training possibilities enlarged.

2. Causes of Death Statistic in Estonia

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2.1. Certification

Mortality data are colected by medical death certificates (MDC). For perinatal deaths there is a special perinatal medical death certificate (enclosed .jpg files). These forms consist of four parts: personal data, including personal identification number, medical information including a free text area for circumstantes of accident/criminal act, information on certifier and demographic data. For children under 6 years of age marital status, educational level and status in emloyment of mother are indicated in this part. Ethnic nationality is declared by relatives of the deceased, in case of under 16 years old ethnic nationality of mother is indicated. The last field “observation” is typically used to explain reasons for missing of demographic data.

2.1.1. Medical certificate of death

(unofficial translation into English)

Type of Certificate: final; provisional; final, substitute for Certificate no…..

PERSONAL DATA
1. Surname, first name
2. Personal identity code/date of birth
3. Sex
4. Place of residence

DEATH DATA
5. Date of death
6. Birth weight (baby dead up to 1 month of age)
7. Cause of death (diagnoses and codes by ICD-10) lines I.a-I.d and II
8. Source of medical information: autopsy, medical records, assessment of body
9. Death caused by: disease, accident, suicide, homicide, unknown or other
10. Kind of death caused by external causes (ICD-10 additional code)
11. Date, place and circumstances of injury or poisoning (if death was caused by external causes)
12. Location and type of the place of death: health care institution, home, other

MEDICAL CERTIFICATE OF DEATH COMPLETED BY
13. Cause of death identified by: doctor, pathologist, forensic expert, place and date of death identification;
name, code and signature of doctor; stamp and code of health care institution

OTHER INFORMATION ABOUT DEAD PERSON
14. Citizenship
15. Ethnic nationality
16. Place of birth
17. Educational level
18. Status in employment
19. Marital status
20. Data on death act
30. Observations

2.1.2. Medical certicicate of perinatal death

(unofficial translation into English)

Type of the Certificate: final; provisional; final, substitute for Certificate no…..
For a stillborn child
a newborn child died during the first week of its life (0–6 days)

PERSONAL DATA
1. Surname, first name
2. Date of birth/personal identity code
3. Sex
4. Surname and first name of mother
5. Place of residence of mother

DEATH DATA
6. Date and time of death
7. Birth weight, g
8. Child (fetus) was born: term, preterm, overterm
9. Condition of child (fetus) at birth: macerated, in asphyxia
10. Time of death of child (fetus): before delivery, during delivery, after delivery, unknown
11. Disease and/or condition of mother during pregnancy and delivery
12. Causes of death (diagnoses and codes by ICD-10) lines a-b conditions of foetus/child, lines c-d conditions of mother, line e others.
13. Source of medical information: autopsy, medical records, assessment of body
14. Cause of death: disease, accident, homicide, unknown, other
15. Date, place and circumstances of injury or poisoning (if death was caused by external causes)
16. Location and type of the place of death (health care institution, home, other)

MEDICAL CERTIFICATE OF PERINATAL DEATH COMPLETED BY
17. Cause of death identified by: doctor, pathologist, forensic expert; place and date of death identification;
name, code and signature of doctor, stamp and code of health care institution

OTHER INFORMATION ABOUT CHILD AND MOTHER
18. Citizenship of mother
19. Ethnic nationality of mother
20. Place of birth of child
21. Educational level of mother
22. Status in employment of mother
23. Marital status of mother
24. Data on death act
25. Observations

Physician, hospital pathologist or forensic medical expert certifying death fills the first page of medical death certificate (items 1-13 or items 1-17 of perinatal MDC) and hands it to relatives of the deceased. They submit the document to Civil Registration Office, where the second page is filled. In exchange the relatives receive legally binding Act of death. From Civil Registration Offices medical death certificates are transferred to the Statistical Office in Tallinn via the Ministry of Interior. Data on residents died abroad are collected by Estonian embassies, in such cases Estonian medical death certificate is filled on the basis of local death certificate, a copy of that is attached.

The part with diagnoses are designed in accordance with WHO recommendations, an additional field (7.I.a) is introduced to indicate external causes of death. There is no remarks on pregnancy. Introduction of such field was not considered necessary as the absolute number number of maternal deaths in Estonia is very low (varies from zero to 6) and maternal mortality is under special attention of medical authorities which provide information on such cases to the Ministry of Social Affairs. National statistics on maternal death is produced in cooperation by Statistical Office and the Ministry.

To ensure quality of certification special manuals are distributed via county or city medical officers and the Central Bureau of Forensic Medicine. Both manual on medical death certificate and perinatal death certificate consist of 6 pages (including examples of good certification) and a reproduction of the respective form (two pages). Special manual on filling the demographic data is provided to Civil registration Offices. There is only one medical school in Estonia at the University of Tartu. Death certification is a part of course on pathological anatomy and forensic medicine. According to Health Service Act quality of medical statistics (including causes of death) is responsibility of local authorities at county/city level.

2.2. Coding and processing

In the Statistical Office all causes of death are coded by two medical coders working part time. Both of them are practicing physicians. To ensure good quality of coding staff of the Statistical Office regularly attend international workshops on mortality coding and training courses. The latest were NOMESCO coding seminars (Stockholm, 1-2nd February 2001, Tallinn, 22nd March 2002, Copenhagen, September 2003 8-9th September 2003) ICD-10 course in Budapest 3-7 March 2003 (by H. Rosenberg and J. Raynor; USA), ICD-10 course in Jäneda, Estonia 14-17th September 2003 (by E. Pogorelova and E. Sekrieru, Russia). Although certifiers are requested to indicate both diagnose in textual format and ICD-10 code on the Medical Death Certificate, this code is not considered final and is reviewed by the medical coders. They also select manually the underlying cause of death. Querying if needed is done by post or telephone; statistics on querying is not kept.

Then all the information from the death certificate is entered into electronic database. There is one position for underlying cause of death, three for contributory and on position for nature of injury (S-T codes by ICD-10). Missing data are requested from Population Registry and Medical Birth Registry. Once a year individual data on road traffic accidents are provided by Road Directorate, additional information on accidents/violent death is submitted by Bureau of Forensic Medicine. In 2003 the additional information on unidentified deaths was for the first time provided by the Police Directorate, as a result number of cases with unknown age has decreased for reference year 2002. Logical control includes check on impossible underlying cause, impossible combinations with sex and age.

Next codification systems were used:
ICD-10 four digit since 2001
ICD-10 since 1997
ICD-9 since 1994
ICD-9 Soviet version since 1981
NUTS2 level in Estonia is the national level.

Data on certifiers and some performance indicators are given below.

2.2.1. Certifiers

	Pathologist	Forensic medic	Physician
1992	2962	3037	14127
1993	3175	3654	14457
1994	3200	4521	14491
1995	3319	3925	13584
1996	2925	3303	12792
1997	2859	3274	12439
1998	2953	3572	12920
1999	2867	3504	12076
2000	2813	3308	12282
2001	2553	3593	12370
2002	2325	3415	12615

2.2.2. Performance indicators

	Number of cases	Autopsies	Autopsy rate, %	Ill-defined (chapter "R")	per 1000	Unknown age	per 1000
1986	17986	5990	33	29	2	4	0
1987	18279	6031	33	19	1	8	0
1988	18551	5910	32	38	2	26	1
1989	18536	6204	33	90	5	11	1
1990	19531	6286	32	433	22	13	1
1991	19715	5483	28	654	33	30	2
1992	20126	6006	30	810	40	56	3
1993	21286	6813	32	963	45	68	3
1994	22212	7783	35	847	38	115	5
1995	20828	7199	35	916	44	99	5
1996	1902	6230	33	886	47	73	4

	0						
1997	18572	6135	33	830	45	62	3
1998	19445	6524	34	833	43	123	6
1999	18447	6368	35	822	45	152	8
2000	18403	6111	33	822	45	197	11
2001	18516	6146	33	724	39	138	7
2002	18355	5547	30	771	42	85	5

Since 1989 data are available in electronic format at the level of individual records. Cross-tabulation by cause of death, age group, sex and type of settlements are available in electronic format since 1947. Main software used in data processing is FoxPro, file format - .dbf. Currently new software for data entry is being developed in Progress, the next step will be development a semi-automated coding system using ACME decision tables, creation of Estonian dictionary for MICAR/ACME is not planned.

Special project undertaken by the Statistical Office was a revision of population data for inter-census period (1989-2000). Revised mortality data do not include non-residents, only de facto residents and persons with unknown place of residence. Some cases of pending inverstigation were also revised, it has resulted in some decrease in “unknown age” cathegory.

2.2.3. Number of died at unknown age before and after revision of population data

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Before	4	8	26	24	22	36	60	69	119	114	78	61	131	160	210
After	4	8	26	11	13	30	56	68	115	99	73	62	123	152	197

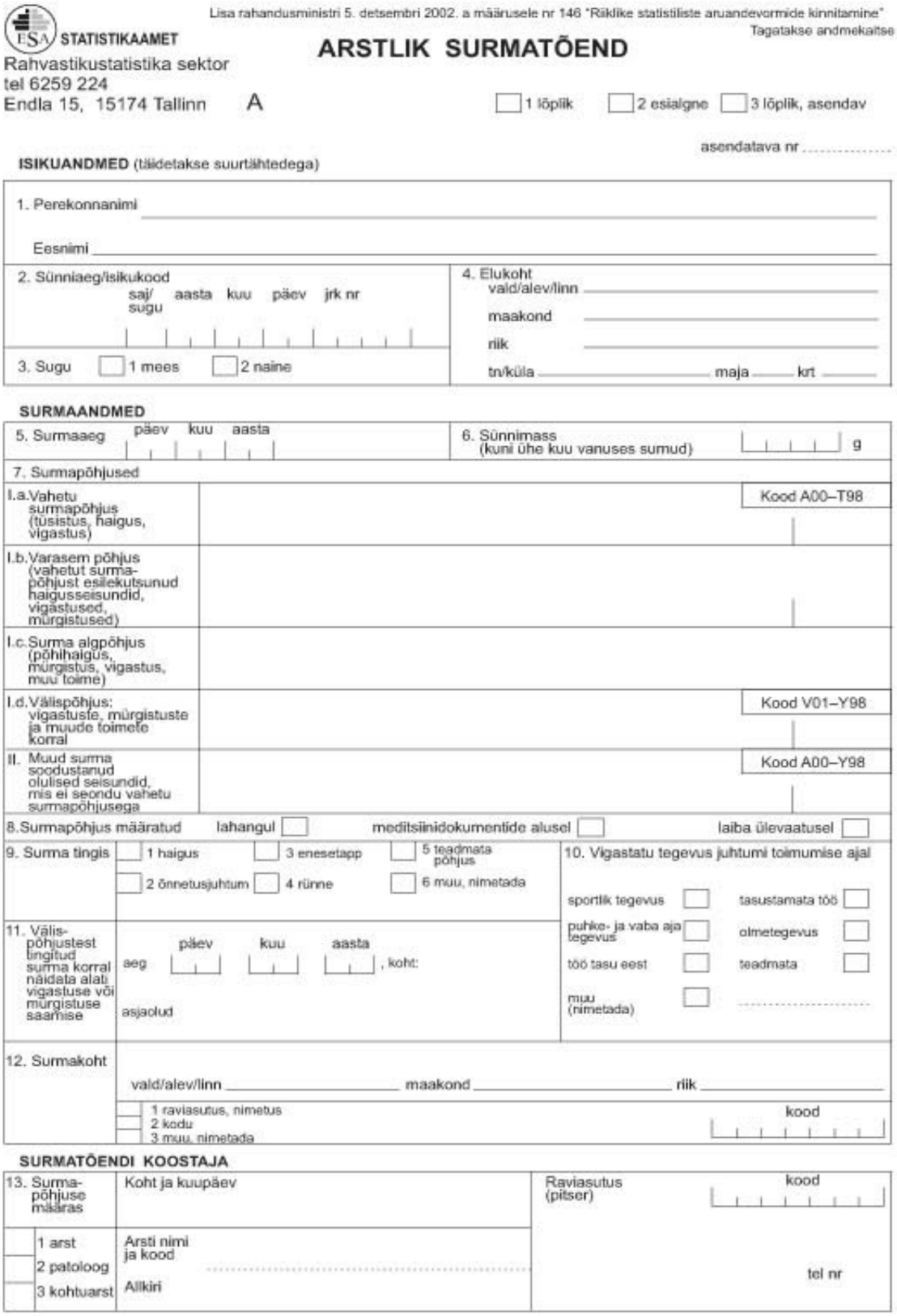
2.3. Dissemination of data

The main publications are The Statistical Yearbook of Estonia (published in June) and yearbook “Population” (in December). Both editions are supplemented with CD-ROM. The same tables are disseminated via website of the Statistical Office www.stat.ee

All the data are considered final, so deadline for publication is reference year + 6 months, hovewer sometimes they are corrected, e.g. the number of direct obsteric death (“O” chapter) in 2002 was initially reported as zero, later one case was recognized, so data published in the Statistical Yearbook and “Population” are different.

Data are on regular basis provided to certain international organizations (Eurostat, WHO, NOMESCO, EMCDDA), included to other publications by the Statistical Office (e.g. yearbook on regional statistics), aggregated data are transferred to the Ministry of Social affairs according to bilateral agreement, individual data are transferred to leading Estonian research institutes in epidemiology – Health Development Institute and population research - Interuniversitary Center for Population Research.

Appendix 1. Medical certificate of death



STATISTIKAAMET
Rahvastikustatistika sektor
tel 6259 224
Endla 15, 15174 Tallinn A

Lisa rahandusministri 5. detsembri 2002. a määrusele nr 146 "Riiklike statistiliste aruandevormide kinnitamine"
Tagatakse andmekaitse

ARSTLIK SURMATÕEND

☐ 1 lõplik ☐ 2 esialgne ☐ 3 lõplik, asendav

asendatava nr .....

ISIKUANDMED (täidetakse suurtähtedega)

1. Perekonnanimi
Eesnimi

2. Sünniaeg/isikukood
saj/ sugu aasta kuu päev jrk nr

3. Sugu ☐ 1 mees ☐ 2 naine

4. Elukoht
vald/alev/linn
maakond
riik
tn/küla maja krt

SURMAANDMED

5. Surmaaeg päev kuu aasta

6. Sünnimass (kuni ühe kuu vanuses surnud) g

7. Surmapõhjused

I.a. Vahetu surmapõhjus (tüsistus, haigus, vigastus)	Kood A00–T98
I.b. Varasem põhjus (vahetut surmapõhjust esilekutsunud haigusseisundid, vigastused, mürgistused)	
I.c. Surma algpõhjus (põhihaigus, mürgistus, vigastus, muu toime)	
I.d. Välispõhjus: vigastuste, mürgistuste ja muude toimete korral	Kood V01–Y98
II. Muud surma soodustanud olulised seisundid, mis ei seondu vahetu surmapõhjusega	Kood A00–Y98

8. Surmapõhjus määratud lahangul ☐ meditsiinidokumentide alusel ☐ laiba ülevaatusel ☐

9. Surma tingis
☐ 1 haigus ☐ 3 enesetapp ☐ 5 teadmata põhjus
☐ 2 õnnetusjuhtum ☐ 4 rünne ☐ 6 muu, nimetada

10. Vigastatu tegevus juhtumi toimumise ajal
sportlik tegevus ☐ tasustamata töö ☐
puhke- ja vaba aja tegevus ☐ olmetegevus ☐
töö tasu eest ☐ teadmata ☐
muu (nimetada) ☐ .....

11. Välispõhjustest tingitud surma korral näidata alati vigastuse või mürgistuse saamise
aeg päev kuu aasta , koht:
asjaolud

12. Surmakoht
vald/alev/linn maakond riik
☐ 1 raviasutus, nimetus
☐ 2 kodu
☐ 3 muu, nimetada
kood

SURMATÕENDI KOOSTAJA

13. Surmapõhjuse määras
☐ 1 arst
☐ 2 patoloog
☐ 3 kohtuarst

Koht ja kuupäev
Arsti nimi ja kood .....
Allkiri

Raviasutus (pitser) kood
tel nr

Jääb raviasutusse

ARSTLIK SURMATÕEND A ☐ lõplik ☐ esialgne ☐ lõplik, asendav

1. Perekonnanimi Eesnimi		2. Sünni-aeg 3. Surma-aeg 4. Surma-koht
5. Väljaandmise kuupäev		
6. Surma-põhjus	I. a.	
	b.	
	c.	
	d.	
	II.	
7. Arsti nimi ja kood		8. Kättesaaja nimi ja allkiri .....

Perekonnaseisuasutuse pitser Surmaakti nr ....200 .....

14. Kodakondsus _____ |_|_|_|	15. Rahvus * _____ |_|_|_|
16. Sünnikoht vald/alev/linn _____ maakond _____ riik _____	17. Haridus ** ☐ üldhariduskoolis omandatud haridus (täheline kood) *** ☐ lõpetatud kutse- või erialaharidus (numbriline kood) ***
18. Tööalane seisund (tavategevusala) ja amet ** Amet _____ ☐ 1 töötav ☐ 2 töötu ☐ 3 ajateenija ☐ 4 kinnipeetav ☐ 5 (üli)õpilane ☐ 6 pensionär ☐ 7 töövõimetu ☐ 8 kodune	19. Perekonnaseis ** ☐ 1 registreeritud abielus ☐ 2 vabaabielus ☐ 3 vallaline ☐ 4 lahutatud ☐ 5 lesk
20. Välja antud tunnistus seeria _____ nr _____	
21. Märkused	

* Kuni 16-aastastel lastel ema rahvus.

** Kuni 6-aastastel lastel ema andmed.

*** Haridustaseme märkimise koodid:

Üldhariduskoolis omandatud haridus:
A. Ei oma põhiharidust
B. Põhiharidus
C. Üldkeskharidus

Lõpetatud kutse- või erialaharidus:
1. Kutseharidus
2. Kutseharidus koos põhihariduse omandamisega
3. Kutseharidus koos keskhariduse omandamisega
4. Kutsekeskharidus
5. Keskeri-/tehnikumiharidus
6. Kõrgharidus

Perekonnaseisuametnik

nimi .....

allkiri .....

Appendix 2. Medical certificate of perinatal death

Jääb raviasutusse

ARSTLIK PERINATAALSURMATÕEND P ☐ lõplik ☐ esialgne ☐ lõplik, asendav

1. Perekonnanimi Eesnimi	2. Sünni-aeg 3. Surma-aeg 4. Surma-koht
5. Väljaandmise kuupäev	
6. Surma-põhjus a.	
b.	
c.	
d.	
e.	
7. Arsti nimi ja kood	8. Kättesaaja nimi allkiri

ESA STATISTIKAAMET

Rahvastikustatistika sektor
tel 6259 224
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Lisa rahandusministri 5. detsembri 2002. a määrusele nr 146 "Riiklike statistiliste aruandevormide kinnitamine"
Tagatakse andmekaitse

ARSTLIK PERINATAALSURMATÕEND

☐ 1 lõplik ☐ 2 esialgne ☐ 3 lõplik, asendav

☐ Surnultsündinule
☐ 0–6 päeva vanuses surnule

asendatava nr .....

ISIKUANDMED (täidetakse suurtähtedega)

1. Perekonnanimi Eesnimi	4. Ema perekonnanimi Ema eesnimi
2. Sünniaeg/isikukood saj/sugu aasta kuu päev jrk nr	5. Elukoht vald/alev/linn maakond riik tn/küla maja krt
3. Sugu ☐ 1 mees ☐ 2 naine	

SURMAANDMED

6. Surmaaeg päev kuu aasta kellaaeg	7. Sünnimass g
8. Laps (loode) sündis ☐ 1 õigeaegsena ☐ 3 ülekantuna ☐ 2 enneaegsena	10. Surm saabus ☐ 1 enne sünnitamist (sünnitustegevust) ☐ 2 sünnituse ajal ☐ 3 pärast sünnitust ☐ 4 teadmata ajal
9. Laps (loode) sündis ☐ 1 matsereerunult ☐ 2 asfüksias	
11. Emapoolne haigus ja/või haigusseisundid sünnituse ja raseduse ajal	

12. Surmapõhjused		Kood
Peamine lapse (loote) haigus või seisund, mis põhjustas surma	a.	
Teised lapse (loote) haigused või seisundid, mis põhjustasid surma	b.	
Peamine emapoolne haigus või seisund, mis põhjustas lapse (loote) surma	c.	
Teised emapoolsed haigused või seisundid, mis põhjustasid lapse (loote) surma	d.	
Muud kaasnevad seisundid	e.	

13. Surmapõhjus määratud lahangul ☐ meditsiinidokumentide alusel ☐ laiba ülevaatusel ☐

14. Surma tingis ☐ 1 haigus ☐ 2 õnnetusjuhtum ☐ 4 tapmine ☐ 5 teadmata põhjus ☐ 6 muu, nimetada

15. Välispõhjustest tingitud surma korral näidata alati vigastuse või mürgistuse saamise asjaolud: aeg päev kuu aasta, koht

16. Surmakoht: vald/alev/linn maakond riik
☐ 1 raviasutus, nimetus ☐ 2 kodu ☐ 3 muu, nimetada — kood

PERINATAALSURMATÕENDI KOOSTAJA

17. Surma-põhjuse määras	Koht ja kuupäev	Raviasutus (pitser) kood
☐ 1 arst ☐ 2 patoloog ☐ 3 kohtuarst	Arsti nimi ja kood Allkiri	tel nr

Perekonnaseisuasutuse pitser Summaakti nr .... 200 .....

18. Kodakondsus _____ |_|_|_|	19. Rahvus * _____ |_|_|_|
20. Sünnikoht vald/alev/linn _____ maakond _____ riik _____	21. Haridus * ☐ üldhariduskoolis omandatud haridus (täheline kood) ** ☐ lõpetatud kutse- või erialaharidus (numbriline kood) **
22. Tööalane seisund (tavategevusala) ja amet * Amet _____ ☐ 1 töötav ☐ 2 töötu ☐ 3 ajateenija ☐ 4 kinnipeetav ☐ 5 (üli)õpilane ☐ 6 pensionär ☐ 7 töövõimetu ☐ 8 kodune	23. Perekonnaseis * ☐ 1 registreeritud abielus ☐ 2 vabaabielus ☐ 3 vallaline ☐ 4 lahutatud ☐ 5 lesk
24. Välja antud tunnistus seeria _____ nr _____	
25. Märkused	

* Ema andmed.

** Haridustaseme märkimise koodid:

Üldhariduskoolis omandatud haridus:
A. Ei oma põhiharidust
B. Põhiharidus
C. Üldkeskharidus

Lõpetatud kutse- või erialaharidus:
1. Kutseharidus
2. Kutseharidus koos põhihariduse omandamisega
3. Kutseharidus koos keskhariduse omandamisega
4. Kutsekeskharidus
5. Keskeri-/tehnikumiharidus
6. Kõrgharidus

Perekonnaseisuametnik

nimi .....

allkiri .....

3. Estonian Health Interview Survey Data

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Department of Health Information and Analysis
Ministry of Social Affairs

The basis for delivering data according to Eurostat 18 health interview survey was chosen Estonian Health Interview Survey 1996, which was carried out in the fall and winter of 1996/1997[1].

By its nature, the EHIS belongs to the category of population surveys. In Estonia, the evaluation of the population's health status has so far been based mainly on mortality data, using as the main methods life table analyses and calculation of age-standardized mortality rates by causes of death [2,3,4]. Estonia belongs to the group of countries where average life expectancy at birth has declined during the last ten years, and where chronic diseases, having a prolonged formation and process, are the most common causes of death. The prevalence of chronic diseases among the causes of death implies that a large proportion of the population spends the last period of life in bad health. All consequences of the loss of the health affect, to greater or lesser degree, the potential development of society. Although awareness of the health crisis has grown in the last few years in Estonia, basic information about the health status of the population is still lacking. First, there are no data to analyze which life events and ways of life have led to today's health status. Secondly, there are no data to determine when real loss of health starts; how it influences the ability to work and the labor market; how long is the period when one cannot function by oneself any more and how large is the social support by family members and the society in that period; and which social classes are less protected from the health problems and their consequences. This is only a short list of gaps in the knowledge that is essential to shaping a social policy that could guarantee the functioning and participation in social life of all members of the society.

Usually, health interview surveys concentrate on events that have happened during the last 12 months or during the last four weeks or the last week. Such an approach is appropriate in countries where health surveys are run periodically and it is possible to obtain information by linking different databases. In Estonia, the EHIS is the first comprehensive survey in which life-course events are compared with changes in health status. For that reason the scale of questions is broader than is usual in health surveys. All important life events since birth are covered. At the same time, the recommended guidelines of WHO for health interview surveys[5] have been taken into account to ensure comparability of data with other countries.

The central task of the survey was to evaluate the health potential of the Estonian population, by connecting the loss of health, and its development and consequences, with major life events and lifestyles. Human health status is a very complex indicator, the formation of which has been influenced of many different factors. The EHIS is not intended to evaluate the effect of some specific risk factor, which is the main task for analytical epidemiological studies, but is instead intended to assess population processes as estimated through health indicators. The information obtained with the present survey can be used for outlining more specific epidemiological studies. It is also planned to follow the cohort of respondents to mark changes in their health situation.

Given the deficiency of basic health related information, it was justified to expand the questionnaire with additional topics. One of the additional topics was the use of medical

assistance. Beside the extensive reforms in economy, Estonia has been changing the basis of its health care system from centralization and state control to decentralization and health insurance. The new directions in public health management focus on health promotion and disease prevention that emphasize individual responsibility instead of state responsibility, which was the common assumption in the Soviet medical system. A mandatory health insurance system has been in force since 1992 and it covers the expenses of health services and compensation payments in the case of temporary disability through the network of funds for illness. At the same time, the private sector is increasing its role in health care delivery. In the 1990s, the number of visits to outpatient clinics has decreased, as has the number of visits to dentists. The number of persons who need hospital treatment has stabilized, but the extremely long treatment periods, common in earlier years, have become shorter. Simultaneously, morbidity indicators have steadily increased,[6,7] that might be caused by the limited access to the medical services. The EHIS aims to explain the reasons for the inefficiency of medical assistance.

Another added topic in the survey is sexual behavior. Taking into consideration openness to the risk of sexually transmitted diseases, including HIV-infection, it is important to know the risk behavior of the sexually active population. Information on how people can perceive and avoid risk, and how this information functions in different population categories, will help in planning preventive measures.

3.1. Questionnaire

The EHIS questionnaire consists of the following parts:

1. Household
2. Health
3. Reproductive health (separately for men and women)
4. Education and occupation
5. Home
6. Medical assistance
7. Health behavior
8. Attitudes
9. Interviewer's part

In all, 375 questions were asked. At the end of the interview the interviewer had to answer some questions about the course of interview.

The first part of the questionnaire, the household, is intended to provide knowledge about the structure of the household and about partnership relations. Economic activity, self-functioning and the health-related assistance needs of household members are asked.

The main block, health, seeks to define the respondent's health status. It is difficult to define health because of the subjective nature of health itself. In this survey we measure health status through the loss of health. Restriction on usual activities is used as the measurement unit for health loss. By "usual activities" we understand work, studies, partnership relations and daily self-managing that would be normal for the respondent given his/her gender, age and social status. Proceeding from the above-mentioned criteria it was feasible to distinguish four degrees of health status. First, people who have no permanent health disorders; secondly, people who have permanent health disorders, but who do not have any restrictions in usual activities; thirdly, people who have severe permanent health disorders that cause restrictions in usual activities and who therefore sometimes need assistance from other people; fourth, people whose health disorders are

so extensive that managing without the assistance of other people is impossible. Following such a gradation, the health part focuses on all health disorders that have restricted the usual activities of the respondent substantially and over a long period. The questions are not intended to make exact diagnoses. The questions about the cause of a given health disorder were intended to help to specify the seriousness and duration of the disorder. Apart from other health disorders, questions are asked about traumas. These questions, in addition to measuring the loss of health, will facilitate evaluation of the safety of working and living environments and explain the risk predisposition of different population groups. As very often somatic diseases proceed from an unbalanced emotional status, the questionnaire also deals with mental health problems. The objectives of the mental health part of the inquiry are to measure the symptoms of depression and anxiety during the last four weeks and to which extent these symptoms hamper the functioning and the managing of people. The presence of social support is evaluated through human relations and valuation of these relations.

The reproductive health part is concentrated on intimate relations. Sexual relations, family planning, the course of pregnancy and the postnatal health status of children are of main concern. The risk behavior of the sexually active population, as well as the awareness of risks that accompany sexual intercourse with multiple partners, is another topic of interest.

The section on medical assistance is meant to yield information about the use of medical services and medicines. Preventive use is distinguished from use related to health problems. As the cause of a disease, its detection, and the results of treatment depend very much on the individual's awareness and the lifestyle, the health behavior section concentrates on smoking habits, alcohol use, eating habits and physical activity. The survey asks about the prevalence, intensity and duration of these habits.

Taking into account the need to analyze in depth the process of formation and loss of health, information is collected about the respondent's home, education, migration history, changes in family life and changes in work career. As Estonia belongs to the group of countries in which tremendous reforms in social and economic life have taken place in the last few years, the questionnaire includes an attitudinal part, which helps to understand the respondents' attitude toward the current processes in society and their own prospects for the future.

From the standpoint of interview technique, the questionnaire was quite demanding for the interviewer. Due to the use an a life history approach, the interviewer had to react flexibly to trace the events in the respondent's life history and assure consistency in the timing of different events. The events were recorded in special tables, in which each column contained one event. When the number of events exceeded the original number of columns, additional sheets were used. To insure consistency of information, the interviewer had to fill out in parallel a special summary chart at the end of the questionnaire. When filling in a certain event in the questionnaire, the interviewer put a mark on the chart. This chart helped the interviewer at the end of the interview to gain a quick overview of the consistency of different parts of the questionnaire. In addition to checking for consistency, the chart also served as a tool for the respondent, providing some fixed points as an aid to recalling events.

To facilitate understanding of the definitions and questions used in the questionnaire and to provide an orientation in the questionnaire, the Working Group compiled a special interviewer's manual. In addition, the EHIS survey instrument included response cards, additional sheets for tables, the interview protocol and the contact letter. The questionnaire and the interviewer's manual are presented in the appendices.

The ethnic composition of the target population of the EHIS made it necessary to prepare survey instruments in Estonian and in Russian. The original version was developed in Estonian. The translation sought to achieve not literal identity, but identity of the meaning of questions. For foreign experts and for international collaboration, the questionnaire and the interviewer's manual were translated into English.

When compiling the questionnaire, the formulations and in some cases the preliminary results of previously performed national surveys were taken into account. Especially valuable were the materials of the Estonian Family and Fertility Survey (EFFS), the standard tabulations of which had already been published. Due to the preliminary results of the Estonian Labour Force Survey (ELFS), a more extensive section was included treating the relation between working history and health status.

3.2. Target population and sample frame

The target population of EHIS consisted of cohorts born in 1916—1980, or men and women, aged 15—79 on January 1, 1996. All persons within this age-range who were permanent residents of Estonia at the time of 1989 population census were eligible for sampling. Though the dataset of the 1989 census is relatively old, it was the only dataset providing coverage of the whole Estonian population at the time. One shortcoming of this dataset as a sample frame is some over- and undercoverage as a result of the time that has elapsed since the census. On the one hand, the sample frame included persons who had died or emigrated from Estonia since 1989 (overcoverage); on the other hand, it did not include persons who had immigrated since 1989 (undercoverage). As the migrating population since the census forms a very small part of the total population (35 211 persons or 2.2% from the 1989 census population),[8] undercoverage can hardly be significant to the reliability of the survey.

Later comparison of the survey data with the census data permit an evaluation of the quality of census data as a sample frame. Comparison of birth dates revealed that 2.3% of the cases had a wrong birth year in the census data set, 4.0% had a wrong birth month and 4.9% had a wrong birth day. Sex was noted incorrectly for 0.4% of cases. These errors were not systematic and therefore have no influence on the results. In any case, the wrong birth year in the census data set was a reason for not completing the interviews for only five cases because the respondent was out of the specified age-range.

3.3. Sampling procedure

A simple random selection was used for drawing the sample. The sampling plan and sampling were carried out by the researchers of the Estonian Interuniversity Population Research Centre from the 1989 census dataset, located on a PC of the Population Research Centre. The sample was drawn from the universe of long-form census lists. This long-form was administered to a 25 percent random sample of households in the census. Such a limitation was motivated by the goal of getting more background information about the respondents. Analysis showed that the characteristics of households in the long-form 25 percent sample corresponded very closely with the characteristics of households in the short-form that was administered to the remaining households. The simple random selection was performed using the *SPSS* software RANDOM-procedure.

The planned number of completed interviews was 5,000 people to get a sufficiently detailed picture about the health status and health behavior of the Estonian population and its segments. A larger sample size was not possible due to limited financial resources.

Technically the sampling procedure adhered to the following scheme. There were 16 sampling units - 15 counties and Tallinn (the capital city was taken as a separate sampling unit). Then each sampling unit was stratified by sex and five-year age group. The target population was divided into 416 strata. As the next step, persons aged 15—64 were sampled in proportion to their sex and age composition in the sampling unit; persons aged 65—69 had one and a half times coverage, persons aged 70—74 were sampled with double-coverage, and age group 75—79 had threefold coverage. Such a decision was based on the consideration that most chronic diseases appear only in later ages; increasing the number of older respondents would increase the number of events we are studying and thereby the reliability of the results of the survey. As the next step, all sampled cases within a sample unit were merged into one county-specific sample file. Taking into consideration the amount of time that had elapsed since the census and the overcoverage in the sample frame caused by this, at first 8,925 records were randomly drawn from the census microdata in order to avoid the need to go later back to the original census lists.

The census dataset on PC do not include the names and addresses of the individuals. Instead the census records include the portfolio and the list numbers that make it possible to find the names and addresses of the respondents from original census lists kept in the archive of the Statistical Office of Estonia. The census records were delivered by sample-units to the Interviewers' Network Section at the Statistical Office who added the names and addresses to the datafile. Next the names and addresses of the potential respondents were checked in central and local address bureaus; information was also obtained from local authorities and from other institutions, if needed.

After checking the names and addresses, for 11 out of the initial 8,925 records, the name and address were not found in the archive, 713 had died after 1989, 375 had emigrated and 19 had left their previous place of residence without mentioning their new address. These persons were regarded as overcoverage of the sampling frame and thus excluded from further work. This left 7,807 individuals remaining. Of these, addresses were found for 7,081 persons; 671 persons, for whom no information was found in address bureaus, remained in the sample with the original census addresses, as did 55 persons for whom no address was found.

In order to obtain the intended 5,000 completed interviews, first 5,000 persons – the primary sample – were selected from the remaining 7,807 records. Later, when three quarters of these 5,000 survey protocols had been returned from the field, additional cases were assigned to the interviewers. The additional sample was based on drop-out protocols from the initially selected cases. Each drop-out protocol had a detailed description of the contact process and the reason for the drop-out. The final drop-out classification was determined by a member of the Working Group, after which the case was replaced with a new person with similar characteristics from among the 2,807 cases that had not been assigned initially. The reference characteristics for each replacement were county, sex and birth year. Two replacements were made, at first 635 new cases, and next 384 new cases were assigned to the interviewers. In all, 6,019 eligible respondents were selected and forwarded to the interviewers.

In all, 6,019 cases were assigned to the interviewers' network of the Statistical Office. Of those, 4,711 interviews were completed. The latter included one erroneously completed interview with the daughter of the person who was in the sample, as the names of mother and daughter were exchanged on the census lists. The intended person herself did not live in Estonia during the survey period. Dividing the number of completed interviews by the number of cases assigned yields a crude response rate of 78.3% (Table 1).

Table 1. Final disposition of the cases

Disposition	Number of cases	Percent of cases
Forwarded to the interviewers	6019	100.0
Interviewed	4711	78.3
Not-interviewed	1308	21.7
deceased	154	
emigrated	119	
no address located,double	160	
case	5586	100.0
Corrected sample at risk	4711	84.3
Corrected response rate		

The crude response rate assumes that all cases that were forwarded to the interviewers had in principle the same chance of being interviewed. In reality, this assumption was not entirely valid. Due to the period that had elapsed since the census, the sample included persons who were deceased, had emigrated, or who were temporarily not in Estonia, as well as persons whose birth year on the census list turned out to be wrong, who had double records in the sample frame, or for whom no address was found even in the census archive. All persons in these categories were declared ineligible, and no effort was made to contact them. By treating all of these drop-outs as overcoverage of the sample, we can recalculate the response rate by including only those respondents who were “at risk” of being interviewed. The corrected response rate is 84.3%. The corresponding rates for EFFS were 80.8/86.3 percent and for ELFS 87.7/92.6 percent. For comparison, 5,021 women were interviewed in EFFS, and 9,608 men and woman were interviewed in ELFS. Considering the time that had elapsed since the 1989 census and the overcoverage of elderly people in the EHIS sample, the total response rate is rather good (for further details see EHIS methodological report in detail).

Table 3 shows the non-response rates for different categories of respondents. Non-response was greatest in ages 25—29, which was mainly caused by the inability to find a fixed address or by emigration from Estonia. It is notable that “no contact initiative” — as the reason for drop-out — was most frequent also in this age category. It is very likely that a majority of the non-respondents in this age-group were military conscripts in 1989 and therefore were only temporarily living in Estonia. If this is so, it has also influenced the greater non-response among men and among non-Estonians in the sample. People below fifty are characterized by greater mobility due to working or studying abroad.

Except for refusals, the non-response rate was higher among men for all causes. Comparing Estonians and non-Estonians, the non-completion rate was smaller for Estonians.

Table 2. Non-response rate by age, sex, ethnicity, urban-rural residence and county

Population category	Crude non-response, %	Causes of non-response, %						Corrected non-response, %
		Person dead	Emi-grated	No contact initiat-ive	Refusal	Not located	Other reason	
Total	21.	2.6	3.9	0.7	5.0	7.8	1.7	15.7

	7							
15—19	20.6	—	7.3	0.4	2.4	9.1	1.3	13.9
20—24	27.0	—	6.0	0.2	5.0	13.2	2.6	22.1
25—29	32.0	0.2	6.1	5.9	3.8	14.3	1.7	22.5
30—34	22.7	0.2	6.5	0.2	5.2	8.9	1.7	16.9
35—39	21.7	—	6.0	0.2	5.6	7.8	2.0	16.5
40—44	23.3	1.2	4.1	0.2	6.0	9.1	2.7	18.7
45—49	22.1	1.4	4.1	—	6.8	8.0	1.8	17.6
50—54	20.8	1.7	1.7	0.3	8.3	6.6	2.3	17.8
55—59	15.6	1.5	1.7	0.2	5.6	5.4	1.2	12.6
60—64	15.7	2.1	2.1	—	5.1	4.5	1.8	11.9
65—69	17.7	4.4	3.2	—	4.1	4.7	1.3	10.9
70—74	18.4	5.5	1.3	—	5.1	5.1	1.5	12.5
75—79	23.8	13.1	0.4	1.0	3.5	4.7	1.0	10.8
Men	25.9	3.0	5.0	1.1	5.0	9.5	2.4	18.5
Women	17.9	2.2	3.0	0.3	5.1	6.3	1.2	13.2
Estonians	17.4	2.5	1.6	0.2	5.0	6.4	1.6	13.6
Non-Estonians	29.1	2.6	7.9	1.4	5.1	10.1	1.9	19.5
Urban	23.6	2.3	4.6	0.7	5.5	8.7	1.9	17.4
Rural	16.5	3.3	2.2	0.6	3.8	5.2	1.4	11.0
Harjumaa	30.7	2.4	5.8	1.1	7.2	10.8	3.4	23.6
Hiiumaa	17.1	—	2.9	2.9	11.4	—	—	12.1
Ida-Virumaa	18.9	3.1	4.5	—	3.5	6.8	0.9	12.1
Jõgevamaa	11.0	1.4	0.7	2.1	0.7	5.5	0.7	7.1
Järvamaa	5.7	2.1	0.7	—	—	2.8	—	2.9
Läänemaa	8.8	0.9	2.7	0.9	1.8	1.8	0.9	4.6
Lääne-	18.	2.7	6.1	1.4	4.1	4.4	0.3	9.8

Virumaa	9							
Põlvamaa	17.2	6.7	—	0.7	6.7	3.0	—	10.5
Pärnumaa	10.3	0.9	1.2	—	1.8	5.9	0.6	8.4
Raplamaa	15.1	6.2	—	—	2.1	6.2	0.7	9.5
Saaremaa	11.3	1.5	1.5	0.8	6.0	0.8	0.8	7.8
Tartumaa	17.2	3.2	2.0	0.3	4.8	6.3	0.5	12.3
Valgamaa	22.7	1.8	1.2	0.6	5.5	12.9	0.6	19.7
Viljandimaa	6.6	1.9	1.4	—	1.9	1.4	—	3.4
Võrumaa	13.9	1.2	1.8	—	1.2	9.0	0.6	11.2

As expected, most of the differences between these subgroups were due to greater emigration propensity and higher prevalence of non-location among non-Estonians.

Urban residents were characterized by higher non-response because of non-location, emigration and refusals. By county, the drop-out due to non-location was greatest in Valga and Harju and due to refusals in Hiiu and Harju county. Emigration has been higher in Lääne-Viru and Harju county.

3.4. Representativeness of the sample

Representativeness of the sample means accurately reflecting the demographic, regional and social composition of the referent population,[9] or in other words the lack of systematic differences between the sample and the target population. In table 3 we compare three data sets of the EHIS, the primary sample, the respondents and the non-respondents, to evaluate their correlation with the sampling plan. In addition, we analyze the response rates by different categories including age, sex, ethnicity, urban-rural residence and region.

Comparing the distribution of the respondents with the distribution of the primary sample in different categories, we see that these two data sets are very similar to each other. No significant differences were found in any population category. If one compares the non-respondents with the primary sample, the disproportionality is more pronounced, especially in such categories as sex, ethnicity and urban-rural residence, and for Harju county. On the whole, as the distribution of respondents was close to the primary sample, nonresponse does not bias the survey results.

Examining the crude response rates by age, we find only small differences, though in older ages we find somewhat higher response rates. The increased mortality in older ages is balanced by higher emigration and non-location in younger ages.

Men had lower response rates than women. This is mainly due to non-location and emigration. For the same reasons, the response rate is lower for non-Estonians than for Estonians. Compared with the EFFS, which included only women, the difference in response rates between Estonians and non-Estonians is greater in EHIS and might be

caused by the inclusion of the male population in the EHIS. One reason for the lower response rate among men was higher mortality.

Rural residents were more likely to participate in the survey. The refusal rate was smaller compared to urban residents and also non-location and emigration were less frequent. At the same time, the loss of respondents due to mortality was higher in rural areas. In three counties the response rate was over 90 per cent: Järva, Lääne and Viljandi; the lowest rate was found in Harju (which includes Tallinn) and Valga county.

To evaluate the representativeness of the survey we compare the distribution of respondents by age group with the age distribution of the referent population, i.e. the 1989 census population (Table 4). The comparison is limited to those age groups that were taken into the sample proportionately with the referent population. As seen, there is a close correlation between two distributions.

Table 3. Response rate by age, sex, ethnicity, urban-rural residence and county, and comparison of the distributions of respondents and non-respondents with the primary sample

Population category	Number of respon-dents	Crude response rate, %	Distribution of respondents, %	Distribution of primary sample, %	Distribution of non-respondents, %
Total	4711	78.3	100	100	100
15—19	356	79.4	7.6	7.6	7.1
20—24	342	73.0	7.3	7.5	9.6
25—29	321	68.0	6.8	7.2	11.6
30—34	355	77.3	7.5	7.7	8.0
35—39	386	78.3	8.2	8.2	8.3
40—44	372	76.7	7.9	7.9	8.6
45—49	344	77.9	7.3	7.3	7.4
50—54	278	79.2	5.9	5.9	5.6
55—59	353	84.4	7.5	7.0	4.9
60—64	285	84.3	6.0	5.9	4.0
65—69	510	82.3	10.8	9,7	8.3
70—74	438	81.6	9.3	9.6	7.7
75—79	371	76.2	7.9	8.4	8.9
Men	2131	74.1	45.2	45.9	57.0
Women	2580	82.1	54.8	54,1	43.0
Estonians	3138	82.6	66.6	63,7	50.0
Non-Estonians	1573	70.9	33.4	36,3	50.0
Urban	3336	76.4	70.8	73.0	80.0
Rural	1375	83.9	29.2	27,0	20.0
Harjumaa	1753	69.3	37.2	38.9	59.5
Hiiumaa	27	82.9	0.6	0.6	0.5
Ida-Virumaa	695	81.1	14.8	14.4	12.4
Jõgevamaa	136	89.0	2.9	2.7	1.2

Järvamaa	133	94.3	2.8	2.7	0.6
Läänemaa	106	91.2	2.3	2.1	0.8
Lääne-Virumaa	241	81.1	5.1	5.0	4.3
Põlvamaa	115	82.8	2.4	2.3	1.8
Pärnumaa	311	89.7	6.6	6.3	2.7
Raplamaa	123	84.9	2.6	2.5	1.7
Saaremaa	123	88.7	2.6	2.4	1.1
Tartumaa	486	82.8	10.3	10.4	7.9
Valgamaa	115	77.3	2.4	2.7	2.8
Viljandimaa	203	93.4	4.3	4.1	1.1
Võrumaa	143	86.1	3.0	2.9	1.8

Table 4. Comparison of the age distribution of respondents with 1989 census population

Age group	Distribution of respondents, %	Distribution of 1989 census population, %
15—19	10.5	10.5
20—24	10.1	10.3
25—29	9.5	9.9
30—34	10.5	10.6
35—39	11.4	11.3
40—44	11.0	11.0
45—49	10.1	10.1
50—54	8.2	8.1
55—59	10.3	9.7
60—64	8.4	8.5

In conclusion, it can be said that the survey results do not need additional weighting due to non-response (except to reduce oversampling in older than 65 age groups, see above). However, it is advised not to extend the survey population numbers to the total population of 1996. In order to have the needed indicators for health interview themes, the total population has to be regarded as the survey population in relevant groups. During 1990s the registration of different population events has undergone several changes which have significantly reduced the reliability of the population numbers for the decade[10,11]. The 2000 census did not provide a step forward in that sense and rather more reduced the reliability due to a significant undercount in certain ages [12]. Therefore it is advised for Estonia not to give absolute numbers for the indicators but only proportions using survey population as the total for Estonia.

For calculations the older population cohorts have to be weighted . The weights by the variable 'xkaal' are presented in Table 6. The weighted dataset includes the total number of 4072 respondents, on which all the following frequencies on relevant variables for European HIS items are presented.

Table 5. Weights for older age groups in the survey

		Weights for older cohorts by variable xkaal			
		,33	,50	,66	1,00
		Count	Count	Count	Count
Xvan	14	0	0	0	6

15	0	0	0	75
16	0	0	0	77
17	0	0	0	54
18	0	0	0	79
19	0	0	0	70
20	0	0	0	69
21	0	0	0	56
22	0	0	0	74
23	0	0	0	70
24	0	0	0	70
25	0	0	0	70
26	0	0	0	67
27	0	0	0	72
28	0	0	0	56
29	0	0	0	54
30	0	0	0	62
31	0	0	0	74
32	0	0	0	80
33	0	0	0	69
34	0	0	0	72
35	0	0	0	83
36	0	0	0	88
37	0	0	0	72
38	0	0	0	82
39	0	0	0	61
40	0	0	0	84
41	0	0	0	70
42	0	0	0	74
43	0	0	0	70
44	0	0	0	75
45	0	0	0	57
46	0	0	0	87
47	0	0	0	71
48	0	0	0	68
49	0	0	0	60
50	0	0	0	48
51	0	0	0	49
52	0	0	0	53
53	0	0	0	60
54	0	0	0	66
55	0	0	0	71
56	0	0	0	72
57	0	0	0	74
58	0	0	0	65
59	0	0	0	72
60	0	0	0	64
61	0	0	0	46
62	0	0	0	49
63	0	0	0	68
64	0	0	0	58
65	0	0	112	0

	66	0	0	96	0
	67	0	0	104	0
	68	0	0	98	0
	69	0	0	105	0
	70	0	96	0	0
	71	0	84	0	0
	72	0	97	0	0
	73	0	90	0	0
	74	0	68	0	0
	75	90	0	0	0
	76	90	0	0	0
	77	77	0	0	0
	78	59	0	0	0
	79	51	0	0	0
	80	1	0	0	0

3.5. Estonian indicators for European health interview 18 items

3.5.1. Agegroup

The indicator for agegroup has been formed as the age of the respondent by 01.01.1996 on the basis of the variable of the survey indicating his/her year, month and date of birth (a03y_01,a03m_01,a03d_01). By that indicator 1 person had not yet reached 15 and on ehad already become 80 years of age by the time (error in census file), which we still included in the correspondingly first and last age group, thus no remaining missing values for agegroup variable in our data file.

age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	15 - 24	694	17,0	17,0	17,0
	25 - 34	675	16,6	16,6	33,6
	35 - 44	761	18,7	18,7	52,3
	45 - 54	623	15,3	15,3	67,6
	55 - 64	635	15,6	15,6	83,2
	65 - 74	559	13,7	13,7	96,9
	75 +	124	3,1	3,1	100,0
	Total	4072	100,0	100,0	

3.5.2. Sex

The indicator 'sex' includes all respondents on the basis of the variable in the survey a02_01.

Sex

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 MALE	1912	46.9	46.9	46.9
	2 FEMALE	2160	53.1	53.1	100.0
	Total	4072	100.0	100.0	

3.5.3. Economic activity

The indicator is based on the survey question a04_01: Which of the following statuses on the chart characterizes you/ [NAME ...] best right now?

Chart A04

1 Working
2 Unemployed/looking for work
3 Military conscript
4 Pre-school age child
5 Pupil/student
6 On disability pension (non-working)
7 On old-age pension/retired (non-working)
8 Homemaker
9 OTHER [WRITE]

The variable 'econ' is derived from this question by classifying first two categories into 'active' and the rest into 'inactive' category.

Econ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 ACTIVE	2636	64.7	64.7	64.7
	2 NON-ACTIVE	1436	35.3	35.3	100.0
	Total	4072	100.0	100.0	

3.5.4. Higher attained education

The variable is based the question of higher attained education in the survey d01, on the additional information on total number of years of education d01a, whether a person is currently studying (d05) and at what educational establishment he/she is studying (d06). The additional questions are helping to determine whether the person should be classified into the category of tertiary education or upper secondary. The main difference occurs with those having specialized secondary education because in certain cases part of it was rather closer to tertiary education.

D01	What is your highest completed level of education and what is the total number of years of your education? CHART D01 1 Didn't get the primary education 2 Primary education 3 Basic education 4 General secondary education 5 Specialized secondary education 6 Vocational higher education 7 Higher education 8 Scientific degree Total number of years of education ___	**1 → D08**
D05	Are you currently studying? 1 Yes 2 No	**2 → D08**
D-06	Where are you studying? CHART D06 1 Primary school, basic school 2 Secondary school, gymnasium 3 Vocational school, technical school, vocational secondary school 4 Specialised secondary education, military school 5 Vocational higher education 6 Higher school 7 Post-graduate studies 8 Short continuous courses (with duration less than one school year) 9 OTHER	

Educ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Pre-primary and primary	370	9.1	9.1	9.1
	2 Lower secondary	836	20.5	20.5	29.6
	3 Upper Secondary	2288	56.2	56.2	85.9
	4 Tertiary	576	14.1	14.1	100.0
	Total	4070	100.0	100.0	
Missing	System	2	.0		
Total		4072	100.0		

Of those missing one did not know his/her level of attained education and one refused to answer.

3.5.5. Health topics

3.5.5.1. Chronic conditions

Prevalence of chronic conditions is in the Estonian HIS very detailly recorded which allows to have a wider definition and more restricted definition. By the wider definition which encounters any long-term illnesses during one's lifetime the distribution (specifying also when and what type of health problem one had had and whether it had occurred again and bothered oneself for a long time(b09_01 b09_011 b09_012 b09_02 b09_021 b09_022 b09_03 b09_031 b09_032 b09_033 b09_04 b09_041 b09_042 b09_05 b09_051 b09_06 b09_061 b09_062 b09_07 b09_071 b09_08 b09_081) is as follows:

B05: Beside traumas and injuries, but sometimes as a result of them, there are other long-term health problems. Let us talk about the most substantial long-term health problems that you have ever had in your life. To make it easier for you, try to recall by the areas of your body.

Have you ever in your life had ...

Ever had ... 1	... pain in heart area, palpitation, rhythmic disorders, blood pressure disorder	... complaints and problems with respiratory tract or lungs	... pain or complaints in stomach or kidney area	... pains in muscul ato-ry system, in joints or bones	... problems with seeing or hearing	... other health problems I_I	**2 □ B05 next column**
B09	Has this illness/ health problem recurred later or has it continued to trouble you for a long time?						**2 □ B11 3 □**

Chron

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Long-standing health problem	1772	43.5	43.5	43.5
	2 Not having long-standing health problem	2299	56.5	56.5	100.0
	Total	4072	100.0	100.0	

However, in our view if to restrict these questions with the occurrence of the problem within the last 12 months it more corresponds to the European definition of long-standing health problem which to our understanding concentrates more on the current problems. For that reason we also present in the data file variable 'chrona' which corresponds to the latter view. In our view the variable could be even more precise if to analyse it by the

problems persons have (recoded into ICD-10) and in which year did they have it for the last time.

B 1 3	Have you had this health problem/illness also during the last 12 months?

Chrona

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Long-standing health problem	827	20.3	20.3	20.3
	2.00 Not having long-standing health problem	3245	79.7	79.7	100.0
	Total	4072	100.0	100.0	

3.5.5.2. Self-perceived health

The variable is based on the question no b01.

	Now I would like to ask you some questions concerning your general physical and mental health.
B 0 1	Overall, how do you evaluate your health status? 1 Very good 2 Good 3 Average, satisfactory 4 Bad 5 Very bad

There are 20 missing cases for this variable because soembody else answered for them , 8 persons with the missing answers are living at a nursing home.

Health

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 very good	339	8.3	8.4	8.4
	2 good	1356	33.3	33.5	41.8
	3 fair	1919	47.1	47.4	89.2
	4 bad	380	9.3	9.4	98.6
	5 very bad	59	1.4	1.4	100.0
	Total	4052	99.5	100.0	
Missing	System	20	.5		
Total		4072	100.0		

3.5.5.3. Activity restriction

In the Estonian HIS we do not have an exact correspondence to the question asked in the European HIS. Hereby we present 3 versions of the answers.
The closest assessment of the limitations in daily activities to the European HIS can be presented by question b02 coded into the variable 'limact':

B 0 2	Do you feel healthy enough to do what you want each day ... 1 Almost always 2 Rather frequently 3 Rarely 4 Almost never

By the answers those who feel almost never healthy enough are described as strongly limited, those rarely healthy as limited and those who rather frequently or almost always feel healthy are described as not limited.

Limact

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes,strongly limited	63	1.5	1.5	1.5
	2 Yes, limited	360	8.8	8.9	10.4
	3 No, not limited	3629	89.1	89.6	100.0
	Total	4052	99.5	100.0	
Missing	System	20	.5		
Total		4072	100.0		

The same 20 persons for whom somebody else answered are coded here as missing as well.

More wider range can be obtained by the answers when asked specifically about activities, however, in our case, there might be some activities which have not been encountered and others which might not be of issue for the current period (b14 – asking about health problems having significantly limited one's studies or b15 the same about working). Still, variable limactb has been constructed on the basis of questions b14 to b23.

B 1 4	Health problems might significantly limit people`s usual activities. Have health problems ever significantly limited your studies? 1 No 2 Yes, I didn't graduate at the same time with classmates of my age or I had to discontinue my desired studies Since 19 |__|__| 3 Yes, I didn't get elementary education Since 19 |__|__| 99 DIDN'T GO TO SCHOOL
B 1 5	Have health problems ever significantly limited your working? 1 No 2 Yes, I had to quit a desired job or I had to change job Since 19 |__|__| 3 Yes, I had to stop working Since 19 |__|__|

	99 HAS NEVER WORKED
B16	Do health problems limit your communication with institutions such as the bank, savings bank, post-office, social department etc.? 1 No 2 Yes, sometimes I need help in managing Since 19 ____ 3 Yes, I need help in managing every time Since 19 ____
B17	Do health problems limit your socializing with friends, relatives? 1 No 2 Yes, my circle of friends has diminished significantly Since 19 ____ 3 Yes, I have been totally excluded from the usual circle of friends and relatives Since 19 ____
B18	Do health problems limit your ability to perform housework such as cooking, cleaning up, heating etc.? 1 No 2 Yes, I need help at least once a month Since 19 ____ 3 Yes, I need daily help Since 19 ____
B19	Do health problems limit your managing by yourself such as eating, washing yourself, dressing, using the toilet? 1 No 2 Yes, but mainly I can manage myself Since 19 ____ 3 Yes, I need help continuously Since 19 ____
B20	Do health problems significantly limit your moving around? 1 No 2 Yes, I have to stay close to home Since 19 ____ 3 Yes, I do not leave the house/flat Since 19 ____
B21	Is your hearing good enough (with a hearing aid if you use one) to listen radio/TV programs played at normal volume? 1 Yes 2 No, only when I turn up the volume Since 19 ____ 3 No, I don't hear even when I turn up the volume, DEAF Since 19 ____
B22	Is your eyesight good enough (with glasses, lenses if you wear them) to recognise people at a distance of four meters? 1 Yes 2 No, but I recognise people at a distance of one meter Since 19 ____ 3 No, I even don't recognise them at a distance of one meter, BLIND Since 19 ____
B23	DOES THE RESPONDENT HAVE ANY PROBLEM WITH SPEAKING? IF ANSWER IS **2** OR **3**, ASK SINCE WHAT YEAR? 1 SPEAKS NORMALLY 2 SPEAKS WITH DEFECTS, SLOWLY Since 19 ____

	3 CAN'T INARTICULATE UNDERSTANDABLY, DUMB |_|_|	Since 19

The distribution by the variable is as follows:

LimactB

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes,strongly limited	203	5.0	5.0	5.0
	2 Yes, limited	450	11.1	11.1	16.0
	3 No, not limited	3419	84.0	84.0	100.0
	Total	4072	100.0	100.0	

3.5.5.4. Physical and sensory functional limitations

3.5.5.4.1. Limitations as regards walking

The Estonian question does not correspond exactly to the wording required in the European HIS and the question b20 is as follows:

B20	Do health problems significantly limit your moving around? 1 No 2 Yes, I have to stay close to home	Since 19	|_|_|
	3 Yes, I do not leave the house/flat	Since 19	|_|_|

However, we think that in its principle the question describes adequately the limitations in physical activity.

Walk

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, I do not leave the house/flat	47	1.1	1.1	1.1
	2 Yes, I have to stay close to home	138	3.4	3.4	4.5
	3 No, not limited	3887	95.5	95.5	100.0
	Total	4072	100.0	100.0	

3.5.5.4.2. Limitation in seeing clearly

the face of someone from 4 metres is captured in the question b22.

B22	Is your eyesight good enough (with glasses, lenses if you wear them) to recognize people at a distance of four meters? 1 Yes

	2 No, but I recognize people at a distance of one meter	Since 19 __|
	3 No, I even don't recognize them at a distance of one meter, BLIND	Since 19 __|

Seefar

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, strongly limited, almost blind	6	.2	.2	.2
	2 Yes, limited, recognises a person in 1 meter	47	1.2	1.2	1.3
	3 No, not limited	4019	98.7	98.7	100.0
	Total	4072	100.0	100.0	

3.5.5.4.3. Limitations in hearing

For **limitations in hearing** question b21 captures the basic of the idea, although it is differently rephrased.

B21	Is your hearing good enough (with a hearing aid if you use one) to listen radio/TV programs played at normal volume? 1 Yes 2 No, only when I turn up the volume Since 19 __| 3 No, I don't hear even when I turn up the volume, DEAF Since 19 __|

Hear

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, I do not hear even when I turn radio/TV volume up, deaf	7	.2	.2	.2
	2 Yes, I hear only when the volume is turned up	87	2.1	2.1	2.3
	3 No, not limited	3977	97.7	97.7	100.0
	Total	4072	100.0	100.0	

In Estonian questionnaire we lack variables which correspond to **near-sightedness** and **limitations in lifting** or carrying something [SEENEAR] [CARRY].

3.5.5.5. Personal care activities

In Estonian questionnaire we cannot distinguish between different activities in taking care of oneself. However,there isone question which captures **all the personal care activities** in one question. We have constructed therefore a new variable 'fbdtd' .

B 1 9	Do health problems limit your managing by yourself such as eating, washing yourself, dressing, using the toilet? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I

FBDTD

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes, I need help continuously	27	.7	.7	.7
	2 Yes, but mainly I can manage myself	44	1.1	1.1	1.7
	3 No, not limited	4001	98.3	98.3	100.0
	Total	4072	100.0	100.0	

3.5.5.6. Mental health

For mental health we have used different questions which make it difficult to provide the answers according to GHQ-12, MHI-5 or SF-36.

The Estonian questionnaire was based on the Emotional State Questionnaire, which enables to assess symptoms of depression and self-reprtedness on depression and anxiety [13, 14].

In correspondence to MHI, only 2 questions from the question B26 match 9f=B26_1 and 9b=B26_20. For GHQ we could find exact correspondence only for 2=B26_22, 12=B26_5, 10=B26_1. For vitality correspondence 9a=B26_4, 9e=B26_8, 9g=B26_19, 9i=B_21 (scale for asthenic situation in Estonian version), however the scale differs to a great extent for which reason we have not computed any approximated variable and present the data for the question as it was asked in the Estonia questionnaire.

We hereby present the questions asked in the question b26.

B 2 6	One can be healthy or sick, but more important is how one feels himself. Please evaluate to what extent each of the following has troubled you during the last four weeks [READ ONE BY ONE]. CHART B26 1 Not at all 2 Rarely 3 Sometimes 4 Often 5 Continuously	Not at all	Rare-	Some-	Often	Con-ti

			ly	times		nu-ously
1	Feelings of sadness	1	2	3	4	5
2	Feeling easily irritated or annoyed	1	2	3	4	5
3	Feeling no interest or pleasure in things	1	2	3	4	5
4	Fatigue or loss of energy	1	2	3	4	5
5	Feelings of worthlessness	1	2	3	4	5
6	Self-accusations	1	2	3	4	5
7	Recurrent thoughts of death or suicide	1	2	3	4	5
8	Diminished ability to think or concentrate	1	2	3	4	5
9	Feeling slowed down	1	2	3	4	5
10	Difficulty falling asleep	1	2	3	4	5
11	Restless or disturbed sleep	1	2	3	4	5
12	Waking up too early	1	2	3	4	5
13	Excessive sleepiness	1	2	3	4	5
14	Loss of appetite	1	2	3	4	5
15	Excessive appetite	1	2	3	4	5
16	Feeling lonely	1	2	3	4	5
17	Hopelessness about the future	1	2	3	4	5
18	Impossibility to enjoy things	1	2	3	4	5
19	Rest does not restore strength	1	2	3	4	5
20	Feeling anxious or fearful	1	2	3	4	5
21	Being easly fatigued	1	2	3	4	5
22	Tension or inability to relax	1	2	3	4	5
23	Excessive worry about several different things	1	2	3	4	5
24	Feeling so restless that it is hard to sit still	1	2	3	4	5
25	Sudden attacks of panic with palpitations, short-ness of breath, faintness or other frightening bodi-ly sensations	1	2	3	4	5
26	Easily startled	1	2	3	4	5
27	Afraid to be the centre of attention	1	2	3	4	5
28	Fear of interaction with strangers	1	2	3	4	5
29	Fear of going outside the house/flat alone	1	2	3	4	5
30	Feeling afraid in streets or open places	1	2	3	4	5
31	Fear of fainting in public	1	2	3	4	5

32	Feeling afraid of travelling in a bus, train or car	1	2	3	4	5
33	Fear of having a serious illness that has been not diagnosed by the doctors	1	2	3	4	5

3.5.5.7. Temporary cutdown in usual activities

The Estonian questionnaire does not provide exact correspondence to the question asked. The answer can be derived only for those persons who were working and did not go to work due to illness during last 4 weeks.

D39	Have you had to be absent from work during the last four weeks? 1 Yes 2 No	**2 D41**
D40	What was the reason and how long were you absent? CHART D40 1 Vacation Number of days I_I_I 2 I used the available days off Number of days I_I_I 3 I had no work Number of days I_I_I 4 I was ill Number of days I_I_I 5 Family member's illness Number of days I_I_I 6 Just didn't reach to work Number of days I_I_I 7 OTHER ..... Number of days I_I_I	

For the reason of being not comparable the variable is named 'cutdowna'. Among the missing remained one who could not tell exactly and the other one who had refused to answer.

CutdownA

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Absent due to illness from work	162	4.0	4.0	4.0
	2.00 Not absent	2185	53.7	53.7	57.7
	3.00 Never worked	276	6.8	6.8	64.5
	4.00 Not currently working	1447	35.5	35.5	100.0
	Total	4070	100.0	100.0	
Missing	System	2	.0		
Total		4072	100.0		

For the 162 who had been absent from work due to illness the number of days being ill was constructed in a variable 'cutd_no'. The distribution of the variable isa s follows:

CUTD_NO

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	13	.3	8.0	8.0
	2.00	11	.3	6.6	14.6
	3.00	12	.3	7.3	21.9
	4.00	9	.2	5.6	27.4
	5.00	8	.2	4.9	32.4
	6.00	3	.1	1.9	34.2
	7.00	13	.3	8.0	42.2
	8.00	3	.1	1.9	44.1
	9.00	1	.0	.6	44.7
	10.00	11	.3	6.8	51.5
	11.00	2	.0	1.2	52.7
	12.00	4	.1	2.5	55.2
	13.00	2	.0	1.2	56.4
	14.00	12	.3	7.4	63.8
	15.00	3	.1	1.9	65.7
	16.00	2	.0	1.2	66.9
	17.00	5	.1	2.9	69.8
	18.00	2	.0	1.2	71.0
	20.00	13	.3	7.8	78.8
	21.00	6	.1	3.7	82.5
	22.00	1	.0	.6	83.1
	23.00	3	.1	1.9	85.0
	24.00	2	.0	1.0	86.0
	25.00	2	.0	1.2	87.3
	26.00	1	.0	.6	87.9
	28.00	20	.5	12.1	100.0
	Total	162	4.0	100.0	
Missing	System	3910	96.0		
Total		4072	100.0		

3.5.5.8. Height and weight

Body mass index is based on questions g27 and g28. We have constructed the body mass index from these two questions in a variable ’bmi_a’ and the threshold question ’bmi’.

Hereby we present the distribution for bmi. 9 respondents yield missing answers, 6 of them did not know their weight or height and 3 refused to answer.

BMI

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Less than 18.0	72	1.8	1.8	1.8
	2 =>18.0 and<18.5	51	1.3	1.3	3.0
	3 =>18.5 and <25.0	2145	52.7	52.8	55.8
	4 =>25.0 and <27.0	616	15.1	15.2	71.0
	5 => 27.0 and<30.0	640	15.7	15.7	86.7
	6 =>30.0	539	13.2	13.3	100.0
	Total	4063	99.8	100.0	
Missing	System	9	.2		
Total		4072	100.0		

3.5.5.9. Present and former smoking

The present smoking habits rely on the question G06 and G08:

G06	Thinking back to the last four weeks, have you smoked during this period? 1 Yes 2 No	**1↓ G08**
G08	How frequently have you smoked during the last four weeks? 1 Every day (almost every day) 2 3–4 times in week 3 1–2 times in week 4 1–3 times in month	

For the variable 'smoke' those who have smoked during the last four weeks either every day or 3-4 times a week are classified as daily smokers, the others as occasional smokers. All those who have not smoked during the last 4 weeks, including those never smoked, are classified as non-smokers. 5 remain missing, of whom 2 do not answer (themselves) and 3 refused.

Smoke

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Did not smoke	2653	65.2	65.2	65.2
	2.00 Occasionally, 1-3 times a week	61	1.5	1.5	66.7
	3.00 Daily	1353	33.2	33.3	100.0
	Total	4067	99.9	100.0	
Missing	System	5	.1		
Total		4072	100.0		

For the non-smokers the variable 'pastsmok' is constructed on the basis of questions g01 and g02.

G01	Have you ever in your life smoked more than just to taste? 1 Yes 2 No
G02	Have you ever in your life smoked regularly, i.e. practically every day during one year at least? If yes, how many years in all? 1 Yes Years in all ___ 2 No

Of those who had smoked regularly in their lifetime are classified as daily smokers, of those having smoked than to taste but answered that they were not every-day smokers were classified as occasional smokers in the past.

Pastsmok

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Did not smoke	2010	75.8	75.8	75.8
	2 Occasionally, 1-3 times a week	88	3.3	3.3	79.1
	3 Daily	555	20.9	20.9	100.0
	Total	2653	100.0	100.0	

The variable 'cigsmoke' is derived for the present smokers on the basis of question G09. We have computed the number of cigarettes on the assumption that smoking of non-filter cigarettes equals to two filter cigarettes, 4 or more pipes or cigars per day equal to 20 cigarettes (1g of nicotine in a filter cigarette, 5 g of nicotine in 1 pipe or cigar).

G09	What and how much per day on average did you smoke during the last four weeks? 1 Filter cigarettes Number per day ___ (1 pack=20cigarettes) 2 Non-filter cigarettes Number per day ___ 3 Pipes Number of pipes per day ___ 4 Cigars Number per day ___ 5 OTHER ..... Number per day ___

On the basis of these assumptions the distribution of smokers is as follows (missing are presently non-smokers) :

Cigsmoke

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Less than 20 cigarettes per day	904	22.2	64.0	64.0
	2.00 20+ cigarettes per day	510	12.5	36.0	100.0
	Total	1414	34.7	100.0	

Missing	System	2658	65.3		
Total		4072	100.0		

3.5.5.10. Consumption of alcohol

Drinkers of alcohol in the past 12 months

In the Estonian questionnaire we cannot get the direct correspondence to the question. The question is based on the questions g14 (have ever drank alcohol in one's life), and g22(when did they last use alcohol). In our assumption those who have indicated that the last period of consumption fell within the last 12 months from the interview timer are included in the variable as drinkers during the last 12 months in a variable 'drink_12' to whom are added those who drank during the last 4 weeks. 12 persons have missing values, of whom 2 initially did not answer for themselves, 3 refused, 1 who had consumed alcohol in his lifetime refused further answers, 6 did not remember when they last had drunk.

G14	Have you ever in your life drunk alcohol more than just to taste? 1 Yes 2 No	**2↓ G27**
G21	Thinking back to the last four weeks, have you used alcohol during this period? 1 Yes 2 No	**1↓ G23**
G22 **Y** **M**	In what year and month did you use alcohol for the last? Year 19 I_I_I Month I_I_I	**↓ G27**

DRINK_12

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2947	72.4	72.6	72.6
	2 No	1113	27.3	27.4	100.0
	Total	4060	99.7	100.0	
Missing	System	12	.3		
Total		4072	100.0		

Drinkers of alcohol during the last 4 weeks

Based on questions g21 and g14. 6 missing persons consist of 2 who have not known and 3 who have refused to answer, including one who has answered that he has consumed alcohol in his lifetime, but refused to answer to the next questions.

DRINK_4W

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2162	53.1	53.2	53.2
	2	1903	46.7	46.8	100.0

	No				
	Total	4066	99.8	100.0	
Missing	System	6	.2		
Total		4072	100.0		

For drinkers during 4 weeks the category of approximate days can be constructed only approximately from the question which asks the frequency of drinking g23,the variable 'drink4_d', in which the frequency has been derived as follows: every day =28 days, 3-4 times a week=14 days, 1-2 times a week =6 days, 1-3 times a week=2 days.

G23	How frequently did you use alcohol during the last four weeks? 1 Every day (almost every day) 2 3–4 times in week 3 1–2 times in week 4 1–3 times in month

DRINK4_D

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2	1553	38.1	71.8	71.8
	6	481	11.8	22.2	94.0
	14	66	1.6	3.1	97.1
	28	63	1.6	2.9	100.0
	Total	2162	53.1	100.0	
Missing	System	1909	46.9		
Total		4072	100.0		

3.5.5.11. Physical activity

In the Estonian questionnaire we do not have exact correspondence to the categories requested, in particular for categories 3 (bicycling, walking) or 4 (reading, watching TV). However, we present approximations for 2 first categories on the basis of the following questions:
Competitive sports:

G35	Have you ever in your life gone regularly in for competitive sports during at least one year? 1 Yes 2 No	**2↓ G39**
G37	How often did you go in for competitive sports in that period when your sporting was most intensive? 1 Every day (almost every day) 2 3–4 times in week 3 1–2 times in week 4 1–3 times in month	
G	In what year did such period in your life start and when did it end?	

38A B	Year of beginning 19 I_I_I Year of ending 19 I_I_I

If a person has regularly gone for competitive sports and during the most intensive period at least gone for sports 1-2 times a week and the period of the intensive sports ended later than in 1995 (within a year up to the interview), the person is classified as gone for competitive sports. With this assumption the circle is a bit restricted, because those having quitted the intensive period maybe 12-9 months prior to the interview are not included. On the other hand, those who have quitted the competitive sports altogether within the year 1996 are included ass till going for competitive sports.

Recreational sports:

G40	Have you gone in for recreational sports during the last four weeks? 1 Yes 2 No	**1↓ G42**
G42	How often did you go in for recreational sports during the last four weeks? 1 Every day (almost every day) 2 3–4 times in week 3 1–2 times in week 4 1–3 times in month	

If a person has gone for recreational sports during the last 4 weeks at least 1-2 times a week, the person is classified as going for recreational sports.

PHYSACT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Competitive sports once a week	76	1.9	9.7	9.7
	2 Recreational sports once a week	711	17.5	90.3	100.0
	Total	787	19.3	100.0	
Missing	System	3284	80.7		
Total		4072	100.0		

3.5.5.12. In patient care

In patient hospitalization during the last 12 months is based on the interviewer question f21. In our coding into variable 'inpat' those who have been in hospital, but only for one day (f22b) are in the 'inpat' variable counted as no in-patients. Among 3 persons missing 1 does not know whether he/she has been in the hospital and 2 refused to answer.

F21	**DIRECTING QUESTION FOR THE INTERVIEWER:** HAS THE RESPONDENT BEEN AT HOSPITAL DURING THE LAST 12 MONTHS? SEE QUESTIONS **F19**.	

	1 Yes 2 No	**2↓ F23**
F22A B	How many times during the last 12 months you have been at hospital and what was the total number of days spent by you at hospital? Number of times I_I_I Number of days I_I_I_I	

INPAT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes has been hospitalized	480	11.8	11.8	11.8
	2 No, not hospitalized	3588	88.1	88.2	100.0
	Total	4069	99.9	100.0	
Missing	System	3	.1		
Total		4072	100.0		

For the variable 'daypat' those who have been hospitalized during last 12 months for 1 day are included.

DAYPAT

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00 Yes, has been hospitalized	6	.1	.1	.1
	2.00 No, not hospitalized	4063	99.8	99.9	100.0
	Total	4069	99.9	100.0	
Missing	System	3	.1		
Total		4072	100.0		

3.5.5.13. Out patient care

For constructing the variable indicating **consultations with a medical doctor during last 4 weeks** question f01 is used. If the last visit remains within the range of 1 month, the variable 'doc_4w' category 1 indicates those who have visited the doctor. Among the non-visitors answer to f01y indicates 20 of those who have never visited a doctor. Of the 9 missing,8 did not know when they lasy visited the doctor, 1 refused to answer.

F01 Y M	What year and month did you last visit the doctor because of your own health problem, routine check-up, to get advice or document (certificate)? Year 19 I_I_I Month I_I_I 99, 99 NEVER VISITED	**99, 99↓ F04**

F 0 2	**DIRECTING QUESTION FOR THE INTERVIEWER:** HAS THE RESPONDENT VISITED THE DOCTOR DURING LAST 12 MONTHS? 1 Yes 2 No	**2 ↓ F04**

DOC_4W

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	521	12.8	12.8	12.8
	2 No	3541	87.0	87.2	100.0
	Total	4062	99.8	100.0	
Missing	System	9	.2		
Total		4072	100.0		

From the interviewer directing question f02 those who have **visited a doctor within 1 year** are brought out in a variable 'doc_1y'. 1 missing answer belongs to a refusal.

DOC_1Y

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	2947	72.4	72.4	72.4
	2 No	1124	27.6	27.6	100.0
	Total	4071	100.0	100.0	
Missing	System	1	.0		
Total		4072	100.0		

Number of consultations with a doctor are derived for visitors from the questions f031 to f036 which include visits because of a health problem (f031), checking health (f032), consultation (f033), obtain a medical certificate (f034), obtain a prescription (f035) and as a donor (f036).

F 0 3	For what reasons and how many times at each reason you have visited the doctor during the last 12 months? 1 Health problem No of times __|__| 2 Routine check-up No of times __|__| No of times __|__| 3 To get an advice No of times __|__| .....……..... No of times __|__| 4 To get a document (certificate) 5 OTHER

DOC_1YNO

		Frequency	Percent	Valid Percent	Cumulative Percent
Vali	1	1174	28.8	39.8	39.8

d	2	646	15.9	21.9	61.8
	3	342	8.4	11.6	73.4
	4	221	5.4	7.5	80.9
	5	139	3.4	4.7	85.6
	6	105	2.6	3.6	89.2
	7	47	1.2	1.6	90.8
	8	43	1.0	1.4	92.2
	9	16	.4	.6	92.8
	10	59	1.4	2.0	94.8
	11	13	.3	.5	95.2
	12	49	1.2	1.7	96.9
	13	15	.4	.5	97.4
	14	14	.4	.5	97.9
	15	14	.3	.5	98.3
	16	6	.1	.2	98.5
	17	2	.0	.1	98.6
	18	5	.1	.2	98.8
	19	4	.1	.1	98.9
	20	12	.3	.4	99.3
	21	2	.0	.1	99.4
	22	3	.1	.1	99.5
	23	0	.0	.0	99.5
	24	5	.1	.2	99.7
	25	1	.0	.0	99.7
	26	2	.0	.1	99.8
	30	4	.1	.1	99.9
	34	0	.0	.0	99.9
	36	1	.0	.0	99.9
	40	0	.0	.0	99.9
	46	1	.0	.0	99.9
	67	1	.0	.0	100.0
	90	1	.0	.0	100.0
	Total	2947	72.4	100.0	
Missing	System	1125	27.6		
Total		4072	100.0		

Visits to a dentist during 1 year are constructed on the basis of questions f34 and f35. In the latter those who have indicated for the year 1996 or 1997 are included which might a bit underestimate the number of those who have visited the doctor. Among 22 missing 18 could not recall the year of the visit, 2 did not recall visiting a dentist altogether and 2 refused to answer.

DEN_1Y

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1 Yes	1890	46.4	46.7	46.7
	2 No	2160	53.0	53.3	100.0
	Total	4050	99.5	100.0	

	l				
Miss ing	Syst em	22	.5		
Total		4072	100.0		

The **number of visits to a dentist** during 1 year cannot be computed due to the lack of information in our questionnaire.

As in the Estonian questionnaire we did not have a question for the **visits to a dentist in last 4 weeks**, this variable cannot be computed.

3.5.5.14. Preventive care

Estonian questionnaire does not include questions on immunization against influenza.

Screening breast

In the Estonian questionnaire question f40 corresponds exactly to the relevant variable 'breast'.

Missing values include 1912 men and 1 female respondent who did not know the answer and 1 female refusal.

Screening of breast cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	230	5,6	10,6	10,6
	No	1928	47,4	89,4	100,0
	Total	2158	53,0	100,0	
Missing	System	1914	47,0		
Total		4072	100,0		

Delay: for women who ever had a mammography

In the Estonian questionnaire the year of two last mammographies is asked in question f41.

F 4 1	When did you have the two last mammograms? 1 Last examination Year 19 |__|__| 2 Last but one examination Year 19 |__|__| (IF THE LAST BUT ONE MISSING, WRITE 99)

The answer is derived from the year of the last examination. In case it has been within the year from the interview (small overcoverage for those who had the interview in the last months of the fieldwork and happened to had mammography maximum for a month more ago than 1 year) are classified as having had the examination within the range of 1 year, those who had it in 1995 are classified as 2 years ago and those who had it prior to 1995 are classified as having had it more than 2 years ago. From the total of 230 one missing person was added by not having known the year of last examination.

Delay in screening for breast cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	During last year	48	1,2	21,2	21,2

	One or two years ago	39	,9	16,9	38,1
	More than 2 years ago	141	3,5	61,9	100,0
	Total	229	5,6	100,0	
Missing	System	3843	94,4		
Total		4072	100,0		

Screening for cervical cancer.
Similarly the relevant variable 'cervical' is constructed based on question f46 in the Estonian questionnaire. Missing persons also comprise of the same categories.

Screening on cervical cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	486	11,9	22,5	22,5
	No	1672	41,1	77,5	100,0
	Total	2158	53,0	100,0	
Missing	System	1914	47,0		
Total		4072	100,0		

Delay: for respondents who ever had a cervical cancer test
The variable 'delaycervical' is constructed on the basis of f47, similarly as explained for variable 'delaybreast'. However, of the total 486 who had made the PAP-test, 3 could not tell the last year when the test was taken and are added to the other missing persons.

Delay in screening on cervical cancer

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	During last year	147	3,6	30,3	30,3
	One or two years ago	82	2,0	16,9	47,2
	More than 2 years ago	255	6,3	52,8	100,0
	Total	483	11,9	100,0	
Missing	System	3588	88,1		
Total		4072	100,0		

3.5.5.15. Use of medicines

Medicines prescribed by a physician.
The variable relies on the table of medicines, which asks for several categories of medicines whether a person has ever (f49) and during last 4 weeks(f50) taken any of them and whether they were prescribed to him/her (f51). The question does not include those medicaments which were used during one's hospitalization and baby pills. The category ' Did not use medicines prescribed by a physician' in the variable 'prescmed' includes both those who have used medicines which were not prescribed by a physician as well as those who have never nor during the last 4 weeks used any medicines. 3 missing persons comprise of one who is under constant medical care and 2 have refused to answer.

Medicines prescribed by a physician

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Used prescribed by a physician	1107	27,2	27,2	27,2
	Did not use medicines prescribed by a physician	2962	72,7	72,8	100,0
	Total	4069	99,9	100,0	
Missing	System	3	,1		
Total		4072	100,0		

Medicines not prescribed by a physician

The above-described questions give the answer also for this variable 'nprescmed'. In this variable the category ' Did not use medicines not prescribed by a physician' include those who have taken medicines during the last 4 weeks but only those prescribed by a physician. As the category 'Used non-prescribed medicines' is formed after the previous category, it takes all those who have used non-prescribed medicines into account and diminishes the amount who have used also prescribed medicines. For that reason the totals for the same variable worded in the first category as 'used prescribed by a physician' do not correspond to each other. All others are indicated in the variable as missing.

Medicines not prescribed by a physician

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Used non-prescribed by a physician	1049	25,8	55,8	55,8
	Not used medicines not prescribed by a physician	830	20,4	44,2	100,0
	Total	1879	46,1	100,0	
Missing	System	2193	53,9		
Total		4072	100,0		

3.5.5.16. Drugs

In the Estonian questionnaire we have not asked the question specifically about different drugs, including cannabis. Some approximation can be derived from the usage of sedatives (f50_6 for 4 weeks, restricted by f51_6 if not prescribed) and for approximation of 12 months question f53_6 whether this habit was usual.

F49	Next we are going to talk about using the medicaments. Don't count these medicaments what you have used during hospitalization and also not the pills. Have you ever used in your life....	**2↓ F49 next column or↓ text after F55**
F50	Have you used [THESE MEDICAMENTS ...] during the last four weeks?	**2↓ F53**
F51	Were [THESE MEDICAMENTS ...] prescribed or not?	
F52	On how many days in all did you use [THESE MEDICAMENTS ...] during the last four weeks?	
F53	Is this frequency of using usual for you during the last 12 months?	

On the basis of these questions for 4 weeks the variable 'druga_4w' is constructed.

Usage of non-prescribed sedatives in 4 weeks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Used non-prescribed sedatives in 4 weeks	160	3,9	16,5	16,5
	Used prescribed sedatives in 4 weeks	222	5,4	23,0	39,5
	Did not use sedatives in 4 weeks	585	14,4	60,5	100,0
	Total	966	23,7	100,0	
Missing	System	3106	76,3		
Total		4072	100,0		

For the variable of 12 months the questions cannot distinguish between those who have not used sedatives for last 4 weeks, but have used earlier. We did not use here ever usage (f49_06). For that reason, although those who usually during last 12 months have not used sedatives fall still in the category of usage during 12 months (as they have used it in last 4 weeks), thus for non-prescribed users the number of persons remains the same also for 12 months (variable 'druga_12'). On the account of those who had not used

sedatives during last 4 weeks, but usually use them more, we have increased the number of those who use prescribed sedatives (we cannot tell that it is vice versa).

Usage of non-prescribed sedatives in 12 months

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Used non-prescribed sedatives in 12 months	160	3,9	16,5	16,5
	Used prescribed sedatives in 12 months	487	12,0	50,4	67,0
	Did not use sedatives in 12 months	319	7,8	33,0	100,0
	Total	966	23,7	100,0	
Missing	System	3106	76,3		
Total		4072	100,0		

3.5.5.17. Diet/food consumption habits

In the Estonian questionnaire we lack any questions on a special diet. We also do not think that the approximation of loss or gain of weight for more than 10 kg in the last 3 years could be an indication of a diet (it might easily be derived from other health reasons) [questions g31 to g34], however, it can be used as some sort of notion for a variable 'dieta'.

G31	Have you had after the age 20, the periods when you have gained 10 kg or more in your weigh during one year? [DO NOT CONSIDER THE PERIOD OF CHILD BEARING, BUT CONSIDER THE PERIOD AFTER CHILD BIRTH] 1 Yes 2 No
G32 **A** **B** **C** **D**	In what year did you have this period for the first/next? Year 19 ___ Year 19 ___ Year 19 ___ Year 19 ___
G33	Have you had after the age 20, the periods when you have lost 10 kg or more in your weigh during one year? [DO NOT CONSIDER THE PERIOD AFTER CHILD BIRTH] 1 Yes 2 No
G34 **A** **B** **C** **D**	In what year did you have this period for the first/next? Year 19 ___ Year 19 ___ Year 19 ___ Year 19 ___

Lost or gained 10 kg in 3 years

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Gained 10 kg in last 3 years	55	1,4	27,5	27,5
	Lost 10 kg in last 3 years	145	3,6	72,5	100,0
	Total	200	4,9	100,0	
Missing	System	3872	95,1		
Total		4072	100,0		

Change in eating habits

In the Estonian questionnaire the change in eating habits is measured by change in usage of salt and fat (g44,g45 and g46, g47). This approximation does not exactly correspond to the requested data, for which reason we present it in a variable 'changeata'. We also cannot distinguish the timeframe for the indicator. Among 6 missing values 3 did not know the answer and 3 refused.

G44	In the following some questions about your eating habits. At what conditions do you add salt to food at time of eating? 1 Almost never 2 Usually when the food is not enough salty 3 Quite often before tasting the food
G45	Has such using of salt been usual for you during your life, or did you earlier use more salt or use less salt? 1 Yes, it has been usual 2 No, earlier I used more salt 3 No, earlier I used less salt
G46	With what fat content of food do you usually prefer? CHART G46 1 I prefer more fatty food: never cut fat from meat, prefer fried food, I use animal fats for frying, use milk and cream with high fat content, use a lot of butter on bread 2 Do not turn attention to the fat content of food 3 I try to eat less fat if possible: I cut fat off from meat, do not eat fried food or use vegetable oil for frying, use a little of butter on bread or use margarine instead of butter, use milk and cream with low fat content
G47	Has such using of fat been usual for you during your life, or did you earlier use more fat or use less fat? 1 Yes, it has been usual 2 No, earlier I used more fat 3 No, earlier I used less fat

Change in eating habits

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Changed usage in salt or fat during one	192	4,7	4,7	4,7
	2,00	3874	95,1	95,3	100,0
	Total	4066	99,9	100,0	
Missing	System	6	,1		
Total		4072	100,0		

3.5.5.18. Quality of life

The variable 'qol' has not direct correspondence but can be derived from the more general question h10_6.

H10 How much are you satisfied with your ...

CHART H10

1 Satisfied 2 Rather satisfied 3 Rather not satisfied 4 Not at all satisfied

	Satisfied	Rather satisfied	Rather not satisfied	Not at all satisfied
1 Job	1	2	3	4
2 Career/advancement in life	1	2	3	4
3 Family life	1	2	3	4
4 Economical situation	1	2	3	4
5 Leisure time activities	1	2	3	4
6 Life in general	1	2	3	4

This variable lacks the category for average evaluation in the Estonian questionnaire. Among 27 missing values 3 did not know the answer to the question and 4 refused, other 20 seem to be omitted due to an interviewer error, who did not ask these questions in the whole H block from them.

Quality of life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Satisfied with life	1451	35,6	35,9	35,9
	Rather satisifeid with life	1637	40,2	40,5	76,4
	Rather not satisfied with life	744	18,3	18,4	94,7
	Not satisfied with life	212	5,2	5,3	100,0
	Total	4044	99,3	100,0	
Missing	System	27	,7		
Total		4072	100,0		

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4. Measurement of health determinants in Estonia since 1990

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The aim of this report is to
(1) describe the surveys performed in Estonia since 1990 (1980)
(2) figure out if health studies have assessed health indicators (ECHI-2 & HIS-18) chosen by European Council for regular registration in each EU member state
(3) point out what surveys will be needed to perform in order to cover all health indicators both among adults and children/adolescents

Method of the analysis
A special format (see table in Appendix 1) was worked out to describe the design and sample of every survey performed. Another table (see Appendix 2) was developed where all health indicators (ECHI-s and HIS-18) were listed together with surveys that had studied these factors.

To get the overview about most of the surveys assessing health indicators, all published reports of repeated surveys available in libraries including electronic databases were looked through.
Next, all grants delivered by the Estonian Science Foundation (ETF), Sick Fund Health Promoting Projects Foundation, targeted funding projects delivered by the Ministry of Education and Science, and other known funding sources were examined and potential surveys were chosen.
Thirdly, key persons in main research institutions in Estonia were asked about the surveys performed in order to pick up projects carried out with external funding and missed by other method of searching.
If the information about the sample size and/or the methodology was not published or available in internet, the authors of selected surveys were contacted via e-mail.
Surveys that were in their planning or data collection phase were also included into totada database of surveys (see Appendix 1).

Results

Description of health surveys carried out since 1990 (some since 1980)

This report is based on 107 surveys that were available for the authors of this report. Some of the surveys referred here, are in the planning or data collection phase, thus actual information about sample size is not available. In some cases the data characterizing a survey was not available, thus "?" marks have been included into tables.

The surveys described in this report are divided according to the
4.1. design (repeated or cross-sectional),
4.2. sample size (<500; 501-100; >1000),
4.3. sample age (adults 15+, only children/adolescents or both) (Table 6)
4.4. method (health interview surveys - HIS or health examination surveys – HES).

Table 6. The number of repeated and cross-sectional health interview surveys (measuring health indicators ECHI-2 & HIS-18) with different sample size and age

Age	Repeated			Cross-sectional				Total
	< 500	501-1000	> 1000	< 500	501-1000	> 1000	Not known*	
Adults	**3**	**3**	**9**	**18**	**10**	**8**	**13**	64
Children/adolescents	**2**	**4**	**8**	**4**	**4**	**8**	**4**	34
Adults and children/adolescents	**0**	**5**	**0**	**0**	**1**	**2**	**0**	8
Total	5	12	17	22	15	18	17	106

*** data not available about the sample size**

4.1. Design of the surveys

According to the design, the surveys were divided into 2 groups - cross-sectional and repeated surveys. Repeated surveys were mainly repeated in different persons with the same age. Only few surveys had used longitudinal design with the same participants in the dynamics of the time.
In order to receive the prevalence information about health indicators, repeated studies are most suitable. If causal relationship is studied, longitudinal design is necessary.
The proportion of repeated surveys was 32% and cross-sectional surveys 68%.

4.2. Sample size

In most of the repeated surveys, larger (>1000) sample sizes were preferred. In case of cross-sectional surveys, smaller samples were used more frequently.

4.3. Sample age

The age of participants in most of the surveys carried out among adults was 15-64 years.

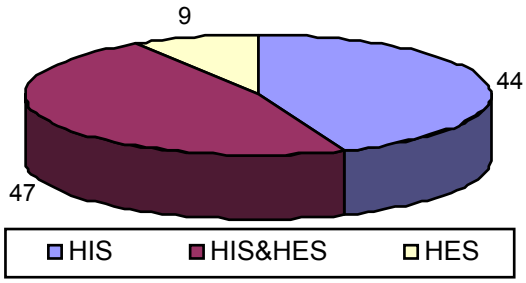
The surveys performed in children/adolescents had sampled mainly only certain ages: 11, 13 or 15, or according to the grade at school. There were no surveys that covered all ages during the childhood and adolescence. And very few repeated surveys had covered several age groups.

4.4. Method of the survey

Most of the surveys used HIS (health interview survey) method and few studies have implemented HES (health examination). Several studies had used both HIS and HES methodology (Figure 1). HIS- methodology is easier and allows to collect data from large

number of people. HES- methodology is more accurate and objective, but also much more expensive. The proportion of HIS+HES surveys is large because several cross-sectional surveys were performed with patients that were also examined medically during the survey.

Figure 1. The distribution of HIS, HES and HIS/HES methodology in analysed surveys



Only 9 surveys performed in adults (Table 2a) and 8 surveys performed in children/adolescents (Table 3a) were considered to be with a large (>1000) sample, repeated design, carried out on the regular basis and planning to continue in the future. Most of these surveys had drawn their sample from all regions of Estonia.

There were several surveys that had been carried out twice or more but that will probably not continue mainly because of funding problems (Table 2b and 3b).

Table 2a. Information about main 9 repeated surveys in adults

Study	**Beginning year**	**Last time performed**	**Frequency**	**No of times performed**	**Next time performed**
HBEAP	1990	2002	Biannual	7	2004
ESTONIA	1993	2003	5 years	3	2008?
EHIS	1996	1996	10 years	1	2006/07
HEART/ CINDI	1994?	1997	?	?	?
NORBA-GREEN	2002	2002	5 years	1	2007
HIV/AIDS	2003	2003	2 years	1	2005
PREG-NANT	1991	2003	Every year	12	2004
ANTROPOL6	2000	2003	Every year	4	2004
EPHT	1981	2000		?	?

Table 2b Repeated surveys in adults that will probably not be carried out in the future

Study	Beginning year	Last time performed	Frequency	No of times performed	Next time performed
NORBALT	1995	1999	4 years	2	-
ASTHMA2	1995	1998	?	2	?
STUDENT	1986	1996-99	10 years	2	-
NUTR1	1998	2000	4 years	2	?

Table 3a. Information about main 8 repeated studies in children/adolescents

Study	Beginning year	Last time performed	Frequency	No of times	Next time performed
HBSC	1991	2002	4 years	4	2006
ESPAD	1995	2003	4 years	3	2007
GYTS	2002/03	2002/03	5 yers	1	2007
CVD RF 3a	1998/99	2001/02	3 years	2	2004/05
HIV/AIDS	2003	2003	2 years	1	2005
ANTROPOL 2	1996 (1956)	1996	Analysis every 8-10 years	4	?
SMOKE	1991/92	1995/96	Bi-annually	3	?
ECCINDI	1997/98	2001/04	4 years	2	2005/06

Table 3b Repeated surveys in children/adolescents that will probably not be carried out in the future

Study	Beginning year	Last time performed	Frequency	No of times	Next time performed
KISS	1995	1999	4 years	2	-
CVD RF 1	1994/96	1999/01	5 years	2	? depends on funding

ANTROPOL 1a	1986-88	1998/99	?	2	

Most of the health surveys are about different types of health behaviour and self-reported health status. The dominant method for data collection has been a mailed questionnaire or self-administered questionnaire in the classroom. Less frequently face-to-face interview has been used.
Most surveys with the sample-size >1000 cover all regions of Estonia.

4.5. The coverage of health indicators (ECHI-2 & HIS-18) in surveys carried out in Estonia

All ECHI-2 and HIS-18 indicators were studied at least once in all 106 surveys analysed. At the same time several indicators were studied only in cross-sectional surveys with relatively small samples.

The health indicators and the number of surveys that had studied them is given in Table 4 and 5. In Appendix 3 health indicators studied in main 9 repeated surveys carried out in adults are presented.

If comparing with other health indicators, pregnant smoking, illicit drug consumption, breastfeeding, and especially environmental risk factors and social or workplace risk factors were studied less often. Several indicators about the quality of health and limitations due to chronic diseases were not available in repeated surveys with large sample size.

In children/adolescents few large scale surveys had studied blood pressure, fruits and vegetable intake, physical activity, contraceptive usage, environmental and working place (school) factors. HIS-18 indicators except BMI, smoking and alcohol consumption were also poorly studied in children and adolescents. Several HIS-18 indicators measure the limitations because of chronic disease and health problems, thus they are not relevant for children and adolescents.

Another problem with surveys carried out in children/adolescents was the age of subjects surveyed. Surveys usually cover only certain age groups. There is no large-scale health indicator survey in Estonia that covers all age groups.

Table 7. ECHI-2 indicators and the number of surveys that had studied them in adults and children

ECHI2 indicators	**All surveys**	**Adults**	**Childre n**
Body mass index	37	16	21
Bood pressure/hypertension	27	12	15
Regular smokers	39	18	21
Pregnant women smoking	3	3	0
Alcohol: % of heavy drinkers; frequency of heavy drinking	31	15	16
Total alcohol consumption	31	19	12
Use of illicit drugs (including children)	13	4	9
Intake of fruit exluding juice	29	13	16
Intake of vegetables excl. potatoes and juice	28	12	16

Physical activity (time spent, energy expenditure)	38	16	22
Contraseptive use	8	5	3
Breast feeding at various ages	5	3	2
Environmental health indicators	9	7	2
Social and/or workplace indicators	12	6	6

Table 8. HIS-18 indicators and the number of surveys that had studied them in adults and children

HIS18 indicators	**All surveys**	**Adults**	**Children**
Chronic conditions	23	16	7
Self-perceived health	31	22	9
Activity restriction	8	8	0
Physical and sensory functional limitations	7	7	0
Personal care activities	7	7	0
Mental health	6	6	0
Temporary cut down in usual activities	10	10	0
Height and weight	37	16	21
Present and former smoking	36	18	18
Consumption of alcohol	28	15	13
Physical activity	36	15	21
In patient care	7	7	0
Out patient care	4	4	0
Preventive care	4	4	0
Use of medicines	6	5	1
Use of drugs	10	5	5
Diet/food consumption habits	25	13	12
Quality of life	24	18	6

4.6. What surveys will be needed to perform in the future to cover all health indicators both among adults and children/adolescents

1. There is a need for a large scale survey(s) to study health indicators concerning environmental factors, social factors and workplace (school) related factors.
2. Indicators about pregnant smoking and illicit drug consumption in adults need more attention.
3. HIS-18 indicators are covered quite poorly in adults and very poorly in children/adolescents.
4. In children/adolescents a large-scale survey that covers all ages at leas from 7 to 18 is needed.
5. Few repeated surveys with large sample measure fruit and vegetable consumption, physical activity and contraceptive use in children and adolescents.

Appendix 3. List of Survey´s

Acronym Year 0f data collection	Survey	Methods	Sample/ Participants	Response rate (%)	Study area	Sex of respondents	Age of respondents	Contact person, Funding
HBEAP90 RS 1990	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	1500/1085	72,3	All regions	M & F	18 – 70	Anu Kasmel Estonian Medical Association (EMA), Estonian Centre for Health Education (ECHE), Department of Sociology of Estonian Radio, Finnish National Health Institute (KTL) **EMA, ECHE,KTL**
HBEAP92 RS 1992	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	1500/948	63,2	All regions	M & F	16 – 64	Anu Kasmel EMA, ECHE, KTL **EMA, ECHE,KTL**
HBEAP94 **RS** 1994	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	15001243	82,9	All regions	M & F	16 – 64	Anu Kasmel Estonian Centre of Health education and Promotion (ECHEP), Estonian Institute of Experimental and Clinical Medicine (EKMI), KTL **ECHEP, KTL**
HBEAP96 RS 1996	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	2000/1550	77,4	All regions	M & F	16 – 64	Anu Kasmel ECHEP, KTL **ECHEP, KTL**

HBEAP98 RS 1998	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	2000/1362	66	All regions	M & F	16 – 64	Anu Kasmel ECHEP, KTL **ECHEP, KTL**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
HBEAP00 RS 2000	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	2000/1340	67	All regions	M & F	16 – 64	Anu Kasmel ECHEP **Target program**
HBEAP02 RS 2002	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	2000/1338	67	All regions	M & F	16 – 64	Anu Kasmel ECHEP **Target program**
HBEAP04 RS 2004	Health Behaviour among Estonian Adult Population, Spring	HIS Postal questionnaires	5000/… data collection in May 2004	… data collection in May 2004	All regions	M & F	16 – 64	Mare Tekkel National Institute for Health Development (NIHD) **State budget**
EHIS96 RS 1996	Estonian Health Interview Survey	HIS "Face to face" interview	6019/4700	78,3	All regions	M & F	15 – 79	Mall Leinsalu EKMI **State budget**
EHIS06 RS Will be in 2006/07	Estonian Health Interview Survey	HIS "Face to face" interview	10 000 data collection in 2006/07	… data collection in 2006/07	All regions	M & F	15 – 79	Ingrid Täht NIHD **State budget**
NORBAGREEN RS 2002	The NORBAGREEN study	HIS Postal questionnaires	996/747	75	All regions	M & F	15 – 74	Sirje Vaask Tallinn Technical University **External source**
NORBALT94 RS 1994	**Living Conditions Study in Estonia NORBALT 1994**	HIS "Face to face" interview	5354/4883	91,2	All regions	M & F	18 – 65+	Dagmar Kutsar University of Tartu (UT),

								Faculty of Social Sciences **FAFO**
NORBALT 99 RS 1999	Living Conditions Study in Estonia NORBALT II	HIS "Face to face" interview	5224/4796	91,8	All regions	M & F	18 –65+	Dagmar Kutsar UT, Faculty of Social Sciences **FAFO**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
ESTONIA93 RS 1993	Estonia 1993	HIS Postal questionnaires	4000/1880	47	All regions	M & F	17 – 70	Anu Narusk Institute of International and Social Studies (IISS) **Target program**
ESTONIA 98 RS 1998	Estonia 1998	HIS Postal questionnaires	4000/2360	59	All regions	M & F	18 – 70	Anu Narusk IISS **Target program**
ESTONIA 03 RS 2003	Estonia 2003	HIS Postal questionnaires	3000/1620	54	All regions	M & F	18 – 70	Leeni Hansson IISS **Target program**
ESPAD 95 RS 1995	**The European School Survey Project on Alcohol and Other Drugs ESPAD 1995**	HIS Self-reported questionnaires in the class room	3754/3116	83	All regions	M & F	15 – 16	Anu Narusk IISS **Target program**
ESPAD 99 RS 1999	The European School Survey Project on Alcohol and Other Drugs ESPAD 1999	HIS Self-reported questionnaires In the class room	4226/3254	77	All regions	M & F	15 – 16	Anu Narusk IISS **Target program**

ESPAD 03 **RS** 2003	The European School Survey Project on Alcohol and Other Drugs ESPAD	HIS Self-reported questionnaires	2865/2464	86	All regions	M & F	15 – 16	Airi-Alina Allaste IISS **Target program**
GYTS **CS** 2002/03	The Global Youth Tobacco Survey in Estonia	HIS Self-reported questionnaires	5344/4179	78,2	All regions	M & F	13 – 16	Kädi Lepp NIHD **External source**
KISS 94 **RS** 1994	The Youth Sexual Maturation Survey "KISS" 1994	HIS Self-reported questionnaires	1100/1080	98,2	All regions	M & F	13 – 17	Krista Papp Family Planning Association **Estonian Health Insurance Fund**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
KISS 99 **RS** 1999	The Youth Sexual Maturation Survey "KISS" 1999	HIS Self-reported questionnaires	1689/1672	99	All regions	M & F	14 - 17	Krista Papp, Kai Part Family Planning Association **Estonian Health Insurance Fund**
EFFS **CS** 1995	Estonian Family and Fertility Survey 1995	HIS "Face to face" interview	6212/5019	80,8	All regions	F	20 - 69	Kalev Katus Estonian Inter-university Population Research Centre **UN**
HIV/AIDS **RS** 2003	Knowledge, attitudes and behaviour related to HIV/AIDS among Estonian Youth	HIS Postal and self-reported questionnaires	10164/6499	63,9	All regions	M & F	10 – 29	Liilia Lõhmus NIHD, **National Program for HIV prevention**
PREGNANT1 [1] **RS**	Prenatal risk factors and the outcome of	HIS HES	47 358/ 47 358	100	All regions	F	…	Helle Karro UT

1992-1994	pregnancy	Medical records						ETF 2978
PREGNANT2 CS 2002/03	Estonian pregnant woman health behaviour survey 2003	HIS Self-reported questionnaires at the maternity hospital	750/565	75,3	All regions	F	26.5±6.1 13-44	Marge Grauberg Ida-Viru County **Sick Fund Health promoting projects**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
CHILD CS 1997/98	Non-communicable disease appearance in schoolchildren	HIS Self-reported questionnaires HES by school nurse	44 000/ 22271	51,6	All regions	M & F	9 - 18	Lagle Suurorg Estonian Institute of Cardiology (EIC) State budget
HBSC1991 RS 1991	Estonian school-aged children's health, health behaviour and social environment in changing society	HIS Self-reported questionnaires in the class room	1037/1037	100	All regions	M & F	11, 13, 15	Mai Maser, Kaili Kepler ECHE **WHO**
HBSC1993 RS 1993/94	Estonian school-aged children's health, health behaviour and social environment in changing society	HIS Self-reported questionnaires in the class room	3616/3616	100	All regions	M & F	11, 13, 15	Mai Maser Kaili Kepler ECHEP **WHO**
HBSC1998 RS 1997/98	Estonian school-aged children's health, health behaviour and social environment in changing society	HIS Self-reported questionnaires in the class room	2473/2473	100	All regions	M & F	11, 13, 15	Mai Maser ECHEP **WHO**
HBSC2002 RS 2002	Estonian school-aged children's health, health behaviour and social environment in	HIS Self-reported questionnaires in the class	*	*	All regions	M & F	11, 13, 15	Mai Maser ECHEP **WHO**

	changing society	room						
CVD RF1 **RS** 1994 – 1996 1999 – 2001	Longitudinal changes in CVD risk factors in offspring of parents with CAD depending on risk profile	HIS Self-report questionnaires	122/122 children and their parents	100	All regions	M & F	7 – 18	Inna Tur EIC **ETF 96 & 3753**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
CVD RF 2a **RS** 1980 – 1999	Atherosclerotic disease risk factors monitoring on the basis of repeated epidemiological surveys on Tallinn schoolchildren	HIS Self-report questionnaires HES	627/468	74,6	Tallinn	M & F	14	Merileid Saava EIC **ETF 3188**
CVD RF 2b **CS** **1984-85**	Dislipidemi in children and adolescents in Tallinn	HIS Self-report questionnaires HES	1476/1328 795/716	90.0 90.1	Tallinn	M & F	10-15 13-15	Merileid Saava, EIC Targeted funding,
CVD RF 2c **RS** **1988-89**	Atherosclerotic risk factors in Tallinn schoolchildren related food habits	HIS Self-report questionnaires HES	716/569	74.6	Tallinn	M & F	13-15	Merileid Saava, EIC Targeted funding
CVD RF 3a **RS (longitude)** 1998/99	The Nature, Strength and Interactions between Genetic, Personal, Environmental and Lifestyle Factors in the Development of Some Atherosclerotic Cardio-	HIS Self-report questionnaires HES	1700/1176 (583+593)	76	Tartu & Tartu county	M & F	9.4 ±0.4 and 15.6±0.6	Maarike Harro UT **ETF 3277**

	vascular disease Risk Factors in 9- to 16-Year-Old Children							
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
CVD RF 3b RS (longitude) 2001/02	The Nature, Strength and Interactions between Genetic, Personal, Environmental and Lifestyle Factors in the Development of Some Atherosclerotic Cardio-vascular disease Risk Factors in 9- to 16-Year-Old Children	HIS Self-report questionnaires HES	593 +50 (all 15-years old studied in 1998/99 + 50 new participants)	67	Tartu & Tartu county	M & F	18.6±0.6	Maarike Harro UT **ETF 3277** **ETF 5209**
CVD RF 3c RS (longitude) 2004/05	The Nature, Strength and Interactions between Genetic, Personal, Environmental and Lifestyle Factors in the Development of Some Atherosclerotic Cardio-vascular disease Risk Factors in 9- to 16-Year-Old Children	HIS Self-report questionnaires HES	583 (all 9-years old studied 1998/99 + 50 new participants)	… data collection starts in Sept 2004	Tartu & Tartu county	M & F	15	Maarike Harro UT/ NIHD **ETF 5209**
CVD RF 4 CS, RS 1981-2001	Long-term trends of CVD risk profile in adults and children in relation to diet and life-	HIS HES	634 M 692 F 468 pupils	›65	Tallinn	M & F	20-54 14 y	Merileid Saava Olga Volozh ECI

risk profiles	style (cross-sectional epidemiological surveys 1981-2000)		in 1998-2000					Targeted funding
STUDENT 1 CS 1996	Health attitudes and health behaviours of Estonian students 1996	HIS Postal questionnaire (via Universities)	1270/723 I and III years students	57%	All Estonia 6 Universities	M & F	Mean 21	Dagmar Kutsar, Eha Rüütel UT and Tallinn Pedagogical University **ETF 2005**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
STUDENT 2 CS 1996-1999	Health of students 1996-1999	HIS Self-administered questionnaire HES	5320/452	8,5	Students in the University of Tartu	M & F	Mean 21	Taie Kaasik UT **ETF 2406**
ROOM1 CS	Mould spores in workplaces and their influence for health	HIS HES	520/429	82,2	Tartu	M & F	Mean 39	Argo Soon, UT **ETF 2484**
ROOM2 CS 1999 - 2001	The Sick Building Syndrome in Office Workers in Estonia	HIS Self-reported questionnaires HES	275/258	94	Tartu	M & F	Mean 38,5	Argo Soon UT **ETF 3979**
ROOM3 CS 2000 – 2003	South-Estonian residents health relations with living conditions and sanitary habits	HIS Self-reported questionnaires HES	305/265	86,8	Tartu, Tartu County	M & F	11 – 74	Argo Soon UT **Target funding**
ROOM4 CS 1999-2001	Differences in indoor climate at homes of healthy persons and persons with respiratory	HIS HES tºC, CO_2, NO_2, TVOC	100/98	98	Tallinn	M & F	18 – 68	Helle- Mai Loit NIHD **Targeted funding**

	symptoms							
UV RAD **CS** 1998 - 2000	Effect of natural UV radiation on human health	HIS HES	32/32	100	Pärnu	M & F	22 - 51	Ene Veinpalu UT, Health Resort Laboratory of Pärnu College, **ETF 3176**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
BIOMARKER1 **CS** 2001- 2003	Study of the effect of carcinogenic and toxic substances to human health and environment conditions by biomarkers	HIS HES	225	100	Tallinn	M	Mean 38	Sergei Bogovski NIHD **ETF 4738** Targeted funding
BIOMARKER2 **CS** 2001 - 2003	Study of the effect of carcinogenic contaminants to environment and human health by biomarkers	HIS HES	70	100	Tallinn	M	Mean 37	Vladimir Muzõka NIHD **Target funding**
ECRHS2 **CS** 2000-2003	European community respiratory health survey in Tartu	HIS, HES	*	*	Tartu	*	*	Rain Jõgi UT **ETF 4350**
ENVIRON RISK **CS** 1994 – 1996	The knowledge of and attitudes towards environmental health risks among teenagers in Estonia	HIS Self-reported questionnaires	3090/3090	100	Tallinn, Tartu, South-Estonia	M & F	13 - 18	Astrid Saava UT **ETF 1054**
ANTROPOL1a **RS**	The anthropometrical data and their relation	HIS HES	593/593	100	Tallinn	M & F	13 – 15	Merileid Saava, Karin Lilienberg

1984-1986	to plasma lipids and arterial blood pressure in the studies of Tallinn schoolchildren in 1984-86 and 1998-99							EIC Targeted funding
ANTROPOL1b RS 1998-1999	The anthropometrical data and their relation to plasma lipids and arterial blood pressure in the studies of Tallinn schoolchildren in 1984-86 and 1998-99	HIS HES	475/475	100	Tallinn	M & F	13 – 15	Merileid Saava, Karin Lilienberg EIC Targeted funding
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
ANTROPOL2 RS **Data analysed 1996**	Estonian schoolchildren anthropometrical characters	HES	20 000/ 20 000	100	All regions	M & F	7 – 18	Heli Grünberg UT **Different resources**
ANTROPOL3 CS **Data analysed 1998**	Mother and new-born clinical-anthropological distinctive in midwifery	HES	846/846	100	Tartu	F & new-born	Mothers:16 - and new-borns	Juta Raud UT **ETF 1881**
ANTROPOL4 CS **Data analysed 2000**	15 – 16-years schoolgirls anatomy and food habitants	HIS HES – Martin	665/665	100	Tartu	F	15 - 16	Kersti Loolaid UT **ETF 3283**
ANTROPOL5 CS **Data analysed 1999**	Draftees anatomy	HES – Martin	2000/2000	100	Tartu	M	17 - 19	Mart Lintsi UT **ETF 1881**
ANTROPOL6 [2] RS	Anatomy and body fatness in adults of	HES - Martin	1992/1992	100	Tartu	M & F	18 – 80	Liidia Saluste UT

Data analysed 2000	Tartu							**Target funding**
ANTROPOL7 CS Data analysed 2004	Somatic status of 12 – 15-year old Tartu schoolchildren	HES – ISAK1996	757/757	100	Tartu	M & F	11 - 15	Gudrun Veldre UT **DARCA 1527**
FEMALE CS 1997	Factors influencing women's health	HIS Mailed questionnaire	660/376	57	All regions	F	18-45	Merike Kull UT **ETF 2378**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
FIT CS 1996-1998	Health indicators of persons with different life-style, physical activity and nutrition	HIS HES	310/310	100	South-Estonia	M & F	18 – 30	Anatoli Landõr UT **ETF 2381**
FIT4 CS 1997-2000	Association of health and fitness indices with life-style and physical activity in different social and age groups of Estonian population	HIS, HES, EuroFit test	1200/1140	95	Tartu & South-Estonia	M & F	11 – 22	Tõnis Matsin UT **ETF 2962**
FIT5 CS 1999-2002	Longitudinal investigation of physical activity and related factors in children	HIS HES	413/413	100	All regions	M & F	12 - 14	Lennart Raudsepp UT **ETF 3913**
BMI CS 2001-2004	Changes in the anthro-pometrical parameters and body composition during puberty: a longitudinal study	HIS, HES	~200		All regions	M & F	11 – 15	Toivo Jürimäe UT **ETF 4885**

HEART **CS** 1996-1998	Risk factors for CVD in middle-aged persons	HIS HES	800/552	69	Estonia and Sweden	M & F	35 – 55	Margus Viigimaa UT **ETF 2355**
HEART2 **RS** 1981-2000	Assessment of CV mortality risk in male population of Tallinn	HIS HES	4 samples/ 5019	various sub samples 70.2; 71,8; 50,6; 63	Tallinn	M	30 – 59	Olga Volozh EIC Targeted funding
NUTR1 **RS** 1999 – 2001	Nutrition – the key factors of CVD in the new social-economic situation (long-term population studies)	HES, HIS	Various samples 1842 adults, 721 children	›60	Tallinn	M & F	13-54	Merileid Saava ECI **State program of Public Health**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
NUTR 1a **RS** 1998-2000	Assessment of the dietary trends in the adult population of Tallinn: 1984-2000	HIS	10360/6130 3 random samples: 2477M/851F 921M/678F 631 M/572F	59.2 72.2/70.5 44.9/50.6 54.3/49.2	Tallinn	M & F	20 - 54	Eleonora Solodkaja EIC **ETF 3189**
NUTR 2 **RS** **1997**	Methods and databases of nutrition of Estonian population (Socially vulnerable groups)	Self-report questionnaires HIS	148 + 172 schoolchildr 168 + 68 students, 68 young families; 59 retired.		Tallinn	Students 1982/92, 1994/96; Young families 1994/95; Retired 1995	11-17 19-23 55 - 75	Merileid Saava EIC **ETF 86**
NUTR3 **CS** 2002-2006	CVD, nutrition and main risk factors in aging (an epidemiological-clinical investigation)	HES HIS	640/432 244 M/188F	67.5 61M/72F	Tallinn.	M & F.	64 - 74	Merileid Saava EIC **ETF 5720**

								Targeted funding
ASTHMA1 [2] **CS** 2002-2004	Risk factors for developing asthma in early childhood in Estonia	HIS, HES						Maire Vasar UT **ETF 5317**
ASTHMA2 CS 1995 – 1998	Prevalence of bronchial asthma, chronic bronchitis and respiratory symptoms and their determinants in Estonia	HIS HES	24 307/ 17 525	72, 1	Tallinn, Saaremaa, Narva	M & F	15 - 64	Helle- Mai Loit NIHD Targeted funding
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
SMOKE1 CS 1999 – 2000	Possibilities to exert influence on smoke habit	HIS	667/353	52.9	Tallinn	M & F	18 – 68	Helle- Mai Loit NIHD **Targeted funding**
SMOKE2a RS 1991/92	Trends in tobacco use among Estonian and Russian youth in Tallinn	HIS	3 185/3 185	100	Tallinn	M & F	11 – 18	Lagle Suurorg EIC **Target funding**
SMOKE2b RS 1993/94	Trends in tobacco use among Estonian and Russian youth in Tallinn	HIS	3 185/3 185	100	Tallinn	M & F	11 – 18	Lagle Suurorg EIC **Target funding**
SMOKE2c RS 1995/96	Trends in tobacco use among Estonian and Russian youth in Tallinn	HIS	3 185/3 185	100	Tallinn	M & F	11 – 18	Lagle Suurorg EIC **Target funding**
SPIRO1 CS 1998-1999	Lung function studies in Estonian school children	HIS, HES	1836/1469	80	All regions	M & F	6 - 18	Peet-Henn, Kingisepp UT **ETF 3336**

QUALLIFE1 **CS** 1998	Health related quality of life in chronic diseases in Estonia	HIS	1174/728	63	All regions	M & F 7 groups of chronic patients	Mean 50,5	Taavi Lai UT **Different resourses**
QUALLIFE2 **CS** 2000-2003	Main neurologic diseases in Estonia: quality of life	HIS HES	203	*	Estonia, patients with epilepsy	M & F	20 - 74	Sulev Haldre UT **ETF 4342**
QUALLIFE3 **CS** 2003 - 2006	Brain stem stroke and the related quality of life	HIS HES	89/46	52	All regions	M & F	Mean 67,6	Jaanika Kõrv UT **ETF 5537**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
QUALLIFE4[2] **CS** 2001-2004	The quality of life of people with multiple sclerosis	HIS, HES			Estonia, Patients with Sclerosis multiplex			Katrin Gross-Paju UT **ETF 4744**
QUALLIFE5[2] **CS** 2003-2006	The assessment of changes in cardiorespiratory reserve… and quality of life in patients in cardiac rehabilitation program	HIS, HES						Aet Lukmann UT **ETF 5480**
QUALLIFE6[2] **CS** 2002-2004	Health related quality of life in patients with ulceral colitis	HIS, HES						Riina Salupere UT **ETF 5294**
HEALTHQUAL[2] **CS** 2002-2004	Clinical guidelines and the quality of Health care as the factors affecting the course of	HIS						Margus Lember UT **ETF 5239**

	disease …							
SOCIAL CAPITAL[2] **CS** 2003-2005	Social and human capital as factors of economic development	HIS						H Kaldaru UT **ETF 5369**
CARIES[2] **CS** 2002-2005	Caries prevention in small children	HIS, HES						Mare Saag UT **ETF 5293**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
INJURY1[2] **CS** 2002-2005	Structure of injury in Estonia; the socio-economic, age, gender, ethnic, health and life-style aspects among children and adults under the age 65	HIS						Taie Kaasik UT **ETF 5218**
REPROD[2] **CS** 2003 - 2006	Reproductive behaviour, knowledge, attitudes, and use of reproductive health services	HIS						Helle Karro UT **ETF 5456**
IDU[2] **CS** 2003-2004	Study on injecting drug users needles and syringes	HIS, HES	Ongoing study, 84 IDU-s recruited since 12/2003		Tallinn		18 and <	Anneli Uusküla UT **ETF 5526**
DROPOUT[2] **RS**	Factors influencing dropping out of school	HIS	3000	… data	All regions	M & F	7th and 8th grades	Maarike Harro UT/NIHD

2003-2006				collection March-May 2004				**ETF 5451**
TBC **CS** 1999 - 2000	Current risk factors of pulmonary tuberculosis in Estonia	HIS	248/248	100	North-Estonia	M & F	35 – 54	Mare Tekkel NIHD **ETF 3633**
HEALTH **CS** 1998 - 2002	Measurement of population health status	HIS HES	155/155 2851/2851	100	All regions	M & F	All ages	Mare Tekkel NIHD **Target funding**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
MEDICINES **CS** 1996	Using different medicaments and alternative medicine in Estonia	HIS	1040/530	51	All regions	M & F	18 – 65+	Anneli Zirkel UT **Different resources**
TRAFFIC1 **CS** 2001-2002	Drunken driving causes of personality and their relations with biological marker MAO activity	HIS HES	400	*	Tartu Tallinn	M	Mean 36 32,3±10,9	Jaanus Harro UT **Road Administration**
TRAFFIC2 **CS** 2002-2003	Speed exceeding causes of personality on traffic and their relations with biological marker MAO activity	HIS HES	600	*	Tartu Tallinn	M	Mean 36 32,3±10,9	Jaanus Harro UT **Road Administration**
SPIRO2* **CS** 2000-2002	Studies on dynamic and static lung parameters and diffusion capacity in adults	HIS, HES						Peet-Henn Kingissepp UT **ETF 4363**

YOUTHSEX **CS** 1996	Young people, sexual behaviour and STD	HES Case-control study	Cases: 189/229 Controls: 112/1100	Cases: 83% Controls: 10%	Tartu and Tartu County	57% female	18-57 years	Anneli Uusküla UT **ETF 1372**
MICROEL* **CS** 1996-1997	The association between exposition to microelements and health of children	HIS HES						Raiot Silla Institute of Preventive medicine **ETF 1960**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
FIT2* **CS** 1996-1999	Health-related fitness in young men	HIS, HES						Lagle Suurorg EIC **ETF 2097**
FIT3* **CS** 1998-1999	Assessment of fitness in civil servants	HIS, HES				M		Hubert Kahn EKMI **ETF 3180**
HEART/CINDI RS 1994-1997	Monitoring of CVD and risk factors levels in inhabitants of Tallinn: implementation of several intervention modules in the framework WHO/CINDI	HIS, HES	Independent random samples: 1559 - in 1990 and 3328 – in 1980-s	›60	Tallinn	M & F	18 - 65	Olga Volozh EIC **ETF 129**
HEART/CINDI RS **1993-1995**	Prediction of CHD mortality in the population of Estonia on basis of long-term follow-up studies	HIS, HES	5517	›60	Tallinn	M	20-59	Olga Volozh ECI **ETF 432**

CINDI-2000/ EUROPHARM[2]	Pharmacy-based hypertension management	HIS Self-report questionnaires	15256 clients		Tallinn, 7 drug-stores	M & F	All ages	Olga Volozh ECI **Health development project**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
ASSESSMENT of HEALTH[2]	Assessment of health – related fitness in male students for promotion the health before the minatory service	HES	200/186 students, 213/213 service-men		Tallinn	M		Lagle Suurorg ECI **ETF 2097**
(Estonian Childrens') ECCINDI 1997-2001	"Children's' and adolescents' health for 2005"	Self-report questionnaires HES	55318	78.5-81.7%	Estonia	M & F	7 – 18	Lagle Suurorg ECI **State program**
(Estonian Childrens') ECCINDI[2] 2001-2004	Peculiarities of 24-hour blood pressure and heart rate variability and their links to family hypertension in adolescents	HES	110 adolescents		Tallinn	M & F		Lagle Suurorg ECI **ETF 4683**
HR CVD 1994-1995 2000-2002	Distribution of risk factors of NCD and their primary prevention in young Trends of risk factors of	HES	424 couples, 267 new-borns 53 M/ 74F	*	Tallinn Tallinn	M & F	Newborns, parents 18-40 y	Elvira Kurvinen ECI **ETF 134**

	atherosclerosis and lipid metabolism in young families in Tallinn		33 boys/ 34 girls					**ETF 4061**
NUTR4* **CS** 1999-2001	Study of dietary habits of children: the role of gluten-containing cereals in the development of colic disease	HIS, HES						Oivi Uibo UT **ETF 3951**
Acronym Year 0f data collection	**Survey**	**Methods**	**Sample/ participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
PRIMARYHC1* **CS** 1997-1999	Preventive work of primary doctors	HIS						Margus Lember UT **ETF 3066**
PRIMARY2 CS 1995-1998	Determinants of health	HIS	80/50	63	Island Saaremaa	.33 women, 17 men.	33 women (43.7-+16.3 years) and 17 men (45.5+-16.4 years)	Heidi-Ingrid Maaroos, UT **ETF 1369**
QUALLIFE7 CS	Life quality	SF-36	700/601	85%	All regions	212 M 389 F	18-78	Heid-Ingrid Maaroos, UT **Different resources**
PHYSICIANS' SMOKING CS 2002	Smoking habits and attitudes towards smoking among physicians in Estonia	HIS	4052/2746	67,8	All regions	82,6% F	Mean 47,6 (47,1 – 48,0)	Kersti Pärna, UT **Estonian Health Insurance Fund**

TEACHER **CS** 1997 - 2000	Estonian teachers social workplace and health	HIS Postal questionnaires	1639/820	50	All regions	M & F	20 – 75	Eda Merisalu, UT **ETF 2969**
QUALLIFE8 **CS** 1998	Health related life quality in Estonia	HIS SF-36 & EUROQOL	1000/425	42,5	All regions	M & F	18 – 65+	Maia Uusküla **Estonian Health Insurance Fund**
FIT 6 **CS** 1997	Social-economic statement and health behaviour	HIS	1575/1575	100	All regions	M & F	12 - 17	Maarike Harro UT **different resources**
Acronym **Year 0f data collection**	**Survey**	**Methods**	**Sample/ Participants**	**Response rate (%)**	**Study area**	**Sex of respondents**	**Age of respondents**	**Contact person, Funding**
EPHT RS 1999-2004 (follow-up 2004-2005)	Estonian Postmenopausal Hormone Therapy trial. Randomized preventive trial with blind and non-blind controls	Data collection: 1) annual surveys 2) annual medical check-ups	1823 postmenopausal women	Response rate to annual surveys 68-74%	Tallinn, Tartu, Harju and Tartu county	Female	aged 50 to 64 years at the time of sampling	Piret Veerus NIHD **Different resources**

∗ – data not available

RS – repeated survey

CS – cross-sectional survey

[1] – data from Estonian Medical Birth Registry. Estonian Abortion Registry

[2] – ongoing study

Appendix 4. Indicators of Surveys

ECHI-2.3 indicators

Indicators	Survey	Year when the study was performed	Methods		
1.Body mass	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Self-administered questionnaire
index	**EHIS96, 06**	96, 06	HIS		Face-to face interview
	NORBAGREEN	02, 07	HIS		Face-to face interview
kg/m^2	**CHILD** (children+adolescents)			HES	
	CVD RF 1 ***(children+adolescents)***			HES	
	CVD RF 2 (children+adolescents)			HES	
	CVD RF 3 (children+adolescents)			HES	
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	FIT		HIS	HES	Self-administered questionnaire
	HEART			HES	
	SPIRO1 (children+adolescents)			HES	
	HEART2			HES	
	ANTROPOL1 (children+adolescents)			HES	
	ANTROPOL2 (children+adolescents)			HES	
	ANTROPOL3			HES	
	ANTROPOL4 (children+adolescents)			HES	
	ANTROPOL5 (children+adolescents)			HES	
	ANTROPOL6			HES	
	ANTROPOL7 (children+adolescents)			HES	
	FIT4 (children+adolescents)		HIS	HES	Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire

	HBSC (children+adolescents)	91, 93, 98, 02	HIS	HES	
	CVD RF 4 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR1 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS	HES	Self-administered questionnaire
	HEART/CINDI1		HIS	HES	Self-administered questionnaire
	HEART/CINDI2		HIS	HES	Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS	HES	Self-administered questionnaire
	HR CVD (including also new-born)		HIS	HES	Self-administered questionnaire
	BMI (children+adolescents)		HIS	HES	Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	EPHT		HIS	HES	Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS	HES	Self-administered questionnaire
	ECCINDI2 (children+adolescents)			HES	
2. Blood pressure/hypertension mm/Hg	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Self-administered questionnaire Last measurement time not value asked
	EHIS	96, 06	HIS		Face-to face interview
	NORBAGREEN	02, 07	HIS		Face-to face interview
	CHILD (children+adolescents)			HES	
	CVD RF 1 (children+adolescents)			HES	
	CVD RF 2 (children+adolescents)			HES	

	CVD RF 3 (children+adolescents)			HES	
	STUDENT2			HES	
	FIT		HIS	HES	Self-administered questionnaire
	HEART			HES	
	HEART2			HES	
	ANTROPOL1 (children+adolescents)			HES	
	FIT4 (children+adolescents)			HES	
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 4 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR1 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS	HES	Self-administered questionnaire
	HEART/CINDI1		HIS	HES	Self-administered questionnaire
	HEART/CINDI2		HIS	HES	Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS	HES	Self-administered questionnaire
	HR CVD (including also new-born)		HIS	HES	Self-administered questionnaire
	PRIMARY2		HIS		
	EPHT		HIS	HES	Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS	HES	Self-administered questionnaire
	ECCINDI2 (children+adolescents)			HES	
3. Regular smokers	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS 96, 06	96, 06	HIS		Face-to face interview

Every day smoking Occasionally	**NORBAGREEN**	02, 07	HIS		Mailed questionnaire
	CHILD (children+adolescents)		HIS		In the classroom
	NORBALT 1994, NORBALT 1999	94, 99	HIS		Face-to face interview
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	*GYTS **(children+adolescents)***		HIS		In the classroom
	HIV/AIDS03 (children+adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	KISS 94, KISS 99 (children+adolescents)	94, 99	HIS		In the classroom
	ESPAD 95, 99, 03 (children+adolescents)	95, 99, 03	HIS		In the classroom
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	SMOKE1		HIS		Mailed questionnaire
	SMOKE2 (children+adolescents)		HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	SPIRO1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire

	ASTHMA2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	FIT4 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	PHYSICIANS' SMOKING		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
4. Pregnant woman smoking Every day Occasionally	**PREGNANT1**		HIS		
	PREGNANT2		HIS		In the maternity hospital after delivery
	HR CVD		HIS		Self-administered questionnaire
5. Alcohol: % of heavy	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS96	96, 06	HIS		Face to face interview

drinkers, Frequency of heavy drinking	**NORBAGREEN**	02, 07	HIS		Mailed questionnaire
	CHILD (children+adolescents)	97/98	HIS		In the classroom
	NORBALT 1994, 1999	94, 99	HIS		Face-to face interview
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	ESPAD 1995, 1999, 2003 (children+adolescents)	**95, 99, 03**	HIS		In the classroom
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	HIV/AIDS (children+adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	KISS 94, 99(children+adolescents)	94, 99	HIS		In the classroom
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	HEART		HIS		Self-administered questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire

	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
6. Total alcohol consumption	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS96	96, 06	HIS		Face-to-face interview
	NORBAGREEN	02, 07	HIS		Mailed questionnaire
	CHILD (children+adolescents)		HIS		In the classroom
	NORBALT 1994,1999	94, 99	HIS		Face-to face interview
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	ESPAD 1995, 1999, 2003 (children+adolescents)		HIS		In the classroom
	CVD RF 3 ***(children+adolescents)***		HIS		Self-administered questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	HIV/AIDS (children+adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	KISS 94, 99 (children+adolescents)	94, 99	HIS		In the classroom

	DROPOUT (children+adolescents)		HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
7. Use of illicit drugs (including	**CHILD** (children+adolescents)		HIS		In the classroom
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	NORBALT 94, 99	94, 99	HIS		Face-to face interview

children)	**ESPAD 95, 99, 03** (children+adolescents)	95, 99, 03	HIS		In the classroom
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	*HIV/AIDS **(children+adolescents)***	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	*KISS **(children+adolescents)***	94, 99	HIS		In the classroom
	*CVD RF 3a, b, c **(children+adolescents)***		HIS		Self-administered questionnaire
	DROPOUT (children+adolescents)		HIS		In the classroom
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
8. Intake of fruit excluding juice	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	*CVD RF 3a **(children+adolescents)***		24—hour inter-view		
	CVD RF 3b **(children+adolescents)**		48-hour inter-view		

	CVD RF ca **(children+adolescents)**		48-hour inter-view		
	EHIS96	96, 06	HIS		Face-to-face interview
	NORBAGREEN		HIS		Mailed questionnaire
	CHILD (children+adolescents)		HIS		In the classroom
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 2 (children+adolescents)		24-hour inter-view		
	PREGNANT2		HIS		In the maternity hospital after delivery
	CVD RF 1 (children+adolescents)		24-hour inter-view		
	STUDENT1		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	HEART		HIS		Self-administered questionnaire
	NUTR1		24-hour inter-view		

	HEART2		24-hour inter-view		
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
9. Intake of vegetables excl. potatoes and juice	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	*CVD RF 3a **(children+adolescents)***		24—hour inter-view		

	CVD RF 3b **(children+adolescents)**		48-hour inter-view		
	CVD RF ca **(children+adolescents)**		48-hour inter-view		
	EHIS96	96, 06	HIS		Face-to face interview
	NORBAGREEN	02, 07	HIS		Mailed questionnaire
	CHILD (children+adolescents)		HIS		In the classroom
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 2 (children+adolescents)		24-hour inter-view		
	CVD RF 1 (children+adolescents)		24-hour inter-view		
	STUDENT1		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	HEART		HIS		Self-administered questionnaire

	NUTR1		24-hour inter-view		
	HEART2		24-hour inter-view		
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
10. Physical activity (time	**HBEAP 90-04**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS96	96, 06	HIS		Face-to face interview

spent, energy expenditure)	**NORBAGREEN**	02, 07	HIS		Mailed questionnaire
	CHILD (children+adolescents)		HIS		In the classroom
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 3 (children+adolescents)		HIS + CSA acceler ometry +EE		
	PREGNANT2		HIS		In the maternity hospital after delivery
	HIV/AIDS (children+adolescents)	03, 05	HIS		self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Fitness testing
	PHYSACT (children+adolescents)		HIS		In the classroom
	FEMALE		HIS		Self-administered questionnaire
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	FIT		HIS		Fitness testing
	HEART		HIS		Self-administered questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Self-administered questionnaire
	FIT5 (children+adolescents)		HIS		Fitness testing

	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR1 (including also children)		HIS	HES	Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS	HES	Self-administered questionnaire
	HEART/CINDI1		HIS	HES	Self-administered questionnaire
	HEART/CINDI2		HIS	HES	Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS	HES	Self-administered questionnaire
	HR CVD (including also new-born)		HIS	HES	Self-administered questionnaire
	BMI (children+adolescents)		HIS	HES	Self-administered questionnaire
	PRIMARY2		HIS		
	EPHT		HIS	HES	Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS	HES	Self-administered questionnaire
	ECCINDI2 (children+adolescents)			HES	Self-administered questionnaire
	FIT6 (children+adolescents)		HIS		In the classroom
11. Contraceptive use	*KISS **(children+adolescents)***	94, 99	HIS		In the classroom
	EFFS		HIS		Face-to-face interview
	HBEAP 90-04	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire

	HIV/AIDS (children+adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	STUDENT1		HIS		Mailed questionnaire
	PREGNANT1		HIS		
	EPHT		HIS		Self-administered questionnaire
12. Breastfeeding at various ages	**CVD RF 3** (children+adolescents)		HIS		Questionnaire for mothers, 300 validated against medical records at GP office
	EFFS		HIS		Face-to-face interview
	PREGNANT1		HIS		
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
13. Environmental health indicator	**UV RAD**		HIS	HES	Self-administered questionnaire
	ROOM1		HIS	HES	Self-administered questionnaire
	ROOM2		HIS	HES	Self-administered questionnaire
	ROOM3		HIS	HES	Self-administered questionnaire
	ROOM4		HIS		Self-administered questionnaire
	ENVIRON RISK (children+adolescents)		HIS		In the classroom
	SMOKE2 (children+adolescents)		HIS		In the classroom
	BIOMARKER1		HIS	HES	Self-administered questionnaire
	BIOMARKER2		HIS	HES	Self-administered questionnaire

14. Social and/or workplace indicator	**TEACHER**		HIS		Mailed questionnaire
	JUN PHYSICIANS		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire

HIS-18 indicators

Indicators	Survey	Year when the study was performed	Methods		
1. Prevalence of chronic conditions	*NORBALT 94, NORBALT 99*	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Self-administered questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	CVD RF 3 (children+adolescents)		HIS		Both from children and adolescents
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	MEDICINES		HIS		Mailed questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire

	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
2. Assessment of the self-perceived health	**NORBALT 94, NORBALT 99**	94, 99	HIS		Face-to-face interview
	EHIS 96	96, 06	HIS		Face-to-face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Self-administered questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	FEMALE		HIS		Self-administered questionnaire
	HEART		HIS		Mailed questionnaire
	HEART2		HIS		Mailed questionnaire
	QUALLIFE1		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire

	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	PHYSICIANS' SMOKING		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
3. Assessment of the limitation because of a health problem in usual activities	**EHIS 96**	96, 06	HIS		Face-to face interview
	PREGNANT2		HIS		In the maternity hospital after delivery
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	QUALLIFE1		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
4. Physical and sensory functional	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	QUALLIFE1		HIS		Mailed questionnaire

limitations	**QUALLIFE2**		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
5. Personal care activities	**EHIS 96**	96, 06	HIS		Face-to face interview
	PREGNANT2		HIS		In the maternity hospital after delivery
	QUALLIFE1		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
6. Mental health	**NORBALT 94**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	PREGNANT2		HIS		In the maternity hospital after delivery
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
6.1. General Health Questionnaire GHQ-12	**FEMALE**		HIS		Self-administered questionnaire
6.2. Psychological distress	**QUALLIFE1**		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire

SF-36	**QUALLIFE 7**		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
6.3. Positive mental health SF-36	**QUALLIFE1**		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3				Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
7. Assessment of the temporary cut down in usual activities	**EHIS 96**	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	STUDENT1		HIS		Mailed questionnaire
	QUALLIFE1		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
8. Body Mass Index	**See ECHI-2.3 indicators section 1**				
9.Present and former smoking					
9.1. Present smoking	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	KISS (children+adolescents)	94, 99	HIS		In the classroom

	PREGNANT2		HIS		In the maternity hospital after delivery
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	ESPAD 95, 99, 03 (children+adolescents)	95, 99, 03	HIS		In the classroom
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	DROPOUT (children+adolescents)		HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	SMOKE1		HIS		Mailed questionnaire
	SMOKE2 (children+adolescents)		HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	SPIRO1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	ASTHMA2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	FIT4 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire

	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	PHYSICIANS' SMOKING		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
9.2. Number of cigarettes smoked per day	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	TRAFFIC I & II		HIS		Self-administered questionnaire
	SMOKE1		HIS		Mailed questionnaire
	SMOKE2 (children+adolescents)		HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	ASTHMA2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire

	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PHYSICIANS' SMOKING		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
9.3. Former smoking	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	TRAFFIC I & II		HIS		Self-administered questionnaire
	STUDENT1		HIS		Mailed questionnaire
	SMOKE1		HIS		Mailed questionnaire
	SMOKE2 (children+adolescents)		HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	HEART2		HIS		Mailed questionnaire
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	ASTHMA2		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire

	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PHYSICIANS' SMOKING		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
10. Consumption of alcohol					
10.1. Drinkers of alcohol in the past 12 months	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	HBSC (children+adolescents)	91, 93, 98, 03	HIS		In the classroom
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	ESPAD 95, 99, 03 (children+adolescents)	95, 99, 03	HIS		In the classroom
	CVD RF 3 (children+adolescents)		HIS		Self-administered questionnaire
	TRAFFIC I & II	01-03	HIS		Self-administered questionnaire
	DROPOUT (children+adolescents)		HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire

	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
10.2. Drinkers of alcohol in the past 4 weeks	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	ESPAD 95, 99, 03 (children+adolescents)	95, 99, 03	HIS		In the classroom

	DROPOUT (children+adolescents)		HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	TBC		HIS		Self-administered questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
11. Physical activity practices	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	HBSC (children+adolescents)	91, 93, 98, 02	HIS		In the classroom
	CVD RF 3 (children+adolescents)		HIS		HES CSA accelerometry

	HIV/AIDS (children+adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	PHYSACT (children+adolescents)		HIS		In the classroom
	FEMALE		HIS		Self-administered questionnaire
	HPSCHOOL (children+adolescents)		HIS		In the classroom
	FIT		HIS		Self-administered questionnaire
	HEART		HIS		Mailed questionnaire
	CVD RF 1 (children+adolescents)		HIS		Self-administered questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	HEART2		HIS		Mailed questionnaire
	FIT5 (children+adolescents)		HIS		HES –fitness testing
	ANTROPOL1 (children+adolescents)		HIS		Self-administered questionnaire
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	FIT4 (children+adolescents)		HIS		HES – fitness testing
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire

	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	BMI (children+adolescents)		HIS	HES	Self-administered questionnaire
	PRIMARY2		HIS		Mailed questionnaire
	EPHT		HIS	HES	Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS	HES	Self-administered questionnaire
	ECCINDI2 (children+adolescents)			HES	
	FIT6 (children+adolescents)		HIS		In the classroom
12. In patient care					
12.1. Inpatient hospitalisation in the past 12 months	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	STUDENT1		HIS		Mailed questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
12.2. Daypatient hospitalisation in the past 12 months	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	TBC		HIS		Self-administered questionnaire
	EPHT		HIS		Self-administered questionnaire
13. Out patient care					

13.1. Consulting a medical doctor during the past 4 weeks	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	STUDENT1		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
13.2. Consulting a medical doctor during the past 12 months	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
13.3. Consultations to the dentist/orthodontist past 4 weeks	**NORBALT 99**	99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
13.4. Consultations to the dentist/orthodontist past 12 months	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	STUDENT1		HIS		Mailed questionnaire
14. Preventive care					
	NORBALT 94, 99	94, 99	HIS		Face-to face interview

14.1. Immunisation/ vaccination against influenza	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
14.2. Last vaccination time	**NORBALT 94, 99**	94, 99	HIS		Face-to face interview
	EHIS 96	96, 06	HIS		Face-to face interview
14.3 Screening on breast cancer	*EHIS 96*		HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
14.4. Last mammography time	*EHIS 96*	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
14.5. Screening on cervical cancer	*EHIS 96*	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
14.6. Last cervical cancer test time	*EHIS 96*	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
15. Use of medicines					
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire

15.1. Medicines prescribed by a physician	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS 96	96, 06	HIS		Face-to face interview
	CVD RF 3 (children and adolescents)		HIS		From the parents
	MEDICINES		HIS		Mailed questionnaire
	HEALTH		HIS		Mailed questionnaire
	EPHT		HIS		Self-administered questionnaire
15.2. Medicines not prescribed by a physician	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS 96	96, 06	HIS		Face-to face interview
	MEDICINES		HIS		Mailed questionnaire
	HEALTH		HIS		Mailed questionnaire
16. Use of drugs					
16.1. Drugs used in the past 30 days	**ESPAD95, 99,03** (children and adolescents	95, 99, 03	HIS		In the classroom
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	EPHT		HIS		Self-administered questionnaire
	ECCINDI1		HIS		Self-administered questionnaire
16.2. Drug used in the past 12 months	**KISS** (children and adolescents)	94, 99	HIS		In the classroom
	PREGNANT2		HIS		In the maternity hospital after delivery
	HIV/AIDS (children and adolescents)	03, 05	HIS		Self administered questionnaire for 10-18 in the classroom, for 19-29 mailed
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire

	ESPAD 95, 99, 03 (children and adolescents	95, 98, 03	HIS		In the classroom
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
17. Diet/food consumption habits					
17.1. Diet followed	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS 96	96, 06	HIS		Face-to face interview
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HBSC (children and adolescents)	91, 93, 98, 02	HIS		In the classroom
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire
	NUTR1		24-hour inter-view		
	HEART2		HIS		Mailed questionnaire
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire

	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS	HES	Self-administered questionnaire
	ECCINDI2 (children+adolescents)		24-hour inter-view		
17.2. Change eating habits	**HBEAP 90-04.**	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	EHIS 96	96, 06	HIS		Face-to face interview
	PREGNANT2		HIS		In the maternity hospital after delivery
	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	CVD RF 3 (children and adolescents)		HIS		Self-administered questionnaire
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HPSCHOOL (children+adolescents)	02	HIS		In the classroom
	HEART		HIS		Mailed questionnaire
	CVD RF 2 (children+adolescents)		HIS		Self-administered questionnaire

	NUTR1		24-hour inter-view		
	HEART2		HIS		Mailed questionnaire
	ANTROPOL4 (children+adolescents)		HIS		Self-administered questionnaire
	TBC		HIS		Self-administered questionnaire
	HEALTH		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD (including also new-born)		HIS		Self-administered questionnaire
	ECCINDI1 (children+adolescents)		HIS		Self-administered questionnaire
18. Assessment of the quality of life	*EHIS 96*	96, 06	HIS		Face-to face interview
	HBEAP 90-04.	90, 92, 94, 96, 98, 00, 02, 04	HIS		Mailed questionnaire
	PREGNANT2		HIS		In the maternity hospital after delivery
	DROPOUT (children+adolescents)	04, 06	HIS		In the classroom

	ESTONIA 93, 98, 03	93, 98, 03	HIS		Mailed questionnaire
	STUDENT1		HIS		Mailed questionnaire
	STUDENT2		HIS		Mailed questionnaire
	HEART		HIS		Mailed questionnaire
	HEALTH		HIS		Mailed questionnaire
	QUALLIFE1		HIS		Mailed questionnaire
	QUALLIFE2		HIS		Mailed questionnaire
	QUALLIFE3		HIS		Mailed questionnaire
	QUALLIFE 7		HIS		Mailed questionnaire
	QUALLIFE8		HIS		Mailed questionnaire
	CVD RF 4 (including also children)		HIS		Self-administered questionnaire
	NUTR1 (including also children)		HIS		Self-administered questionnaire
	NUTR2 (including also children)		HIS		Self-administered questionnaire
	NUTR3		HIS		Self-administered questionnaire
	HEART/CINDI1		HIS		Self-administered questionnaire
	HEART/CINDI2		HIS		Self-administered questionnaire
	CINDI 2000/EUROPHARM (including also children)		HIS		Self-administered questionnaire
	ASSESSMENT OF HEALTH (adolescents**)**		HIS		Self-administered questionnaire
	HR CVD		HIS		Self-administered questionnaire
	EPHT		HIS		Self-administered questionnaire

Appendix 5. Indicators in Repeated Studies

ECHI-2 Indicators	HBEAP	EHIS	NORBA-GREEN	ESTONIA	HIV/ AIDS	PREG-NANT-1	ANTROPOL 6 reg	HEART/ CINDI	EPHT	%	HES %
1. BMI	X HIS	X HIS	X HIS	-	-	-	X HES	X HES	X HES	6/9	3/9
2. Blood pressure	Time of last measure-ment	X HIS	X HIS	-	-	-	-	X HES	X HES	5/9	2/9
3. Smoking	X	X	X	-	X	-	-	X	X	6/9	
4. Pregnant smoking	-	-	-	-	-	X	-	-	-	1/9	
5. Alcohol intake	X	X	X	-	X	-	-	X	X	6/9	
6. Totalo alcohol intake	X	X	X	-	X	-	-	X	X	5/9	
7. Illicit drugs	-	-	-	X	X	-	-	-	-	2/9	
8.. Intake of fruit excluding juice	X	X	X	-	-	-	-	X	-	4/9	
9. Intake of vegetables excl. potatoes and juice	X	X	X	-	-	-	-	X	-	4/9	
10. Physical activity	X	X	X	-	X	-	-	X	X	6/9	
11. Contra-ceptive use	X	X	-	-	X	X	-	-	X	5/9	
12.Breast-feeding	-	-	-	-	-	X	-	-	-	1/9	
13. Environ-mental risk factors	-	-	-	-	-	-	-	-	-	0	
14. Social and workplace indicators	-	-	-	-	-	-	-	X	-	1/9	

HIS-18	HBEAP	EHIS	NORBA-	ESTONIA	HIV/	PREGNANT1	ANTROPOL 6	HEART/	EPHT	%

Indicators			**GREEN**		**AIDS**		**reg**	**CINDI**		
1. Prevalence of chronic conditions	X	X	-	X	-	-	-	X	X	5/9
2.Assessment of the self-perceived health	X	X	-	X	-	-	-	X	X	5/9
3.Assessment of the limitation because of a health problem in usual activities	-	X	-	X	-	-	-	-	-	2/9
4. Physical and sensory functional limitations	-	X	-	-	-	-	-	-	-	1/9
5. Personal care activities	-	X	-	-	-	-	-	-	-	1/9
6. Mental health	-	X	-	-	-	-	-	-	-	1/9
6.1. General Health Questionnaire GHQ-12	-	-	-	-	-	-	-	-	-	0
6.2. Psychological distress SF-36	-	-	-	-	-	-	-	-	-	0
6.3. Positive mental health **SF-36**	-	-	-	-	-	-	-	-	-	0
7. Assessment of the temporary cut down in usual activities	X	X	-	X	-	-	-	-	-	3/9
8. Body Mass Index	X HIS	X HIS	X HIS	-	-	-	X HES	X HES	X HES	6/9
HIS-18 Indicators	**HBEAP**	**EHIS**	**NORBAG REEN**	**ESTONIA**	**HIV/ AIDS**	**PREGNANT1**	**ANTROPOL 6 reg**	**HEART/ CINDI**	**EPHT**	**%**
9.1. Present smoking	X	X	-	X	X	-	-	X	X	6/9

9.2. Number of cigarettes smoked per day	X	X	-	-	-	-	-	X	X	4/9
9.3. Former smoking	X	X	-	X	-	-	-	X	X	5/9
10.1. Drinkers of alcohol in the past 12 months	X	X	-	X	-	-	-	X	-	4/9
10.2. Drinkers of alcohol in the past 4 weeks	X	-	-	-	-	-	-	X	-	2/9
11. Physical activity practices	X	-	-	-	X	-	-	X	X	4/9
12.1. Inpatient hospitalisation in the past 12 months	X	X	-	-	-	-	-	-	-	2/9
12.2. Daypatient hospitalisation in the past 12 months	X	X	-	-	-	-	-	-	X	3/9
13.1. Consulting a medical doctor during the past 4 weeks	-	X	-	-	-	-	-	-	X	2/9
13.2. Consulting a medical doctor during the past 12 months	X	X	-	-	-	-	-	-	X	3/9
HIS-18 Indicators	**HBEAP**	**EHIS**	**NORBAG REEN**	**ESTONIA**	**HIV/ AIDS**	**PREGNANT1**	**ANTROPOL 6 reg**	**HEART/ CINDI**	**EPHT**	**%**
13.3. Consultations to the dentist/orthodontist past 4 weeks	-	X	-	-	-	-	-	-	-	1/9
13.4. Consultations to the dentist/orthodontist	X	X	-	-	-	-	-	-	-	2/9

past 12 months										
14.1. Immunisation/ vaccination against influenza	-	X	-	-	-	-	-	-	-	1/9
14.2. Last vaccination time	-	X	-	-	-	-	-	-	-	1/9
14.3 Screening on breast cancer	X	X	-	-	-	-	-	-	X	3/9
14.4. Last mammography time	X	X	-	-	-	-	-	-	X	3/9
14.5. Screening on cervical cancer	X	X	-	-	-	-	-	-	X	3/9
14.6. Last cervical cancer test time	X	X	-	-	-	-	-	-	X	3/9
15.1. Medicines prescribed by a physician	X	X	-	-	-	-	-	-	X	3/9
15.2. Medicines not prescribed by a physician	X	X	-	-	-	-	-	-	-	2/9
16.1. Drugs used in the past 30 days	-	-	-	-	-	-	-	-	X	1/9
16.2. Drug used in the past 12 months	-	-	-	X	X	-	-	-	-	2/9
ECHI-2 Indicators	**HBEAP**	**EHIS**	**NORBAG REEN**	**ESTONIA**	**HIV/ AIDS**	**PREGNANT1**	**ANTROPOL 6 reg**	**HEART/ CINDI**	**EPHT**	**%**
17.1. Diet followed	X	X	-	X	-	-	-	X	-	4/9
17.2. Change eating habits	X	X	-	X	-	-	-	X	-	4/9
18. Assessment of the quality of life	X	X	-	X	-	-	-	X	X	5/9

Appendix 6. Indicators in Repeated Studies

ECHI-2 Indicators	ESPAD	HBSC	GYTS	HIV/ AIDS	CVD RF3	ANTROPOL2	SMOKE	ECCINDI	%
1. BMI	-	X HIS	-	-	X HES	X HES	-	X HES	4/8
2. Blood pressure	-	X HIS	-	-	X HES	-	-	X HES	3/8
3. Smoking	X	X	X	X	X	-	X	X	7/8
4. Pregnant smoking	-	-	-	-	-	-	-	-	0
5. Alcohol intake	X	X	-	X	X	-	-	X	5/8
6. Illicit drugs	X	X	-	X	X	-	-	X	5/8
7. Intake of fruit excluding juice	-	X	-	-	X	-	-	X	3/8
8. Intake of vegetables excl. potatoes and juice	-	X	-	-	X	-	-	X	3/8
9. Physical activity	-	X	-	-	X	-	-	X	3/8
10. Contra-ceptive use	-	-	-	X	X	-	-	-	2/8
11.Breast-feeding	-	-	-	-	X	-	-	-	1/8
12. Environ-mental risk factors	-	-	-	-	-	-	X	-	1/8
13. Social and workplace indicators	-	-	-	-	-	-	X	-	1/8

HIS-18 Indicators	ESPAD	HBSC	GYTS	HIV/ AIDS	CVD RF3	ANTROPOL2	SMOKE	ECCINDI	%
1. Prevalence of chronic conditions	-	-	-	-	X	-	-	X	2/8

2.Assessment of the self-perceived health	-	X	-	-	X	-	-	X	3/8
3.Assessment of the limitation because of a health problem in usual activities	-	-	-	-	-	-	-	-	0
4. Physical and sensory functional limitations	-	-	-	-	-	-	-	-	0
5. Personal care activities	-	-	-	-	-	-	-	-	0
6. Mental health	-	-	-	-	-	-	-	-	0
6.1. General Health Questionnaire GHQ-12	-	-	-	-	-	-	-	-	0
6.2. Psychological distress SF-36	-	-	-	-	-	-	-	-	0
6.3. Positive mental health SF-36	-	-	-	-	-	-	-	-	0
7. Assessment of the temporary cut down in usual activities	-	-	-	-	-	-	-	-	0
8. Body Mass Index	-	X HIS	-	-	X HES	X HES	-	X HES	4/8
HIS-18 Indicators	**ESPAD**	**HBSC**	**GYTS**	**HIV/ AIDS**	**CVD RF3**	**ANTROPOL2**	**SMOKE**	**ECCINDI**	**%**
9.1. Present smoking	X	X	X	X	X	-	X	X	7/8
9.2. Number of cigarettes smoked per day	X	-	X	-	X	-	X	X	5/8
9.3. Former smoking	X	X	X	-	X	-	X	X	6/8

10.1. Drinkers of alcohol in the past 12 months	X	X	X	X	X	-	-	X	6/8
10.2. Drinkers of alcohol in the past 4 weeks	X	-	-	-	-	-	-	-	1/8
11. Physical activity practices	-	X	-	X	X	-	-	X	4/8
12.1. Inpatient hospitalisation in the past 12 months	-	-	-	-	-	-	-	-	0
12.2. Daypatient hospitalisation in the past 12 months	-	-	-	-	-	-	-	-	0
13.1. Consulting a medical doctor during the past 4 weeks	-	-	-	-	-	-	-	-	0
13.2. Consulting a medical doctor during the past 12 months	-	-	-	-	-	-	-	-	0
13.3. Consultations to the dentist/orthodontist past 4 weeks	-	-	-	-	-	-	-	-	0
HIS-18 Indicators	**ESPAD**	**HBSC**	**GYTS**	**HIV/ AIDS**	**CVD RF3**	**ANTROPOL2**	**SMOKE**	**ECCINDI**	**%**
13.4. Consultations to the dentist/ orthodontist past 12 months	-	-	-	-	-	-	-	-	0
14.1. Immunisation/ vaccination against influenza	-	-	-	-	-	-	-	-	0
14.2. Last vaccination time	-	-	-	-	-	-	-	-	0
14.3 Screening on breast cancer									0

14.4. Last mammography time									0
14.5. Screening on cervical cancer									0
14.6. Last cervical cancer test time									0
15.1. Medicines prescribed by a physician	-	-	-	-	X	-	-	-	1/8
15.2. Medicines not prescribed by a physician	-	-	-	-	-	-	-	-	0
16.1. Drugs used in the past 30 days	X	-	-	-	-	-	-	X	2/8
16.2. Drug used in the past 12 months	X	-	-	X	X	-	-	-	3/8
17.1. Diet followed	-	X	-	-	X	-	-	X	3/8
17.2. Change eating habits	-	-	-	-	X	-	-	X	2/8
18. Assessment of the quality of life	-	-	-	-	-	-	-	-	0

5. Report on disability research in Estonia

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5.1. Background information

5.1.1. Population with long-term illness or disability

The 2000 Population and Housing Census was conducted in Estonia at the time of the translation to the system for determining the incapacity for work and the degree of disability used in Europe and elsewhere. At the beginning of 2000 the disability assessment committees started to determine the incapacity for work in per cents and to declare the degree of disability for under 16-year-old children.

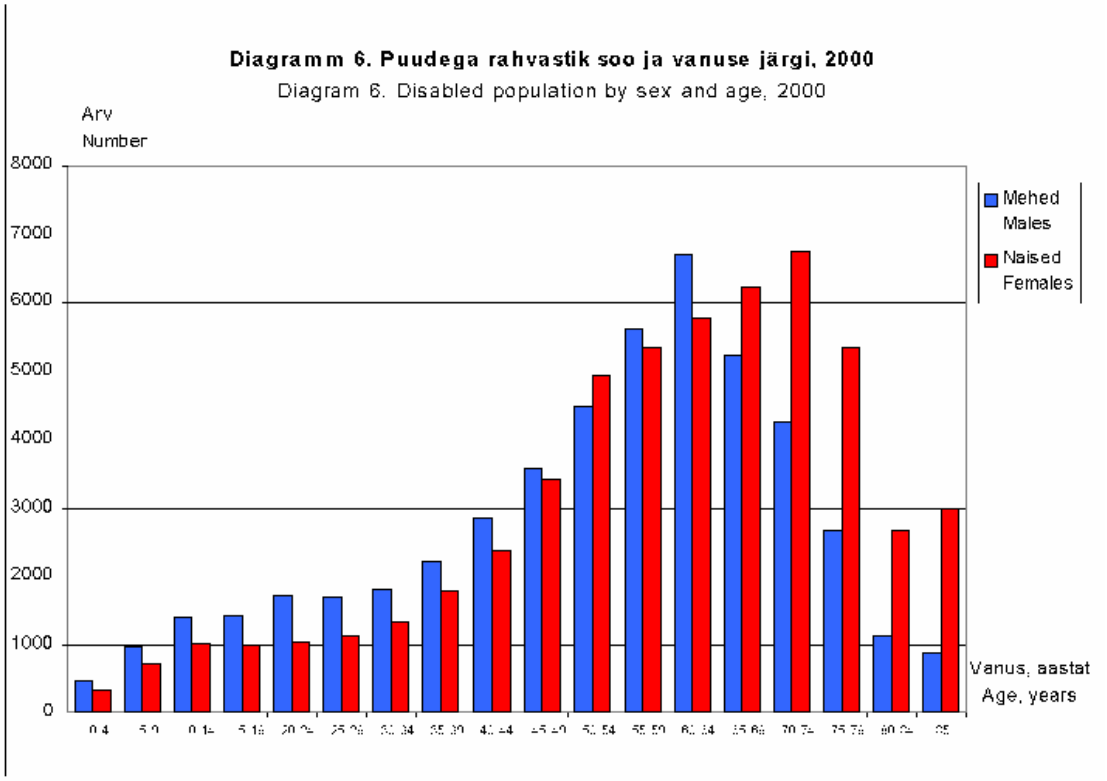
The definition of the person with a long-term illness or disability used in Census refers to persons who had been declared disabled before 31 March 2000 (at the Census moment) and those under 16-year –old children who had been declared disabled before the year 2000 or whose degree of the severity of a disability had been determined at the beginning of 2000.

The Census counted 103,154 persons with disability (7,5% of the total population). Disabled persons grew until the age of 65 and fell in the older age groups. There were 1,238,711 (90,4%) persons who had no disabilities and the existence of the disability was unknown in the case of 28,187 persons (2,1%), of whom 13,000 were under 15-year-old children.

The total **number of disabled persons** grew until the age of 65 and fell in older age groups. The number of disabled persons in the case of males and females reaches the peak in different age groups: 60-64 years for males and 70-74 years for females. The proportion of disabled persons in the total population ranges from 1,3% in the youngest age group of under 5-year-olds to 22,2% in the age group of 85-year olds and older population.

	Mehed Males	Naised Females
0-4	463	323
5-9	973	714
10-14	1391	1010
15-19	1405	984
20-24	1708	1042
25-29	1671	1132
30-34	1819	1330
35-39	2223	1793
40-44	2851	2384
45-49	3571	3410
50-54	4487	4932
55-59	5602	5343
60-64	6694	5759

65-69	5220	6201
70-74	4279	6753
75-79	2670	5332
80-84	1130	2658
85+	892	2991



The proportion of disabled persons was larger in **rural municipalities** than in **cities**, 9,0% and 6,8%, respectively. This indicator was relatively similar for males and females- 7,8% of males and 7,3% of females had a long-term illness or disability.

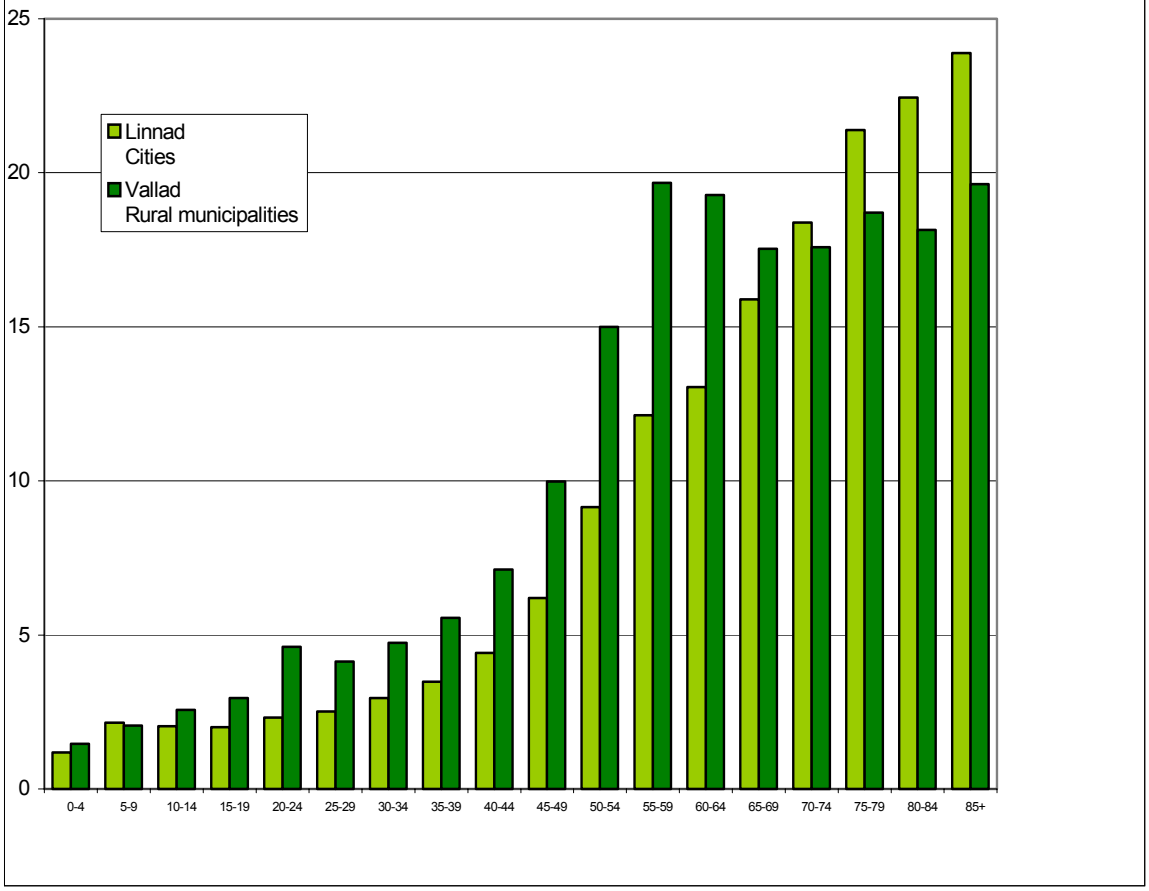
The proportion of disabled males grew especially quickly with age in rural municipalities: 26,1% of 60-64-year-old men in rural municipalities had a long-term illness or disability.

The proportion of disabled persons differed in counties by more than two times, being the largest in Põlva (14,0%) and Võru (11,9%) counties, and the smallest in Harju (incl. Tallinn) (6,0%), Lääne-Viru (6,3%) and Järva (6,6%). The differences are largely connected with the different age structure of the population; healthier people move into cities for studies or work.

0-4	1,18	1,46
5-9	2,15	2,06
10-14	2,04	2,57
15-19	2	2,95
20-24	2,32	4,61
25-29	2,51	4,13
30-34	2,95	4,75
35-39	3,48	5,56
40-44	4,41	7,13
45-49	6,2	9,98
50-54	9,15	15
55-59	12,13	19,67
60-64	13,05	19,28

65-69	15,89	17,53
70-74	18,38	17,58
75-79	21,39	18,71
80-84	22,44	18,14
85+	23,89	19,63

Diagramm 7. Puudega rahvastik vanuse ja elukoha järgi, 2000
Diagram 7. Disabled population by age and place of residence, 2000

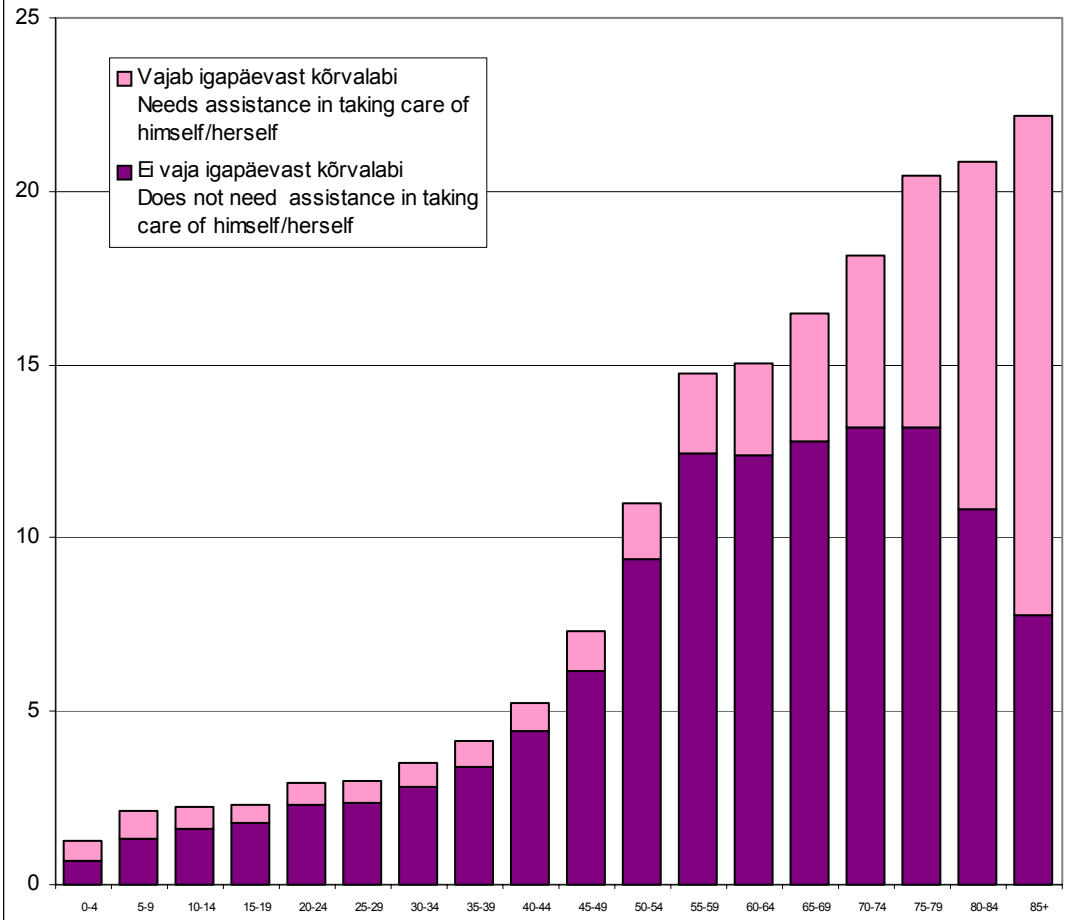


24,631 disabled persons, i.e. 23,9% of all persons with disability, needed **daily personal assistance** in taking care of themselves.
The number of those who needed personal assistance was the largest among 70-74-year-olds both in cities and rural municipalities.

	Mehed Males	Naised Females
0-4	463	323
5-9	973	714
10-14	1391	1010
15-19	1405	984
20-24	1708	1042
25-29	1671	1132
30-34	1819	1330
35-39	2223	1793

40-44	2851	2384
45-49	3571	3410
50-54	4487	4932
55-59	5602	5343
60-64	6694	5759
65-69	5220	6201
70-74	4279	6753
75-79	2670	5332
80-84	1130	2658
85+	892	2991

Diagramm 8. Puudega rahvastik vanuse ja kõrvalabi vajaduse järgi, 2000
Diagram 8. Disabled population by age and need for assistance, 2000

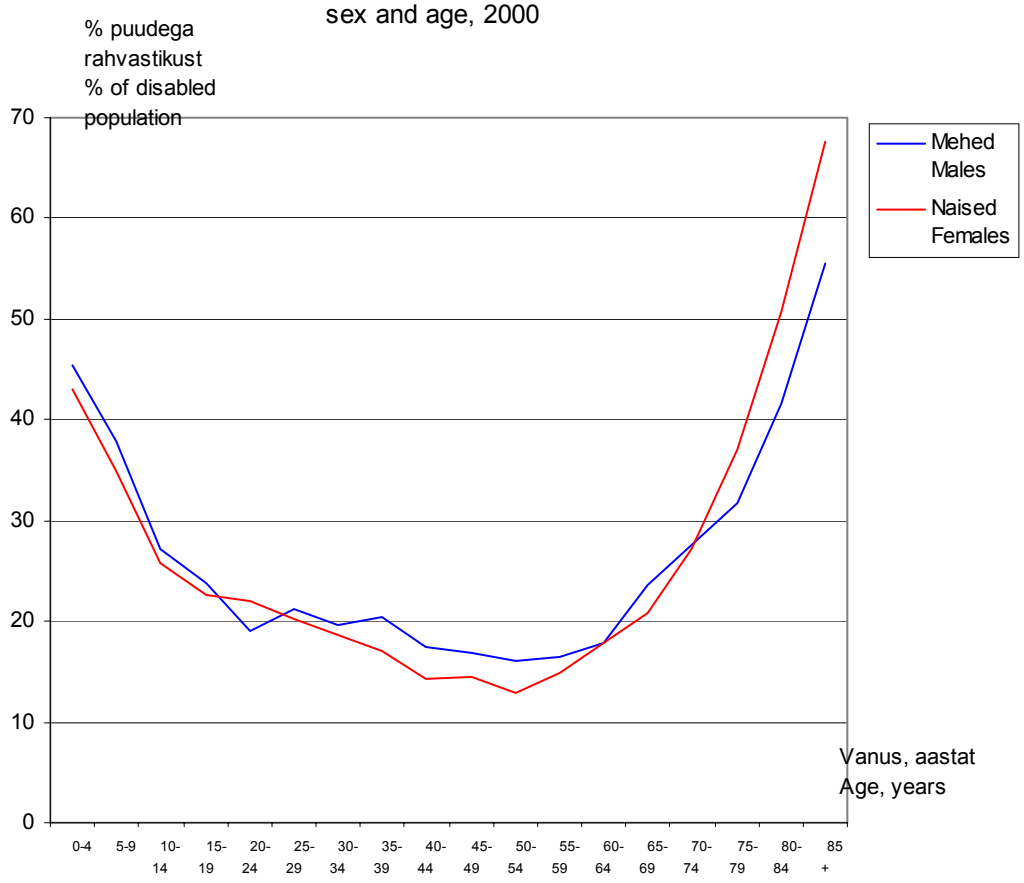


25,84	
22,56	
22,07	
20,14	
18,65	
17,07	
14,3	
14,49	

12,94
14,95
17,85
20,92
27,16
37,13
50,75
67,67

Diagramm 9. Igapäevast kõrvalabi vajajate osatähtsus puudega rahvastikus soo ja vanuse järgi, 2000

Diagram 9. Percentage of persons needing assistance of disabled population by sex and age, 2000



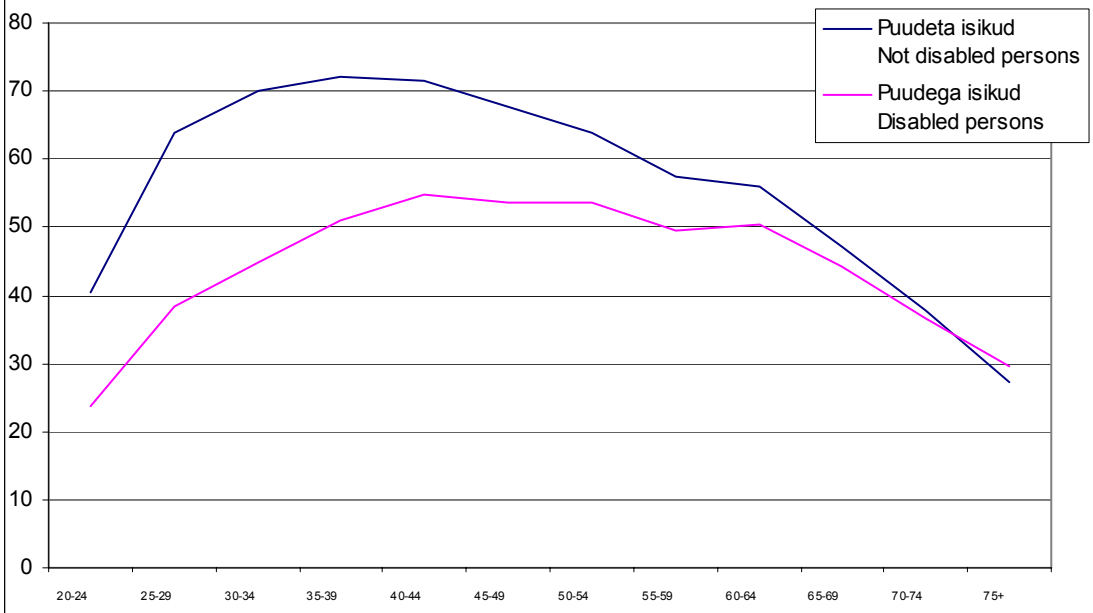
One of the most significant preconditions for the disabled to become full members of the society is the comparable **education** which determines whether in the future the disabled remain in the present state of welfare recipients or whether they become actively involved in the social life.

According to the Census data, there were 6,542 disabled pupils/students in Estonia. 19,4% of disabled 20-24-year –old males and 26,9% of females were studying. Of disabled persons in all age groups, the proportion of those who had completed vocational education was the largest, next came those who had completed professional secondary or higher education.

Many disabled young people were studying on a lower educational level than the healthy young people of the same age.
Among the disabled persons with no vocational or professional education, the proportion of those who had completed general secondary education was smaller than among the healthy persons, whereas the proportion of those who had completed general basic or lower education was respectively larger. For some people the disability had prevented getting education.

	Puudeta isikud Not disabled persons	Puudega isikud Disabled persons
20-24	40,46	23,78
25-29	63,8	38,49
30-34	69,95	44,78
35-39	72,21	50,87
40-44	71,41	54,79
45-49	67,83	53,75
50-54	63,78	53,56
55-59	57,56	49,42
60-64	56,02	50,34
65-69	47,23	44,18
70-74	37,92	36,76
75+	27,18	29,5

Diagramm 10. Kutse- või erialaharidusega rahvastik vanuse järgi, 2000
Diagram 10. Population with vocational or proffessional education by age, 2000

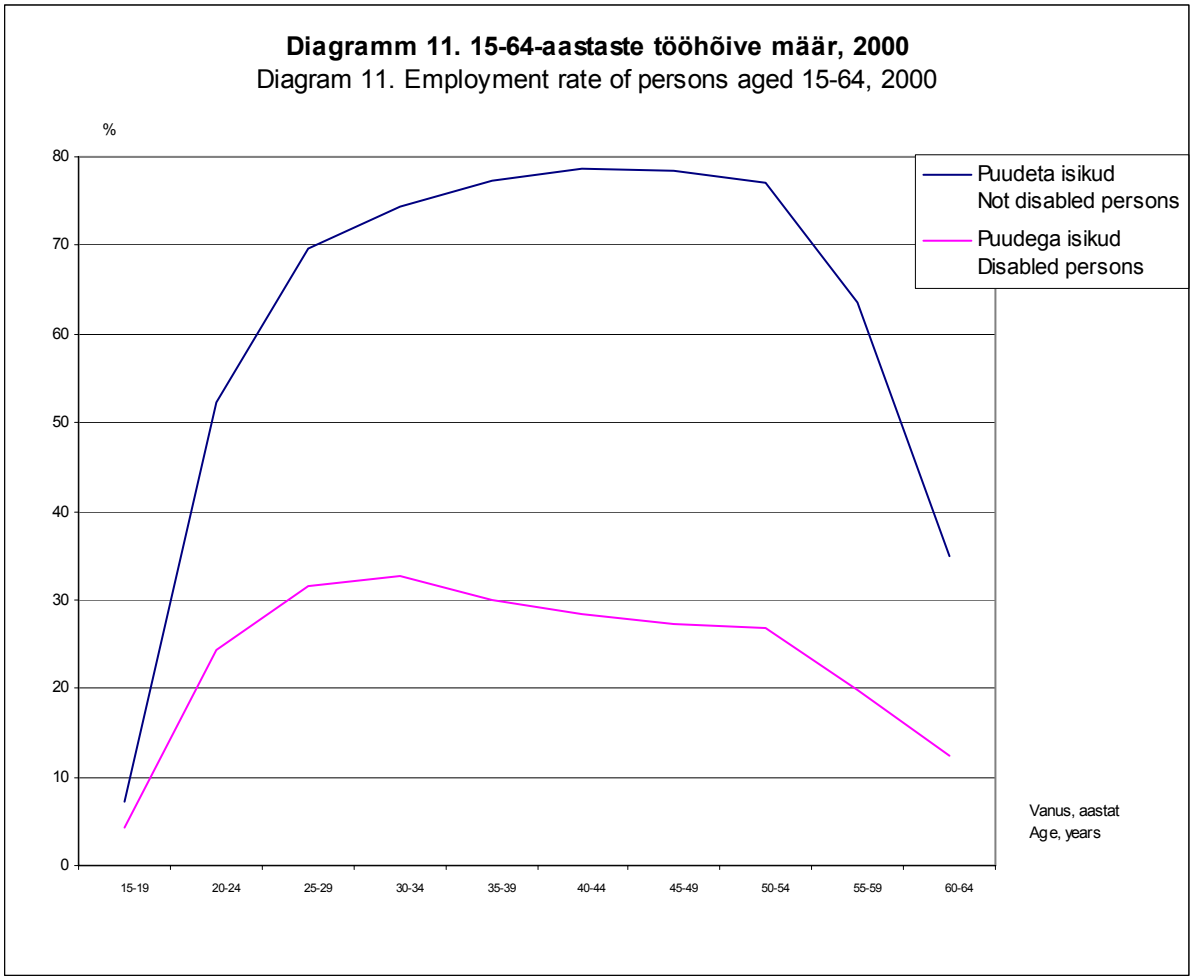


The differences in the **economic activity** of the disabled and healthy population were even greater than between their educational attainment. According to the Census data, 13,533 persons (22,5%) of the 15-64-year-old disabled persons were employed. The

employment of the not disabled persons of the same age group was 60,9% or 2,7 times larger. The employment rate of the not disabled persons was the highest (over 75%) in the group of 35-54, the respective rate for the disabled population reached the maximum at the age of 25-34 years.
Compared to the healthy population there were more part-time workers among the disabled.
The low employment rate shows that the society has not created enough conditions to provide the disabled with suitable work, therefore many of them are forced to be maintained by the society and their relatives. A large share of the disabled never enters the labour market.
The employment rate of the population of all age groups was higher in urban than in rural areas.
There was no considerable difference between the unemployment rates of the 15-64-year-old healthy and disabled population.

Puudega isikud Disabled persons
4,31
24,29
31,57
32,58
29,98
28,5
27,25
26,88
19,84
12,44

Diagramm 11. 15-64-aastaste tööhõive määr, 2000
Diagram 11. Employment rate of persons aged 15-64, 2000

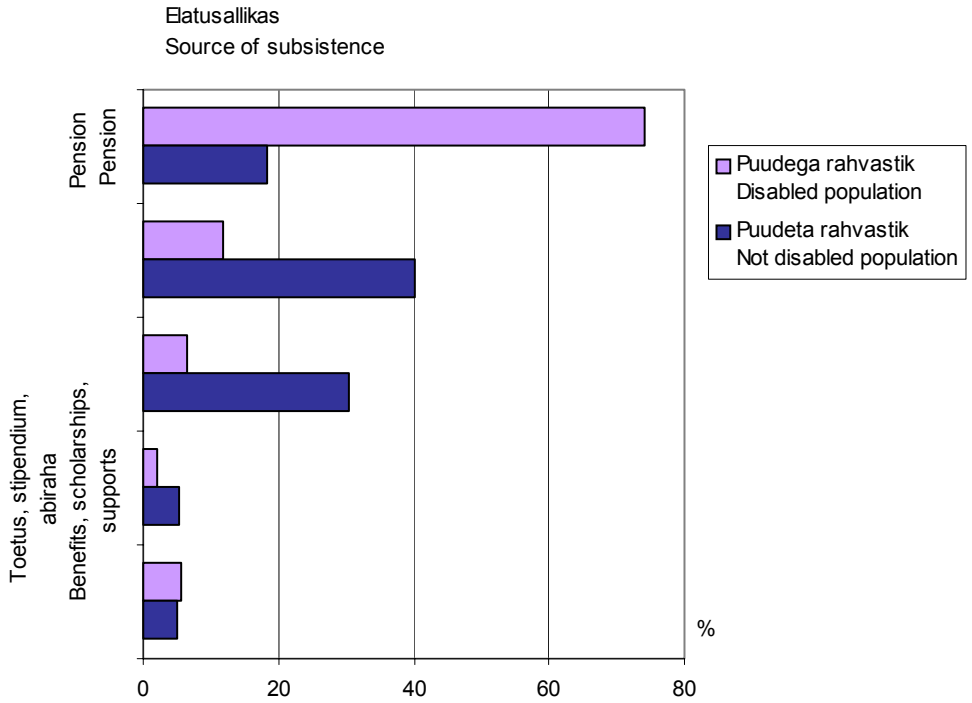


The largest share (74,1%) of the disabled persons considered pension--old-age, disability or any other pension—as their **main source of subsistence**. The main source of subsistence was the wages and salaries only for 11,7% of the disabled persons. The contribution of the family members and other relatives to their maintenance was also not significant: 6,4% of the disabled persons were maintained by other persons.
The majority of disabled persons are welfare recipients.

	Puudeta rahvastik Not disabled population	Puudega rahvastik Disabled population
Pension Pension	18,31	74,1
Palk, töötasu Wage, salary	40,19	11,74
Teiste isikute ülalpidamisel Maintained by other persons	30,5	6,4

Toetus, stipendium, abiraha Benefits, scholarships, supports	5,32	1,93
Teised elatusallikad The rest???	5,09	5,64

Diagramm 12. Rahvastiku peamised elatusallikad, 2000
Diagram 12. Population's main sources of subsistence, 2000



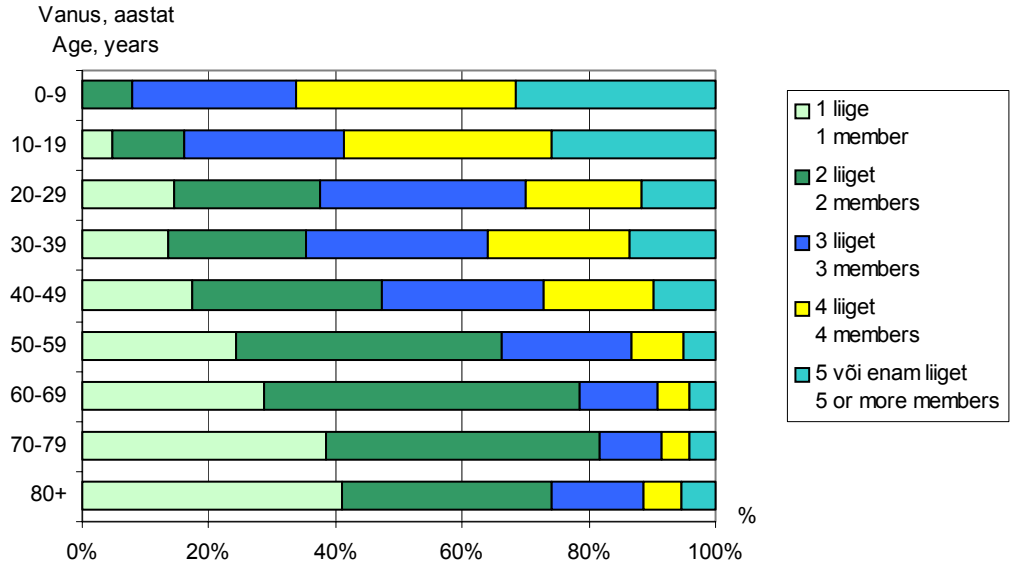
Institutional households provided permanent accommodation to about 5,200 disabled persons in 2000, of whom the majority (93%) lived in social welfare institutions; 69% of these people needed daily personal assistance. In 2002 the amount of welfare institutions for adults was 122 and they provided permanent accommodation for 5966 persons (0,58% of population).
Of the disabled persons who need personal assistance, most often 15-44-year-old persons are placed in institutions.

The majority (94,9%) of the disabled persons lived in **private households**.
Almost two thirds (63%) of disabled persons lived in one- or two- member private households. These were usually persons aged over 50. There were 25,071 disabled single persons, i.e. one-member private households. Every fifth single disabled person needed daily personal assistance in taking care of himself/herself. Most often these were older persons. Only every tenth single disabled person was working.

50-59	24,14	42,19	20,41	8,13	5,13
60-69	28,71	49,84	12,28	5,05	4,12
70-79	38,45	43,23	9,84	4,29	4,19
80+	41,08	33,19	14,41	6,08	5,25

Diagramm 13. Puudega rahvastik tavaleibkondades vanuse ja leibkonna suuruse järgi, 2000

Diagram 13. Disabled population living in private households by age and size of household, 2000

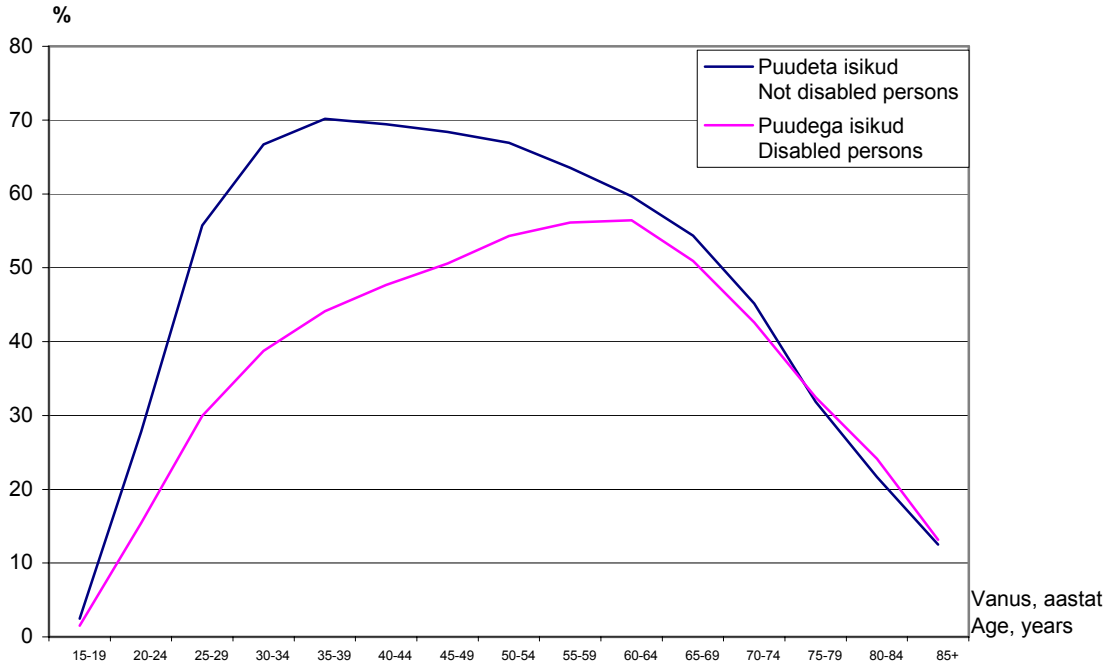


Partneriga kooselav

	Puudeta isikud Not disabled persons	Puudega isikud Disabled persons
15-19	2,45	1,51
20-24	27,79	15,42
25-29	55,71	29,93
30-34	66,68	38,74
35-39	70,16	44,1
40-44	69,42	47,68
45-49	68,38	50,57
50-54	66,92	54,29
55-59	63,54	56,11
60-64	59,69	56,44
65-69	54,34	50,94
70-74	45,15	42,59
75-79	31,87	32,44
80-84	21,66	24,13
85+	12,52	13,19

Diagramm 14. Seadusliku abikaasa või vabaabielupartneriga koos elava rahvastiku osatähtsus, 2000

Diagram 14. Percentage of population living with legal spouse or cohabitant, 2000



Until 2000 disabled persons in both working and retirement age could be registered under a disability group, since April 1, 2000, **the degree of the loss of capacity for work** is determined only in case the person is in working age (in case of occupational accidents or disease also for persons in their retirement age):
1st group, 100% loss of capacity for work
2nd group, 80-90% loss of capacity for working
3rd group, 40-70% loss of capacity for work.

Since 2000 for payment of social benefits to the disabled persons **the degree of severity of disability** is determined.
For example the determination of disability for the first time in 2002 according to the degree of severity of disability and person's age (Data from "Social Sector in Figures 2003", Ministry of Social Affairs of Estonia, Tallinn 2003):

Severe disability	2 870 persons (14,4%)
Incl. Under 16	145 persons (0,7%)
16-63	491 persons (2.5%)
63 and older	2 234 persons (11,2%)
Profound disability	9 128 persons (45,9%)
Incl. Under 16	492 persons (2,5%)
16-63	2 294 persons (11,5%)
63 and older	6 342 persons (31,9%)

Moderate disability	7 901 persons (39,7%)
Incl. under 16	359 persons (1,8%)
16-63	3 339 persons (16,8%)
63 and older	4 203 persons (21,1%)

The data about the degree of severity of disability and about the degree of the loss of capacity of work are collected by Disability Dataset. The ICF-classification was not used while collecting these data; the persons are not established and data from this dataset and data from surveys are not comparable.
ICF has now been translated and we hope that in future our disability data will be collected according to ICF.

5.2. Comparison of data from different surveys on disabled population

There has been done only few researches about situation, needs and hopes of disabled persons up to now.

In 1996-1997 the survey **"Disabled person's family in Estonia in 1996**"(Family 1996) was carried out to investigate the situation and managing of disabled person's families. The survey was initiated by Ministry of Social Affairs and Estonian Chamber of Disabled Persons; the interviewers were the employees from local social and public health departments.

The counties have registries about disability groups I, II and III. The survey sample was randomly selected from these registries, using the constant intervals and initial starting point. 1870 interview questionnaires were completed and used for the study.

The results of this kind of selection showed, that only one tenth of Estonian adult persons with disabilities belong to age group less than 33 years. But in reality there are much more disabled under 33-year-old persons (one fifth of all disabled persons, i.e. about 12 000).
Younger and middle-aged disabled people were not satisfied with this kind of survey, because it did not reflect their situation, problems and needs, although gave a profound review about disabled people's life in older age.

Due to previous, the organizations of disabled persons had to carry out a quality of life-survey for younger and middle-aged (16-45) persons, suffering from various chronic diseases or disabled. The aim was to interview 10% of these 12 000 people, i.e. 1200 persons. The study was called **" The quality of life of 16-45-year-old Estonian population with long-term illness or disability"(EPIKODA-2001).**

The questioning was carried out from January to April **2001.** Respondents were distributed preliminary into 11 groups by their long-term illness or disability, each group about 100 responders.
1007 persons were questioned, but in final data processing 974 questionnaires from respondents with known age were used.

Parts of the survey were:

1. General data (age, sex, nationality, marital status, children, living place and conditions, education, employment, economic position) .
2. Social activity (satisfaction with life, participation in social events, participation in disabled persons organizations, interests).
3. Health (visits to doctors, need for emergency medical aid, medication, hospitalizations, other assistive devices, mobility, need for daily personal

assistance, medical problems and daily activities: preparing meals, doing laundry, washing, cleaning, using transportation, alcohol)
4. Rehabilitation and social life(phone, special adaptations in flat, car, heating, washing, need for special help, special assistive devices) .
5. Quality of life, self-realization (reading, interests, TV, radio, pets, participation in social events).

After the re-establishment of independence in 1991, the **Health Interview Survey (EHIS**) was the first large-scale survey about the health status of the population in Estonia. The Statistical Office of Estonia started the preparation of the EHIS in1995. At the initiative of the Estonian Interuniversity Population Research Centre, negotiations were begun to involve many more institutions in planning and implementing all phases of the survey. As a result of negotiations with the Statistical Office and the Ministry of Social Affairs, the EHIS Working Group was formed. The Working Group included experts from universities, academic research institutions and governmental institutions. In the course of preparing the study there were several contacts with researchers from other countries who have been involved in similar surveys.
The fieldwork started in october**1996** and ended early in **1997**. As a result of the EHIS, in addition to data obtained from the registration of births, deaths, causes of death, certain diseases, traumas and medical services, we now have a survey-based dataset. Due to its conceptual and methodological compatibility with internationally accepted standards, the results of this survey are comparable with other countries that carry out analogous surveys. Implementing the survey fulfilled the decision of the Governmental Commission for Population Statistics in 1993 to begin regular health interview surveys.
By its nature, the EHIS belongs to the category of population surveys.

Estonia belongs to the group of countries where average life expectancy at birth has declined during the last ten years, and where chronic diseases, having a prolonged formation and process, are the most common causes of death. The prevalence of chronic diseases among the causes of death implies that a large proportion of the population spends the last period of life in bad health.
Basic information about the health status of the population is still lacking. There are no data to analyse which life events and ways of life have led to today's health status. There are no data to determine when real loss of health starts; how it influences the ability to work and the labour market; how long is the period when one cannot function by oneself any more and how large is the social support by family members and the society in that period; and which social classes are less protected from the health problems and their consequences.
This is the knowledge that is essential to shaping a social policy that could guarantee the functioning and participation in social life of all members of the society.
EHIS was the first comprehensive survey in which life-course events were compared with changes in health status.
The central task of the survey was to evaluate the health potential of the Estonian population by connecting the loss of health and its development and consequences with major life events and lifestyles.

The EHIS questionnaire consisted of the following parts:
1. Household (economic activity, self- functioning, health-related needs of household members)
2. Health
3. Reproductive health (separately for men and women)
4. Education and occupation
5. Home
6. Medical assistance (use of medical services and medicines)
7. Health behaviour

8. Attitudes
9. Interviewer's part

In all, 375 questions were asked. Totally 162 interviewers from the Estonian Statistical Office (the Interviewer's Network Section) participated in the fieldwork of EHIS.

The target population of EHIS consisted of cohorts born in 1916-1980 (or men and women, aged 15-79 before or on January, 12, 1996). All persons within this age-range who were permanent residents of Estonia at the time of 1989 population census were eligible for sampling.

A simple random selection was used for drawing the sample from the 1989 census dataset. The sample was drawn from the universe of long-form census lists. This long-form was administered to a 25 percent random sample of households in the census.

The planned number of completed interviews was 5,000 people. The larger sample size was not possible due to limited financial resources.

Technically the sampling procedure adhered to the following scheme. There were 16 sampling units- 15 counties and Tallinn as a separate unit. Each sampling unit was stratified by sex and five-year age group. The target population was divided into 416 strata. As the next step, persons aged 15-64 were sampled in proportion to their sex and age composition in the sampling unit; persons aged 65-69 had one and a half times coverage, persons aged 70-74 were sampled with double-coverage and age group 75-79 had threefold coverage. Such a decision was based on the consideration that most chronic diseases appear only in later ages; increasing the number of older respondents would increase the number of events we are studying and thereby the reliability of the results of the survey. As the next step, all sampled cases within a sample unit were merged into one county-specific sample file.
After checking the names and addresses, 7,807 persons were remained. Of these, addresses were found for 7,081 persons; 671 persons remained in the sample with the original census addresses, as did 55 persons for whom no address was found.

In order to obtain the intended 5,000 completed interviews, first 5,000-the primary sample-were selected from the remaining 7,807 records. Later, when three quarters of these 5,000 survey protocols had been returned from the field, additional cases were assigned.

In all, 6,019 cases were assigned to the interviewer's network of the Statistical Office. Of those, 4,711 interviews were completed.

5.2.1. Comparison of the questionnaires

The Census 2000 was addressed to the whole population, EHIS 1996 to the random sample of 15-79-year –old population. In Census 2000 only one question concerning the disability or long-time illness was asked, EHIS had separate parts for health, home, medical assistance and health behaviour.

Family-questionnaire (1996) and EPIKODA-questionnaire (2001) were addressed to disabled people only. The Family-questionnaire was focused on disabled person's family, economic situation, social contacts and housing; the parts of health and social welfare were practically similar to the EPIKODA-questionnaire.

EPIKODA-questionnaire was more detailed about education, working possibilities, several needs (need for medical services, need for help in order to manage the daily activities, need for rehabilitation services), and self-realization.

According to Census, the per cent of population having a disability or long-time illness, was 7,5. In EPIKODA-questionnaire, which was addressed to disabled people, the per cent was 83,5.
More or less comparable answers were in those two questionnaires and in EHIS-questionnaire to items as:
- conveniences in current dwelling (63,7-72,6% and 62,2%)
- use of medicines (30-56,2%)
- use of assistants in order to manage with daily activities (43,4-53,6% and 45,7%).
- getting old-age or disability pension or maintenance allowance (74,1% and 81,9%)

Daily personal assistance among disabled people was needed in 23,9%(Census) and in 51,1% (EPIKODA); need for nursing aid 2,2% (Census), 2-2,5% (EHIS) and 7,6%(EPIKODA).
According to EPIKODA-questionnaire most of disabled people live in cities (72,3%), but according to the Census -in rural municipalities.

22,5% of disabled persons are working (Census), but in EPIKODA-questionnaire the per cent is 35,5.

Self-declared health status: “good” in 32,4-34,7% or “very good” in 6,8-10,1% (EHIS) and ”good” in 15,8% (EPIKODA); “satisfactory” in 46,2-48,4% (EHIS) and 45,9%(EPIKODA);”bad” in 7,8-10,7%(EHIS) and 22,9%(EPIKODA);”very bad” in 1,2-1,7% (EHIS) and 10,3%(EPIKODA).

EHIS 1996:

Prevalence of mobility limitations:		
Has to stay close to home	2,9% of men and 3.8% of women	
Does not leave the house	1,0%	1,3%
Prevalence of deaf people	0,2%	0,1%
Self-assessment of feeling healthy enough for wanted activities		
Almost always	66,5%	61,2%
Rather frequently	24,8%	26,9%
Rarely	7,4%	10,2%
Almost never	1,3%	1,8%
Use of aids in order to manage with usual activities		
Glasses	42,8%	52,9%
Hearing aid	0,5%	0,4%
Crutches, walker, wheel chair	2,5%	2,6%
Use of medicines during the last 4 weeks	36,0%	56,2%
Need for nursing in household	2,2%	2,8%
Managing restrictions	31,4%	30,3%
Conveniences of current dwelling		
Sewer and piped water	83,6%	83,8%
Central heating	68,1%	67,6%
Hot water	63,9%	63,5%
Bath/shower	72,8%	72,5%
Phone	63,0%	64,0%
No conveniences	10,4%	9,8%
Prevalence of disorders of circulatory system	38,1%	54,2%
Prevalence of disorders of respiratory system	32,4%	32,3%

Prevalence of disorders of musculosceletal system	47,4%	51,1%
Prevalence of disorders of digestive and urinary system	36,3%	44,4%
Prevalence of at least one limitation in performing usual activities		
At least one less severe limitation, sometimes needs help	7,2%	9,3%
At least one severe limitation, can't manage by Him(her)self	1,9%	2,3%
Prevalence of limitations in performing housework (cooking, cleaning up, heating)		
Help is needed at least once a month	0,9%	2,1%
Needs daily help	1,8%	1,9%
Prevalence of personal care disabilities (eating, dressing, using toilet)		
Mainly can manage him(her)self	0,9%	1,3%
Need for permanent care	0,7%	0,6%

5.2.2. Epikoda 2001

83,5% of respondents had permanent disability or chronic disease.
Among patients suffering from rheumatism, allergy /asthma and diabetes, more women were registered (respectively 79,4%, 66,2% and 64%). Among deaf people and people with mobility limitations more men were registered (respectively 60,9% and 58%).
Hot water and normal washing conditions were in 62,2% of housings.
44,7% of disabled people were graduated from school before receiving the disability.
15,5% of disabled people wish to have more education.
35,5% of disabled people are working.
Subsistence allowance/pension is got by 81,9% of disabled people.
Evaluating his/her health: good (15,8%), satisfactory (45,9%), poor(22,9%), bad (10,3%)
Using medication: regularly (49,2%), sometimes (30,6%), not at all(20,2%).
Adaptation of the apartment 24,7%
Services, needed to cope with daily life: personal assistant (63,2%), transportation (15,1%), personal computer (6,6%), nursing aid (7,6%).

5.2.3. Census 2000

Per cent of disabled (or having a long-time illness) population was 7,5%.
Daily personal assistance was needed in 23,9% of disabled persons and it was the greatest among 70-74-year –old people..
Proportion of disabled persons was larger in rural municipalities (9%) than in cities (6,8%).
The proportion of those disabled persons who had completed vocational education was the largest, next were professional secondary and higher education.

5.3. Proposed disability questionnaire

Disability questionnaire will be part of the new round of Estonian Health Interview survey planned in 2006 by Ministry of Social Affairs in collaboration with National Health Development Institute and Estonian Statistical Office. Therefore we do not repeat here all the background questions which are included in other modules (in EHIS terminology – tables).

The questions on the personal characteristics, household, partnership relationships, environment and living area and conditions are asked in accordance with the Estonian Health Interview Survey 1996 (see [1]Leinsalu,M.,M.Grintshak,R.Noorkõiv and B. Silver. *Estonian Health Interview Survey. Methodological Report.* Institute of Experimental and Clinical Medicine. Tallinn 1998).

In the TABLE OF HOUSEHOLD for each member of household the relevant question is asked (see EHIS 1996)

A06	Do you/[NAME...] need permanent care due to your/[HIS/HER] health status?	**2 A09**
A07	To what extent does your/[NAME`s ...] health condition limit your /[HIS/HER] daily activity? CHART A07 1 Limited in daily living (cooking, laundry, shopping) 2 Limited in personal care (washing,dressing, toilet using) 3 Need permanent care for managing by (myself/himself/herself) (eating, using a toilet, dressing etc.)	
A08	Who takes care of you/ [NAME ...]? CHART A08 1 Partner, 2 Parents, 3 Children, 4 Sisters/brothers, 5 Other relatives, 6 Neighbours, 7 Other acquaintances, 8 Social worker, 9 OTHER [WRITE]	
	Please indicate how often /NAME…/ is assisted by these persons or services: 1 almost daily 2 at least once a week 3 more seldom	

HEALTH

1. Overall, how do you evaluate your health status?
2. 1-very good;2-good; 3-average, satisfactory; 4-bad; 5-very bad
3. Do you feel healthy enough to do what you want each day...
4. 1-almost always;2-rather frequently ;3-rarely ;4-almost never

5. During the past 6 months or more have you been limited in such activities you usually do?

Yes, strongly limited Yes, limited Not at all limited Not applicable

6. Moving outside the building for at least 500metres
7. Using the public transport
8. Working
9. Taking part in social life
10. Acquiring an education
11. Personal life
12. Everyday activities at home
13. Communication with other people
14. Interests, hobbies
15. Other

NB.To the next questions the table on chronic illnesses from Estonian Health Interview Survey 1996 Table of health problems (starting with question B05, including assessment of effects of traumas from B04) precedes.

TO INTERVIEWER:

1. Has the respondent indicated any of the following chronic diseases?
    a. heart disease
    b. high blood-pressure
    c. low blood-pressure
    d. disturbed circulation (in legs)
    e. stroke
    f. respiratory disease
    g. impairment of spinal rheumatism
    h. diabetes
    i. skin disease
    j. allergy
    k. language impairment (md. muteness)
    l. other chronic disease

IF 'yes', ask the follwoing:

You have indicated several chronic diseases which have bothered you during the past 12 months. Has any of these been a substantial reason to be limited in your daily activities ? Please indicate which of those have contributed to it (TO INTERVIEWER, indicate the column No which indicates the most substantial impediments. Record the most serious one in the first place, four
diseases can be recorded maximally.)

Indicate the cause of the most serious chronic
impairment

List B - Causes of impairment

2. disease or deterioration in course of time
3. work place related accident, occupational disease
4. traffic accident
5. accident in household, during spare-time or when
6. practicing sport
7. other reason (incl. war action
8. since birth

B 16	Do health problems limit your communication with institutions such as the bank, savings bank, post-office, social department etc.? 1 No 2 Yes, sometimes I need help in managing Since 19 l_l_l 3 Yes, I need help in managing every time Since 19 l_l_l
B 17	Do health problems limit your socialising with friends, relatives? 1 No 2 Yes, my circle of friends has diminished significantly Since 19 l_l_l 3 Yes, I have been totally excluded from the usual circle of friends and relatives Since 19 l_l_l
B 1	Do health problems limit your ability to perform housework such as cooking, cleaning up, heating etc.?

8	1 No 2 Yes, I need help at least once a month Since 19 I_I_I 3 Yes, I need daily help Since 19 I_I_I
	Do health problems limit your ability to lift or carry a shopping bag of up to 5 kgs? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Do health problems limit you in activities such as eating by yourself? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Do health problems limit you in activities such as bathing and showering yourself? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Do health problems limit you in activities such as dressing or undressing yourself? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Do health problems limit you in activities such as using toilets yourself? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Do health problems limit you in activities such as transferring yourself in and out of bed? 1 No 2 Yes, but mainly I can manage myself Since 19 I_I_I 3 Yes, I need help continuously Since 19 I_I_I
	Indicate the cause of your (most severe) impairment in personal care activities? List B - Causes of impairment disease or deterioration in course of time work place related accident, occupational disease traffic accident accident in household, during spare-time or when

	practicing sport other reason (incl. war action) impairment since birth.
B 2 0	Do health problems significantly limit your moving around? 1 No 2 Yes, I have to stay close to home, I can walk up to 500 metres Since 19 l_l_l 3 Yes, I do not leave the house/flat Since 19 l_l_l
	Is your capacity to move reduced due to skeletal or other impairments (e.g. paralysis, disfigurement, stiffened joints) like: - thumb - other finger(s) - one hand - both hands - one arm - both arms - one foot - both feet - one lower leg - both lower legs - one leg - both legs - hemiplegia - paraplegia - no impairment. Please indicate the most severe impairment at the first place, four impairments can be recorded maximally
	Indicate the cause of your (most severe) mobility impairment? List B - Causes of impairment disease or deterioration in course of time work place related accident, occupational disease traffic accident accident in household, during spare-time or when practising sport other reason (incl. war action) impairment since birth.
	Is your hearing good enough to listen to a conversation of two or more people at the same time? 1 Yes 2 No, but I hear it ver well when I have the conversation with one person Since 19 3 No, I have difficulties to disitnguish a word in a conversation Since 19
B	Is your hearing good enough (with a hearing aid if you use one) to listen

2 1	radio/TV programs played at normal volume? 1 Yes 2 No, only when I turn up the volume Since 19 I_I_I 3 No, I don't hear even when I turn up the volume, DEAF Since 19 I_I_I
	Do you use/know the language of gestures when dealing with listeners or with other persons yes no
	B.31 Does a hearing aid totally or partially relieve your hearing impairment? Yes No When not having a hearing aid: Are you in need of a hearing aid? Yes No
	Indicate the reason of your loss of hearing List B - Causes of impairment -disease or deterioration in course of time -work place related accident, occupational disease -traffic accident -accident in household, during spare-time or when practising sport -other reason (incl. war action) -impairment since birth.
B 2 2	Is your eyesight good enough to recognise people at a distance of four meters? 1 Yes 2 No, but I recognise people at a distance of one meter Since 19 I_I_I 3 No, I even don't recognise them at a distance of one meter, BLIND Since 19 I_I_I
	Is your eyesight good enough to read clearly newspaper print? 1 Yes 2 No, but I can read it in morning hours or when it lies very near to the eyes Since 19 3 No, I do not distinguish any word Since 19
	Do you see normally or near-normally when you use spectacles, contact lenses or operation (grey cataract): yes no

	Indicate the reason for the most serious ocular impairment List B - Causes of impairment -disease or deterioration in course of time -work place related accident occupational disease -traffic accident -accident in household, during spare-time or when practising sport -other reason (incl. war action) -impairment since birth.
B **2** **3**	DOES THE RESPONDENT HAVE ANY PROBLEM WITH SPEAKING? IF ANSWER IS **2** OR **3**, ASK SINCE WHAT YEAR? 1 SPEAKS NORMALLY 2 SPEAKS WITH DEFECTS, SLOWLY Since 19 l_l_l 3 CAN'T INARTICULATE UNDERSTANDABLY, DUMB Since 19 l_l_l
	Indicate the reason for the most serious ocular impairment List B - Causes of impairment -disease or deterioration in course of time -work place related accident occupational disease -traffic accident -accident in household, during spare-time or when practicing sport -other reason (incl. war action) -impairment since birth.

1. Do you have a disability or long-time illness determined by a medical review?
1-yes; 2-no
If "yes", the year you received disability.....
What is the reason of your disability?.....

2. What degree of disability do you have? 1-severe; 2-profound; 3-moderate

3. Do you have a permanent incapacity for work?
1-yes; 2-no

4. If "yes", then what group:
1-100% loss of capacity for work; 2- 80-90% loss; 3—40-70% loss...

5.4. Education and occupation

Table on education and occupation from EHIS 1996 included

Did you graduate from school before you got disabled? 1-yes; 2-no

Have health problems ever significantly limited your studies?
1-no;2-yes, I did not graduate at the same time with classmates of my age or I had to discontinue my desired studies ;3-yes, I didn´t get elementary education

5.4.1. Technical aid

Do you use any assistive devices in order to manage in your daily life?
1-glasses; 2-contact lenses; 3-hearing aid; 4-crutches; 5-walker; 6-wheel chair; 7-orthopedic shoes, walking stick 8 =adapted car 9 – adapted dwelling 10 – special technical equipment (emergency phone) 11 – (TO INTERVIEWER: ask from those who work) adapted infrastructure at work place.

IN-PATIENT CARE, OUT-PATIENT CARE , USE OF MEDICINES and HEALT BEHAVIOUR included from EHIS 1996 relevant tables.

In summary, do you take wholesome food?
1-yes; 2-I'd like to , but my income does not allow ; 3-no

5.4.2. Self realization

Do you have any hobbies? Name them.....

Do you have a personal computer? 1-yes; 2-no

Do you have a car? 1-yes; 2-no

Do you go to the theatre, museums, concerts?
1-yes,often; 2-rarely; 3-no, but I`d like to; 4-I am not interested in

Are you a member of an organization of disabled people?
1-yes (name the organization....); 2-no
If "no", why? 1-I do not know anything about these organizations; 2-I do not care; 3-it is difficult to participate; 4-other reason.....

5.4.3. Social welfare and rehabilitation

What kind of services are essential for you to manage in everyday life?.....
1-shopping; 2-cooking; 3-doing laundry; 4-cleaning; 5-arranging medical aid: 6-heating; 7-arranging the correspondence and paying the bills

How do you manage with your finances? 1-good; 2-satisfactory;3-not good;4-I do not know

Do you get pension/ subsidies/subsistence allowance? 1-yes; 2-no

Have you somebody to turn to, when you need financial support?
1-husband/wife; 2-relatives;3-friend;4-neighbour/acquaintance; 5-social worker; 6-other 7-no one to turn to

Up to which level are you informed about services or
further support:

Yes, I think, I'm well informed
Yes, I think, I'm more are less informed
I'm not at all informed about this
(APPLY to the following LIST of social services)
Home nursing care
Home or elderly household care
Meals on wheels
Driving or accompanying services
Medico-therapeutic service
Health, welfare or counselling center
Visitor service
Financial support

Are you calling on the following services?

	Yes	In need, but no	No need
Home nursing care			
Home or elderly household care			
Meals on wheels			
Driving or accompanying services			
Medico-therapeutic service			
Health, welfare or counselling center			
Visitor service			
Social allowance			

What kind of rehabilitation services you find useful for you?
1-medical care; 2-how to cope with daily life; 3-occupational training; 4-occupational retraining; 5-work conditions adapted to your disability; 6-social services to improve daily management; 7-other (indicate what exactly)

DWELLING FACILITIES from relevant table in EHIS 1996

Is your flat adapted to your disability? 1-yes; 2-no

What kind of urgent repairs or rebuilding are needed in your flat?.....

Appendix 7. Disabled person's family in Estonia in 1996

Questionnaire to the family of disabled person

A. HOUSEHOLD

A1. How many members are there in your household (incl. yourself)?.....
A2. How many members of your household are disabled?.....
A3. Is there any member of your household who is temporarily living separately (in school, working, in welfare institution, hospitalized for a long time, in prison)?
1-no; 2-yes
A4. Do you have grown-up children or grandchildren, who live separately?

1-no; 2-yes (Name them.....).

B. MEMBERS OF THE FAMILY

FIRST MEMBER

B1. First name.....

B2. Relationship to respondent

1- respondent; 2-respondent`s parent; 3-partner; 4-son/daughter, partner`s son/daugter; 5-sister, brother; 6- partner`s parent; 7-son`s/daughter`s partner; 8-grandparent; 9-grandchild; 10-other.....

B3. Date of birth.....

B4. Age(full years).....

B5. Sex 1-man; 2-woman

B6. Nationality 1-Estonian; 2-Russian; 3-other.....

B7. Citizenship 1-Estonian; 2-other.....; 3-no citizenship

B8. Place of birth 1-Estonia; 2-Russia; 3- other.....

B9. This member of the family is 1-healthy; 2-disabled

B10. Does this member of the household live 1-together with the household; 2-separately (Why separately?.....Where?.....)

B11. Does this member of the household learn

1-in primary school; 2-in secondary school; 3-in vocational school; 4-in the university; 5-in special school; 6- taking courses; 7- other.....; 8-is not in school

B12. Does this member of the household (may be several answers):

1-live apart; 2-working at home; 3-homemaker, is taking care of a child or a family; 4-is taking care of sick or disabled person at home; 5-is unemployed or looking for work; 6-is on old-age pension/retired; 7-is on disability pension; 8-not working; 9-other.....

B13. What is his/her occupation?.....

B14. Is he/she working : 1-full-time; 2-part-time

B15. Is he/she doing some extra job? 1-no; 2-yes (what.....)

Until all members of the household have been included.

C. LIVING CONDITIONS AND ENVIRONMENT

C1. In what kind of dwelling do you live?

1-farmhouse; 2-private house; 3-part of a house; 4-flat/apartment; 5-other.....

C2. How many floors are in your house?.....

C3. On what floor do you live?

C4. Who owns your dwelling? 1-someone from your family; 2-cooperative; 3-government or local authorities; 4-private person; 5-communal flat; 6-living on local community dwelling; 7-other.....

C5. How many rooms does your family own?.....

C6. What is the living space of your rooms in square meters?.....

C7. What other rooms can your family use?

	We own	We can use	No
kitchen			
shower/bathroom			
Toilet			
Balcony			
Sauna			
Other			

C8. What is the total space at the disposal of your household in square meters?.....

C9. What kind of conveniences are there in your apartment?

1-electricity; 2-running water; 3- sewerage; 4-hot water (seasonally); 5-hot water(continuously); 6-central heating; 7-own central heating; 8-gas stove; 9-electric stove; 10-telephone

C10. How far from your home is (in kilometres):

1-telephone(if you do not have it at home).....; 2-store...; 3-school....; 4-bus/ train/ trolley-bus station...; 5- doctor`s office; 6-pharmacy...; 7-social welfare office...; 8-other

C11. What do you own in your family?

1-refrigerator; 2-washing machine; 3-radio; 4-TV; 5-vacuum cleaner; 6-sewing machine; 7-car; 8-motor-cycle; 9-bicycle; 10-camera; 11- personal computer; 12-music centre; 13-videoplayer; 14-food processor; 15-microwawe; 16-dish-washing machine; 17-motor-boat; 18-mobile phone; 19-video camera; 20-cableTV

C12. Does your family have a possibility to spend free time away from home?

1-yes, we have a cottage; 2-sometimes we are with friends/relatives; 3-we rent a cottage; 4- in sanatorium; 5-we travel; 6-we do not have a need; 7-we do not have a possibility

C 13. Are you satisfied with your living conditions?

1-yes, completely; 2-more or less; 3-partially; 4-not very much; 5-not at all;

C14. Does your dwelling correspond to your family needs?

1-yes, 2- partially; 3-no

C15. Does your dwelling correspond to the needs of the disabled member of your family? 1-yes; 2-partially; 3-no

C16. What is the main problem with your dwelling?

1-too small; 2-too big; 3-too expensive; 4-no conveniences; 5-no central heating; 6-no elevator; 7-too far away; 8-not separate; 9-no phone connection; 10.-not adapted for a disabled person; 11- wish to have asocial dwelling; 12-other

C17. Do health problems of the disabled member of your family limit managing her/himself? 1-yes, essentially; 2-yes, partially; 3-not very much; 4- not at all

C18. Does the disability of the member of your family disturb the life of other members? 1-yes, essentially; 2-yes, partially; 3-not very much; 4-not at all

D. ECONOMICAL SITUATION

D1.

Income	member	amount	member	amount
Salary				
Income from auxiliary farm				
Income from casual labour				
Unemployment benefit				
Scholarship				
Alimony				
Child allowance				
Pension				
Social benefit				
Child care allowance				
Dividends				
Benefit from relatives				
Selling property				
Renting the house/wealth				
Other				

D2..How big was the income of your family in previous month?.....

D3. How big was the expenditure to your dwelling last month?

1- rent; 2-municipal services; 3-heating; 4-storing the material for heating; 5-hot water; 6-gas; 7-electricity, phone; 8-other.....

D4. Has the cost of the dwellingś expenditure been a problem for you?

1-yes, we owe even now; 2-it has been a problem, but we do not owe; 3-we have managed

D5. Have you sought for a dwelling compensation? 1-no; 2-yes
Have you got it ? 1-no; 2-yes

D6. Have you sought for asubsistence allowance? 1-no; 2-yes
Have you got it? 1-no; 2-yes

D7. Have you sought for a single grant from social office? 1-no; 2-yes
Have you got it? 1-no; 2-yes

D8. Does your family get these foodstuffs from your own garden, own farm or from relatives?

	Yes	Partially	No	Do not use
Potatoes				
Vegetables, greens				
Fruits, berries				
Milk products				
Eggs				
Fish, meat,				
Other				

D9. Did you family gave up from something for economical reasons in last year?

	Always; often; sometimes; not ever; no need to
Milk products	
Vegetables	
Meat products	
School meals	
Medicines	
Clothes	
Candies	
Newspapers	
Interests	
Visits	
Theatre, cinema	
Other	

D10. Do you think your family is:
1-wealthy; 2-economically safe; 3-medium; 4-difficulties in managing; 5-poor

D11. Remember your family 7 years ago. Was the composition the same? 1-yes; 2-no
Who has left?..... Who has added?.....

D12. Compared to your family 7 years ago, do you think it is: 1-wealthier; 2-on the same level; 3-not so good

E. SOCIAL CONTACTS

E1. Is your family religious? 1-yes; 2-no

E2. Are you a member of a church? 1-no; 2-yes.....

E3. When did you family visit the church for the last time?
1-in this week; 2-in this month; 3-in this year; 4-I do not remember

E4. When did the disabled member of your family participate the church offices?
1-in this week; 2-in this month; 3-in this year; 4-I do not remember

E5. Do you have friends from church circles who know the disabled person of your family? 1-no; 2-yes

E6. Do you know your neighbours? 1-no; 2-yes

E7. Do your neighbours know the disabled person of your family? 1-no; 2-yes

E8. Do you have plenty of relatives? 1-no; 2-yes

E9. How many families of relatives do you know? .....

E10. How many of them live in Estonia?.....
E11. How frequently do you intercommunicate with your relatives, neighbours....
E12. Is your family a member of a family organization? 1-no; 2-yes.....
E13. If “no”, why?—1- We do not know anything about these organizations; 2-We do not care; 3-difficult to participate; 4-other
E14. Do you have friends? 1-no; 2-yes.....
E15. Is any of your friends disabled? 1-no; 2-yes
E16. How frequently does the disabled member of your family intercommunicate with relatives, neighbours.....
E17. Are you a member of a disabled people`s organization? 1-no; 2-yes.....
E18. If “no”, why? 1- I do not know anything about these organizations; 2-I do not care; 3-difficult to participate; 4-other.....
E19. Have you participated in the activities for disabled people? 1-camps; 2-competitions; 3- reunions; 4-recreational events; 5-other.....
If “no”, then why? 1- I do noot know anything about these activities; 2-I do not care; 3-difficult to participate; 4-other.....
E20. Have you been away from home for more than 1 day in last year? 1-no; 2-yes Where?..... For how long?.....
E21. Do you have interests? 1-no; 2-yes.....
E22. Has somebody outside your family helped you during the last year? 1.no; 2-yes....Who?.....How?..... Would you had needed some more help?
E23. Have you helped somebody yourself? 1-no; 2-yes .....Who?....How?.....
E24. Do you know, when is the international Day of Disabled People? 1-no; 2-yes
E25. Have you participated in celebrating this day? 1-no; 2-yes.....

F. HEALTH

<u>In this part all the questions are addressed for the disabled member of the family.</u>

G1. How do you evaluate your health status? 1-very good; 2-good; 3-average, satisfactory; 4-bad; 5-very bad
G2. What degree of disability do you have?.....
G3. How much has your illness or disability decreased your capacity of activity?
1- not at all; 2-somehow; 3-very much
G4. Do you have some chronic disease or complaint? 1-no; 2-yes.....
G5. Have you been hospitalized during the last year? 1-no; 2-yes.....For what disease?..... For how long?.....
G6. Have you ever have turned to non-traditional or alternative medicine to get help? 1-no; 2-yes. Has it been useful? 1-no; 2-yes
G7 When you are taking care of your health, do you deal with following?
1. try to spend plenty of time in fresh air
2. try to walk, move
3. deal with sports
4. try to consume wholesome food
5. you are vegetarian
6. you drink herb teas
7. you do fast days
8. you use regularly vitamins
9. you read medical literature, watch TV medical programs, listen to medical broadcasts
10. other

G8. Does something prevent you to take care of your health?
1-no; 2-I do not feel them necessary; 3-yes
G9. Overall, do you live healthy? 1-yes, pretty much; 2-not preticularly; 3-I have not thought about it

G10. Overall, do you take wholesome food? 1- yes ,pretty much; 2-not preticularly; 3-I have not thought about it
G11. Do you use medicaments? 1-regularly; 2-sometimes; 3-rarely; 4-not at all
Are these medicaments prescribed by the doctor? 1-no; 2-yes
G12. Do you use sedatives for your nerves? 1-regularly; 2-sometimes; 3-rarely; 4-never. Are these medicines prescribed by a doctor? 1-no; 2-yes
G13. Do you smoke? 1-yes; 2-sometimes; 3-no
G14. When did you last take alcohol? 1- this week; 2-at this weekend; 3-last month; 4-I do not remember; 5-I do not use alcoholat all
G15. What did you drink last? 1- I do not drink alcohol; 2-beer; 3-vodka; 4-wine; 5-other
G16. Have you ever used other remedies to improve your feeling? 1-no; 2-yes.....
G17. Do some of these symptoms trouble you? 1-sudden fear; 2-feeling anxious; 3-tension; 4-headache; 5-feeling depressed; 6-feeling worrying and restless; 7-feeling useless; 8-they are not troubleing me
G18. Does your illness or disability prevent you doing these activities?

	Very much	Somewhat	Not at all	It isn´t necessary
Moving outside the building				
Using the public transport				
Working				
Taking part in social life				
Acquiring an education				
Personal life				
Everyday activities at home				
Communication with other people				
Interests				
Other				

G19. What is your part in the family? 1-authority; 2-favourite; 3-usual member; 4-sufferer; 5-scabegoat; 6-other.....

H: SOCIAL WELFARE AND REHABILITATION

Addressed to the disabled member of the family

H1. Do you know , where is situated the social office of your dwelling-place?
1-no; 2-yes.....Address, phone
H2. Have you ever turned to them to get material support? 1-no; 2-yes
If “yes”, for how many times?....Did you get help? 1-no; 2-yes
H3. Have you ever turned to them to get information or advice? 1-no; 2-yes
Did you get help? 1-no; 2-yes
H4. Do you know, what kind of social services can disabled people get?
1- yes; 2-somewhat; 3-I do not know
H5. Do you know, how can you seek for these services? !-yes; 2-somewhat; 3-no
H6. What do you think about the need of these social services?

	Need for		Have you Seeked for		Have you got		Quality	
	No	Yes	No	Yes	No	Yes	Good	Bad
Counseling								
Prostheses, medical aid								
Home service								
Social dwelling								
Adaptation of department								
Transport for disabled people								

Translation
Personal helper
Other

H7. Do you need assistive devices or prostheses? 1-no; 2-yes
What kind of assistive devices or prostheses do you need?.....
What kind of assistive devices or prostheses do you really use?.....
Where did you get it from? 1-humanitarian aid; 2-ordered or bought; 3-other....
Do you know the name of the company where your prostheses are made? 1-no; 2-yes.....
Are you satisfied with this company? 1-yes; 2-more or less; 3-no
What has to be improved in the work of this company? 1- the quality of the product; 2-quality of the service; 3- information should be more available; 4-more detailed user's manuals; 5-other
H8. Have you heard about the adaptation courses of disabled people? 1-yes; 2-no
H9. Do you think these courses would be useful for you? 1-yes; 2-no
H10. Have you participated in these courses? 1-yes; 2-no. Were they useful? 1-yes, very much; 2-more or less; 3-not for me
H11. What kind of rehabilitation services you find useful for you? 1-medical care; 2-how to cope with daily life; 3-occupational training; 4-occupational retraining; 5-work conditions adapted to your disability; 6-social services to improve daily managing; 7-other.....
H12. Are you working now? 1-no; 2-yes. What is your job? .....
H13. Have you been working before? 1-no; 2-yes What was your job?.....
H14. Would you like to work at all? 1-no; 2-yes
H15. In what conditions would you like to work? 1-part time working; 2-possibility to work at home; 3-previous training; 4-other

Appendix 8. The quality of life of 16-45-year-old Estonian population with long-term illness or disability

Epikoda 2001

I GENERAL DATA

1. Sex 1-female, 2-male
2 Age (full years)……
3 Nationality 1-Estonian 2-other (specify)
4 Citizenship 1-Estonian 2-other (specify)
5 Marital status 1-single 2-married 3-other
6 Do you have children? 1-yes 2-no
7 If "yes" to No 6, how many children? 1-one(boy/girl, age) 2-two(boy/girl, age) 3-more than 2 children
8 Where do you live 1-in town 2-borough 3- countryside
9 My living place is.....(town, county, parish)
10 Do you have (or you are living in) 1-private house 2-own flat (area.....) 3-own room (area.....) 4-other
11 Heating at home 1-central heating 2 own central heating 3-stove heating 4-electric heating
12 Do you have at home 1-hot tap-water 2- only cold tap-water 3-water from your own well 4 – you have to bring it elsewhere
13 Do you have at home 1- toilet in flat 2-toilet in corridor 3-toilet outside the house 4 –lavatory in the flat
14 Do you have at home 1-shower 2-bathroom 3-sauna 4- no washroom

15 Do you have at home 1-electric cooker 2-gas-cooker 3-cooker with wood
16 With whom are you living with? 1- husband/wife 2-life companion 3-friend 4-parents 5-grandparents 6-sister/brother 7- living alone
17 Education 1-primary education 1-4 classes, 7 cl., 8cl., 9cl. 2-less than secondary education 3-secondary educ .(print the year of graduating) 4-professional education 5-higher education (speciality, year of graduating) 6-uncompleted higher education 7-vocational education
18 Did you graduate from school before you got disabled? 1-yes 2-no
19 Do you continue your studies? 1-yes, 2-no 3- I would like to (where...)
20 What is your profession? 1.....
21 What was your job before your illness/disability? 1-.....(the last post)
22 Are you working now? 1-yes 2-no
23 Do you manage with your duties at work?1-yes 2-I need to improve my knowledges
24 What is your job now?…….....
25 Do your colleagues appreciate and accept you?
26 Do you need training courses?
27 Have you had possibility to participate in 1-training courses 2-short seminars 3-excursions
28 Have you been working before? 1-yes(as .....) 2-no
29 Would you like to work at all? 1-yes(as.....) 2-no
30 In what conditions would you like to work? 1-part-time work 2- I would like to work at home 3-I need previous training 4-other.....
31 Do you get pension/subsistence allowance, subsidies? 1-yes (What?.....) 2-no
32 How do you manage with your finances? 1-good 2-satisfactory 3-not good 4-I do not know
33 My money for food in 1 month is.....EEK.
34 Who is your closest person? 1-husband/wife 2-parents 3-sister/brother 4-friend 5-I do not have anyone
35 Do you feel lonely? 1-yes 2-no 3-sometimes 4-often 5-always
36 How often they visit you?

	Once a day	1-2 times a Week	1-2 times a month	1-2 times a year
parents				
sister(s)				
brother(s)				
grandparents				
relatives				
friends				
neighbours				
acquaintances				

37. How often do you visit them? (the same variants)
38. To whom do you turn, when you need economical support? 1-to husband/wife 2-to relatives 3-to a friend 4- to acquaintance /neighbour 5-to a social worker 6-no one to turn to
39. From who have you had financial support? What kind of?
1-from husband/wife 2-from other relatives 3- from a friend 4- from neighbour/ acquaintance 5-from social worker 6- I have not had any help
40. Do you have other income than your allowance? 1-yes (specify) 2-no

II SOCIAL ACTIVITY

41. Are you satisfied with your present life? 1-very much 2-satisfied 3-not satisfied 4- I do not know

42. Do you participate in activities outside the home (school parties, advanced training courses, clubs)? 1- at least once a week 2- at least once a month 3-very rare 4- I do not

43. Do you know the possibilities to spend leisure time in your region? 1-yes 2-no

44. Have you made your own proposition to improve the quality of life of disabled persons? 1- in local administration 2.-in the newspaper 3-to social workers 4- in club 5- at school or working place 6-elsewhere 7-I have not

45. Are you a member of an organization of disabled people? 1-yes 2-no

If "yes", name the organization.....

If "no", why? 1-I do not know anything about these organizations 2-I do not care 3-it is difficult to participate 4-other reason(.....)

46. Have you participated in these activities for disabled people?

1-camps 2-sports 3-conventions 4-recreational events 5-schooling events 6-other.....

If you have not participated, then why 1-I do not know about these organizations 2-I do not care 3-difficult to participate 4-other reason

47. Have you been away from home for several days during the last year? 1-no 2-yes If "YES", then where? For how long?

48. Do you have interests? 1-no 2-yes (name them.....)

49. Has someone except of your family helped you during the year 2000? 1-no 2-yes. If "yes", then who?……How?……. Would you had needed some more help? 1-yes 2-no

50. Have you helped somebody? 1-yes 2-no.

If "yes", then who? ……How?……..

51. Do you know when is the International Day of Disabled People? 1-yes 2-no

52. Have you in some way participated in celebrating this day? 1-yes 2-no.

If "yes", how?……..

III HEALTH

53. How do you evaluate your health condition? 1-good 2- satisfactory 3-poor 4-not good 5-I do not know

54. How many times have you visited the doctor during 2000?……times

55. Do you have your own GP? 1-yes 2-no

Do you have your own specialized doctor? 1-yes 2-no

56. How many times the doctors have visited you in 2000?…….times.

57. Do you use the medical services of emergency aid? 1-often 2-rarely 3-no

58. Do you prefer the specialist to the GP? 1-yes 2-no

59. Do you have to take medicines? 1-regularly 2-sometimes 3-not at all

60. Does your income allow you to buy medicines? 1-yes 2-no 3-I can buy only the most urgently needed remedies

61. Does your income allow you to buy other assistive devices? 1-yes (specify) 2-no

62. Are you satisfied with the medical aid you have got? 1-yes 2-no

63. When you have needed, have you got the help from a doctor? 1-yes 2-no

64. Who discovered your disability or chronic disease for the first time? Name it……

65. Did you get help at once? 1-yes 2-no

66. About your mobility: 1-I can move around 2-I use assistive devices 3-I use wheelchair 4-I do not move independently 5-other

67. Do you need help in everyday life? 1-do not need help 2-need some help partially 3-I am totally dependent on other people's help

68. What kind of health problems do you have?

	No, I do Not have	Some problems	serious problems	Reason for disability
Hearing problems				
Seeing problems				
Rheumatism, arthritis				
Diabetes				
Asthma and other pulmonary diseases				
Cardiac diseases				
High blood pressure				
Low blood pressure				
Poor memory				
Osteoporosis				
Poor teeth				
Blood circulation disorders				
Others				

69. How can you manage with these daily activities?

	Independently	With help	I do not manage
Preparing meals			
Shopping			
Doing laundry			
Cleaning living area			
Heating			
Moving around			
Toileting			
Visiting the doctor			
Washing (oneself)			
Dressing			
Cycling			
Driving			

70. Does your disability or illness limit you in activities?

	A lot	Moderately	Not at all	It is not necessary
Moving around				
Using public transportation				
working				
Participating in social life				
Acquiring education				
Family life				
Daily activities at home				
Communicating with others				
Hobbies				

71. How much your illness or disability has limited your activities? 1-not at all 2-somewhat 3-very much

72. Do you have some chronic disease or complaint? 1-yes 2-no

73. Have you been hospitalized in 2000? 1-yes (for what disease? For how long?) 2-no

74. Have you used the help of healers? 1-yes 2-no

If “yes”, has it been useful? 1-yes 2-no

75. When you are taking care of your health, do you deal with following?
1-try to spend time in fresh air as much as possible
2-try to move, walk
3-deal with sports and gymnastics
4-try to consume wholesome food
5-you are vegetarian
6-you drink herb teas
7-you do fast days
8-you use regularly vitamins
9-you read medical literature, watch TV medical programs, listen to medical broadcasts
10-other…….

76. Does something prevent you from taking care of your health? 1-yes 2-I do not feel it necessary 3-no

77. In summary, do you live healthy? 1-yes, pretty much 2-not in particular 3-I have not thought about it

78. In summary, do you take wholesome food? 1- yes, pretty much 2-not in particular 3-I have not thought about it

79. Do you use medicines? 1-regularly 2-sometimes 3-very rarely 4-not at all
Are these medicines prescribed by a doctor? 1-yes 2-no

80. Do you use sedatives (tranquillizers) for your nerves? 1-regularly 2-sometimes 3-very rarely 4-not at all
Are these medicines prescribed by a doctor? 1-yes 2-no

81. Do you smoke? 1-yes 2-sometimes 3-no

82. When did you last take alcohol? 1- this week 2-at the weekend 3-in the last month 4-I do not remember 5-I do not use alcohol at all

83. As for alcohol, what did you drink last? 1-I do not drink alcohol 2-beer 3-vodka 4-wine 5-other (specify …….)

84. Have you ever used other remedies (drugs) to improve your feeling? 1-yes 2-no 3- it has happened What did you use?……

IV SOCIAL WELFARE AND REHABILITATION

85. Is your flat adapted to your disability? 1-yes 2-no

86. Do you have a phone? 1-yes 2-no

87. Do you have a car? 1-yes 2-no Do you have a bicycle? 1-yes 2-no

88. What else would you like to have? 1- I would like to have…….2-I do not wish anything 3- I do not know

89. Is there in your flat (house) something that limits your daily activities?
1- the heating of the flat is difficult
2- few storage rooms
3- bad washing conditions
4- bad (dirty) water, poor washing conditions
5- no privacy

90. What kind of urgent repairs or rebuilding are needed in your flat (house)?…

91. What kind of services are essential for you to cope with daily life? At school? At working place? 1-services…….2-adaptations……

92. How often do you need home services? 1-once a day 2-times a week 3-times a month 4-no need

93. Do you need (besides the home services) nursing aid? 1-yes 2-no

94. Note 5 most important home services you need:
1-acquisition of food and goods
2-acquisition of prepared food
3-arranging washing possibilities

4-cleaning of life area
5-arranging the repairing works of the flat
6-paying the bills
7-arranging medical aid
8-arranging the heating material
9-arranging the heating materials prepared (sawing, splitting, laying)
10-carrying the heating material in to the flat, heating
11-arranging the correspondence
12-making/maintaining contact with public organizations/ movements and church
13-other……

95. Services for disabled people should be: 1-free of charge 2-partial charge 3-for pay 4-I do not know
96. If they are paid, what kind they should be? 1-equal to all 2-depending on income 3-I do not know
97. What services (besides already mentioned) are important for you? 1-counceling in different topics 2-I need company 3-I need personal assistant 4-other……
98. Do you need assistive devices or prostheses? 1-yes 2-no
What kind of assistive devices or prostheses do you need?……
What kind of assistive devices or prostheses do you use every day?……
What kind of assistive devices would help you to cope with your life?……

Where did you get the assistive device or prosthesis you use? 1-from humanitarian aid 2- ordered/bought 3-other……

Do you know the name of the firm (company) where your assistive device/ prosthesis is prepared? 1-yes 2-no

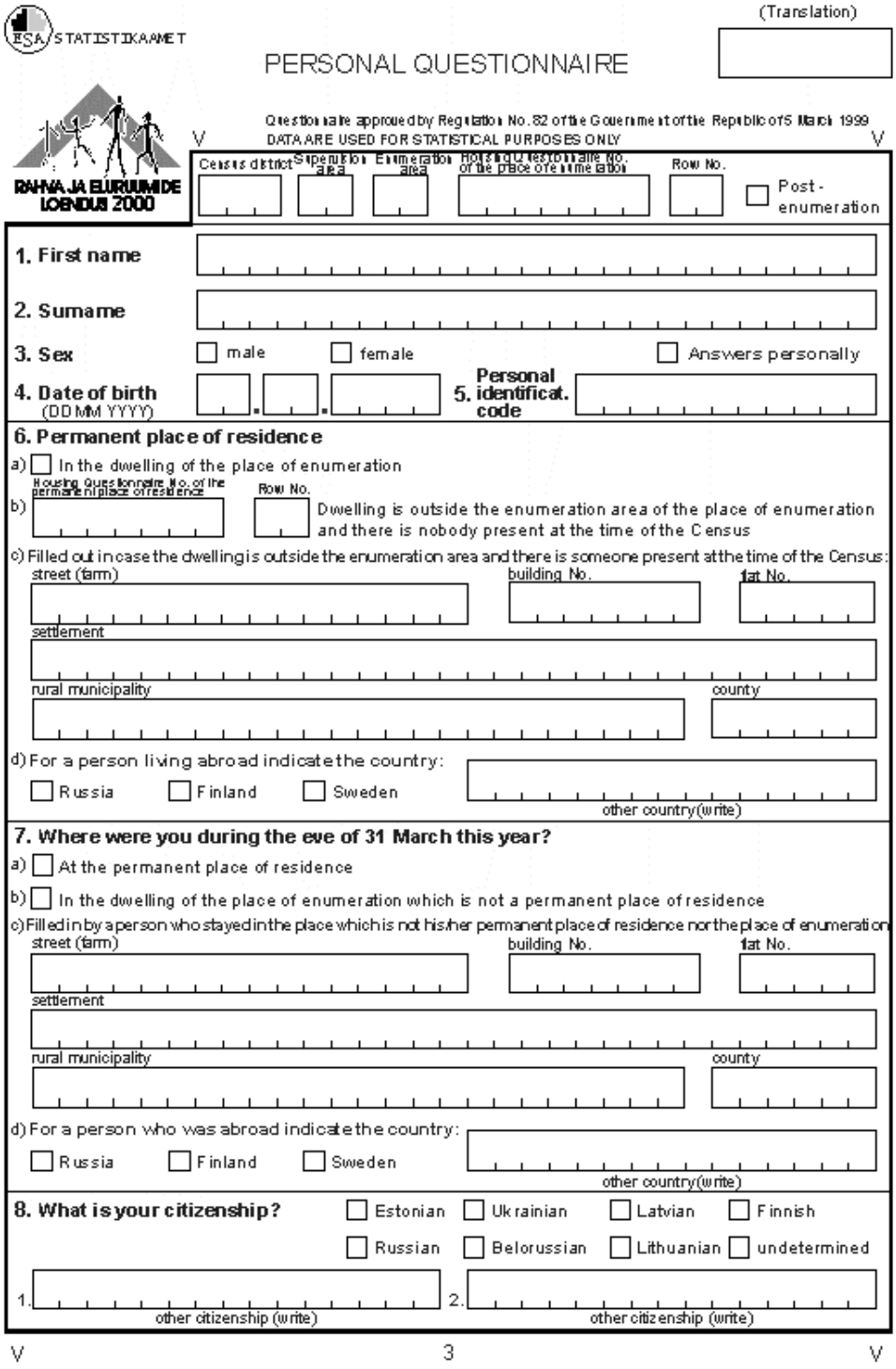
Please write the company's name the client you are……..
Are you satisfied with the work of company's specialists and with user's manual? 1-well 2-more or less 3-it would be better
Do they always take your wishes intoaccount? 1-yes 2-no
What has to be improved in the work of this company? 1- quality of the product 2- quality of service 3- information should be more available 4-more detailed user's manuals 5-other……

99. Are you satisfied with the system of getting assistive devices and prostheses? 1-yes 2-no If "no", then how might the system be organized?……
100. Have you listened to the adaptation courses for disabled people? 1-yes 2-no
101. If "yes" to Q NO 100, then where and on what topic?……..
102. Did they help you? 1-yes, very much 2-more or less 3-not at all
103. Do you consider these courses are necessary for you? 1-yes 2-no
104. What kind of rehabilitation services you find useful for you? 1-medical care 2-how to cope with daily life 3-occupational training 4-retraining 5-work conditions adapted to your disability 6-social services to improve daily management 7-other……..
105. Do you need management training? 1-yes 2-no, I can manage
106. Have you participated in the management training courses? 1-yes (when?……) 2-no, but I need/do not need
107. Have you experienced lately something very pleasant? 1-yes 2-no
108. Has something sad happened lately? 1-yes 2-no
109. What kind of help would you expect from teacher? Social worker? GP? Government?……

V SELF-REALIZATION

110. Do you read books? 1-yes 2-sometimes 3-no
111. Are you a reader of a library? 1-yes 2-no
112. How far is the local library? 1-near my home 2- we do not have local library
113. Does your (your family's) income allow to buy new literature? 1-yes 2-no
114. Have you ordered any newspapers? 1-yes 2-no
115. If "yes" to Q NO 114, what newspapers do you read?……
116. Your interests: 1-handicraft 2-gardening 3-fishing 4-farming, apiculture 5-moving around 6-cycling 7-driving 8-swimming 9-participation in dancing/singing/acting groups 10-camping 11-follow up courses 12- theatre (if the income is sufficient) 13-photography 14-philately 15-music, piano……..16-other……..17-computer games
117. Is there near by your home a place where you can deal with your hobbies? 1-yes 2-no
118. Do you listen to the radio? 1-yes 2-sometimes 3-no
119. If "yes" to Q NO 118, then what kind of broadcasts do you prefer? ……
120. What kind of radio stations do you prefer?……..
121. Do you watch TV? 1-yes 2-sometimes 3- no
122. If "yes" to Q NO 121, then what kind of TV-show do you prefer? 1-news 2-telecasts for youth 3-nature 4-music 5-films (specify…….)
123. Do you have a personal computer? 1-yes 2-no
124. If "yes" to Q NO 123, then on what purpose do you use it most often? 1-to communicate with friends 2-to get information and new knowledge 3- to work, learn …….
125. Do you have pets in your home? 1-yes (specify……) 2-no
126. Do you go to theatre, museums, concerts? 1-yes, often 2-rarely 3-no, but I'd like to 4-I am not interested in

Appendix 9. CENSUS 2000 personal questionnaire



(Translation)

ESA STATISTIKAAMET

PERSONAL QUESTIONNAIRE

RAHVA JA ELURUUMIDE LOENDUS 2000

Questionnaire approved by Regulation No. 82 of the Government of the Republic of 5 March 1999

V DATA ARE USED FOR STATISTICAL PURPOSES ONLY V

Census district | Subenumeration area | Enumeration area | Holding/Dwelling No. of the place of enumeration | Row No. | ☐ Post-enumeration

1. First name

2. Surname

3. Sex ☐ male ☐ female ☐ Answers personally

4. Date of birth (DD MM YYYY) . . **5. Personal identificat. code**

6. Permanent place of residence

a) ☐ In the dwelling of the place of enumeration

b) Housing Questionnaire No. of the permanent place of residence | Row No.
☐ Dwelling is outside the enumeration area of the place of enumeration and there is nobody present at the time of the Census

c) Filled out in case the dwelling is outside the enumeration area and there is someone present at the time of the Census:
street (farm) | building No. | flat No.
settlement
rural municipality | county

d) For a person living abroad indicate the country:
☐ Russia ☐ Finland ☐ Sweden other country (write)

7. Where were you during the eve of 31 March this year?

a) ☐ At the permanent place of residence

b) ☐ In the dwelling of the place of enumeration which is not a permanent place of residence

c) Filled in by a person who stayed in the place which is not his/her permanent place of residence nor the place of enumeration
street (farm) | building No. | flat No.
settlement
rural municipality | county

d) For a person who was abroad indicate the country:
☐ Russia ☐ Finland ☐ Sweden other country (write)

8. What is your citizenship? ☐ Estonian ☐ Ukrainian ☐ Latvian ☐ Finnish ☐ Russian ☐ Belorussian ☐ Lithuanian ☐ undetermined

1. other citizenship (write) 2. other citizenship (write)

V 3 V

6. Overview on Estonian morbidity data sources

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6.1. Introduction and history

Estonia inherited with the regaining of the independence centralised (state funded and controlled by central planning) health care system in 1991. Since Estonian re-independence in 1991, the Estonian health care system has undergone two major changes. First was from a centralized and state-controlled health care delivery system towards a decentralized one; the second from one funded from state revenues to one based on social insurance. In addition, there has been growing emphasis on primary care and public health.

During Soviet time health statistics was collected by the methodology and instructions of Ministry of Health of the Soviet Union. Collected data were not for public use. Limited number of officials were permitted to see the actual numbers, health statistics were published in percentages and rates. But the data collection system stayed on solid basis. Big scientific institutes developed the methodology, annually were given exact instructions to the institutions and the system was stable for quite a long period of time.

Estonian Medical Statistics Bureau was established in 1990 to continue the collection of medical statistics. 1990s can be characterised as a time of continuous reforms and reorganisations in Estonian health care.

Prior to 1990, the entire health service was directed by the Ministry of Health on the basis of instructions from Moscow. Health protection was implemented through the national health protection centre and sanitary-epidemiology stations. The Ministry of Health was also responsible for hospitals and ambulatory services. Technical support was provided by national institutions with specialisation on particular concern as preventive medicine, clinical medicine, traumatology and cardiology. There was a distinct separation between the organisation of outpatient and inpatient care, with outpatient care delivered by specialised, stand-alone outpatient clinics. As a consequence, for primary care, families were consulted by gynaecologists, paediatricians, internists or generalists, as well as dentists, in these polyclinics and ambulatories. In parallel to the main system for health care delivery, care was offered through various industries by specialists in occupational medicine.

In 1993 the Ministry of Social Affairs was created combining three previously separate ministries: health, social welfare and labour. At the same time all previous parallel health systems, (e.g.: police, railways) were integrated into one national health care delivery system. The Health Care Organisation Law of 1994 placed responsibility for organising primary and secondary care on local governments. The positions of County Physician and Municipal Physician were created.

In health financing, the Health Insurance Law, which came into force on the 1st of January 1992, introduced a health insurance principle, establishing Health Insurance Funds to administer the health insurance contributions.

The public health system was also changed and the former sanitary-epidemiology system was reformed into a public health network comprising the State Health Protection Agency and its county offices.

The changes were implemented very quickly in the first years of Estonian independence. On one hand, as the whole country was changing politically, economically and socially, the window of opportunity was opened, and therefore for example the introduction of health insurance was not as much publicly discussed as were the changes happening in the end of 90s, for example reform of family practices. On the other hand, the organisation of planning functions of health care were not thoroughly explored and too much expectations were put on decentralised county-level planning.

Altogether the changes have been sometimes very radical and most of them were not well considered for a longer perspective.

Our current health care organization in general is the following: In case of illness the first contact point is the family doctor. The family doctor provides general health care and advises on activities to prevent diseases, injuries or intoxication to all of the persons on his list. The family doctor should be selected according to the main place of residence, where the need for health care is most probable. Where necessary, the family doctor directs the patient to the specialist for consultation or to the hospital.

A letter of referral from a family doctor is not necessary in cases of consulting a psychiatrist, gynaecologist, oculist, specialists in skin problems, venereal diseases or tuberculosis, a dentist and in case of traumas when seeing an orthopaedist or a surgeon.

The emergency medical staff provides primary health care to all persons staying in the territory of the Republic of Estonia regardless of nationality, citizenship or the existence of a health insurance card.

The changes in the organisation of health care and social services influenced the collection of diagnoses related data through the providers of health care. The traditional methods of collection of morbidity data need revision, because it has gradually become less adequate for determining the need and demand for health care services and prevention measures.

Fast development of information technology has brought along its effects. Firstly it has broadened the possibilities of data collection and processing, but the process of making statistics is not under the direct control of the statistician in the health care institution. Many users of computers are helpless, when they get output which is clearly not adequate, but they have no idea about the essence of the shift and therefore they are not able to communicate to the IT persons the right requirements to correct the program.

During these years there have been three main problems: a need for a long-term development plan and activities, methodological support and continuous lack of resources (human, finance, other). From 2004 health statistics is responsibility of the Department of Health Information and Analysis of the Ministry of Social Affairs of Estonia.

Only over the last few years the need for evidence based policy decisions has increased. The pressure for prioritising the use of public health resources is high, but the availability of high quality morbidity data has not increased accordingly. On the contrary, year after year new obstacles have appeared, which has raised the need for reorganisation of morbidity statistics. This reorganisation process for morbidity statistics started in Estonia in 2003. One of the tasks has been to explore the possibilities of new methods of data collection and to find potential new data sources. From February till March 2004 with the support of WHO the Ministry of Social Affairs launched a project* to compare incidence data from two different data sources — annual reports from health care institutions and

Estonian Health Insurance Fund database of invoices for treatment. The analyse concentrated to the regional, age and sex differences in incidence. The object was to bring out problems in methodology, registration and quality and to present suggestions to improve the data collection system.

Principally the direction is to make more register-based statistics and less use aggregated reports to meet better the demand for good health statistics.

Health Care Systems in Transition, Estonia. European Observatory on Health Care Systems, 2000 WHO Regional Office of Europe

6.2. Current data sources

Morbidity data are currently collected from three sources:

- Annual reports of health care providers (diagnosis related part) — from health care providers via county governor — and a selection of disease-specific reports from special services.
- Registers (medical — tuberculosis, malignant neoplasms, chapter 5.2.)
- Survey data including self-reported morbidity questions.

In addition there are several admistrative sources which are used for collecting diagnosis related data (chapter 5.4). These sources are not closely linked with the rest of the health statistics system, but constitute an important part of morbidity statistics. And should be more integrated to the health statistics system.

6.2.1. Diagnosis related part of annual reports

The Minister of Social Affairs issues legislation prescribing the procedure for and forms of statistical reporting on the basis of the Health Care Administration Act (State Gazette I 2001, 50, 284). Currently, the statistical annual reporting in health care is based on 20 individual reports from different areas of health care. All health care providers have to present annual (and some monthly and quarterly) reports about their resources, provided services and patients. The number of health care providers (institutions) has increased more than twice since 1994.

Annual reports (9 of 20) are compiled at the level of the health care institutions and private physicians (as sole proprietors) and are presented to the local county governor (In Tallinn to the Head of the Social and Health Care Board and to the city medical doctor in Tartu (except the Tartu University Clinics Foundation — to its management) The mentioned county governors compile the summary report covering their respective regions and presented to the Ministry of Social Affairs together with initial reports. (A separate report is prepared by the Clinicum of Tartu University Foundation). So the database of annual reports by institutions in the Ministry is available from 1998.

The list of reports including morbidity data is following:
"**Health care institution**" — Registered new cases (by list) by age-groups and sex (except malignant neoplasms).
"**Dermatological and venerological diseases**" — Mainly sexually transmitted diseases by age-groups and sex. Compiled by dermatovenerologists, gynaecologists (and some family doctors).
"**Pregnant women and deliveries**" — Newborn incidence, registered in maternity hospitals; incidence during pregnancy registered by physicians (gynaecologists and family doctors) who follow the □sychiatr.

"**Mental and behavioural disorders**" — New cases of mental and behavioural disorders and consulted cases, hospitalisations. Compiled by institutions where □sychiatrist is working.

In addition, several special reports are gathered separately, organised by certain services by their speciality.
"**Malignant neoplasms**" — annual report presented by Estonian Cancer Registry, register-based data (chapter 5.2.2.).
"**Tuberculosis**" — annual report presented by Tuberculosis Database in the composition of the Nothern Estonian Regional Hospital, register-based data (chapter 5.2.1);
"**Communicable diseases**" — presented by Health Protection Inspectorate (chapter 5.3.);
"**HIV infection tests**" — Central Hospital of Western Tallinn;
All the above-named institutions present the information to the Ministry of Social Affairs as well currently to the Department of Health Information and Analysis.

The latter prepare summary reports for Estonia and make an excerpt of it (on the basis of the national survey "Health Care" as official statistics) to the State Statistical Office. As those 21 specialty-specific statistical reports contain more statistical information than required in state survey, the scope of this compilation exceeds by far that published in publications of the Statistical Office.
In addition to the above named reports, the medical registers of the Ministry of Social Affairs — the Medical Birth Registry and the Database of Abortions containg information about mother and child health — give their standard tabulations and have been used in the statistics.

Since 1 January 1997, pursuant to the Minister of Social Affairs Decree No. 5 of 16 January 1996, all health care institutions in Estonia have to use the 10th issue of the ICD. Statistics on earlier years are based on the 9th issue of the ICD. The registration of **"**Mental and Behavioural Disorders**"** is based on ICD-10 already since 1994. The division of single profiles in 1992–1993 is slightly different from those collected during later years.

The basis for collecting data on incidence is the patient's visit to health care institutions. The present organisation of health care statistics (except data collected by registers) does not enable to register cases of diseases on the individual level. The situation where a patient can address many different health care institutions regarding the same case may affect the registration of new cases and thus the incidence statistics. At the same time, a number of diagnosed new cases are not registered for various reasons. The collected information thus focuses on health care institutions rather than on individuals and the presented data on incident cases should be regarded with certain caution. The exception is data on cancer and tuberculosis, which are collected by the relevant national registers. The remaining data originate from the annual reports of health care institutions.

6.3. Medical registers

6.3.1. Tuberculosis

Tuberculosis Registry, responsible for the collection of data of notified TB cases and relapses, is in the composition of the Northern Estonian Regional Hospital. Database of tuberculosis is created to explain and give an overview of Estonian epidemiological situation and it's changes.
Since 1997 electronic registration of TB cases has been introduced and treatment results are proper to international consensus of TB control. Statistical data since the same year is free for research works.

Correctly composed database of TB incidence is a part of Tuberculosis Prevention Program. Without the database it would be difficult to estimate the outcome of the program.
Considering the severity of the epidemiological situation (double incidence in comparison with the year 1992), government accepted the in 1997 the Tuberculosis Prevention Program for 1998–2003. The main objective was to reorganise the treatment strategy to ensure the efficiency and to protect the population against infection. Since the end of 2000 treatment strategy DOTS (directly observed treatment strategy) has been used. As a result of the program the incidence rate for 2002 has decreased to 38 (in 1997 — 52). The target is for 2005 to decrease the incidence to 30 per 100 000 population. The target of the WHO for year 2005 (notification at least 70% of bacteriologically confirmed lung tuberculosis cases and 85% cure rate of those) has not been achieved yet for 2000. Tuberculosis is still a big problem in Estonia. 15-16% cases are multiresistant.
Tuberkuloosihaigestumus Eestis 2000=Tuberculosis incidence in Estonia 2000. Estonian Tuberculosis Registry, Tallinn 2002

6.3.2. Malignant neoplasms

Cancer registration in Estonia dates back to 1953 when compulsary registration of incident cancer cases started in the USSR. The Estonian Cancer Registry (ECR) was founded in 1978, while reliable incidence statistics were available already since 1968. The Registry is responsible for compiling a continuous database of all cancer cases in Estonia.
Until 1991, the Registry consisted of two subdivisions: (a) the Department of Statistics in the Estonian Cancer Centre (ECC), and (b) the Department of Epidemiology and Biostatistics of the Institute of Experimental and Clinical Medicine (IECM).
In 1991, the Department of Statistics of the ECC was renamed to the ECR; the scientific analysis based on the Registry data continued in IECM, since 2003 National Health Development Institute (HDI).
The year 1994 marks a major reorganisation in the Registry activities, particularly in the data collection procedures and structure of the database. The ECR is owned by the Ministry of Social Affairs of Estonia. Since the end of 2001, the ECR is a subunit of the North-Estonian Regional Hospital Foundation.
Reporting of cancer cases is compulsory by the Decree No. 21, issued by the Minister of Social Affairs of Estonia on February 2, 2001. The following diseases are to be reported to the ECR: all malignant neoplasms (C00–C97 by ICD-10); since 1998, also the neoplasms of benign and uncertain or unknown behaviour of brain and central nervous system (D32–D33, D42–D43) and intracranial endocrine glands (D35.2–D35.4, D45.3–D45.5).
The ECR receives notifications from treating physicians, and pathology and haematology laboratories. In addition, the data of all deaths registered in Estonia has been annuallly provided by the Statistical Office of Estonia until 2001. The cancer patients are followed by the ECR up to their death or emigration. 2002 death data has not reached the ECR, because of State Statistical Office has not correctly legislated the database of causes of death. The new revision of the Personal Data Protection Act has made impossible even the collection of death data by the State Statistical Office from October 2003. These are the reasons why the quality of cancer and tuberculosis register is not guaranteed any more.

This is due to the recommendation of the International Association of Cancer Registries to present data two years after the reporting year due to the need to update the register database. The Estonian cancer registry also constantly corrects incidence data in accordance with later changes. ECR codified the primary site and histological type of cancer on the basis of the 1st issue of the Oncology part of the ICD until 1997.

In 2000, 5954 new cancer cases were registered in Estonia. The diagnoses of cancer were based on the histological and/or cytological confirmation for 87% of cases, while 1% of cases were registered on the basis of death certificate only.

Vähihaigestumus Eestis 2000=Cancer Incidence in Estonia 2000 / Estonian Cancer Registry. North-Estonian Regional Hospital Foundation. Tallinn, 2003. 48 pp

6.4. Communicable diseases

The reporting system of communicable diseases is a system with long traditions.

The reporting of communicable disease cases is mandatory in Estonia. It is performed by the doctors (family doctor or other specialist) by the means of Quick Notification (QN) which is sent to local agency of the Health Protection Inspectorate. QN is on paper and contains personal information of the patient. Only few highly prevalent infections (influenza, acute viral respiratory disease, enterobiosis) are reported without QN. In establishing / confirming diagnoses indicated in QN, doctors use results of laboratory testing. Local agency sends summary reports to the Health Protection Inspectorate in aggregated form.
Currently there are three important acts which regulate the reporting system of communicable diseases:

- Public Health Act
- The Communicable Diseases Prevention and Control Act
- Disaster Act

Based on these acts legislation of the next level (by Government or Minister of Social Affairs Decree) regulates the transmission order and data composition in different cases (pregnant women, zoonoses, hospital infections, other).
According to The Communicable Diseases Prevention and Control Act the Communicable Diseases Registry will be established in 2004 and preparation works are already launched. In the Ministry Department of Health Information and Analysis in collaboration with Public Health Department in the ministry are responsible for its elaboration.
Part of the Matra pre-accession project Mat03/ES/9/1 for Strengthening of the Estonian Capacity in the Control of Communicable Diseases is devoted for creation of a new communicable diseases registration system. Very important part of the project is training of CD specialists, including training at the local level.
Expected results of the Project are:

- Training modules for Family Doctors and experts are developed.
- Guidelines and handbooks on communicable diseases control.
- Capacities for training in CDC within training institutions like Tartu University and HPI and Association of Family Doctors.
- Actual training has been executed for several target groups.
- On the county and municipal level a network for cooperation in early warning and rapid response related to communicable diseases has been established.
- On national level a structure for cooperation in early warning and rapid response activities related to communicable diseases is in place.

The Communicable Diseases Prevention and Control Act of November 2003 describes the duties of the family doctors who are supposed to do active source finding. Also confirmed cases have to be reported to the Health Protection Inspectorate (HPI). Every local department of HPI has one appointed person responsible for collection of routine data. They collect data from family doctors and hospitals. In Tallinn and Harju county they are dedicated to data collection, but in smaller counties they have to carry out other duties as well. All counties have an epidemiologist-team leader. HPI compiles the report on

communicable diseases (monthly, annual report of Infectious diseases according to the decree of Minister named in 5.1.) and vacciantions to the Ministry of Social Affairs.
Family doctors are expected to trace the case and clarify the contact persons, but it might be a problem. For registration different local solutions have been used, which are difficult to integrate. Process of overall quality assurance has been started.
On the other hand the HPI is responsible for epidemiological investigations and ascertaining circumstances under which infections occurred were spread. Potentially there might be a problem of clear division of work and responsibilities in communicable disease control.
Within the context of Matra 2 it would be possible to investigate the current practice for communicable diseases and to make recommendations for the organization of practical solutions.
Training for Early Warning and Rapid Response (EWRR) should be comprehensive and should not be limited to the technical part of registration and epidemiology but also address political, economical and communication aspects. How to organize the rapid response should be the priority for the next two years.

Zoonoses is a group of diseases which has not got enough attention in Estonia. At the same time it will be necessary to limit the number of infectious diseases to the communicable diseases with outbreaks and for which early warning, rapid response and disaster systems are very important.
National Health Development Institute (HDI, established in spring 2003) is acting as a coordination body and issuing standards regarding HIV/AIDS. The registration system needs to be redesigned although HIV registration task is the responsibility of the Health Protection Inspectorate. Now the registration is anonymous, but for planning and acting the personalized information is needed. To see the trends and get the overview more data is needed than current system is collecting.

HDI is an institution where medical databases and registers are planned to be kept and to develope a center of communicable diseases (including epidemiological reseach, prevention and eveidence based policy together with the Ministry of Social Affairs).

6.5. Other sources

6.5.1. Occupational accidents and diseases

The diseases related to work are costly for society, to the employer and to the families of the sick worker. A legal basis has been created for securing safe and healthy working conditions with the enforcement of Act of Occupational Health and Safety in July 1999, and legal acts established on the basis of this law.

The Labour Inspectorate is a government agency operating within the area of government of the Ministry of Social Affairs whose main objects in the health statistics are to exercise supervision over investigations of occupational accidents and diseases, to collect statistics of accidents at work and make analysis thereof.

Estonian Occupational Health Centre was established in 2000 to organize and co-ordinate occupational health services, also to collect and analyse the data on occupational diseases.
On occupational health three different statistics are collected:

- Accidents at work

- Occupational diseases — diseases caused by the risk-factor of working environment or mode of work listed in the occupational diseases list and diagnosed by doctor of occupational health.
- Work-related diseases — diseases caused by the risk-factor of working environment, which are not enumerated in the occupational diseases list.

The list of occupational diseases is based on the Decree No. 42, issued by the Minister of Social Affairs of Estonia on June 7, 2000.

Reporting, notification and investigation of work accidents and occupational diseases is based on the Regulation of the Government of the Republic.

Analysing the statistical data of occupational diseases in recent years, several questions arise. In 1999–2001 about 40% of the total number of occupational diseases were diagnosed in one county while the number of workers in this county formed approximately 2% of the whole working population, this leads to the conclusion that the diagnosing in other counties is not objective. In recent years the difference has diminished, but also the number of registered occupational diseases has decreased. The statistics is not reflecting the real situation and needs improvement. There could be several reasons for this: the employees fear to lose their job after the diagnosis of an occupational disease but also bureaucratic obstacles sending the workers to the experts of occupational diseases. As the insurance system of work accidents and occupational diseases is not developed, the employers are under financial pressure in case of work accidents and occupational diseases.

PHARE Twinning COP '99 project "*Support to the Occupational Health Sector of Estonia*" had its final Evaluation Seminar in June 2002. The EST-FIN Twinning project focused primarily on the actions needed for the development of policies, institutions, infrastructures, human resources and other prerequisites for the implementation of the transposed EU Directives and other regulations in view of meeting the accession criteria. Other very important goals were:
- to develop further the Occupational Health Centre,
- to start the initiation of the establishment and strengthening process for Occupational Health Services,
- to improve the information dissemination to OH&S professionals and to strengthen the professional competence of OH&S personnel, as well as to rise general awareness about OH&S.

New Estonian-Finnish Twinning project for years 2003–2004 was launched with Finnish Institute of Occupational Health. In the framework of this project a discussion was held about registration of occupational diseases. There came out some key points to improve the current system. To specify the definitions of an occupational disease and a work-related disease and to determine the basis of difficulty levels. Also the occupational diseases list needs to be harmonised with EU list. Secondly the need for establishing the insurance system came out, which should have a remarkable influence to the number of registrations. In Estonia the notification is harmful for employer and for employee (who work until disability).

The registration of work accidents has to be re-designed within the planned registry of injuries.

6.5.2. Traffic accidents

Estonian Road Administration ERA organizes traffic safety; collects, analyses, maintains and distributes information about road and traffic management and traffic safety among other tasks.
The Government issued legislation prescribing the procedure for notification, ascertainment of circumstances, registration and record-keeping on the basis of the Traffic Act (State Gazette I 2001, 3, 6). Health care providers are also responsible for the registration of traffic accidents in case of persons who turn directly to them.

ERA is keeping the Database of traffic accidents. ERA gives monthly statistics on traffic accidents to the Ministry of Social Affairs. This statistics does not include diagnosis related data.

6.5.3. Disability

Newly recognized invalidity /disability cases (persons granted invalidity (disability) status and appropriate social benefits during the given calendar year) by age and diagnosis originate from the social insurance system.

State Pension Insurance Act, which came into force in 2000, changed the system of granting pensions. This change affects the number of recipients of different types of pensions. The disabled persons in the retirement age were now granted old-age pension, and the disabled persons in working age are granted with the pension for the incapacity for work. Instead of the former child disability pension the disabled child were now entitled to receive the disabled child allowance according to the Social Benefits for Disabled Persons Act. The change resulted in growing number of old age pensioners and decreasing number of disability/incapacity for work pensioners from 2001.

Until 2000 persons in both working and retirement age could be registered under a disability group. Since April 1, 2000 the degree of the loss of capacity for work is determined only in case the person is in his/her working age. In case of occupational accident or disease also persons in the retirement age are entitled to have the degree of loss of capacity because in these cases the employer is obligated to compensate 10–30% of the loss of capacity for work. There are three groups of permanent incapacity for work: 1st group (100% loss of capacity for work), 2nd group (80–90% loss) and 3rd (40–70% loss).

Temporary incapacity for work is determined in case of a lasting illness (121 to 182 days, in case of tuberculosis from 128 to 240 days) when medical assessment committee has made a decision to prolong the certificate for sick leave.

Permanent incapacity for work may be determined for a term of 6 months or 1, 2 or 5 years or until the retirement age, in case the retirement age is gained earlier than the term mentioned before ends. The term is determined proceeding from the degree of severity of the illness and the state of functioning of the organism, the changes that have taken place so far and the future prognosis. In case of continuous loss of capacity for work, a repeated assessment shall be carried out.

Since 2000 for payment of social benefits to the disabled persons the degree of severity of disability is determined. Determination of disability for the first time is based on medical assessment and includes the degree of severity of disability (severe, profound and moderate disability). As the disabled adult allowance and caregiver's allowance were paid since 2001, the degree of severity of disability was determined in 2000–2001 for both, former disabled pensioners as well as new disabled persons.

Estonia is planning to introduce ICF as the main classification for categorisation of disability. By 2004 the classification has been translated into Estonian language and the pilot study to establish the usage habits and recommendations for training will be carried out. The training and making ICF available to all users is dependent on the funding resources, partly foreseen in 2005 state budget and applications to Transition Facility resources.

6.6. Development of health statistics

Health information policy has become more important issue in most of European countries. During the last decade it has developed to the special area in EU and in international organisations (WHO, UN). Developed countries need more information for planning of health care services, to assess the quality of life, to calculate different indicators and to make international comparisons (like burden of diseases).

To fulfill these modern requirements, The Ministry of Social Affairs of Estonia has launched the project to renew the health information system and an important part of it — health statistics system.

The main problem in morbidity statistics in Estonia is that the data collection system is institution- and not individual-based. As the number of health care institutions has grown significantly during the past ten years, patients have used the possibility to visit several different institutions with the same disease. This is probably one reason, why most of the incidence rates have continuously increased during these years. The main long term goal to improve the quality of registered incidence is to implement register based and individualized morbidity registration and data collection for all diseases. This also helps to evaluate the quality of the data, which using the current system is difficult if not impossible.

Activities in the following areas are planned to improve the quality of morbidity statistics.

6.6.1. Data sources

Our development plans include the target to establish new registers for the diseases with high priority. During 2004 preparatory work is being done to establish registers for communicable diseases (HIV/AIDS), drug treatment and injuries. After that registers for disabled and occupational diseases are to be worked on. For working medical registers data composition and methodology is under revision as well.

In 2004 the implementation of the Digital Health Record (DHR) project is started which should boost the development and technological level of all registers and institutions' information systems. DHR actually consists of different data sources (registers, health institution information systems) all communicating with each other using standardized messages. The transmission of patient's health information between different health care providers has been unsolved problem. Pilot project on data exchange is planned to be conducted in 2004. Health statistics will definitely be one of beneficiaries of this huge project, because institution-based aggregated incidence statistics would be possible to transform to an individual case level data.

Part of the work that started within the Health Statistics Development plan has been exploring the possibilities to take into use new or additional data-sources in health statistics. One potential administrative data source which is evaluated at the moment is the

Health Insurance Fund database of health care invoices. This data source is containing also information for identification of the patient (personal ID number), so duplicate cases can be eliminated from statistics. One problem with this data source is that it covers mostly patients with valid health insurance and of those diseases which treatment is covered by the fund. The other problem is that morbidity data on the invoices can be influenced by economical reasons and thus not always be objective. This potential influence is being figured out in a study* being carried out currently. The database is unified from 2000. In 2003 were added some categories of cases (for example emergency care for uninsured persons) which improved data coverage and usefulness for statistics.
In the situation when data confidentiality problem is not solved in data-collection for statistical purposes, this is the place where a lot of disease-related information can be linked with person and processed. Additional plus is that these data can be used together with corresponding costs. The responsibility of Health Insurance Fund to make and present official diagnosis-related health statistics needs to be regulated to avoid the loss of data.

6.6.2. Classifications

ICD-10 is officially in use starting from 1997. Improvement in the quality of using the classification has to be gained through systematic trainings organized by the department of Health Information and Analyses from 2003.

6.6.3. Legislation

Tight legislation protecting individual privacy is one of the main obstacles in developing registers and also the DHR because registering, keeping and afterwards using of delicate health data (even for statistics and research) with information identifying the individual is sometimes impossible. This makes difficult to figure out same morbidity cases registered several times by different doctors.

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* The comparison of two different databases (annual reports from health care institutions and database of invoices for treatment of Health Insurance Fund) as the sources of incidence statistics reached to the result that both databases need substantial improvement of data quality.
Several problems in the registration have been pointed out:

- bad data exchange between doctors;
- lack of rules and definitions or inefficient communication of them to data providers;
- insufficient training for using classifications (ICD-10);
- need to clarify to data providers the object of data registration;
- need for dissemination of morbidity data.

In the conclusions Health Insurance Fund's database is mentioned as one possible solution to collect morbidity data. Mainly because it has a number of advantages (individual records, possibility to link all data to one person, working IT solutions for data collection and processing, mechanism for data quality control, motivation of health care providers to present data). From the comparison came out that in certain areas there is a need for further exploration and additional analysis and numerous aspects had to be considered before the changes in incidence statistics can be done. Surprising differences were noticed in case of children and persons over 65, in some diagnosis groups in particular were two databases demonstrated absolutely different coverage of

incidences (also for e.g. infectious diseases, diseases of respiratory system, perinatal period conditions).
Subjects came out within the study which must be studied in further before the decision about future data collection sources can be made.

7. Overview on the Estonian System of Health Accounts

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National health accounts in Estonia

This report is provided with reference to the contract of the Eurostat pilot project 2001 of public health.
The report summarizes results and problems of developing and integrating of the System of National Health Accounts (2002) to the Estonian health account. It is focused on a detailed description of the system, including an evaluation of data quality. Examples of data results are also provided.

7.1. Background

Up to 1998 calculations of health care expenditures were carried out by Statistical Office of Estonia.
Statistical Office of Estonia had accounted only for the general government expenditures (state, local governments, social insurance) for health institutions and health services. However private sector and out-of-pocket expenditures were not included. The expenditures were accounted as percentage of gross domestic product.

The first National Health Accounts (NHA) for Estonia was compiled in 1999 on the basis of data on 1998 by the Department of Statistics and Analysis of the Ministry of Social Affairs. The process started with an introductory seminar on NHA which was conducted in Tallinn by Dr. P. Berman and Dr. M. Chawla from Harvard University. After that a working group was formed, which consisted of the experts from the Ministry of Social Affairs and Statistical Office of Estonia. The working group was set up for preparing the National Health Accounts in the framework of the World Bank's Estonian Health Project in 1999.

The first NHA for Estonia was compiled on the basis of the methodology of Harvard University. The following three matrix tables were produced:

1. Sources of funding by funding intermediaries;
2. Funding intermediaries by providers;
3. Total expenditure on health by providers and cost items.

Since the Harvard methodology is slightly different from the methods used in Europe (OECD), a decision to start NHA on the basis of the OECD methods known as System of Health Accounts for International Data Collection was made.

The main difference between the two methods is that

- by Harvard methodology, funds flow in the health care system from sources of funding to funding intermediaries and from funding intermediaries to providers and
- by OECD methodology, funds flow from the sources of funding directly to providers, whereas there is no intermediate stage.

According to SHA three matrix tables were prepared for data on 1999 in 2000:

1. Current expenditure on health by functions of care and providers;
2. Current expenditure on health by providers and sources of funding;
3. Current and total expenditure on health by functions of care and sources of funding.

The tables were based on International Classification for Health Accounts (ICHA). Therefore at first data transition from one methodology to another created a problem with classification of expenditures by functions (ICHA-HC). However the consolidated tables of current expenditure on health by functions of care, providers and sources of funding were prepared.
Since then the calculations have been done on annual basis relying on the OECD methodology.

In July 2003 a reorganization process has been launched in the Ministry of Social Affairs of Estonia. From the 1st July 2003 a new department on Health Information and Analysis has been formed. Persons who were responsible for NHA during last years have finished and new persons have started their work from January 2004.
This report is done on the basis of different materials prepared by several persons. The main attention has been devoted to the existing problems.

7.2. Current situation

7.2.1. Questionnaire

Up to now the survey related to NHA has a questionnaire system, which consists of different questionnaires adapted to data source institutions taking into account the functions of care and sources of funding (see annex).
The data were collected from the institutions by using postal and electronic questionnaire. The electronic questionnaire was sent by e-mail in EXCEL format. The institutions had opportunity to choose how they want to send the questionnaire back to the Ministry by mail, by fax or electronically — by e-mail.

NHA analysis is done in Excel format. Annex gives the overview on the questionnaires administered to different data providers specifically.

7.2.2. Data sources institutions

During several years data needed for NHA are collected from following sources:

1. **Estonian Health Insurance Fund:** financial and economic reports;

2. **Ministry of Finance:** report on implementation of state budget. The report is used to provide data on expenditure on health, funded on state budget by ministries and from reserve fund of the Government;

3. **Ministry of Finance:** annual report on implementation of local government budgets;

4. Data provided by **different ministries** (Ministry of Economic Affairs and Communications, Ministry of Culture, Ministry of Justice, Ministry of Defense,

Ministry of Education and Research, Ministry of Internal Affairs, Ministry of Environment) on expenditure on health;

5. **Statistical Office of Estonia:** Household Budget Survey on household income and expenditure on health;

6. **Statistical Office of Estonia:** report on rehabilitative care is used to obtain data on rehabilitative care of households;

7. **Financial Inspectorate:** report on insurance premiums collected by life companies are used to obtain data on expenditure of households and employers on health insurance;

8. **Estonian Regional Development Agency:** projects on health financed from gambling tax through Ministry of Internal Affairs;

9. Data collected from institutions on compulsory medical examination of employees, medical drugs, inspection on food, hygiene and drinking water and environmental health inspection (information provided by Medicover, Agency of Medicines, Health Protection Inspectorate);

10. **Departments of Ministry of Social Affairs:**
    - **International co-operation and European Integration Department:** foreign loan and foreign aid projects;
    - **Finance and Property Department:** health care expenditure on uninsured people until 2001, data about ambulance services, projects on health financed from gambling tax through Ministry of Finance;
    - **Public health department:** public health programs;
    - **Department of Statistics and Analysis:** institutional reporting on social welfare (expenditure on medicines).

7.2.3. Data collection

In conformity with the OECD methods the following traditional scheme was used:

HC.1-HC.4	Personal health care services
HC.5	Medical goods dispensed to outpatients
TPHE	Total personal expenditure on health
HC.6	Services of prevention and public health
HC.7	Health program administration and health insurance
TCHE	Total current expenditure on health (sum of HC.1 to HC.7)
HC.R.1	Gross capital formation in health care industries
THE	Total expenditure on health (= TCHE + HC.R.1)

National health account is compiled according to the functions of care: HC.1-HC.4 (personal health care services) and HC.5 (medical goods dispensed to out-patients). Functions of care HC.1- HC.5 characterize total personal expenditure on health (TPHE). Supplementing these figures with data on HC.6 (services of prevention and public health) and HC.7 (health program administration and health insurance) gives us total current

expenditure on health (TCHE). After addition of investments, i.e. capital expenditure (HC.R.1) to these figures we will get total expenditure on health (THE).

7.2.3.1.Sources of health care funding and health care services of expenditure on health

Estonia is a country with a compulsory social insurance system. In Estonia social tax forms 33% of the payroll, where 20% goes for pensions and 13% for health insurance. Health insurance tax is used to fund medical services to the insured, subsidized medicines and health promotion projects. Overall health budget is negotiated annually and fixed by government. Therefore government is heavily involved in the financing of health care.

According to the international methods Estonia uses the financing classification of the ICHA which provides a breakdown of health expenditure into public and private units incurring expenditure of health.
The public sector (General government) is divided into Central government, Local governments and Social security fund (represented by its part Health Insurance Fund) which are mainly financing expenditures of medical care.
Moreover, total health care expenditure includes also private sectors and out-of-pocket expenditure. The Ministry of Social Affairs collects these expenditures data since 2000.

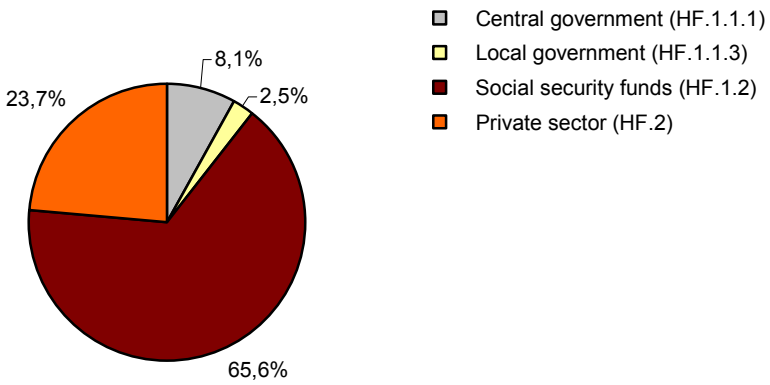
During four years total expenditure on health care was divided between the sources of funding as follows:

Sources of funding of total expenditure on health, 1999-2002	**ICHA-HF**	**1999 %**	**2000 %**	**2001 %**	**2002 %**
General government	HF.1	**76,84**	**76,43**	**77,81**	**76,31**
Central government	HF.1.1.1	8,71	8,38	8,19	8,14
Local government	HF.1.1.3	2,16	2,05	2,61	2,55
Social security funds	HF.1.2	65,97	66,00	67,00	65,62
Private sector	HF.2	**19,63**	**23,26**	**22,19**	**23,69**
Private insurance	HF.2.2	0,81	0,95	1,07	1,04
Households	HF.2.3	14,00	19,74	18,79	19,86
Employers	HF.2.5	4,82	2,57	2,34	2,78
Rest of the world	HF.3	**3,54**	**0,31**	**-**	**-**
Total		100	100	100	100

Under Social security funds we mean Estonian Health Insurance Fund. It is interesting to note that during 3 years of similar methodology on funding sources of health expenditure there have been no changes in their structural division. In private sector the biggest part of health expenditure is laid on the shoulders of the household. Private insurance is still not a live issue on the Estonian market and employers are not apt to spend money on securing employees' health.

In 2002 total expenditure on health by sources of financing are divided as follows:

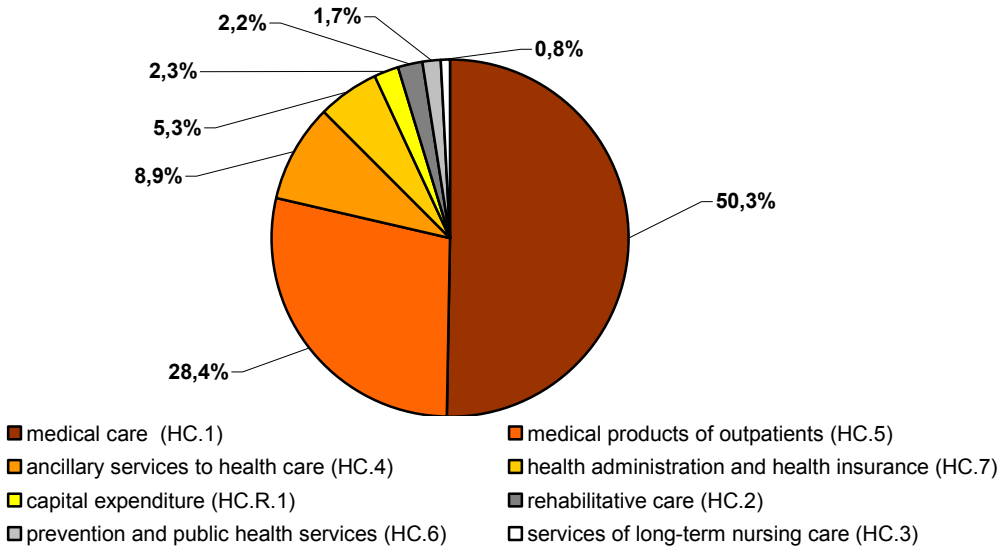
Sources of financing health care total expenditure, 2002



Social security funds e.g. Estonian Health Insurance Fund forms the largest proportion of sources of financing health care expenditure.

An analysis of total expenditure on health by services of health care shows the following breakdown:

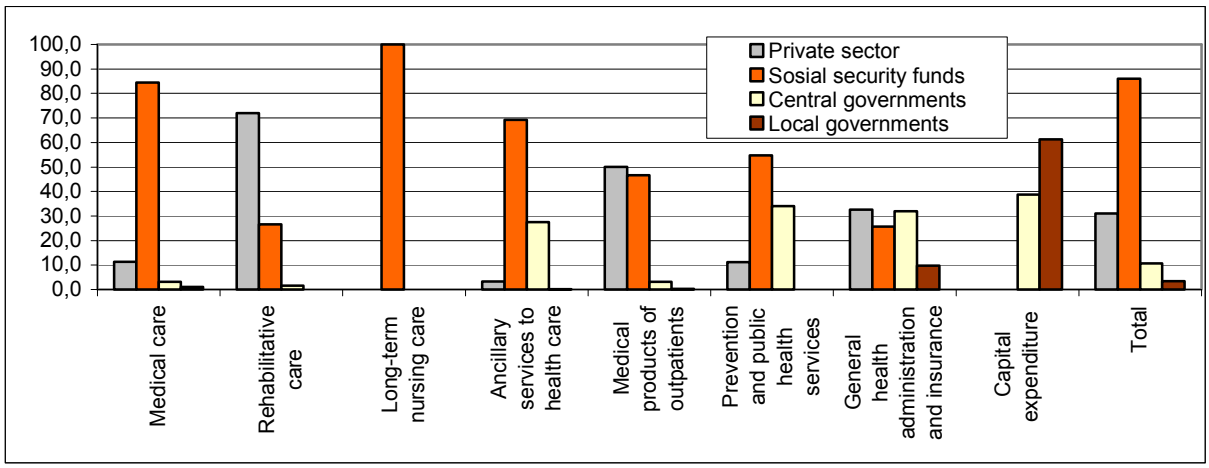
Financing of total health expenditure by functions of care, 2002



In 2002 the most financed service in Estonia was the medical care service (HC.1) and the next was the medical products of outpatients (HC.5).

As it was mentioned before, General government finances the most of medical care services. However in 2002 long-term nursing care was financed only by Social security funds i.e. Health Insurance Fund by our reports, and investments (capital expenditure) were financed solely by Central and Local governments.

Financing of expenditure on health in %, 2002



1) Social security fund (i.e. Health Insurance Fund) forms the largest proportion of General government expenditure. Moreover, as it was mentioned above, it also contributes the largest percentage of all sources of financing health care expenditure.

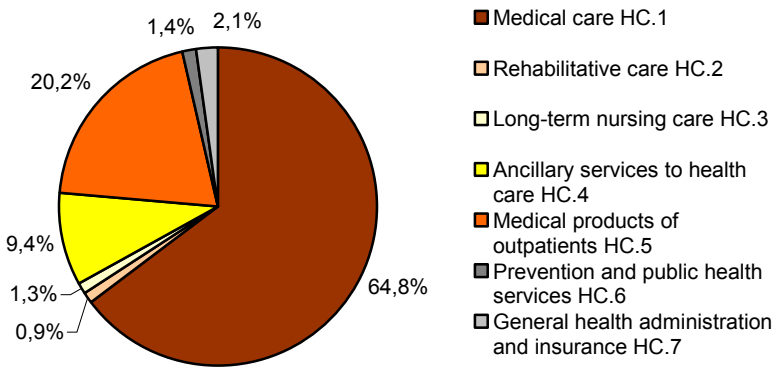
Thereby the largest sources of funding in the Estonian health care system come from employers who are paying the compulsory health insurance component of the social tax on wages and other payments pursuant to employment contracts or service contracts that is collected by the Tax Board and administered by the Estonian Health Insurance Fund.

In 2002, as it was noted above, the main source of funding was **General government** where expenditures on health care financed by Social security fund were 3 910.4 millions kroons.

Financing of total expenditure on health by Social security funds, 2002	**ICHA-HC**	**thousand kroons**	**%**
Medical care	HC.1	**2 534 765**	**64,8**
incl. hospital care	HC.1.1	1 485 620	38,0
day care	HC.1.2	59 031	1,5
outpatient care	HC.1.3	971 157	24,8
incl. dental care	HC.1.3.1	223 462	5,7
Curative home care	HC.1.4	18 957	0,5
Rehabilitative care	HC.2	**34 888**	**0,9**

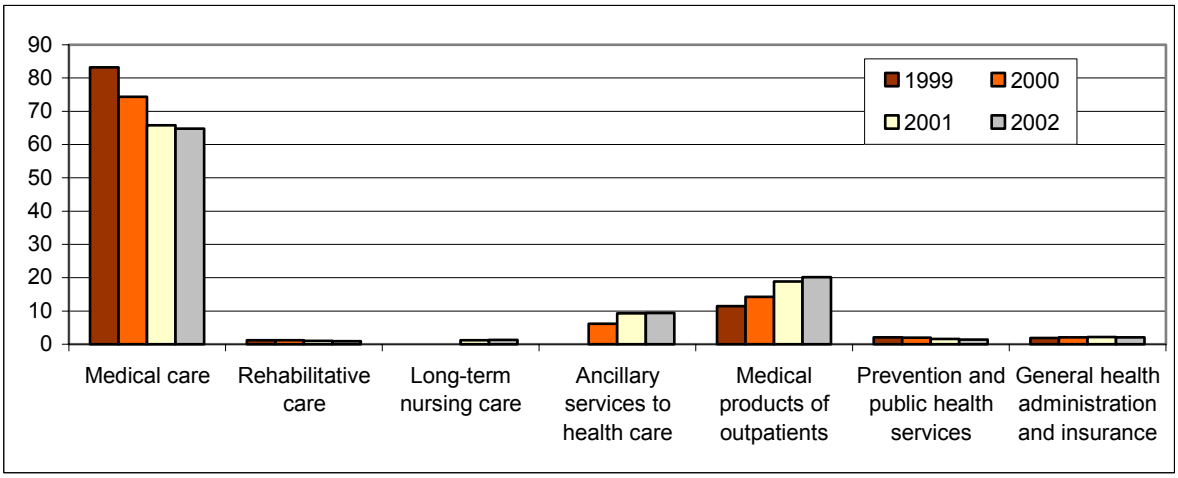
Long-term nursing care	HC.3	**49 006**	**1,2**
Ancillary services to health care	HC.4	**366 032**	**9,4**
Medical products of outpatients	HC.5	**788 373**	**20,2**
Prevention and public health services	HC.6	**55 619**	**1,4**
General health administration and insurance	HC.7	**81 670**	**2,1**
Total		**3 910 353**	**100**

Financing of total expenditure on health by Social security funds, 2002



Of the expenditure financed by Social security funds, medical care accounted for 64.8% which was divided into hospital care (38%), day cases of curative care (1.5%), outpatient care (24.8%), dental care (5.7%.) and curative home care (0.5).

Changes of financing of functions in total expenditure on health by Social security funds in %, 1999-2002



Since 1999 expenditures on medical care financed by Social security funds have been constantly decreasing in comparison with other functions' expenditures (from 83.3% in 1999 to 64.8% in 2002). To some extent expenditures on ancillary services to health care

and to greater extent expenditures on medical products of outpatients have been increasing during the period. Rehabilitative care, prevention and public health and general health administration and insurance stood almost on the same level throughout the examined period.

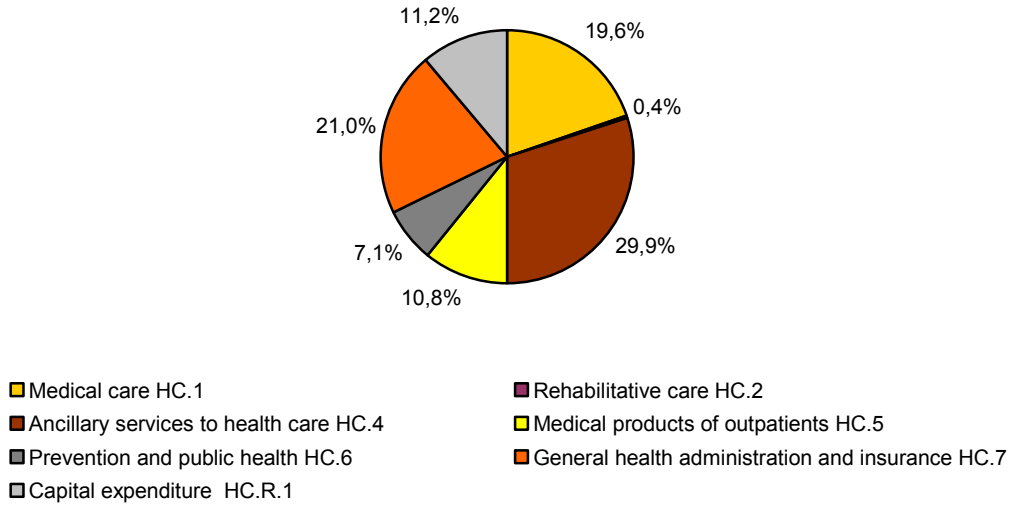
Social security fund has started to finance long-term nursing care since 2001.

According to the state budget expenditure on health financed by **Central government** was 431.1 million EEK, i.e. 8.1% of total expenditure on health or 7.4% of current expenditure (without capital expenditure) on health in 2002.

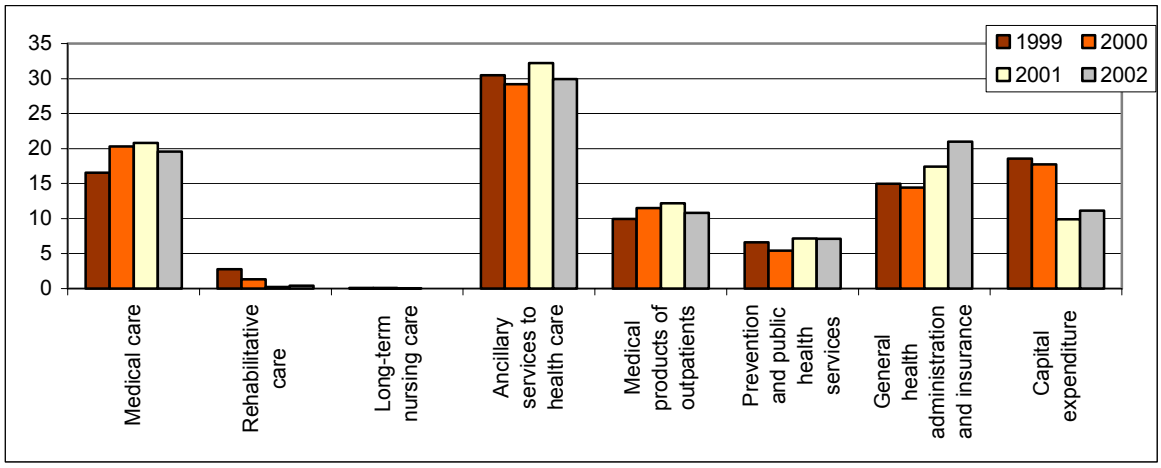
Expenditures by functions of care financed by Central government in 2002 were following:

Financing of total expenditure on health by Central government, 2002	ICHA-HC	thousand kroons	%
Medical care	HC.1	**95 086**	**19,6**
Rehabilitative care	HC.2	**2 000**	**0,4**
Ancillary services to health care	HC.4	**145 256**	**29,9**
Medical products of outpatients	HC.5	**52 389**	**10,8**
Prevention and public health	HC.6	**34 622**	**7,1**
General health administration and insurance	HC.7	**101 809**	**21,0**
Capital expenditure	HC.R.1	**54 117**	**11,2**
Total		**485 278**	**100**

Financing of total expenditure on health by Central government, 2002



Changes of financing of total expenditure on health by Central government in %, 1999-2002



During 1999-2001 years long-term nursing care expenditures financed by Central government were very small. There were not long-term nursing care expenditures financed by Central government in 2002.
Central government's expenditures on medical care, rehabilitative care, ancillary services to health care, medical products of outpatients and capital expenditure have decreased in comparison with other health expenditures. However, expenditures on prevention, public health, general health administration and insurance have increased.

Allocations from the state budget were divided by the following ministries in 2002 as follows:

Distribution of the state budget of current expenditure on health, 2002	**thousand kroons**	**%**
Ministry of Social Affairs	364 928	84,6
Ministry of Defence	11 120	2,6
Ministry of Justice	44 177	10,2
Ministry of the Interior	5 585	1,3
Ministry of Education and Research	2 296	0,5
Ministry of Transport and Communication	310	0,1
Ministry of Environment	145	0,03
Ministry of Culture	0,4	0,0
Ministry of Finance	2598	0,6
Total	**431 161**	**100**

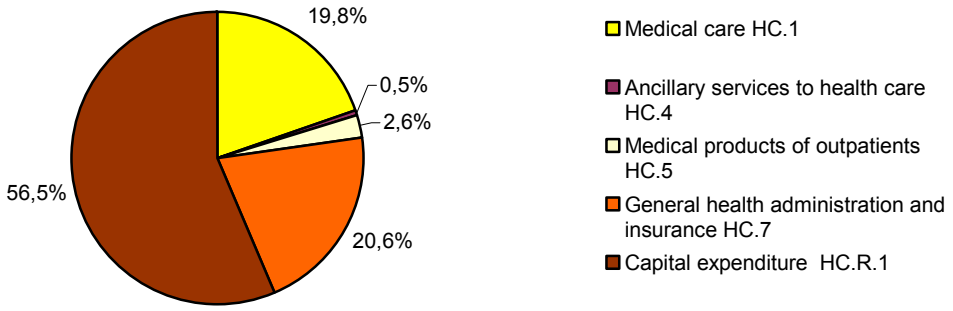
Health care financed from state budget was mainly provided through the Ministry of Social Affairs (84.6%) and it is mainly used to cover the operating costs of emergency medical aid and for medical treatment of uninsured persons (over 90% of the Estonian population is covered by health insurance). From state budget is financed also the public health programs (HIV/AIDS, tuberculosis, alcohol and drug, children's and adolescent's health).

Local government expenditures were 151.8 millions kroons or 2.5% of the total expenditure on health care.
Local governments' contributions were divided by functions of care as follows:

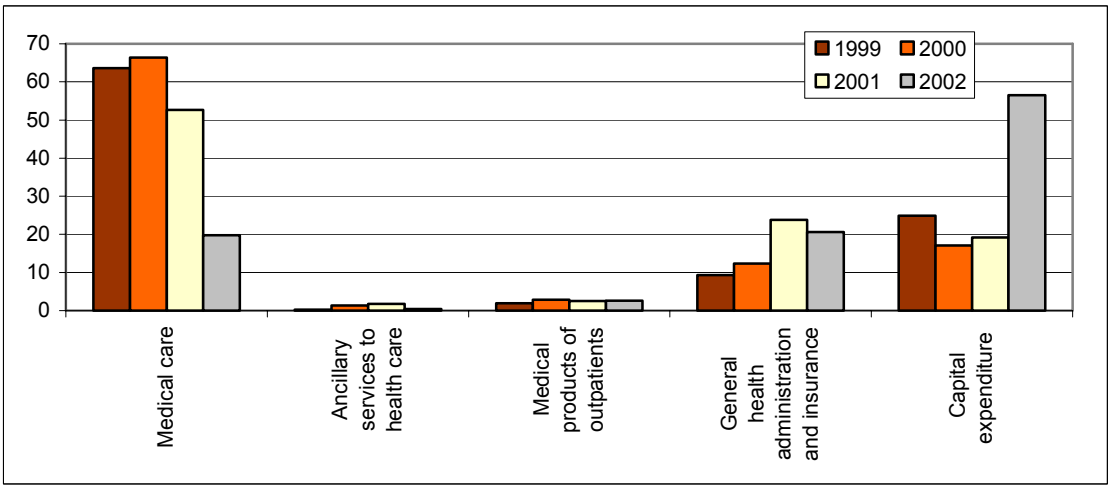
Financing of total expenditure on health by Local government, 2002	**ICHA-HC**	**thousand kroons**	**%**
Medical care	HC.1	**30 071**	**19.8**
Ancillary services to health care	HC.4	**695**	**0.5**

Medical products of outpatients	HC.5	**3 929**	**2.6**
General health administration and insurance	HC.7	**31 301**	**20.6**
Capital expenditure	HC.R.1	**85 779**	**56.5**
Total		**151 776**	**100**

Financing of total expenditure on health by Local government,2002



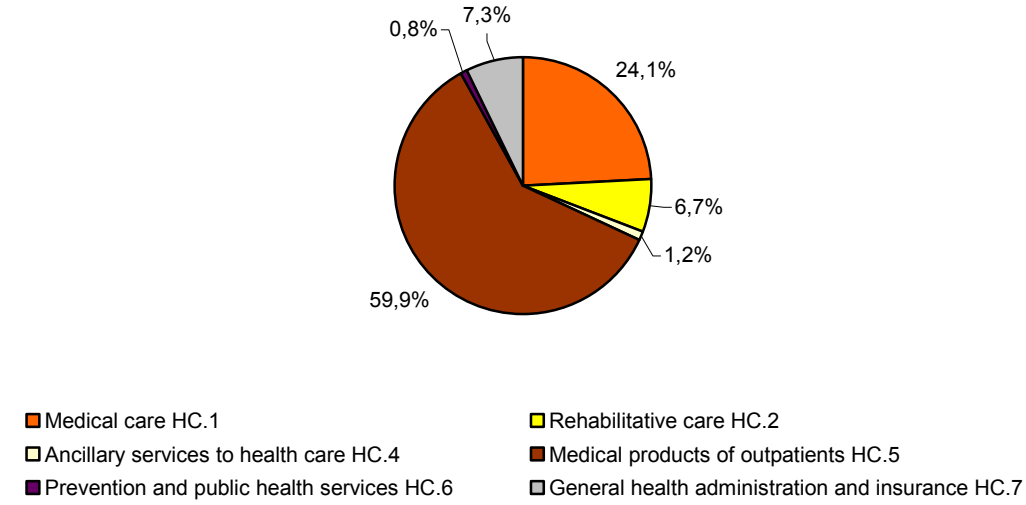
Changes of financing of total expenditure on health by Local governments in %, 1999-2002



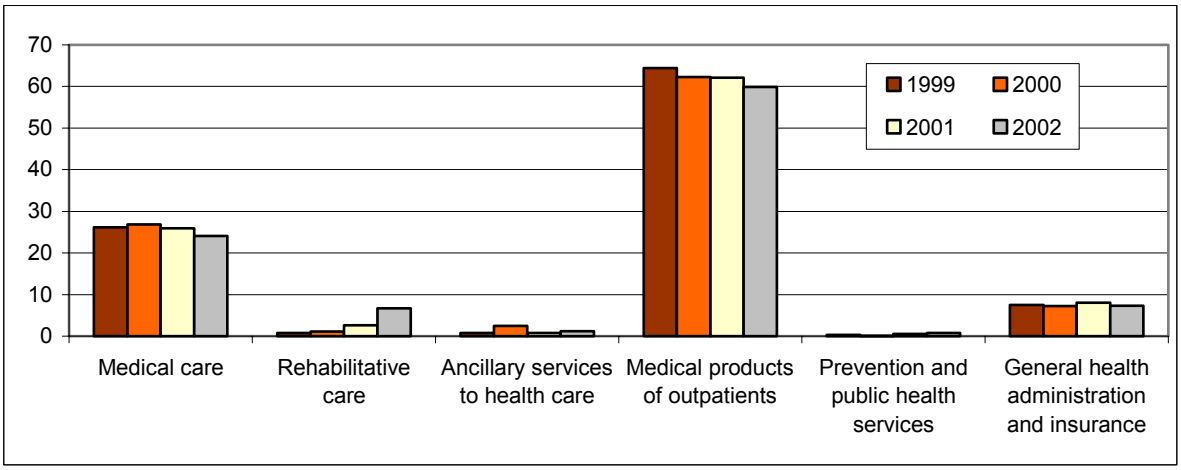
The largest expenditure financed by Local governments was medical care since year 1999. However Local governments were constantly reducing this expenditure regarding other health expenditures and already in 2002 capital expenditure was the largest expenditure financed by Local governments (56.5%). Therefore Local governments started to financed more general health administration and insurance (from 12.4% in 1999 to 47.4% in 2002) and investments (capital expenditure) (from 24.9% in 1999 to 56.5% in 2002).

2) <u>Private sector</u> expenditure on health amounted to 1411.4 million EEK in 2002, representing 23.7% of total expenditure on health. Private sector expenditure was divided by functions of care as follows:

Financing of total expenditure on health by Private sector, 2002	ICHA-HC	thousand kroons	%
Medical care	HC.1	340 003	24,1
Rehabilitative care	HC.2	94 447	6,7
Ancillary services to health care	HC.4	16 939	1,2
Medical products of outpatients	HC.5	844 880	59,9
Prevention and public health services	HC.6	11 429	0,8
General health administration and insurance	HC.7	103 675	7,3
Total		**1 411 373**	**100**



Changes of financing of total expenditure on health by Private sector in %, 1999-2002



The largest part expenditure financed by Private sector was expenditure on medical products of outpatients. By the years these expenditures were decreasing in comparison with private sector's health expenditures on other functions of care; from 64.4% year 1999 to 59.9% year 2002. However, the most significant increase can be followed in the expenditures on rehabilitative care, in particular in last two years.

3) Expenditures of **the rest of the world (**Foreign sources) were not accounted separately since 2001 and have contributed indirectly to the financing of health care as international aid and other flows.
In 1999 expenditure on health financing by foreign sources constituted 174.9 millions EEK or 3.5% of total expenditure. These funds were allocated as foreign loan and foreign aid to prevention and public health. In 2000 foreign sources of funding were only 0.3% of all expenditure on health. In 2002 international aid made 0.9 millions kroons what was only 0.02% of current expenditure on health.

Although Estonia has changed its status from a transition country to an EU accession country. Thereby many international funding aids had stopped. However, there are still two sharp decreases what need revision of initial data for these years in respect to this source of funding.

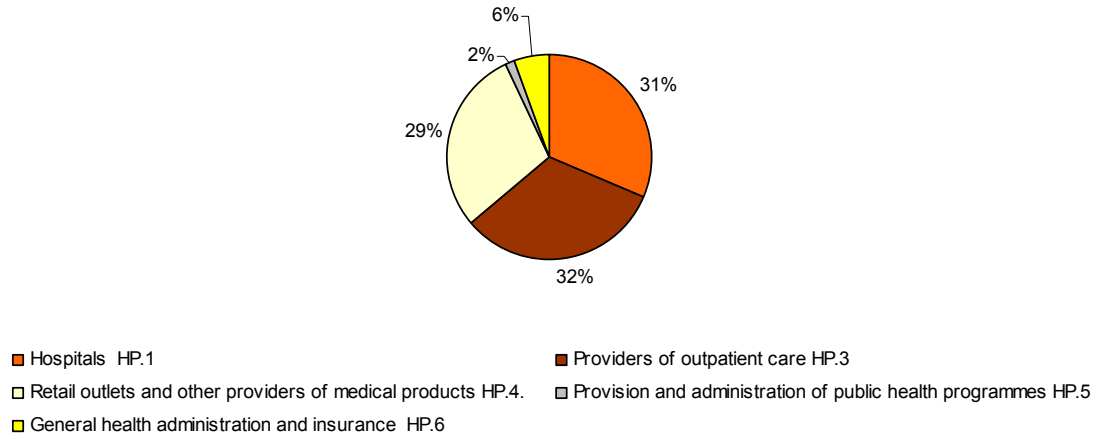
7.2.3.2.Health care providers and services of expenditure on health

In this part of the report examines expenditure of health care providers and functions without heath related functions e.g. capital expenditures. Therefore here investigates current expenditure and not total expenditure on health care. After addition of capital expenditure (HC.R.1) to these figures we will get total expenditure on health (THE).

Years 1999-2002 health care services were mainly provided by:

Expenditure of health care providers, 1999-2002	**ICHA-HP**	**1999 %**	**2000 %**	**2001 %**	**2002 %**
Hospitals	HP.1	37,6	36,9	30,0	31,3
Providers of outpatient care	HP.3	33,4	31,2	35,1	32,7
Retail outlets and other providers of medical products	HP.4.	22,4	25,5	27,8	29,0
Provision and administration of public health programmes	HP.5	2,0	1,8	1,7	1,5
General health administration and insurance	HP.6	4,5	4,6	5,4	5,5
Total		100	100	100	100

Expenditure of health care providers, 2002



Until 2000 hospitals (HP.1) comprised most of the current expenditure from all providers' expenditure (37.6% in 1999 and 36.9% in 2000 of expenditure of all expenditure of providers of health care). However, since 2001 providers of outpatient care (HP.3) contributed with the largest proportion to the current expenditure (35.1% in 2001 and 32.7% 2002). Proportion of the expenditures of retail outlets and other providers of medical products (HP.4) grows every year, from 22.4% in 1999 to 29% in 2002. The same happened to general health administration and insurance (HP.6) expenditure. Its percent has grown from 4.5% in 1999 to 5.5% in 2002. On the other hand, percent of provision and administration of public health programmes (HP.5) in the expenditure has decreased from 2.0% in 1999 to 1.5% of the current expenditure in 2002.

1) In 2002 **Hospitals** account for 31.3% of current health care expenditure or 1 819.5 millions Estonian kroons. Expenditure of hospitals by services of health care was as follows:

Expenditure of hospitals services on health care, 2002	**ICHA-HC**	**thousand kroons**	**%**
Medical care (i.e. hospital care)	**HC.1**	**1653426**	**90,9**
incl. inpatient care	HC.1.1	1599395	87,9
day care	HC.1.2	54031	3,0
Rehabilitation for inpatients	**HC.2**	**117980**	**6,5**
Long-term nursing care	**HC.3**	**48064**	**2,6**
Total		**1819470**	**100**

2) Expenditure of **Outpatient care providers** was the largest expenditure of current expenditure of all providers of health care in 2002. Expenditure of outpatient care providers was 1 903.3 millions kroons which represented 32.7% of current health care expenditure of all providers current expenditure. Outpatient services` expenditure was divided by functions of care as follows:

Expenditure of outpatient services on health care, 2002	**ICHA-HC**	**thousand kroons**	**%**

Medical services	**HC.1**	**1 346 499**	**70,7**
incl. main medical and diagnostic services	HC.1.3.1	684 455	36
incl. dental care	HC.1.3.2	509 407	26,8
Rehabilitative care	**HC.2**	**13 355**	**0,7**
Long-term nursing care	**HC.3**	**942**	**0,1**
Health support services	**HC.4**	**528 922**	**27,8**
incl. ambulance care	HC.4.3	146 853	7,7
Prevention and public health	**HC.6**	**13 592**	**0,7**
Total		**1 903 310**	**100**

The expenditures on health care were distributed in the outpatient care by the following main providers in 2002:

Outpatient care services by expenditure on health care of providers`, 2002	**ICHA-HP**	**thousand kroons**	**%**
Dental care providers	**HP.3.2**	**509407,2**	**26,8**
Rehabilitative care	**HP.3.3**	**13355**	**0,7**
Outpatient care centres	**HP.3.4**	**792630,1**	**41,6**
Medical and diagnostic services	**HP.3.5**	**420674,3**	**22,1**
Home care services	**HP.3.6**	**19899**	**1,0**
Other providers of outpatient care	**HP.3.9**	**147344,5**	**7,7**
incl. ambulance services	HP.3.9.1	146852,8	7,7
Total	**HP.3.**	**1903310**	**100**

41.6% of expenditure of outpatient care services fall on outpatient centres, 26.8% on dentists and 22.1% on diagnostic services.

3) Retail sales and other providers of medical products expenditure were 1 689.6 millions kroons (29% of current health care expenditure).
Sales of medical drugs in pharmacies by functions were divided as follows:

Retail sales and other providers of medical products expenditure on health care, 2002	ICHA-HC	thousand kroons	%
Pharmaceuticals and other medical non-durables	**HC.5.1**	**1563376**	**92,5**
incl. prescribed medicines	HC.5.1.1	**1155701**	68,4
over–the-counter medicines	HC.5.1.2	**391306**	23,2
other medical non-durables	HC.5.1.3	**16369**	1,0
Therapeutic appliances and other medical durables	**HC.5.2**	**126194**	**7,5**
incl. glasses and other vision products	HC.5.2.1	**58480**	3,5
orthopedic appliances and other prosthetics	HC.5.2.2	**45865**	2,7
hearing aids	HC.5.2.3	**14**	0,0
medico-technical devices, incl.wheelchairs	HC.5.2.4	**1369**	0,1
all other miscellaneous medical durables	HC.5.2.9	**20466**	1,2
Medical goods dispensed to out-patients	**HC.5**	**1689570**	**100**

The main retail sales and other <u>providers</u> of medical products year 2002 were:

Retail sales and other providers` of medical products expenditure on health care, 2002	ICHA-HP	thousand kroons	%
Dispensing chemist	HP.4.1	1567500	92,8
Other supplier of pharmaceuticals and medical goods	HP.4.2-4.9	122070	7,2
Retail vendors and other vendors of medical products	**HP.4.**	**1689570**	**100**

4) <u>Provision and administration of public health programmes</u> expenditure accounted for 88 millions kroons what is 1.5% of current expenditure of all providers of health care.

5) <u>Administration and insurance of total health care</u> expenditure of this segment totalled 318.5 millions kroons what is 5.5 % of current expenditure of all providers of health care.

Administration and insurance of total health care expenditure, 2002	ICHA-HF	%
General government	**HF.1**	**76,31**
Central government	HF.1.1.1	8,14
Local government	HF.1.1.3	2,55

Social security funds	HF.1.2	65,62
Private sector	**HF.2**	**23,69**
Private insurance	HF.2.2	1,04
Households	HF.2.3	19,86

7.2.3.3. Sources of health care funding and services of expenditure on health

In 2002 expenditure financed by General government made 76.3% of current expenditure of all sources of health care funding, where social security funds expenditure was 3 910.5 millions kroons or 65.6% of current expenditure.

Social security funds expenditure was divided by services in 2002 as follows:

Social security funds and services of expenditure on health care, 2002	ICHA-HP	thousand kroons	%
Hospitals	HP.1	1 609 248	41,1
Providers of outpatient care	HP.3	1 375 443	35,2
Retail vendors and other vendors of medical products	HP.4.	788 373	20,2
Public health programmes and administration	HP.5	55 619	1,4
General health administration and insurance	HP.6	81 670	2,1
Total		**3 910 353**	**100**

The majority of funds in social security were used through hospitals (41.1 %) and providers of outpatient care (35.2%).

Central government was broken down by services of current expenditure on health care in 2002 as follows:

Central government and services of expenditure on health care, 2002	ICHA-HP	thousand kroons	%
Hospitals	**HP.1**	**88775,6**	**20,6**
Providers of outpatient care	**HP.3**	**155728,5**	**36,1**
incl. ambulance services	HP.3.4	7631,4	1,8
Retail vendors and other vendors of medical products	**HP.4.**	**52388,5**	**12,2**
Public health programmes and administration	**HP.5**	**32459,2**	**7,5**
General health administration and insurance	**HP.6**	**101809,0**	**23,6**
Total		**431160,8**	**100**

Local government was broken down by services of expenditure on health care in 2002 as follows:

Local government and services of expenditure on health care, 2002	ICHA-HP	thousand kroons	%
Hospitals	HP.1	17413,1	26,4
Providers of outpatient care	HP.3	13353,3	20,2
Retail vendors and other vendors of medical products	HP.4.	3929,3	6,0
General health administration and insurance	HP.6	31301,4	47,4
Total		**65997,1**	**100**

In 2002 **Private sector expenditure** made 1411.4 million EEK or 23.7% of current expenditure on health. Private sector expenditure was divided by services of expenditure on health care as follows:

Private sector and services of expenditure on health care, 2002	ICHA-HP	thousand kroons	%
Hospitals	**HP.1**	**104033,2**	7,4
Providers of outpatient care	**HP.3**	**358785,3**	25,4
incl. dental care	HP.3.2	285338,5	20,2
Retail vendors and other vendors of medical products	**HP.4**	**844879,5**	59,9
Dispensing chemist	HP.4.1	773650,8	54,8
Other supplier of pharmaceuticals and medical goods	HP.4.2-4.9	71228,7	5,0
General health administration and insurance	**HP.6**	**103675,1**	7,3
Total		**1411373,1**	100

7.2.3.4. Total expenditure on health in GDP

On the basis of NHA some indicators were calculated for submission to the World Health Organization.

Indicators counted on the basis of NHA, %	1999	2000	2001	2002
Total health expenditure as a share of GDP	6.5	5.9	5.5	5.5
Public health expenditure as a share of total health expenditure	80.4	76.7	77.8	76.3
Total inpatient expenditure as a share of total health expenditure	35.4	36.2	29.6	30.5
Public inpatient expenditure as a share of total inpatient expenditure	99.2	98.1	96.6	94.3
Total pharmaceutical expenditure as a share of total health expenditure	19.4	22.3	25.1	26.3

Public pharmaceutical expenditure as a share of total pharmaceutical expenditure	40.1	43.6	51.1	50.6
Total capital investment expenditure as a share of total health expenditure	2.2	2.1	1.3	2.3
Salaries as a share of public health expenditure	35.9	35.0	35.0	34.9

Total expenditure on health for 2002 was 5 958.8 million kroons. It represents 5.5% of the gross domestic product.
Expenditure on health per capita in 2002 was 4 385.8 kroons (less than 300 EUR).

7.2.4. Publishing

For the first time analysis and data collected on the basis of the SHA were published for years 1999-2002 in 2003 in Estonian language on the website of the Ministry of Social Affairs of Estonia (www.sm.ee) under the heading "Statistics". There are no paper publications. Moreover, there is no English version of analysis and tables published yet.

7.3. Main Problems

7.3.1. Methodological problems

7.3.1.1. General methodological problems within SHA

1) Correspondence of SHA classifications to other international classifications, for example such as ISIC, COFOG etc. is not direct. Thereby it makes difficult to integrate these classifications into SHA, as data is mainly collected by the other international classifications.

2) Classification of medical service providers is not correspondent to CPA. It is not easy to harmonize different databases from this viewpoint.

3) There is no clear definition of medical service provider in the OECD methodology. There are discrepancies in different parts of OECD methodology as to that who should be included with its expenditures and who should not. If to follow the principle that all medical services should be included, then there should not be a reference that it is not the main activity for them. It mainly concerns nursing homes and hospice-type providers which in Estonian case are excluded from the medical service providers. However, the expenditure on medicines provided by nursing services in hospice-type facilities is included to NHA. Other expenditures on nursing services (e.g. doctors' and nurses' salaries) are not. By SHA methodology the definitions are the following:
The basic criteria for classifying health care providers by industries of the ICHA-HP will be the principal activity of establishments. As to nursing homes (elderly homes etc) and hospice-type institutions their main activity is not to provide health care and therefore they should not be included. However, if to rely on the following definition "An activity of health care comprises activities performed either by institutions or individuals pursuing, through the application of medical, paramedical and nursing knowledge and technology", one

should include also medical activities in the institutions which main activity is not medical into SHA .

7.3.1.2. Methodological problems within NHA

1) **Aggregated data collection from different sources enables a certain amount of double counting:**
We get information from Statistical Office of Estonia about Household Budget Survey on household income and expenditure on health which comprises household expenditure on medical products (HC.5). However, Estonian Health Insurance Fund imparts also information about expenditure on medical products in its report for these medical products sold to household members which are partly reimbursed. The same situation is with glasses and other vision products (HC.5.2.1). Statistical Office of Estonia reports about household's expenditure and the Agency of Medicines has some part of these expenditures in its report. It is not clear whether respondents report only on their own expenditure or they might include the total value of these products.
Data on medicines might be overcounted. Medicines reimbursed by Health Insurance Fund which might be a part of medical care are not distinguished and therefore increase the expenditures on medicines. It cannot be distinguished also from the report from drugs collected from the report of Agency of Medicines, who does not report separately on medicines delivered through pharmacies, hospital pharmacies and hospitals. There is some overlapping between these two reports.
Above-referred inclusion of expenditures of medicines in nursing-home facilities also means double-counting in Estonian NHA, as these expenditures have to be included in the report by Agency of Medicines.

2) **At the same time aggregated data collection from different sources leaves some part uncovered:**
A big problem is to compile statistics on medical drugs by providers and functions of care. The Agency of Medicines has information both about prescription and over the counter drugs (OTC). However, some medical products (for example contraceptives) are sold not only by pharmacies, but also by vendors of medical products and regular stores. Thereby, the Agency of Medicines does not have complete data of sales of such medical products.

Despite some part of double counting in function of care HC.5.2 mentioned above there is still a lack of information (for example: therapeutic' appliances and other medical durables). Only a small part of these products is sold through pharmacies and they are not classified in current reporting system of pharmacies. **Moreover, the survey methodology is not developed to capture missing elements needed to fulfill SHA.**

3) **Classifications in health care system of Estonia are not worked out and their integration into SHA is not elaborated:** Functions in SHA are not easily corresponding to medical services. E.g. hospitals do not report separately whether function of radiological diagnostics has been carried out for in-patient services or out-patient services. These data are too aggregated. The line between in-patient services and out-patient services is not clear. More detailed distribution is needed to compile SHA.

Health Insurance Fund data on medical services has different elements: part of the expenditures is distributed for certain services to providers directly and part is distributed as per capita costs. The analysis on what services are carried out within the per capita costs has not been estimated and thus partly the expenditures do not fall into the right items by functions (mostly they fall into medical care, not distinguishing part of it which goes to diagnostics services etc.)

There is no agreement which alternative practices or traditional medicine can be classified as health care services. After obtaining of the agreement we need to think out the methods of enfolding these services. One of the possibilities is survey. However, thereby we get the problem of representativeness. Also it will be needed to work out other methods of the survey.

4) **The problems within the methodology:** A short version of OECD methodology has been translated into Estonian but has not been communicated to all data providers. Data providers fulfill the report each as they understand it. There is a need to elaborate the Estonian version of the guidelines specifically referring to the data collection in Estonia. There is also a need to have several trainings on these guidelines for data providers.

5) **Medical services and providers are not related to patients:** Distribution of health expenditure by age, gender and diagnostic groups is not available, but can be partly carried out on those expenditures reported by Health Insurance Fund, which comprises the biggest part among general government expenditures.

6) **Proportion of shadow economy in health care is not possible to estimate.** We do not have any methodology worked out to estimate the share of shadow economy in health care. It would be an item to be discussed in the possible new working group which we hope to establish in 2005 to review the data collection methodology in Estonia and elaborate the questionnaire which might capture also the part concerning shadow economy in the sphere.

7) **A report on economic activity of medical service providers is not a basis for SHA:** In Estonia we collect separate annual report on economic activity of medical service providers. However, this has not become as the input for NHA and to be used as such needs further assessment and analysis. In order it would become one of the data sources we have to carry out the analysis of its coverage which has been varying from year to year.

8) **Since 2001 there are no foreign sources of funding assessed separately.** Currently we are carrying out the revision of the data for 2001 and 2002 in order to understand whether the foreign sources have been indirectly included under other items. As to funding sources it would be valuable to assess also funding of one's own resources, which is not included so far in the estimates.

9) **There are not enough specialists, knowing NHA methodology.** In 2003 the reorganization process was held in the Ministry of Social Affairs of Estonia. The persons who were responsible for NHA during last years have finished and new persons have started their work from January 2004.

7.3.2. Steps undertaken to facilitate better health accounts

1) Elaboration of classifications in the health care system, including overall classification of medical providers in terms of NACE, CPA, structural units of medical service providers, implementation of ownership classification etc. in the framework of a reorganization of medical service providers and personnel registries at Health Care Board.

2) Initiative at the Health Insurance Fund to relate account objects to major account categories, cooperation at the health institution level unfortunately rejected at the level of elaboration of the model.

3) Initiatives at the level of big medical service providers to relate their economic activities to services provided to patients. An impediment is that still not all providers feel the need to manage their accounts.

4) There were done some changes in the survey of economic activities of medical service providers, 2004 for using into SHA.

5) The methodological coordination of surveys having input into health system has been launched.

7.4. Needs for further development of NHA

1) Improve definitions and methods for NHA using international experience and assistants.

2) Continue to integrate the survey of economic activities of medical service providers into NHA.

3) Account of foreign sources of funding to be assessed separately.

4) Work out one questionnaire to all data providers (Ministries, etc). Include logical controls, which help to point out the possible mistakes into both electronic questionnaires (NHA and economic activities of medical service providers). Elaborate more Estonian-specific guidelines to fulfill the data on NHA.

5) Collaboration with Statistical Office of Estonia in the field of Household Budget Survey on household income and expenditure on health as a component of SNA.

6) Continue cooperation with Estonian Health Insurance Fund in order to complete table 6 (disease-function) and table 7 (age-gender-function).

7) Publish English version of NHA analysis and tables.

8) Training for the new workers is needed.

9) Complete a Digital Health Record project. We hope that data gotten from the record will afford to commit medical services and providers to patients, will save from data double counting. However there still will be possibility of loss of information.

7.5. Conclusion

The first National Health Accounts for Estonia was compiled in 2000 on the basis of 1999 data. Up to now the calculation of health care expenditures was carried out just on the project basis. There are still some problems and lack of specialists knowing enough NHA methodology. However the development of NHA is in process and the calculation made during last years is a good basis to continue the work with SHA in Estonia. This year there is a plan to do the calculations of health care expenditures as well as every year, whereas during the analysis process to find out weaknesses of implementation of SHA.