



Comparison of youth health care
in the EUSUHM countries

Date 21-09-2009
Name Rosemarie Wieske
Studentnumber s0146919
Study Gezondheidswetenschappen
University of Twente

Supervisor dr. M.M. Boere-Boonekamp
Co-reader dr. P.J. Klok
Co-reader drs. B. Carmiggelt

ABSTRACT

Background The organization of preventive youth health care [YHC] and the level of youth health of European countries are different in many ways. A comparison of the organization of YHC and youth health of member countries of the European Union for School and University Health and Medicine [EUSUHM] may offer results which can form a subject of discussion on how the European YHC can be improved and a basis for new research on the quality of YHC.

Objectives The first objective of this research was to identify differences in the way YHC systems in the EUSUHM countries are organized. The second objective of this research was to indicate what the main scores of EUSUHM countries are on youth health by means of youth health indicators.

Methods Data to identify similarities and differences in YHC systems were collected through questionnaires. The complexity of the YHC system limited the ability of all elements of the YHC to be investigated, therefore the most important issues were identified in consultations with experts. The primary care framework of Macinko et al. was adapted to measure the structural and practice features of the organization of preventive YHC. Activities of the preventive YHC to be investigated were chosen on basis of the Dutch 'basic duties package,' a set activities for the target group of YHC. Questionnaires were sent to all EUSUHM member countries: Belgium (the Flemish region), Croatia, Estonia, Finland, Germany, Hungary, the Republic of Macedonia, the Netherlands, Norway, Russia, Slovenia, Switzerland and the United Kingdom. Rates of youth health indicators of the EUSUHM member states, to measure the youth health status – the second goal of the study - were collected through reviewing the data banks of the World Health Organisation. For identification of the most important health indicators, the experts were consulted again. Sixteen indicators, that might be influenced by YHC through prevention by consultations, education or advice, were identified as most important.

Results Eleven EUSUHM countries responded on the questionnaires. Norway and the United Kingdom did not respond.

The largest differences in the organization of YHC appeared in the structural and practice features as the health systems finance, YHC professionals inputs and multi-disciplinary work, inter-disciplinary systems and record keeping. The largest similarities were found in the target group and in the separation of curative and preventive services.

Except for the activity 'health threats' in two countries, the activities monitoring and detection, immunizations, screenings and epidemiological research were provided in all EUSUHM countries. Differences appeared in the amount of examinations, immunizations and screenings, the access to medical records and the focus on special subjects.

Child mortality rates, except for suicide, have decreased over the years in the thirteen EUSUHM countries. The East European countries show higher rates than the West European countries. Health morbidity indicators were scarcely available and could not be compared.

Conclusions Although every child in Europe has the same rights on preventive health care, this international comparison showed that a lot of different models and ways of providing care are being offered in eleven of the thirteen EUSUHM countries. By improving the economic situation, the preventive YHC can probably improve and key health indicators positively be influenced.

Achtergrond De organisatie van preventieve jeugdgezondheidszorg [JGZ] en de status van de gezondheid van de jeugd van Europese landen zijn zeer verschillend. Een vergelijking van de organisatie van jeugdgezondheidszorg en de status van de jeugdgezondheid tussen landen die aangesloten zijn bij de European Union for School and University Health and Medicine [EUSUHM], kan resultaten opleveren die onderwerp van discussie kunnen zijn wat betreft de verbetering en kwaliteit van de JGZ.

Doelen Het eerste doel van deze opdracht was het identificeren van de verschillen en overeenkomsten waarop de JGZ in de EUSUHM landen is georganiseerd. Het tweede doel van deze opdracht was het meten van de status van de gezondheid van de jeugd in de EUSUHM landen, door middel van jeugdgezondheidsindicatoren.

Methoden Verschillen en overeenkomsten in de organisatie van de JGZ zijn geïdentificeerd aan de hand van vragenlijsten. Het jeugdgezondheidszorgsysteem is erg complex, waardoor niet alle kenmerken van het JGZ systeem konden worden gemeten, hierom werd ervoor gekozen de meest belangrijke kenmerken te laten identificeren door experts. Aan de hand van het 'Primary Care Framework' van Macinko et al. zijn de structurele en praktische kenmerken van de organisatie van de preventieve JGZ gemeten. Activiteiten van de preventieve JGZ zijn gemeten aan de hand van het Nederlandse Basis-takenpakket, een set van activiteiten voor kinderen van 0-19 jaar. Vragenlijsten werden verzonden naar alle EUSUHM lidstaten: België (Vlaamse regio), Duitsland, Estland, Finland, Hongarije, Kroatië, Macedonië, Nederland, Noorwegen, Rusland, Slovenië, Verenigd Koninkrijk en Zwitserland. Cijfers van jeugdgezondheidsindicatoren om de status van de jeugdgezondheid binnen de EUSUHM landen – het tweede doel van de studie – werden verzameld door middel van cijfers afkomstig uit de databanken van de Wereldgezondheidsorganisatie. Voor het selecteren van de belangrijkste indicatoren werden de eerdergenoemde experts geconsulteerd. Zestien indicatoren, die door middel van preventieve JGZ zouden kunnen worden beïnvloed aan de hand van consultaties, onderwijs of advies, werden geïdentificeerd als de belangrijkste indicatoren.

Resultaten Elf EUSUHM lidstaten beantwoordden de vragenlijsten. Noorwegen en het Verenigd Koninkrijk gaven geen respons.

De grootste verschillen in de organisatie van de JGZ bleken uit de structurele en praktische kenmerken als de financiering, scholing van JGZ professionals en multidisciplinair werk, inter-disciplinaire systemen en het bijhouden van dossiers. De grootste overeenkomsten werden gevonden in de doelgroep en in het onderscheid tussen preventieve en curatieve zorg. Met uitzondering van het meten van gezondheidsbedreigingen in twee landen worden de activiteiten monitoring en signalering, vaccinaties, screenings en epidemiologisch onderzoek in alle landen uitgevoerd. Verschillen waren er in het aantal uitgevoerde screenings en vaccinaties, toegang tot elektronische dossiers en de focus op speciale onderwerpen.

Mortaliteitscoëfficiënten van de jeugd, met uitzondering van zelfmoord, zijn afgenomen in alle 13 EUSUHM lidstaten. De Oost-Europese landen laten hogere coëfficiënten zien dan de West-Europese landen. Morbiditeitindicatoren waren slechts beperkt beschikbaar en konden daarom niet worden vergeleken.

Conclusies Ondanks dat elk kind in Europa dezelfde rechten heeft op het ontvangen van preventieve JGZ, bleek uit deze internationale vergelijking dat verschillende organisatiemodellen in gebruik zijn in de EUSUHM lidstaten en zorg op verschillende manieren wordt geleverd. Door het verbeteren van de economische situatie, kan wellicht de preventieve JGZ worden verbeterd en kunnen gezondheidindicatoren positief beïnvloed worden.

TABLE OF CONTENTS

ABSTRACT	0
ABSTRACT | DUTCH	2
TABLE OF CONTENTS	3
PREFACE	5
TABLE OF ACRONYMS/ABBREVIATIONS	6
1. INTRODUCTION	7
1.1. EUSUHM	7
1.2. DEFINITION OF THE PROBLEM.....	8
2. THEORETICAL BACKGROUND	9
2.1. PREVENTIVE YOUTH HEALTH CARE	9
2.1.2. <i>Preventive youth health care in the EUSUHM countries</i>	10
2.2. THE ORGANIZATION OF YOUTH HEALTH CARE	11
2.2.1. <i>Structural & practice features of a health care system</i>	12
2.2.2. <i>The Dutch youth health care system</i>	12
2.3. YOUTH HEALTH INDICATORS	14
2.4. CONCLUSION.....	15
3 OBJECTIVE AND RELEVANCE	16
3.1. RESEARCH OBJECTIVE	16
3.2. RESEARCH QUESTION	16
2.3. RELEVANCE.....	16
2.3.1. <i>Scientific relevance</i>	16
2.3.2. <i>Societal relevance</i>	16
4. METHODS	17
4.1. RESEARCH DESIGN	17
4.2. RESEARCH SUBJECTS	17
4.3.1. DATA COLLECTION 1 – QUESTIONNAIRE SURVEY PROCEDURE AND CONTENT	17
4.3.2. DATA COLLECTION 2 – REVIEW INDICATORS PROCEDURE AND CONTENT	18
4.4. ANALYSIS	19
5. RESULTS	20
5.1. YOUTH HEALTH CARE	20
5.2. STRUCTURAL FEATURES	20
5.3. PRACTICE FEATURES	23
5.4. BASIC ACTIVITIES	25
5.5. YOUTH HEALTH INDICATORS.....	30
6. DISCUSSION	33
6.1. SUMMARY OF THE RESULTS	33
6.2. METHODOLOGICAL LIMITATIONS AND STRONG POINTS	33
6.3. RESULTS COMPARED TO LITERATURE	35
6.4. CONCLUSION.....	35
6.4.1. <i>Subquestions</i>	35
6.4.2. <i>Main research question</i>	36
6.4.3. <i>Recommendations</i>	37

REFERENCES38

APPENDICES.....41

APPENDIX A – QUESTIONNAIRE SHORT41

APPENDIX B – QUESTIONNAIRE LONG50

APPENDIX C – INTRODUCTORY LETTER QUESTIONNAIRES60

APPENDIX D – TABLE 23: PERFORMERS OF SCREENING62

APPENDIX E – TABLE 24: FOCUS ON SPECIAL SUBJECTS64

PREFACE

This bachelorassignment is written as the completion of my bachelor in Health Sciences at the University of Twente.

The research is performed by order of the Dutch Association of Youth Health Care Doctors (Artsen Jeugdgezondheidszorg Nederland [AJN]). The research focuses on the similarities and differences in the organization of youth health care and youth health in thirteen countries which are member of the European Union for School and University Health and Medicine [EUSUHM]. The Dutch AJN is a member of the EUSUHM.

Results of this study provide information on different ways of providing care. These results can offer a subject of discussion and ideas on how the European youth health care can be improved and forms a basis for new research on the quality of youth health care.

Supervisors of this bachelorassignment are:

- Dr. M.M. Boere-Boonekamp (University of Twente, Health Sciences)
- Dr. P.J. Klok (University of Twente, Department of Science, Technology, and Policy Studies)
- Drs. B. Carmiggelt (National Institute for Public Health and the Environment in the Netherlands, Centre of Youth Health Care)

I would like to thank dr. M.M. Boere-Boonekamp for giving me the opportunity to perform this study and her fast and extensive feedback during the writing of this assignment. I would also like to thank Dr. P.J. Klok, Drs. B. Carmiggelt, Dr. K. Hoppenbrouwers, M.M. Wagenaar-Fischer, E. Buiting and M.G. Heijmerikx-Nijhuis for the composition, improvement and comments on the questionnaire and/or assignment. In addition I would like to thank Drs. W. Lijs-Spek for subscribing the questionnaire.

TABLE OF ACRONYMS/ABBREVIATIONS

AJN	Artsen Jeugdgezondheidszorg Nederland/ Association of Youth Health Care Doctors
BCG	Bacilles Calmette-Guérin
CHILD Project	Child Health Indicators of Life and Development Project
DCD	Developmental Coordination Disorder
DDH	Developmental dysplasia of the hip
DMFT	Decayed, Missing through caries, Filled Teeth
ENT specialist	Ear Nose and Throat specialist
EU	European Union
ESAP	European Society of Ambulatory Pediatrics
EUSUHM	European Union for School and University Health & Medicine
GGD	Gemeentelijke Gezondheidsdienst/ Municipal health service
GP	General Practitioner
HFA-DB	European health for all database
HFA-MDB	European health for all mortality database
HPV	Human Papilloma Virus
IMR	Infant Mortality Rate
PH	Public health
PHC	Primary health care
PHS	Public health services
PPP	Purchasing Power Parities
RIVM	Rijksinstituut voor Volksgezondheid en Milieu/ National Institute for Public Health and the Environment
SHC	Secondary health care
TB	Tuberculosis
WHO	World Health Organization
WHO/Europe	World Health Organization Regional Office for Europe
YHC	Youth health care

1. INTRODUCTION

The World Health Organisation [WHO] defines health care as *any type of services provided by professionals or paraprofessionals with an impact on health status* (Health care, 1998). The health care system is defined as *a formal structure for a defined population, whose finance, management, scope and content is defined by law and regulations. It provides for services to be delivered to people to contribute to their health...delivered in defined settings such as homes, educational institutions, workplaces, public places, communities, hospitals and clinics* (Health care system, 1998).

The WHO has no clear definition of youth health care [YHC]. In the Netherlands, youth health care is a separated part of the Dutch health care system. The Center of Youth Health Care (Centrum Jeugdgezondheid) of the National Institute for Public Health and the Environment (Rijksinstituut voor Volksgezondheid en Milieu [RIVM]) in the Netherlands defines youth health care as preventive care which concentrates on the growth and development of the child to prevent severe health problems. The development of children is monitored on the physical, social and cognitive level. Youth health care professionals provide parents with information about a healthy development and the health status of their child. If necessary, YHC professionals refer the child to a general practitioner or medical specialist. The target group of the Dutch youth health care are all children between the age of zero and nineteen (Jeugdgezondheidszorg voor alle kinderen in Nederland, 2009; Boudewijnse, et al., 2005, pp. 1). The goal of the Dutch youth health care is to diminish health differences and to give children an equal chance on a good health (Boot & Knapen, 2005, pp. 82).

1.1. EUSUHM

The Dutch Association of Youth Health Care Doctors (Artsenvereniging Jeugdgezondheidszorg Nederland [AJN]) is a scientific association for doctors in the youth health care. Two of the main objectives of the AJN are:

- To increase development and study of youth health care on physical and psychosocial level in all developmental stages;
- To increase the knowledge about youth health care on all aspects (Wat is de AJN, 2009).

The AJN is member of the EUSUHM: The European Union for School and University Health and Medicine. Aim of the EUSUHM is to improve and develop health services in schools and universities across European countries through encouragement and fostering. The second aim is to keep member associations and individual members informed regarding the changing pattern of youth health care in different countries. The EUSUHM realizes these goals by organizing a two-yearly congress and symposia, publishing information and through cooperation with other associations involved in youth health care (Statutes of the EUSUHM, 2004).

The two-yearly congress is held this year in September in Leiden, the Netherlands. The congress is organized by the Dutch and Flemish Professional Organizations of Youth Health Care Physicians together with associated partners. The aim of this 15th EUSUHM-congress is to bring together professionals who provide population-based health care for youth, with the emphasis on the relevant setting related to the stage of life of the youth.

For this 15th congress the AJN is interested in identifying the similarities and differences in the work of youth health doctors in countries participating in the EUSUHM. Special attention is drawn to the organization of youth health care and to the health of the youth in these countries.

1.2. DEFINITION OF THE PROBLEM

The EUSUHM has thirteen member organizations of YHC professionals in the following countries: Belgium (the Flemish region), Croatia, Estonia, Finland, Germany, Hungary, the Republic of Macedonia, the Netherlands, Norway, Russia, Slovenia, Switzerland and the United Kingdom (Member organizations, 2005).

The EUSUHM countries are member of the World Health Organization Regional Office for Europe (WHO/Europe). The WHO/Europe developed an European strategy for child and adolescent health and development. In the document on this strategy, the WHO states that there are striking inequalities across the 52 countries of the European region. These differences do not only appear in the health status of the children and adolescents, but also in access to health services (WHO, 2005).

The health sectors in the member countries provide health care services in very different ways. A comparative study between several countries, including Germany, England and the Netherlands, showed that differences occur in for instance financing, the level of education of professionals and regulation of resources (Kuo, et al., 2006; European Society of Ambulatory Pediatrics [ESAP], 2006) .

This research is designed to identify whether differences like these exist in the EUSUHM countries in the organisation of youth health care and youth health. The youth health care system of the Netherlands will be taken as frame of reference.

2. THEORETICAL BACKGROUND

2.1. PREVENTIVE YOUTH HEALTH CARE

The Dutch Center of Youth Health Care of the RIVM (2009) defines YHC as preventive care which concentrates on the growth and development of the child to prevent the child from severe health problems. The WHO has no definition of the term YHC. In the literature Kuo et al. defined YHC as preventive *well-child care*, including:

- Health supervision, including anticipatory guidance on nutrition, sleep, elimination, discipline, preventing injuries, etc.;
- Developmental supervision and milestones, and school performance;
- Child and family psychosocial assessment;
- Care coordination (oversight of referrals to needed community-based resources or services);
- Immunization(s), physical examination and additional screening (height, weight, lead level, vision, hemoglobin level, etc.) (Kuo, et al. 2006).

The term well-child care is an American term. In the United States of America well-child care is the cornerstone of preventive paediatrics. Well-child care involves care for children of the age of 0 to 18 years. In Europe the term well-child care is less well-known. In the Dutch and Flemish research and practice, YHC is the term which is most often used. The EUSUHM practices the term school and university health and medicine, but as the preventive and curative care is not separated in all EUSUHM countries, we will use the Dutch/Flemish term YHC for preventive care in this study. Because of the lack of an international definition of YHC we will make use of the components of well-child care in this study, defined by Kuo et al., mentioned above.

Most important in the definition of YHC is the preventive aspect. In the Netherlands, prevention is the basis of YHC.

The term prevention holds several components, these are: primary prevention, secondary prevention and tertiary prevention. Primary prevention avoids the development of diseases. An example is prevention of diseases through vaccinations. Secondary prevention is the detection of a disease at an early stage and the treatment of the disease. An example is the neonatal bloodspot screening to detect and treat, when found, a metabolic disorder. Programs for detecting diseases are for instance the neonatal screening for hearing disorders and the screening of preschoolers for visual disturbances. Tertiary prevention reduces the negative impact of an already established disease, this is done by restoring function and reducing the complications that are related to the disease (Schaapveld & Hirasing, 1997, pp. 6/7; Boudewijnse, et al., 2005, pp. 2). In the Netherlands YHC concerns mostly primary and secondary prevention. The curative circuit of health care is mostly concerned with tertiary prevention. This curative circuit is not included in YHC. In countries where preventive and curative YHC are not separated, both primary and secondary and/or tertiary prevention can be part of YHC.

The components of prevention that are mentioned above are aimed at a specific disease, but prevention can also concern the protection or promotion of a good health in general. Health protection aims to diminish the exposure to environmental risk factors, this can involve risk factors inside or outside the house of the youth. Examples of such risk factors are the humidity inside the house and the existence of air pollution outside the house. Measures to diminish the exposure to these risk factors involve whole populations. Health promotion aims to improve the health of youngsters through influencing health behaviour. Measures are for instance giving advice about smoking and raising the price of cigarettes (Boudewijnse, et al., 2005, pp. 3).

Prevention of diseases, protection and promotion of a good health lead to less problems and to a good health for youngsters. It prevents children of illness and death (Starfield, et al., 2005)

2.1.2. PREVENTIVE YOUTH HEALTH CARE IN THE EUSUHM COUNTRIES

The right of access to health care in the EUSUHM countries has a sound basis in the Universal Declaration of Human Rights. In this document, which has been subscribed by all EUSUHM members, article 25 states that:

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age or other lack of livelihood in circumstances beyond his control (The Universal Declaration of Human Rights, 1948; Status of ratifications of the principal international human rights treaties, 2004).

In 1989 the EUSUHM countries subscribed the newly designed Convention on the Rights of the Child. In this declaration, based on the Human Rights declaration, the right on health care of children is stated in article 24, including:

1. *States Parties recognize the right of the child to the enjoyment of the highest attainable standard of health and to facilities for the treatment of illness and rehabilitation of health. States Parties shall strive to ensure that no child is deprived of his or her right of access to such health care services.*
2. *States Parties shall pursue full implementation of this right and, in particular, shall take appropriate measures:*
 - (a) *To ensure the provision of necessary medical assistance and health care to all children with emphasis on the development of primary health care;*
 - (b) *To ensure appropriate prenatal and post-natal health care for mothers;*
 - (c) *To ensure that all segments of society, in particular parents and children, are informed, have access to education and are supported in the use of basic knowledge of child health and nutrition, the advantages of breastfeeding, hygiene and environmental sanitation and the prevention of accidents;*
 - (d) *To develop preventive health care, guidance for parents and family planning education and services.*
3. *States Parties undertake to promote and encourage international co-operation with a view to achieving progressively the full realization of the right recognized in the present article. In this regard, particular account shall be taken of the needs of developing countries (Convention on the Rights of the Child, 1989).*

Health inequities Although the European youth has equal rights on YHC, differences in YHC have appeared and still appear between and within countries. These differences are due to history, the economic situation of countries and other social factors.

Socially determined inequities exist between and within countries, but also between and within population groups. Social inequities are defined by the EU as inequalities of health that are avoidable and unfair. These social inequities lead to increased differences in health behaviour and outcomes, life expectancy and quality of available health services. The quality of the YHC of the former EU-15 has, for example, always been higher than that of East European countries.

A good example is the economic situation of a country. There is a clear link between income and child mortality. Living in the best or worst socio-economic situation can make a huge difference in the health status of children, for example represented by health indicators. For the EUSUHM countries this is listed in table 1 and 2 (Commission of the European Communities, 2007, pp.3-4; Health inequities, 2008). Russia and the Republic of Macedonia show a low gross national income with a high infant (children younger than

one year) mortality. Norway, which has a high income, has a far lower infant mortality than Russia or the Republic of Macedonia.

Table 1: Gross national income per capita
(PPP international \$)

Country	2000	2006
Belgium (all regions)	27320.0	33860.0
Croatia	8940.0	13850.0
Estonia	9300.0	18090.0
Finland	23920.0	33170.0
Germany	25990.0	32680.0
Hungary	11430.0	16970.0
Netherlands	30230.0	37940.0
Norway	38390.0	50070.0
Republic of Macedonia	6110.0	7850.0
Russia	7440.0	12740.0
Slovenia	16980.0	23970.0
Switzerland	33180.0	40840.0
United Kingdom	24870.0	33650.0

Table 2: Infant mortality rate
(per 1 000 live births) both sexes

Country	2000	2006
Belgium (all regions)	5.0	4.0
Croatia	7.0	5.0
Estonia	9.0	5.0
Finland	4.0	3.0
Germany	4.0	4.0
Hungary	9.0	6.0
Netherlands	5.0	4.0
Norway	4.0	3.0
Republic of Macedonia	14.0	15.0
Russia	16.0	10.0
Slovenia	5.0	3.0
Switzerland	5.0	4.0
United Kingdom	6.0	5.0

Source: Whosis, 2008

Reducing the inequities in the economic, social or environmental determinants of health is one of the challenges on national and European level.

International cooperation On the European level, international cooperation takes place to tackle social inequities and improve YHC (see also point 3, Convention on the Rights of the Child). The EUSUHM is one model of international cooperation. Two extremely important models are the European Union [EU] and the WHO/Europe.

Not all EUSUHM members are member of the EU, these are: Croatia (candidate), the Republic of Macedonia (candidate), Norway, Russia and Switzerland. The EU takes strategical actions in order to improve the health care sector. The white paper 'Together for Health: A strategic approach for the EU 2008-2013,' is one of these actions. Main goals are:

- Improving the health security of citizens;
- The promotion of health to improve prosperity and solidarity, and;
- Generation and dissemination of health knowledge.

Strategic actions that are being undertaken to achieve the main goals for YHC are for instance the launch of initiatives on the health of youth. These initiatives build forward on the existing actions of the rights of the child, promote participation of young people and sets out health strategies on alcohol, drugs, safe sex, etc (Commission of the European Communities, 2007, pp.13).

The WHO/Europe is involved in all EUSUHM countries. For YHC, policies have been developed on for instance a healthy environment. For this subject an action plan has been developed for clean air, chemical-free environments, safe water, etc. Member states are being monitored on the progress of implementation of commitments of the action plan and regional priority goals by the European Environment and Health Committee (Children's health and environment, 2009).

2.2. THE ORGANIZATION OF YOUTH HEALTH CARE

Preventive YHC is provided through a health system. A health system is defined as 'a formal structure for a defined population, whose finance, management, scope and content is defined by law and regulations. It provides services to be delivered to people to contribute to their health (Health system, 1998).'

The WHO has defined three universal goals for health systems: they have to be effective in contributing to a better health; responsive in regard of people's expectations; and fair in how individuals contribute to the health system, safeguarding an equal access to care and a sound level of spending (Health systems, 2009).

2.2.1. STRUCTURAL & PRACTICE FEATURES OF A HEALTH CARE SYSTEM

A framework to measure health care systems in a multiple international comparison comes from Macinko et al. Within the framework of Macinko et al., there are two main categories to distinguish when analyzing a country's primary health care system: structural and practice features.

Structural characteristics of the health care system are:

- Health system finance (whether the health care is funded by taxes, social securities or by private means);
- Distribution of resources;
- Health care professionals inputs (the training type of the professionals);
- Accessibility (the ability for patients to use services whenever needed);
- Longitudinality (the way the care is organized for providing a regular source of care over time) (Macinko et al., 2003).

In the earlier mentioned comparative study of Kuo et al., the framework of Macinko et al. was used to measure well-child care in ten countries. Kuo et al. made several adjustments to the structural characteristics so that it measured the *child* health system adequately. Accessibility now referred to the extent of cost sharing and longitudinality was removed (Kuo et al., 2006).

The five practice features of Macinko et al. are:

- First contact (what is the type of gate keeping);
- Coordination (the ability of primary care providers to coordinate use of other levels of health care);
- Comprehensive care (whether preventive, curative and rehabilitative services are offered);
- Longitudinality (refers to care that is patient-focused over time), and;
- Family and/or community orientation (places the patient in a social context, to address multiple causes of illness or health) (Macinko et al., 2003).

Again, Kuo et al. made a few adjustments. Coordination referred in the international comparison to the degree in which care (chronic and acute) was provided on the same location, by the same physicians and the degree of – if the responsibility is divided - coordination in the elements of health care. Longitudinality referred to whether the children visit the same child health professional over time and/or the extent to which care was provided within the same setting over time (Kuo et al., 2006).

2.2.2. THE DUTCH YOUTH HEALTH CARE SYSTEM

The Dutch Public health [PH] (Openbare gezondheidszorg) has several key activities, for instance, public prevention, health care for specific groups and health research. The public health care is divided in several areas of work. YHC is one of these areas, other areas are public mental health care, epidemiology and care and treatment of drug addicts (Boudewijns, et al., 2005, pp. 48).

As pointed out earlier, the Center of Youth Health Care of the National Institute for Public Health and the Environment [RIVM] (2009) in the Netherlands defines YHC as preventive care which concentrates on the growth and development of the child to prevent health problems. The development of the children is monitored on the physical, social and cognitive level. The YHC professionals provide parents with information about a healthy development and the health status of their child (Jeugdgezondheidszorg voor alle kinderen in Nederland, 2009).

History The Dutch YHC was founded in the 20th century. In 1901 general practitioner [GP] Plantenga started the first Dutch child health centre in The Hague. This centre delivered care to infants and was founded in following of the French gynaecologist Pierre Budin, who started his clinic by means of diminishing the infant mortality through advising

mothers regularly. In the child health centre of GP Plantenga the advice considered nutrition and care, and the child was being weighed.

Throughout the years, the care for infants evolved. Due to a considerable drop in infant mortality, diminution of the mortality was no longer the aim of child health centres. The child health centre practice became a specific profession, which was aimed at parent & child care with a target group of 0-4 year olds (Boudewijnse, et al., 2005, pp. 23; Van Lieburg, 2001, pp 21-35).

In the 19th century, besides child health centres, the school health services became into being. Aim of school health services were in the beginning to improve the hygiene of school buildings and the prevention of the spreading of infectious diseases. In 1907 being a school doctor became a specific profession. School doctors now monitored the health status periodically in order to detect diseases and abnormalities in children of both primary and secondary school. Due to new medical technologies, the focus of both child and school health services was directed mostly at the curative aspect of care (De Beer, 2008, pp. 36-65, 135-136; Boudewijnse, et al., 2005, pp. 23).

In 1974 the Canadian Minister of National Health and Welfare produced the report '*A New perspective on the health of Canadians.*' In this report, Lalonde introduced a new view on health care, that was called the '*Health field concept.*' In this document it was stated that the health field can be broken up into four elements: human biology, environment, lifestyle and health care organisation. The document, which came to be known as 'the Lalonde report', introduced the fact that health care was not the only aspect that influenced the well-being of people. The environment, lifestyle and the human biology were in the 'Health field concept' of equal importance (Lalonde, M., 1981, pp. 31-33).

Inspired by the Canadian report, the Dutch health policy changed. The Dutch government based the 'Nota 2000,' which was introduced mid 1980, on the Lalonde report. The Lalonde report made it possible to integrate prevention into the health policy. The health field concept was totally adapted, with one adjustment: the environment was divided into a social and physical environment.

Was the focus of infant and school health care in the beginning directed towards the curative aspect of health, with the introduction of the Lalonde report in Dutch policy the focus was now, and still is, directed towards preventive care. The preventive child and school health care are today known as YHC. The YHC delivers care to children aged 0-19. The original health field concept is still recognisable in Dutch health policy. The four elements are today known as 'determinants of public health' (Boudewijnse, et al., 2005, pp. 2-5).

Key activities In order to provide children with the care they need the Platform of Youth Health Care, a predecessor of the RIVM, developed a basic range of duties for YHC (Basistakenpakket Jeugdgezondheidszorg). This basic duties package can be seen as a package of interventions oriented towards health and the elements of the health field concept of Lalonde.

The basic duties package is supposed to lead to standardization and should guarantee a high quality of care. Also, the cohesion between YHC and public health care is being stimulated.

The basic duties package consists of two parts: an uniform part and a custom-made part. The uniform, national, part is offered to all individuals of the target group. The custom-made part can be adapted to the specific youth health needs in the municipality (Boot & Knapen, 2005, pp. 278).

The basic duties package which municipalities have to fulfill is divided into six groups of products and activities, which is statutory in the Public Health Act (Wet Publieke Gezondheid):

1. Monitoring and indication, to measure the health status periodically;
2. Assessing the need for care;

3. Screening and immunization, to trace and/or prevent certain diseases;
4. Health education, advice, instructions and guidance to produce healthier behaviour;
5. Influencing health threats;
6. Health care system, networking, consultation and collaboration (Basistakenpakket jeugdgezondheidszorg 0-19 jaar, 2002; Boudewijnse, et al., 2005, pp. 46-48).

The health status of the child is being monitored on basis of the definition of health developed by the World Health Organisation: *good health is a state of complete physical, social and mental well-being, and not merely the absence of disease or infirmity* (Constitution of the World Health Organisation, 2006).

The activities offered in the uniform part of the basic duties package are, if possible, evidence-based. When activities are not proven to be effective, further research is required. Recommendations on the subject will than be given by the RIVM. When an activity *can* not be proven evidence-based, a method will be chosen on basis of consensus or best practice. The YHC professionals are stimulated to perform the activities in a uniform way (Notitie Richtlijnen jeugdgezondheidszorg, 2007).

The basic activities are offered in child health centres, schools or Municipal Health Centres (Gemeentelijke Gezondheidsdiensten [GGD'en]) or at home (Jeugdgezondheidszorg voor alle kinderen in Nederland, 2009). The team of YHC professionals consists of a YHC doctor, a YHC nurse and frequently a medical assistant. This team cooperates on a high level with experts like dietitians, health promotion-officers, psychologists, speech therapists, teachers, day-care nurses and social workers (Boudewijnse, et al., 2005, pp. 66).

The Centre of Youth Health Care of the National Institute for Public Health and the Environment in the Netherlands assesses, watches over and fosters the basic duties package. The Centre was founded in 2006 and evolved out of the Platform of Youth Health Care which became into being in 2002. The Centre operates by government order. Activities of the Centre of Youth Health Care are advising on the development and adaptation of the uniform part of the basic duties package, directing the national guidelines and standing points of the YHC and collecting and spreading knowledge and experience. Furthermore, the Centre manages databases of electronic child records and a data bank of the YHC.

Research of the Centre of Youth Health Care may lead towards recommendations for the state secretary of the Ministry of Health, Welfare and Sport to adjust the basic duties package (Boudewijnse, et al., 2005, pp. 47-51; Centrum Jeugdgezondheid, 2009).

Finances The dutch YHC is free of charge. YHC is financed through municipalities. The National Vaccine Programme and neonatal bloodspot screening are financed trough the Exceptional Medical Expenses Act (Algemene Wet Bijzondere Ziektekosten [AWBZ]) (Boudewijnse, et al., 2005, pp. 57).

2.3. YOUTH HEALTH INDICATORS

Measuring the health of youth is important, because youth health determines the health of the future population. By comparing outcomes of health status in different countries, adjustments of health care can be made when outcomes are unequal and can be improved.

To indicate the health of a population the WHO has defined several indicators. According to the definition of the WHO (1998) a health indicator is a 'characteristic of an individual or environment which is subject to measurement and can be used to describe one or more aspects of the health of an individual or population'. Put differently, a health

indicator measures the health status of people or populations. Examples of health indicators are 'health life expectancy at birth' and 'under 5 mortality rate.' Categories of health indicators are for example: health service coverage, mortality & burden of disease and risk factors.

To identify indicators in order to measure the health of youth specifically, the Child Health Indicators of Live and Development [CHILD]-project was started in 2000 by the European Union. The aim of this project was to identify a core set of child health indicators, in order to be able to monitor the health of children of the EU.

In 2002 the project was finished and had developed a set of national level indicators for Europe. Four categories were distinguished:

1. Demographic and socio-economic indicators (indicators: percentage of children living in households in one of the six socio-economic categories, etc.);
2. Child-health status and well-being indicators (indicators: child mortality, child morbidity, injuries to children, etc.);
3. Health determinants, risk and protective factors (indicators: parental determinants, child lifestyle determinants);
4. Child health systems and policy (indicators: health system quality, physical protection policies, etc.) (Rigby, et al., 2003).

These four categories of indicators can be divided into 38 core national health indicators for children and adolescents.

Influencing the outcomes of indicators is possible through YHC. For example, child mortality rates measure child survival. It reflects the health care and social, economic and environmental conditions of the place where a child grows up (WHO (2), 2009, pp. 25). By influencing the health care and/or the mentioned conditions by the EU, WHO or other organizations, the mortality rates can be positively influenced. Rates for burns and poisoning can for example be influenced by advising people on storing flammable and biting substances. Mortality rates on infectious diseases can be influenced by immunizations.

2.4. CONCLUSION

The preventive YHC system is complex and holds many components. Youth health care systems of the EUSUHM countries have been influenced by history, cultural and economical factors. Due to the absence or presence of different factors, the health systems of the EUSUHM countries differ in organization, activities and health outcomes.

The definition of preventive YHC, as described by Kuo et al. and mentioned in paragraph 2.1., holds several components of YHC. These components are activities that are performed in order to prevent the child from severe health problems. For these activities, the Dutch RIVM developed a basic program of preventive YHC. Activities of the Dutch program will be used in order to indicate what kind of activities are being performed in the EUSUHM countries and whether a basic program of preventive YHC exists in the EUSUHM countries. The definition of YHC, as described by Kuo et al., does not hold structural and practice components of the organization of YHC. In order to be able to measure the structural and practical features of the EUSUHM countries, the framework of Macinko et al. and Kuo et al. will be adapted. To indicate the health status of the youth of the EUSUHM countries, youth health indicators as defined by the CHILD-project will be used.

The determination of the components chosen for elaboration will be further discussed in the chapter 4.

3 OBJECTIVE AND RELEVANCE

3.1. RESEARCH OBJECTIVE

The first objective of this research is to identify differences in the way youth health care systems in the EUSUHM countries are organized. With this research the AJN can provide the EUSUHM members with relevant information about youth health care.

The second objective of this research is to indicate what the main scores of EUSUHM countries are on youth health. Knowledge of organizational features and health indicators can contribute to improvement of youth health care delivery in participating countries.

3.2. RESEARCH QUESTION

The research question is divided in two parts:

1. What similarities and differences exist in the organization of youth health care in countries that are member of the EUSUHM?
2. What are the scores of the countries that are member of the EUSUHM on the key health indicators of youth health?

These research questions will be answered with the help of several subquestions. These subquestions are:

1. What are the basic characteristics of youth health care in the EUSUHM countries?
2. What are the structural and practice features of youth health care in the EUSUHM countries?
3. What are the activities of youth health care in the EUSUHM countries?
4. What are the scores of the EUSUHM countries on the child and adolescent health indicators?

2.3. RELEVANCE

2.3.1. SCIENTIFIC RELEVANCE

The scientific relevance is the utility of the results of the research for science (Geurts, 1999, pp. 133). This study is descriptive, it can offer information about the organization of youth health care and scores on youth health indicators in the thirteen countries. This information can result in new theories on the relationship between the organization of youth health care and health outcomes.

2.3.2. SOCIETAL RELEVANCE

The societal relevance is the utility of the results of the research for the principal and for the society in general (Geurts, 1999, pp. 133). For the principal, the AJN, the results are important for providing the co-members of the EUSUHM with relevant information about the access to care, the organization of preventive youth health care and an effective youth health care, the subjects of this year's EUSUHM congress. With the scores on the health indicators a basic idea can be given about the health status of the youth in the EUSUHM countries. With the information on the organization of health care a picture can be drawn about different ways of providing care. These results can offer a subject of discussion and ideas on how the European youth health care can be improved and a basis for new research on the quality of youth health care.

4. METHODS

4.1. RESEARCH DESIGN

This research is explorative and descriptive. The study starts with measuring the organisation of YHC and health status of youth of the age of 0 to 19 of thirteen countries. After the data have been collected, the outcomes will be elaborated.

4.2. RESEARCH SUBJECTS

The units of analysis, of this study is the youth health care of the EUSUHM member states (Babbie, 2007, pp. 94). There are thirteen member states: Belgium (the Flemish region), Croatia, Estonia, Finland, Germany, Hungary, the Republic of Macedonia, the Netherlands, Norway, Russia, Slovenia, Switzerland and the United Kingdom.

The member states are represented by one or more non-profit organisations. These organisations, concerned with the health and well-being of children and youngsters, are mainly educational federations of health care, medical union branches and scientific organisations of health care.

4.3.1. DATA COLLECTION 1 – QUESTIONNAIRE SURVEY PROCEDURE AND CONTENT

Data to answer the first part of the research question, 'what similarities and differences exist in the organization of YHC in countries that are member of the EUSUHM,' were collected through questionnaires.

The AJN developed a first questionnaire in March 2009. This was a basic questionnaire in order to indicate a basic overview of the health care system, YHC staff and immunizations. The questionnaire was sent to all the member organisations of the EUSUHM. Of the thirteen countries, ten countries responded.

To indicate similarities and differences in the work of YHC doctors in a broader sense, a second questionnaire was designed during this bachelor assignment. In order to indicate the most important issues of the YHC system, consultations were held with experts of the Dutch health care system and associates of the AJN. The interviews were held with Margreet Wagenaar-Fischer (Chief Editor of JA!, magazine for AJN members), Marianne Heijmerikx-Nijhuis, AJN associate, and Bettie Carmiggelt of the Center of Youth health Care of the RIVM.

As mentioned earlier, for choosing the most important issues, a framework on primary care from Macinko et al. was used to identify structural and practice features of the organisation of YHC (Macinko et al., 2003). The activities of YHC in the EUSUHM countries to be investigated were chosen on basis of the Dutch basic duties package (Basistakenpakket Jeugdgezondheidszorg 0-19 jaar, 2002).

When the most important issues of the organisation of YHC were identified, the questionnaire was designed. Again the above mentioned experts were consulted, to agree with the designed questionnaire. At this point in time, the questionnaire was also sent to the president of the EUSUHM, Karel Hoppenbrouwers, and the president of the AJN, Elise Buiting.

After adjustments had been made, based on comments of the experts on the designed questionnaire, the questionnaire was converted into two versions with a similar digital outline. One –short- version was designed for EUSUHM members that had already responded on the first questionnaire and consisted of 59 questions. A second –long- version was designed for EUSUHM members that had *not* responded on the first

questionnaire, this questionnaire consisted of 66 questions. Both questionnaires were made up of the following four sections, each consisting of several elements:

1. Youth health care: target group, care delivery to asylum seekers or illegally resident people and reach of YHC;
2. Structural features of the YHC system: health system finance, organization of YHC (distribution of resources), YHC professionals inputs, accessibility, joint commissioning and quality assurance;
3. Practice features of the YHC system: coordination, comprehensive care, interdisciplinary systems, national guidelines, evidence based interventions and record-keeping;
4. Basic activities of YHC: existence of a 'basic duties package,' monitoring and detection, immunizations, screenings, health threats, epidemiological research, other duties/activities and the focus on specific subjects.

Sections and elements were chosen on basis of the earlier mentioned framework of Macinko et al., the adapted framework of Macinko et al. used by Kuo et al. in the international comparison of well-child care and the consultations with experts.

The short and long version of the EUSUHM questionnaire are shown in respectively appendix A and B.

After the approval of all experts and the presidents of the EUSUHM and AJN was received on the outline of the questionnaires, the questionnaires were sent by email to the organizations/persons that represent the member states of the EUSUHM on the 15th of May 2009. In the email a link was given to enter the online version of the questionnaires and a MS-Word-version in case the link did not work or people preferred to answer the questionnaires on paper. In case of the digital version the questionnaire was returned through the questionnaire programme, in case of the MS-Word-version the questionnaire could be returned by email or post address. The questionnaires were subscribed by Karel Hoppenbrouwers; Elise Buiting; Drs. Wike Lijs-Spek (President of the Centre of Youth Health Care of the RIVM); and Rosemarie Wieske (appendix C).

The short version was sent to Belgium, Croatia, Estonia, Germany, the Republic of Macedonia, the Netherlands, Russia, Slovenia and Russia. The long version was sent to Finland, Hungary, Norway and the United Kingdom. Reminders were sent on 28 May 2009, 19 June 2009 by Rosemarie Wieske, on 12 July 2009 by Karel Hoppenbrouwers and in the week of 17 August by Rosemarie Wieske.

4.3.2. DATA COLLECTION 2 – REVIEW INDICATORS PROCEDURE AND CONTENT

Data to answer the second part of the research question, 'What are the scores of the countries that are member of the EUSUHM on the key health indicators of youth health,' were collected through reviewing the data banks of the World Health Organisation and the European Union. To identify the most important health indicators, the earlier mentioned experts were consulted. Especially those indicators that might be influenced by YHC through prevention by consultations, education or advice, were identified as most important. Sixteen indicators out of three categories, identified as child health indicators for Europe by the CHILD project, were chosen to be investigated:

1. Child health status and well-being indicators:
 - Total infant mortality rate [IMR] between birth and exactly one year of age;
 - Total mortality rate between birth and exactly five years of age;
 - Total under 20 years mortality rate;
 - Cause-specific mortality rates: infectious diseases, congenital malformations, unintentional injuries (Burns, poisoning, transport accidents), suicide;
 - Teen pregnancies;
 - Prevalence of asthma;

- DMFT (Decayed, Missing through caries, Filled, Teeth) for 12 year old children;
 - Annual rate of overnight hospital inpatient admissions of children suffering burns;
 - Annual rate of overnight hospital admissions of children suffering from poisoning.
2. Child lifestyle determinants:
 - Prevalence of current tobacco use among adolescents;
 - Alcohol abuse;
 - Percentage of children under five years of age overweight for age.
 3. Socio-economic determinants:
 - Percentage of children living in households with a household income below 60% median.

Because of the individual differences between countries, a socio-economic indicator has also been taken into account. By doing so, the coherence between the economic status and status of the health care sector can be identified. This can be subject for further research in the future.

4.4. ANALYSIS

This study is descriptive, which means that we focus on a particular situation, in this case the organisation of YHC and the scores on youth health indicators. With answering the research question and elaboration of the results, no further conclusions will be drawn about interrelationships.

5. RESULTS

Eleven countries responded on the first and second questionnaire. The respondent countries were: Belgium (the *Flemish* region), Croatia, Estonia, Finland, Germany, Hungary, the Republic of Macedonia, the Netherlands, Russia, Slovenia and Switzerland. In the following four paragraphs the outcomes are outlined in tables with additional information.

5.1. YOUTH HEALTH CARE

In table 3, answers on the questions 'what is the target group of YHC', 'does YHC offer care to asylum seekers and/or illegally resident people' and 'what is the reach of YHC,' are listed.

On the question of the target group of YHC eight countries responded with children aged 0-19 years. Croatia offers YHC until the regular graduation of children at the university, Switzerland until the age of 16. Germany offers YHC until the age of twelve, here a systematic YHC does not exist. Care is in most countries offered to asylum seekers and illegally resident people as well. The reach of YHC decreases with the rising age of children.

Table 3: Youth health care

Country	Target group	Care offered to asylum seekers or illegally resident people	Reach YHC (%) - Rough estimate per yeargroup			
			0-3	4-12	13-18	19-23
<i>Belgium</i>	0-19 years	Both	90%	85-100%	85-100%	...
<i>Croatia</i>	6,5-24/25 years	None	...	100%	100%	60%
<i>Estonia</i>	0-19 years	Both	100%	100%	99%	97%
<i>Finland</i>	0-19 years	Both	...	...	...	...
<i>Germany</i>	0-5-12 years, but no systematic YHC	Only asylum seekers	80%	50-75%	...	...
<i>Hungary</i>	0-19 years	Only asylum seekers	100%	100%	100%	...
<i>Republic of Macedonia</i>	0-19 years	Both	98%	97%	95%	91%
<i>Netherlands</i>	0-19 years	Both	95%	85-90%	80-85%	...
<i>Russia</i>	0-19 years	...	100%	80%	60%	30%
<i>Slovenia</i>	0-19 years	Both	99%	90%	90%	70%
<i>Switzerland</i>	0-16 years	...	...	...	...	...

5.2. STRUCTURAL FEATURES

General structural features of the EUSUHM countries are listed in table 4, page 22.

Of the ten countries that responded on the questionnaire, ten countries reported to have a specific YHC sector according to the answers on the question 'how is the YHC organized in your country.' According to the German respondent, their country does not have a systematic YHC because of little interest in this subject and a complicated system, as competences are divided between the national government, states and municipalities.

Youth health care is distributed through specific YHC organizations or subdivisions of YHC in eight out of the eleven EUSUHM countries. Hungary and the Republic of Macedonia provide YHC through different health professionals: paediatricians, general practitioners [GP] and school doctors. Germany has a complicated system in having two different types of care delivery. Care delivery is, in the case of insurances, managed by paediatricians and doctors contracted by health insurance companies. In case of taxes, care is delivered through subdivisions of public health. Switzerland, as Germany, has also

a dual system: YHC is offered by (private) paediatricians or, when available, school health services.

On the question 'how is the YHC financed,' the EUSUHM countries responded by national insurances or taxation. In Germany, the Republic of Macedonia, the Netherlands, Russia and Switzerland different forms of financing exist abreast. Preventive examinations and immunizations are, except for Switzerland, in all countries free of charge.

Quality assurance of the YHC is in the EUSUHM countries mainly organized through education of staff and health care inspectorates. In table 4, the variation is listed.

On the question of the YHC professionals involved in YHC, different combinations of disciplines were given. An example is Belgium with YHC doctors, YHC/specialized nurses and multidisciplinary teams. In seven countries a special public health [PH] education is required for doctors and/or nurses working in the YHC.

Working across agency boundaries, in other words 'joint commissioning', takes place in all countries. The YHC cooperates mostly with schools, but in Estonia, Finland, the Republic of Macedonia and Russia sports clubs and/or welfare and/or justice are cooperated with as well.

Table 4: General structural features

Country	Organization of YHC (distribution of resources)	Health system finance	Accessibility of preventive examinations and immizations	Quality assurance	YHC professionals	YHC professionals inputs	Joint commissioning
Belgium	Specific YHC organizations	Regional taxation	Free of charge	Through education of staff	YHC doctor, YHC/specialized nurse and multidisciplinary teams (including psychologist, etc.)	+ doctor	Schools, welfare, day care - <i>Supervised by</i> Child&Family (organization) and Pupil Guidance Centers
Croatia	As a subdivision of organizations that are involved in PH	National insurance	Free of charge	Through education of staff, defined organizational structure, harmonized programme, stabilized financing	Paeditrician, YHC doctor, YHC/specialized nurse	+ doctor: 3 years school medicine	Schools, universities - <i>supervised by</i> ministries and National institute of public health
Estonia	Specific YHC organizations	National insurance	Free of charge	Through good education of staff	Paediatrician, GP, general nursing	-	Schools, sports clubs, day care, welfare - <i>Supervised by ...</i>
Finland	YHC organizations that are subdivisions of PH	General taxation	Free of charge	Through education of staff, Health care inspectorate, special competence of child & adolescent health care	Paediatrician, GP, YHC doctor, YHC/specialized nurse	-	Schools, sports clubs, day care - <i>supervised by</i> Health and welfare institute
Germany	As a subdivision of organizations that are involved in PH (when taxes) and managed by GP's and paediatricians (when insurances)	General taxation, taxation for PHS, national insurance, insurance for paediatrician and GP	Free of charge	-	GP, specialized nurse	-	Schools, day care - <i>No supervision</i>
Hungary	Provided through GP's, paediatricians and school health services	National insurance	Free of charge, except for immunization of HPV	Through education of staff, Health care inspectorate	Paediatrician, GP, YHC doctor, YHC/specialized nurse, school psychologist	+ doctor, nurse: school specialisation	Schools - <i>supervised by</i> National Centre for Health Care Audit and Inspection
Republic of Macedonia	Provided through paediatricians, school and adolescent doctors	National insurance, national budget	Free of charge	Through education of staff	Paediatrician, GP, specialist for school and adolescent medicine	+ doctor, nurse	Schools, sports clubs, day care, services for (pre)school and adolescent health care - <i>supervised by</i> medical health associations, Faculty of medicine, Ministry of health, insurance fund
Netherlands	YHC organizations, subdivisions of PH	General, local taxation	Free of charge	Through education of staff, Health care inspectorate	YHC doctor, YHC/specialized nurse	+ doctor	Schools, welfare, day care - <i>supervised by</i> national and local government
Russia	As a subdivision of organizations that are involved in PH	Regional, local taxation	Free of charge	Through education of staff	Paediatrician, YHC/specialized nurse	+ doctor, nurse	Schools, sports clubs, justice, welfare, day care - <i>Supervised by ...</i>
Slovenia	Specific YHC organizations	General taxation	Free of charge	Through education of staff and supervision of Medical Chamber	Paediatrician, YHC doctor/ school doctor	+ doctor	...
Switzerland	Provided through (private paediatricians and in several regions school health services)	Paid for on the spot/insurance (private service), Taxes (school health services)	Cost sharing	...	Paediatrician, GP, YHC doctor, nurse, supporting doctor for immunizations/screenings	-	School health services - <i>No supervision</i>

5.3. PRACTICE FEATURES

In table 5 the practice features of YHC of the EUSUHM countries are listed. Eight countries responded positive on the question 'Is there a separation in your country between preventive and curative care for children.' For Estonia and Slovenia it was stated that there is no separation between the curative and preventive care. In Switzerland a separation does only exist when school health services are provided.

The nature of contact between the preventive YHC and curative YHC is in most countries restricted to the exchange of data. Finland is an exception in stating that the contact is structural, mostly face to face. The exchange of data or structural contact varies in contact between and/or within different levels of care, i.e. the primary health care [PHC] and secondary health care [SHC]. The variation is listed in column 4 of table 5.

Interdisciplinary systems, in which interdisciplinary consultations take place, meant to set about complicated problems of for instance school children, exist in Belgium, Croatia, Finland, the Republic of Macedonia and the Netherlands.

Table 5: Coordination and contact of levels of care

Country	Separation preventive YHC - curative YHC	Nature of contact preventive YHC – curative YHC	Contact between levels of care	Existence interdisciplinary systems
Belgium	+	Exchange of data	PHC-PHC PHC-SHC	+ - supervised by Pupil Guidance Centers, Ministry of education
Croatia	+	Exchange of data, if necessary personal contact	PHC-PHC PHC-SHC	+ School health service – school staff
Estonia	-	Not applicable	Not applicable	-
Finland	+ but this can vary for different activities and/or duties	Structural: often contact, mostly face to face	PHC-SHC	+ - supervised by local authorities
Germany	+ but this can vary for different activities and/or duties	Regionally and individually very different	PHC-PHC	-
Hungary	+ but this can vary for different activities and/or duties	Structural: often contact, mostly face to face	PHC-PHC PHC-SHC	-
Republic of Macedonia	+	Depends: exchange of data or direct, telephone, email contact	PHC-PHC PHC-SHC PHC-schools	+ - supervised by Ministry of health, Faculty of medicine, medical associations
Netherlands	+	Depends on local initiative, mostly exchange of data or structural contact	PHC-PHC PHC-SHC	+ - supervised by national and local government
Russia	+	...	PHC-PHC	-
Slovenia	-	Not applicable	Not applicable	...
Switzerland	- except when school health services are available	Depends on doctor, no structural exchange	...	+/- Sometimes in school health - supervised by ...

Guidelines Table 6 shows that national guidelines for the executive staff of the YHC exist in all EUSUHM countries, except for Germany and Switzerland. The guidelines consider topics as immunizations and screenings and are eight out of ten times owned by the ministry of health. In Croatia, the Republic of Macedonia and the Netherlands, a national board is (joint) owner of the guidelines. The development and/or implementation of guidelines is not in all countries being supervised.

Table 6: National guidelines

Country	Existence of national guidelines	Topics	Legal owner guidelines	Supervision of development/ implementation
Belgium	+	Immunizations, weight, visual impairments, growth, puberty, dental examination	Ministry of health and education	+

<i>Croatia</i>	+	HPV immunization, overweight, preschool entry exam, algorithms for short stature, algorithms for following medical conditions	A national board	- Development is finished, but the implementation has not been started yet
<i>Estonia</i>	+	Immunizations, check-ups	Ministry of health	+
<i>Finland</i>	+	Health screening programs provide information on what to screen	Ministry of health	+
<i>Germany</i>	-			
<i>Hungary</i>	+	Immunizations, screening for: hearing and visual problems, measurement and evaluation of body height, weight, evaluation of fine and gross motor development, speech and intellectual development	Ministry of health	+ but the implementation has just been started
<i>Republic of Macedonia</i>	+	Immunizations, violence, nutritional status of children, contents of systems examination, health education, environment, asthma control	Ministry of health, national board, medical associations	+
<i>Netherlands</i>	+	Immunizations, child abuse, advising (normal) feeding of children 0-4 yrs, visual impairments, hearing loss, congenital heart disease, early detection of psychological problems, food allergy, vitamine D and K	A national board	+ but only the development
<i>Russia</i>	+	Nutrition, physical activity, mental burden, etc.	Ministry of health	+
<i>Slovenia</i>	+	Immunizations, growth, development, hearing, posture	Ministry of health	+
<i>Switzerland</i>	-			

Evidence-based interventions Evidence-based interventions, which are at least in theory effective and can be proven effective through research, are applied in nine EUSUHM countries (table 7). The Ministries of health, national boards or national institutes of the EUSUHM countries decide whether interventions are effective or not.

Table 7: Evidence-based interventions

Country	Applied for duties/activities of preventive YHC	Who/what decides what is evidence-based	Existence of a database of evidence-based interventions
<i>Belgium</i>	+	Ministry of health, Flemish Scientific Association for YHC	+
<i>Croatia</i>	+	Ministry of health, a national board	+ is being implemented
<i>Estonia</i>	+	National institute for health development	+
<i>Finland</i>	...	...	+
<i>Germany</i>	... No interest for this subject		-
<i>Hungary</i>	+	A national board	+
<i>Republic of Macedonia</i>	+	Ministry of health, Medical Health Association, Medical chamber	+
<i>Netherlands</i>	+	A national board	+
<i>Russia</i>	+	Ministry of health	+
<i>Slovenia</i>	+	A national board	+
<i>Switzerland</i>	+/-, applied by health insurance companies	A board	-

Record-keeping On the question 'Does youth health care keep individual records of the care provided to children,' all countries responded positive. The answers are listed in table 8. Electronic records are not in every East European country in use. Differences of record-keeping appear in the use of the preventive record by the curative services and the access that is provided to health care professionals, schools and parents (columns 3 and 4).

Table 8: Record-keeping

Country	Individual recordkeeping YHC	Use of electronic records	Use of record by curative services	Access	Higher level aggregation
<i>Belgium</i>	+ but this varies regionally, locally	+ but this varies regionally, locally	-	YHC providers	+ but this varies regionally, locally
<i>Croatia</i>	+ national	-	-	YHC providers, nurses	-
<i>Estonia</i>	+ national	+ national	+ national	YHC providers, GP, nurses, schools	+ national

<i>Finland</i>	+ national	+ but this varies regionally, locally	+ national	YHC providers, GP, nurses	+ national
<i>Germany</i>	+ but this varies regionally, locally	+ but this varies regionally, locally	-	PHS	+ but this varies regionally, locally
<i>Hungary</i>	+ national	+ but this varies per profession	...	...	+ national
<i>Republic of Macedonia</i>	+ national	-	+ national	YHC providers, GP, nurses, schools, parents	+ national
<i>Netherlands</i>	+ but this varies regionally, locally	+ but this varies regionally, locally	-	YHC providers	-
<i>Russia</i>	+ national	+ national	+ national	GP	+ but this varies regionally, locally
<i>Slovenia</i>	+ national	-	+ but this varies per region, city	YHC providers, nurses	+ national
<i>Switzerland</i>	+ national	+ but this varies regionally, locally	-	Only the provider who created the record	+ but this varies per service

5.4. BASIC ACTIVITIES

Existence of a basic duties package On the question whether 'a basic range of duties and/or activities had been developed for the youth health care in ones country,' ten countries responded positive. This is presented in table 9. Germany, because of the absence of a systematic YHC, has no national basic duties package. The German respondent states that a range of offers are provided, but often only educated parents make use of these facilities. According to the correspondent, it is the task of the Public Health Services [PHS] to look after the children of lower educated parents, but the budget of the PHS has been cut and therefore the YHC does not provide adequate care in all regions.

Table 9: Existence of a Basic duties package

Country	Existence of a national Basic duties package	Designers of the Basic duties package
<i>Belgium</i>	+ but a part can be adapted to the specific youth health needs in the region or municipality	Regional government, advisory board, professional groups involved
<i>Croatia</i>	+ but a part can be adapted to the specific youth health needs in the region or municipality	National government, professional groups involved
<i>Estonia</i>	+	National government, professional groups involved
<i>Finland</i>	+	Advisory board
<i>Germany</i>	-	-
<i>Hungary</i>	+	National government
<i>Republic of Macedonia</i>	+	National government, professional groups involved, Association of School and University Medicine
<i>Netherlands</i>	+ but a part can be adapted to the specific youth health needs in the region or municipality	National, regional and local governments, professional groups involved
<i>Russia</i>	+	National government
<i>Slovenia</i>	+	National government, professional groups involved
<i>Switzerland</i>	+	Professional groups involved; in case of insurance coverage a national board, department for social insurances

Monitoring & detection The health status of the children and deviations in growth or development are being measured and identified in all countries. Only Germany states that this can vary for different regions. The initiative for monitoring and detection is in nearly all countries taken by YHC organizations through a calling scheme. In Finland parents can also take the initiative. In Germany the responsibility of monitoring and detection is left to the parents. This leads towards, as earlier mentioned, a low turnout of children of lower educated persons for these activities. In Switzerland school health services work through a calling scheme; private paediatricians have a plan for examinations, the doctor recommends the next consultation.

The YHC professionals can be assigned to children or chosen by parents in respectively Croatia, Finland, the Republic of Macedonia, the Netherlands & Slovenia; and Belgium,

Germany, Russia & Switzerland. When children are assigned, this is mostly because of the YHC being provided at school with a set team of YHC professionals.

Calling schemes of examinations are listed in table 10. Children are visited by the YHC at least once after birth in every country, except for Germany and Switzerland. The examinations are in all countries provided by doctors and nurses. In every country, except for Germany and Switzerland, it is aimed for that the location of care delivery is the same over time. This place is often the school.

Table 10: Examinations

Country	Children are called regularly	Examination by doctor	Examination by nurse	Examination by doctor and nurse	Examination by other specialists
Belgium	+		3, 8 Y in some school health services	1, 2, 3, 4, 6, 9, 12, 15, 24, 30 M	
Croatia	+		9, 12 Y	3, 4, 6, 8, 10, 12, 14 Y 0, 2, 4, 6, 9, 12 M 2, 4, 6, 11, 13/14, 15, 19 Y	
Estonia	+	2, 4½, 6, 8, 18 M	7 M 8, 9, 10, 11, 12, 13, 14, 15, 17 Y	1, 3, 9, 10, 11, 12 M 4, 5-6, 7 Y	3, 9 M 2, 3, 5-6, 7, 12 Y
Finland	+	6 W 4, 8, 18 M 5 Y	Monthly to 6 M 8, 10, 12 M 1, 2, 3, 4, 5, 6, 7 Y		
Germany	+	Between 3-10 days 4-6 W 3-4, 6-7, 10-12, 21-24, 43-48, 60-64 M 13-15 Y			
Hungary	+			After birth 3, 6 M 1, 2, 3, 4, 5, 6 Y*	2, 4, 6, 8, 10, 12 grade by school physicians and school nurses
Republic of Macedonia	+	At birth		3, 6, 9 M 2, 4, 6, 9, 11, 13, 15, 18 Y	First year university: multidiscipline approach
Netherlands	+	2 W 2, 4, 7½, 11, 18 M 3, 9 Y	1, 3, 6, 14 M 2, 4, 15/16 Y	5/6 Y	
Russia	+			1 M 1 to 18 every year	10x by different specialists: neurologist, ophthalmologist, ENT doctor, orthopedic surgeon, dentist, speech therapist, odontologist, gynaecologist, andrologist
Slovenia	+			1, 3, 6, 9, 12 M 3, 5, 7-8, 9-10, 11-12, 13-14, 15-16, 18-19 Y	
Switzerland	+ (school health services) - (paediatrician)				1, 2, 4, 6, 12-15, 18, 24-30 M, 4-5 Y by paediatrician 6, 10, 14 Y by school health services

W = week, M= months, Y = year

* By GP and public nurses or family paediatricians

Immunizations In table 11 the organizational aspects of immunizations are listed for the EUSUHM countries. On the question 'is this one of the regular activities of the preventive YHC in your country' all countries responded positive. In Belgium, Germany, the Netherlands, Slovenia and Switzerland the offered immunizations are partly or not obliged.

On the question of the percentage of fully immunized 15 year old, nine countries responded with a percentage above 90%. After the responses were collected, it was noticed that different immunizations can have different percentages, therefore the answer on this question does not cover the variation in the coverage of immunizations.

Table 11: Organizational aspects of Immunizations

Country	Regular activity	Offered immunizations are legally obliged	Existence of national immunization schedule	Executor of immunizations	% fully immunized 15 year olds	Special activities to immunize high risk groups
Belgium	+ national	+/-	+	GP, PH doctors, paediatricians	90%	-
Croatia	+ national	+	+	GP, PH doctors, paediatricians	94-98%	...
Estonia	+ national	+	+	GP, paediatricians	93,2	-
Finland	+ national	+	+	PH nurses	95%	+
Germany	+ national*	-	+	GP, PH doctors, paediatricians	...	+
Hungary	+ national	+/-	+	GP, paediatricians, family physicians	99%	-
Republic of Macedonia	+ national	+	+	PH doctors, paediatricians, specialist for school and university medicine	95-99,5%	+
Netherlands	+ national	-	+	PH doctors	95% (except for Hepatitis B and HPV)	+
Russia	+ national	+	+	Independent (of preventive care) organizations, GP, paediatricians	97%	...
Slovenia	+ national	+/-	+	PH doctors, GP, paediatricians, school doctors	95%	...
Switzerland	+ national	-	+	Public health doctors, GP, paediatricians	85%, hepatitis 70%	...

* Provided but not part of a national basic duties package

In table 12 the immunizations that are performed in the EUSUHM countries are listed. Except for these immunizations, all countries immunize against Diphtheria, Haemophilus influenzae type B (apart from Russia), Parotitis epidemica (mumps), Pertussis (apart from Russia), Poliomyelitis, Rubella, Tetanus and Morbilli. For the immunizations listed in table 12, there is more variation. In Hungary, many parents ask for the immunization of Varicella, which is not compulsory, according to the Hungarian respondent.

Table 12: Offered immunizations

Country	BCG ¹⁾	Pneu ²⁾	MenC ³⁾	Var ⁴⁾	HPV ⁵⁾	HepA ⁶⁾	HepB ⁷⁾	Rota ⁸⁾	TBE ⁹⁾	Inf ¹⁰⁾
Belgium		+	+		+		+	+		
Croatia	+						+			
Estonia							+			
Finland	+	+	...			+		+	+	
Germany		+	+	+	+		+			
Hungary		+	+*	+*	+*	+*	+	+*	+*	+*
Republic of Macedonia	+				+		+			
Netherlands		+	+		+		+			
Russia	+	+					+			+
Slovenia					+		+			
Switzerland		+		+	+		+		+**	

¹⁾ Bacilles Calmette-Guérin ²⁾ Pneumococcus ³⁾ Meningococcal C ⁴⁾ Varicella ⁵⁾ Human Papilloma Virus ⁶⁾ Hepatitis A
⁷⁾ Hepatitis B ⁸⁾ Rotavirus ⁹⁾ Tick Borne Encephalitis ⁵⁾ Influenza
* Not compulsory **In endemic areas

Screenings Examinations on specific abnormalities in asymptomatic children, by means of a protocol, are widely performed in the EUSUHM countries. Screenings that are performed are listed in table 13. Russia reports the least of screenings, the Republic of Macedonia the most. All countries perform a hearing screening in schoolchildren and a screening for speech and language disorders. Except for Russia, all other EUSUHM countries also

perform the following screenings: neonatal bloodspot scening, neonatal hearing screening (Switzerland gave no answer), congenital defects, developmental dysplasia of the hip [DDH] and maldescensus testis in infants and developmental disabilities in infants and toddlers. In table 13, screenings with a bigger variation are listed for the performing countries.

Table 13: Screenings

Country	Postpartum depression of the mother	Visual disorders	Color-blindness ¹⁾	Autism ²⁾	DCD ^{**3)}	Scoliosis ⁴⁾	Eating disorders ⁴⁾
Belgium		+	+			+	+
Croatia		+	+	+	+	+	+
Estonia	+	+		+	+	+	+
Finland	+			+		+	+
Germany*	+	+	+	+	+	+	+
Hungary		+	+			+	
Republic of Macedonia	+	+	+	+	+	+	+
Netherlands		+					
Russia		+	+			+	+
Slovenia	+	+	+	+	+	+	+
Switzerland	...	+	+		+	+	+

* Provided but not part of a national basic duties package
 ** Developmental coordination disorder [DCD]
¹⁾ in schoolchildren ²⁾ in preschoolers ³⁾ in infants ⁴⁾ in adolescents

The EUSUHM countries report a big variety of specialists that perform the screenings. An example is Croatia where a paediatrician, an ear, nose and throat specialist [ENT specialist], school doctor, orthopedic specialist, and a defectologist¹ can be involved. Screenings in infants are mostly performed by birth/neonatal clinics and by paediatricians. Screenings of schoolchildren are often performed by school doctors. Detection of complex problems, as developmental problems, speech and language disorders and autism takes place by a big variety of specialists that are specially involved in these problems. Results are reported in appendix D.

Health threats Observing the health threats in the environment of the child is a regular activity of the YHC in nine EUSUHM countries, as is listed in table 16. Germany and Switzerland report no activities to identify environmental health threats, Belgium reports that environmental conditions outdoors are not being measured. Environmental conditions are in all countries measured inside schools and daycare centers (except for Croatia) and outdoors.

Table 16: Health threats

Country	Regular activity	Measuring environmental conditions in schools and day-care centers	Measuring environmental conditions outdoors	Supervisor or supervisory body
Belgium	+ regional	+	-	Child&Family, Ministry of health, welfare and education
Croatia	+ national	+ only schools	+ regular inspectory activities	Health Inspectorate of the Ministry of Health
Estonia	+ national	+	+	Health care inspectorate
Finland	+ national	+	+	Environmental health inspectors
Germany	-			
Hungary	+ but the implementation varies regionally/locally	+	+	Department of Environmental Health and it's local institutions

¹ Educational specialist, dealing with children with disabilities

<i>Republic of Macedonia</i>	+ national	+	+	Public Health Care Institute, State Sanitary, Health inspectorate
<i>Netherlands</i>	+ but the implementation varies regionally/ locally	+	+	Municipal Health Service
<i>Russia</i>	+ national	+	+	The Federal Service of the Russian Federation for Surveillance in Consumer Rights Protection and Human Welfare
<i>Slovenia</i>	+ national	+	+	Health care inspectorate
<i>Switzerland</i>	-			

Epidemiological research Performing epidemiological research by describing the health and welfare of populations through collection of data related to health and the frequency of disease in populations, with the goal of improving health is a regular activity of YHC in all countries except for Switzerland, which is shown in table 17. Examples of use are obesity research (the Netherlands) and scoliosis (Slovenia). Although performing of epidemiological research is no national activity in Switzerland, some school health services monitor the body mass index of children.

Table 17: *Epidemiological research*

Country	Regular activity	Example of use
<i>Belgium</i>	+ but this varies regionally/ locally	...
<i>Croatia</i>	+ national	Data on the growing percentage of overweight children from regular check-up's resulted in a specially organized guidance service of the school health services in Zagreb.
<i>Estonia</i>	+ national	Helsinki Birth Cohort Study, Countrywide Integrated Noncommunicable Diseases Intervention Programme
<i>Finland</i>	+ national	School health questionnaires for pupils at the age of 14-17 to indicate health and lifestyle problems.
<i>Germany</i>	+ but this varies regionally/ locally*	Analysis of the data of school-entrance-examination, in order to plan prevention programs in kindergarten or vaccination activities.
<i>Hungary</i>	+ national	Health behaviour in schoolchildren on basis of screenings
<i>Republic of Macedonia</i>	+ national	Survey to indicate the number of cases with mumps among adolescents at 12-26 years old and the relation with the performed immunization, in order to make decisions about additional doses for irregular immunized children.
<i>Netherlands</i>	+ but this varies regionally/ locally	Coth death research and obesity research.
<i>Russia</i>	+ national	...
<i>Slovenia</i>	+ national	Growth and development, visual status, scoliosis
<i>Switzerland</i>	-	

* Provided but not part of a national basic duties package

Other duties/activities Several countries state that the preventive YHC of their country performs more activities in addition to the previously mentioned activities or duties. These activities are listed in table 18.

Table 18: *Other activities of the basic duties package*

Country	Other duties/ activities
<i>Belgium</i>	+ Health education
<i>Croatia</i>	+ Health education following the yearly program for: children, parents and school staff + Guidance services for chronically ill children and children with mental health problems, school performance difficulties for reproductive health or risk behaviour + Scholinglevel decisions
<i>Estonia</i>	+ Smoking prevention programmes + Injury prevention programmes + Healthy eating + Physical activity prgrammes
<i>Finland</i>	+ Sexual health education and monitoring + Drinking, smoking and mobbing prevention programs + Parental advising programs + Oral health programs
<i>Germany</i>	...
<i>Hungary</i>	+ Health education
<i>Republic of Macedonia</i>	+ Obligatory systems examination + Health care education

	+ Environmental supervision + Identifying nutrition needs for the student kitchen + Conditions of malnutrition
Netherlands	+ Projects in order to help parents to raise their children
Russia	+ ...
Slovenia	...
Switzerland	-

Focus on specific subjects The focus of YHC can be directed towards several specific subjects, the focus of the EUSUHM countries are listed in table 19.

In Belgium (the Flemish region) a distinction in the focus on special subjects can be made between neonatal care and school health care. School health care is focused on healthy living, nutrition and physical exercise. It is possible for schools to choose additional subjects when needed. Neonatal care focuses on specific subjects.

Germany responded with a focus on specific subjects, but no examples were given. Switzerland does not have a nationwide focus on special subjects. Most mentioned subjects are listed in table 19, less mentioned subjects are listed in table 24 in Appendix E.

Table 19: Focus on special subjects (a)

Country	Nationwide focus on special subject	Alcohol	Drugs	Child abuse	Obesity	Malnutrition	Diabetes	Addiction to computer games	Absenteeism from school	Prenatal counseling	Other
Belgium	+	+	+	+, +*	+, +*	+, +*			+	+	Diabetes mother
Croatia	+	+	+		+						
Estonia	+	+	+		+					+	
Finland	+	+	+	+	+	+	+	+	+	+	
Germany	+										Pre-school examination
Hungary	+	+	+	+	+	+	+				
Republic of Macedonia	+	+	+	+	+	+	+		+	+	Hepatitis C, Health education, Environmental supervision, counseling
Netherlands	+	+		+	+						Smoking
Russia	+	+	+	+	+	+		+			Smoking, physical exercise
Slovenia	-										
Switzerland	-										

* Neonatal care

5.5. YOUTH HEALTH INDICATORS

Out of sixteen indicators, results of four indicators could not be generated. Rates were not available at all, or not for youth specifically. The CHILD Project on child health indicators has been published in 2003, but statistics have not run parallel with the determination of the child health indicators. Statistics could not be generated from:

1. Alcohol abuse;
2. Prevalence of asthma;
3. Annual rate of overnight hospital inpatient admissions of children suffering burns;
4. Annual rate of overnight hospital admissions of children suffering from poisoning.

Because of the missing results no comparisons can be made, conclusions can not be drawn and studies can not be undertaken into the relationship between the organization of preventive YHC and the youth health indicators.

Child mortality rates, child morbidity rates and a socio-economic rate are listed in the following sections. For Belgium, rates contain all regions.

Child mortality In table 20, the child mortality rates of the EUSUHM countries are listed. Rates are measured by dividing the number of deaths by the number of a population at risk at a certain period of time. All mortality rates have decreased since the first numbers

were available in 1970, 1980 or 1990. Today, the Republic of Macedonia and Russia still have high child mortality rates in comparison with the other EUSUHM countries. West European countries as Norway and Switzerland present the lowest rates (Whosis, 2008) (European health for all mortality database [HFA-MDB], 2009).

Cause-specific mortality rates for infectious and parasitic diseases, external causes of injuries and poisoning and transport accidents have dropped over the years in all EUSUHM countries. Suicide rates have remained quite constant (European health for all mortality database [HFA-MDB], 2009). Today, Russia and the Republic of Macedonia report the highest rate for external causes of injuries and poisoning. The external causes are responsible for around a third or half of the mortality rate in every EUSUHM country. Infectious and parasitic diseases are responsible for only a very low percentage of the mortality rates; Russia and Macedonia report the highest rates. Suicide has been measured for the age group 0-14 and 15-29. No data of the age group 0-19 were available. Therefore data on the age group 15-29 are collected, in order to represent the children older than 15.

Table 20: Child mortality rates (Age-standardized death rates)

Country	IMR ¹⁾	Mortality ¹⁾	Mortality ²⁾	Infectious and parasitic diseases ²⁾	External causes of injuries and poisoning ³⁾	Transport accidents ²⁾	Suicide ²⁾	Suicide ³⁾
Age Expressed per	<1 1 000	<5 1 000	0-19 100 000	0-19 100 000	1-19 100 000	1-19 100 000	0-14 100 000	15-29 100 000
Belgium (all regions)	4.0	5.0	26.89	0.94	11.11	8.18	0.58	13.97
Croatia	5.0	6.0	22.94	0.24	11.65	6.95	0.38	10.39
Estonia	5.0	6.0	38.15	0.24	23.40	8.22	0.41	17.26
Finland	3.0	3.0	22.22	0.61	11.84	4.95	0.30	18.56
Germany	4.0	5.0	17.14	0.63	7.30	3.91	0.23	6.63
Hungary	6.0	7.0	25.14	0.62	10.19	4.86	0.27	9.91
Republic of Macedonia	15.0	17.0	32.06	1.53	11.14	3.48	0.00	4.34
Netherlands	4.0	5.0	15.95	0.40	5.78	2.94	0.29	5.68
Norway	3.0	4.0	18.51	0.74	8.68	3.55	0.10	14.49
Russia	10.0	13.0	63.21	1.84	38.04	10.55	1.17	30.54
Slovenia	3.0	4.0	23.40	0.26	13.01	7.72	0.00	11.70
Switzerland	4.0	5.0	18.68	0.54	8.06	3.14	0.37	12.55
United Kingdom	5.0	6.0	20.07	0.96	7.51	3.72	0.12	5.53

¹⁾ Rates 2006 ²⁾ Rates of latest available date, range: 1999-2007 ³⁾ Rates of latest available date, range: 2003-2007, including transport accidents and suicides.

Source: Whosis, 2008; HFA-MDB, 2009

Child morbidity Child morbidity of teen pregnancies has been measured by the percentage of all live births to mothers, aged under 20 years (see table 21). The rates have decreased in all EUSUHM countries since the first available measurement results, ranging from 1970 to 1990 (European health for all database [HFA-DB], 2009).

Rates of the condition of teeth of 12-year-old are poorly registered. Last available measurements date from 1995 to 2005 in the EUSUHM countries. Large gaps between the measurements are shown by the HFA-DB of the WHO/Europe. Western countries as Belgium, Finland, Germany, the Netherlands, Norway, Switzerland and the United-Kingdom show the lowest rates: all below 1 or 2 (HFA-DB, 2009).

Data on tobacco use of adolescents and overweight of children under five years old are not or hardly available for many EUSUHM countries. Rates are therefore less comparable.

Table 21: Child morbidity rates

Country	Teen pregnancies ¹⁾	DMFT ²⁾	Tobacco use ³⁾	Overweight ⁴⁾
Age Expressed in	<20 %	12	13-15 %	<5 %
Belgium (all regions)	2.63	1.10	...	...
Croatia	4.41	3.50	24.9	...

<i>Estonia</i>	7.43	2.40	30.8	...
<i>Finland</i>	2.42	1.20	...	...
<i>Germany</i>	2.74	0.70	...	...
<i>Hungary</i>	6.14	3.80	27.8	...
<i>Republic of Macedonia</i>	7.15	3.00	9.0	7.9
<i>Netherlands</i>	1.40	0.80	...	...
<i>Norway</i>	2.36	1.50	...	...
<i>Russia</i>	13.81	3.70	27.3	...
<i>Slovenia</i>	1.51	1.80	21.8	...
<i>Switzerland</i>	0.93	0.87	...	...
<i>United Kingdom</i>	7.09	0.70	...	...

¹⁾ Rates of latest available date, range: 1997-2007 ²⁾ Rates of latest available date, range: 1995-2005
³⁾ Rates of latest available date, range: 2003-2007 ⁴⁾ Rates of latest available date, range: 2000-2006

Source: Whosis, 2008; HFA-DB, 2009

Socio-economic determinants The socio-economic indicators, as identified by the CHILD-project could not be generated. Neither the WHO, nor the WHO/Europe nor the European Union could provide us with measurement rates. Therefore the gross national income was taken as socio-economic determinant; the rates are listed in table 22. The income of the EUSUHM countries has risen over the years (Whosis, 2008).

Table 22: Gross National Income per capita (PPP international \$)

Country	2006
<i>Belgium (all regions)</i>	33860.0
<i>Croatia</i>	13850.0
<i>Estonia</i>	18090.0
<i>Finland</i>	33170.0
<i>Germany</i>	32680.0
<i>Hungary</i>	16970.0
<i>Netherlands</i>	37940.0
<i>Norway</i>	50070.0
<i>Republic of Macedonia</i>	7850.0
<i>Russia</i>	12740.0
<i>Slovenia</i>	23970.0
<i>Switzerland</i>	40840.0
<i>United Kingdom</i>	33650.0

Source: Whosis, 2008

6. DISCUSSION

This study was the first comparative study on YHC and Youth Health Indicators of EUSUHM countries. The results will be presented at the EUSUHM congress in Leiden. This study makes it possible for the EUSUHM to realize the aim of keeping members of the EUSUHM informed regarding the changing pattern of youth health care in the different countries (Statutes of the EUSUHM, 2004).

In this chapter the summary of results and methodological limitations and strong points of this study will be discussed. Further, the results will be compared to the literature and answers on the subquestions and main research question will be given.

6.1. SUMMARY OF THE RESULTS

Eleven EUSUHM countries: Belgium (the Flemish region), Croatia, Estonia, Finland, Germany, Hungary, the Republic of Macedonia, the Netherlands, Russia, Slovenia and Switzerland, responded on the first and second questionnaire. According to the results, the largest differences (four or more countries report differently) in the organization of youth health care appear in:

- The reach of YHC of the higher age groups (30-100%);
- The organization of YHC;
- Health systems finance;
- YHC professionals inputs;
- Multi-disciplinary working;
- Nature of contact between preventive and curative health services;
- Record-keeping;
- Focus on specific subjects;
- Screenings.

The most important similarities (Only three or less countries report differently) appear in:

- The target group of YHC;
- The reach of YHC in the lowest age groups (80-100%);
- Accessibility of preventive examinations and immunizations;
- Quality assurance;
- Separation of preventive and curative services;
- Level of contact;
- National guidelines;
- Existence basic duties package;
- Activities: monitoring & detection, health threats and epidemiological research.

The scores of the thirteen EUSUHM countries have been compared for sixteen key health indicators. Rates of indicators have diminished over the last 20 to 30 years for every country. Highest mortality rates were from the Republic of Macedonia and Russia, in comparison with other countries. Best and lowest scores were published by Norway and other West European countries. Health morbidity indicators were scarcely available and could not be compared.

6.2. METHODOLOGICAL LIMITATIONS AND STRONG POINTS

Questionnaire Choosing for a questionnaire to investigate the organization of YHC in the EUSUHM countries was a strong point in this study. A questionnaire has low costs and a mail survey can be managed by only one person. Questions can be standardized so that every country responds in the same way and answers are therefore comparable.

In this study, because of practical limitations it was not possible for this study to collect responses by interviews (over the telephone). Because of the organizational nature of the

subject of study, no personal observations of the correspondent had to be made, which made questionnaires suitable (Babbie, 2007, pp. 275).

A limitation of the study is that, because of the differences in the organization of YHC within countries and the standardization, sometimes an answer on a question of the questionnaire did not represent the whole country.

By having the possibility of responding through the online version of the questionnaire, correspondents were not able to skip questions. Questions had to be answered before proceeding. Therefore all the information that was asked, was received. A few correspondents made use of the possibility to answer through the MS-Word-version, which gave the opportunity for the correspondent to give more additional information through typing next to the answers. The level of English of the correspondents may have influenced the results. Although the possibility of 'don't know' was given, respondents may have answered wrongly through misunderstanding of the information being questioned.

The first and second questionnaire were sent to the contact persons that represent member organizations of a country of the EUSUHM. By using the contact persons of the EUSUHM, we had respondents for every country of the EUSUHM and, because of the commitment to the EUSUHM, the highest chance on returned, filled out questionnaires. However, with only one respondent per country, we had no other respondent in reserve, in case the respondent did not respond on the questionnaire.

Although Germany responded with an e-mail which stated that a group of persons had filled out the questionnaire, other countries responded by one person. Sometimes, the contact person to whom we had sent the questionnaire was not the respondent who returned the questionnaire. With the response of only one person per country, the reliability of correct responses may be low. Further, the resources of the respondents, could not be traced back.

By using the framework of Macinko et al. and the Dutch basic duties package the second questionnaire was composed. By identifying the most important issues of the organization of preventive YHC through consultations with experts, (additional) issues have been chosen on expertise. This may have caused a loss of other organizational aspects of the preventive YHC. The complexity of the youth health care system limits the ability of all elements to be described. Because of a very low availability of comparative studies of youth health care in different countries, only the study of Kuo et al. could be taken as frame of reference. Although this means that this study may not have elaborated all aspects of the organization of preventive YHC, this study is one of the first to offer insights in this subject.

Response The response rate of the second questionnaire, designed during this study was 85%, which is very good (Babbie, 2007, pp. 262). The fact that this study will be presented at the EUSUHM congress may have been one of the factors that caused this high response. Norway did not respond because of the fact that the member organization only provides services to students in Oslo. According to the Norwegian correspondent, there is no national regulation of youth health services available in Norway and she did not qualify herself to answer the questionnaire. The United Kingdom did not respond.

Reactions on the questionnaire were positive. By mail the respondents were kind to make it available to ask additional information if needed. Comments as 'good question, we do not have that in our country,' and 'a lack of interest for this subject in our country,' made us see that the subject was important to be measured and needed attention. Because of the presentation of the results of this questionnaire during the EUSUHM congress the organization of YHC can be discussed and information can be spread.

Youth health indicators Rates on youth health indicators were collected through reviewing the data banks of the World Health Organisation and the European Union. In this study, a choice was made to elaborate only sixteen indicators were elaborated. To measure child health effective, the CHILD-project identified 38 core indicators. Also, the databases

could not always provide us with (recent) rates and the WHO and WHO/Europe databases showed sometimes different results. Rates were reliable in the way that measurement techniques were given: rates were collected through national databases of the EUSUHM countries and surveys.

For this study the rates showed differences between the EUSUHM countries in child health status. But to make it possible to draw refined conclusions out of the results of the indicators, other indicators will also have to be taken into account.

6.3. RESULTS COMPARED TO LITERATURE

In this study, not every structural and practice feature of the framework of Macinko et al. was chosen as most important. In the international comparison of well-child care of Kuo et al. other elements of the framework were also taken into account. These were whether the well-child care (preventive youth health care) was:

- Family centred: the extent to which well-child care addresses the family and social context;
- Community oriented: the extent to which care is located within an addresses the specific geographic context of the child and family.

The assessment of Kuo et al. focuses on children aged zero to five years old. The well-child care of the United States was compared with 10 other countries all over the world (seven European countries, Australia, Japan, Canada). Results of the study showed that in the ten countries a range of models of preventive YHC are in use. Different definitions of well-child care are in use and in contrast to the United States the financing varies and the organizational components are placed under the responsibility of different providers (Kuo et al., 2006).

This EUSUHM study focuses on children of zero to the age of regular graduation at the university. Therefore, the results differ from the results of the study of Kuo et al. Despite these differences, similar results in financing and a varied range of models of preventive YHC were found. Different elements of care are provided by different health care providers.

6.4. CONCLUSION

In this paragraph the subquestions and main research question of this study will be answered.

6.4.1. SUBQUESTIONS

1. *What are the basic characteristics of youth health care in the EUSUHM countries?*

Every EUSUHM country, except three, provides YHC to children aged zero to 19. Croatia provides YHC from 6,5 to 24/25 years. Switzerland to children aged zero to 16. Germany has no *systematic* youth health care, but offers youth health care to children until the age of 12. Care is in most countries offered to illegally resident people and asylum seekers as well. The reach is above 80% for the age group 0-3. With increasing age, the percentage of reach decreases.

2. *What are the structural and practice features of youth health care in the EUSUHM countries?*

A range of organizational models is in use in the EUSUHM countries. Germany and Norway do not provide care through a systematic national youth health care, although services are available. In most countries the YHC is organized by specific YHC organizations or a subdivision of organizations involved in public health care. The health systems finance, YHC professionals inputs and multi-disciplinary working differ in implementation.

Preventive and curative services are separated in every country (sometimes this differs per region), except for Estonia, Slovenia and Switzerland (in case of private care). Contact between preventive and curative services considers mostly exchange of data. Inter-disciplinary systems (in schools) do not often exist. Guidelines are widely used, except for Germany and Switzerland, especially for topics as immunizations, check-up's and nutrition. Records of the services provided are used in all EUSUHM countries. The amount of access to these records of services/people concerned with the child varies widely across countries.

3. What are the activities of youth health care in the EUSUHM countries?

All activities examined were provided in the EUSUHM countries, whether national or regionally/locally. Only the activity of identifying health threats in the environment is not performed in Germany and Switzerland. Monitoring and detection is with one exception (Germany) performed through calling schemes. Immunizations are not in every country obliged and not all immunizations are performed everywhere. Screenings are performed, but as well the providers as the amount of screenings differ per country. The focus on special subject considers mostly drugs, alcohol, obesity, child abuse and malnutrition.

4. What are the scores of the EUSUHM countries on the child and adolescent health indicators?

Scores on youth health indicators could be provided for 16 indicators. Rates of mortality indicators have dropped for every EUSUHM country over the last twenty to thirty years, except for suicide rates. West European countries provide the lowest results of child mortality and child morbidity rates. East European countries, especially Russia and the Republic of Macedonia, provide the highest numbers. Health morbidity indicators were scarcely available and could not be compared.

6.4.2. MAIN RESEARCH QUESTION

1. What similarities and differences exist in the organization of youth health care in countries that are member of the EUSUHM?

Although every child in Europe has the same rights on preventive health care, this international comparison showed that a lot of different models and ways of providing care are being offered in eleven of the thirteen EUSUHM countries. These differences can be due to health inequities, caused by the economic situation, historic or cultural factors of a country. Through international cooperation, research and spreading information the youth health care can be improved.

The largest differences in the organization of youth health care appeared in the structural and practice features as the health systems finance, YHC professionals inputs and multi-disciplinary work, inter-disciplinary systems and record keeping. The largest similarities were found in the targetgroup and in the separation of curative and preventive services.

The activities of youth health care are mostly regulated by what we called a national basic duties package. This is a package of a set activities for the target group of YHC. Except for the activity 'health threats' in two countries, all activities were provided in the EUSUHM countries. Differences appeared in the amount of examinations, immunizations and screenings, the access to medical records and the focus on special subjects.

2. What are the scores of the countries that are member of the EUSUHM on the key health indicators of youth health?

Child mortality rates, except for suicide rates, have decreased over the years in the thirteen EUSUHM countries. The East European countries show higher rates than the West European countries. Especially the Republic of Macedonia and Russia show, compared to the other countries, still high rates. Socio-economic conditions play a big role in the health status of children. The parallel between income and child mortality is to be traced back in the international differences for the income of the East and West

European countries. By improving the economic situation, the preventive youth health care can probably improve and key health indicators positively be influenced. Health morbidity indicators were scarcely available and could not be compared.

6.4.3. RECOMMENDATIONS

This study has been one of the first international comparisons of youth health care. More research is needed to get detailed insights in the youth health care of the examined countries and of other European countries as well. Not every youth health care issue could be investigated in this study, as the youth health care is a complex system.

The explorative and descriptive nature of this study does not allow conclusions to be drawn on the interrelationships between organisational and practice features of YHC and the scores on health indicators. Theoretical knowledge on how different care systems or differences in the performing of health care activities, as screenings or immunizations, affect health and developmental outcomes is lacking (Kuo et al., 2006).

By performing further research and on basis of theoretical determinations, it may be possible to reach consensus on the structural and practice features that are essential for high qualitative youth health care delivery. By influencing these features, or in other words 'performance indicators' in a positive way, the fundamental health outcomes can be improved. The performance indicators, used in combination with key health indicators, are essential to enable the linking of care delivery and health outcomes in time and between countries.

REFERENCES

- Basistakenpakket Jeugdgezondheidszorg 0-19 jaar*, (March 2002). Ministerie van Volksgezondheid, Welzijn en Sport. Received on March 6, 2009, van: <http://www.rivm.nl/jeugdgezondheid/onderwerpen/jeugdgezondheidszorg/btp/>
- De Beer, F., (2008). *Witte jassen in de school: de schoolarts in Nederland ca. 1895 1965*. Assen: Koninklijke van Gorcum.
- Boot, J.M., Knapen, M.J.H.M., (2005). *De Nederlandse Gezondheidszorg*. Houten: Bohn Stafleu van Loghum (8th revised edition).
- Boudewijnse, H.B., van Lokven, E.M., Oskam, E. (2005). *Nederlands leerboek Jeugdgezondheidszorg: Deel A Organisatie*. Assen: Koninklijke van Gorcum (6th revised edition).
- Centrum Jeugdgezondheid*, (18 June 2009). Received on August 20, 2009, from: <http://www.rivm.nl/jeugdgezondheid/onderwerpen/centrumjeugdgezondheid/>
- Children's health and environment*, (17 April 2009). Received on July 27, 2009, from: http://www.euro.who.int/childhealthenv/policy/20020724_2
- Commission of the European Communities, (23 October 2007). *Commission staff working document: document accompanying the White Paper Together for Health*. Belgium, Brussels.
- Constitution of the World Health Organisation* (October 2006). Received on March 14, from; <http://www.who.int/governance/eb/constitution/en/>
- Convention on the Rights of the Child* (20 November 1989). Received on July 26, 2009, from: <http://www.unhchr.ch/html/menu3/b/k2crc.htm>
- European health for all database, (August 2009). Received on June 3, 2009, from: <http://data.euro.who.int/hfadb/>
- European health for all mortality database, (August 2009). Received on June 3, 2009, from: <http://data.euro.who.int/hfamdb/>
- European Society of Ambulatory Pediatrics (2006). *What's about ambulatory pediatrics in Europe: reflections of ESAP*. Switzerland, Geneva.
- Factsheet EURO/07/05 (12 September 2005). Received on July 26, 2009, from: <http://www.euro.who.int/document/mediacentre/fs0705e.pdf>
- Geurts, P., (1999). *Van probleem naar onderzoek: een praktische handleiding met COO-cursus*. Bussum: Uitgeverij Coutinho.
- Health care*, (1998). Received on March 14, 2009, from: <http://www.euro.who.int/observatory/Glossary/TopPage?phrase=H>
- Health care system*, (1998). Received on March 14, 2009, from: <http://www.euro.who.int/observatory/Glossary/TopPage?phrase=H>

- Health indicator*, (1998). Received on March 15, 2009, from:
<http://www.euro.who.int/observatory/Glossary/TopPage?phrase=H>
- Health inequities*, (28 November 2008). Received on July 27, 2009, from
http://www.euro.who.int/socialdeterminants/systems/20081128_3
- Health systems*, (2 February 2009). Received on July 31, 2009, from:
<http://www.euro.who.int/healthsystems>
- Indicator definitions*, (no date). Received on August 2, 2009, from:
<http://data.euro.who.int/hfad/definitions/def.php?w=1280&h=800>
- Jeugdgezondheidszorg voor alle kinderen in Nederland*, (March 5, 2009). Retrieved on March 8, 2009, from:
<http://www.rivm.nl/jeugdgezondheid/onderwerpen/jeugdgezondheidszorg/>
- Kuo, A.A., Inkelas, M., Lotstein, D.S., Samson, K.M., Schor, E.L., Halfon, N. (2006). Rethinking Well-Child Care in the United States: an international comparison. *Pediatrics*, 118, 1692-1702.
- Lalonde, M., (1981). *A new perspective on the health of Canadians: a working document*. Canada, Ottawa.
- Lieburg, M.J., (2001). *Een eeuw consultatiebureau in Nederland 1901-2001: facetten van de medisch-preventieve zorg aan zuigelingen en peuters in verleden en heden*. Rotterdam: Erasmus Publishing.
- Macinko, J., Starfield, S., Shi, L., (June 2003). The contribution of primary care systems to health outcomes within Organization for Economic Cooperation and Development (OECD) countries, 1970–1998. *HSR: Health Services Research* 38:3, 831-865.
- Member organisations*, (March 2005). Received on March 15, 2009, from:
<http://www.eusuhm.org/>
- Measuring child mortality* (no date). Received on August 2, 2009, from:
http://www.who.int/child_adolescent_health/data/child/en/
- Morbidity rate*, (1998). Received on august 2, 2009, from:
<http://www.euro.who.int/observatory/Glossary/TopPage?phrase=M>
- Notitie Richtlijnen jeugdgezondheidszorg: Procedures rond ontwikkeling, implementatie en onderhoud van richtlijnen jeugdgezondheidszorg* (November 5, 2007). Received on June 9, 2009, from:
<http://www.rivm.nl/jeugdgezondheid/images/Notitie%20richtlijnen%20JGZ%20vastgesteld.pdf>
- Rigby, M.J., Köhler, L.I., Blair, M.I., Metchler, R., (2003). Child health indicators for Europe: a priority for caring society. *European Journal of Public Health* 13 (3rd supplement), 38-46.
- Schaapveld, K. Hirasing, R.A., (1997). *Preventiegids; Een praktisch overzicht van preventieprogramma's voor huisartsen, verloskundigen en medewerkers van de jeugdgezondheidszorg*. Assen: Van Gorcum (2nd revised edition).
- Starfield, B., Shi, L., Macinko, J., (2005). Contribution of primary care to health systems

and health. *The Milbank Quarterly*, Vol. 83:3, 457–502.

Status of ratifications of the principal international human rights treaties, (June 9, 2004).
Received on July 29, 2009, from: <http://www.unhchr.ch/pdf/report.pdf>

Statutes of the EUSUHM, (2004). Received on March 15, 2009, from:
<http://www.eusuhm.org/>

The Universal Declaration of Human Rights, (December 10, 1948). Received on July 23,
2009, from: <http://www.un.org/en/documents/udhr/>

Unicef, World Health organization, (2009). *A statistical reference containing data through
2007 (the 2009 edition)*.

Welcome to Leiden, (2009). Received on July 27, 2009, from:
<http://www.eusuhm2009.org/index.html>

Wat is de AJN, (2009). Received on March 15, 2009, from:
<http://ajn.artsennet.nl/Wat-is-de-ajn.htm>

Whosis: WHO statistical information system, (2008). Retrieved on July 30, 2009, from:
<http://apps.who.int/whosis/data/Search.jsp>

World Health Organization (2005). *Strategy for child and adolescent health and
development*, Denmark, Copenhagen.

World Health Organization (2), (2009). *World Health Statistics: Indicator Compendium*,
Geneva, Switzerland.

APPENDICES

APPENDIX A – QUESTIONNAIRE SHORT

Respondent country:

Youth health care in the EUSUHM countries

In an article in Pediatrics well-child care was defined as preventive care that includes:

- *'Health supervision, including anticipatory guidance on nutrition, sleep, elimination, discipline, preventing injuries, etc.;*
- *Developmental supervision and milestones, and school performance;*
- *Child and family psychosocial assessment;*
- *Care coordination (oversight of referrals to needed community-based resources or services), and;*
- *Immunization(s), physical examination and additional screening (height, weight, vision, hemoglobine level, etc.)' (Kuo, et al. 2006).*

SECTION 1: Youth health care

In the United States of America well-child care is considered a subcomponent of primary care for children. The primary care includes well-child care, acute and chronic care and coordination and follow-up for developmental problems.

In the Netherlands there is a rather strict separation between the organisation of well-child care which is preventive in nature and the treatment of children who need special medical care or special attention beyond the scope of prevention. Well-child care, we call it youth health care, is the *preventive care* for children (0-19 years).

In order to provide children with preventive care, the Dutch National Institute for Public Health and the Environment developed a basic range of duties (or activities) for youth health care. Duties are for example immunization, monitoring and screening. This basic duties package is offered to every child and youngster.

This questionnaire has its focus on the preventive part of youth health care. How is the preventive youth health care organized in your country?

1A. Has a basic range of duties been developed for youth health care in your country?

- Yes
- Yes, but a part can be adapted to the specific youth health needs in the region or municipality
- No, *go to question 2*
- Don't know, *go to question 2*

1B. If yes, who decides about the contents of the range of duties? (a number of answers is possible)

- National government
- Regional government
- Local government
- Advisory board
- The professional groups involved
- Other, please specify:
.....
- Don't know

2. What is the target group of preventive youth health care in your country?

- 0-19 years
- Other, please specify:

3. Is the same preventive youth health care being offered to asylum seekers or illegally resident people?

- Yes, to both groups
- Only to asylum seekers
- Only to illegally resident people
- No
- Don't know

4. Can you give a rough estimate of the reach of youth health care in your country for the following age groups:

- | | | | | | |
|-------------|-------|--------------------------|------------|--------------------------|----------------|
| 0-3 year | ... % | <input type="checkbox"/> | Don't know | <input type="checkbox"/> | Not applicable |
| 4-12 years | ... % | <input type="checkbox"/> | Don't know | <input type="checkbox"/> | Not applicable |
| 13-18 years | ... % | <input type="checkbox"/> | Don't know | <input type="checkbox"/> | Not applicable |
| 19-23 years | ... % | <input type="checkbox"/> | Don't know | <input type="checkbox"/> | Not applicable |

SECTION 2: Basic activities of preventive youth health care

As pointed out earlier, a country may have a basic range of duties and/or activities to provide children with preventive care. The following questions concern such duties and/or activities. Please indicate whether the next duties and/or activities are part of the duties/activities of preventive youth health care in your country.

A. Monitoring and identification: *Measuring the health status of the child periodically and identification of deviations in growth or development.*

5A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, go to question 6
- Don't know, go to question 6

If yes:

5B. Is it a standard procedure that children are visited at home at least once after birth?

- Yes
- No
- Not applicable
- Other, please specify:

5C. Is it a standard procedure that parents themselves choose the doctor they want to register with for youth health care?

- Yes
- No, providers are being assigned
- Other, please specify:

5D. Is it aimed for (when possible) to offer youth health care on the same location over time?

- Yes
- No

- Don't know

B. Immunizations

6A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but this varies regionally/locally
- No, *go to question 7*
- Don't know, *go to question 7*

If yes:

6B. Are the offered immunizations legally obliged?

- Yes
- Not all offered immunizations are legally obliged
- No
- Don't know

6C. Do you (national or regional) have an immunization scheme?

- Yes
- No, *go to question 6D.*

6C2. If Yes: who executes the immunizations? (a number of answers is possible)

- An independent organisation (not part of the preventive youth health care)
- General practitioners
- Public health doctors
- Paediatricians
- Other, please specify:.....
- Don't know

6D. Are there any special activities in order to immunize high-risk groups, for example asylum seekers?

- Yes
- No
- Don't know

C. Screening: *Examinations on specific abnormalities in asymptomatic children, by means of a protocol. The screening is performed in all children.*

7A. Is screening one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but this varies regionally/locally
- No, *go to question 8*
- Don't know, *go to question 8*

If yes:

7B. What types of screenings are performed and by who?

<i>Screening</i>	<i>Yes/No</i>	<i>If yes, performed by:</i>
Neonatal Bloodspot screening		
Congenital defects (in infants)		
Postpartum depression of the mother		
Neonatal Hearing screening		
Hearing screening in		

schoolchildren (audiometry)		
Developmental dysplasia of the hip (DDH) (in infants)		
Maldescensus testis (in infants)		
Developmental disabilities in infants and toddlers		
Speech and language disorders (in schoolchildren)		
Visual disorders (in schoolchildren)		
Color blindness (in schoolchildren)		
Autism (in preschoolers)		
DCD (Developmental Coordination Disorder) (in schoolchildren)		
Scoliosis (in adolescents)		
Eating disorders (in adolescents)		
Other, please specify: ...		

D. Health threats: Observing the health threats in the environment of the child (at home or outside the house).

8A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, go to question 9
- Don't know, go to question 9

If yes:

8B. Are the environmental conditions in schools and day-care centers investigated on a regular basis?

- Yes
- No
- Don't know

8C. Are the environmental conditions outdoors investigated on a regular basis, for example water and air quality?

- Yes
- No
- Don't know

If yes, for questions 8b and/or 8c:

8D. Who is the supervisor or supervisory body?

.....

E: Epidemiological research: Performing epidemiological research by describing the health and welfare of populations through collection of data related to health and the frequency of disease in populations, with the goal of improving health.

9A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, go to question 10

- Don't know, go to question 10

If yes:

9B. Can you give an example of the use of this epidemiological research in order to improve the health?

.....

F. Other duties/activities

10. In your country, are there next to the earlier mentioned duties and/or activities, other duties and/or activities that are a regular part of preventive youth health care?

- Yes, please specify:
.....
- No
- Don't know

11A. Does your country apply evidence based interventions for the duties and/or activities of preventive youth health care? An evidence based intervention is at least in theory effective. Furthermore, the intervention can also be proven effective through research. (Databank Effectieve Jeugdinterventies, n.d.).

- Yes
- No
- Don't know

11B. Who or what kind of organisation decides whether an intervention is evidence based?

- A national board
- The ministry of health
- Other, please specify
.....
- Don't know

11C. Is there on a national level, a database of evidence based interventions?

- Yes
- No
- Don't know

SECTION 3: Structural features

12. How is youth health care organized in your country?

- There are specific youth health care organisations
- As a subdivision of organisations that are involved in public health care
- By general practitioners
- By paediatricians
- Other, please specify
.....

13. How are the youth health care services financed?

- General taxation
- Regional taxation
- Local taxation
- National insurance
- Regional insurance
- Paid for on the spot
- Other, please specify:

14A. Accessibility: is youth health care free of charge or is there cost sharing for preventive examinations?

- Free of charge, *go to question 15*
- Cost sharing
- Don't know, *go to question 15*

If cost sharing:

14B. For what kind of preventive examinations of youth health care is cost sharing applied? (a number of answers is possible)

- Neonatal examinations
- Primary school examinations
- Secondary school examinations
- University examinations

15A. Accessibility: is youth health care free of charge or is there cost sharing for immunizations?

- Free of charge, *go to question 16*
- Cost sharing
- Don't know, *go to question 16*

If cost sharing:

15B. For which kind of immunizations is cost sharing applied? (a number of answers is possible)

- Diphtheria
- Haemophilus influenzae type B
- Hepatitis B
- Human Papilloma Virus
- Morbilli
- Parotitis epidemica (Mumps)
- Pertussis
- Pneumococcus
- Poliomyelitis
- Rubella
- Tetanus
- Varicella
- Other, please specify:

16A. What kind of organisations, except for the government, are involved in youth health care? (a number of answers is possible)

- Schools
- Sports clubs
- Justice
- Welfare
- Day care
- Other, please specify:
- None, go to question 17

16B. Who is the supervisor or supervisory body?

.....

17. Health care professionals: is a specific public health care education required for working in the youth health care as a *doctor*?

- Yes
- No
- A specific public health care education does not exist in our country

18. Health care professionals: is there a specific public health care education required for working in the youth health care as a *nurse*?

- Yes
- No
- A specific public health care education does not exist in our country

19. How is the quality of the youth health care guaranteed?

- Through the health care inspectorate
- Through good education of the health care professionals
- Other, please specify:
- Don't know

SECTION 4: Practical features

20A. Is there a separation in your country between preventive youth health care and curative health care for children?

- Yes
- Yes, but this can vary for different activities and/or duties
- No, go to question 21
- Don't know, go to question 21

If yes:

20B. Co-ordination: what is the nature of the contact between youth health care and the curative circuit?

- Structural: often contact, mostly face to face
- Only exchange of medical/social/behavioural data
- No contact, go to question 21
- Other, please specify:
- Don't know, go to question 21

20C. On which level does this contact take place?

- Between primary health care and primary health care
- Between primary health care and secondary health care
- Other, please specify:
- Don't know, go to question 21

In the Netherlands, special health care structures exist: an interrelationship in which interdisciplinary consultations take place in case of specific problems. An example is the Health Care Advisory Team, meant to set about complicated problems of school children, e.g. unexplained absenteeism, chronic fatigue syndrome, etc.

21A. Is there in your country a similar interdisciplinary system for preventive youth health care?

- Yes
- No, *go to question 22*
- Don't know, *go to question 22*

If yes:

21B: Who is the supervisor or supervisory body?

.....

22A. Are there national guidelines for the executive youth health care staff, for instance for the detection of visual impairments or for immunizations?

- Yes
- No, *go to question 23*
- Don't know, *go to question 23*

If yes:

22B. For what topics of wll-child care do you have national guidelines in your country?

.....

22C. Who is the legal owner of the guidelines?

- A national board
- The ministry of health
- Other, please specify
.....
- Don't know

22D. Is the development and/or implementation of guidelines nationally supervised?

- Yes, both the development and implementation
- Yes, but only the development
- Yes, but only the implementation
- No
- Don't know

23A. Does the youth health care keep individual records of the care provided to the children?

- Yes, national
- Yes, but this varies regionally/locally
- No, *this was the last question.*
- Don't know, *this was the last question.*

If yes:

23B. Do your country use electronic records?

- Yes, national
- Yes, but this varies regionally/locally
- No
- Don't know

23C. Do curative services make use of the same child record?

- Yes, national
- Yes, but this varies per region/city
- No
- Don't know

23D. Who has access to these medical records? (a number of answers is possible)

- Youth health care providers
- General practitioners
- Nurses
- Schools
- This varies per region/city
- Other, please specify:
.....
- Don't know

23E. Is the information of the medical records being aggregated to a higher level in order to give insight in health information of the population?

- Yes, national
- Yes, but this varies regionally/locally
- No
- Don't know

End of the questionnaire

Thank you very much for co-operating on this questionnaire. The results will be presented on the EUSUHM congress in September.

Please send this questionnaire before June 1st 2009 by email to:
rosemariewieske@gmail.com

Respondent country:

Youth health care in the EUSUHM countries

In an article in Pediatrics well-child care was defined as preventive care that includes:

- *'Health supervision, including anticipatory guidance on nutrition, sleep, elimination, dicipline, preventing injuries, etc.;*
- *Developmental supervision and milestones, and school performance;*
- *Child and family psychosocial assessment;*
- *Care coordination (oversight of refferals to needed community-based resources or services), and;*
- *Immunization(s), physical examination and additional screening (hight, weight, vision, hemoglobine level, etc.)' (Kuo, et al. 2006).*

SECTION 1: Youth health care

In the United States of America well-child care is considered a subcomponent of primary care for children. The primary care includes well-child care, acute and chronic care and coordiation and follow-up for developmental problems.

In the Netherlands there is a rather strict separation between the organisation of well-child care which is preventive in nature and the treatment of children who need special medical care or special attention beyond the scope of prevention. Well-child care, we call it *youth health care*, is the *preventive care* for children (0-19 years).

In order to provide children with preventive care, the Dutch National Institute for Public Health and the Environment developed a basic range of duties (or activities) for youth health care. Duties are for example immunization, monitoring and screening. This basic duties package is offered to every child and youngster.

This questionnaire has its focus on the preventive part of youth health care. How is the preventive youth health care organized in your country?

1A. Has a basic range of duties been developed for youth health care in your country?

- Yes
- Yes, but a part can be adapted to the specific youth health needs in the region or municipality
- No, *go to question 2*
- Don't know, *go to question 2*

1B. If yes, who decides about the contents of the range of duties? (a number of answers is possible)

- National government
- Regional government
- Local governement
- Advisory board
- The professional groups involved
- Other, please specify:
.....
- Don't know

2. What is the target group of preventive youth health care in your country?

- 0-19 years
- Other, please specify:

3. Is the same preventive youth health care being offered to asylum seekers or illegally resident people?

- Yes, to both groups
- Only to asylum seekers
- Only to illegally resident people
- No
- Don't know

4. Can you give a rough estimate of the reach of youth health care in your country for the following age groups:

0-3 year	... %	<input type="checkbox"/>	Don't know	<input type="checkbox"/>	Not applicable
4-12 years	... %	<input type="checkbox"/>	Don't know	<input type="checkbox"/>	Not applicable
13-18 years	... %	<input type="checkbox"/>	Don't know	<input type="checkbox"/>	Not applicable
19-23 years	... %	<input type="checkbox"/>	Don't know	<input type="checkbox"/>	Not applicable

SECTION 2: Basic activities of preventive youth health care

As pointed out earlier, a country may have a basic range of duties and/or activities to provide children with preventive care. The following questions concern such duties and/or activities. Please indicate whether the next duties and/or activities are part of the duties/activities of preventive youth health care in your country.

A. Monitoring and identification: *Measuring the health status of the child periodically and identification of deviations in growth or development.*

5A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, go to question 6
- Don't know, go to question 6

If yes:

5B. Who takes the initiative for monitoring and indication? (a number of answers is possible)

- Youth health care services invite the children/youth at specific ages for consultations
- Parents take the initiative for the consultations
- Other, please specify:

5C. Is it a standard procedure that children are visited at home at least once after birth?

- Yes
- No
- Not applicable
- Other, please specify:

5D. Is it a standard procedure that parents themselves choose the doctor they want to register with for youth health care?

- Yes
- No, providers are being assigned
- Other, please specify:

5E. Is it aimed for (when possible) to offer youth health care on the same location over time?

- Yes

- | | |
|--|---|
| <input type="checkbox"/> Diphtheria | <input type="checkbox"/> Pertussis |
| <input type="checkbox"/> Haemophilus influenzae type B | <input type="checkbox"/> Pneumococcus |
| <input type="checkbox"/> Hepatitis B | <input type="checkbox"/> Poliomyelitis |
| <input type="checkbox"/> Human Papilloma Virus | <input type="checkbox"/> Rubella |
| <input type="checkbox"/> Morbilli | <input type="checkbox"/> Tetanus |
| <input type="checkbox"/> Parotitis epidemica (Mumps) | <input type="checkbox"/> Varicella |
| | <input type="checkbox"/> Other, please specify: |

6E. Which percentage of the 15 year old children is fully immunized according to the national/regional recommendations?

... % is fully immunized.

- Don't know

6F. Are there any special activities in order to immunize high-risk groups, for example asylum seekers?

- Yes
 No
 Don't know

C. Screening: Examinations on specific abnormalities in asymptomatic children, by means of a protocol. The screening is performed in all children.

7A. Is screening one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
 Yes, but this varies regionally/locally
 No, go to question 8
 Don't know, go to question 8

If yes:

7B. What types of screenings are performed and by who?

Screening	Yes/No	If yes, performed by:
Neonatal Bloodspot screening		
Congenital defects (in infants)		
Postpartum depression of the mother		
Neonatal Hearing screening		
Hearing screening in schoolchildren (audiometry)		
Developmental dysplasia of the hip (DDH) (in infants)		
Maldescensus testis (in infants)		
Developmental disabilities in infants and toddlers		
Speech and language disorders (in schoolchildren)		
Visual disorders (in schoolchildren)		
Color blindness (in schoolchildren)		
Autism (in preschoolers)		
DCD (Developmental Coordination Disorder) (in schoolchildren)		

Scoliosis (in adolescents)		
Eating disorders (in adolescents)		
Other, please specify: ...		

D. Health threats: *Observing the health threats in the environment of the child (at home or outside the house).*

8A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, *go to question 9*
- Don't know, *go to question 9*

If yes:

8B. Are the environmental conditions in schools and day-care centers investigated on a regular basis?

- Yes
- No
- Don't know

8C. Are the environmental conditions outdoors investigated on a regular basis, for example water and air quality?

- Yes
- No
- Don't know

If yes, for questions 8b and/or 8c:

8D. Who is the supervisor or supervisory body?

.....

E: Epidemiological research: *Performing epidemiological research by describing the health and welfare of populations through collection of data related to health and the frequency of disease in populations, with the goal of improving health.*

9A. Is this one of the regular activities which is part of preventive youth health care in your country?

- Yes, national
- Yes, but the implementation varies regionally/locally
- No, *go to question 10*
- Don't know, *go to question 10*

If yes:

9B. Can you give an example of the use of this epidemiological research in order to improve the health?

.....

F. Other duties/activities

10. In your country, are there next to the earlier mentioned duties and/or activities, other duties and/or activities that are a regular part of preventive youth health care?

- Yes, please specify:
.....
- No
- Don't know

11A. Does your country apply evidence based interventions for the duties and/or activities of preventive youth health care? *An evidence based intervention is at least in theory effective. Furthermore, the intervention can also be proven effective through research.* (Databank Effectieve Jeugdinterventies, n.d.).

- Yes
- No
- Don't know

11B. Who or what kind of organisation decides whether an intervention is evidence based?

- A national board
- The ministry of health
- Other, please specify
.....
- Don't know

11C. Is there on a national level, a database of evidence based interventions?

- Yes
- No
- Don't know

12A. Does youth health care focus nationwide on one or more specific subjects?

- Yes
- No, go to question 13
- Don't know, go to question 13

If yes,

12B. If there is a focus on a special subject, what are the special attention subjects?

- | | |
|--|---|
| <input type="checkbox"/> Alcohol | <input type="checkbox"/> Internet addiction |
| <input type="checkbox"/> Drugs | <input type="checkbox"/> Absenteeism from school |
| <input type="checkbox"/> Gambling | <input type="checkbox"/> Absenteeism from child health care |
| <input type="checkbox"/> Child abuse | <input type="checkbox"/> Addicted parents |
| <input type="checkbox"/> Obesitas | <input type="checkbox"/> Addicted pregnant women |
| <input type="checkbox"/> Malnutrition | <input type="checkbox"/> Prenatal counselling |
| <input type="checkbox"/> Diabetes | <input type="checkbox"/> Prevention of SIDS (cot death) |
| <input type="checkbox"/> Poverty | <input type="checkbox"/> Other, please specify:
..... |
| <input type="checkbox"/> Addiction to TV watching | |
| <input type="checkbox"/> Addiction to computer games | |

SECTION 3: Structural features

13. How is youth health care organized in your country?

- There are specific youth health care organisations
- As a subdivision of organisations that are involved in public health care
- By general practitioners
- By paediatricians
- Other, please specify
.....

14. How are the youth health care services financed?

- General taxation
- Regional taxation
- Local taxation

- National insurance
- Regional insurance
- Paid for on the spot
- Other, please specify:

15A. Accessibility: is youth health care free of charge or is there cost sharing for preventive examinations?

- Free of charge, go to question 16
- Cost sharing
- Don't know, go to question 16

If cost sharing:

15B. For what kind of preventive examinations of youth health care is cost sharing applied? (a number of answers is possible)

- Neonatal examinations
- Primary school examinations
- Secondary school examinations
- University examinations

16A. Accessibility: is youth health care free of charge or is there cost sharing for immunizations?

- Free of charge, go to question 17
- Cost sharing
- Don't know, go to question 17

If cost sharing:

16B. For which kind of immunizations is cost sharing applied? (a number of answers is possible)

- | | |
|--|---|
| <input type="checkbox"/> Diphtheria | <input type="checkbox"/> Pertussis |
| <input type="checkbox"/> Haemophilus influenzae type B | <input type="checkbox"/> Pneumococcus |
| <input type="checkbox"/> Hepatitis B | <input type="checkbox"/> Poliomyelitis |
| <input type="checkbox"/> Human Papilloma Virus | <input type="checkbox"/> Rubella |
| <input type="checkbox"/> Morbilli | <input type="checkbox"/> Tetanus |
| <input type="checkbox"/> Parotitis epidemica (Mumps) | <input type="checkbox"/> Varicella |
| | <input type="checkbox"/> Other, please specify: |

17A. What kind of organisations, except for the government, are involved in youth health care? (a number of answers is possible)

- Schools
- Sports clubs
- Justice
- Welfare
- Day care
- Other, please specify:
- None, go to question 18

17B. Who is the supervisor or supervisory body?

.....

18. Staffing: Do you have the following categories of personnel in your organization?

- Paediatrician

- General practitioner
- Youth health care doctor
- Specialized/ youth health care nurse
- Other, please specify:

19. Health care professionals: is a specific public health care education required for working in the youth health care as a *doctor*?

- Yes
- No
- A specific public health care education does not exist in our country

20. Health care professionals: is there a specific public health care education required for working in the youth health care as a *nurse*?

- Yes
- No
- A specific public health care education does not exist in our country

21. How is the quality of the youth health care guaranteed?

- Through the health care inspectorate
- Through good education of the health care professionals
- Other, please specify:
- Don't know

SECTION 4: Practical features

22A. Is there a separation in your country between preventive youth health care and curative health care for children?

- Yes
- Yes, but this can vary for different activities and/or duties
- No, *go to question 23*
- Don't know, *go to question 23*

If yes:

22B. Co-ordination: what is the nature of the contact between youth health care and the curative circuit?

- Structural: often contact, mostly face to face
- Only exchange of medical/social/behavioural data
- No contact, *go to question 23*
- Other, please specify:
- Don't know, *go to question 23*

22C. On which level does this contact take place?

- Between primary health care and primary health care
- Between primary health care and secondary health care
- Other, please specify:
- Don't know, *go to question 23*

In the Netherlands, special health care structures exist: an interrelationship in which interdisciplinary consultations take place in case of specific problems. An example is the Health Care Advisory Team, meant to set about complicated problems of school children, e.g. unexplained absenteeism, chronic fatigue syndrome, etc.

23A. Is there in your country a similar interdisciplinary system for preventive youth health care?

- Yes

- No, go to question 26
- Don't know, go to question 26

If yes:

23B. Who is the supervisor or supervisory body?

.....

24A. Are there national guidelines for the executive youth health care staff, for instance for the detection of visual impairments or for immunizations?

- Yes
- No, go to question 25
- Don't know, go to question 25

If yes:

24B. For what topics of wll-child care do you have national guidelines in your country?

.....

24C. Who is the legal owner of the guidelines?

- A national board
- The ministry of health
- Other, please specify
.....
- Don't know

24D. Is the development and/or implementation of guidelines nationally supervised?

- Yes, both the development and implementation
- Yes, but only the development
- Yes, but only the implementation
- No
- Don't know

25A. Does the youth health care keep individual records of the care provided to the children?

- Yes, national
- Yes, but this varies regionally/locally
- No, *this was the last question.*
- Don't know, *this was the last question.*

If yes:

25B. Does your country use electronic records?

- Yes, national
- Yes, but this varies regionally/locally
- No
- Don't know

25C. Do curative services make use of the same child record?

- Yes, national
- Yes, but this varies per region/city
- No
- Don't know

25D. Who has access to these medical records? (a number of answers is possible)

- Youth health care providers
- General practitioners
- Nurses
- Schools
- This varies per region/city
- Other, please specify:
.....
- Don't know

25E. Is the information of the medical records being aggregated to a higher level in order to give insight in health information of the population?

- Yes, national
- Yes, but this varies regionally/locally
- No
- Don't know

End of the questionnaire

Thank you very much for co-operating on this questionnaire. The results will be presented on the EUSUHM congress in September.

Please send this questionnaire before June 1st 2009 by email to:
rosemariewieske@gmail.com

APPENDIX C – INTRODUCTORY LETTER QUESTIONNAIRES



rivm



15 May 2009

Dear member of the EUSUHM,

In September we will meet in Leiden, in the Netherlands, for the 15th EUSUHM congress. In March, the Dutch Association of Youth Health Care Doctors (Artsenvereniging Jeugdgezondheidszorg Nederland [AJN]) asked you to participate in an explanatory study titled '*comparison of youth health care between the EUSUHM countries.*' The AJN asked you to answer a few questions, which would form the basis of this explanatory study. The study aims to get some insights into similarities and differences in the work of youth health care doctors in the various participating countries.

As declared in the previously attached letter/email, the study consists of two parts. With this letter the AJN and the Dutch National Institute for Public Health and the Environment would like to ask you to participate in the *second* part of the study. This second part is designed to get further insight into the similarities and differences of youth health care and the activities which are performed by youth health care doctors. No, or little knowledge on this subject is available.

To answer the questionnaire, click on the following link:

<http://www.studentenenquête.nl/vragen/index.php?sid=41311&lang=en>

This questionnaire will take about 30 minutes of your time.

Also, the MS-Word-version of the questionnaire is attached to the email, in case the link does not work or if you prefer to answer it on paper. In that case, you can send the questionnaire back to the University of Twente (see the address below this letter).

As we would like to present the results of this explanatory study at the congress we hope you will be able to answer the questionnaire before **June 1st 2009**.

We thank you in advance for your kind co-operation and look forward to meet you at the EUSUHM congress.

With kind regards,

Karel Hoppenbrouwers, President of the EUSUHM Executive Committee
Elise Buiting, President of the Dutch Association of Youth Health Care Doctors (AJN)
Drs. W.J.G. Lijs-Spek, President of the Centre of Youth Health Care of the Dutch National
Institute for Public Health and the Environment
Rosemarie Wieske, student at the University of Twente

University of Twente
School of Management and Governance (HTSR)
c/o Rosemarie Wiese
P.O. Box 217
7500 AE Enschede
The Netherlands

APPENDIX D – TABLE 23: PERFORMERS OF SCREENING

Table 23: Performers of screening (a)

Country	Neonatal Bloodspot screening	Congenital defects ¹⁾	Postpartum depression of the mother	Neonatal hearing screening	Hearing screening in school-children	DDH ¹⁾	Malde-scensus testus ¹⁾
Belgium	In hospital setting, after birth	In hospital setting, after birth		Child&family health nurse	School guidance center	Paediatrician, Child&family health nurse	...
Croatia	Paediatrician	Paediatrician		ENT specialist	School doctor	Paediatrician, Orthopedic specialist	Paediatrician
Estonia	Doctor	Doctor	Specialist	Nurse, doctor	Nurse, doctor	Doctor	Doctor
Finland	Neonatal clinic	Neonatal clinic	Nurse, child welfare clinic	Neonatal clinic	Nurse	Neonatal clinic, doctor in child welfare clinic	Neonatal clinic, doctor in child welfare clinic
Germany	Birth clinic	SA doctor	...	Birth clinic	Public health service	Paediatrician, G.P.	Paediatrician, G.P.
Hungary	Neonatologist	Neonatologist		Neonatal clinic	School nurse	(Family) paediatrician, orthopedic specialist	Family paediatrician, General practitioner
Republic of Macedonia	Paediatrician	Paediatrician	Psychiatrist	Paediatrician, ENT specialist	School/ Adolescent doctors, ENT specialist	Paediatrician, neurologist	Paediatrician
Netherlands	...	...		...	...	...	...
Russia					Paediatrician		
Slovenia	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor	Doctor
Switzerland	Paediatrician, hospital	Paediatrician			Paediatrician, school health services	Paediatrician	Paediatrician

¹⁾in infants

Table 23: Performers of screening (b)

Country	Developmental disabilities in infants and toddlers	Speech / language disorders	Visual disorders ²⁾	Color-blindness ²⁾	Autism ³⁾	DCD ¹⁾	Scoliosis ⁴⁾	Eating disorders ⁴⁾
Belgium	...	...	...	...			...	...
Croatia	Paediatrician	School doctor, defectologist	School doctors	School doctor	Paediatrician	School doctor (preschool entry exam)	School doctor	School doctor
Estonia	Doctor	Doctor, speech therapist	Nurse, doctor		Doctor	Doctor	Nurse, doctor	Nurse, doctor
Finland	Neonatal clinic, doctor in child welfare clinic	Nurse, doctor, speech therapist			Nurse, doctor, neurological clinic		Nurse, doctor, child orthopedist	Nurse, doctor, youth psychiatrist
Germany	Paediatrician, G.P., Public health service	Paediatrician, G.P., Public health service	Public health service, ...	Paediatrician, G.P., Public health service	Paediatrician, Public health service	Paediatrician, Public health service	...	...
Hungary	Public nurse	School nurse	School nurse	School nurse	Family paediatrician, general practitioner, public nurse		School doctor/ nurse	School doctor/ nurse
Republic of Macedonia	Paediatrician, school/ adolescent doctors, psychologist, psychiatrist, defectologist	School/ adolescent doctors, defectologist	School/ Adolescent doctors, Ophthalmologist	School/ Adolescent doctors, Ophthalmologist	School/ Adolescent doctors, Psychiatrist, defectologist	School/ Adolescent doctors, neurologist	School/ Adolescent doctors, Orthopedist	School/ Adolescent doctors, psychiatrist
Netherlands	...	...	...	...			...	...
Russia		Doctor	Doctor	Doctor			Doctor	...
Slovenia	Doctor	Speech therapist	Doctor, nurse	Doctor, nurse	Doctor, psychologist	Doctor	Doctor	Doctor
Switzerland	Paediatrician	Paediatrician,	Paediatrician	Paediatrician,		Paediatrician	Paediatrician	Paediatrician,

	school health services	, school health services	school health services	n, school health services	school health services
¹⁾ in infants	²⁾ in schoolchildren	³⁾ in preschoolers	⁴⁾ in adolescents		

APPENDIX E – TABLE 24: FOCUS ON SPECIAL SUBJECTS

Table 24: Focus on special subjects (b)

Country	Gambling	Poverty	Addiction to TV watching	Internet addiction	Absenteeism from Child health care	Addicted parents	Addicted pregnant women	Prevention of coth death
Belgium		+			+	+	+	+
Croatia								
Estonia								
Finland	+	+	+	+	+	+	+	+
Germany								
Hungary								
Republic of Macedonia								
Nether-land								
Russia								
Slovenia								
Switzerland								
* Neonatal care								

