



Georg Alfthan • Arpo Aromaa • Antti Jula
Seppo Koskinen • Jouko Sundvall

National Public Health Institute Department of Health and Functional Capacity

Background material
for the international evaluation

Kansanterveyslaitoksen julkaisuja **B** 22/2007
Publications of the National Public Health Institute

Evaluation of KTL, Department of Health and Functional Capacity

1. Introduction	2
2. National health examination surveys	4
3. Development of the department	5
3.1. Overview	5
3.2. Development 2002 to 2006	6
4. The department's units and personnel in 2006–2007	10
4.1. Overview	10
4.2. Public Health Research Unit, KTY	12
4.3. Population Research Laboratory, VTL	16
4.4. Laboratory of Analytical Biochemistry, ABIL	19
4.5. Biomarker Laboratory, MALA	21
5. Organization of the department, the units and the research programmes	23
5.1. Overview	23
5.2. The current research programmes	24
6. Dissemination of some of the department's principles and practices	26
7. Scientific publications and public health outputs in 2002 to 2006	27
7.1. Overview	27
7.2. Selected publications by year	27
7.3. Public health outputs	36
8. Resources and their recent development	38
9. Visions and plans for 2008 to 2013	39
Appendix 1. Selected findings in publications in 2003–2006	42
Appendix 2. All publications	50
Appendix 3. Resources	86

1. Introduction

This document is an account of the Department of Health and Functional Capacity (TTO), its past, present and anticipated future. The department was established in 1995 as a result of structural rationalization, which led to transfer of the medical research group of the Social Insurance Institution to KTL. The special expertise of the group was population based health research, which comprised also the core of the actions taken over by KTL. During the past 10 years immunobiological and biochemical laboratories of KTL joined the department and in 2004 the final step in structural rationalization was taken when the SII medical research situated in Turku joined the department.

The department contributes to the information base on chronic non-communicable illnesses, functional limitations and their causes, develops various aspects of health information and health monitoring, carries out health policy related research and development, and provides high-class biochemical laboratory services and sample management. Compared to other KTL departments it has special expertise in clinical aspects of cardiovascular diseases, musculoskeletal disorders, functional limitations, oral health, health services research, health policy research and health economics, health monitoring and indicators including international aspects, socioeconomic health disparities and their reduction, as well as the unique biochemical and physiological laboratory capabilities.

National health examination surveys (see below under 2) comprise an important basis for the department's work. First, the Social Insurance Institution carried out Mobile Clinic surveys in different parts of the country between 1965 and 1980. The subjects have been followed up by health data containing registers for several decades. Those study materials were transferred to KTL with the medical research group in 1995. Second, the major KTL/TTO co-ordinated comprehensive survey, Health 2000, called for broad collaboration from other State research institutes, universities and other KTL departments. Third, whilst the department of health promotion and chronic disease prevention (ETEO) has carried out the five yearly FINRISK risk factor surveys of KTL, there has been close collaboration between the two departments in planning and executing the surveys and analysing the data. The most recent FINRISK-survey was collaborative work by ETEO and TTO. The biochemistry laboratories have analysed the samples: TTO/ABIL mainly those from FINRISK and part of the Health 2000 samples, and the Turku Population research laboratory those from the Mobile Clinic surveys and most of the Health 2000 samples. A rich population based material for research has inspired scientists of the medical research group and later at the department to carry out cross-sectional and longitudinal studies and publish numerous important findings since the 1970s.

Another much utilized source of data have been the Finnish national registers skillfully handled by the department and using the possibilities to link them at an individual level.

The department's work is characterized by being on one hand (epidemiological or population based) typical research and on the other geared to R&D work in public health and health policy. The research supports the R&D tasks both by its findings and the expertise created. In 2006 core research programmes of the department were population based and clinical research, health monitoring (national and international), coordination and implementation of the Health 2000 study, and health policy research complemented by the laboratories' work. Closely related important topics are health promotion and disease prevention, health disparities and reducing them, and the health and functioning of the elderly. The biochemical laboratories in Helsinki and Turku provide accredited services to projects of KTL and also collaborative projects. Their services range from taking biological samples and specimens to biochemical analyses and secure storage and retrieval for future studies.

During the 11 years of its existence the department has been developed on one hand by outside funding and on the other by assimilation of some KTL units. Outside funding has been sought mainly for R&D tasks related to the department's mission such as Health 2000, health monitoring, and health policy. The main funding agencies have been the Academy of Finland, the Social Insurance Institution, the Ministry of Social Affairs and Health and the European Union.

The demand for R&D of the department is expected to increase. The department hopes to carry out future rounds of its current population studies, specially a comprehensive health examination survey Health 2012, and to develop and implement health monitoring both in Finland and in EU. It also expects to implement a follow-up survey of the Health 2000 population. The reduction of health disparities, the development of functional capacity measurements and several health policy studies are expected to continue.

2. National health examination surveys

Much of the department's work is based on its large-scale population studies and their follow-up. The origins of many population health surveys are in Mobile Clinic actions carried out by the Social Insurance Institution of Finland since the 1960s:

- 1) the *Mobile Clinic Health examination* surveys (1965 to 1972) with 56 000 examinees,
- 2) the *Mobile Clinic follow-up surveys* (1973 to 1976) with 20 000 persons and
- 3) the *Mini-Finland Health Examination Survey* (1978 to 1980) with a sample of 8 000.

It is noteworthy that several of the current senior researchers have worked on those precursor surveys. Probably equally important is that biochemical laboratory determinations have been carried out in the SII laboratory now situated in Turku as part of the Population Research Unit.

The first survey was originally a multiphasic screening examination in a large number of communities in different parts of Finland. The second one followed up part of the cohorts to assess risk factor changes and disease incidence. Much weight was put on cardiovascular diseases, in particular coronary heart disease, its risk factors, hypertension and its treatment. A subset of the examinees were interviewed by a dietary recall method. All subjects have been followed up by data registers for mortality, work incapacity, use of medicines, hospitalizations and cancer.

The Mini-Finland HES was a first of its kind in being based on a nationally representative two stage cluster sample, with subjects living in 40 communities in all parts of the country. It was very comprehensive and looked at occurrence and variation of cardiovascular diseases, respiratory diseases, musculoskeletal diseases, oral health, and mental health problems as well as functional limitations. Possible determinants of these conditions were also measured and an assessment was made of to what extent need for care was met.

- 4) In 2000–2001 the much upgraded version of Mini-Finland was carried out and called *Health 2000* (see www.ktl.fi/health2000). A two-stage cluster sample of 10 000 adults (over 18) was invited to the four-hour examination in 80 areas. One of the main goals was to assess time trends in risk factors and disease occurrence by comparison to the Mini-Finland findings. The spectrum of conditions was broad ranging from cardiovascular and respiratory through musculoskeletal and oral to mental health. In addition to interview questions, many tests were employed to assess functional capacity and other aspects of health.
- 5) The *FINRISK* risk factor survey of 2007 was carried out by ETEO with collaboration of TTO. TTO took care of the measurement of functioning and the implementation of the survey in South-West Finland.

Planning of follow-up studies of Health 2000 examinees has started. Soon, also the planning of a next survey phase will commence aiming at carrying out Health 2012, which will be a combination of the Health 2000 and FINRISK surveys.

It is possible that the department will be involved in future health interview surveys such as those by Eurostat and others sponsored by the EU seventh framework programme. However, these will depend on funding decisions.

3. Development of the department

3.1. Overview

The Department of Health and Functional Capacity was established in March 1995 when nine persons (five researchers) from the Social Insurance Institution's medical research group with research programmes, data and archives were transferred to KTL. As a consequence of the then actual international evaluation of KTL the core of the Department of Immunology joined the new department in 1996. This brought with it two lines of research: rheumatology and epidemiology of rheumatoid arthritis and allergology, including prevention of allergies.

Later the two Helsinki units of biochemistry (ABIL, analytical biochemistry and MALA, the biomarker laboratory) also joined the department having previously been units of the Departments of Biochemistry and Nutrition, respectively. The next step in 2004 was affiliation of the Turku based 43 employees of the research department of the Social Insurance Institution. They performed medical research not deemed any more part of the SII profile. At the same time immunology was transferred to the Department of Viral Diseases.

The net outcome in 2006 is that the original department of nine persons has grown to encompass 110 to 120 persons. About 40 are funded by 'external' resources with a value of 1.2 to 1.5 m€ per year. The Department has four units: Public Health Research (KTY), Analytical Biochemistry (ABIL), Biomarkers (MALA), and the Population Research Laboratory (VTL).

The considerable growth has been directed mainly towards research based on Health 2000, to EU health monitoring, to the reduction of health disparities, and to health policy research financed by the Ministry of Social Affairs and Health and the Social Insurance Institution. Great care has been taken to apply for financing only for synergistic tasks. In particular, EU financed work is yielding expertise also for national work.

The Department and especially its Public Health Research Unit depend heavily on external funding. Recent developments in Finland suggest that regular budget funding is likely to be reduced in the name of increased effectiveness. This trend is enforced by the Ministry of Finance referring to a need to save and to increase effectiveness. Unfortunately, it is clear that such measures only reduce effectiveness in KTL and the department although they may result in savings. If continued this trend means that the department's output decreases and so will the number of interesting jobs in our sector as well as the number of persons capable of attracting external resources. From the point of view of the Department this anticipated development endangers the ability to provide relevant R&D information for the Ministry of Social Affairs and Health, and other users. In particular, most recent proposals by the Ministries and the Government can be foreseen to have a negative effect on important public health research and R&D work by making researchers insecure of their future in the field and, effectively, reducing output and effectiveness. From the point of view of the Department, there has long been a need for more resources (i.e. several additional persons) to ensure our ability to provide the necessary support for the Ministry, and for municipalities and hospital districts.

Unfortunately, most of the recent State directed proposals do not take into account the needs in the field. Clearly, in decision making circles there is ignorance about R&D in public health as a cornerstone of population health. There is also limited understanding of the harmful effects of those proposals for R&D and ultimately for population health.

3.2. Development 2002 to 2006

YEAR 2002

There were 70 employees in four units. TTO (the department of health and functional capacity) published four books, of which three were doctoral dissertations, 42 English language original articles and 19 Finnish language original articles or reviews. There were 27 chapters in books or abstracts. One of the books was the baseline report from the Health 2000 health examination survey.

The activities of the department were greatly influenced by implementation of Health 2000, the FINRISK 2002 risk factor survey and handling and analysing its blood samples, and introducing the allergy programme. Also the EU funded survey project (HIS/HES) progressed well. Researchers and experts also worked hard on many specialist tasks to support the Ministry of Social Affairs and Health and the EU Commission.

The three main achievements were

1. *Publication of the baseline results from the Health 2000 study*
2. *The observation that filaggrin antibodies have a strong contribution in the diagnosis of rheumatoid arthritis*
3. *The department took care of the collection of FINRISK 02 samples and their laboratory determinations.*

YEAR 2003

There were 70 employees in 4 units. An agreement was reached with SII for a research group of 43 persons to join KTL and the department. A survey of employees carried out in 2002 showed that well-being at work and job satisfaction were better in the (TTO) department than in any other department of KTL.

TTO published 3 books, of which two were doctoral dissertations, 46 English language original articles or reviews, 8 Finnish language original articles or reviews, 52 chapters in books or abstracts. One of the books was the main report of the EU funded HIS/HES project.

The department was engaged in many other ongoing activities. Of these the expert work in health monitoring, the finalization of the editing of the Health 2000 data base, and several health policy studies are mentioned here. In health policy studies reports were prepared on the societal costs of public health problems, on the need for dental health care under sickness insurance, on the effect of reduced cost specialist consultations, on the Helsinki Psychotherapy Study (HPS), and on DNA and epidemiology.

European projects involved the final report of measurement for musculoskeletal diseases, the final report of the HIS/HES study (health interviews and health examinations), and the setting up of the HIS/HES database of all national surveys carried out in Europe.

Three main achievements were listed in the annual report:

1. *The Health 2000 dataset was made available for researchers within and outside KTL and the distribution of data functioned well*
2. *The diagnostics of rheumatoid arthritis was improved*
3. *Improvements were made in the measurement of nutritional factors affecting health*

YEAR 2004

As of 2004 the department comprised 110 persons, since the unit in Turku joined. A lot of work was put into integrating the Helsinki and Turku situated activities.

In Health 2000, follow-up field studies were carried out in severe psychic disorders, psychic disorders of young adults, and oral health. Oral health had considerably improved since 1980.

The department's activities were centred on Health 2000, the allergy programme and the programme to reduce health disparities. The number of original publications (105) was higher than ever before.

Many expert duties supporting the Ministry of Social Affairs and Health or EU were carried out. The department continued development of KTL's sample management and its laboratories analysed samples from population surveys. The department's experts participated in the implementation of the EU Public Health Programme.

The annual report listed three main achievements:

1. *The advancement of Health 2000 into a productive reporting phase*
2. *The development of an animal model for research on dietary allergie.*
3. *The integration of the Population Research Laboratory as part of KTL and the department*

YEAR 2005

The department had over 100 persons in four units.

Much work was done to develop and integrate the Population Research Laboratory to KTL.

The main study areas in the department were population level and clinical health research, health monitoring, health policy research, analytic biochemistry and biomarker research. A large part of the resources was used to Health 2000 i.e. distribution of the study materials to research groups working in different research institutions in Finland and abroad, their handling and analysis as well as preparing scientific reports. Also, the book on the history of the Mobile Clinic was finalized.

The priorities in population level and clinical health research were Health 2000, health monitoring and studies based on the mobile clinic surveys, biomarker research on foodstuffs and nutrients and their usability and epidemiological risk factor analyses. Clinical and clinicophysiological studies on the circulatory system and circulation were carried out. Also effects of physical activity were studied.

TTO researchers collaborated in the publication of 8 books (2 doctoral dissertations and 3 pro gradu dissertations), 57 English language original publications or reviews (67 in 2004), 89 Finnish language original reports or reviews (38 in 2004). Overall, there were 146 publications (105 in 2004), of which 55 were chapters in books.

One of the books was Health in Finland (Finnish edition) published by the Finnish Medical Society Duodecim. The three doctoral theses dealt with the following subjects: speed strength, the influenza epidemic 1918–1920, and causes of diabetes. The other KTL publications dealt with health in young adults and the effects of the dental care reform of 2000–2001.

The most common topics of the original articles were: Diabetes (5), cardiovascular diseases and risk factors (4), functional capacity (4), mental health (3), musculoskeletal diseases (3), and oral health (2). One or two articles respectively dealt with socioeconomic health disparities, cancer and statistical methods.

Concerning EU DG Sanco projects funding agreements were made to support the data base of population surveys (EUHSID) and the implementation of EU health monitoring and health indicators (ECHIM). In 2005 a positive decision was also obtained for a project concerning the feasibility of health examinations in EU (FEHES, jointly with TTO and ETEO).

The actions for developing measurement of functional capacity were initiated. The first joint seminar on the subject was arranged in spring 2006.

Severe threats were due to the State's so called productivity programme.

The prerequisites of information improved when a part-time information officer was engaged.

The three main achievements in the annual report were:

1. *Publication of Health in Finland (Finnish language version)*
2. *The good progress of Health 2000*
3. *The success of the EU tasks on health monitoring and health indicators*

YEAR 2006

The department had 120 employees in four units. The activities were greatly influenced by implementation of Health 2000, international health monitoring, reducing health disparities and the programme on healthy ageing. The follow-up studies based on the Mobile Clinic Health Surveys were continued. The FINRISK 2007 survey was in preparation together with the Department of Health Promotion and Chronic Disease Prevention. The network for measurement and assessment of functional capacity was in preparation.

Of the extensive publications several should be mentioned: the History of the SII Mobile Clinic, Health in Finland, Good Research Practice in the National Public Health Institute, and the Health 2000 based books Use of health care, the Dimensions of Work Ability, and the Internet data base on European health surveys.

The department's researchers collaborated in publishing 9 books, 82 English language original articles, 38 Finnish language original articles and 81 reviews. Altogether 211 original articles or reviews were published, indicating an increase by 40% from 2005.

The most common topics of the English language original articles were cardiovascular diseases (12), socioeconomic factors and health (12), mental health problems comprising burn out and alcohol dependence (11), diabetes (9), musculoskeletal diseases (4), functional capacity (4), dental care and oral diseases (4). Other topics were rehabilitation, measurement of need for care, social capital, leisure activities and health, postural balance, alcohol use and economics, cancer and biomarkers. Many books and articles were published based on the Health 2000 data. The publications have been recorded above under various topics.

Health policy research concerned need for dental care and dental health insurance, trends in and possibilities to reduce health inequalities and their determinants, the family physician experiment, the study of need for care and met need (DONAU), the experiment on the efficacy of psychotherapy, the cost-efficiency of health promotion, and the experiment on automated distribution of medicines. A pilot experiment of automated distribution was carried out in the town of Vantaa in 2006.

KTL's sample management system was developed to comprise new samples and previously stored samples. The resources were clearly insufficient.

The department promoted employees' health and skills. The job satisfaction survey (2006) showed that the department was best in KTL already for the second time in succession.

Research achievements mentioned in the annual report:

1. *Results of home blood pressure measurements are much lower than in a population study*
2. *Work related burnout is associated with job strain and can link depression and burnout*
3. *Quality of life is reduced most by osteoarthritis, depression, low back pain and urinary incontinence*

Public Health Actions mentioned in the annual report:

1. *The book Health in Finland*
2. *Implementation of the European health indicator project ECHIM*
3. *Implementation of TEROKA, the collaborative intervention to reduce health disparities between population groups.*

YEAR 2007

Whilst this review ends by 2006 it was deemed important to provide a brief account of progress also during the first half of 2007. All the projects mentioned were either completed or were going on successfully. Major funding was sought from EU DG Sanco to be able to continue the various projects (Indicators, Health Examinations) after June 2008. Several doctoral dissertations were published and so were many important articles based mainly on the health survey materials. Examples of some articles can be found in the appendix.

4. The department's units and personnel in 2006–2007

4.1. Overview

The department has excellent personnel, many of whom have been recruited relatively recently. About 60% have academic degrees and 25% a PhD dissertation. Many senior researchers are University adjunct professors and have the qualifications for Professorship in Public Health and other areas.

Table 1. Typical degrees and vocational skills in the department

Medicine	16%
Other health sciences	36% (nursing, laboratory, physiotherapy)
Social sciences	11%
Biochemistry, Nutrition	11%
Statistics, data processing	13%
Secretaries, planners	13%

Table 2. Approximate number with specified degrees

	Professor, adjunct professor	PhD	Other academic degree	Other degree ¹⁾	Others	Total
Public Health Research Unit, KTY	7	13	19	9	2	50
Population Research Laboratory, VTL	5	5	12	19	3	44
Laboratory of Analytical Biochemistry, ABIL			3	6	1	10
Biomarker Laboratory, MALA	2	1	2	4	2	11
The department, TTO (N)	14	19	36	38	8	115
(%)	12%	17%	31%	33%	7%	100%

Includes part-time, those on leave, students and emeriti.

¹⁾Other degrees are those from vocational high schools in nursing, economics and others.

Recent recruitment is typical for the Public Health Research Unit. On the other hand, several of the senior researchers are among those transferred from the Social Insurance Institution. They are among the most esteemed in Finnish and international academic circles and in Public Health, obviously not young any more.

This mix of senior and junior researchers would be optimal if it were more equally distributed between the units, and if continuity was secure. Despite of all efforts, there is an imbalance with the majority of junior researchers being associated with the Public Health Research Unit, several are associated with the Population Research Laboratory but only a few with other laboratories. Since 2004 the department has encouraged seeking funds for junior researchers in all units. Nevertheless, State actions have created uncertainty of continuity.

Some members of senior staff are presented below:

Arpo Aromaa, Research Professor, Director of Department, MD, PhD, Dip Soc Med (Edin.), Adjunct Professor in Public Health Science (Helsinki)

Public Health Research Unit, KTY

Seppo Koskinen, Chief Physician, Head of Unit, MD, PhD, MSocSci, MSc (London), Adjunct Professor in Demography (Helsinki)

Markku Heliövaara, Chief Physician, MD, PhD, Adjunct Professor in Epidemiology (Helsinki)

Anna Kattainen, Assistant Chief Physician, Specialist in Public Health, MD, PhD

Paul Knekt, Research Professor, Head of Laboratory, MA (Statistics), PhD (Public Health), Adjunct Professor in Epidemiology and Biometry (Helsinki)

Päivikki Koponen, Senior Researcher, PhD

Tuija Martelin, Senior Researcher, PhD

Antti Reunanen, Research Professor emeritus, MD, PhD, Adjunct Professor in Epidemiology (Helsinki)

Population Research Laboratory, VTL

Antti Jula, Chief Physician, Head of Unit, MD, PhD, Adjunct professor in Medicine (Turku)

Erkki Alanen, Senior Researcher (VTL), PhD, Adjunct Professor in Psychometrics (Jyväskylä)

Markku T Hyyppä, Chief Physician (part time), MD, PhD, Adjunct Professor in Neurology (Helsinki) and Rehabilitation (Turku)

Olli Impivaara, Chief Physician (part time), MD, PhD, Adjunct Professor in Medicine (Turku)

Jukka Marniemi, Head of Laboratory, PhD, Adjunct Professor in Biochemistry (Turku)

Laboratory of Analytical Biochemistry, ABIL

Jouko Sundvall, Head of Unit (ABIL), MSc (biochemistry)

Biomarker Laboratory, MALA

Georg Alfthan, Head of Unit (MALA), MSc (biochemistry), PhD, Adjunct Professor in Nutritional Biochemistry (Helsinki)

Antti Aro, Research Professor emeritus, (MALA) MD, PhD

4.2. Public Health Research Unit, KTY

The Public Health Research Unit and the Department were established in 1995 as a consequence of the transfer of population based health research from the Social Insurance Institution to KTL. The Unit's personnel has since grown from 9 to 50, and the tasks have increased and diversified accordingly.. Main tasks are R&D on promotion of health and functional capacity, health monitoring nationally and internationally, implementation of large health surveys, and expert tasks in public health and interventions to reduce health inequities. Its main assets are the large population health surveys and its main challenges the 80% of staff, who are financed from external sources.

Main tasks

The main tasks of the Unit can be grouped as

- Research on the development and promotion of health and functional capacity and associated factors in the population and its subgroups
- Participation in national health monitoring and the related international work
- Implementation of large surveys
- Expert tasks in the planning and implementation of policies, structures, processes and interventions to improve public health and reduce health inequities

Areas of research and expertise

Most of the activities in the Public Health Research Unit deal with functional capacity, major diseases and public health problems, and factors affecting these. Special emphasis is given to health and functional capacity of the ageing and elderly population and promoting health and functioning. Causes of and ways to to reduce health disparities between subgroups of the population are another priority.

Resources

In September 2007, the *personnel* of the Unit consists of 50 employees, of whom eight work part-time and six are either on maternity leave or temporarily working elsewhere. 20 persons have taken a PhD degree, 19 have a Master's degree and 11 have completed some other education. The spectrum of fields of science is wide: the staff includes eleven physicians, one dentist, eight other health scientists, nine social scientists, four statisticians, three nutritionists, one economist, one psychologist, one historian, one geographer and one person with a background in technical science. Twelve of the employees are aged 50 or over, about twenty are between 35 and 49 years of age, and about twenty are younger than 35 years.

Funding comes mainly (60%) from external sources such as the Academy of Finland and EU, and only 40% of expenses are covered by the resources allocated to KTL from the State budget. Only nine of the fifty employees receive their salaries from the KTL budget. This funding structure is not in accordance with continuity and the activities of the Unit which to a large extent serve directly the needs of the Ministry of Social Affairs and Health and other public bodies responsible for the nation's health. A considerable part of the working time of the senior staff goes into drawing up funding applications to obtain resources needed in carrying out health monitoring and other public health activities. There is a great need to strengthen the role of budgetary funding in order to meet with the demands set by the Ministry of Social Affairs and Health and other governmental bodies.

The Unit maintains several unique *data sets* and serves the scientific community by editing the data, by improving their value with linkages to various health registers, and by

constructing subsets of the data for the use of researchers all over the country and abroad. The main survey-based data sets maintained by the Unit include the following: Mobile Clinic Baseline Survey 1966-72, Mobile Clinic Follow-up Survey 1973-76, Mini-Finland Survey 1978-80, Health 2000 Survey 2000-01 and FINRISK Senior Survey 1997. In addition, health registers are widely used as such and linked with the major sample surveys.

In both research and development work the unit works in close *collaboration* with other partners. This is one of the major strengths of the Unit as collaboration provides the projects of the Unit with expertise and manpower which the Unit does not have. The main partners of the Public Health Research Unit are other units of the institute, other research institutes, universities, Ministry of Social Affairs and Health, regions and municipalities.

Scientific activities and achievements

Most of the Unit's scientific work is carried out within the following projects:

Health 2000 (<http://www.ktl.fi/health2000>) was planned and implemented by a large network of experts from different institutions, coordinated by the Public Health Research Unit. The main collaborators include Social Insurance Institution, Finnish Centre for Pensions, Institute of Occupational Health (FIOH), National Research and Development Centre for Welfare and Health (STAKES), Statistics Finland, Rehabilitation Foundation, UKK Institute, universities as well as regions and municipalities.

In 2000–2001 a nationally representative sample of 10 000 adults participated in a comprehensive health interview at home and a four-hour health examination at the local health centre. The interviews were performed by Statistics Finland's interviewers (160). The health examination was carried out by 5 field teams, each consisting of 17 professionals. The survey data were complemented with a rich collection of register-based information. In further surveys on cardiovascular, mental, musculoskeletal and oral health, complementary data were collected from subsamples. A resurvey is being planned to obtain follow-up information.

Great efforts were made to maximise the participation rate, and they were successful. 80% participated in the examination proper, an additional 5% in the home health examination, and at least the most essential information was obtained from 93% of those aged 30 or over and from 90% of those aged 18 to 29 years.

The baseline report concerning population aged 30 and over was published in Finnish in 2002 and in English in 2004 (available also at www.ktl.fi/health2000). Eight other books have been published on the baseline results. Furthermore, nearly two hundred scientific articles have been published. The staff of the Unit serve the researchers at KTL and at other institutions by preparing and supplying subsets of the data to be used in studies approved by the relevant expert group and the project group of the Health 2000 Survey. In addition, the Unit provides contentual and statistical advice needed in the analysis of the data.

In the Public Health Research Unit the Health 2000 research focuses on functional capacity and its determinants, health disparities, circulatory diseases, musculoskeletal diseases, reproductive health, oral health, social capital and health, nutrition and health.

Follow-up of the Mobile Clinic Surveys is based on register based follow-up of Mobile Clinic data sets collected in 1965–1980. In this research, the emphasis is on the etiology of major diseases (cancer, musculoskeletal diseases, diabetes, cardiovascular diseases etc.) and on the impact of risk factors (nutrition, microbes, smoking etc.) as well as research on disease markers.

Determinants of healthy ageing are studied making use of cross-sectional data from 2000–01 (Health 2000) and from 1978–80 (Mini-Finland), and a 22-year follow-up (1278 participants of the Mini-Finland Survey re-examined in connection with the Health 2000 Survey). In

analysing the determinants of institutionalisation, Health 2000 data are complemented with register-based follow-up of institutionalisation in 2000-05. This project also includes comparisons between Finland and UK (ELSA).

Evaluation of the *effects of public subsidies on the need and use of dental care* in the adult population is analysed in collaboration with the Social Insurance Institution and the Ministry of Social Affairs and Health.

The Helsinki Psychotherapy Study (HPS), an evaluation of the effectiveness of four psychotherapies on depression and anxiety disorder, is a long-term intervention project funded by the Social Insurance Institution carried out in collaboration with the Hospital District of Helsinki and Uusimaa, the Biomedicum Helsinki and the Rehabilitation Foundation. The collection of follow-up data and the statistical analyses are continuing. The first main reports have recently been published.

DONAU - Do need for and use of hospital care meet? is a project carried out in collaboration with STAKES, Social Insurance Institution, Centre for Pharmacotherapy Development ROHTO and central hospital districts. The aim of the project is to develop reliable and relatively simple methods for assessing the need for care and the extent to which it is satisfied. The survey data have so far been collected in two phases. In addition, Health 2000 data as well as data from registers is being used.

Inequalities in health: causes, trends and scope for action is a group of projects carried out in collaboration with other units and departments of KTL, other research institutions, universities etc. The principal lines of research employing different data sets include

- Health disparities according to marital status and living arrangements
- Regional differentials in health
- Disparities between socioeconomic groups (defined according to education, occupation, income etc.)
- Health differences between language groups

Scientific publications of the staff of the Public Health Research Unit are summarized in table 3 below. They are included in Appendix 1 which lists all publications of the department.

Table 3. Scientific publications in 2002–2006, Public Health Research Unit.

	2002	2003	2004	2005	2006	2002-06
Original articles and reviews	15	24	28	33	48	148
Original articles and reviews published in domestic languages	21	7	22	12	26	88
Textbooks and chapters in textbooks, reports and proceedings	29	46	68	35	75	253
PhD theses	1	1	1	1	1	5
Master's theses	0	2	2	2	3	9
Other publications	0	0	8	9	15	32
All	67	79	148	92	166	535

Other scientific outputs of the senior staff of the Unit from 2002 onwards include e.g.

- numerous referee statements for several scientific journals and funding organisations
- opponent of several doctoral theses
- reviewer of several doctoral theses
- reviewer of professor and adjunct professor applications
- reviewer of several master's theses

- numerous memberships and presidencies/chairpersonships in scientific organisations, committees and meetings in Finland and abroad
- editorial positions in several scientific journals
- supervision of dozens of PhD theses

Public health activities and achievements

The main public health activities and achievements include the following:

- Health monitoring (see also section 5.2)
 - National: Health in Finland books, development of regional and municipal health monitoring systems etc.
 - International: EU and others
- Coordination and enhancement of efforts to reduce inequities in health on the national level and in pilot regions
 - TEROKA (see also www.teroka.fi), launched in 2004, is a large collaborative project with other departments of KTL, other research institutes and universities, Ministry of Social Affairs and Health, municipalities and NGOs. The coordination centre of TEROKA is located at the Unit where three persons work full-time in the project and several others participate in the work. The project aims at
 - strengthening the knowledge base on socioeconomic health inequalities e.g. by
 - collating and distributing information for the assessment of the current state and trends in inequalities in health at the national level and in pilot areas and
 - preparing tools for the monitoring of health inequalities and their determinants at the national, regional and local level
 - raising awareness of health inequalities and ways of reducing them
 - developing practical methods to tackle inequalities in health
 - advancing the assessment of inequality impacts
 - Participation in the preparation, implementation and assessment of a national plan of action as part of the TEROKA project and within other work at the Unit
- Production of material for health promotion
 - A recent example is “Elämä pelissä” (“Life at stake” or “The game of your life”) which is a collaborative project between KTL (the Public Health Unit together with different units of the ETEO department), the Finnish Medical Society Duodecim and the Finnish Broadcasting company. KTL has provided the scientific expertise needed in the project and prepared an algorithm (based on mortality follow-up of the FINRISK surveys 1982–1997) predicting a person’s life expectancy on the basis of 39 questions on her/his living conditions, health behaviour, psychosocial and sociodemographic characteristics. On the basis of the algorithm, an internet test has been produced. In addition, the outputs of the project include a book published by Duodecim (Huttunen J, Mustajoki P, ed. *Elämä pelissä*, 2007), and a tv-series (during the autumn 2007) which supports and follows the pursuit six well-known Finns towards a healthier life. The project aims at improving the population level information on factors affecting health and at motivating the public to lead a healthier life.

In addition to specific public health projects, the staff of the Unit participates widely in the planning and follow-up of policies, interventions and structures aiming at the improvement of public health. This work is largely done in committees, advisory boards and other similar organisations nominated by the Ministry of Social Affairs and Health or other national and regional actors.

4.3. Population Research Laboratory, VTL

The Population Research Laboratory in Turku was created in 2004 when individual level health research activities of the Social Insurance Institution (SII) were incorporated into KTL. The unit has 40 employees and it comprises research staff and a biochemical and physiological laboratory. The unit's traditional research areas are cardiovascular diseases, mobility limitations and development of methods. Particular priority is given to hypertension, fragility of bones, and lifestyles with adverse health effects. The unit collaborates closely with the Public Health research unit in analysing population health survey data and with the Turku University Central Hospital in two long-term projects on children's health (LASERI and STRIP).

The Population Research Laboratory (VTL) includes a biochemical laboratory, a physiological laboratory and a radiological imaging subunit. The staff (currently 40 persons) consists of researchers, and laboratory, technical and administrative personnel. In addition to its own research the unit produces biochemical, physiological and imaging measurements for epidemiological and clinical research and some chargeable services.

Research areas

The research of the Population Research Laboratory centres on determinants and predictors of cardiovascular diseases (CVD) and mobility limitations as well as development and evaluation of research methods.

In CVD research main emphasis is on determinants and predictors of CVD, specially in hypertension and lifestyles, sleep, alexithymia, social capital and social participation. Research on mobility limitations and their determinants has a special emphasis on risk factors of hip fractures.

The research is based on epidemiological health surveys (Mini-Finland Health Survey, Health 2000 Health Examination Survey, FINRISK 2007 study, LASERI) and randomized controlled intervention trials (STRIP, Simvastatin-fatty-acid study, Diabetes prevention study (DPS), Berry-study) all being carried out in collaboration with researchers from several departments of KTL and from Finnish universities, especially from the University of Turku.

Public health significance of the chosen research areas

Hypertension. Globally, two-thirds of stroke and one-half of ischemic heart disease is attributable to non-optimal blood pressure. Although the mean blood pressure levels of Finnish adult men and women have decreased during the past two decades by as much as 15/13 mmHg in certain age groups the blood pressure levels are still generally far from optimal. The incidence of strokes and myocardial infarctions has diminished by 60-70 % in middle-aged men and women during the past 20-30 years. However, the total number of these serious events is not declining because the events are now more common in older age groups.

Fragility of bones. Osteoporosis results in fragile bones. The significance of osteoporosis for public health lies in fractures causing increased mortality, extensive disability, and high economic costs. The burden of fractures will increase along with the number of old people in society. Hip fractures are especially costly and cause more disability than other types of fracture. The rate of hip fractures in Finland is at present more than 7,000 annually. About 30% of patients who have been living at home before a sustained hip fracture end up in long-term institutional care within a year.

Lifestyles with adverse health effects. The Finns now consume less sodium and saturated fats and more vegetables, fruits and fatty fish than they did 20 years ago. Consumption of alcohol and fast-foods has increased, and obesity has become more common. A low socioeconomic status, sleep disturbances, short or long duration of sleep, alexithymia and low social participation are associated with increased CVD risk or impaired health, or both. Such factors may act as determinants of lifestyles. Their role needs further study.

Mobility limitation. Mobility, such as ability to walk and climb stairs is an essential prerequisite for independent high quality life. Preservation of mobility in older people is of great importance for maintaining their functional capacity and independent living. Prevention or postponement of mobility limitation thus has a high research priority.

The main scientific achievements

The surveys described before play a central role also in VTL research.

The Mini-Finland Health Survey of a sample of Finns was carried out in 1978–1980 (Aromaa, Heliövaara, Impivaara et al. Health, functional limitations and need for care in Finland, Publications of the Social Insurance Institution, Finland, AL:32, 1989). Biochemical measurements for the survey were made in the laboratory of VTL (formerly Research and Development unit of the SII).

According to one of the most recent reports based on a 22-year follow-up, obesity and poor physical performance in middle-age are major predictors of walking limitations later in life. Social capital may mediate the link between socioeconomic status and health outcomes. We found that two proxies of social capital, leisure social participation and interpersonal trust, independently of conventional health risk factors predicted survival and cardiovascular mortality differently in men and women. Further longitudinal surveys on the stability and health effects of social capital are in progress.

The Health 2000 Health Examination Survey of a sample of Finns was carried out in 2000–2001. The study is presented in detail elsewhere (<http://www.ktl.fi/health2000>). A total of 1526 of the 45-74-year old subjects participating were invited to attend a thorough cardiovascular examination. Amongst others carotid intima-media thickness and compliance were determined. Many biochemical measurements for The Health 2000 survey were made in the laboratory of VTL.

According to the Health 2000 and Mini-Finland Health examination surveys blood pressure and serum cholesterol have decreased substantially, mostly due to changes in the Finnish diet. In contrast, obesity has increased in all 10-year age-groups of adult Finnish men and women. This is an obvious explanation for the increased prevalence of type 2 diabetes in Finland. Among classical risk factors, elevated blood pressure is the main contributor of increased carotid-intima thickness.

Compared to clinic BP, home-measured BP is a better determinant of increased carotid IMT and left ventricular hypertrophy. Isolated clinic hypertension (ICH) is a pre-hypertensive state. As compared to hypertensive subjects of the Health 2000 study, subjects with ICH have healthier life-styles but similar metabolic disturbances. Obesity, duration of obesity throughout the lifespan and obesity related conditions are important risk factors for older persons' walking limitations. Longitudinal surveys on the determinants of health and functional capacity are in progress.

FINRISK 2007 study. VTL is responsible for data collection in one of the five study-regions (Turku-Loimaa) of the FINRISK 2007 study, for validity of blood sampling in the whole

study, for planning, execution, and reporting of the BP sub-study and collaborates in the evaluation of measures of functional capacity.

LASERI. The Cardiovascular Risk in Young is one of the largest follow-up studies into cardiovascular risk from childhood to adulthood. (<http://vanha.med.utu.fi/cardio/youngfinnsstudy>). VTL has performed practically all biochemical measurements for the study. The study shows that the same risk factor and life-style changes observed in adults over 30 stand also for children and young adults. The study highlights the role of genes, lifestyles and CVD risk factors in the development and progression of atherosclerosis

STRIP. The prospective randomized STRIP trial is the first-ever continuous life-style intervention with onset in infancy. (<http://stripstudy.utu.fi/eng/index3.htm>). The study shows that an individually-based continuous dietary counselling with onset in infancy is an effecting tool to decrease cardiovascular risk factor levels of boys and girls, at this moment up to 15 years of age.

Simvastatin-fatty acid study. The study is a two-stage randomized controlled study were participants were randomly allocated to a habitual diet or dietary treatment group, and to receive, in random order, simvastatin 20 mg/d or placebo, each for 12 weeks, in a double-blind manner. The study showed that simvastatin decreased cholesterol and LDL-cholesterol with the effect of simvastatin being three-fold that of the dietary treatment. Simvastatin decreased α -tocopherol, β -carotene, ubiquinol-10, increased fasting insulin and the relative level of oxidized LDL in circulation. Dietary treatment potentiated the cholesterol-lowering effect of simvastatin, counteracted its insulin-elevating effect, did not decrease levels of β -carotene, and ubiquinol-10 and did not alter relative level of oxidized LDL. Simvastatin, increased ratios of stearic to palmitic, γ -linolenic to linoleic, and arachidonic acid to dihomo- γ -linolenic acid suggesting increased fatty acid elongase, $\Delta 6$ and $\Delta 5$ desaturase enzyme activities. The study suggests that formation of long-chain polyunsaturated fatty acids and their metabolites may contribute a substantial part of the beneficial effects of simvastatin.

DPS. The prospective randomized Diabetes prevention study is one of the first studies showing that a continuous dietary and exercise counselling may prevent the incidence of new diabetes up to 60% in subjects who have glucose intolerance. VTL is one of the collaborating centers of the DPS study.

The main public health achievements

The unit has produced cumulative data on cardiovascular health promoting lifestyles (sodium, dietary fats, berries, vitamin D, exercising) and validated diagnostic measurements for clinical use (such as home measured BP, DXA-measurements in the diagnosis of osteoporosis). The expertise of the unit has been used in the work of evidence based clinical guidelines on prevention, diagnosis and treatment of hypertension (Antti Jula) and prevention and treatment of hip fractures (Olli Impivaara).

4.4 Laboratory of Analytical Biochemistry, ABIL

The Laboratory of Analytical Biochemistry has served a large number of KTL projects and several others in carrying out biochemical analyses. The main projects are FINRISK, Health 2000, EuroAspire and Dehko. The analyses include lipids and lipoproteins measurements for the surveys of cardiovascular diseases, laboratory measurements of glucose metabolism for the surveys of diabetes and hormones and special clinical chemistry measurements of clinical studies for research. The laboratory also engages in improving sample management and maintenance in KTL. The samples of the population surveys are in a guarded and safe system. The retrieving of samples is functioning as service for research groups.

The laboratory conducts biochemical determinations in basic research and population studies related to non-communicable public health problems. Clinical chemistry and sample management know-how of the laboratory is available for the research groups of the institute. The laboratory has been accredited by FINAS since 2000. General requirements for the competence of testing are based on the standard SFS-EN ISO/IEC 17025.

The Laboratory of Analytical Biochemistry was affiliated to the Department of Health and Functional Capacity in 2001. Earlier it was part of the Department of Biochemistry established in 1940's.

There are 11 employees taking into account the secretary and pc-support person shared by the Biomarker laboratory. The personnel include two biochemists, a data base expert and several technicians.

Activities

The following population studies will be carried through during 2007:

1. The national FINRISK 07 study, laboratory measurements: total Cholesterol, HDL-Cholesterol, Triglycerides, Gamma-Glutamyl Transferase Apolipoprotein A1, Apolipoprotein B and ultra-sensitive C-reactive protein in serum, n = 6300 samples.
2. The international EUROASPIRE III study (Euro Heart Survey on Secondary and Primary Prevention Of Coronary Heart Disease), laboratory measurements: total Cholesterol, HDL-cholesterol and Triglycerides in serum, Glucose in plasma and Glycated Haemoglobin A1c in blood, n = 35 000 samples.
3. The national SOKRAS study, laboratory measurements: total Cholesterol, HDL-Cholesterol, Triglycerides, Creatinine and ultra-sensitive C-reactive protein in serum and Glucose and free Fatty Acids in fasting and two hours plasma, n = 18 000 samples
4. The national DEHKO study (The Development Programme for the Prevention and Care of Diabetes), laboratory measurements: total Cholesterol, HDL-Cholesterol, Triglycerides, Gamma-Glutamyl Transferase and ultra-sensitive C-reactive protein in serum and Glucose in plasma, n = 9000 samples.

The main *collaborations* during the last ten years have been The National Diabetes Prevention Study 1995 -, The FINRISK 97 study, 1997, The international FIELD (Fenofibrate Intervention and Event Lowering in Diabetes) study, 1997 – 2006, The national Health 2000 study, 2000 –, The FINRISK 02 study, 2002

In regard to laboratory activities, ABIL and the biochemistry laboratory of the Population Research Laboratory have close collaboration.

External Quality Assessment Programs

The Laboratory takes part in the following External Quality Assessment Programs:

1. Lipid Standardization Program organized by CDC, Atlanta
2. Labquality Finland surveys for general clinical chemistry (long-term and short-term), glycated haemoglobin A1c, steroid and peptide hormones, lipids and lipoproteins and myocardial markers.

Vision and plans for 2008 to 2013

The laboratory continues to perform biochemistry measurements for population surveys and clinical studies. Strict quality assessment is needed to be able to interpret changes in serum lipids on a population level. In Finland, KTL is the only institute that maintains a high enough analytical quality for long-term population studies.

The laboratory will also be involved in the development of the sample management and sample storage system of KTL.

There are difficulties in comparing glucose and lipid levels between population studies in Europe, because a standardization program is missing. Several efforts have been made to obtain EU funding for developing such a system, but without success. The unit will continue to look into possibilities to introduce reference methods for lipids and glucose and then to open up a quality service for European laboratories performing lipid and glucose assays for population studies.

4.5. Biomarker Laboratory, MALA

The research of the Laboratory focuses on the association between nutrition and chronic diseases using nutritional and other biomarkers. This includes research on nutrient metabolism and effects, development of biomarker methodology and validation of biomarkers. The methodological approaches include epidemiological studies, human interventions, experimental animal studies and analytical chemistry.

Major research topics are currently the associations between plasma concentrations of nutritional factors (vitamins, polyphenols, fatty acids) and diabetes and coronary heart disease in the Finnish population. Different chromatographic and mass-spectrometric methods have been developed to enable the analysis of the above-mentioned compounds in plasma and urine. Collaborative intervention studies are conducted to validate their use as biomarkers and to investigate the health effects of dietary factors (e.g. berries, diets rich in fruits and vegetables, specific nutrients). Cardiovascular biomarkers, such as ADMA and homocysteine, are also measured. A large part of the work is done in collaboration with research groups within the institute and other domestic and foreign groups. Important collaborators outside KTL are currently the Universities of Tampere (S Virtanen), Helsinki (M Mutanen, K Wähälä), Oulu (A Kesäniemi), Turku (J Viikari, O Raitakari) and Oslo (R Blomhoff).

The personnel has a 30-year experience in clinical and analytical chemistry and biochemical and biomedical nutrition. It comprises ten persons. The unit is headed by an adjunct professor in nutritional biochemistry. His main research interests include development of methods for micronutrient analysis in clinical materials, clinical trials on bioavailability and metabolism of micronutrients and nutritional epidemiology, selenium metabolism and epidemiology and research on the effects of in vivo supplemented antioxidants on various aspects of lipidperoxidation, the role of B-vitamins and homocysteine in cardiovascular diseases and fat-soluble nutrients in the etiology of juvenile diabetes. A senior researcher (PhD) is responsible polyphenol research and another (MSc) for fatty acid research. One PhD student in nutrition has started her thesis in 2005. There are four technicians. A secretary and a pc-support person are shared with the Unit of Analytical Biochemistry. A former Head of Department, emeritus professor in clinical nutrition has since 2003 acted as advisor in medical issues.

Expertise

Three employees of the Biomarker Laboratory have a work history in the institute exceeding 20 years. This has been and continues to be an asset regarding planning, training and documenting the laboratory functions and biological sample handling and storage necessary in large population surveys. Another long-term activity of relevance is the expertise in various fields of selenium research. As members of the Selenium Working Group appointed by the Ministry of Agriculture and Forestry, Aro and Alftan have had a strong impact on increasing the selenium status of the Finnish population. In general, the Laboratory has played a key role in testing new hypotheses on nutrients and chronic diseases utilizing clinical samples from population surveys. The Laboratory focuses on novel biochemical measurements modified for small volumes, rapid throughput, pre-analytical factors, short- and long-term quality assessment and applicable to large numbers. The quality of laboratory work is assured by using in-house reference materials, certified reference materials, participation in external quality assessment programs, training of personnel and through documentation of activities.

Research

Research of the Biomarker Laboratory focuses on nutritional biomarkers to be applied to large-scale population studies. Since both qualitative and quantitative trends in nutrition are of

importance in nutrition policy, long-term quality assessment is well organized and documented in the unit. The homocysteine-lowering effect of betaine has been studied in several human intervention trials including short-term kinetics. Plasma homocysteine has not been found to be a risk factor for coronary heart disease in several Finnish population based studies. Strictly controlled dietary interventions aimed at comparing low fat with high fat or saturated with polyunsaturated fatty acids and increasing B-vitamins, carotenoids and polyphenols have been carried out. Among the outcomes have been lowering of plasma homocysteine, oxidative status and paraoxonase. Interventions on fatty acids have concluded that the intake of trans fatty acids in Finland is not associated with an adverse fatty acid profile. Bioconversion of trans-vaccenic acid to conjugated linolenic acid (CLA) was found and confirmed in later studies leading interest to CLA. The unit has played a central role in developing and designing laboratory field handbooks for several population studies. Due to the unique nationwide addition of sodium selenate to artificial fertilizers since 1985, the unit has been responsible for annually monitoring the selenium status of follow-up groups. Various metabolic interventions and epidemiological studies with different selenium compounds have been performed in cooperation with European groups. In polyphenol research, novel analytical methods have been developed for analyzing over 30 polyphenols and polyphenol metabolites by GC-MS and HPLC. The bioavailability of the compounds from various dietary sources has been shown. For epidemiological studies, plasma polyphenols concentrations have been validated as biomarkers of intake (e.g. biomarkers of a diet rich in fruits and vegetables, coffee, fiber). The first publication in the epidemiological project found a weak association between serum enterolactone concentrations and coronary heart disease. Particular focus is currently on the health effects of a diet rich in fruits and vegetables. The subject is being investigated in a number of own and collaborative intervention studies. An important recent finding is that in a placebo-controlled, randomized, intervention trial conducted in collaboration with VTL, consumption of berries inhibited platelet activation, increased HDL concentrations, reduced blood pressure and increased plasma concentrations of various polyphenols. A method for the analysis of ADMA (asymmetric dimethylarginine) has been developed. It was recently shown that there is a correlation between plasma ADMA levels and endothelial function as measured by flow-mediated vasodilation. Among the toxic heavy metals, human mercury exposure has been studied among risk groups, fishers and dental patients. Mercury exposure and risk for heart diseases and mortality have been studied in two population based studies in which no association was found.

Funding

Two researchers, two technicians, a secretary and a computer assistant are funded by the institute. Two researchers and two technicians and occasionally other personnel have been funded from external sources in Finland, Finnish Academy, Ministries of Social Affairs and Health and Agriculture and Forestry, domestic and foreign foundations and the National Cancer Institute, NIH. Funding through cooperation with research groups from different Finnish universities and to a lesser extent private companies has been received.

Main public health achievements

Biomarker laboratory had 140 scientific publications during 2000–2007. The unit has produced and disseminated data on the health effects of various nutritional and life-style factors (selenium, fatty acids, antioxidants, diets rich in fruits and vegetables). The ministry of Agriculture and Forestry has relied on the units' expertise in decision-making concerning fertilizer supplementation. Many of the unit's findings have been translated to public health achievements by other units and departments.

5. Organization of the department, the units and the research programmes

5.1. Overview

The department's organization is in part based on its historical and geographic background. The two larger units (KTY and VTL) are entities whose original background dates to the 1970s and 1980s, when both were parts of the Social Insurance Institution's research department. The Helsinki based Research group was working with the Mobile Clinic Studies and the Turku based group on clinical and rehabilitation related studies. Both joined forces to carry out the Mobile Clinic HESs. The two units situated in Helsinki and Turku now work together in population surveys and functioning and have also their own specific skills. Of these clinical, physiological and radiological studies are a strength in Turku and health surveys, health monitoring and health policy studies in Helsinki.

The two biochemistry departments in Helsinki (ABIL and MALA) are differentiated by ABIL carrying out high class analyses for population health surveys and MALA concentrating mainly on nutritional biomarkers and chromatographic and mass-spectrometric methods development. Thus the unit based organization is functionally sound. The biochemistry in Turku (VTL) serves clinical and collaborative studies. Whilst the Helsinki population level laboratory (ABIL) uses mainly standard sets of determinations made on large numbers of samples the Turku Biochemistry laboratory has greater flexibility. It can develop methods for relatively small scale studies and participates also in research on a smaller scale. The laboratory units in Helsinki and Turku are working closely together in surveys and methodological development.

The research programmes are in part specific to various units and in part shared by the department's units and, in some instances, also by other departments of KTL. However, typically large studies and surveys are carried out in collaboration with other research organizations and researchers outside KTL. In fact, major programmes of both KTY and VTL are collaborative studies. Examples are the national Health 2000 project, TEROKA (reducing socioeconomic health differences), several health policy studies, STRIP and LASERI (risk factors in children and young adults).

5.2. The current research programmes

The current research programmes are:

1. *Population level and clinical research*

Studies comprise analyses of disease occurrence, functioning, determinants and time trends in the large population surveys with comprehensive register-based follow-up. Collaboration with long-term studies on health in children (Cardiovascular Risk in Young Finns=LASERI; a randomised trial of (atherosclerosis prevention in childhood= The STRIP project) is continuing in the Turku centre. Clinical research concerns clinical scale experiments of the cardiovascular system and related factors such as lipoproteins and genes. Fishermen's health and its determinants have been studied and an experiment of the health effects of berries has been carried out.

2. *Health 2000*

Health 2000 continues to be a most important basis for research, with several hundred studies going on in KTL and elsewhere. The Unit in Helsinki serves all researchers by providing up-to-date data sets ordered by researchers over the Internet. In the annual reports and this report most of the Health 2000 based studies are presented under topic specific themes. A major funding problem for support functions has made it difficult to provide the needed aids to researchers.

3. *Health monitoring, Finland*

Major current undertakings are: a proposal on how to carry out health monitoring in municipalities and their federations, construction of an Internet based site for viewing and analysing health data easily, and preparations for the next book Health in Finland to be published in 2008 or 2009. A key construct is an intelligent Internet based system of distributing the information. This system being prepared in KTL. It requires about two person years of funding for two more years, but obtaining it is uncertain.

4. *Health monitoring, EU*

The large projects are ECHIM (implementation of health indicators and monitoring), FEHES (feasibility of a European health examination), HIS/HES data base. Applications to EU Sanco/PHEA have been made for further funding of these projects. For over a year there have been indications that EU Sanco and the PHEA (Public Health Executive Agency) are at divergence about all issues. The news based on PHEA selections suggest that none of these projects will receive funding – a most unwise decision from the public health point of view. This preliminary decision will be challenged by many members of the Programme Committee. We still hope that either the present funding proposals are reversed or that there will be some securities of obtaining needed funds during the next round.

5. *Analytical biochemistry*

The Laboratory of Analytical Biochemistry has served a large number of KTL projects and several others in carrying out biochemical analyses. The main projects are Finrisk, Health 2000, EuroAspire and Dehko. The analyses include lipids and lipoproteins measurements for the surveys of cardiovascular diseases, laboratory measurements of glucose metabolism for the surveys of diabetes and hormones and special clinical chemistry measurements of clinical studies for research. The laboratory is also involved in the developing of the storage sample system in KTL. The samples of the population surveys are in a guarded and safe system. The retrieving of samples is functioning as service for research groups.

6. *Biomarker research*

Major research topics in the Biomarker Laboratory are currently associations between plasma concentrations of dietary constituents (vitamins, polyphenols, fatty acids) and chronic diseases, such as diabetes and coronary heart disease, in the Finnish population. Different chromatographic and mass-spectrometric methods have been developed to enable the analysis of the above-mentioned compounds in plasma and urine. Collaborative intervention studies are conducted to validate their use as biomarkers. The health effects of dietary factors (e.g. berries, diets rich in fruits and vegetables, specific nutrients) and other life-style factors are being investigated .

7. *Health Policy studies,*

Current health policy studies in 2006 were

- *Development of dental care.* To assess the impact of the new legislation several rounds of questionnaire studies were carried out between 2001 and 2007. Early results suggested that the changes in use had been in the direction of the aims of the legislation.
- *The family doctor experiment of SH.* The recent findings showed that the possibilities to consult a specialist at a much reduced price (to the patient) reduced hospital costs and increased satisfaction among both physicians and patients.
- *The Helsinki Psychotherapy Study (HPS).* This long-term intervention study was designed to compare the effectiveness of psychotherapies of different type and length and to evaluate patients' suitability for therapy
- *Cost-efficiency of prevention.* The study reviewed available evidence and resulted in suggestions on the most cost-effective means of health promotion and prevention

8. *Methods for Population surveys .*

Measures of functioning were included in the FINRISK 2007 survey and they were assessed. Of clinicophysiological measures blood pressure values and measurement methods were also assessed.

6. Dissemination of some of the department's principles and practices

On behalf of the whole Institute, the department has participated in work to establish principles for quality assurance and sound research practices. Some of those have been outlined in the publication 'Good Research Practice in KTL' and quality assurance for laboratory work in 'The Quality Handbook'.

a. Laboratory activities including division of tasks and quality assurance

The Quality Handbook establishes principles and practices to be followed in laboratory based studies and research. It gives instructions on all phases beginning with sample taking and handling and going on to laboratory analyses proper.

b. The department's research principles and practices of the whole Institute

Sound research principles for the whole of KTL are laid down in the handbook 'Good Research Practice in KTL'. The book which is available also in the Intranet in an up-dated form deals with central topics for every researcher. Examples are: strategic goals for research, legislation and guidelines, research ethics, violation of good scientific practice, planning and carrying out a project, transparency, publication and communications, archiving, steering and administration of research, research funding. The book is used both as a document and as material for research training.

7. Scientific publications and public health outputs in 2002 to 2006

7.1. Overview

The number of scientific papers has increased and their average quality has improved during the past five years. From 2002 to 2006 the total annual number of publications increased from 124 to 231, and that of original articles from 81 to 125. From 2002 the number of original English language articles increased from 54 to 87.

During the same time period the topics remained but their main emphasis was transferred to books and articles based on Health 2000, whilst dissertations on that study have mainly been published from 2006 onwards. This natural transition demonstrates that in large population studies the time between data gathering and publication is generally more than five years.

In addition to scientific publications, the scientific outputs of the Department include e.g.

- numerous referee statements for several scientific journals and funding organisations
- acting as an opponent of several doctoral theses
- acting as a reviewer of several doctoral theses
- acting as a reviewer of professorship and adjunct professorship applications
- acting as a reviewer of several master's theses
- numerous memberships and presidencies/chairpersonships in scientific organisations, committees and meetings in Finland and abroad
- editorial positions in several scientific journals
- supervision of dozens of PhD theses

A selection of publications is listed below with the aim to provide some insight into the topics dealt with in research publications. The appendices (Appendix 1. Main findings, Appendix 2. All publications) include a description of main findings per year and a list of all publications.

In the following, the impact of carrying out a large empirical survey on publications is clearly seen in the record of the department. The majority of the original articles have been written by collaborating researchers and often as their dissertations. The core group of researchers has taken care of documenting baseline results of the whole survey and the methodology for future use. If this is the rule it is important to devise ways in which to attract doctoral students and their supervisors also to future surveys. During the planning and field stages this means that up-to-date themes of scientific interest must be built into the field survey.

7.2. Selected publications by year

2002

Articles

1. Aromaa A, Knekt P, Reunanen A, Tuomilehto J, Jousilahti P, Vartiainen E, Nissinen A, Prospective SC: Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies. *Lancet* 2002; 360:1903-1913.
2. Clarke R, Homocysteine Studies Collaboration Group, Alftan G, Tuomilehto J: Homocysteine and risk of ischemic heart disease and stroke. *JAMA* 2002; 288: 2015-2022.
3. Erlund I, Silaste ML, Alftan G, Rantala M, Kesäniemi YA, Aro A. Plasma concentrations of the flavanoids hesperetin, naringenin and quercetin in human subjects following their habitual diets and diets high or low in fruit and vegetables. *Eur J Clin Nutr* 2002;56:891-98.
4. Freese R, Alftan G, Jauhiainen M, Basu S, Erlund I, Salminen I, Aro A, Mutanen M: High intakes of vegetables, berries, and apples combined with a high intake of linoleic or oleic acid only slightly affect markers of lipid peroxidation and lipoprotein metabolism in healthy subjects. *Am J Clin Nutr* 2002; 76: 950-60.
5. Guallar E, Sanz-Gallardo MI, Bode P, Aro A, Gómez-aracena J, Kark JD, Riemersma RA, Martín-Moreno JM, Kok FJ: Mercury, fish oils, and the risk of myocardial infarction. *N Engl J Med* 2002; 347:1747-1754.

6. Hartman TJ, Taylor PR, Alfthan G, Fagerstrom R, Virtamo J, Mark SD, Virtanen M, Barrett MJ, Albanes D. Toenail selenium concentration and lung cancer in male smokers (Finland). *Cancer Causes Control* 2002;13:923-28.
 7. Hyyppä MT: Swedish-speaking Finns have a longer active life. *Lifelong Learning in Europe* 2002; 7: 234-237.
 8. Jartti L, Raitakari O, Kaprio J, Järvisalo M, Toikka J, Marniemi J, Hammar N, Luotolahti M, Koskenvuo M, Rönnemaa T: Increased carotid intima-media thickness in men born in east Finland: a twin study of the effects of birthplace and migration to Sweden on subclinical atherosclerosis. *Ann Med* 2002; 34: 162-170.
 9. Jula A, Marniemi J, Huupponen R, Virtanen A, Rastas M, Rönnemaa T: Effects of diet and simvastatin on serum lipids, insulin, and antioxidants in hypercholesterolemic men. A randomized controlled trial. *JAMA* 2002; 287: 598-605.
 10. Karjalainen J, Nieminen MM, Aromaa A, Klaukka T, Hurme M: The IL-1 beta genotype carries asthma susceptibility only in men. *J Allergy Clin Immunol* 2002; 109 :514-516.
 11. Karvonen HM, Aro A, Tapola NS, Salminen I, Uusitupa MIJ, Sarkkinen ES. Effect of alpha-linoleic acid-rich *Camelina sativa* oil on serum fatty acid composition and serum lipids in hypercholesterolemic subjects. *Metabolism* 2002;51: 1253-60.
 12. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Aromaa A: Secular changes in prevalence of cardiovascular diseases in elderly Finns. *Scandinavian Journal of Public Health* 2002;30:274-280.
 13. Knekt P, Kumpulainen J, Järvinen R, Rissanen H, Heliövaara M, Reunanen A, Hakulinen T, Aromaa A: Flavonoid intake and risk of chronic diseases. *Am J Clin Nutr* 2002;76:560-568.
 14. Kosunen TU, Höök-Nikanne J, Salomaa A, Sarna S, Aromaa A, Haahntela T: Increase of allergen-specific immunoglobulin E antibodies from 1973 to 1994 in a Finnish population and a possible relationship to *Helicobacter pylori* infections. *Clin Exp Allergy* 2002;32:373-378.
 15. Manninen P, Heliövaara M, Riihimäki H, Suomalainen O: Physical workload and the risk of severe knee osteoarthritis. *Scand J Work Environ Health* 2002;28:25-32.
 16. Marniemi J, Kronholm E, Aunola S, Toikka T, Mattlar C-E, Koskenvuo M, Rönnemaa T: Visceral fat and psychosocial stress in identical twins discordant for obesity. *J Intern Med* 2002; 251: 35-43.
 17. Palosuo T, Alenius H, Turjanmaa K: Quantitation of latex allergens. *Methods* 2002;27:52-58.
 18. Perez-Perez GI, Salomaa A, Kosunen TU, Daverman B, Rautelin H, Aromaa A, Knekt P, Blaser MJ: Evidence that *cagA+* *Helicobacter pylori* strains are disappearing more rapidly than *cagA-* strains. *Gut* 2002;50:295-298.
 19. Pussinen P, Vilkkuna-Rautiainen T, Alfthan G, Mattila K, Asikainen S. Multi-serotype ELISA as a diagnostic aid for periodontitis in large-scale studies. *J Clin Microbiol* 2002;40:512-18.*
 20. Reunanen A, Roivainen M, Kleemola M, Saikku P, Leinonen M, Hovi T, Knekt P, Leino A, Aromaa A: Enterovirus, mycoplasma and other infections as predictors for myocardial infarction. *J Intern Med* 2002;252:421-429.
 21. Rissanen A, Heliövaara M, Alaranta H, Taimela S, Mälkiä E, Knekt P, Reunanen A, Aromaa A: Does good trunk extensor performance protect against back-related work disability? *Journal of Rehabilitation Medicine* 2002;34:62-66.
 22. Tarpila S, Aro A, Salminen I, Tarpila A, Kleemola P, Akkila J, Adlercreutz H: The effect of flaxseed supplementation in processed foods on serum fatty acids and enterolactone. *Eur J Clin Nutr* 2002;56:157-165.
- Books**
1. Aromaa A, Koskinen S: *Terveys ja toimintakyky Suomessa. Terveys 2000 -tutkimuksen perustulokset (Health and functional capacity in Finland. Baseline results of the Health 2000 health examination survey, in Finnish).* 2002. 148 p. (Publications of National Public Health Institute, Series B 3/2002).
 2. Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M: *Kohti terveyden tasa-arvoa (Towards Equity in Health, in Finnish).* Helsinki: Edita Prima Oy, 2002. 333 p.
- Theses**
1. Erlund I: *Chemical analysis and pharmacokinetics of the flavonoids quercetin, hesperetin and naringenin in humans [dissertation].* 2002. 241 p. (Publications of National Public Health Institute, Series A 27/2002).
 2. Heistaro S: *Trends and determinants of subjective health. Analysis from the national Finrisk surveys [dissertation].* 2002. 232 p. (Publications of National Public Health Institute, Series A 24/2002).
- 2003**
- Articles**
1. Alfthan G, Laurinen MS, Valsta LM, Pastinen T, Aro A: Folate intake, plasma folate and homocysteine status in a random Finnish population. *Eur J Clin Nutr* 2003;57:81-88.
 2. Aromaa A, Koponen P, Tafforeau J, Vermeire C, The HIS/HES core group: Evaluation of health interview surveys and health examination surveys in the European Union. *European Journal of Public Health* 2003;13(Suppl 3):67-72.

3. Erlund I, Marniemi J, Hakala P, Alftan G, Meririnne E, Aro A: Consumption of black currants, lingonberries and bilberries increases serum quercetin concentrations. *Eur J Clin Nutr* 2003;57:37-42.
 4. Forssas E, Keskimäki I, Reunanen A, Koskinen S: Widening socioeconomic mortality disparity among diabetic people in Finland. *European Journal of Public Health* 2003;13:38-43.
 5. Haara MM, Manninen P, Kröger H, Arokoski JPA, Kärkkäinen A, Knekt P, Aromaa A, Heliövaara M: Osteoarthritis of finger joints in Finns aged 30 or over: prevalence, determinants, and association with mortality. *Ann Rheum Dis* 2003;62: 151-158.
 6. Hetemaa T, Keskimäki I, Manderbacka K, Leyland AH, Koskinen S: How did the recent increase in the supply of coronary operations in Finland affect socioeconomic and gender equity in their use? *J Epidemiol Community Health* 2003;57: 178-185.
 7. Huittinen T, Leinonen M, Tenkanen L, Virkkunen H, Mänttari M, Palosuo T, Manninen V, Saikku P: Synergistic effect of persistent *Chlamydia pneumoniae* infection, autoimmunity, and inflammation on coronary risk. *Circulation* 2003;107:2566-2570.
 8. Hyyppä MT, Kronholm E, Virtanen A, Leino A, Jula A. Does simvastatin affect mood and steroid hormone levels in hypercholesterolemic men? A randomized double-blind trial. *Psychoneuroendocrinology* 2003; 28:181-94.
 9. Karjalainen J, Joki-Erkkilä VP, Hulkkonen J, Pessi T, Nieminen MM, Aromaa A: The IL1A genotype is associated with nasal polyposis in asthmatic adults. *Allergy* 2003;58:393-396.
 10. Korpilähde T, Heliövaara M, Kaipainen-Seppänen O, Knekt P, Aho K: Regional differences in Finland in the prevalence of rheumatoid factor in the presence and absence of arthritis. *Ann Rheum Dis* 2003;62:353-355.
 11. Laukkanen P, Koskela P, Pukkala E, Dillner J, Läärä E, Knekt P, Lehtinen M: Time trends in incidence and prevalence of human papillomavirus type 6, 11 and 16 infections in Finland. *J Gen Virol* 2003;84:2105-2109.
 12. Linnala A, Aromaa A, Mattila K: Improved availability of specialist consultations in primary health care: impact on physician visits. *Scand J Prim Health Care* 2003;21:83-88.
 13. Mannisto S, Pietinen P, Virtanen MJ, Salminen I, Albanes D, Giovannucci E, Virtamo J. Fatty Acids and Risk of Prostate Cancer in a Nested Case-Control Study in Male Smokers. *Cancer Epidemiol Biomarkers Prev* 2003;12:1422-1428.
 14. Montonen J, Knekt P, Järvinen R, Aromaa A, Reunanen A: Whole-grain and fiber intake and the incidence of type 2 diabetes. *Am J Clin Nutr* 2003;77:622-629.
 15. Palosuo T, Tilvis R, Strandberg T, Aho K: Filaggrin related antibodies among the aged. *Ann Rheum Dis* 2003;62:261-263.
 16. Pussinen PJ, Jousilahti P, Alftan G, Palosuo T, Asikainen S, Salomaa V: Antibodies to periodontal pathogens are associated with coronary heart disease. *Arterioscler Thromb Vasc Biol* 2003;23:1250-1254.
 17. Reunanen A, Heliövaara M, Aho K: Coffee consumption and risk of type 2 diabetes mellitus. *Lancet* 2003;361:702.
 18. Rissanen H, Knekt P, Järvinen R, Salminen I, Hakulinen T: Serum fatty acids and breast cancer incidence. *Nutr Cancer* 2003;45:168-75.
 19. Tuominen R, Reunanen A, Paunio M, Paunio I, Aromaa A: Oral health indicators poorly predict coronary heart disease deaths. *J Dent Res* 2003;82:713-718.
 20. Virtanen R, Jula A, Kuusela T, Helenius H, Voipio-Pulkki LM: Reduced heart rate variability in hypertension: associations with lifestyle factors and plasma renin activity. *J Hum Hypertens* 2003;17:171-179.
 21. Ylönen K, Alftan G, Groop L, Saloranta C, Aro A, Virtanen SM and the Botnia Research Group. A high dietary intake of lycopene is associated with low fasting plasma glucose concentrations in high-risk subjects for type 2 diabetes (The Botnia Dietary Study). *Am J Clin Nutr* 2003;77:1434-41.
- Books
1. Aromaa A, Koponen P, Tafforeau J, Vermeire C, Primatesta P, Marmot M, Kurth B, Gargiulo L, Lehto-Järnstedt U, Rätty S: Health surveys: evaluation and recommendations. 2003. (Publications of National Public Health Institute, Series B 16/2003).
 2. Aromaa A, Koponen P, Tafforeau J, Vermeire C: Status and future of health surveys in the European Union. Final report of Phase 2 of the project health surveys in the EU: HIS and HIS/HES evaluations and models. 2003. 182 p. (Publications of National Public Health Institute, Series B 13/2003/2003).
 3. Aromaa A, Launis V, Lötjönen S: DNA samples in epidemiological research. Helsinki: 2003. (Publications of the Ministry of Social Affairs and Health).
 4. Van Oyen H, Tafforeau J, Koponen P, Vermeire C, Nelissen J, Primatesta P, Aromaa A: European health surveys database: methodology and contents. *European Journal of Public Health* 2003;13(4, Suppl.):35.
- Theses
1. Kiiskinen U: A health production approach to the economic analysis of health promotion [dissertation]. 2003. (Publications of National Public Health Institute, Series A 6/2003).
 2. Paalanen L: Ruoankäytön frekvenssikyselyn validiteetti Terveys 2000 –tutkimuksessa (The validity of the food frequency questionnaire in

the Health 2000 study) [pro gradu]. Helsinki: Helsingin yliopisto, 2003. 99 p.

2004

Articles

1. Aho K, Heliövaara M: Risk factors for rheumatoid arthritis. *Ann Med* 2004;36:242-251.
2. Alftan G, Tapani K, Nissinen K, Saarela J, Aro A. The effect of low doses of betaine on plasma homocysteine in healthy volunteers. *Br J Nutr* 2004;92:665-69.
3. Becker W, Lyhne N, Pedersen AN, Aro A, Fogelholm M, Phórsdóttir I, Alexander J, Anderssen SA, Meltzer HM, Pedersen JI: Nordic Nutrition Recommendations 2004 - integrating nutrition and physical activity. *Scandinavian Journal of Nutrition* 2004;48:178-187.
4. Erlund I: Review of the flavonoids quercetin, hesperetin, and naringenin. Dietary sources, bioactivities, bioavailability, and epidemiology. *Nutrition Research* 2004;24:851-874.
5. Haara MM, Heliövaara M, Kröger H, Arokoski JPA, Manninen P, Kärkkäinen A, Knekt P, Impivaara O, Aromaa A: Osteoarthritis in the carpometacarpal joint of the thumb. *J BONE JOINT SURG AM* 2004;86:1452-1457.
6. Hetemaa T, Keskimäki I, Salomaa V, Mähönen M, Manderbacka K, Koskinen S: Socioeconomic inequities in invasive cardiac procedures after first myocardial infarction in Finland in 1995. *J Clin Epidemiol* 2004;57:301-308.
7. Härkänen T, Arjas E: Tumour incidence, prevalence and lethality estimation in the absence of cause-of-death information. *Journal of the Royal Statistical Society. Series C, Applied statistics* 2004;53:601-617.
8. Isolauri E, Huurre A, Salminen S, Impivaara O. The allergy epidemic extends beyond the past few decades. *Clin Exp Allergy* 2004;34:1007-10.
9. Janis MT, Siggins S, Tahvanainen E, Vikstedt R, Silander K, Metso J, Aromaa A, Taskinen MR, Olkkonen VM, Jauhiainen M, Ehnholm C: Active and low-active forms of serum phospholipid transfer protein in a normal Finnish population sample. *J Lipid Res* 2004;45:2303-2309.
10. Juonala M, Viikari J, Laitinen T, Marniemi J, Helenius H, Rönnemaa T, Raitakari OT: Interrelations between brachial endothelial function and carotid intima-media thickness in young adults: the cardiovascular risk in young Finns study. *Circulation* 2004;110:2918-2923.
11. Karisola P, Mikkola J, Kalkkinen M, Airene KJ, Laitinen OH, Repo S, Pentikäinen OT, Reunala T, Turjanmaa K, Johnson MS, Palosuo T, Kulomaa MS, Alenius H: Construction of hevein (Hev b 6.02) with reduced allergenicity for immunotherapy of latex allergy by comutation of six amino acid residues on the conformational IgE epitopes. *J Immunol* 2004;172:2621-2628.
12. Kattainen A, Koskinen S, Reunanen A, Martelin T, Knekt P, Aromaa A: Impact of cardiovascular diseases on activity limitations and need for help among older persons. *J Clin Epidemiol* 2004;57:82-88.
13. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Aromaa A: Disability predicted mortality in men but not women with coronary heart disease. *J Clin Epidemiol* 2004;57:513-521.
14. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Sainio P, Härkänen T, Aromaa A: Secular changes in disability among middle-aged and elderly Finns with and without coronary heart disease from 1978-1980 to 2000-2001. *Ann Epidemiol* 2004;14:479-485.
15. Knekt P, Ritz J, Pereira MA, O'Reilly EJ, Augustsson K, Fraser GE, Goldbourt U, Heitmann BL, Hallmans G, Liu S, Pietinen P, Spiegelman D, Stevens J, Virtamo J, Willett WC, Rimm EB, Ascherio A: Antioxidant vitamins and coronary heart disease risk: a pooled analysis of 9 cohorts. *Am J Clin Nutr* 2004;80:1508-1580.
16. Korpilähde T, Heliövaara M, Knekt P, Marniemi J, Aromaa A, Aho K: Smoking history and serum cotinine and thiocyanate concentrations as determinants of rheumatoid factor in non-rheumatoid subjects. *Rheumatology* 2004;43:1424-1428.
17. Manninen P, Riihimäki H, Heliövaara M, Suomalainen O: Weight changes and the risk of knee osteoarthritis requiring arthroplasty. *Ann Rheum Dis* 2004;63:1434-1437.
18. Martelin T, Mäkelä P, Valkonen T: Contribution of deaths related to alcohol or smoking to the gender difference in life expectancy: Finland in the early 1990s. *European Journal of Public Health* 2004;14:422-427.
19. Montonen J, Knekt P, Järvinen R, Reunanen A: Dietary antioxidant intake and risk of type 2 diabetes. *Diabetes Care* 2004;27:362-366.
20. Pereira MA, O'Reilly E, Augustsson K, Fraser GE, Goldbourt U, Heitmann BL, Hallmans G, Knekt P, Liu S, Pietinen P, Spiegelman D, Stevens J, Virtamo J, Willett WC, Ascherio A. Dietary fiber and risk of coronary heart disease: a pooled analysis of cohort studies. *Arch Intern Med* 2004;164:370-376.
21. Pussinen PJ, Alftan G, Rissanen H, Reunanen A, Asikainen S, Knekt P. Antibodies to periodontal pathogens and stroke risk. *Stroke* 2004;35:2020-3.
22. Silaste ML, Rantala M, Alftan G, Aro A, Witztum JL, Kesäniemi YA, Hörkkö S. Changes in dietary fat intake alter plasma levels of oxidized low-density lipoprotein and lipoprotein(a). *Arterioscler Thromb Vasc Biol* 2004;24:498-503.
23. Soinio M, Marniemi J, Laakso M, Lehto S, Rönnemaa T: Elevated plasma homocysteine level is an independent predictor of coronary heart disease events in patients with type 2 diabetes mellitus. *Ann Intern Med* 2004;140:94-100.
24. Suominen-Taipale AL, Koskinen S, Martelin T, Homen J, Johnsen R: Differences in older adults'

use of primary and specialist care services in two Nordic countries. *Eur J Public Health* 2004;14:375-80.

25. Surakka J, Alanen E, Aunola S, Karppi S, Lehto P: Adherence to a power-type strength training programme in sedentary, middle-aged men and women. *Advances in Physiotherapy* 2004;6:99-109.
26. Virtanen R, Jula A, Huikuri H, Kuusela T, Helenius H, Ylitalo A, Voipio-Pulkki L, Kauma H, Kesäniemi YA, Airaksinen J: Increased pulse pressure is associated with reduced baroreflex sensitivity. *J Hum Hypertens* 2004;18:247-252.
27. Visscher TLM, Rissanen A, Seidell JC, Heliövaara M, Knekt P, Reunanen A, Aromaa A: Obesity and unhealthy life-years in adult Finns. An empirical approach. *Arch Intern Med* 2004;164:1413-1420

Books

1. Aromaa A, Koskinen S: Health and functional capacity in Finland. Baseline results of the Health 2000 health examination survey. 2004. 171 p. (Publications of National Public Health Institute, Series B 12/2004).
2. Keskimäki I, Aalto A, Häkkinen U, Klaukka T, Manderbacka K, Reunanen A, Vehko T: Sepalvaltimotauti ja eriarvoisuus. (Coronary heart disease and health disparity). Helsinki: Stakes, 2004. 100 p. (Raportteja 286/2004).
3. Knekt P, Lindfors O: A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year follow-up. Helsinki: Studies in social security and health 77, Social Insurance Institution, Finland, 2004. 112 p.
4. Koponen P, Luoto R: Lisääntymisterveys Suomessa. Terveys 2000 -tutkimus. (Reproductive health in Finland, the Health 2000 study) 2004. 94 p. (Publications of National Public Health Institute, Series B 5/2004).
5. Laiho J, Nieminen T: Terveys 2000 -tutkimus. aikuisväestön haastatteluaineiston tilastollinen laatu. Otanta-asetelma, tiedonkeruu, vastauskato ja estimointi- ja analyysiasetelma. (The statistical quality of the interview survey in the Health 2000 study). Helsinki: Yliopistopaino, 2004. 91 p. (Tilastokeskuksen tutkimuksia 239/2004).
6. Palosuo H, Sihto M, Keskimäki I, Koskinen S, Lahelma E, Manderbacka K, Prättälä R. Eriarvoisuus ja terveyspolitiikka. Kokemuksia sosioekonomisten terveyserojen kaventamisesta Ruotsissa, Englannissa ja Hollannissa (Inequity and health policy. Lessons learnt from policies to reduce socioeconomic inequalities in health in Sweden, England and Holland, in Finnish with English summary). Publications of the Ministry of Social Affairs and Health 2004:12. Helsinki: Ministry of Social Affairs and Health, 2004, 162 pages.
7. PeTo-työryhmä, Sainio P, Aunola S, Vaara M, Alanen E, Rätty S: Toiminta- ja työkyvyn fyysisten arviointi- ja mittausmenetelmien kartoittaminen ICF-luokituksen aihealueella "liikkuminen". Helsinki: Stakes, 2004. 108 p. (Aiheita 25/2004).
8. Suominen-Taipale L, Nordblad A, Vehkalahti M, Aromaa A: Suomalaisten aikuisten suunterveys. Terveys 2000 -tutkimus. 2004. 206 p. (Publications of National Public Health Institute, Series B 16/2004).

Theses

1. Hakulinen K: Avofysioterapiapalvelujen käyttö Suomessa. Terveys 2000 -tutkimuksen tuloksia. [pro gradu]. Helsinki: 2004. 89 p. (Publications of National Public Health Institute Series B14/2004).
2. Kattainen A: Cardiovascular diseases and functional capacity, prevalence, secular changes and predictive value [dissertation]. 2004. 80 p. (Publications of National Public Health Institute, Series A 7/2004).

2005

Articles

1. Ahola K, Honkonen T, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J: The relationship between job-related burnout and depressive disorders - results from the Finnish Health 2000 Study. *J Affect Disord* 2005;88:55-62.
2. Haara MM, Arokoski JPA, Kröger H, Kärkkäinen A, Manninen P, Knekt P, Impivaara O, Heliövaara M: Association of radiological hand osteoarthritis with bone mineral mass: a population study. *Rheumatology* 2005;44:1549-1554.
3. Hokkanen S, Kosunen TU, Sarna S, Miettinen A, Salomaa A, Aromaa A, Knekt P, Rautelin HI: Normal serum pepsinogen I levels in adults: A population-based study with special reference to Helicobacter pylori infection and parietal cell antibodies. *Scand J Clin Lab Invest* 2005;65:291-300.
4. Hämäläinen H, Rönnemaa T, Virtanen A, Lindström J, Eriksson JG, Valle TT, Ilanne-Parikka P, Keinänen-Kiukkaanniemi S, Rastas M, Aunola S, Uusitupa M, Tuomilehto J, Finnish Diabetes Prevention Study Group: Improved fibrinolysis by an intensive lifestyle intervention in subjects with impaired glucose tolerance. *Diabetologia* 2005;48:2248-2253.
5. Härkänen T, Knekt P, Virtala E, Lindfors O, Helsinki Psychotherapy Study Group: A case study in comparing therapies involving informative drop-out, non-ignorable non-

- compliance and repeated measurements. *Stat Med* 2005;24:3773-3787.
6. Jula A, Marniemi J, Rönnemaa T, Virtanen A, Huupponen R: Effects of diet and simvastatin on fatty acid composition in hypercholesterolemic men : a randomized controlled trial. *Arterioscler Thromb Vasc Biol* 2005;25:1952-1959.
 7. Kaaja R, Kinnunen T, Luoto R: Regional differences in prevalence of pre-eclampsia in relation to the risk factors for coronary artery disease in women in Finland. *Eur Heart J* 2005;26:44-50.
 8. Kattainen A, Salomaa V, Härkänen T, Jula A, Kaaja R, Kesäniemi YA, Kähönen M, Moilanen L, Nieminen MS, Aromaa A, Reunanen A: Coronary heart disease: from a disease of middle-aged men in the late 1970s to a disease of elderly women in the 2000s. *Eur Heart J* 2005.
 9. Korodi Z, Wang X, Tedeschi R, Knekt P & Dillner J. No serological evidence of association between prostate cancer and infection with herpes simplex virus type 2 or human herpesvirus type 8: a nested case-control study. *J Infect Dis* 2005;191:2008-2011.
 10. Kosunen TU, Seppälä K, Sarna S, Aromaa A, Knekt P, Virtamo J, Salomaa-Räsänen A, Rautelin H: Association of *Helicobacter pylori* IgA antibodies with the risk of peptic ulcer disease and gastric cancer. *World Journal of Gastroenterology* 2005;11:6871-6874.
 11. Laaksonen DE, Lindström J, Lakka TA, Eriksson JG, Niskanen L, Wikström K, Aunola S, Keinänen-Kiukkaanniemi S, Laakso M, Valle TT, Ilanne-Parikka P, Louheranta A, Hämäläinen H, Rastas M, Salminen V, Cepaitis Z, Hakumäki M, Kaikkonen H, Härkönen P, Sundvall J, Tuomilehto J, Uusitupa M for the Finnish Diabetes Prevention Study Group. Physical activity in the prevention of type 2 diabetes: The Finnish Diabetes Prevention Study. *Diabetes* 2005;54:158-65.
 12. Laitinen A, Koskinen S, Härkänen T, Reunanen A, Laatikainen L, Aromaa A: A nationwide population-based survey on visual acuity, near vision, and self-reported visual function in the adult population in Finland. *Ophthalmology* 2005;112:2227-37
 13. Martikainen P, Martelin T, Nihtilä E, Majamaa K, Koskinen S: Differences in mortality by marital status in Finland from 1976 to 2000: Analyses of changes in marital-status distributions, socio-demographic and household composition, and cause of death. *Population Studies* 2005;59:99-115.
 14. Marniemi J, Alanen E, Impivaara O, Seppänen R, Hakala P, Rajala T, Rönnemaa T: Dietary and serum vitamins and minerals as predictors of myocardial infarction and stroke in elderly subjects. *Nutr Metab Cardiovasc Dis* 2005; 15: 188-97.
 15. Miranda H, Viikari-Juntura E, Heistaro S, Heliövaara M, Riihimäki H: A population study of differences in the determinants of a specific shoulder disorder versus nonspecific shoulder pain without clinical findings. *Am J Epidemiol* 2005;161:847-855
 16. Montonen J, Knekt P, Härkänen T, Järvinen R, Heliövaara M, Aromaa A, Reunanen A: Dietary patterns and the incidence of type 2 diabetes. *Am J Epidemiol* 2005;161:219-227.
 17. Pirkola S, Isometsä E, Suvisaari J, Aro H, Joukamaa M, Poikolainen K, Koskinen S, Aromaa A, Lönnqvist J: DSM-IV mood-, anxiety- and alcohol use disorders and their comorbidity in the Finnish general population - Results from the Health 2000 Study. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:1-10.
 18. Poussa MS, Heliövaara MM, Seitsamo JT, Kononen MH, Hurmerinta KA, Nissinen MJ: Predictors of neck pain: a cohort study of children followed up from the age of 11 to 22 years. *Eur Spine J* 2005;14:1033-1036.
 19. Pussinen P, Nyyssönen K, Alftan G, Salonen R, Laukkanen JA, Salonen JT. Serum antibody levels to *Actinobacillus actinomycetemcomitans* predict the risk for coronary heart disease. *Arterioscler Thromb Vasc Biol* 2005;25:833-38.
 20. Surakka J, Virtanen A, Aunola S, Mäentaka K, Pekkarinen H: Reliability of knee muscle strength and fatigue measurements. *Biology of Sport* 2005;22:301-313.
 21. Uusitalo L, Knip M, Kenward MG, Alftan G, Sundvall J, Aro A, Reunanen A, Åkerblom H, Virtanen SM, Childhood Diabetes in Finland Study Group. Serum alphatocopherol concentrations and risk of type 1 diabetes: a cohort study in siblings of affected children. *J Pediatr Endocrin Metab* 2005;78:1409-16.
 22. Venojärvi M, Puhke R, Hämäläinen H, Marneimi J, Rastas M, Rusko H, Nuutila P, Hänninen O, Aunola S. Role of skeletal muscle-fibre type in regulation of glucose metabolism in middle-aged subjects with impaired glucose tolerance during a long-term exercise and dietary intervention. *Diabetes Obes Metab* 2005;7:745-54.
- Books
1. Aromaa A, Huttunen J, Koskinen S, Teperi J: *Suomalaisten terveysterveys (Health in Finland)*. Helsinki: Duodecim, 2005. 486 p.
 2. Heistaro S: *Menetelmäraportti. Terveysterveys 2000 - tutkimuksen toteutus, aineisto ja menetelmät. (The methods report, Implementation, material and methods of the Health 2000 study)*. 2005. 256 p. (Publications of National Public Health Institute, Series B 6/2005).
 3. Kiiskinen U, Suominen-Taipale L, Aromaa A, Arinen S: *Koettu suunterveys ja hammashoitopalvelujen käyttö hammashoitouudistuksen aikana. (Perceived oral health and use of dental care during the reform of dental care)*. 2005. 55 p. (Publications of National Public Health Institute, Series B 22/2005/2005).

4. Koskinen S, Kestilä L, Martelin T, Aromaa A ed. Nuorten aikuisten terveys. Terveys 2000 - tutkimuksen perustulokset 18–29-vuotiaiden terveydestä ja siihen liittyvistä tekijöistä (Health of young adults in Finland. Baseline results of the Health 2000 survey on health and associated factors in age group 18–29 years, in Finnish). Publications of the National Public Health Institute B7/2005, 175 pages.

Theses

1. Hyvönen E: Employee, partner and mother. Woman's three roles and their implications for health [pro gradu]. Helsinki: University of Helsinki, 2005. 114 p.
2. Laaksonen M: Model-based estimation of Population Attributable Risk (PAR)[pro gradu]. Jyväskylä: University of Jyväskylä, 2005. 159 p.
3. Lavikainen H: Itseraportoitujen koulunkäynti- ja oppimisvaikeuksien yleisyys ja yhteydet lapsuuden ja nuoren aikuisuuden elämäntilanteisiin ja koettuun terveyteen [pro gradu] (Self-reported difficulties in school and learning difficulties in relation to perceived health). Jyväskylä: Jyväskylän yliopisto, 2005. 86 p.
4. Montonen J: Plant foods in the prevention of type 2 diabetes mellitus with emphasis on dietary fiber and antioxidant vitamins [dissertation]. Helsinki: Edita Prima, 2005. 105 p. (Publications of the National Public Health Institute A 13/2005).
5. Surakka J: Power-type strength training in middle-aged men and women [dissertation]. 2005. 80 p. (Publications of National Public Health Institute, Series A 2/2005).
6. mental health in Finland. *J Epidemiol Community Health* 2006;60:468-475.
6. Juonala M, Viikari JSA, Rönnemaa T, Taittonen L, Marniemi J, Raitakari OT: Childhood C-reactive protein in predicting CRP and carotid intima-media thickness in adulthood: The Cardiovascular Risk in Young Finns Study. *Arterioscler Thromb Vasc Biol* 2006; 26: 1883-8.
7. Järvinen R, Knekt P, Rissanen H, Reunanen A. Intake of fish and long-chain omega-3 fatty acids and the risk of coronary heart mortality in men and women. *Br J Nutr* 2006; 95: 824-829.
8. Kaitosaari T, Rönnemaa T, Viikari J, Raitakari O, Arffman M, Marniemi J, Kallio K, Pakkala K, Jokinen E, Simell O: Low-saturated fat dietary counseling starting in infancy improves insulin sensitivity in 9-year-old healthy children. *Diabetes Care* 2006; 29: 781-785.
9. Kattainen A, Salomaa V, Härkönen T, Jula A, Kaaja R, Kesäniemi YA, Kähönen M, Moilanen L, Nieminen MS, Aromaa A, Reunanen A: Coronary heart disease: from a disease of middle-aged men in the late 1970s to a disease of elderly women in the 2000s. *Eur Heart J* 2006;27:296-301.
10. Kestilä L, Koskinen S, Martelin T, Rahkonen O, Pensola T, Aro H, Aromaa A: Determinants of health in early adulthood: what is the role of parental education, childhood adversities and own education? *E J Public Health* 2006;16:306-315.
11. Kestilä L, Koskinen S, Martelin T, Rahkonen O, Pensola T, Pirkola S, Patja K, Aromaa A: Influence of parental education, childhood adversities and current living conditions on daily smoking in early adulthood. *Eur J Public Health* 2006;16:617-26.
12. Kilkkinen AM, Erlund I, Virtanen MJ, Alftan G, Ariniemi K, Virtamo J. Serum enterolactone concentration and the risk of coronary heart disease in a case-cohort study of Finnish male smokers. *Am J Epidemiol* 2006;163:687-93.
13. Kilkkinen A, Virtanen SM, Klaukka T, Kenward MG, Salkinoja-Salonen M, Gissler M, Kaila M, Reunanen A: Use of antimicrobials and risk of type 1 diabetes in a population-based mother-child cohort. *Diabetologia* 2006;49:66-70.
14. Knekt P, Teppo L, Aromaa A, Rissanen H, Kosunen TU: Helicobacter pylori IgA and IgG antibodies serum pepsinogen I and the risk of gastric cancer: changes in the risk with extended follow-up period. *Int J Cancer* 2006;119:702-705.
15. Kronholm E, Harma M, Hublin C, Aro AR, Partonen T. Self-reported sleep duration in Finnish general population. *J Sleep Res.* 2006;15(3):276-90.
16. Lehto U, Ojanen M, Dyba T, Kellokumpu-Lehtinen P, Aromaa A: Baseline psychosocial predictors of survival in localized breast cancer. *Br J Cancer* 2006;94:1245-1252.
17. Lindström J, Ilanne-Parikka P, Pelttonen M, Aunola S, Eriksson JG, Hemiö K, Hämäläinen H, Härkönen P, Keinänen-Kiukaanniemi S, Laakso

2006

Articles

1. Era P, Sainio P, Koskinen S, Haavisto P, Vaara M, Aromaa A: Postural balance in a random sample of 7979 aged 30 years and older. *GERONTOLOGY* 2006;52:204-213.
2. Huovinen E, Härkönen T, Martelin T, Koskinen S, Aromaa A: Predicting coronary heart disease mortality—assessing uncertainties in population forecasts and death probabilities by using Bayesian inference. *Int J Epidemiol* 2006;35:1246-1252.
3. Joukamaa M, Heliövaara M, Knekt P, Aromaa A, Raitasalo R, Lehtinen V: Schizophrenia, neuroleptic medication and mortality. *Br J Psychiatry* 2006;188:122-127.
4. Joutsenniemi KE, Martelin TP, Koskinen SV, Martikainen PT, Härkönen TT, Luoto RM, Aromaa AJ: Official marital status, cohabiting, and self-rated health - time trends in Finland, 1978-2001. *Eur J Public Health* 2006;16:476-83.
5. Joutsenniemi K, Martelin T, Martikainen P, Pirkola S, Koskinen : Living arrangements and

- M, Louheranta A, Mannelin M, Paturi M, Sundvall J, Valle TT, Uusitupa M, Tuomilehto J on behalf of the Finnish Diabetes Prevention Study Group: Sustained reduction in the incidence of type 2 diabetes by lifestyle intervention: follow-up of the Finnish Diabetes prevention Study. *Lancet* 2006;368:1673-79.
18. Niiranen TJ, Jula AM, Kantola IM, Reunanen A. Comparison of agreement between clinic and home-measured blood pressure in the Finnish population: The Finn-Home Study. *J Hypertens.* 2006. 24:1549-55.
 19. Niiranen TJ, Jula AM, Kantola IM, Reunanen A. Prevalence and determinants of isolated clinic hypertension in the Finnish population: the Finn-HOME study. *J Hypertens.* 2006; 24:463-70.
 20. Saarni S, Härkänen T, Sintonen H, Suvisaari J, Koskinen S, Aromaa A, Lönnqvist J: The impact of 29 chronic conditions on health-related quality of life: A general population survey in Finland using 15D and EQ-5D. *Qual Life Res* 2006;15:1403-1414.
 21. Sainio P, Koskinen S, Heliövaara M, Martelin T, Härkänen T, Hurri H, Miilunpalo S, Aromaa A: Self-reported and test-based mobility limitations in a representative sample of Finns aged 30+. *Scand J Public Health* 2006;34:378-386.
 22. Schwab U, Törrönen A, Meririnne E, Saarinen M, Alfthan G, Aro A, Uusitupa M. Orally administered betaine has an acute and dose-dependent effect on serum betaine and plasma homocysteine concentrations in healthy humans. *J Nutr* 2006;136:34-38.
 23. Soinio M, Marniemi, J, Laakso M, Lehto S, Rönnemaa T: High-sensitivity C-reactive protein and coronary heart disease mortality in patients with type 2 diabetes. *Diabetes Care* 2006; 29: 329-333.
 24. Sulander T, Martelin T, Sainio P, Rahkonen O, Nissinen A, Uutela A: Trends and educational disparities in BADL difficulties among people aged 65-84 years. *Int J Epidemiol* 2006;35:1255-61.
 25. Volanen I, Jarvisalo MJ, Vainionpää R, Arffman M, Kallio K, Angle S, Rönnemaa T, Viikari J, Marniemi J, Raitakari OT, Simell O: Increased aortic intima-media thickness in 11-year-old healthy children with persistent Chlamydia pneumoniae seropositivity. *Arterioscler Thromb Vasc Biol* 2006; 26: 649-655.

Books

1. Häkkinen U, Alha P ed. Terveyspalvelujen käyttö ja sen väestörhymittäiset erot. Terveys 2000 – tutkimus. (Use of health care services and its socioeconomic differences). 2006. (Publications of National Public Health Institute, Series B 10/2006).
2. Gould R, Ilmarinen J, Jarvisalo J, Koskinen S, ed. Työkyvyn ulottuvuudet. Terveys 2000 - tutkimuksen tuloksia (Dimensions of work ability. Results from the Health 2000 Survey, in

Finnish with English summary). ETK, Kela, KTL and TTL 2006, 366 p.

3. Koskinen S, Aromaa A, Huttunen J, Teperi J, ed. Health in Finland. KTL, Stakes and Ministry of Social Affairs and Health, Helsinki 2006, 176 p.

Theses

1. Ehrling L. Psykoterapian vaikutusten arvioiminen. Keskusteluanalyttinen tutkimus arviointihaastattelun käytänteistä. [dissertation]. (Evaluation of the effectiveness of psychotherapy) 2006. 280 p. (Sosiaalipoliittisia tutkimuksia 3).
2. Ivori K. Principal Component Analysis (PCA), Factor Analysis and Independent Component Analysis (ICA) in the analysis of nutritional data. [pro gradu]. Tampere: University of Tampere, 2006.
3. Seppänen E: Kehon koostumus suomalaisilla aikuisilla 2000-luvun alussa. (Body composition of adults) [pro gradu]. Helsingin yliopisto, 2006.
4. Sääksjärvi K: Kahvin yhteys Parkinsonin taudin ilmaantuvuuteen ja kahvin kulutuksen mittaaminen. (Coffee consumption and Parkinson's disease). [pro gradu]. Helsingin yliopisto, 2006.

2007

Articles, some examples

1. Bogers RP, Bemelmans WJ, Hoogenveen RT, Boshuizen HC, Woodward M, Knekt P, van Dam RM, Hu FB, Visscher TL, Menotti A, Thorpe RJ Jr, Jamrozik K, Calling S, Strand BH, Shipley MJ; for the BMI-CHD Collaboration Investigators. Association of overweight with increased risk of coronary heart disease partly independent of blood pressure and cholesterol levels: A meta-analysis of 21 cohort studies including more than 300 000 persons. *Arch Intern Med.* 2007;167:1720-1728.
2. Fogelholm M, Kronholm E, Kukkonen-Harjula K, Partonen P, Partinen M, Harma M. Sleep-related disturbances and physical inactivity are independently associated with obesity in adults. *Int J Obes (Lond).* 2007 Jun 19; [Epub ahead of print].
3. Hyypä MT, Mäki J, Impivaara O, Aromaa A. Individual-level measures of social capital as predictors of all-cause and cardiovascular mortality: a population-based prospective study of men and women in Finland. *Eur J Epidemiol.* 2007 Jul 25; [Epub ahead of print].
4. Juonala M, Viikari JSA, Alfthan G, Kähönen M, Raitakari OT. Brachial artery flow-mediated dilatation and asymmetric dimethylarginine in the Cardiovascular Risk in Young Finns Study. *Circulation* 2007;epub
5. Joutsenniemi K, Martelin T, Kestilä L, Martikainen P, Pirkola S, Koskinen S. Living arrangements, heavy drinking and alcohol dependence. *Alcohol & Alcoholism* 2007;42:480-491.

6. Knekt P, Lindfors O, Laaksonen MA, Raitasalo R, Haaramo P, Järvikoski A; The Helsinki Psychotherapy Study Group. Effectiveness of short-term and long-term psychotherapy on work ability and functional capacity - A randomized clinical trial on depressive and anxiety disorders. *J Affect Disord.* 2007; [Epub ahead of print].
 7. Koskinen S, Joutsenniemi K, Martelin T, Martikainen P. Mortality differences according to living arrangement in Finland. *Int J Epidemiol* 2007 Oct 30; [Epub ahead of print].
 8. Mattila C, Knekt P, Mannistö S, Rissanen H, Laaksonen MA, Montonen J, Reunanen A. Serum 25(OH)D concentration and subsequent risk of Type 2 diabetes. *Diabetes Care.* 2007 Jul 12; [Epub ahead of print].
 9. Montonen J, Järvinen R, Knekt P, Heliövaara M, Reunanen A. Consumption of sweetened beverages and intakes of fructose and glucose predict type 2 diabetes occurrence. *J Nutr.* 2007 Jun;137(6):1447-54.
 10. Nihtilä E, Martikainen P, Koskinen S, Reunanen A, Noro A, Häkkinen U. Chronic conditions and the risk of long-term institutionalization among the elderly. *Eur J Public Health* 2007 Jun 11; [Epub ahead of print]
 11. Niinikoski H, Lagstrom H, Jokinen E, Siltala M, Ronnema T, Viikari J, Raitakari OT, Jula A, Marniemi J, Nanto-Salonen K, Simell O. Impact of Repeated Dietary Counseling Between Infancy and 14 Years of Age on Dietary Intakes and Serum Lipids and Lipoproteins. The STRIP Study. *Circulation.* 2007;116:1032-40.
 12. Niiranen T, Jula A, Kantola I, Moilanen L, Kähönen M, Kesäniemi YA, Nieminen MS, Reunanen A. Home-measured blood pressure is more strongly associated with atherosclerosis than clinic blood pressure: the Finn-HOME Study. *J Hypertens.* 2007;25(6):1225-31.
 13. Nyqvist F, Finnäs F, Jakobsson G, Koskinen S. The effect of social capital on health: the case of two language groups in Finland. *Health & Place* 2007 Sep 14; [Epub ahead of print]
 14. Perälä J, Suvisaari J, Saarni S, Kuoppasalmi K, Isometsä E, Pirkola S, Partonen T, Tuulio-Henriksson A-M, Hintikka J, Kiesepä T, Härkänen T, Koskinen S, Lönnqvist J. Lifetime prevalence of psychotic and bipolar I disorders in a general population. *Archives of General Psychiatry* 2007;64:19–28.
 15. Pukkala E, Andersen A, Berglund G, Gislefoss R, Gudnason V, Hallmans G, Jellum E, Jousilahti P, Knekt P, Koskela P, Kyyronen PP, Lenner P, Luostarinen T, Love A, Ogmundsdottir H, Stattin P, Tenkanen L, Tryggvadottir L, Virtamo J, Wadell G, Widell A, Lehtinen M, Dillner J. Nordic biological specimen banks as basis for studies of cancer causes and control--more than 2 million sample donors, 25 million person years and 100,000 prospective cancers. *Acta Oncol.* 2007;46:286-307.
 16. Saarni S, Suvisaari J, Sintonen H, Koskinen S, Härkänen T, Lönnqvist J. The health-related quality-of-life impact of chronic conditions varied with age in general population. *J Clin Epidemiol* 2007;60:1288–1297.
 17. Saarni SI, Suvisaari J, Sintonen H, Pirkola S, Koskinen S, Aromaa A, Lönnqvist J. Impact of psychiatric disorders on health-related quality of life: general population survey. *Brit J Psychiatry* 2007;190:326–332.
 18. Sainio P, Martelin T, Koskinen S, Heliövaara M. Educational differences in mobility: the contribution of health behaviour, physical work load, and chronic conditions. *J Epidemiol Community Health* 2007;61:401–408.
 19. Soinio M, Marniemi J, Laakso M, Pyörälä K, Lehto S, Rönnemaa T: Serum zinc level and coronary heart disease events in patients with type 2 diabetes. *Diabetes Care* 2007; 30: 523-528.
 20. Stenholm S, Rantanen T, Alanen E, Reunanen A, Sainio P, Koskinen S. Obesity history as a predictor of walking limitation at old age. *Obesity (Silver Spring)* 2007;15:929–938.
 21. Stenholm S, Sainio P, Rantanen T, Alanen E, Koskinen S. Effect of co-morbidity on the association of high body mass index with walking limitation among men and women aged 55 years and older. *Aging Clinical and Experimental Research* 2007;19:277-283.
 22. Stenholm S, Sainio P, Rantanen T, Koskinen S, Jula A, Heliövaara M, Aromaa A. High body mass index and physical impairments as predictors of walking limitation 22 years later in adult Finns. *J Gerontol A Biol Sci Med Sci.* 2007 62(8):859-65.
 23. Sundvall J, Leiviskä J, Alftan G, Vartiainen E. Serum cholesterol during 27 years: Assessment of systematic error and affecting factors and their role in interpreting population trends. *Clin Chim Acta,* 2007;378:93-98.
 24. Sääksjärvi K, Knekt P, Rissanen H, Laaksonen MA, Reunanen A, Männistö S. Prospective study of coffee consumption and risk of Parkinson's disease. *Eur J Clin Nutr.* 2007 May 16; [Epub ahead of print].
 25. Viertiö S, Laitinen A, Perälä J, Saarni S, Koskinen S, Lönnqvist J, Suvisaari J. Visual impairment in persons with psychotic disorder. *Soc Psychiatry Psychiatr Epidemiol* 2007 Sep 10; [Epub ahead of print]
- Books
1. Koskinen S, Martelin T, Notkola I-L, Notkola V, Pitkänen K, Jalovaara M, Mäenpää E, Ruokolainen A, Ryyänänen M, Söderling I, ed. Suomen väestö (The Finnish Population, in Finnish). Gaudeamus 2007, 351 pages.

7.3. Public health outputs

In addition to research and other work in the scientific community, the department has broad tasks directly related to Finnish and European Public Health. From the national point of view these activities serve the development of Public Health Policy and Health Monitoring at various national and regional levels. Below, an overview is presented of typical public health activities and their results over the past years.

Examples of national activities

1. Membership of the scientific board of the Finnish Heart Association.
2. Membership of the health policy working group of the Finnish Medical Association.
3. Membership of the Social and Health Ministry's Steering group for planning.
4. Membership of the national research ethics board
5. The book Health in Finland (1997, 1999, 2005, 2006)
6. The National Health Examination, Health 2000
7. Third national forum for ageing (organized by KTL)
8. Membership in working groups on Current guidelines on osteoporosis and on hypertension and respective publications.
9. Coordination of the National Network for Measurement and Assessment of Functioning
10. Report on cost-effectiveness of health promotion and prevention
11. Report on efficacy of prevention
12. Report on the effects of the dental care reform of 2000-2001
13. Proposal for health monitoring in municipalities
14. Expert participation in the production of the tv-series Life at stake commencing September 6th 2007
15. Expert participation in the Psychotherapy Consensus meeting
16. Participation in the preparation of the national Health 2015 programme
17. Indicator system for the Health 2015 Programme of the Finnish Government
18. Coordination and enhancement of efforts to reduce inequities in health on the national level and in pilot regions (the TEROKA project, see end of chapter 4.2)
19. Preparation of material for health promotion (e.g. "Life at stake", see end of chapter 4.2)

One example of the public health activities is the TEROKA project coordinated by the Department. The project has catalysed various activities. A memorandum prepared by TEROKA was presented to the group of ministers responsible for social policy. In 2006 the group of ministers delegated the Ministry of Social Affairs and Health preparations for a national action plan to tackle health inequalities in Finland. The national plan aims to identify the policy areas and measures required to achieve the national target to reduce socioeconomic differences in health. Representatives from several administrative sectors, local government, the health service system, NGOs and professional organisations, and health research institutes are involved in the preparation. TEROKA has an important role in the preparation of the action plan and the project is also likely to have a major role in the coordination and follow-up of the action plan. Expertise provided by the research on health inequalities in the Unit is comprehensively utilized in the preparation of the action plan as well as in other TEROKA activities.

In addition to specific public health projects, the staff of the Department participate widely in the planning and follow-up of policies, interventions and structures aiming at the improvement of public health. This work is largely done in committees, advisory boards and

other similar organisations nominated by the Ministry of Social Affairs and Health or other national and regional actors.

Examples of European activities

1. Representation of Finland in NCA (Network of Competent Authorities) of DG Sanco
2. Participation in EU health information projects on musculoskeletal disorders, diabetes and regional health indicators
3. Participation in the Eurostat working group on Health Interview Surveys
4. Participation in the health indicator projects ECHI-1 and ECHI-2
5. Coordination of the HIS/HES project (interview and examination surveys)
6. Book on HIS/HES in Europe, 2003.
7. Internet database on national health surveys, joint action with Belgian IPH.
8. Project on the feasibility of health examinations.
9. Coordination of ECHIM, the project on implementation of health indicators.

European Public Health development concentrates mainly on two lines: a) Health measurement, indicator development, and indicator implementation and b) Health surveys. Both areas are strongholds of KTL and Finnish researchers. We hope that our work can contribute to the development of European health information. It is important for Finnish Public Health to have access to networks of institutes and scientists in all European countries.

8. Resources and their recent development

With the growth of the department also resources and expenditure increased considerably from 2002 to 2006 from 2,3 m€ to 5 m€ (see Table 4 and Appendix 3).

Table 4. Total funding of the Department of Health and Functional Capacity from 2002 to 2006 (in m€)

2002	2003	2004	2005	2006
2,3	2,2	4,6	4,8	5,0

The department was initially (1995–1998) and is again after 2004 funded to a large extent by the Social Insurance Institution. The costs of the original research group were absorbed by year 2000 by the National Public Health Institute. As of 2004 the costs of the Population Research Laboratory have been covered by State budget funds transferred from the Social Insurance Institution to the Exchequer. Thus, in 2006 KTL funding/budget funds have been the main and largest source of income for the department's shared expenses, those of the unit for Analytical biochemistry, the Biomarker laboratory and the Population Research Laboratory. In the Public Health Research Unit 40% of expenses were paid from budgetary income but 60% from external sources such as the Academy of Finland, EU, and other sources. Although the amounts were much smaller, other units also obtained considerable external funding.

Due to the long lasting stagnation of the funds from the State budget the only way to develop research and public health work is by obtaining grants mainly from external sources. Unfortunately several State initiatives are likely to make the funding situation worse. Examples are the so called productivity programme and proposals to start operating a State grants pool financed by reducing the institutional budgets. All these are severe threats in a department already overstretched with work and needing possibilities to develop. Therefore, the department feels that its only possibility is to obtain an increasing amount of external funds. An important source for funding policy relevant work in Europe has been EU with the only drawback that it is also in an almost monopoly position. If priorities change, the income may seize.

9. Vision and plans for 2008 to 2013

The department (TTO) continues to produce information on health and functional capacity, to apply it on disease prevention and health promotion, and to the development of public health policy in Finland and in EU.

Strengths and weaknesses

The strengths of the Department of Health and Functional Capacity are many. Due to its SII background it has substantive population research materials. It has considerable skills in data gathering, data handling and record linkage. The agreements with SII imply that it has easy access to many health related data. The original SII researchers and other personnel have a good training in high quality data handling and analysis and they have been able to transfer much of it to new personnel. The laboratory units have an extremely strong background in epidemiological work and specially in long-term and repeated field studies. Validity over long time-spans is essential for the interpretation of time trends between consecutive cycles of studies. Such trends have now been reported in Finland over 27 years. The KTL laboratories are better at handling these issues than any other Finnish biochemical laboratory known to us.

The department also has a long term understanding of public health needs and the application of research to policy and health care. The foundation for this was laid already during the 25 years in the Social Insurance Institution, where policy applications of research were a central issue. Add to this in the Population Research Laboratory a long affiliation with rehabilitation (The SII Rehabilitation Research Centre) and associated clinical work.

The broad educational background, experience and skills of personnel are positive assets. The large number of employees with the highest academic degree furthers any research endeavour. Many doctoral students have been attracted to work on the population survey materials and on other types of project – and have brought with them the dynamic touch of youth. Currently, the department enjoys skills such as:

- Medicine, Dentistry, Epidemiology, Demography, Public Health, Physiotherapy, Biochemistry, Nursing, Social Sciences, Economics, Psychology, Psychotherapy, Statistics, Data processing, Nutrition, Chemistry
- Based on special interests and ongoing work the skills can also be described in the following terms: Cardiovascular diseases, Respiratory diseases, Musculoskeletal diseases, Cancer, Diabetes, Osteoporosis, Oral health, Functioning and Functional limitations, Socioeconomic health disparities, Health behaviour, Living conditions and health, Social capital, Health information, Health projections, Health indicators, European projects on health indicators and surveys, Clinical Chemistry. Together with the solid experience of senior staff the broad range of interests means that good guidance can be given to doctoral students.

Although difficult to quantify, it seems clear that doctoral students learn a lot in addition to doing their dissertations. In fact, when leaving the department or continuing there in the postdoctoral period many young researchers are extremely qualified in their own subject but also in Public Health in general.

A weakness is the age structure of staff. Both in the Helsinki Public Health Research Unit and the Turku Population Research Laboratory many of the senior staff are aged 55-65 meaning

that bridging the age and knowledge gap between them and younger researchers is vital. Unfortunately, the State's policies (productivity programme) reduce the chances of a smooth transfer. At any rate, the department will do all it can to secure a reasonable way forward for successors.

In contrast to many other KTL departments the TTO (Department of Health and Functional Capacity) is working in two cities 170 kilometres apart. Obviously, this may be a handicap due to communication difficulties. On the other hand experience suggests that it is possible to coordinate work and inspire employees regardless of the distance.

Finance is a constant worry. It is really unfortunate that administrative or other priority changes may lead to cutting funding of successful areas. In the true research realm it is usually possible to overcome such problems since there are many funding agencies. In the development area there are very few 'customers' (In Finland the Ministry of Health and Social Affairs, the Social Insurance Institution, possibly the Finnish Academy of Sciences, The Work Environment Fund, SITRA the Finnish Independence Fund, and TEKES the Fund for technological advancement). The two latter ones are bound to further projects expected to result in profitable production. In EU the major sources of health related research funds are those from DG Sanco and those from the research programme (now FP 7). Overall, in the area of health policy and health care development, possibilities to obtain major financial support are quite limited and unpredictable, meaning that it is difficult to plan for long-term endeavours. That is counterproductive since by nature development work is long-term, particularly if seen as a continuum from research to application and implementation.

A strength of the department is its extensive collaboration with scientists working in other State Research Institutes and Universities in Finland and abroad. Many skills not available in the department have thus become available to collaborative projects. Overall, the outcome is positive. An excellent example of collaboration is the analysis of the Health 2000 data. After the department had gathered and produced this worldwide unique data set the working groups have coordinated work in their respective areas. This has brought two extremely important assets to research: first, doctoral students working on theses based on the material and second, their supervisors with skills specific to that area. We expect also that the ability to attract key experts to Health 2000 ensures that this project and others will enjoy the benefit of up-to-date skills to the population based health research of KTL.

Vision and plans 2008 to 2013

The long-term experience, transfer of knowledge, expected future expertise and needs of public health policy mean that the department should concentrate on many of the current actions. In addition, it should become aware of new needs and challenges. Altogether this also means that both EU and Finnish administrations and funders must be aware of the public health relevant capabilities of the department.

The vision and plans include the following components:

- National health data gathering and collaboration in data gathering
 - i. A follow-up survey of Health 2000 should be carried out in 2008-2009
 - ii. The next phase of Health 2000 is a comprehensive Health 2012 health examination survey. It will combine the FINRISK survey of that year and the comprehensive Health 2000 methodology. Planning starts as of 2008.
 - iii. A separate survey on functioning may be carried out in 2008-2009
 - iv. The EHIS (Eurostat health survey) may be a joint effort of KTL, SII and Stakes. If so it might be carried out in 2008 or 2009.

- Epidemiological research
 - i. Epidemiological studies on cardiovascular diseases, musculoskeletal diseases, cancers, neurodegenerative diseases, mental health and functioning and their determinants

- Health monitoring and health information portal
 - i. National health monitoring
 - ii. Health in Finland: the department will produce an up-to-date version of Health in Finland by 2009 with the help of the Health information portal.
 - iii. Health in regions and municipalities; books and portal
 - iv. EU health monitoring, indicators and health examinations
 - v. Health information portal
It is expected that the department will build a system for easy retrieval and analysis of health data and that the system should be available by 2010.

- Health policy research and development
 - i. Up-to-date studies on current health policies and their impacts
 - ii. Studies and collaboration in measures of functioning
 - iii. Studies on socioeconomic health disparities and their reduction
 - iv. Studies on the effectiveness of psychotherapies

- High quality laboratory services
 - i. for KTL
 - ii. for other research projects
 - iii. development of a reference scheme for quality assurance in European population studies

All the above will be carried out in suitable collaboration with partners in KTL, elsewhere in Finland and in other countries.

Appendix 1. Selected findings in publications in 2003–2006

YEAR 2003

Cardiovascular diseases

- The increase in by-pass surgery has not reduced disparities between population groups in its use according to need
- Permanently raised levels of antibodies against *C.pneumoniae*, IC/IgA and anti HSP 60 IgA specially together with increased CRP are predictive of increased CHD risk
- Intake of abundant fibre is associated with reduced CHD risk
- In a prospective setting various indicators of oral health do not predict CHD

Musculoskeletal diseases

- The prevalence of strongly positive rheumatoid factor varies by region and is lowest in Southwest Finland
- Reactive arthritis is associated with faster disintegration of type I collagen
- Severe uveitis in children may be found also without joint inflammation
- anti-CRP-antibody is much more specific in rheumatoid arthritis of the elderly than determination of the rheumatoid factor

Cancer

- The incidence of papillomavirus HPV 16 increased between 1983 and 1997 whilst that of HPV 6 and HPV 11 did not.
- A high concentration of polyunsaturated fats in serum was associated with a lower breast cancer risk

Diabetes

- Prospectively, intake of whole grain products and cereal fibre was associated with a reduced risk of type 2 diabetes
- Prospectively, drinking a lot of coffee was not associated with incidence of type 2 diabetes
- A high concentration of carotenoids in plasma has a positive impact on glucose metabolism in diabetics
- Differences in mortality between population groups increased in diabetics

Asthma and allergies

- Allergic rhinitis does not associate with IL-polymorphism
- The IL 1 A-genotype is associated with nasal polyposis in asthmatic adults
- Systemic inflammation may be the mediator between social status and cardiovascular diseases

Health and functioning of the elderly

- During the past 20 years life free of major limitations has been extended by 3 years, i.e. the whole extension of life years has been due to healthy years.

Diet and chronic diseases

- Intake of folates from diet is sufficient
- Black currants, lingonberries and blueberries are important sources of quercetine
- Young women do not receive enough iron from diet
- Diet comprising a lot of fresh berries, citrus fruit and vegetables increases folic acid content of serum and red cells and reduces the homocysteine concentration of plasma

International health monitoring

- The main report of the survey methods for musculoskeletal diseases was published for EU Sanco
- The main report on national surveys (HIS/HES i.e. health interviews and health examinations) was published for EU Sanco
- The HIS/HES database comprising methods of all national surveys was published

Health policy studies

- In young adults demand and use of oral health care had increased from 2000 (reform) to 2001 so that unmet need had decreased
- In a large scale experiment, receiving specialist consultations at reduced price decreased hospital use and improved satisfaction of both patients and their primary care physicians

YEAR 2004

Cardiovascular diseases

- Functional limitations predicted mortality in men suffering from CHD but not in women
- Cardiovascular diseases are important causes of disability in persons aged 65 to 74 and with population ageing the prevalence of functional limitations increases
- Both CHD and disability have decreased among persons aged 45 to 74 but not among the elderly. About 25% of the reduction in disability was estimated to be due to reduction of CHD
- Based on antibody findings it was shown that microbes commonly causing gingivitis increase the risk of cerebrovascular accidents
- After the first MI more coronary operations were carried out in persons of higher social classes
- Pulse pressure of persons with type 1 diabetes increases faster with age than that of health persons indicating faster ageing
- Plasma folate concentration was strongly associated with reduced risk of CHD but plasma homocysteine concentration had no predictive power
- Raised serum uric acid concentration was associated with a four times increased risk of CHD death

- In a cohort study of type 2 diabetics from east and west Finland plasma homocysteine was a strong predictor of cardiovascular events
- The 21 year follow-up of the children's multicenter study showed that during the past 15 years young Finnish adults have become fatter, their triglyceride levels have increased and reduction of cholesterol levels has been relatively slow
- There are major differences in CVD risk factors between young adults living in east and west Finland
- In young adults flow-mediated dilatation of the arteries of endothelial origin is inversely proportional to the thickness of carotid intima-media.
- The number of CVD risk factors was associated with intima-media thickness only in persons with impaired endothelial function. Impairment of endothelial functioning is an early occurrence in atherosclerosis and systemic endothelial functioning may regulate the association between risk factors and atherosclerosis
- The sensitivity of baroreceptors seems to decrease with increasing pulse pressure
- Factors related to stiffness of the large arteries such as age, obesity and reduced insulin sensitivity are associated with increased short-term (beat-to-beat) variation of blood pressure and reduce sensitivity of baroreceptors
- Patients suffering from idiopathic dilating cardiomyopathy have normal endothelial functioning but perfusion reserve of the myocardial muscle is abnormal
- In IDC-patients poor perfusion reserve together with imbalance of oxidative metabolism are important factors reducing performance.
- Reviews dealt with renewal of the treatment guidelines for hypertension

Musculoskeletal diseases

- Obesity is an important determinant of arthrosis (arthrititis) of the proximal joint of the thumb.
- There is no dose-response between positive rheumatoid factor and smoking
- Putting on weight from normal to overweight increases the risk of severe knee arthrosis more than stable overweight
- Because of musculoskeletal diseases clearly fewer work disability pensions were granted to people with good performance of trunk extensors than to other persons
- A controlled trial in patients with central spinalstenosis of average severity proved that operative treatment had a more positive effect on symptoms and functional capacity than other treatment- Heavy physical work load , climbing stairs and working on knees increase the risk of knee arthrosis
- Diagnostics of rheumatoid arthritis in the elderly can be much improved by determining antibodies against rheumatoid arthritis specific citrullinized peptides

Cancer

- Many different vitamins (alphatocopherol, betacarotene, retinol, retinol binding protein and ceruloplassmin) were analysed and it was found that pooled samples (compared to individual samples) yield to biased results on differences between cancer cases and controls)
- The speed of reduction of the helicobacter-infection in the population depends on genetics of the bacteria so that cagA+ strains disappear more quickly than cagA- strains. The observation is important both in regard of the infection, its treatment
- Major weight gain during pregnancy is a risk factor of breast cancer
- The novel SFSS-scale (Structural Functional Social Support Network) provides detailed information about cancer specific social support and social networks
- The corrected (taking into account hysterectomies) incidence of cancer of the body of the uterus was 29% and that of cervical cancer 11% higher than uncorrected statistical figures suggest
- A Bayesian intensity model was developed to assess cancer incidence, prevalence and fatality in a situation when mortality data are not available

Diabetes and obesity

- Clinical trial showed that an 8% lowering of weight improved insulin sensitivity more effectively than preventing absorption of fat
- Ample intake of tocopherols and tocotrienol from diet reduced the risk of diabetes
- The duration of work disability was 0,63 years longer in obese than other men, the duration of coronary heart disease was 0,36 years longer and use of long-term medication 1,68 years longer . Thus, increasing obesity also implies an increase in the duration of chronic diseases and costs.
- Several reviews were written to demonstrate the time trend of diabetes and future increases of the disease burden

Asthma and allergies

- When gut allergy develops in experimental animals, a large amount of a specific mediator substance (cell protease, MMCP-1) is released. The finding might enable a simple blood test for human dietary allergies.
- The main allergens of turnip rape and rape are napines (2 S albumins)
- A larger proportion of Finnish Olympic athletes had diagnosed asthma than were users of asthma medication. Their use of asthma medication was similar to that in the population as a whole
- Measurement of specific IgE antibodies over 60 years (in persons born in 1923 to 1990) showed that allergies were rarest in the oldest age group and became more frequent with younger ages
- Sensitization to dietary allergens was rarest in adults born during the second world war and becomes more frequent in younger people

Oral health

- A comparison of the Health 2000 and the Mini-Finland surveys showed that there had been a dramatic improvement of oral health in the past 20 years. Dental caries and edentulousness were reduced. Still, need for dental care and personal care is high and is not adequate.
- A strong sense of coherence is associated with increased use of regular dental care

Mental health

- Work related burn-out was relatively frequent but much rarer than in studies from the 1990s.
- The design, methods and implementation of the experimental psychotherapy project were described in an early report. One of the conclusions was that also the assessment of short therapies requires long term follow-up.

Health disparities between population groups

- After the first myocardial infarction more coronary operations were performed on patients in the higher social groups
- The differences in use of specialist services between educational groups were steeper in Finland than in Norway
- More structures to reduce health disparities have been developed in England, Sweden and the Netherlands than in Finland
- Of the 7.6 year difference in life-expectancy between men and women at age 15 51-56% was due to differences in smoking and alcohol use
- A review showed that to reduce health disparities it would be important to improve health of the most disadvantaged groups

Functional capacity and work ability in middle-age and old age

- A dissertation was published on the association between cardiovascular diseases and functional limitations.
- For the government's report on the future forecasts were prepared on the number of elderly persons with functional limitations in 2000 – 2030. The number needing help doubles if the prevalence of functional limitations remains on the level of 2000, but the increase is only half of that, if functional capacity improves as it did from 1980 to 2000.
- Four months of speed and strength training improved power production of body extensor and flexor muscles
- Six months of physical training reduced exhaustion of flexors and extensors of the knee in women suffering from MS but not in men.

Diet and chronic diseases

- Plasma homocysteine is associated with depressive symptoms in middle-aged men
- Incidence of CHD is lowest in persons with high vitamin C intake but ample intakes of vitamin E and carotenoids had little impact,

- Ample intake of fibre from cereal and fruit was associated with a low CHD risk

Reproductive health

- Current reproductive health was analysed in the Health 2000 data
- Comparison of several cohorts of the Finrisk surveys showed that birth rates had declined and the proportion of both those receiving infertility treatments and using birth control had increased.

Social capital

- Several reviews associated with an ongoing dissertation dealt with the nature of social capital and its possible advantageous effects on health.

YEAR 2005

Cardiovascular diseases

- The decrease of CHD and in men the improved functional capacity in men with CHD have contributed to the improvement of functional capacity in men under 75 and women under 65.
- Although the prevalence of CHD has decreased, the number of persons suffering from CHD has increased during the past twenty years
- Secondary prevention of CHD is not sufficient and it seems that men receive treatment more likely than women
- Treatment of CHD varies systematically between socioeconomic groups and the treatment variation did not correspond to the differences in disease prevalence and severity. Differences in treatment may contribute to the socioeconomic mortality differences.
- In persons with glucose intolerance positive effects can be achieved on blood clotting factors by changing living habits and the most important explanation is weight reduction
- In age group 35-64 the sensitivity of baroreceptors decreases when pulse pressure increases
- Simvastatin reduces the proportion of short chain saturated fatty acids and increases that of long chain polyunsaturated fatty acids in the circulation by stimulating key enzymes of fatty acid metabolism
- Homocysteine is a risk factor of cardiovascular diseases
- Apolipoprotein A-I/C-III/A-IV SstI genotype groups were associated with the thickness of the carotid artery internal wall (intima-media) in young Finnish adults
- Determinants of C-reactive protein (reflecting inflammation) in men are obesity and smoking and in women obesity, use of oral birth control preparations and physical activity
- C-reactive protein, Interleukin-6 and the tumournecrosisfactor alpha predict the incidence of cardiovascular diseases and total mortality
- Lipid- and apolipoprotein profiles of newborn and six year old children in Tallin were described.

Musculoskeletal disorders

- Measurements by different DXA apparatuses yield differences in the diagnosis of osteoporosis. The correlation of measurements and interpretations should be improved and a centralized quality assurance scheme should be set up.
- Radiologically observed hand arthrosis is associated with low bone mineral content and symmetric DIP arthrosis
- Unspecific neck-shoulder pain is associated with work related burnout, depression and alexithymia.
- Shortness at age 11 predicts the incidence of neck pains

Cancer

- Pepsinogen I levels were higher in men than in women. The helicobacter infection is associated with increased PG I levels. Persons with parietal cell antibodies had the lowest PG I levels.
- The IgA antibody response during H.pylori infection was much more frequent among gastric cancer and gastric ulcer patients than among persons with chronic gastritis
- The quality of life of cancer patients depends strongly on psychosocial factors. General stress factors affect quality of life.
- Neither the infection with HSV-2 nor HSV-8 were associated with prostatic cancer

Diabetes and obesity

- We can simply estimate the risk points of Finns.
- Physical activity prevents type 2 diabetes
- Diabetes and decreased glucose tolerance are common and increase by age in 45-64-year-olds
- Persons increasing intensive and/or quite intensive leisure time physical activity most avoid type 2 diabetes at about 60% probability.
- A two year physical activity and dietary intervention improves glucose metabolism in all examinees, but most changes were observed in persons with many fast muscle cells.
- The prognosis of type 1 diabetes has improved during the past four decades according to an interpretation based on advanced renal insufficiency. Patients diagnosed before 5 years of age had the best prognosis.
- The incidence of type 1 diabetes is six times as high in Finland than in Russian Karelia, although HLA DQ genotype is equally common. Thus, the influence of environmental factors is strong.
- The incidence of type 2 diabetes is smaller in persons eating more than average green vegetables, fruit and berries, vegetable oil and margarine as well as flesh from poultry
- The prudent diet is associated with a decreased risk of type 2 diabetes and a 'traditional' diet with an increased risk.

Asthma and allergies

- Olympic endurance athletes suffer more often from allergic rhinitis than other athletes and they use more drug treatment.

Oral health

- A strong sense of coherence is associated with oral health based quality of life
- A weak sense of coherence is associated with poor oral hygiene and little tooth brushing

Mental health

- Burn out and depression are partly overlapping phenomena. Depression is quite strongly associated with severe burn out. Both should be taken into account when examining working age patients.
- In an experiment on the efficacy of psychotherapy, a larger than average proportion of the healthiest and the most ill patients dropped out of treatment.
- The father's mental health problems in the examinee's childhood were strongly associated with men's depressions and the mother's with women's depression.
- A larger proportion of men had alcohol problems whereas a large proportion of women than men had depression

Other illnesses

- In young Finns coeliacia was associated with low education and a poor performance in working life. This may be associated with depression and disturbed behaviour seen in teen-agers with untreated coeliacia

Differences between population groups

- At ages 30-64 the differences between marital status groups in mortality due to accidents and violence and to alcohol have increased. This suggests that health behaviour in single persons has changed. In the end of the 1990s 15% of deaths would have been avoided if age specific mortality of single persons had been the same as that of married ones.
- In 30-64-year olds the differences of functional capacity are the following: Those with the shortest education had poorer functioning than those with higher education. Married people had a slightly better functional capacity than other people and single ones a poorer capacity..

Functional capacity and work ability in the middle-aged and the elderly

- A screening instrument on chronic facial pain reveals quite similar classes of pain patients as the more comprehensive Multidimensional Pain Inventory measure.
- An index of muscle fatigue developed in the Population Research Laboratory measures reliable muscle fatigue of the knee extensor and flexor muscles of middle-aged persons

- Functional poor vision increases with age particularly from age group 65-74.
- For the government's future assessment a forecast for the years 2000-2030 was prepared of the number of aged persons with functional limitations. The number needing help doubles if the prevalence of functional limitations remains at the level of year 2000. The increase is only half of this if the positive development observed in functioning during 1980-2000 continues.

Diet and chronic diseases

- A doctoral dissertation concerning dietary causes of diabetes was published.

Social capital

- Participation in different culture activities and other leisure-time activities predicts improved longevity.

Health monitoring

Health in Finland (books)

- The Finnish language book Health in Finland (Suomalaisten terveys) was published.

International health monitoring

- Strand I of the EU Public Health Program was supervised in the Network of Competent Authorities
- The Internet data base (HIS/HES) was improved and maintained

Health 2000

- A large number of articles and books was published (mentioned above). Overall, 200 substudies, which 10 were doctoral dissertations, were advancing.

Health policy research

Need for dental care and dental health insurance

- Since the law of 2000 a questionnaire series showed that the development of dental care has been positive over the years 2001-2004, and according the aims of the law.

The SII family doctor experiment

- The consultation experiment organized in Turku showed that the possibility to consult specialists at reduced price to patients reduced hospital use.
- A doctoral dissertation was published showing that the model was superior to the usual one.

Need for care and met need (DONAU)

- Several articles were drafted

Other studies

- Pharmacological skills of both nurses and student nurses were lacking in some respects but nurses' skills were superior.
- With the increased power and responsibility of head nurses it has become increasingly important to study their internal job control.

YEAR 2006

Cardiovascular diseases

- Traditional risk factors explain about one third of the difference in coronary heart disease risk between blue collar works and upper white-collar employees
- Coronary by-pass operations and PTCAs were carried out in a smaller proportion in lower socioeconomic groups than in higher ones
- Future CHD mortality by year 2030 was predicted using Bayes-methods. If current trends prevail mortality in men under 70 and women under 60 will decrease steeply. In the following 20 year age groups changes will be small, but the number deaths in the oldest people will increase sharply. To compensate for these changes major preventive efforts are needed.
- In childhood the levels of C-reactive protein (CRP) predict CRP-concentration in adulthood and the association is not dependent on metabolic risk factors.
- In women, intake of an abundant amount of fish was associated with low CHD mortality but the effect disappeared after controlling for confounding factors
- The prevalence of CHD decreased from 1980 to 2000 in persons aged under 65 and increased in those over 75. The total number of people suffering from the diseases increased by 18%.
- With the reduction of intake of sodium chloride the excretion of sodium into urine has decreased over twenty years, but it is still higher than the recommended one.
- In female workers doing overtime, physical exertion and few possibilities to influence once own work were associated with angina pectoris symptoms
- The blood pressure levels measured at home are 7.7/3.4 mmHg lower than those measured in a population survey and the prevalence of high blood pressure is 15% lower when measured at home than when measured in the population survey.
- The prevalence of white coat hypertension is 15.6% in adults without medicine treatment and 37.5% in the non-treated whose blood pressure was raised in a casual measurement. Persons with white coat hypertension were leaner than normotensives. The results support the hypothesis that white coat hypertension is early hypertension.
- Systematic differences were investigated in the results of cholesterol determinations over 27 years. In comparison with external quality control measures (WHO and CDC) the mean bias over the years 1978-2004 was -0.74%. During the past five surveys (at five year interval, 1982-2002) the mean bias was 0.10%. After correcting for bias the interpretation of trends during the past five years (1997 to 2002) changed and is now that the population cholesterol levels have not changed but have remained at the previous level.

- A follow-up survey (FinRisk) showed that CRP predicts CHD risk in men. Also, TNF α has independent predictive power. The results strengthen the hypothesis that inflammation is important in CHD.
- At certain polymorphism-areas of apolipoprotein E (APOE-219G/T and +113G/C) there is an association with total and LDL-cholesterol in young men. However, these polymorphisms are not the most important factors in regulating the physiological functioning of artery walls or the thickness of intima-media.
- Following the reduction of intake of sodium chloride the excretion of salt to urine has been reduced during 20 years but excretion is still above the recommended level

Musculoskeletal disorders

- A dissertation was published relating to bone density and hip fracture
- A small metacarpal-index measured from hand X-rays predicts the risk of hip fracture
- The prevalence and risk factors of epicondylitis were studied. Prevalence at working age was 1.3% (lateral epicondylitis) and 0.4% (medial epicondylitis). Physical strain in these areas (repeated movements and use of strength), smoking and obesity were strong risk factors.
- The efficacy of operative treatment of spinalstenosis was assessed in a randomized trial.
- Contribution to a state of the art report on the treatment of hip fracture.

Cancer

- H.pylori infection is a most likely cause of gastric cancer with the exception of cancer of the cardia.
- A long survival of cancer patients is predicted by high socioeconomic status, long education and coping.
- The changes of H. pylori antibodies in the population were analysed over ten and twenty years. 35% of persons having originally only IgG-antibodies had developed IgA-antibodies and of those with both IgG and IgA, 48%.
- Working age cancer patients had received most support from fellow employees but they wished to receive more from occupational health care personnel.

Diabetes and obesity

- The risk of type 1 diabetes in the offspring of type diabetic parents was the same as in the population. Risk factors identified were male sex of the diabetic parent and diabetes detected in him at an early age.
- When studying the glycemic index of food-stuffs experimentally one should use capillary blood samples and reference tests should be done at least twice using glucose or white bread
- According to a 3 months prevention experiment (living habits) in primary care the riskfactors for diabetes were clearly reduced.

- The mother's use of antimicrobial medication during pregnancy was not associated with type 1 diabetes in the children.
- Three years after the intervention of the diabetes prevention study had finished the number of persons developing type 2 diabetes was 36% lower in the intervention group than in the control group.
- Persons with glucose intolerance, a high serum uric acid concentration predicted a doubled risk of diabetes.

Oral health

- Temporomandibular symptoms (e.g. pain and crepitation) were observed in 40% of adults, symptoms were more common in women and their prevalence increased with age.
- Cynic hostility is a risk indicator of too little and poor quality brushing.
- Dental care of adults in health centres had developed into the direction of aims.

Mental health

- Job related burnout can develop in all occupational groups. A short education may increase the risk of burnout in women and living alone (single, divorced, widowed) in men.
- Burnout is closely associated with work load and strain and can be partial reason for the association between work strain and depression.
- Burnout and alcohol dependence are associated, and this should be taken into account in clinical work. In addition to traditional methods treatment of alcohol dependence should comprise assessment of working conditions and reducing job stress.
- In cross-section burnout is related to cardiovascular diseases in men and musculoskeletal diseases in women. Somatic diseases are associated with all dimensions of burn-out, not only exhaustion.
- The mortality of schizophrenia patients is very high in comparison to the population. This may be due to the disease itself or to the medication.
- The efficacy of short and long psychotherapy was compared in a randomized therapeutic trial

Health disparities between population groups

- Traditional risk factors explain one third of the difference in CHD risk between blue collar workers and white collar employees
- Perceived health has improved over the past 20 years but the differences between marital status groups have not decreased. Health was poorest in single and divorced men and in divorced women.
- The living conditions in childhood and strains are strongly associated with perceived health and psychic strain in young adulthood. Early detection of those factors could help prevent health problems in young adults.
- Living conditions in childhood are important determinants of smoking in young adults. Their effect is mediated through current living

conditions. Both ones own education and parent's smoking influence smoking in young adults.

- Educational difficulties at school are associated with the current situation in life and perceived health
- Socioeconomic health disparities and health policy in four countries were compared

Social capital and quality of life

- In a 20 year follow-up an abundance of leisure time interests, hobbies and activities predicted a much decreased mortality.
- The health related quality of life of acromegaly patients was poorer than that of the whole population
- On the level of individuals health related quality of life was reduced most by Parkinson's disease and next came anxiety, depression, knee and hip arthrosis. Taking into account prevalence, the conditions most reducing quality of life were knee and hip arthrosis, depression, low back pain and incontinence. The two methods (15D and Euroqol) gave diverging results since they emphasized different topics.

Functional capacity and work ability, training and exercise

- Postural balance was examined by a strain gauge sheet and the first population based reference values were created. Postural balance starts to deteriorate quite early and the change becomes faster after age 60. The test can only be recommended for persons aged over 60 since a too high proportion of younger persons manage it well. On the other hand, for many elderly people the more demanding forms of the test (semi-tandem and tandem) are too difficult.
- The need for help and help received was investigated in the elderly
- One year of speed strength type training in a fitness centre three times a week increased the proportion of myosin IIA-type heavy chains and reduced the proportion of IIX-type heavy chains.
- In middle aged untrained persons training ones muscles increased the myosin IIA-type heavy chains in the thigh muscle. Those chains are typical of physically active people.
- The ability to move about was examined by both interviews and tests (measurements). One third of women and one fifth of men did not achieve a walking speed of 1.2 meters/second. The performance of older women was poorer than that of men. There were major difference between the answer on ability to climb stairs and the actual stair climbing test. Both questionnaire methods and tests are needed in population surveys. Also, the non-response must be very small because functional limitations and disabilities are prevalent among the drop-outs.
- Additional weights of 2.2 kilograms each fastened to arms and legs enhanced the effect of a 22 week training period on performance capacity

and it was seen in vertical jumping and anaerobic capacity.

- A comprehensive book was published on the population's work ability and its different dimensions
- For the first time in Finland a book was published analysing use of ambulatory physiotherapy

Diet and chronic diseases

- The plasma concentration of the flavonoid quercetine increases when the proportion of berries in diet increases. Quercetine measurements are proposed as a biomarker of diet rich in berries and fruit.
- The phenolic compounds of oregano extract could be biologically utilized in a four week feeding experiment, which did not have any adverse effect on serum lipids or markers of lipid peroxidation.
- A comparison of the results of a dietary questionnaire and of a three day food diary, showed that the questionnaire was suitable for epidemiological studies.
- A single dose of betaine immediately affected its plasma concentration and reduced the plasma homocysteine concentration within 2 hours.

Other topics

- Systematic errors (biases) in cholesterol determinations over 27 years were examined using data from population surveys carried out at five year intervals. A comparison to external quality control data (WHO and CDC) showed that the mean bias was -0.74 during 1978 – 2004. During the past five surveys (1982 to 2002) mean bias was 0.10%. After correcting the results of the last two surveys (1997 and 2002) for bias, the interpretation of the time trend changed. Instead of an increase in cholesterol levels of 1.8% the population levels had remained unchanged.
- In national surveys repeated over a long time an emerging problem is the increasing non-response. Analysis of a questionnaire survey (AVTK) shows that non-response has increased faster in men than women and faster in young persons. The difference in non-response between educational groups increased with time. Representativeness and the validity of results decrease over time if this development continues.
- A book was published on the use of health care services.

Health monitoring

The book Health in Finland

- Health in Finland (up-to-date review) was published in August 2006

International health monitoring

- The EU Public Health Programme was supported by participating in its network of competent authorities and its working groups
- The project ECHIM to implement health indicators was carried out.
- A project on feasibility of health examinations in EU-countries was started.

Health 2000

- A large number of books and articles were published, and have been recorded above.

Health policy studies

Need for dental care and dental health insurance

- The final evaluation was being prepared

Need for care and met need (DONAU)

- A review was prepared on assessing the need of health care

Effectiveness of psychotherapy

- Findings concerning the effectiveness of short- and long-term psychotherapy on psychiatric symptoms were published
- Personality factors predicting suitability for psychotherapy were detected

Cost-efficiency of health promotion

- Work for the final report was in progress
- A review was published about the economic effects of stopping smoking

The medicine's distribution experiment

- The pilot study in Vantaa was carried out

Appendix 2. All publications 2002–2006

2002

A. Original articles and reviews

1. Aho K, Palosuo T: Can outcome of early synovitis be predicted by serological tests? *CLIN RHEUMATOL* 2002;21:97-102.
2. Alenius H, Turjanmaa K, Palosuo T: Natural rubber latex allergy. *OCCUP ENVIRON MED* 2002;59:419-424.
3. Aromaa A, Knekt P, Reunanen A, Tuomilehto J, Jousilahti P, Vartiainen E, Nissinen A, Prospective SC: Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis of individual data for one million adults in 61 prospective studies. *Lancet* 2002;360:1903-1913.
4. Backman T, Huhtala S, Luoto R, Tuominen J, Rauramo I, Koskenvuo M: Advance information improves user satisfaction with the levonorgestrel intrauterine system. *Obstet Gynecol* 2002;99:608-13.
5. Clarke R, Homocysteine Studies Collaboration Group, Alftan G, Tuomilehto J: Homocysteine and risk of ischemic heart disease and stroke. *JAMA* 2002;288:2015-2022.
6. Erlund I, Silaste ML, Alftan G, Rantala M, Kesäniemi YA, Aro A: Plasma concentrations of the flavonoids hesperetin, naringenin and quercetin in human subjects following their habitual diets, and diets high or low in fruit and vegetables. *European Journal of Clinical Nutrition* 2002;56:891-898.
7. Freese R, Alftan G, Jauhiainen M, Basu S, Erlund I, Salminen I, Aro A, Mutanen M: High intakes of vegetables, berries, and apples combined with a high intake of linoleic or oleic acid only slightly affect markers of lipid peroxidation and lipoprotein metabolism in healthy subjects. *Am J Clin Nutr* 2002;76:950-960.
8. Golubkina NA, Alftan G: Selenium status of pregnant women and newborns in the former soviet union. *BIOL TRACE ELEM RES* 2002;89:13-23.
9. Guallar E, Sanz-Gallardo MI, Bode P, Aro A, Gómez-aracena J, Kark JD, Riemersma RA, Martín-Moreno JM, Kok FJ: Mercury, fish oils, and the risk of myocardial infarction. *N Engl J Med* 2002;347:1747-1754.
10. Gómez-Aracena J, Martín-Moreno JM, Riemersma RA, Bode P, Gutiérrez-Bedmar M, Gorgojo L, Kark JD, Garcia-Rodriguez A, Gomez-Gracia E, Kardinaal AFM, Aro A, Wdel H, Kok FJ, Fernández-Crehuet J: Association between toenail scandium levels and risk of acute myocardial infarction in European men: the EURAMIC and Heavy Metals Study. *TOXICOL IND HEALTH* 2002;18:353-360.
11. Hartman TJ, Taylor PR, Alftan G, Fagerstrom R, Virtamo J, Mark SD, Virtanen M, Barret MJ, Albanes D: Toenail selenium concentration and lung cancer in male smokers (Finland). *Cancer Causes Control* 2002;13:923-928.
12. Huittinen T, Leinonen M, Tenkanen L, Mänttari M, Virkkunen H, Pitkänen T, Wahlström E, Palosuo T, Manninen V, Saikku P: Autoimmunity to human heat shock protein 60, Chlamydia pneumoniae infection, and inflammation in predicting coronary risk. *Arterioscler Thromb Vasc Biol* 2002;22:431-7.
13. Hyypä MT: Swedish-speaking Finns have a longer active life. *Lifelong Learning in Europe* 2002;7:234-237.
14. Härkänen T, Larman M, Virtanen J, Arjas E: Applying modern survival analysis methods to longitudinal dental caries studies. *J Dent Res* 2002;81:144-148.
15. Jartti L, Raitakari O, Kaprio J, Jarvisalo M, Toikka J, Marniemi J, Hammar N, Luotolahti M, Koskenvuo M, Rönnemaa T: Increased carotid intima-media thickness in men born in east Finland: a twin study of the effects of birthplace and migration to Sweden on subclinical atherosclerosis. *Ann Med* 2002;34:162-170.
16. Jartti L, Rönnemaa T, Kaprio J, Jarvisalo MJ, Toikka JO, Marniemi J, Hammar N, Alfredsson L, Saraste M, Hartiala J, Koskenvuo M, Raitakari OT: Population-based twin study of the effects of migration from Finland to Sweden on endothelial function and intima-media thickness. *Arterioscler Thromb Vasc Biol* 2002;22:832-837.
17. Jousilahti P, Salomaa V, Hakala K, Rasi V, Vahtera E, Palosuo T: The association of sensitive systemic inflammation markers with bronchial asthma. *Ann Allergy Asthma Immunol* 2002;89:381-5.
18. Jula A, Marniemi J, Huupponen R, Virtanen A, Rastas M, Rönnemaa T: Effects of diet and simvastatin on serum lipids, insulin, and antioxidants in hypercholesterolemic men. A randomized controlled trial. *JAMA* 2002;287:598-605.
19. Karisola P, Alenius H, Mikkola J, Kalkkinen N, Helin J, Pentikäinen OT, Repo S, Reunala T, Turjanmaa K, Johnson MS, Palosuo T, Kulomaa MS: The major conformational IgE-binding epitopes of hevein (Hev b6.02) are identified by a novel chimera-based allergen epitope mapping strategy. *J Biol Chem* 2002;277:22656-22661.

20. Karjalainen J, Hulkkonen J, Pessi T, Huhtala H, Nieminen MM, Aromaa A, Klaukka T, Hurme M: The IL-1A genotype associates with atopy in non-asthmatic adults. *J Allergy Clin Immunol* 2002;110:429-34.
21. Karjalainen J, Nieminen MM, Aromaa A, Klaukka T, Hurme M: The IL-1 beta genotype carries asthma susceptibility only in men. *J Allergy Clin Immunol* 2002;109:514-516.
22. Karttunen V, Alfthan G, Hiltunen L, Rasi V, Kervinen K, Kesäniemi YA, Hillbom M: Risk factors for cryptogenic ischaemic stroke. *European Journal of Neurology* 2002;9:625-632.
23. Karvonen HM, Aro A, Tapola NS, Salminen I, Uusitupa MIJ, Sarkkinen ES: Effect of alpha-linolenic acid-rich camelina sativa oil on serum fatty acid composition and serum lipids in hypercholesterolemic subjects. *Metabolism* 2002;51:1253-1260.
24. Kastarinen M, Puska P, Korhonen M, Mustonen J, Salomaa V, Sundvall J, Tuomilehto J, Uusitupa M, Nissinen A, LIHEF Study Group: Non-pharmacological treatment of hypertension in primary health care: a 2-year open randomized controlled trial of lifestyle intervention against hypertension in eastern Finland. *J Hypertens* 2002;20:2505-2512.
25. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Aromaa A: Secular changes in prevalence of cardiovascular diseases in elderly Finns. *Scandinavian Journal of Public Health* 2002;30:274-280.
26. Kiiskinen U, Vartiainen E, Puska P, Pekurinen M: Smoking-related costs among 25 to 59 year-old males in a 19-year individual follow-up. *European Journal of Public Health* 2002;12:145-151.
27. Kleemola P, Freese R, Jauhiainen M, Pahlman R, Alfthan G, Mutanen M: Dietary determinants of serum paraoxonase activity in healthy humans. *Atherosclerosis* 2002;160:425-432.
28. Knekt P, Kumpulainen J, Järvinen R, Rissanen H, Heliövaara M, Reunanen A, Hakulinen T, Aromaa A: Flavonoid intake and risk of chronic diseases. *Am J Clin Nutr* 2002;76:560-568.
29. Kosunen TU, Höök-Nikanne J, Salomaa A, Sarna S, Aromaa A, Haahtela T: Increase of allergen-specific immunoglobulin E antibodies from 1973 to 1994 in a Finnish population and a possible relationship to *Helicobacter pylori* infections. *Clin Exp Allergy* 2002;32:373-378.
30. Kujala V, Alenius H, Palosuo T, Karvonen J, Pfäffli P, Reijula K: Extractable latex allergens in airborne glove powder and in cut glove pieces. *Clin Exp Allergy* 2002;32:1077-1081.
31. Lahti-Koski M, Pietinen P, Heliövaara M, Vartiainen E: Associations of body mass index and obesity with physical activity, food choices, alcohol intake, and smoking in the 1982-1997 FINRISK Studies. *Am J Clin Nutr* 2002;75:809-817.
32. Leino-Kilpi H, Suominen T, Mäkelä M, McDaniel C, Puukka P: Organizational ethics in Finnish intensive care units: staff perceptions. *Nurs Ethics* 2002;9:126-136.
33. Limmell V, Aittoniemi J, Vaarala O, Lehtimäki T, Laine S, Virtanen V, Palosuo T, Miettinen A: Association of mannan-binding lectin deficiency with venous bypass graft occlusions in patients with coronary heart disease. *Cardiology* 2002;98:123-126.
34. Manninen P, Heliövaara M, Riihimäki H, Suomalainen O: Physical workload and the risk of severe knee osteoarthritis. *Scand J Work Environ Health* 2002;28:25-32.
35. Marniemi J, Kronholm E, Aunola S, Toikka T, Mattlar C, Koskenvuo M, Rönnemaa T: Visceral fat and psychosocial stress in identical twins discordant for obesity. *J Intern Med* 2002;251:35-43.
36. Mattila K, Vesanen M, Valtonen V, Nieminen M, Palosuo T, Rasi V, Asikainen S: Effect of treating periodontitis on C-reactive protein levels: a pilot study. *BMC Infectious Diseases* 2002;2.
37. Michaud DS, Hartman TJ, Taylor PR, Pietinen P, Alfthan G, Virtamo J, Albanes D: No association between toenail selenium levels and bladder cancer risk. *Cancer Epidemiol Biomarkers Prev* 2002;11:1505-1506.
38. Myllykangas-Luosjärvi R, Seuri M, Husman T, Korhonen R, Pakkala K, Aho K: A cluster of inflammatory rheumatic diseases in a moisture-damaged office. *Clin Exp Rheumatol* 2002;20:833-836.
39. Palosuo T, Alenius H, Turjanmaa K: Quantitation of latex allergens. *Methods* 2002;27:52-58.
40. Palosuo T, Panzani RC, Singh AB, Ariano R, Alenius H, Turjanmaa K: Allergen cross-reactivity between proteins of the latex from *Hevea brasiliensis*, seeds and pollen of *Ricinus communis*, and pollen of *Mercurialis annua*, members of the Euphorbiaceae family. *Allergy and Asthma Proceedings* 2002;23:141-147.
41. Perez-Perez GI, Salomaa A, Kosunen TU, Daverman B, Rautelin H, Aromaa A, Knekt P, Blaser MJ: Evidence that cagA+ *Helicobacter pylori* strains are disappearing more rapidly than cagA- strains. *Gut* 2002;50:295-298.
42. Pussinen PJ, Vilkuna-Rautiainen T, Alfthan G, Mattila K, Asikainen S: Multiserotype enzyme-linked immunosorbent assay as a diagnostic aid for periodontitis in large-scale studies. *J Clin Microbiol* 2002;40:512-518.
43. Rantala M, Silaste M, Tuominen A, Kaikkonen J, Salonen JT, Alfthan G, Aro A, Kesäniemi YA: Dietary modifications and gene polymorphisms alter serum paraoxonase activity in healthy women. *J NUTR* 2002;132:3012-3017.
44. Rask-Nissilä L, Jokinen E, Viikari J, Tammi A, Rönnemaa T, Marniemi J, Salo P, Routi T, Helenius H, Välimäki I, Simell O: Impact of dietary intervention, sex, and apolipoprotein E phenotype on tracking

- of serum lipids and apolipoproteins in 1- to 5-year-old children. The special Turku coronary risk factor intervention project (STRIP). *Arterioscler Thromb Vasc Biol* 2002;22:492-498.
45. Reunanen A, Roivainen M, Kleemola M, Saikku P, Leinonen M, Hovi T, Knekt P, Leino A, Aromaa A: Enterovirus, mycoplasma and other infections as predictors for myocardial infarction. *J Intern Med* 2002;252:421-429.
 46. Rissanen A, Heliövaara M, Alaranta H, Taimela S, Mälkiä E, Knekt P, Reunanen A, Aromaa A: Does good trunk extensor performance protect against back-related work disability? *Journal of Rehabilitation Medicine* 2002;34:62-66.
 47. Rätty HP, Impivaara O, Karppi SL: Dynamic balance in former elite male athletes and in community control subjects. *Scand J Med Sci Sports* 2002;12:111-116.
 48. Schwab U, Törrönen A, Toppinen L, Alfthan G, Saarinen M, Aro A, Uusitupa M: Betaine supplementation decreases plasma homocysteine concentrations but does not affect body weight, body composition, or resting energy expenditure in human subjects. *Am J Clin Nutr* 2002;76:961-967.
 49. Tammi A, Rönnemaa T, Miettinen TA, Gylling H, Rask-Nissilä L, Viikari J, Tuominen J, Marniemi J, Simell O: Effects of gender, apolipoprotein E phenotype and cholesterol-lowering by plant stanol esters in children: The STRIP study. *Acta Paediatr* 2002;91:1155-1162.
 50. Tarpila S, Aro A, Salminen I, Tarpila A, Kleemola P, Akkila J, Adlercreutz H: The effect of flaxseed supplementation in processed foods on serum fatty acids and enterolactone. *Eur J Clin Nutr* 2002;56:157-165.
 51. Turjanmaa K, Alenius H, Reunala T, Palosuo T: Recent developments in latex allergy. *Current Opinion in Allergy and Clinical Immunology* 2002;2:407-412.
 52. Turjanmaa K, Kanto M, Kautiainen H, Reunala T, Palosuo T: Long-term outcome of 160 adult patients with natural rubber latex allergy. *J Allergy Clin Immunol* 2002;110(2 suppl.):S70-S74.
 53. Turpeinen AM, Mutanen M, Aro A, Salminen I, Basu S, Palmquist DL, Griinari JM: Bioconversion of vaccenic acid to conjugated linoleic acid in humans. *Am J Clin Nutr* 2002;76:504-510.
 54. Viskari HR, Roivainen M, Reunanen A, Piktaniemi J, Sadeharju K, Koskela P, Hovi T, Leinikki P, Vilja P, Tuomilehto J, Hyoty H: Maternal first-trimester enterovirus infection and future risk of type 1 diabetes in the exposed fetus. *Diabetes* 2002;51:2568-2571.

B. Original articles and reviews published in domestic languages

1. Alfthan G, Laurinen M, Valsta L, Pastinen T, Aro A: Plasman folaatti- ja homokysteiinipitoisuudet sekä folaattien saanti suomalaisilla aikuisilla. *Suom Lääkäril* 2002;57:1895-1899.
2. Aro A: Funktionaaliset elintarvikkeet - lupaavatko mainostekstit liikaa? *Kardio* 2002(1):4-7.
3. Aro A: Luonnonmukaisen elintarviketuotannon tutkimustarpeet. *Suom Lääkäril* 2002;57:1676-1677.
4. Aro A: Suomalaisten ravitsemus- ja terveystrendit. *Suom Lääkäril* 2002;57:660-662.
5. Aromaa A: Suomalaisen terveysseurannan uusi peruskivi. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(9):2.
6. Aromaa A: Suomalaisen terveysseurannan uusi peruskivi. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):2.
7. Aromaa A, Koskinen S, Sainio P: Toimintakyky parantunut. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):2-3.
8. Grönhagen-Riska C, Finne P, Stenman S, Reunanen A: Munuaistautirekisterin raportin sanoma diabetologeille. *Diabetes ja lääkäri* 2002(2):8-13.
9. Heliövaara M, Riihimäki H: Tuki- ja liikuntaelinten sairaudet vähentyneet - kivut lisääntyneet. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):13.
10. Heliövaara M, Riihimäki H: Tuki- ja liikuntaelinten sairaudet vähentyneet - kivut lisääntyneet. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):13.
11. Hyypä M, Kronholm E: Kansalaisyhteisön sosiaalinen pääoma heijastuu vireyteen. *Suom Lääkäril* 2002;57:4124-4127.
12. Kattainen A, Reunanen A: Verenkiertoelinten sairaudet vähentyneet. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):5-6.
13. Kiiskinen U, Suominen-Taipale L: Omasta mielestään hammashoitoa tarvitsevat useimmin 1946-55 syntyneet. *Kelan Sanomat* 2002(2):24.
14. Knekt P: Flavonoidit hyödyllisiä kroonisten tautien ehkäisyssä. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(8):11.
15. Koskinen S, Sainio P, Aromaa A: Suomalaisen toimintakyky - Terveys 2000 -tutkimuksen tuloksia. *Kuntoutus* 2002;2:3-15.
16. Koskinen S, Martelin T, Lahelma E: Väestöryhmien väliset terveyserot. 2002. (Ehkäisevän sosiaali- ja terveyspolitiikan verkostolehti 1/02).
17. Linnala A, Aromaa A, Mattila K: Yksityiset erikoislääkärit terveyskeskusomalääkärien konsultteina - mitä mieltä ovat lääkärit? *Sosiaalilääket Aikakausi* 2002;39:3-12.

18. Luoto R, Raitanen J, Herrala J, Hakama M: Terveysennusteet ja niiden merkitys - esimerkkinä Pirkanmaa. *Suom Lääkäril* 2002;38:3751-3754.
19. Reunanen A: Diabeteksen esiintyvyys Suomessa. *Diabetes ja lääkäri* 2002(2):6-7.
20. Reunanen A: Kymmenen makupalaa terveys 2000 -tutkimuksesta. *Kunnallislääkäri* 2002;6:42-45.
21. Reunanen A: Varttuneiden suomalaisten verenkiertopulmat. *Vanhustyö* 2002(2):10-12.
22. Sainio P, Karppi S, Vaara M, Hakulinen K: Suomalaiset saavat koettua tarvettaan vähemmän kuntoutusta ja fysioterapiaa. *Fysioterapia* 2002;49:4-7.
23. Sainio P, Koskinen S, Aromaa A: Toimintakyky parantunut. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(9):2-3.
24. Slätis P, Malmivaara A, Heliövaara M, Sainio P, Kinnunen H, Kankare J, Dalin-Hirvonen N, Herno A, Kortekangas P, Niinimäki T, Tallroth K, Turunen V, Seitsalo S, Knekt P, Härkänen T, Hurri H: Leikkaushoidon vaikuttavuus keskivaikeassa spinaalistennoosissa. *Satunnaistettu vertailututkimus. Suomen Ortopedia ja Traumatologia* 2002;25:228-232.
25. Sormunen S, Koponen P, Hemminki E: Kätilöiden ja terveydenhoitajien käsityksiä koulutuksen ja nykyisen työn vastaavuudesta. *Kättilölehti* 2002;107:114-116.
26. Suominen-Taipale L, Vehkalahti M, Nordblad A: Aikuisten suunterveys kohentunut. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2002(5-6):6.
27. Valle T, Lindström J, Eriksson J, Hämäläinen H, Ilanne-Parikka P, Keinänen-Kiukaanniemi S, Louheranta A, Laakso M, Martikkala V, Rastas M, Salminen V, Aunola S, Hakumäki M, Mannelin M, Sundvall J, Uusitupa M, Tuomilehto J: Elämäntapamuutokset tehokkaita tyyppin 2 diabeteksen ehkäisyssä. *Diabetes Prevention Study, DPS. Suom Lääkäril* 2002;57:1369-1378.

C. Textbooks and chapters in textbooks, reports and proceedings

1. Aho K, Heliövaara M: Reumatautien genetiikka, epidemiologia ja kansanterveydellinen merkitys. In: Leirisalo-Repo M, Hämäläinen M, Moilanen E ed. *Reumataudit*. Helsinki: Duodecim, 2002:10-23.
2. Alenius HT, Lehto M, Amghaiab I, Majuri M, Wang G, Wolff H, Turjanmaa K, Lauerma A, Reunala T, Palosuo T: Epicutaneous natural rubber latex sensitization induces localized Th2-dominated dermatitis and strong IgE response [abstract]. *J Allergy Clin Immunol* 2002;109:S48.
3. Aro A: Human health effects of ruminant fats. In: Gechie LM, Thomas C ed. *The XIIIth International Silage Conference, conference Proceedings*. Auchincruive: 2002:2-6.
4. Aromaa A, Koskinen S: Terveys ja toimintakyky Suomessa. *Terveys 2000 -tutkimuksen perustulokset*. 2002. 148 p. (Publications of National Public Health Institute, Series B 3/2002).
5. Helakorpi S, Martelin T, Uutela A: Smoking behaviour in Finland and its associations with birth cohort and education, 1978-1996. In: *Seventh International Congress of Behavioural Medicine*. 2002:110. (International journal of behavioral medicine Vol 9 Suppl 1/2002).
6. Hyypä M, Kronholm E, Viitanen J: Stability of chronic pain/fatigue in fibromyalgia patients. In: *7th International Congress of Behavioural Medicine*. Helsinki: Lawrence Erlbaum, 2002.
7. Hyypä MT: Kuorossa elämä pitenee. Sosiaalinen pääoma ja terveys. In: Ruuskanen P ed. *Sosiaalinen pääoma ja hyvinvointi. Näkökulmia sosiaali- ja terveysaloille*. Jyväskylä: PS-Kustannus, 2002:28-59.
8. Isotupa S, Knekt P, Järvinen R, Rissanen H, Teppo L, Aromaa A: Dietary diversity and breast cancer [abstract]. In: *Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous*. 2002:18.
9. Jousilahti P, Heliövaara M: Hengityselinten ja ihon sairaudet. In: Aromaa A, Koskinen S ed. *Terveys ja toimintakyky Suomessa. Terveys 2000 -tutkimuksen perustulokset*. 2002:44-46. (Publications of National Public Health Institute, Series B 3/2002).
10. Järvinen R, Knekt P, Hakulinen T, Rissanen H, Heliövaara M: Dietary fat, cholesterol and colorectal cancer risk in a cohort study [abstract]. In: *Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous*. 2002:19.
11. Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M: Kohti terveyden tasa-arvoa. Helsinki: Edita Prima Oy, 2002. 333 p.
12. Kangas I, Keskimäki I, Koskinen S, Lahelma E, Manderbacka K, Prättälä R, Sihto: Sosioekonomisten terveyserojen kaventaminen - tiedosta toimintaan. In: Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M ed. *Kohti terveyden tasa-arvoa*. Helsinki: Edita, 2002:11-17.
13. Karisola P, Mikkola J, Reunala T, Turjanmaa K, Kalkkinen N, Palosuo T, Kulomaa M, Alenius HT: Identification of IgE-binding amino acids on the conformational epitopes of hevein (Hev b 602) [abstract]. *J Allergy Clin Immunol* 2002;109:S333.
14. Keskimäki I, Koskinen S, Teperi J: Terveyspalvelujen mahdollisuudet kaventaa terveyseroja. In: Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M ed. *Kohti terveyden tasa-arvoa*. Helsinki: Edita, 2002:281-299.
15. Keskimäki I, Koskinen S, Lahelma E, Sihto M, Kangas I, Manderbacka K: Sosioekonomiset terveyserot ja niiden kaventaminen. In: Heikkilä M, Kautto M ed. *Suomalaisten hyvinvointi 2002*. Jyväskylä: Gummerus, 2002:352-371.

16. Kiiskinen U: Terveystietoon panostaminen - yksilön näkökulma. In: Mikkola H ed. *Terveystaloustiede 2002*. Stakes, 2002:57-59. (Aiheita 2/2002/2002).
17. Kiiskinen U, Arinen S: Suun ja hampaiden terveys parantunut. In: Klaukka T ed. *Vaikka terveys on kohentunut, sosiaaliturvan kustannukset kasvavat: Kelan näkökulma Terveys 2000 -hankkeen tuloksiin*. Helsinki: Kela, tutkimusosasto, 2002:8. (Sosiaali- ja terveysturvan selosteita 23/2002/2002).
18. Knekt P, Heliövaara M, Reunanen A, Aromaa A: Serum selenium and incidence of chronic diseases [abstract]. In: Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous. 2002:15.
19. Knekt P, Kumpulainen J, Järvinen R, Rissanen H, Reunanen A, Heliövaara M, Hakulinen T, Aromaa A: Flavonoid intake and risk of chronic diseases - the Finnish Mobile Clinic Health Survey [abstract]. In: Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous. 2002:3.
20. Knekt P, Reunanen A, Rissanen H, Järvinen R, Heliövaara M, Aromaa A: Dietary folic acid, vitamin B6 and vitamin B12 and coronary heart disease mortality [abstract]. In: Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous. 2002:14.
21. Koskinen S, Sihto M, Keskimäki I, Lahelma E: Terveystieteen kaventaminen yhteiskuntapolitiikan keinoin. In: Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M ed. *Kohti terveyden tasa-arvoa*. Helsinki: Edita, 2002:45-64.
22. Koskinen SV, Melkas TA: Finland. In: Marinker M ed. *Health Targets in Europe: Polity, Progress and Promise*. London: BMJ Books, 2002:117-129.
23. Lahelma E, Koskinen S: Suomalaisten suuret sosioekonomiset terveyserot - haaste terveys ja yhteiskuntapolitiikalle. In: Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M ed. *Kohti terveyden tasa-arvoa*. Helsinki: Edita, 2002:21-44.
24. Luoto R, Raitanen J, Hakama M: Terveys ja hoidontarve Pirkanmaalla 2010. TEHOTA-projektin II väliraportti. 2002. (Pirkanmaan sairaanhoitopiirin julkaisuja 2/2002).
25. Majamaa H, Seppälä U, Palosuo T, Reunala T, Kalkkinen N, Turjanmaa K: Hypersensitivity to raw potatoes in adults [abstract]. *J Allergy Clin Immunol* 2002;109:S220.
26. Martelin T, Karvonen S, Koskinen S: Työikäisten hyvinvointi. In: Heikkilä M, Kautto M ed. *Suomalaisten hyvinvointi 2002*. Jyväskylä: Sosiaali- ja terveystieteen tutkimus- ja kehittämiskeskus, 2002:84-119.
27. Martelin T, Koskinen S, Kattainen A, Sainio P, Reunanen A, Aromaa A: Changes and differentials in the prevalence of activity limitations among Finns aged 65 - 74: comparison of the Mini-Finland health examination survey (1978 - 80) and the FINRISK-97 senior survey (1997). 2002. (Yearbook of population research in Finland 38 (2002) pp. 55 - 75).
28. Martelin T, Koskinen S, Sihvonen A, Aromaa A: Toimintakykyisen elinajan viimeaikaiset muutokset ja kehitysnäkymät Suomessa [abstract]. In: Kansallinen foorumi: aktiivinen ja elämän suuntautuva vanheneminen. Abstraktit. Jyväskylä: 2002:17-19.
29. Martelin TP, Koskinen SVP, Kattainen AK, Sainio P, Reunanen ARS, Aromaa ARJ: Differences in functional ability between educational groups in old age [abstract]. In: *Seventh International Congress of Behavioural Medicine*. 2002:180. (International journal of behavioral medicine Vol 9, Suppl 1/2002).
30. Montonen J, Knekt P, Reunanen A, Järvinen R, Aromaa A: Dietary antioxidants and the risk of non-insulin dependent diabetes mellitus [abstract]. In: Abstracts. Suomen Ravitsemustieteen Yhdistyksen kevätkokous. 2002:16.
31. Mäkelä P, Lindvors O, Kaipainen M, Renlund C, Virtala E, Haaramo P, Rissanen H, Järvikoski A, Hannula J, Knekt P, the Helsinki Psychotherapy Group: The Helsinki Psychotherapy Study: design and methods [abstract]. In: Abstraktit: Vallan sosiologia. Sosiologiapäivät. 2002:53.
32. Notkola V, Martelin T, Koskinen S: Socioeconomic position in childhood and adult cardiovascular mortality in 1971-98 in Finland: A register based follow-up study of a large sample from the 1950 Census. In: *Yearbook of population research in Finland*. Helsinki: The Population Research Institute, 2002:13-23.
33. Palosuo T: Immunologia. In: Leirisalo-Repo M, Hämäläinen M, Moilanen E ed. *Reumataudit*. Helsinki: Duodecim, 2002:31-51.
34. Palosuo T, Turjanmaa K, Ovod V, Kärkkäinen T, Frisk K, Alenius HT, Reunala T, Kulomaa M, Kalkkinen N, Reinikka-Railo H: Concentrations of natural rubber latex (NRL) allergens Hev b1, 3, 5 and 602 in NRL gloves capable of causing positive skin prick test (SPT) reactions in NRL-allergic subjects [abstract]. *J Allergy Clin Immunol* 2002;109:S332.
35. Rajakangas J, Turpeinen AM, Salminen I, Mutanen M: Effects of conjugated linoleic acid on adenoma formation in the ApcMin mouse. In: Riboli E, Lambert R ed. *Nutrition and Lifestyle: Opportunities for Cancer Prevention*. 2002:405-406. (IARC Sci Publ 156/2002).
36. Reunanen A, Montonen J, Knekt P, Aromaa A, Järvinen R: Whole grain and fiber intake as protective factors for type 2 diabetes. In: *The 37th Annual Meeting of the European Diabetes Epidemiology Group*. 2002:39.
37. Rissanen H, Knekt P, Salminen I, Hakulinen T, Järvinen R: Serum fatty acids and risk of breast cancer [abstract]. In: Abstracts: Suomen Ravitsemustieteen Yhdistyksen kevätkokous. 2002:17.

38. Salmelainen U, Röberg M, Hinkka K: Tietäen, taitaen ja yhdessä toimien. Kokemuksia pientyöpaikkojen ASLAK-kuntoutuskurssien järjestämisen kokeilusta. Turku: Kela, 2002. (Sosiaali- ja terveysturvan katsauksia 53/2002).
39. Sihto M, Kangas I, Keskimäki I, Koskinen S, Lahelma E, Manderbacka K, Prättälä R: Terveysterojen kaventamiskeinot käyttöön. In: Kangas I, Keskimäki I, Koskinen S, Manderbacka K, Lahelma E, Prättälä R, Sihto M ed. Kohti terveyden tasa-arvoa. Helsinki: Edita, 2002:325-330.

D. Other publications

1. Salmelainen U: Otteita pätkätyöstä. Sosiaalivakuutus 2002(4).

E. Theses

1. Erlund I: Chemical analysis and pharmacokinetics of the flavonoids quercetin, hesperetin and naringenin in humans [dissertation]. 2002. 241 p. (Publications of National Public Health Institute, Series A 27/2002).
2. Heistaro S: Trends and determinants of subjective health. Analysis from the national Finrisk surveys [dissertation]. 2002. 232 p. (Publications of National Public Health Institute, Series A 24/2002).

2003

A. Original articles and reviews

1. Aasvee K, Kurvinen E, Tur I, Jauhiainen M, Sundvall J: Lipiidide profiili determinandid varajast müokardiininfakti (VMI) podenud meestel ja nende järglastel, vordlus kontrollperedega. Eesti Arst 2003(9).
2. Alftan G, Laurinen MS, Valsta LM, Pastinen T, Aro A: Folate intake, plasma folate and homocysteine status in a random Finnish population. Eur J Clin Nutr 2003;57:81-88.
3. Aro A: Fatty acid composition of serum lipids: is this marker of fat intake still relevant for identifying metabolic and cardiovascular disorders? Nutr Metab Cardiovasc Dis 2003;13:253-255.
4. Aromaa A, Koponen P, Tafforeau J, Vermeire C, The HIS/HES core group: Evaluation of health interview surveys and health examination surveys in the European Union. European Journal of Public Health 2003;13(Suppl 3):67-72.
5. Asao K, Sarti C, Forsen T, Hyttinen V, Nishimura R, Matsushima M, Reunanen A, Tuomilehto J, Tajima N, DERI mortality study group: Long-term mortality in nationwide cohorts of childhood-onset type 1 diabetes in Japan and Finland. Diabetes Care 2003;26:2037-2042.
6. de Beaufort CE, Reunanen A, Raleigh V, Storms F, Kleinebreil L, Gallego R, Giorda C, Midthjell K, Jecht M, de Leeuw I, Schober E, Boran G, Tolis G: European Union diabetes indicators. Fact or fiction? European Journal of Public Health 2003;13(Suppl 3):51-54.
7. Erlund I, Marniemi J, Hakala P, Alftan G, Meririnne E, Aro A: Consumption of black currants, lingonberries and bilberries increases serum quercetin concentrations. Eur J Clin Nutr 2003;57:37-42.
8. Forssas E, Keskimäki I, Reunanen A, Koskinen S: Widening socioeconomic mortality disparity among diabetic people in Finland. European Journal of Public Health 2003;13:38-43.
9. Grandell-Niemi H, Hupli M, Leino-Kilpi H, Puukka P: Medication calculation skills of nurses in Finland. J CLIN NURS 2003;12:519-528.
10. Haara MM, Manninen P, Kröger H, Arokoski JPA, Kärkkäinen A, Knekt P, Aromaa A, Heliövaara M: Osteoarthritis of finger joints in Finns aged 30 or over: prevalence, determinants, and association with mortality. Ann Rheum Dis 2003;62:151-158.
11. Haara M, Manninen P, Kröger H, Arokoski JPA, Kärkkäinen A, Knekt P, Aromaa A, Heliövaara M: Osteoarthritis and cardiovascular death. Author's reply. Electronic letter to : Ann Rheum Dis 2003;62: 151-158. 2003. (<http://ard.bmjournals.com/cgi/eletters/62/2/15>).
12. Hetemaa T, Keskimäki I, Manderbacka K, Leyland AH, Koskinen S: How did the recent increase in the supply of coronary operations in Finland affect socioeconomic and gender equity in their use? J Epidemiol Community Health 2003;57:178-185.
13. Huittinen T, Leinonen M, Tenkanen L, Virkkunen H, Mänttari M, Palosuo T, Manninen V, Saikku P: Synergistic effect of persistent Chlamydia pneumoniae infection, autoimmunity, and inflammation on coronary risk. Circulation 2003;107:2566-2570.
14. Hyypä M, Kronholm E, Virtanen A, Leino A, Jula A: Does simvastatin affect mood and steroid hormone levels in hypercholesterolemic men? A randomized double-blind trial. Psychoneuroendocrinology 2003;28:181-194.
15. Hyypä M, Mäki J: Social participation and health in a community rich in stock of social capital. Health Educ Res 2003;18:770-779.

16. Härkänen T: BITE: A bayesian intensity estimator. *Computational Statistics* 2003;18:565-583.
17. Härkänen T, Hausen H, Virtanen JI, Arjas E: A non-parametric frailty model for temporally clustered multivariate failure times. *Scandinavian Journal of Statistics* 2003;30:523-533.
18. Joki-Erkkilä VP, Karjalainen J, Hulkkonen J, Pessi T, Nieminen MM, Aromaa A: Allergic rhinitis and polymorphisms of the interleukin 1 gene complex. *Ann Allergy Asthma Immunol* 2003;91:275-279.
19. Jousilahti P, Salomaa V, Rasi V, Vahtera E, Palosuo T: Association of markers of systemic inflammation, C reactive protein, serum amyloid A, and fibrinogen, with socioeconomic status. *J Epidemiol Community Health* 2003;57:730-733.
20. Karjalainen J, Hulkkonen J, Nieminen MM, Huhtala H, Aromaa A, Klaukka T, Hurme M: Interleukin-10 gene promoter region polymorphism is associated with eosinophil count and circulating Immunoglobulin E in adult asthma. *Clin Exp Allergy* 2003;33:78-83.
21. Karjalainen J, Joki-Erkkilä VP, Hulkkonen J, Pessi T, Nieminen MM, Aromaa A: The IL1A genotype is associated with nasal polyposis in asthmatic adults. *Allergy* 2003;58:393-396.
22. Kempainen J, Stolen K, Kalliokoski KK, Salo T, Karanko H, Viljanen T, Airaksinen J, Nuutila P, Knuuti J: Exercise training improves insulin stimulated skeletal muscle glucose uptake independent of changes in perfusion in patients with dilated cardiomyopathy. *Journal of Cardiac Failure* 2003;9:286-95.
23. Kinnunen TI, Luoto R, Gissler M, Hemminki E: Pregnancy weight gain from 1960s to 2000 in Finland. *Int J Obes Relat Metab Disord* 2003;27:1572-1577.
24. Korpilähde T, Heliövaara M, Kaipiainen-Seppänen O, Knekt P, Aho K: Regional differences in Finland in the prevalence of rheumatoid factor in the presence and absence of arthritis. *Ann Rheum Dis* 2003;62:353-355.
25. Kotaniemi A, Risteli J, Aho K, Hakala M: Increased type 1 collagen degradation correlates with disease activity in reactive arthritis. *Clin Exp Rheumatol* 2003;21:95-98.
26. Kotaniemi K, Savolainen A, Karma A, Aho K: Recent advances in uveitis of juvenile idiopathic arthritis. *Surv Ophthalmol* 2003;48:489-502.
27. Kotaniemi K, Savolainen A, Aho K: Severe childhood uveitis without overt arthritis. *Clin Exp Rheumatol* 2003;21:395-398.
28. Lahti-Koski M, Valsta LM, Alftan G, Tapanainen H, Aro A: Iron status of adults in the capital area of Finland. *Z Ernährungswiss* 2003;42:287-292.
29. Lakio L, Paju S, Alftan G, Tirola T, Asikainen S, Pussinen PJ: Actinobacillus actinomycetemcomitans serotype d-specific antigen contains the O antigen of lipopolysaccharide. *Infect Immun* 2003;71:5005-5011.
30. Laukkanen P, Koskela P, Pukkala E, Dillner J, Läärä E, Knekt P, Lehtinen M: Time trends in incidence and prevalence of human papillomavirus type 6, 11 and 16 infections in Finland. *J Gen Virol* 2003;84:2105-2109.
31. Lehto M, Koivuluhta M, Wang G, Amghaiab I, Majuri M, Savolainen K, Turjanmaa K, Wolff H, Reunala T, Lauerma A, Palosuo T, Alenius H: Epicutaneous natural rubber latex sensitization induces T helper 2-type dermatitis and strong prohevein-specific IgE response. *J Invest Dermatol* 2003;120:633-40.
32. Lewington S, Clarke R, Qizilbash N, Peto R, Collins R, Prospective SC: Age specific relevance of usual blood pressure to vascular mortality. Author's reply. *Lancet* 2003;361:1391-1392.
33. Lindström J, Eriksson JG, Valle TT, Aunola S, Cepaitis Z, Hakumäki M, Hämäläinen H, Ilanne-Parikka P, Keinänen-Kiukaanniemi S, Laakso M, Louheranta A, Mannelin M, Martikkala V, Moltchanov V, Rastas M, Salminen V, Sundvall J, Uusitupa M, Tuomilehto J: Prevention of diabetes mellitus in subjects with impaired glucose tolerance in the Finnish Diabetes Prevention Study: Results from a randomized clinical trial. *J AM SOC NEPHROL* 2003;14:S108-S113.
34. Linnala A, Aromaa A, Mattila K: Improved availability of specialist consultations in primary health care: impact on physician visits. *SCAND J PRIM HEALTH CARE* 2003;21:83-88.
35. Luosujärvi RA, Husman TM, Seuri M, Pietikäinen MA, Pollari P, Pelkonen J, Hujakka HT, Kaipiainen-Seppänen OA, Aho K: Joint symptoms and sideases associated with moisture damage in a health center. *Clin Rheumatol* 2003;22:381-385.
36. Luoto R, Grenman S, Salonen S, Pukkala E: Increased risk of thyroid cancer among women with hysterectomies. *AM J OBSTET GYNECOL* 2003;188:45-48.
37. Meltzer HM, Aro A, Andersen NL, Koch B, Alexander J: Risk analysis applied to food fortification. *Public health nutrition* 2003;6:281-290.
38. Mensink RP, Aro A, Den Hond E, German JB, Griffin BA, Meer H, Mutanen M, Pannemans D, Stahl W: PASSCLAIM - diet-related cardiovascular disease. *Z Ernährungswiss* 2003;42(Suppl 1):I/6-I/27.
39. Montonen J, Knekt P, Järvinen R, Aromaa A, Reunanen A: Whole-grain and fiber intake and the incidence of type 2 diabetes. *Am J Clin Nutr* 2003;77:622-629.
40. Mäkelä P, Keskimäki IT, Koskinen S: What underlies the high alcohol related mortality of the disadvantaged: high morbidity or poor survival? *J Epidemiol Community Health* 2003;57:981-986.

41. Männistö S, Pietinen P, Virtanen MJ, Salminen I, Albanes D, Giovannucci E, Virtamo J: Fatty acids and risk of prostate cancer in a nested case-control study in male smokers. *Cancer Epidemiol Biomarkers Prev* 2003;12:1422-1428.
42. Nissinen R, Leirisalo-Repo M, Tiittanen M, Julkunen H, Hirvonen H, Palosuo T, Vaarala O: CCR3, CCR5, interleukin 4 and interferon-gamma expression on synovial and peripheral T cells and monocytes in patients with rheumatoid arthritis. *J Rheumatol* 2003;30:1928-1934.
43. Nissinen R, Paimela L, Julkunen H, Tienari PJ, Leirisalo-Repo M, Palosuo T, Vaarala O: Peptidylarginine deiminase, the arginine to citrulline converting enzyme, is frequently recognized by sera of patients with rheumatoid arthritis, systemic lupus erythematosus and primary Sjögren syndrome. *Scand J Rheumatol* 2003;32:337-342.
44. Palosuo T, Tilvis R, Strandberg T, Aho K: Filaggrin related antibodies among the aged. *Ann Rheum Dis* 2003;62:261-263.
45. Pussinen PJ, Jousilahti P, Alftan G, Palosuo T, Asikainen S, Salomaa V: Antibodies to periodontal pathogens are associated with coronary heart disease. *Arterioscler Thromb Vasc Biol* 2003;23:1250-1254.
46. Pussinen PJ, Laatikainen T, Alftan G, Asikainen S, Jousilahti P: Periodontitis is associated with a low concentration of vitamin C in plasma. *Clin Diagn Lab Immunol* 2003;10:897-902.
47. Rajakangas J, Basu S, Salminen I, Mutanen M: Adenoma growth stimulation by the trans-10, cis-12 isomer of conjugated linoleic acid (CLA) is associated with changes in mucosal NF-kappaB and cyclin D1 protein levels in the Min mouse. *J Nutr* 2003;133:1943-1948.
48. Reunanen A, Heliövaara M, Aho K: Coffee consumption and risk of type 2 diabetes mellitus. *Lancet* 2003;361:702.
49. Rissanen H, Knekt P, Järvinen R, Salminen I, Hakulinen T: Serum fatty acids and breast cancer incidence. *Nutr Cancer* 2003;45:168-175.
50. Runstadler JA, Säilä H, Savolainen A, Leirisalo-Repo M, Aho K, Tuomilehto-Wolf E, Tuomilehto J, Seldin MF: Analysis of MHC region genetics in Finnish patients with juvenile idiopathic arthritis: evidence for different locus-specific effects in polyarticular vs pauciarticular subsets and a shared DRB1 epitope. *Genes and Immunity* 2003;4:326-335.
51. Silaste M, Rantala M, Alftan G, Aro A, Kesäniemi YA: Plasma homocysteine concentration is decreased by dietary intervention. *Br J Nutr* 2003;89:295-301.
52. Suominen-Taipale AL, Nordblad A, Arinen S: Dental attendance in relation to aspects of need in the adult Finnish population. *Zeitschrift für Gesundheitswissenschaften* 2003;5:7-19.
53. Surakka J, Aunola S, Nordblad T, Karppi S, Alanen E: Feasibility of a power-type strength training for middle-aged men and women: self-perception, musculoskeletal symptoms and injury rates. *Br J Sports Med* 2003;37:131-136.
54. Säilä H, Savolainen A, Kauppi M, Alakulppi N, Tuomilehto-Wolf E, Tuomilehto J, Leirisalo-Repo M, Aho K: Occurrence of chronic inflammatory rheumatic sideases among parents of multiple offspring affected by juvenile idiopathic arthritis. *Clin Exp Rheumatol* 2003;21:263-265.
55. Tuominen R, Reunanen A, Paunio M, Paunio I, Aromaa A: Oral health indicators poorly predict coronary heart disease deaths. *J Dent Res* 2003;82:713-718.
56. Virtanen R, Jula A, Kuusela T, Helenius H, Voipio-Pulkki LM: Reduced heart rate variability in hypertension: associations with lifestyle factors and plasma renin activity. *J Hum Hypertens* 2003;17:171-179.
57. Virtanen R, Jula A, Salminen JK, Voipio-Pulkki LM, Helenius H, Kuusela T, Airaksinen J: Anxiety and hostility are associated with reduced baroreflex sensitivity and increased beat-to-beat blood pressure variability. *Psychosom Med* 2003;65:751-756.
58. Ylönen K, Alftan G, Groop L, Saloranta C, Aro A, Virtanen SM, the Botnia Research Group: Dietary intakes and plasma concentrations of carotenoids and tocopherols in relation to glucose metabolism in subjects at high risk of type 2 diabetes: the Botnia Dietary Study. *Am J Clin Nutr* 2003;77:1434-1441.

B. Original articles and reviews published in domestic languages

1. Ailanto P, Aunola S, Karppi S: The effect of power-type strength training lasting for one year on the speed-power properties in the middle-aged men. *Liikunta ja tiede* 2003;1:20-27.
2. Aro A: Homokysteini ja sepelvaltimotauti. *Duodecim* 2003;119:1131-1135.
3. Aromaa A: Terveys 2000 - terveystutkimusten edelläkävijä. *Hyvinvointikatsaus* 2003(2).
4. Aromaa A, Launis V, Lötjönen S: DNA-näytteet epidemiologisissa tutkimuksissa. *Suom Lääkäril* 2003;58:4467-4471.
5. Erlund I: Flavonoidien kversetiini, hesperetiini ja nagingeniini määrittäminen ja farmakokinetiikka ihmisellä. *Kliin lab* 2003(3):52.
6. Haapa E, Aro A: Glykemiaindeksin merkitys diabeetikoille ja terveille. *Suom Lääkäril* 2003;58:2651-3.
7. Hyypä MT: Terveyttä ja elinvoimaa yhteisöllisyydestä. *Pääkirjoitus. Suom Lääkäril* 2003;58:1154.
8. Hyypä MT: Yhteisöllisyyden merkitys aivohalvauksen ehkäisyssä. *Suom Lääkäril* 2003;58:1167-71.

9. Koskinen S, Gould R, Helakorpi S, Hytti H, Kauppinen T, Vuori M: Toteutuvatko Terveys 2015 - ohjelman tavoitteet. Hyvinvointikatsaus 2003;2:35-41.
10. Nieminen T: Haastattelijapalautetta Terveys 2000 - tutkimuksesta. Hyvinvointikatsaus 2003(2).
11. Rauramo U, Aro A: Mikä kumman kuitu? Suom Lääkäril 2003;58:4143-4145.
12. Reunanen A: Toimiiko ohjelma suomalaisten sydän- ja verisuoniterveyden edistämiseksi? Kardio 2003(1):26-30.
13. Reunanen A: Tyyppin 2 diabetes - uusi maailmanlaajuinen epidemia. Duodecim 2003;119:1409-1410.
14. Suominen-Taipale AL, Widström E: Sairausvakuutuksen korvaamien yksityishammaslääkäripalvelujen käyttö 25-vuotiailla. Sosiaalilääket Aikakausi 2003;40:49-54.

C. Textbooks and chapters in textbooks, reports and proceedings

1. Alfthan G: Dietary approaches for lowering risk factors for heart diseases. In: Moiseenok AG ed. Proceedings of symposium on nutrition and metabolism. Belarus academy of sciences, 2003:5-9.
2. Aro A: Antioxidant supplementation and risk of chronic disease. In: Advances in Food Production and Food Processing. 2003:361-363.
3. Aro A: Hyperlipidemia. In: Koskenvuo K ed. Sairauksien ehkäisy. Helsinki: Duodecim, 2003:225-232.
4. Aro A: Trans-fatty acids: health effects. In: Caballero B, Trugo L, Finglas PM ed. The Encyclopedia of Food Sciences and Nutrition, Second Edition. Academic Press, 2003:2324-2330.
5. Aro A: Vitamiinit ja kivennäisaineet. In: Koskenvuo K ed. Sairauksien ehkäisy. Helsinki: Duodecim, 2003:616-622.
6. Aro A: Välttämättömät rasvahapot. In: Koskenvuo K ed. Sairauksien ehkäisy. Helsinki: Duodecim, 2003:623-629.
7. Aromaa A, Koponen P, Tafforeau J, Vermeire C, Primatesta P, Marmot M, Kurth B, Gargiulo L, Lehto-Järnstedt U, Rätty S: Health surveys: evaluation and recommendations. 2003. (Publications of National Public Health Institute, Series B 16/2003).
8. Aromaa A, Koponen P, Tafforeau J, Vermeire C: Status and future of health surveys in the European Union. Final report of Phase 2 of the project health surveys in the EU: HIS and HIS/HES evaluations and models. 2003. 182 p. (Publications of National Public Health Institute, Series B 13/2003/2003).
9. Aromaa A, Launis V, Lötjönen S: DNA samples in epidemiological research. Helsinki: 2003. (Publications of the Ministry of Social Affairs and Health).
10. Erlund I, Alfthan G, Virtanen M, Aro A, Virtamo J: Plasma concentrations of selected flavonoids and phenolic acids, and enterolactone, in Finnish male smokers [abstract]. In: Abstract books, 1st International Conference on Polyphenols and Health. 2003:131.
11. Eurola M, Alfthan G, Aro A, Ekholm P, Hietaniemi V, Rainio H, Rankanen R: Venäläinen ER. Report on the Finnish selenium Monitoring Program. 2003. (Agrifood Research Reports 2003;36:3-42.).
12. Giersiepen K, Luoto R, Eberle A: Hysterectomy prevalence and its effect on uterine cancer incidence registration. Proceedings of the Bremen meeting on women's health, May 19, 2001. Berlin: Verlag für Wissenschaft und Forschung GmbH, 2003. 157 p.
13. Haara M, Heliövaara M, Impivaara O, Arokoski J, Knekt P, Manninen P, Kärkkäinen A, Reunanen A, Aromaa A: Low metacarpal index (MCI) predicts HIP fracture - a population study. In: 6th Congress of the European Federation of National Associations of Orthopaedics and Traumatology, Abstracts. 2003:242.
14. Haara M, Heliövaara M, Kröger H, Arokoski J, Manninen P, Knekt P, Kärkkäinen A, Impivaara O, Aromaa A: Osteoarthritis in carpometacarpal joints of the thumbs among Finns aged 30 years or over: prevalence, determinants and associations with disability and mortality. In: 6th Congress of the European Federation of National Associations of Orthopaedics and Traumatology, Abstracts. 2003:240.
15. Heistaro S, Heliövaara M, Vartiainen E: The effect of a community-based heart health intervention on the prevalence of back pain. European Journal of Public Health 2003;13(Suppl):91.
16. Heliövaara M: Tuki- ja liikuntaelinten sairaudet. In: Luoto R, Viisainen K, Kulmala I ed. Sukupuoli ja terveys. Tampere: Vastapaino, 2003:74-83.
17. Heliövaara M, Riihimäki H, Nissinen M: Tuki- ja liikuntaelinten sairaudet. In: Koskenvuo K ed. Sairauksien ehkäisy. Helsinki: Kustannus Oy Duodecim, 2003:149-166.
18. Heliövaara M, Viikari-Juntura E, Alaranta H: Tuki- ja liikuntaelinten sairauksien ja vammojen epidemiologia ja ehkäisy. In: Alaranta H, Pohjolainen T, Salminen J, Viikari-Juntura E ed. Fysiatria. Helsinki: Kustannus Oy Duodecim, 2003:26-42.
19. Hellstén K, Röberg M: Kirjaa ja kehittä. Opas laadun kehittämiseen fysioterapia-alalle. Turku: Kvaliteekki, 2003.
20. Hyypä MT: Mielenterveyttä kirkkokuorosta. In: Valkonen-Korhonen M, Lehtonen K, Tuovinen T ed. Mielenterveys uusiutuvana voimavarana. Helsinki: Helsinki University, 2003:87-98.
21. Jousilahti P, Vasankari T, Petäys T, Heistaro S, Heliövaara M: Prevalence and 20-year trends of chronic bronchitis, bronchial obstruction and asthma in Finland [abstract]. In: European Respiratory Society Annual Congress. 2003.

22. Kattainen A, Luoto R, Reunanen A: Krooninen sairastavuus sukupuolittain. In: Luoto R, Viisainen K, Kulmala I ed. Sukupuoli ja terveys. Tampere: Vastapaino, 2003:33-49.
23. Kautiainen S, Läärä E, Hartikainen A, Hyppönen E, Järvelin M, Rantakallio P, Reunanen A, Virtanen SM: The relation of childhood growth to the development of Type 1 diabetes - a birth cohort study [abstract]. *Diabetes and Metabolism* 2003;29:4S7-4S8.
24. Kiiskinen U: A longitudinal analysis of health education, health knowledge and production of health. In: Swan B ed. 4th World Conference of the International Health Economists Association (iHEA), Abstracts. 2003:235.
25. Kiiskinen U, Suominen-Taipale L, Arinen S, Sintonen H: An assessment of the public subvention reform in Finnish dental care. In: Swan B ed. 4th World Conference of the International Health Economists Association (iHEA), Abstracts. 2003:157.
26. Kiiskinen U, Suominen-Taipale L, Arinen S, Sintonen H: Hammashuollon kokonaisuudistuksen arviointitutkimus. In: Kiiskinen U ed. *Terveystaloustiede* 2003. Helsinki: Stakes, 2003:75-78. (Aiheita 3/2003).
27. Knekt P, Järvinen R, Montonen J, Reunanen A, Heliövaara M, Aromaa A: Dietary fibre and prevention of coronary mortality [abstract]. *Ann Nutr Metab* 2003;47:398.
28. Knekt P, Kumpulainen J, Järvinen R, Rissanen H, Heliövaara M, Reunanen A, Hakulinen T, Aromaa A: Flavonoid intake and chronic disease risk [abstract]. *Pharmacol Toxicol* 2003;93(Suppl 1):19-20.
29. Koponen P, Aromaa A, Matias C, Tafforeau J, Vermeire C, HIS/HES core group: Evaluation of survey methodology in national Health Interview Surveys and Health Examination Surveys in Europe. In: 11th Annual EUPHA Meeting: Workshops. 2003:35-36. (*Eur J Public Health* Vol 13, No 4 S/2003).
30. Korpilähde T, Heliövaara M, Aho K, Knekt P, Marniemi J, Aromaa A: Smoking, serum cotinine and the prevalence of rheumatoid factor in nonrheumatoid subjects [abstract]. *Scand J Rheumatol* 2003;32:126.
31. Koskinen S: Commentary: Is there a common background behind growing inequalities in mortality in Western European countries? *Int J Epidemiol* 2003;32:838-839.
32. Koskinen S: Suomalaisten terveys ja haasteita sen parantamiseksi. In: Koskenvuo K ed. *Sairauksien ehkäisy*. Helsinki: Kustannus Oy Duodecim, 2003:22-38.
33. Koskinen S: Terveysterot kasvavat - miten kunnissa reagoidaan. In: *Terve Kunta -päivät*. 2003:17-20. (Stakes, Aiheita 2/2003).
34. Koskinen S: The Finnish Health 2015 programme: monitoring the attainment of the targets. In: Nielsen J ed. *Sustainable Social and Health Development in the Nordic Countries*. Copenhagen: NOSOSCO and NOMESCO, 2003:134-145.
35. Koskinen S, Martelin T: Why is mortality low among the Swedish-speaking minority in Finland? In: *Yearbook of Population Research in Finland XXXIX 2003*. Helsinki: The Population Research Institute, 2003:15-31.
36. Koskinen S, Nieminen M, Martelin T, Sihvonen A: Väestön määrän ja rakenteen kehitys. In: Heikkinen E, Rantanen T ed. *Gerontologia*. Helsinki: Kustannus Oy Duodecim, 2003:25-32.
37. Laatikainen T, Tapanainen H, Alfthan G, Salminen I, Sundvall J, Leiviskä J, Harald K, Jousilahti P, Salomaa V, Vartiainen E: Tutkimus kroonisten kansantautien riskitekijöistä, niihin liittyvistä elintavoista, oireista, psykososiaalisista tekijöistä ja terveystalouden käytöstä. Tutkimuksen toteutus ja tulokset 2. Taulukkoliite. <http://www.ktl.fi/publications/200>. Publications of National Public Health Institute, Series B 2003(7).
38. Laukkanen P, Koskela P, Pukkala E, Dillner J, Läärä E, Knekt P, Lehtinen M: Time trends in cervical cancer. 2003. (In: Jones M.(ed.) *Hot off the press. Microbiology Today* 2003; 30:139).
39. Lehtonen R, Djerf K, Härkänen T, Laiho J: Modelling complex health survey data: a case study. In: Höglund R, Jantti M, Rosenqvist G ed. *Statistics, econometrics and society: Essays in honour of Leif Nordberg*. Helsinki: Yliopistopaino, 2003:91-114. (Research Reports 238/2003).
40. Lindfors O, Knekt P, Renlund C, Helsinki Psychotherapy Study Group: Comparative effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy in depression and anxiety disorders. In: Society for Psychotherapy Research, 34th Annual Meeting, Abstracts. 2003:98-99.
41. Martelin T, Koskinen S, Sihvonen A: Elinaika ja kuolemansyyt. In: Heikkinen E, Rantanen T ed. *Gerontologia*. Helsinki: Kustannus Oy Duodecim, 2003:33-47.
42. Montonen J, Knekt P, Järvinen R, Aromaa A, Reunanen A: Whole grain and fiber intake and the risk of type 2 diabetes [abstract]. *Ann Nutr Metab* 2003;47:537.
43. Van Oyen H, Tafforeau J, Koponen P, Vermeire C, Nelissen J, Primatesta P, Aromaa A: European health surveys database: methodology and contents. *European Journal of Public Health* 2003;13(4, Suppl.):35.
44. Palosuo H, Keskimäki I, Koskinen S, Kangas I, Lahelma E, Manderbacka K, Prättälä R, Sihto M: Sosiaaliryhmien välisten terveyserojen kaantaminen - muiden maiden kokemusten hyödyntämisen mahdollisuudet Suomessa. In: *Terve Kunta -päivä*. 2003:83. (Stakes, Aiheita 2/2003).

45. Pietilä T, Nordblad A, Suominen-Taipale L, Pietilä I: Malocclusions among Finnish adults - baseline results of the Health 2000 health examination survey [abstract]. 2003. (<http://iadr.confex.com/iadr/2003goteborg/tecchprogram/index.html>).
46. Puhke R, Alev K, Aunola S, Surakka J, Venojärvi M, Rusko H, Seene T: Expression of additional MHC isoform band in human limb muscle hybrid fibres. *J MUSCLE RES CELL MOTIL* 2003;24:330.
47. Puhke R, Alev K, Aunola S, Surakka J, Venojärvi M, Rusko H, Seene T: Expression of additional MHC isoform band in human limb muscle hybrid fibres [abstract]. In: 32nd European Muscle Conference, A link between fundamental research and therapeutic trials. 2003:330. (*Muscle Res Cell Mot* 24/2003).
48. Pussinen PJ, Laatikainen T, Alftan G, Asikainen S, Jousilahti P: The association between periodontitis and plasma vitamin C concentration. In: Moiseenk AG ed. Proceedings of symposium on nutrition and metabolism. Belarus Academy of Sciences, 2003:82-91.
49. Reunanen A: Toimenpideohjelma suomalaisten sydän- ja verisuoniterveyden edistämiseksi. 2003. 60 p. (*Suomen Sydänliiton julkaisuja* 2003:1).
50. Reunanen A, de Beaufort CE, Raleigh V, Storms F, Kleinebreil L, Gallego R, Giorda C, EUDIP group: EUDIP proposal for indicators to monitor diabetes mellitus in EU countries [abstract]. *Diabetes and Metabolism* 2003;29:5S41.
51. Reunanen A, Heliövaara M, Knekt P, Aromaa A: Obesity as a risk factor for type 2 diabetes and as a predictor of mortality in diabetics [abstract]. *Int J Obes Relat Metab Disord* 2003;27(Suppl 1):S140.
52. Reunanen A, Montonen J, Knekt P, Järvinen R: Dietary antioxidant load and the risk of type 2 diabetes [abstract]. In: *Diabetes Metabolism*, 18th International Diabetes Federation Congress. Paris: 2003:4S60.
53. Rissanen A, Heliövaara M, Knekt P, Reunanen A, Aromaa A: Trends of obesity in Finland in 1980-2000 [abstract]. *Int J Obes Relat Metab Disord* 2003;27(Suppl 1):S141.
54. Sainio P: Terveys 2000 -tutkimus: Terveys ja toimintakyky Suomessa. In: Pohjolainen P, Syrén I ed. Iästä 55 -seminaari. Maaseudun ikääntyvän väestön toimintakyky ja terveys. Ikäinstituutti, Kuntokallio-Säätiö, 2003:19-25. (Oraita 1/2003/2003).
55. Savolainen J, Knuutila M, Suominen-Taipale AL, Martelin T, Nordblad A, Niskanen M, Uutela A: A strong sense of coherence promotes regular dental attendance in adults [abstract]. *Community Dent Health* 2003;3:190.
56. Sihvonen A, Martelin T, Koskinen S, Sainio P, Aromaa A: Sairastavuus ja toimintakykyinen elinikä. In: Heikkinen E, Rantanen T ed. *Gerontologia*. Helsinki: Kustannus Oy Duodecim, 2003:48-59.
57. Sundvall J, Leiviska J, Alftan G, Vartiainen E: Serum cholesterol in population studies: 25 years of quality assurance [abstract]. *Clinical Chemistry and Laboratory Medicine* 2003;41(Suppl 482):W-344.
58. Suominen-Taipale AL, Kiiskinen U, Arinen S, Sintonen H: Need and demand for dental care in dentate adult Finns [abstract]. *Community Dent Health* 2003;9:194.
59. Tafforeau J, Vermeire C, Aromaa A, Koponen P: Health surveys in the European Union: a comprehensive inventory. 2003. (*The Statistics Newsletter for the extended OECD Statistical Network* No. 17 pp.7-8).
60. Veijola RK, Vähäsalo P, Reunanen A, Knip M: A 24-year follow-up of the incidence of Type 1 diabetes in northern Finland: evidence for the existence of hot and cold spots [abstract]. *Diabetologia* 2003;46(Suppl 2):A53.
61. Venojärvi M, Puhke R, Hämäläinen H, Marniemi J, Rastas M, Rusko H, Hänninen O, Aunola S: Lihaskuntoa ja voimantuoton nopeutta kasvattavan liikuntaharjoittelun sekä ruokavaliomuutosten vaikutus luustolihasen glukoosiaineenvaihduntaan 2-vuotisen intervention aikana [abstrakti]. In: XII Liikuntalääketieteen päivät. 2003:43. (*Liikunta & Tiede* Erikoi-liite/2003).
62. Venojärvi M, Puhke R, Hämäläinen H, Marniemi J, Rastas M, Rusko H, Hänninen O, Aunola S: Effects of exercise and dietary intervention on human skeletal muscle metabolism in middle-aged IGT persons [abstract]. In: 12th European Congress on Obesity. Helsinki: 2003:S67. (*Int J Obes* 27/2003).
63. Venojärvi M, Puhke R, Hämäläinen H, Marniemi J, Rastas M, Rusko H, Hänninen O, Aunola S: Exercise and dietary intervention: effects on human muscle metabolism in middle-aged IGT subjects. In: Poujeol P, Petersen O ed. Proceedings of 3rd FEPS Congress. Bologna: Monduzzi Editore, 2003:253-257.
64. Visscher TLS, Heliövaara M, Picavet HSJ, Rissanen A, Seidell JC: Obesity and musculoskeletal disorders. In: Medeiros-Neto G, Halpern A, Bouchard C ed. *Progress in Obesity Research*. John Libbey Eurotext Ltd, 2003:596-603.

D. Other publications

1. Pietinen P, Aro A: Kirjavaan ravitsemustietoon suhtauduttava kriittisesti. *Helsingin Sanomat* 2003(19.9.):A4.

E. Theses

1. Kiiskinen U: A health production approach to the economic analysis of health promotion [dissertation] . 2003. (Publications of National Public Health Institute, Series A 6/2003).
2. Lindfors O. Criterion validity of the Quality of Object Relations Scale (QORS). [licentiate thesis]. Helsinki: Helsingin yliopisto, 2003. 25 p.
3. Paalanen L: Ruoankäytön frekvenssikyselyn validiteetti Terveys 2000 -tutkimuksessa [pro gradu]. Helsinki: Helsingin yliopisto, 2003. 99 p.

2004

A. Original articles and reviews

1. Aasvee K, Kurvinen E, Jordania R, Jauhiainen M, Sundvall J: Lipoprotein parameters in relation to other risk factors of atherosclerosis in adults and newborns: Tallinn Young Family Study. *Scand J Clin Lab Invest* 2004;64:245-253.
2. Aho K, Heliövaara M: Risk factors for rheumatoid arthritis. *Ann Med* 2004;36:242-251.
3. Alanen E, Leskinen E: A note on alternative parametrizations of a model for evaluating agreement between two tests. *BR J MATH STAT PSYCHOL* 2004;57:167-172.
4. Alaranta A, Alaranta H, Palmu P, Alha P, Pietilä K, Heliövaara M, Helenius I: Asthma medication in Finnish olympic athletes: no signs of inhaled beta2-agonist overuse. *Med Sci Sports Exerc* 2004;36:919-924.
5. Alfthan G: Lowering risk factors for heart diseases by dietary approaches. *Ukr Biokhim Zh* 2004;76:82-5.
6. Alfthan G, Tapani K, Nissinen K, Saarela J, Aro A: The effect of low doses of betaine on plasma homocysteine in healthy volunteers. *Br J Nutr* 2004;92:665-669.
7. Becker W, Lyhne N, Pedersen AN, Aro A, Fogelholm M, Phórsdóttir I, Alexander J, Anderssen SA, Meltzer HM, Pedersen JI: Nordic Nutrition Recommendations 2004 - integrating nutrition and physical activity. *Scandinavian Journal of Nutrition* 2004;48:178-187.
8. Erlund I: Review of the flavonoids quercetin, hesperetin, and naringenin. Dietary sources, bioactivities, bioavailability, and epidemiology. *Nutrition Research* 2004;24:851-874.
9. Haara MM, Heliövaara M, Kröger H, Arokoski JPA, Manninen P, Kärkkäinen A, Knekt P, Impivaara O, Aromaa A: Osteoarthritis in the carpometacarpal joint of the thumb. *J BONE JOINT SURG AM* 2004;86:1452-1457.
10. Hakama M, Hakulinen T, Kenward MG, Aaran R, Aromaa A, Knekt P, Nikkari T, Teppo L, Peto R: Blood biochemistry and the risk of cancer: effect of sample pooling. *ACTA ONCOL* 2004;43:667-674.
11. Helakorpi S, Martelin T, Torppa J, Patja K, Vartiainen E, Uutela A: Did Finland's tobacco control act of 1976 have and impact on ever smoking? An examination based on male and female cohort trends. *J Epidemiol Community Health* 2004;58:649-654.
12. Hetemaa T, Keskimäki I, Salomaa V, Mähönen M, Manderbacka K, Koskinen S: Socioeconomic inequities in invasive cardiac procedures after first myocardial infarction in Finland in 1995. *J Clin Epidemiol* 2004;57:301-308.
13. Hämäläinen H, Mäki J, Virta L, Keskimäki I, Mähönen M, Moltchanov V, Salomaa V: Return to work after first myocardial infarction in 1991-1996 in Finland. *European Journal of Public Health* 2004;14:350-353.
14. Härkänen T, Arjas E: Tumour incidence, prevalence and lethality estimation in the absence of cause-of-death information. *Journal of the Royal Statistical Society. Series C, Applied statistics* 2004;53:601-17.
15. Ilanne-Parikka P, Eriksson J, Lindström J, Hämäläinen H, Keinänen-Kiukaanniemi S, Laakso M, Louheranta A, Mannelin M, Rastas M, Salminen V, Aunola S, Sundvall J, Valle T, Lahtela J, Uusitupa M, Tuomilehto J, Finnish Diabetes Prevention Study Group: Prevalence of the metabolic syndrome and its components. Findings from a Finnish general population sample and the Diabetes Prevention Study cohort. *Diabetes Care* 2004;27:2135-2140.
16. Isola E, Huurre A, Salminen S, Impivaara O: The allergy epidemic extends beyond the past few decades. *Clin Exp Allergy* 2004;34:1007-1010.
17. Janis MT, Siggins S, Tahvanainen E, Vikstedt R, Silander K, Metso J, Aromaa A, Taskinen MR, Olkkonen VM, Jauhiainen M, Ehnholm C: Active and low-active forms of serum phospholipid transfer protein in a normal Finnish population sample. *J Lipid Res* 2004;45:2303-2309.
18. Juonala M, Viikari J, Laitinen T, Marniemi J, Helenius H, Rönnemaa T, Raitakari OT: Interrelations between brachial endothelial function and carotid intima-media thickness in young adults: the cardiovascular risk in young Finns study. *Circulation* 2004;110:2918-2923.

19. Juonala M, Viikari JSA, Hutri-Kähönen N, Pietikäinen M, Jokinen E, Taittonen L, Marniemi J, Rönnemaa T, Raitakari OT: The 21-year follow-up of the cardiovascular risk in young Finns study: risk factor levels, secular trends and east-west difference. *J Intern Med* 2004;255:457-468.
20. Karisola P, Kotovuori A, Poikonen S, Niskanen E, Kalkkinen N, Turjanmaa K, Palosuo T, Reunala T, Alenius H, Kulomaa MS: Isolated hevein like domains, but not 31-kd endochitinases, are responsible for IgE-mediated in vitro and in vivo reactions in latex-fruit syndrome. *J Allergy Clin Immunol* 2004;115:598-605.
21. Karisola P, Mikkola J, Kalkkinen M, Airene KJ, Laitinen OH, Repo S, Pentikäinen OT, Reunala T, Turjanmaa K, Johnson MS, Palosuo T, Kulomaa MS, Alenius H: Construction of hevein (Hev b 6.02) with reduced allergenicity for immunotherapy of latex allergy by comutation of six amino acid residues on the conformational IgE epitopes. *J Immunol* 2004;172:2621-2628.
22. Kattainen A, Koskinen S, Reunanen A, Martelin T, Knekt P, Aromaa A: Impact of cardiovascular diseases on activity limitations and need for help among older persons. *J Clin Epidemiol* 2004;57:82-88.
23. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Aromaa A: Disability predicted mortality in men but not women with coronary heart disease. *J Clin Epidemiol* 2004;57:513-521.
24. Kattainen A, Reunanen A, Koskinen S, Martelin T, Knekt P, Sainio P, Härkänen T, Aromaa A: Secular changes in disability among middle-aged and elderly Finns with and without coronary heart disease from 1978-1980 to 2000-2001. *Ann Epidemiol* 2004;14:479-485.
25. Kervinen H, Mänttari M, Kaartinen M, Mäkynen H, Palosuo T, Pulkki K, Kovanen PT: Prognostic usefulness of plasma monocyte/macrophage and T-lymphocyte activation markers in patients with acute coronary syndromes. *AM J CARDIOL* 2004;94:993-996.
26. Kinnunen TI, Luoto R, Gissler M, Hemminki E, Hilakivi-Clarke L: Pregnancy weight gain and breast cancer risk. *BMC Women's Health* 2004;4.
27. Knekt P, Ritz J, Pereira MA, O'Reilly EJ, Augustsson K, Fraser GE, Goldbourt U, Heitmann BL, Hallmans G, Liu S, Pietinen P, Spiegelman D, Stevens J, Virtamo J, Willett WC, Rimm EB, Ascherio A: Antioxidant vitamins and coronary heart disease risk: a pooled analysis of 9 cohorts. *Am J Clin Nutr* 2004;80:1508-1580.
28. Korpilähde T, Heliövaara M, Knekt P, Marniemi J, Aromaa A, Aho K: Smoking history and serum cotinine and thiocyanate concentrations as determinants of rheumatoid factor in non-rheumatoid subjects. *Rheumatology* 2004;43:1424-1428.
29. Koskenmies S, Vaarala O, Widen E, Kere J, Palosuo T, Julkunen H: The association of antibodies to cardiolipin, beta-2-glycoprotein I, prothrombin, and oxidized low-density lipoprotein with thrombosis in 292 patients with familial and sporadic systemic lupus erythematosus. *Scand J Rheumatol* 2004;33:246-252.
30. Kulmala I, McLaughlin JK, Pakkanen M, Lassila K, Hölmlich LR, Lipworth L, Boice JD, Raitanen J, Luoto R: Local complications after cosmetic breast implant surgery in Finland. *Ann Plast Surg* 2004;53:413-9.
31. Lehto-Järnstedt U, Ojanen M, Kellokumpu-Lehtinen P: Cancer-specific social support received by newly diagnosed cancer patients: validating the new Structural-Functional Social Support Scale (SFSS) measurement tool. *Support Care Cancer* 2004;12:326-337.
32. Luoto R, Raitanen J, Pukkala E, Anttila A: Effect of hysterectomy on incidence trends of endometrial and cervical cancer in Finland 1953-2010. *Br J Cancer* 2004;90:1756-1759.
33. Manninen P, Riihimäki H, Heliövaara M, Suomalainen O: Weight changes and the risk of knee osteoarthritis requiring arthroplasty. *Ann Rheum Dis* 2004;63:1434-1437.
34. Martelin T, Mäkelä P, Valkonen T: Contribution of deaths related to alcohol or smoking to the gender difference in life expectancy: Finland in the early 1990s. *Eur J Public Health* 2004;14:422-427.
35. Moeller P, Loft S, Alftan G, Freese R: Oxidative DNA damage in circulating mononuclear blood cells after ingestion of blackcurrant juice or anthocyanin-rich drink. *Mutat Res* 2004;551:119-126.
36. Montonen J, Knekt P, Järvinen R, Reunanen A: Dietary antioxidant intake and risk of type 2 diabetes. *Diabetes Care* 2004;27:362-366.
37. Montonen J, Knekt P, Järvinen R, Reunanen A: Dietary antioxidant intake and risk of type 2 diabetes. Response to Granada-Lorenzo and Olmedilla-Alonso. *Diabetes Care* 2004;27:1845-1846.
38. Mäntyranta T, Elonheimo O, Klaukka T, Koskinen S, Mattila J, Vuori M, Nylander O, Nikka P, Rintanen H, Nenonen M: A system of key indicators for needs assessment at local level: The Finnish network of information producers. *Health Informatics Journal* 2004;10:237-247.
39. Niskanen LK, Laaksonen DE, Nyyssönen K, Alftan G, Lakka H, Lakka TA, Salonen JT: Uric acid level as a risk factor for cardiovascular and all-cause mortality in middle-aged men. *Arch Intern Med* 2004;164:1546-1551.
40. Nissinen R, Leirisalo-Repo M, Nieminen AM, Halme L, Färkkilä M, Palosuo T, Vaarala O: Immune activation in the small intestine in patients with rheumatoid arthritis. *Ann Rheum Dis* 2004;63:1327-30.
41. Nissinen R, Leirisalo-Repo M, Peltomaa R, Palosuo T, Vaarala O: cytokine and chemokine receptor profile of peripheral blood mononuclear cells during treatment with infliximab in patients with active rheumatoid arthritis. *Ann Rheum Dis* 2004;63:681-687.

42. Pekkola J, Pitkäranta A, Jappel A, Czerny C, Baumgartner W, Heliövaara M, Robinson : Localized pericochlear hypoattenuating foci at temporal-bone thin-section CT in pediatric patients: nonpathologic differential diagnostic entity? *Radiology* 2004;230:88-92.
43. Pussinen PJ, Alfthan G, Rissanen H, Reunanen A, Asikainen S, Knekt P: Antibodies to periodontal pathogens and stroke risk. *Stroke* 2004;35:2020-2023.
44. Pussinen PJ, Alfthan G, Tuomilehto J, Asikainen S, Jousilahti P: High serum antibody levels to *Porphyromonas gingivalis* predict myocardial infarction. *European Journal of Cardiovascular Prevention and Rehabilitation* 2004;11:408-411.
45. Pussinen PJ, Jauhiainen M, Vilkkuna-Rautiainen T, Sundvall J, Vesanen M, Mattila K, Palosuo T, Alfthan G, Asikainen S: Periodontitis decreases the antiatherogenic potency of high density lipoprotein. *J Lipid Res* 2004;45:139-147.
46. Pussinen PJ, Vilkkuna-Rautiainen T, Alfthan G, Palosuo T, Jauhiainen M, Sundvall J, Vesanen M, Mattila K, Asikainen S: Severe periodontitis enhances macrophage activation via increased serum lipopolysaccharide. *Arterioscler Thromb Vasc Biol* 2004;24:2174-2180.
47. Reunala T, Alenius H, Turjanmaa K, Palosuo T: Latex allergy and skin. *Current Opinion in Allergy and Clinical Immunology* 2004;4:397-401.
48. Romberg A, Virtanen A, Aunola S, Karppi S, Karanko H, Ruutiainen J: Exercise capacity, disability and leisure physical activity of subjects with multiple sclerosis. *Multiple Sclerosis* 2004;10:212-218.
49. Romberg A, Virtanen A, Ruutiainen J, Aunola S, Karppi SL, Vaara M, Surakka J, Pohjolainen T, Seppänen A: Effects of a 6-month exercise program on patients with multiple sclerosis : a randomized study. *Neurology* 2004;63:2034-2038.
50. Rönnback M, Fagerudd J, Forsblom C, Pettersson-Fernholm K, Reunanen A, Groop P, Finnish Diabetic Nephropathy Study Group: Altered age-related blood pressure pattern in type 1 diabetes. *Circulation* 2004;110:1076-1082.
51. Saarikoski ST, Suihiala T, Holmila R, Impivaara O, Järvisalo J, Hirvonen A, Husgafvel-Pursiainen K: Identification of genetic polymorphisms of CYP2S1 in a Finnish Caucasian population. *Mutat Res* 2004;554:267-277.
52. Savolainen J, Knuutila M, Suominen-Taipale L, Martelin T, Nordblad A, Niskanen M, Uutela A: A strong sense of coherence promotes regular dental attendance in adults. *Community Dent Health* 2004;21:271-276.
53. Silaste M, Rantala M, Alfthan G, Aro A, Witztum JL, Kesäniemi YA, Hörkkö S: R2 changes in dietary fat intake alter plasma levels of oxidized low-density lipoprotein and lipoprotein(a). *Arterioscler Thromb Vasc Biol* 2004;24:1-7.
54. Simojoki M, Luoto R, Uutela A, Boice JDJ, McLaughlin JK, Puska P: Consistency of use of plant stanol ester margarine in Finland. *Public health nutrition* 2004;7:63-68.
55. Soinio M, Marniemi J, Laakso M, Lehto S, Rönnemaa T: Elevated plasma homocysteine level is an independent predictor of coronary heart disease events in patients with type 2 diabetes mellitus. *Ann Intern Med* 2004;140:94-100.
56. Stolen KQ, Kempainen J, Kalliokoski KK, Hällsten K, Luotolahti M, Karanko H, Lehtikainen P, Viljanen T, Salo T, Airaksinen J, Nuutila P, Knuuti J: Myocardial perfusion reserve and oxidative metabolism contribute to exercise capacity in patients with dilated cardiomyopathy. *Journal of Cardiac Failure* 2004;10:132-140.
57. Stolen KQ, Kempainen J, Kalliokoski KK, Karanko H, Toikka J, Janatuinen T, Raitakari OT, Airaksinen KEJ, Nuutila P, Knuuti J: Myocardial perfusion reserve and peripheral endothelial function in patients with idiopathic dilated cardiomyopathy. *AM J CARDIOL* 2004;93:64-68.
58. Suominen-Taipale AL, Koskinen S, Martelin T, Homen J, Johnsen R: Differences in older adults' use of primary and specialist care services in two Nordic countries. *European Journal of Public Health* 2004;14:375-380.
59. Surakka J, Alanen E, Aunola S, Karppi S, Lehto P: Adherence to a power-type strength training programme in sedentary, middle-aged men and women. *Advances in Physiotherapy* 2004;6:99-109.
60. Surakka J, Aunola S, Alanen E, Mäentaka K, Karppi S: Effect of power-type strength training on lumbar extension and flexion velocity. *Research in Sports Medicine* 2004;12:95-113.
61. Surakka J, Romberg A, Ruutiainen J, Virtanen A, Aunola S, Mäentaka K: Assessment of muscle strength and motor fatigue with a knee dynamometer in subjects with multiple sclerosis: a new fatigue index. *Clinical Rehabilitation* 2004;18:652-659.
62. Surakka J, Romberg A, Ruutiainen J, Aunola S, Virtanen A, Karppi S, Mäentaka K: Effects of aerobic and strength exercise on motor fatigue in men and women with multiple sclerosis: a randomized controlled trial. *Clinical Rehabilitation* 2004;18:737-746.
63. Tiikkainen M, Bergholm R, Rissanen A, Aro A, Salminen I, Tamminen M, Teramo K, Yki-Järvinen H: Effects of equal weight loss with orlistat and placebo on body fat and serum fatty acid composition and insulin resistance in obese women. *Am J Clin Nutr* 2004;79:22-30.

64. Tolmunen T, Hintikka J, Voutilainen S, Ruusunen A, Alfthan G, Nyyssönen K, Viinamäki H, Kaplan GA, Salonen JT: Association between depressive symptoms and serum concentrations of homocysteine in men: a population study. *Am J Clin Nutr* 2004;80:1574-1578.
65. Virtanen R, Jula A, Huikuri H, Kuusela T, Helenius H, Ylitalo A, Voipio-Pulkki L, Kauma H, Kesäniemi YA, Airaksinen J: Increased pulse pressure is associated with reduced baroreflex sensitivity. *J Hum Hypertens* 2004;18:247-252.
66. Virtanen R, Jula A, Kuusela T, Airaksinen J: Beat-to-beat oscillations in pulse pressure. *Clinical Physiology and Functional Imaging* 2004;24:304-309.
67. Visscher TLM, Rissanen A, Seidell JC, Heliövaara M, Knekt P, Reunanen A, Aromaa A: Obesity and unhealthy life-years in adult Finns. An empirical approach. *Arch Intern Med* 2004;164:1413-1420.
68. Voutilainen S, Virtanen JK, Rissanen TH, Alfthan G, Laukkanen J, Nyyssönen K, Mursu J, Valkonen V, Tuomainen T, Kaplan GA, Salonen JT: Serum folate and homocysteine and the incidence of acute coronary events: the Kuopio Ischaemic Heart Disease Risk Factor Study. *Am J Clin Nutr* 2004;80:317-323.

B. Original articles and reviews published in domestic languages

1. Ahola K, Honkonen T, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J: Työuupumus Suomessa. *Terveys 2000 -tutkimuksen tuloksia. Suom Lääkäril* 2004;43:4109-4113.
2. Aro A: Vähähiilihydraattisten ruokavalioiden asema laihduttamisessa. *Suom Lääkäril* 2004;59:3513-5.
3. Aro H, Koskinen S, Martelin T, Nuorti P, Ostamo A, Pekkanen J, Prättälä R, Salomaa V, Talala K, Uutela A: Sosioekonomisten terveyserojen kaventaminen terveyden edistämisen painopisteeksi. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(1):2-3.
4. Aro H, Koskinen S, Martelin T, Nuorti P, Ostamo A, Pekkanen J, Prättälä R, Salomaa V, Talala K, Uutela A: Sosioekonomisten terveyserojen kaventaminen terveyden edistämisen painopisteeksi. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(1):2-3.
5. Erlund I: Flavonoidien ja kasvien muiden polyfenolien merkitys ihmisen terveydelle. *Suom Lääkäril* 2004;59:4262-4263.
6. Fogelholm M, Aro A: Pohjoismaiset ravitsemussuositukset integroivat ravitsemuksen ja liikunnan. *Suom Lääkäril* 2004;59:5008-5009.
7. Heliövaara M, Ylinen P, Björkenheim J, Vasenius J: Tuki- ja liikuntaelinten vammat, sairaudet ja kiputilat. In: Aro T, Huunan-Seppälä A, Kivekäs J, Tola S, Torstila I ed. *Vakuutuslääketiede. Helsinki: Duodecim*, 2004:160-172.
8. Hyypä MT: Edistäkö talkoohenki terveyttä? Sosiaalisen pääoman vaikutus terveyteen. *Duodecim* 2004;120:2315-2320.
9. Hyypä MT: Kertyykö sosiaalisesta pääomasta kansanterveyttä? *Yhteiskuntapolitiikka* 2004;69:380-6.
10. Hyypä MT: Lääkärityön teoriat vuotavat ja ikkunoistakin vetää [Kirjeitä ja mielipiteitä]. *Duodecim* 2004;120:2700.
11. Hyypä MT: Sosiaalinen eriarvoisuus sanelee elämän laadun ja keston myös Suomessa: alue, yhteisö vai kulttuuri? *Terveydenhoitaja* 2004;37:28-31.
12. Hyypä MT: Varför är kustfolket friskare? *Skärgård* 2004;27:44-49.
13. Hänninen-Nousiainen P, Pietilä A, Koponen P, Vehviläinen-Julkunen K: Rintaruokinnan trendit väestön terveysseurannassa - tuloksia *Terveys 2000 -tutkimuksesta. Kätilölehti* 2004;7:258-259.
14. Jula A: Kansalliset verenpainetalkoot tarpeen [pääkirjoitus]. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(9):2.
15. Jula A: Kohonneen verenpaineen hoito uudistuu. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(9):3-4.
16. Karppi S, Aaltonen T, Grönlund R, Pohjolainen T, Ketala R, Poikkeus L, Puukka P: Vanhukset tyytyväisiä saamaansa kuntoutukseen. *Fysioterapia* 2004;51:15-18.
17. Kattainen A: Sepelvaltimotauti heikentää ikääntyvien toimintakykyä merkittävästi. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(7):6-11.
18. Kinnunen T, Luoto R: Raskaus, painonhallinta ja krooniset taudit. *Suom Lääkäril* 2004;59:4734-4735.
19. Knekt P: Lyhyet terapiat eivät riitä. 2004. (*Suomen Kuvalehti* 20:17).
20. Knekt P, Lindfors O: Psykoterapiaprojekti: Lyhytterapioiden vaikutusten arvioinnissa tarvitaan pitkää seurantaa. 2004. (*Sosiaalivakuutus* 4: 17-18).
21. Knekt P, Lindfors O: Tutkimus lyhytterapioista: Psykkiset oireet vähentyivät. Vajaa puolet potilaista parani. *Kelan Sanomat* 2004(2):2.
22. Koskinen S: Terveyden eriarvoisuus Suomessa. *Kunnallislääkäri* 2004;19:16-19.
23. Koskinen S: Terveysindikaattorit. *Hyvinvointikatsaus* 2004(1):34-42.
24. Luoto R: Terveysmikätyksestä suunnitelmalliseen liikuntaneuvontaan. [Pääkirjoitus]. *Suom Lääkäril* 2004;59:3725.
25. Luoto R, Kinnunen TI, Koponen P, Kaaja R, Männistö S, Vartiainen E: Naisten lisääntymisterveys Suomessa. Tuloksia FINRISKI 2002 -tutkimuksesta. *Suom Lääkäril* 2004(9):885-890.

26. Martelin T, Koskinen , Sainio P, Sulander T: Eroja iäkkäiden toimintakyvyssä. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(1):4-5.
27. Patja K, Kiiskinen U: Onko tupakkariippuvuus tauti vai tottumus? *Suom Lääkäril* 2004;59:5020.
28. Reunanen A: Suomalaisten diabetes: Harvinaisuudesta kansansairaudeksi. *Diabetes ja lääkäri* 2004;33:6-11.
29. Reunanen A: Tyypin 2 diabetes Suomen kansansairaus. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2004(5-6):3.
30. Ristolainen L, Heliövaara M, Kettunen J, Kujala U, Schlenzka D: Scheuermannin taudin kulku - Retrospektiivinen 41 vuoden seurantatutkimus. *Suomen Ortopedia ja Traumatologia* 2004;27:373-375.
31. Rönkkö R, Seitsalo S, Kettunen J, Malmivaara A, Roine R, Sintonen H, Heliövaara M: Eläkkeellä olevien ammattitanssijoiden TULE-vaivat. *Suomen Ortopedia ja Traumatologia* 2004;27:306-309.
32. Salmelainen U: Välittykö vanhusta koskeva tieto kuntoutuksen yhteistyöverkostossa? [abstrakti]. *Gerontologia* 2004;18:125.
33. Salminen JK: Mielenterveyden häiriöt ja työkyvyttömyys. *Suom Lääkäril* 2004;59:4745-4748.
34. Savikko N, Hautala L, Kiviniemi K, Puukka P, Leino-Kilpi H, Suominen T: Työn sisäinen hallinta kotisairaanhoidossa ja terveyskeskusten pitkäaikaisosastoilla hoitajien kokemana. *Tutkiva hoitotyö* 2004;2:17-23.
35. Slätis P, Malmivaara A, Heliövaara M, Sainio P, Kinnunen H, Kankare J, Dalin-Hirvonen N, Herno A, Kortekangas P, Niinimäki T, Tallroth K, Turunen V, Seitsalo S, Knekt P, Härkänen T, Hurri H, Finnish Lumbar Spinal Stenosis Research Group: Leikkaushoidon vaikuttavuus keskivaikeassa spinaalistennoosissa. Satunnaistettu kontrolloitu hoitotutkimus. *Suomen Ortopedia ja Traumatologia* 2004;27:265-269.
36. Suominen-Taipale L: Suun terveys aikuisilla Suomessa - Tietoja Terveys 2000 -tutkimuksesta. *Suom Hammaslääkärilehti* 2004(1-2):22-27.
37. Surakka J: MS lihasfatiikki ja harjoittelu. *NeuroSport* 2004(2):4-5.
38. Surakka J: MS-relaterad muskeltrötthet och träning. *Avain* 2004;35:48-49.
39. Toivanen A, Arokoski J, Manninen P, Heliövaara M, Tyrväinen E, Niemitukia L, Haara M, Kröger H: Polvinivelrikon kliininen ja radiologinen diagnoosi väestötutkimuksessa. *Suomen Ortopedia ja Traumatologia* 2004;27:333-338.

C. Textbooks and chapters in textbooks, reports and proceedings

1. Alaranta A, Alaranta H, Palmu P, Pietilä K, Heliövaara M, Helenius I: Use of medication in Finnish olympic athletes [abstract]. *Med Sci Sports Exerc* 2004;36:S3611.
2. Aromaa A, Koskinen S: Health and functional capacity in Finland. Baseline results of the Health 2000 health examination survey. 2004. 171 p. (Publications of National Public Health Institute, Series B 12/2004).
3. Hakala P, Karppi S, Marniemi J, Rastas M, Virta L: Perceived working ability and sickness allowances in obese subjects before and after a rehabilitation course [abstract]. In: 13th European Congress on Obesity. 2004:S118. (*Int J Obes Relat Metab Disord* 28(Suppl 1)/2004).
4. Harald K, Pajunen P, Jousilahti P, Koskinen S, Vartiainen E, Salomaa V: Impact of modifiable risk factors on socio-economic differences in the incidence of fatal and non-fatal CHD events in Finland in 1982-1997. In: Rissanen TH, Korhonen MJ, Happonen P ed. Abstracts, 3rd Nordic Conference in Epidemiology. Kuopio: Kuopion yliopisto, 2004:93. (Kuopion yliopiston julkaisuja D. Lääketiede 335/2004).
5. Heliövaara M, Malmivaara A, Slätis P, Sainio P, Spinaalistennoositutkimuksen tutkijaryhmä: Leikkaushoidon vaikuttavuus selkäydinkanavan ahtauman hoidossa. 2004. (Nikama nro 4, s. 14-15).
6. Heliövaara M, Tola S: Syysuhteet vakuutuslääketieteessä. In: Aro T, Huunan-Seppälä A, Kivekäs J, Tola S, Torstila I ed. *Vakuutuslääketiede*. Helsinki: Duodecim, 2004:150-153.
7. Heliövaara M, Ylinen P, Gjørkenheim J, Vasenius J: Tuki- ja liikuntaelinten vammat, sairaudet ja kiputilat. In: Aro T, Huunan-Seppälä A, Kivekäs J, Tola S, Torstila I ed. *Vakuutuslääketiede*. Helsinki: Duodecim, 2004:160-172.
8. Hellstén K, Röberg M: Kirjaa ja kehitä - näin syntyi opas laadunkehittämiseen fysioterapia-alalle [abstrakti]. In: *Fysioterapiapäivät*. 2004.
9. Hinkka K, Karppi S, Ollonqvist K, Aaltonen T, Grönlund R, Puukka P, Saarikallio M, Salmelainen U, Vaara M: Geriatrisen kuntoutuksen arviointi: IKÄ-hankkeen menetelmät ja aineisto. Helsinki: Kela, 2004. 234 p. (*Sosiaali- ja terveysturvan katsauksia* 60/2004).
10. Hokkanen S, Kosunen TU, Sarna S, Miettinen A, Salomaa A, Aromaa A, Knekt P, Rautelin H: Normal serum pepsinogen I levels in adults; a population based study with special reference to Helicobacter pylori infection and parietal cell antibodies [abstract]. *Helicobacter* 2004;9:487-604.
11. Hämäläinen H, Röberg M, Klaukka T: Goal setting in cardiac rehabilitation [abstract]. *European Journal of Cardiovascular Prevention and Rehabilitation* 2004;11(Suppl 1):43.

12. Hämäläinen P, Malmberg J, Pasanen M, Miilunpalo S, Suni J, Luoto R: Terveyskunto- ja liikkumiskykytestit itse ilmoitettujen liikkumisvaikeuksien ennustajina ikääntyvillä [abstrakti]. *Liikunta ja tiede* 2004(5):34-35.
13. Hänninen-Nousiainen P, Pietilä A, Vehviläinen-Julkunen K, Koponen P: Miten suomalaiset naiset ovat imettäneet eri vuosikymmeninä? Naisille suunnattu kysely Terveys 2000-tutkimuksessa. In: Aho AL, Halme N, Koivula M, Paavilainen E, Rantanen A, Åstedt-Kurki P ed. Konferenssiesitelmät. VII kansallinen hoitotieteellinen konferenssi. Hoitotieteellinen tutkimus näkyväksi - kuinka vastata ihmisen ja yhteiskunnan haasteisiin. Tampereen yliopisto, 2004.
14. Härkänen T, Lindfors O, Virtala E, Knekt P: A case study in comparison psychotherapies involving informative dropout, non-ignorable non-compliance and repeated measurements [abstract]. In: The International Society for Clinical Biostatistics, 25th Annual Conference. 2004:031.
15. Johansson E, Alho H, Kiiskinen U, Poikolainen K: The association of alcohol dependency with employment probability: evidence from the population survey "Health 2000 in Finland". Helsinki: The Research Institute of the Finnish Economy, 2004. 28 p. (Discussion papers No. 291/2004).
16. Järvinen R, Knekt P, Rissanen H, Reunanen A: Intake of fish, long-chain omega-3 fatty acids, mercury and the risk of coronary heart disease in men and women [abstract]. In: Törrönen R, Gylling H ed. The 20th Anniversary Symposium of the Department of Clinical Nutrition. 2004:38.
17. Karppi S, Vaara M: IKÄ-hankkeeseen osallistuneiden vanhusten fyysinen suoritus- ja toimintakyky [abstrakti]. *Gerontologia* 2004;18:69.
18. Keskimäki I, Aalto A, Häkkinen U, Klaukka T, Manderbacka K, Reunanen A, Vehko T: Sepalvaltimotauti ja eriarvoisuus. Helsinki: Stakes, 2004. 100 p. (Raportteja 286/2004).
19. Keskinen OP, Mänttari A, Aunola S, Keskinen KL: Aerobisen kestävyuden arviointimenetelmät. In: Keskinen KL, Häkkinen K, Kallinen M ed. Kuntotestauksen käsikirja. Helsinki: Liikuntatieteellinen Seura, 2004:78-80. (Liikuntatieteellisen seuran julkaisu 156/2004).
20. Keskinen OP, Mänttari A, Aunola S, Keskinen KL: Maksimaalisen hapenkulutuksen arviointimenetelmien luotettavuus ja tarkkuus. In: Keskinen KL, Häkkinen K, Kallinen M ed. Kuntotestauksen käsikirja. Helsinki: Liikuntatieteellinen Seura, 2004:81-103. (Liikuntatieteellisen seuran julkaisu 156/2004).
21. Kiiskinen U: A health production approach to the economic analysis of health promotion [abstract]. In: XXVI Kansantaloustieteen päivät. Tiivistelmät. 2004:9.
22. Kiiskinen U, Suominen-Taipale L, Cairns J: The choice between public and private dental service a discrete choice experiment - the pilot study [abstract]. In: The 25th Nordic Health Economists' Study Group Meeting. 2004.
23. Kinnunen H, Lund T, Sainio P, Kankare J, Laine T, Vornanen M, Poussa M, Malmivaara A, Seitsalo S: Effectiveness of surgery for severe spinal stenosis - a 2-year follow-up study. *Suomen Ortopedia ja Traumatologia* 2004;27:272.
24. Knekt P: Pyskoterapiatutkimus: Lyhytterapia vähentää nopeasti psyykkisiä oireita mutta parantaa alle puolet potilaista. 2004. (Sosiaalivakuutus 3: 28-29).
25. Knekt P, Lindfors O: A randomized trial of the effect of four forms of psychotherapy on depressive and anxiety disorders: Design, methods, and results on the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year . Helsinki: Kansaneläkelaitos, 2004. 112 p. (Studies in social security and health 77/2004).
26. Koponen P, Luoto R: Lisääntymisterveys Suomessa. Terveys 2000 -tutkimus. 2004. 94 p. (Publications of National Public Health Institute, Series B 5/2004).
27. Korhonen K, Idänpään-Heikkilä U, Heistaro S: Terveyspalveluiden tilaaminen. In: Mäntyranta T, Elonheimo O, Mattila J, Viitala J ed. Terveyspalveluiden suunnittelu. Jyväskylä: Duodecim, 2004:289-295.
28. Koskinen S: Sosiaaliset erot suomalaisten terveyden kehityksessä. In: Autonomia ja heitteillejätö - eettistä rajankäyntiä. Helsinki: Sosiaali- ja terveysministeriö, 2004:16-21. (ETENE-julkaisuja 10/2004).
29. Koskinen S: Terveyden eriarvoisuus Suomessa [tiivistelmä]. In: Eläketurvakeskuksen tutkijaseminaari. 2004.
30. Koskinen S, Martelin T, Talala K, Joutsenniemi K, Prättälä R, Martikainen P: Lapsiperheiden terveyserot [tiivistelmä]. In: VI valtakunnalliset neuvolapäivät. 2004.
31. Koskinen S, Sainio P, Heliövaara M, Martelin T: Socioeconomic health disparities in Finland: increasing or decreasing. In: 3rd Nordic Conference in Epidemiology. 2004.
32. Koskinen S, Uutela A, Mäntyranta T: Paikallisen väestön terveyden, kokemusten ja toiveiden kartoittaminen. In: Mäntyranta T, Elonheimo O, Mattila J, Viitala J ed. Terveyspalveluiden suunnittelu. Helsinki: Duodecim, 2004:176-185.
33. Koskinen S, Sainio P, Heliövaara M, Martelin T: Socioeconomic health disparities in Finland: increasing or decreasing. In: Rissanen TH, Korhonen MJ, Happonen P ed. Abstracts, 3rd Nordic Conference in Epidemiology. Kuopio: Kuopion yliopisto, 2004:24. (Kuopion yliopiston julkaisuja D. Lääketiede 335/2004).

34. Kosunen TU, Pukkala E, Seppälä K, Tilvis R, Sipponen P, Aromaa A, Knekt P, Virtamo J, Salomaa A, Vainio U, Koskela P, Rautelin H: The effect of eradication therapy for helicobacter infection on the incidence of gastric and other cancers [abstract]. *Helicobacter* 2004;9:534.
35. Kosunen TU, Seppälä K, Pukkala E, Tilvis R, Sipponen P, Aromaa A, Knekt P, Virtamo J, Salomaa A, Vainio U, Koskela P, Rautelin H: The effect of eradication therapy for Helicobacter infection on mortality. *Helicobacter* 2004;9:507.
36. Lahti-Koski M, Raulio S, Prättälä R, Koskinen S, Rastas M, Pietinen P: Nutrition report 2003 - a tool for communicating data on nutrition. In: The 20th Anniversary Symposium of the Department of Clinical Nutrition. Kuopio: 2004. (Kuopion yliopiston julkaisuja D. Lääketiede 325/2004).
37. Laiho J, Nieminen T: Terveys 2000 -tutkimus. aikuisväestön haastatteluaineiston tilastollinen laatu. Otanta-asetelma, tiedonkeruu, vastauskato ja estimointi- ja analyysiasetelma. Helsinki: Yliopistopaino, 2004. 91 p. (Tilastokeskuksen tutkimuksia 239/2004).
38. Lindfors O, Kaipainen M, Renlund C, Knekt P, Helsinki Psychotherapy Study Group: Quality control of interview assessments in the Helsinki Psychotherapy Study [abstract]. In: Book of Abstracts, 35th Annual Meeting. Society for Psychotherapy Research, 2004:164-165.
39. Lund T, Kinnunen H, Sainio P: Effectiveness of surgery for severe spinal stenosis - 2-year follow-up study [abstract]. In: International Society for Study of Lumbar Spine, 31th Annual Meeting. 2004.
40. Luoto R: Asiantuntijuus ja sukupuoli. *Duodecim* 2004;120:279.
41. Luoto R: Keskenmenot, kylvyt ja sauna. *Duodecim* 2004;120:1199.
42. Luoto R: Ovatko vaihdevuodet terveysriski? In: Vaihdevuosien hormonihoito - Miksi aihe puhuttaa? Konsensuskokous. Vammala: Vammalan kirjapaino, 2004:15-23.
43. Luoto R: Perheellisyys lihottaa myös miehiä. *Duodecim* 2004;120:1433.
44. Luoto R: Teiniäityden pimeä puoli. *Duodecim* 2004;120:2162.
45. Luoto R: Terveys ja palvelujen tarve alueittain Suomessa. In: Mäntyranta T, Elonheimo O, Mattila J, Viitala J ed. Terveyspalveluiden suunnittelu. Jyväskylä: Duodecim, 2004:86-94.
46. Luoto R: Toimiston kevätsiivous kannattaa. *Duodecim* 2004;120:1313.
47. Luoto R, Fogelholm M, Kinnunen T, Weiderpass E, Vainio H, Kukkonen-Harjula K, Koponen P, Pasanen M, Hilakivi-Clarke L: The effects of counselling first-time pregnant women on diet and physical activity - a cluster randomised controlled trial: MOVE- maternal OVERweight cohort [abstract]. In: The 18th World Conference on Health Promotion and Health Education. 2004.
48. Luoto R, Kaaja R, Raitanen J, Vuorma S, Koponen P, Männistö S, Harald K, Laatikainen T, Vartiainen E: Naisten terveys - kuukautiset, raskauskomplikaatiot, ehkäisy, hormonikorvaushoidot ja lapsettomuus FINRISKI 2002 -tutkimuksessa. 2004. (Publications of National Public Health Institute, Series B 18/2003/2004).
49. Malmivaara A, Slätis P, Heliövaara M, Sainio P: Operative treatment for lumbar spinal stenosis. Two years' follow-up of a randomized controlled trial [abstract]. In: International Society for Study of Lumbar Spine, 31th Annual Meeting. 2004.
50. Manderbacka K, Hetemaa T, Keskimäki I, Luukkainen P, Koskinen S, Reunanen A: Sosioekonomiset erot vuosien 1995-98 insidentin sepelvaltimotautikohortin kuolleisuudessa. In: Terveystieteiden tutkimuskeskuksen päivä. 2004.
51. Martelin T, Karvonen S, Koskinen S: Welfare of the working-age population. In: Heikkilä M, Kautto M ed. Welfare in Finland. Helsinki: Stakes, 2004:55-80.
52. Martelin T, Sainio P, Koskinen S: Ikääntyvän väestön toimintakyvyn kehitys. In: Kautto M ed. Ikääntyminen voimavarana - Tulevaisuuslontoon liiteraportti 5. Valtioneuvoston kanslia, 2004:117-131. (Valtioneuvoston kanslian julkaisusarja 33/2004).
53. Montonen J, Knekt P, Järvinen R, Aromaa A, Reunanen A: Whole grain and fiber intake and the risk of type 2 diabetes. In: Törrönen R, Gylling H ed. The 20th Anniversary Symposium of the Department of Clinical Nutrition, Abstracts. Kuopio: Kuopion yliopisto, 2004:49.
54. Montonen J, Männistö S, Pietinen P, Knekt P: Reproducibility of the food frequency questionnaire in nationwide Health 2000 survey [abstract]. In: 8th Nordic Nutrition Conference, Programme and Abstracts. Tonsberg: Norwegian Nutrition society, 2004:T8-P50.
55. Nordblad A, Suominen-Taipale L, Rasilainen J, Karhunen T: Suun terveydenhuoltoa terveyskeskuksissa 1970-luvulta vuoteen 2000. Saarijärvi: Stakes, 2004. (Raportteja 278/2004).
56. Nyman J, Häkkinen U, Keskimäki I, Alha P: Differences in the patterns of health care use between the unemployed and the employed. Some results from Health 2000 study in Finland [abstract]. In: Bremen ICOH Expert Conference. 2004.
57. Paalanen LM, Männistö S, Virtanen MJ, Knekt P, Räsänen L, Montonen J, Pietinen P: Validity of a food frequency questionnaire in the Health 2000 -survey by age, body mass index and smoking [abstract]. In: 8th Nordic Nutrition Conference, Programme and Abstracts. Tonsberg: Norwegian Nutrition Society, 2004:T8-P52.
58. Palosuo H, Sihto M, Keskimäki I, Koskinen S, Lahelma E, Manderbacka K, Prättälä R: Eriarvoisuus ja terveyspolitiikka. Kokemuksia sosioekonomisten terveyserojen kaventamisesta Ruotsissa, Englannissa

- ja Hollannissa. Helsinki: Edita Prima Oy, 2004. 162 p. (Sosiaali- ja terveystieteiden tutkimuskeskuksen julkaisu 12/2004).
59. PeTo-työryhmä, Sainio P, Aunola S, Vaara M, Alanen E, Rätty S: Toiminta- ja työkyvyn fyysisten arviointi- ja mittausmenetelmien kartoittaminen ICF-luokituksen aihealueella "liikkuminen". Helsinki: Stakes, 2004. 108 p. (Aiheita 25/2004).
 60. Pirkola S: Tommi 2004: Alkoholiriippuvuuden esiintyvyys ja siihen liittyvät tekijät suomalaisessa aikuisväestössä. In: Alho H, Lindeman J, Raitasalo K, Roine R ed. Alkoholii- ja huumeutkimuksen vuosikirja. Hämeenlinna: 2004.
 61. Poikonen S, Puumalainen T, Reunala T, Palosuo T, Turjanmaa K: Turnip rape and oilseed rape: new important food allergens in children? [abstract]. In: Abstracts, XXIII EAACI Congress. 2004:293.
 62. Puhke R, Aunola S, Venojärvi M, Rusko H, Alev K, Seene T: Pikaajalisse joutreenu moju müosiini raske ahela isovormilisele kompositsioonile keskealistel meestel. In: . 2004:76-78. (Teadus, Sport ja Meditsiin).
 63. Puumalainen T, Poikonen S, Vaali K, Reunala T, Turjanmaa K, Palosuo T: Frequent occurrence of IgE to seeds of turnip rape, rapeseed, mustard, and soy in children suspected for food allergies [abstract]. *J Allergy Clin Immunol* 2004;113:S155.
 64. Raitasalo R, Knekt P, Lindfors O, Härkänen T, Helsinki Psychotherapy Study Group: The effectiveness of short-term psychodynamic and solution-focused therapy on intrapsychic and interpersonal functioning [abstract]. In: Program Book, 28th International Congress of Psychology (ICP2004). 2004:433.
 65. Reunanen A: Suomalaisten terveys eilen, tänään ja huomenna [lyhennelmä]. In: Laboratoriolääketiede ja näyttely. 2004.
 66. Reunanen A, Montonen J, Knekt P, Järvinen R: Dietary Patterns and the incidence of type 2 diabetes [abstract]. In: 39th Annual Meeting of the European Diabetes Epidemiology Group, Programme and Abstracts. 2004.
 67. Riihimäki H, Heliövaara M, Heistaro S, Impivaara O, Leino-Arjas P, Luoto S, Taimela S, Viikari-Juntura E: Back morbidity and its time trend in the Finnish general population [abstract]. In: Abstracts, Annual Conference of the International Society for the Study of the Lumbar Spine. 2004:P187.
 68. Rintanen H, Klaukka T, Uutela A, Koskinen S, Ahonen H, Nenonen M, Karvonen S, Mäntyranta T: Kansalliset rekisterit, tilastot ja seurannat. In: Mäntyranta T, Elonheimo O, Mattila J, Viitala J ed. Terveyspalveluiden suunnittelu. Helsinki: Duodecim, 2004:138-168.
 69. Salmelainen U: Kulkeeko tieto kuntoutuksen yhteistyössä? In: Geriatrisen kuntoutuksen arviointi: IKÄ-hankkeen menetelmät ja aineisto. Helsinki: Kela, 2004:117-124. (Sosiaali- ja terveysturvan katsauksia 60/2004).
 70. Salmi J, Pekkarinen H, Kröger H, Heliövaara M: Segmental assessments of fat free mass by bioimpedance in relation to DXA [abstract]. *Int J Obes Relat Metab Disord* 2004;28:S127.
 71. Savolainen J, Suominen-Taipale L, Uutela A, Martelin T, Niskanen M, Knuutila M: Sense of coherence as a determinant of tooth-brushing frequency and level of oral hygiene. *Community Dent Health* 2004;21:243.
 72. Smolander J, Hurri H, Koho P, Rantanen P, Sainio P: Toiminta- ja työkyvyn fyysisten arviointi- ja mittausmenetelmien kartoittaminen ICF-luokituksen aihealueella "liikkuminen". Stakes, 2004. 101 p. (Aiheita 25/2004).
 73. Suominen T, Savikko N, Hautala L, Lind M, Mäkelä A, Mäkelä M, Piispanen J, Puukka P: Hoitotyöntekijät ja oman työn hallinta- analyysi eri kliinisillä osa-alueilla. In: Aho A ed. Konferenssiabstraktit, VIII kansallinen hoitotieteellinen konferenssi. Hoitotieteellinen tutkimus näkyväksi - kuinka vastata ihmisen ja yhteiskunnan haasteisiin. Tampereen yliopisto, 2004:108.
 74. Suominen-Taipale AL, Kiiskinen U, Arinen S, Sintonen H: Subjective need as a predictor of dental attendance, longitudinal analysis [abstract]. *J Dent Res* 2004;82:0685.
 75. Suominen-Taipale L: Operatiivisesta karieshoidosta ehkäisevään hoitoon. *Suom Hammaslääkärilehti* 2004(19):1097-1098.
 76. Suominen-Taipale L, Nordblad A, Vehkalahti M, Aromaa A: Suomalaisten aikuisten suunterveys. Terveys 2000 -tutkimus. 2004. 206 p. (Publications of National Public Health Institute, Series B 16/2004).
 77. Surakka J, Aunola S, Alanen E, Karppi S: The effects of power-type strength training on lumbar spine velocity and vertical squat jump in subjects in different age groups. In: Kellis E, Amiridis I, Vrabas I ed. 4th International Conference on Strength Training: Book of Abstracts . Serres: Aristotle University of Thessaloniki, 2004:277-278.
 78. Surakka J, Romberg A, Ruutiainen J, Virtanen A, Aunola S, Mäentaka K: Multiple sclerosis: assessing muscle strength and motor fatigue [abstract]. *Advances in Clinical Neuroscience & Rehabilitation* 2004;4:44.
 79. Susitaival P, Kivinen P, Heistaro S, Heliövaara M, Jousilahti P: Prevalence of skin diseases in Finland [abstract]. In: THE EDEN-IHEA Congress. 2004.

80. Susitaival P, Kivinen P, Heistaro S, Heliövaara M, Jousilahti: Prevalence of skin diseases in Finland [abstract]. In: The EDEN-IDEA Congress. 2004.
81. Toropainen E, Kaila M, Ketola E, Luoto R, Rissanen P, Mäkelä M: Työväline Käypä hoito -suositusten aihevalintaan. In: Eskola N, Ashorn U, Rissanen P, Lehto J ed. Stakes, Aiheita, Terveystieteiden tutkimuksen seminaari. 2004:23.
82. Vaali K, Puumalainen T: Kommentti muuntogeenisten viljelykasvien sekä tavanomaisen ja luonnonmukaisen maataloustuotannon rinnakkaiselosta. 2004.
83. Vaara M, Karppi S: Fyysistä suoriutumista kuvaavan työtestin käyttökelpoisuus [abstrakti] . In: Fysioterapiapäivät. 2004.
84. Vaara M, Karppi S: Koordinaatiotestin ja tasapainotestin toistettavuus [abstrakti]. In: Fysioterapiapäivät. 2004.
85. Vasankari TM, Heliövaara M, Jousilahti P, Knekt P, Marniemi J, Heistaro S, Liippo K: Serum cotinine predicts bronchial obstruction regardless of smoking history [abstract]. In: 14th Annual Congress of the European Respiratory Society. 2004.
86. Vasankari TM, Heliövaara M, Jousilahti P, Knekt P, Marniemi J, Heistaro S, Liippo K: Serum cotinine predicts bronchial obstruction regardless of smoking history [abstract]. In: European Respiratory Society Annual Congress. 2004.
87. Venojärvi M, Aunola S, Somerkoski K, Hämäläinen H, Marniemi J, Lindström J, Rastas M, Ruohonen S, Röyttä M, Nuutila P, Hänninen O: Improved insulin sensitivity and reduced cytokine expression in skeletal muscle as a result of exercise and dietary intervention [abstract]. In: 13th European Congress on Obesity. 2004:S44. (Int J Obes Relat Metab Disord 28(Suppl 1)/2004).
88. Wilskman K, Heistaro S, Ashorn P: Poliittinen päätöksenteko kunnan terveystieteiden järjestämisessä. In: Mäntyranta T, Elonheimo O, Mattila J, Viitala J ed. Terveystieteiden suunnittelu. Jyväskylä: Duodecim, 2004:39-42.

D. Other publications

1. Kiiskinen U: Tieliikenne, terveys ja talous. 2004. (Liikenne 22(2):10-13).
2. Knekt P: Korta terapier hjälper - ment inte alla. 2004. (Huvudstadsbladet 14.5.2004).
3. Knekt P: Lyhytterapia auttaa osaa masentuneista. 2004. (Kotilääkäri 2004:6-7).
4. Knekt P: Psykoterapiakeskustelu unohtaa usein perusasiatkin. 2004. (Mielekäs 2004:1).
5. Knekt P, Lindfors O: Tutkimus lyhytterapioista: kaksi lyhytkestoista terapiaa ovat yhtä tuloksellisia. 2004. (www.kela.fi/Tiedottaa/2004/Toukokuu, 13.5.2004).
6. Knekt P: Lyhytterapialla parantuu alle puolet masennuspotilaista. 2004. (Helsingin Sanomat 14.5.2004).
7. Lindfors O: Kela valmis maksamaan mielenterveyspotilaille myös lyhytterapioita. 2004. (Helsingin Sanomat 1.6.2004).
8. Luoto R: Hyvinvointiteollisuutta valvottava. 2004. (Helsingin Sanomat 5.4.2004).

E. Theses

1. Hakulinen K: Avofysioterapiapalvelujen käyttö Suomessa. Terveys 2000 -tutkimuksen tuloksia. [pro gradu]. Helsinki: 2004. 89 p. (Publications of National Public Health Institute Series B14/2004).
2. Kattainen A: Cardiovascular diseases and functional capacity, prevalence, secular changes and predictive value [dissertation]. 2004. 80 p. (Publications of National Public Health Institute, Series A 7/2004).
3. Meronen M-L: Psykoterapiasoveltuvuuden yhteydet yhteistyösuhteeseen (Suitability for psychotherapy and the alliance). [licentiate theses]. Helsinki: Helsingin yliopisto, 2004.

2005

A. Original articles and reviews

1. Ahola K, Honkonen T, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J: The relationship between job-related burnout and depressive disorders - results from the Finnish Health 2000 Study. *J Affect Disord* 2005;88:55-62.
2. Alaranta A, Alaranta H, Heliövaara M, Alha P, Palmu P, Helenius I: Allergic rhinitis and pharmacological management in elite athletes. *Med Sci Sports Exerc* 2005;37:707-711.
3. Bunker SJ, Tonkin A, Hickie I, Colquhoun D, Heistaro S, Dunbar J: Epidemiologists and researchers continue to overlook the obvious. *BMJ* 2005(21 Oct).
4. Finne P, Reunanen J, Stenman S, Groop P, Grönhagen-Riska C: Incidence of end-stage renal disease in patients with type 1 diabetes. *JAMA* 2005;294:1782-1787.

5. Forssell H, Santalahti P, Puukka P, Talo S: Searching for an assessment instrument to determine temporomandibular disorder pain profiles for the purposes of primary health care. *Int J Rehabil Res* 2005;28:203-209.
6. Grandell-Niemi H, Hupli M, Leino-Kilpi H, Puukka P: Finnish nurses' and nursing students' pharmacological skills. *J Clin Nurs* 2005;14:685-694.
7. Haara MM, Arokoski JPA, Kröger H, Kärkkäinen A, Manninen P, Knekt P, Impivaara O, Heliövaara M: Association of radiological hand osteoarthritis with bone mineral mass: a population study. *Rheumatology* 2005;44:1549-1554.
8. Helmersson J, Årnlöv J, Vessby B, Larsson A, Alftan G, Basu S: Serum selenium predicts levels of F2-isoprostanes and prostaglandin F2alpha in a 27 year follow-up study of Swedish men. *Free Radic Res* 2005;39:763-770.
9. Hilakivi-Clarke L, Luoto R, Huttunen T, Koskenvuo M: Pregnancy weight gain and premenopausal breast cancer risk. *J Reprod Med* 2005;50:811-816.
10. Hokkanen S, Kosunen TU, Sarna S, Miettinen A, Salomaa A, Aromaa A, Knekt P, Rautelin HI: Normal serum pepsinogen I levels in adults: A population-based study with special reference to *Helicobacter pylori* infection and parietal cell antibodies. *Scand J Clin Lab Invest* 2005;65:291-300.
11. Hämäläinen H, Rönnemaa T, Virtanen A, Lindström J, Eriksson JG, Valle TT, Ihanne-Parikka P, Keinänen-Kiukaanniemi S, Rastas M, Aunola S, Uusitupa M, Tuomilehto J, Finnish Diabetes Prevention Study Group: Improved fibrinolysis by an intensive lifestyle intervention in subjects with impaired glucose tolerance. *Diabetologia* 2005;48:2248-2253.
12. Härkönen T, Knekt P, Virtala E, Lindfors O, Helsinki Psychotherapy Study Group: A case study in comparing therapies involving informative drop-out, non-ignorable non-compliance and repeated measurements. *Stat Med* 2005;24:3773-3787.
13. Islam MS, Raitakari OT, Juonala M, Kähönen M, Hutri-Kähönen N, Collings A, Aalto-Setälä K, Kontula K, Marniemi J, Viikari JSA, Lehtimäki T: Apolipoprotein A-I/C-III/A-IV SstI and apolipoprotein B XbaI polymorphisms and their association with carotid artery intima-media thickness in the Finnish population The Cardiovascular Risk in Young Finns Study. *Atherosclerosis* 2005;180:79-86.
14. Jokinen V, Sourander LB, Karanko H, Mäkikallio TH, Huikuri HV: Changes in cardiovascular autonomic regulation among elderly subjects: follow-up of sixteen years. *Ann Med* 2005;37:206-212.
15. Jula A, Marniemi J, Rönnemaa T, Virtanen A, Huupponen R: Effects of diet and simvastatin on fatty acid composition in hypercholesterolemic men : a randomized controlled trial. *Arterioscler Thromb Vasc Biol* 2005;25:1952-1959.
16. Kaaja R, Kinnunen T, Luoto R: Regional differences in prevalence of pre-eclampsia in relation to the risk factors for coronary artery disease in women in Finland. *Eur Heart J* 2005;26:44-50.
17. Kattainen A, Salomaa V, Härkönen T, Jula A, Kaaja R, Kesäniemi YA, Kähönen M, Moilanen L, Nieminen MS, Aromaa A, Reunanen A: Coronary heart disease: from a disease of middle-aged men in the late 1970s to a disease of elderly women in the 2000s. *Eur Heart J* 2005.
18. Kattainen A, Salomaa V, Jula A, Kesäniemi A, Kukkonen-Harjula K, Kähönen M, Majahalme S, Moilanen L, Nieminen MS, Aromaa A, Reunanen A: Gender differences in the treatment and secondary prevention of CHD at population level. *Scandinavian Cardiovascular Journal* 2005;39:327-333.
19. Kauppinen-Mäkelin R, Sane T, Reunanen A, Välimäki MJ, Niskanen L, Markkanen H, Löyttyniemi E, Ebeling T, Jaatinen P, Laine H, Nuutila P, Salmela P, Salmi J, Stenman U, Viikari J, Voutilainen E: A nationwide survey of mortality in acromegaly. *J Clin Endocrinol Metab* 2005;90:4081-4086.
20. Komárek A, Lesaffre E, Härkönen T, Declerck D, Virtanen JI: A Bayesian analysis of multivariate doubly-interval-censored dental data. *Biostatistics* 2005;6:145-155.
21. Kondrashova A, Reunanen A, Romanov A, Karvonen A, Viskari H, Vesikari T, Ilonen J, Knip M, Hyöty H: A six-fold gradient in the incidence of type 1 diabetes at the eastern border of Finland. *Ann Med* 2005;37:67-72.
22. Korodi Z, Wang X, Tedeschi R, Knekt P, Dillner J: No serological evidence of association between prostate cancer and infection with herpes simplex virus type 2 or human herpesvirus type 8: a nested case-control study. *J Infect Dis* 2005;191:2008-2011.
23. Kosunen TU, Seppälä K, Sarna S, Aromaa A, Knekt P, Virtamo J, Salomaa-Räsänen A, Rautelin H: Association of *Helicobacter pylori* IgA antibodies with the risk of peptic ulcer disease and gastric cancer. *World Journal of Gastroenterology* 2005;11:6871-6874.
24. Kulmala I, Boice JD, McLaughlin JK, Holmich LR, Pakkanen M, Lassila K, Usenius J, Lyly T, Kjoller K, Luoto R: A feasibility study of magnetic resonance imaging of silicone breast implants in Finland. *J Long Term Eff Med Implants* 2005;15:9-14.
25. Kurvinen E, Aasvee K, Zordania R, Jauhiainen M, Sundvall J: Serum lipid and apolipoprotein profiles in newborns and six-year-old children: the Tallinn Young Family study. *Scand J Clin Lab Invest* 2005;65:541-550.
26. Laaksonen DE, Lindström J, Lakka TA, Eriksson JG, Niskanen L, Wikström K, Aunola S, Keinänen-Kiukaanniemi S, Laakso M, Valle TT, Ihanne-Parikka P, Louheranta A, Hämäläinen H, Rastas M, Salminen V, Cepaitis Z, Hakumäki M, Kaikkonen H, Härkönen P, Sundvall J, Tuomilehto J, Uusitupa

- M for the Finnish Diabetes Prevention Study Group: Physical activity in the prevention of Type 2 Diabetes. *The Finnish Diabetes Prevention Study*. *Diabetes* 2005;54:158-165.
27. Laitinen A, Koskinen S, Härkänen T, Reunanen A, Laatikainen L, Aromaa A: A nationwide population-based survey on visual acuity, near vision, and self-reported visual function in the adult population in Finland. *Ophthalmology* 2005;112:2227-2237.
 28. Lehto U, Ojanen M, Kellokumpu-Lehtinen P: Predictors of quality of life in newly diagnosed melanoma and breast cancer patients. *Ann Oncol* 2005;16:805-816.
 29. Marniemi J, Alanen E, Impivaara O, Seppänen R, Hakala P, Rajala T, Rönnemaa T: Dietary and serum vitamins and minerals as predictors of myocardial infarction and stroke in elderly subjects. *Nutrition Metabolism and Cardiovasc Diseases* 2005;15:188-197.
 30. Martikainen P, Martelin T, Nihtilä E, Majamaa K, Koskinen S: Differences in mortality by marital status in Finland from 1976 to 2000: Analyses of changes in marital-status distributions, socio-demographic and household composition, and cause of death. *Population Studies* 2005;59:99-115.
 31. Miranda H, Viikari-Juntura E, Heistaro S, Heliövaara M, Riihimäki H: A population study of differences in the determinants of a specific shoulder disorder versus nonspecific shoulder pain without clinical findings. *Am J Epidemiol* 2005;161:847-855.
 32. Montonen J, Järvinen R, Heliövaara M, Reunanen A, Aromaa A, Knekt P: Food consumption and the incidence of type II diabetes mellitus. *European Journal of Clinical Nutrition* 2005;59:441-448.
 33. Montonen J, Knekt P, Härkänen T, Järvinen R, Heliövaara M, Aromaa A, Reunanen A: Dietary patterns and the incidence of type 2 diabetes. *Am J Epidemiol* 2005;161:219-227.
 34. Mursu J, Voutilainen S, Nurmi T, Alftan G, Virtanen JK, Rissanen TH, Happonen P, Nyssönen K, Kaikkonen J, Salonen R, Salonen JT: The effects of coffee consumption on lipid peroxidation and plasma total homocysteine concentrations: a clinical trial. *Free Rad Biol Med* 2005;38:527-34.
 35. Oikarinen SI, Pajari AM, Salminen I, Heinonen SM, Adlercreutz H, Mutanen M: The effects of a flaxseed mixture and plant oils rich in alpha-linolenic acid on the adenoma formation in multiple intestinal neoplasia (Min) mice. *Br J Nutr* 2005;94:510-518.
 36. Pirkola S, Isometsä E, Aro H, Kestilä L, Hämäläinen J, Veijola J, Kiviruusu O, Lönnqvist J: Childhood adversities as risk factors for adult mental disorders. Results from the Health 2000 study. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:769-777.
 37. Pirkola S, Isometsä E, Suvisaari J, Aro H, Joukamaa M, Poikolainen K, Koskinen S, Aromaa A, Lönnqvist J: DSM-IV mood-, anxiety- and alcohol use disorders and their comorbidity in the Finnish general population - Results from the Health 2000 Study. *Soc Psychiatry Psychiatr Epidemiol* 2005;40:1-10.
 38. Poussa MS, Heliövaara MM, Seitsamo JT, Kononen MH, Hurmerinta KA, Nissinen MJ: Predictors of neck pain: a cohort study of children followed up from the age of 11 to 22 years. *EUR SPINE J* 2005;14:1033-1036.
 39. Pussinen P, Nyssönen K, Alftan G, Salonen R, Laukkanen JA, Salonen JT: Serum antibody levels to *Actinobacillus actinomycetemcomitans* predict the risk for coronary heart disease. *Arterioscler Thromb Vasc Biol* 2005;25:833-838.
 40. Reunanen A, Roivainen M, Kleemola M: Letter to the Editor. *Atherosclerosis* 2005;180:209-210.
 41. Saaristo T, Peltonen M, Lindström J, Saarikoski L, Sundvall J, Eriksson J, Tuomilehto J: Cross-sectional evaluation of the Finnish Diabetes Risk Score: a tool to identify undetected type 2 diabetes, abnormal glucose tolerance and metabolic syndrome. *Diabetes & Vascular Disease Research* 2005;2:67-72.
 42. Savolainen JJ, Suominen-Taipale AL, Uutela AK, Martelin TP, Niskanen MC, Knuutila ML: Sense of coherence as a determinant of toothbrushing frequency and level of oral hygiene. *Periodontol* 2000 2005;76:1006-12.
 43. Savolainen J, Suominen-Taipale AL, Hausen H, Harju P, Uutela A, Martelin T, Knuutila M: Sense of coherence as a determinant of the oral health-related quality of life: a national study in Finnish adults. *Eur J Oral Sci* 2005;113:121-7.
 44. Simojoki M, Luoto R, Uutela A, Rita H, Boice JJD, McLaughlin JK, Puska P: Use of plant stanol ester margarine among persons with and without cardiovascular disease: Early phases of the adoption of a functional food in Finland. *Nutrition Journal* 2005;4:20.
 45. Sulander T, Martelin T, Rahkonen O, Nissinen A, Uutela A: Associations of functional ability with health-related behavior and body mass index among the elderly. *Arch gerontol geriatr* 2005;40:185-199.
 46. Suominen T, Savikko N, Puukka P, Irvine DD, Leino-Kilpi H: Work empowerment as experienced by head nurses. *J Nurs Manag* 2005;13:147-153.
 47. Surakka J: Power-type strength training in middle-aged men and women. *Journal of Sports Science and Medicine* 2005;4(Suppl 9):1-35.
 48. Surakka J, Virtanen A, Aunola S, Mäentaka K, Pekkarinen H: Reliability of knee muscle strength and fatigue measurements. *Biology of Sport* 2005;22:301-313.
 49. Uusitalo L, Knip M, Kenward MG, Alftan G, Sundvall J, Aro A, Reunanen A, Åkerblom HK, Virtanen SM, Childhood Diabetes in Finland Study Group: Serum alpha-tocopherol concentrations and

- risk of type 1 diabetes mellitus: a cohort study in siblings of affected children. *J Pediatr Endocrinol Metab* 2005;18:1409-1416.
50. Venojärvi M, Puhke R, Hämäläinen H, Marniemi J, Rastas M, Rusko H, Nuutila P, Hänninen O, Aunola S: Role of skeletal muscle-fibre type in regulation of glucose metabolism in middle-aged subjects with impaired glucose tolerance during a long-term exercise and dietary intervention. *Diabetes, Obesity & Metabolism* 2005;7:745-754.
 51. Verkasalo MT, Raitakari OT, Viikari J, Marniemi J, Savilahti E: Undiagnosed silent coeliac disease : a risk for underachievement? *Scand J Gastroenterol* 2005;40:1407-1412.
 52. Virtanen JK, Voutilainen S, Alfthan G, Korhonen MJ, Rissanen TH, Mursu J, Kaplan GA, Salonen JT: Homocysteine as a risk factor for CVD mortality in men with other CVD risk factors: the Kuopio Ischaemic Heart disease Risk Factor (KIHD) Study. *J Intern Med* 2005;257:255-262.
 53. Virtanen JK, Voutilainen S, Happonen P, Alfthan G, Kaikkonen J, Mursu J, Rissanen TH, Kaplan GA, Korhonen MJ, Sivenius J, Salonen JT: Serum homocysteine, folate and risk of stroke: Kuopio Ischaemic Heart Disease Risk Factor (KIHD) Study. *European Journal of Cardiovascular Prevention and Rehabilitation* 2005;12:369-375.
 54. Westerbacka J, Lammi K, Häkkinen AM, Rissanen A, Salminen I, Aro A, Yki-Järvinen H: Dietary fat content modifies liver fat in overweight nondiabetic subjects. *J Clin Endocrinol Metab* 2005;90:2804-2809.
 55. Ylihärsilä H, Lindström J, Eriksson JG, Jousilahti P, Valle TT, Sundvall J, Tuomilehto J: Prevalence of diabetes and impaired glucose regulation in 45- to 64-year-old individuals in three areas of Finland. *Diabet Med* 2005;22:88-91.
 56. Åkerblom HK, Virtanen SM, Ilonen J, Savilahti E, Vaarala O, Reunanen A, Teramo K, Hämäläinen AM, Paronen J, National TRIGR Study Groups: Dietary manipulation of beta cell autoimmunity in infants at increased risk of type 1 diabetes: a pilot study. *Diabetologia* 2005;48:829-837.

B. Original articles and reviews published in domestic languages

1. Aro A: D-vitamiini - monivaikutteinen hormoni. *Duodecim* 2005;121:1749-1754.
2. Aromaa A: Ylipaino ja terveystriskit. *Käytännön lääkäri* 2005;48:6-9.
3. Aunola S: Miten liikunnalla vaikutetaan metaboliseen oireyhtymään? *Fysioterapia* 2005;52:5-9.
4. Hurskainen R, Komi I, Kujansuu E, Luoto R, Otrainen M, Patja K, Penttinen J, Silventoinen S, Tapanainen J, Toivonen J: Runsaiden kuukautisten tutkimukset ja hoito. *Duodecim* 2005;121:1584-92.
5. Hämäläinen H, Virta L, Mäki J, Keskimäki I, Mähönen M, Moltchanov V, Salomaa V: Palaako potilas työhön ensimmäisen sydäninfarktin jälkeen? *Suom Lääkäril* 2005;60:1143-1147.
6. Impivaara O, Viikari J, Alanen E, Sonninen P: Osteoporoosin diagnostiikassa kaikki hyvin? Tuloksia eri DXA-laitteilla tehtyjen mittausten vertailusta. *Suom Lääkäril* 2005;60:5245-5252.
7. Jula A: Verenpaineen hoito täsmentyy. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2005(9):20.
8. Karhula K, Kiiskinen U, Suominen-Taipale L, Helminen S, Klaukka T: Vain harva vaihtoi hammashoidon palvelusektoria. *Sosiaalivakuutus* 2005(6):18-20.
9. Kattainen A, Reunanen A: Sepelvaltimotauti ja toimintakyky. Miten kuolleisuuden, ilmaantuvuuden ja toimintakyvyn muutokset ovat muovanneet sairauden kokonaiskuva. *Suom Lääkäril* 2005;60:273-276.
10. Koponen P, Hakulinen-Viitanen T, Julin A, Perälä M, Paunonen-Ilmonen M, Luoto R: Asiakaslähtöisen aineiston menetelmien arviointia äitiyshuollon tutkimus- ja kehittämishankkeessa. *Sosiaalilääket Aikakausl* 2005;42:307-317.
11. Kronholm E: Poikkeava unen pituus terveydellisenä riskitekijänä. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2005(6):3-4.
12. Manderbacka K, Reunanen A, Klaukka T, Keskimäki I: Sepelvaltimotaudin hoidossa sosioekonomisia eroja. *Sairaala* 2005(4):38-40.
13. Mankinen L: Alaraajojen mittaerokuvaus. *Radiografia* 2005(1):6-9.
14. Martelin T, Sainio P, Koskinen S: Koulutuksen ja siviilisäädyn mukaiset erot 30-64-vuotiaiden suomalaisten toimintakyvyssä. *Kuntoutus* 2005;28:12-26.
15. Palosuo H, Koskinen S: Terveysterot ja niiden kaventaminen Suomessa. *Terveydenhoitaja* 2005;8:12-7.
16. Palosuo H, Sihto M, Keskimäki I, Manderbacka K, Koskinen S, Prättälä R, Linnanmäki E, Lahelma E: Sosioekonomisten terveysterojen kaventaminen Ruotsissa, Hollannissa ja Englannissa. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2005(6):9-10.
17. Raitasalo R, Knekt P, Kaarento K, Laine H, Lindfors O: Koherenssi-käsitys ja epäkypsät defenssit. *Psykologia* 2005;40:164-172.
18. Reunanen A: Sydäninfarktista toipuneiden työhönpaluun ennuste ei ole muuttunut. *Suom Lääkäril* 2005;60:1139.
19. Sainio P, Malmberg J, Vaara M, Hakulinen K: Suomalaisen aikuisväestön fyysistä toimintakykyä kuvaavien mittausten viitearvot. *Fysioterapia* 2005(4):10-13.

20. Salmelainen U, Stenholm S, Kehusmaa S: Ongelmia eläkkeensaajan hoitotuen tiedonkulussa. *Suom Lääkäril* 2005;60:1703-1706.
21. Salminen JK: Mielenterveyden häiriöt ja työkyvyttömyys meillä ja muualla. *Yksityislääkäri* 2005(6):91-93.
22. Sihvonen A, Gissler M: Rekisteritietojen käyttö sosiaalitieteellisessä tutkimuksessa 2000-luvun alussa. *Yhteiskuntapolitiikka* 2005(5):514-520.
23. Surakka J: Nopeusvoimatyypinen harjoittelu soveltuu keski-ikäisille miehille ja naisille. *Liikunta ja tiede* 2005;42:88-89.
24. Surakka J: Nopeusvoimatyypinen harjoittelu soveltuu keski-ikäisille. *Fysioterapia* 2005;52:50-51.
25. Valkamo M, Hintikka J, Niskanen L, Kettunen R, Salminen JK, Viinamäki H: Sepelvaltimotautipotilaan masennuksen diagnostiikka ja hoito. *Suom Lääkäril* 2005;60:539-543.
26. Venojärvi M, Aunola S, Puhke R, Glad M, Hämäläinen H, Marniemi J, Halonen JP, Nuutila P, Hänninen O, Atalay M: Liikunta- ja ravitsemusintervention vaste lihaksen lämpöshokkiproteiineihin keski-ikäisillä henkilöillä [abstrakti]. *Liikunta ja tiede* 2005;42:46-47.

C. Textbooks and chapters in textbooks, reports and proceedings

1. Alanen A, Iisakka L, Nieminen T, Simpura J: Sosiaalisen pääoman mittaaminen tilastoissa. In: Jokivuori P ed. *Sosiaalisen pääoman kentät*. Jyväskylä: Minervakustannus Oy, 2005:69-88.
2. Alanen P, Rutkiewicz T, Könönen M, Nordblad A, Suominen-Taipale L: Age, gender, dental status and clinical signs of TMD [poster]. *Suom Hammaslääkärilehti* 2005;21:1268.
3. Alftan G: Nordic biomarker Seminar. Copenhagen: Nordic Council of Ministers, 2005. 66 p. (TemaNord 554/2005).
4. Alftan G: Trends in blood and tissue selenium levels in Finland 1984 - 2004. In: Eurola M ed. *Proceedings of Workshop: Twenty years of selenium fertilization*. 2005:71-76. (Agrifood Research Report 69/2005).
5. Alftan G, Aro A: Environmental effects of selenium fertilization - Is there a potential risk? In: Eurola M ed. *Proceedings of Workshop: Twenty years of selenium fertilization*. 2005:33-35. (Agrifood Research Report 69/2005).
6. Aro A: Kuluttaja, tieto ja terve järki. In: *Kuluttajan käsikirja*. Helsinki: Edita, 2005:150-154.
7. Aromaa A, Huttunen J, Koskinen S, Teperi J: *Suomalaisten terveys*. Helsinki: Duodecim, 2005. 486 p.
8. Cairns J, Kiiskinen U, Suominen-Taipale L: Eliciting consumers' preferences for public and private dental service: a discrete choice experiment [abstract]. 2005. (5th World Congress of the International Health Economics Association (IHEA) 10-13/7 2005, Barcelona, Spain).
9. Cairns J, Kiiskinen U, Suominen-Taipale L: Eliciting consumers' preferences for public and private dental service: a discrete choice experiment. In: *iHEA 5th World Congress*. 2005:24.
10. Erlund I: Bioavailability of selected flavonoids and the usefulness of their plasma concentrations as biomarkers of intake. In: Alftan G ed. *Nordic Biomarker Seminar*. Copenhagen: Nordic Council of Ministers, 2005:53-55. (TemaNord 554/2005).
11. Heistaro S: Menetelmäraportti. *Terveys 2000 -tutkimuksen toteutus, aineisto ja menetelmät*. 2005. 256 p. (Publications of National Public Health Institute, Series B 6/2005).
12. Heliövaara M: Tuki- ja liikuntaelinsairaudet. In: *Lihavuus - painavaa asiaa painosta*, Konsensuskokous. Suomalainen Lääkäriseura Duodecim, 2005:31-35.
13. Hinkka K, Karppi S, Grönlund R, Aaltonen T, Puukka P: Ikäihmisten kuntoutuksen laaja evaluaatiotutkimus. In: Sarvimäki A, Syren I ed. *Ikääntyvien arjen ja elämänlaadun tutkimus : seminaariesityksiä 12.-13.10.2004 = Researching ageing and the quality of life : seminar presentations 12-13 October 2004*. Helsinki: Ikäinstituutti, Kuntokallio-säätiö, 2005:34-38. (Oraita 2/2005).
14. Hyyppä MT: Aivojen sukupuolittaminen. In: Husu L, Rolin K ed. *Tiede, tieto ja sukupuoli*. Helsinki: Gaudeamus, 2005:112-131.
15. Hyyppä MT, Kronholm E: Uni ja lepo. In: Aromaa A, Huttunen J, Koskinen S, Teperi J ed. *Suomalaisten terveys*. Helsinki: Duodecim, 2005:89-94.
16. Härmä M, Kronholm E: Nukkuminen. In: Koskinen S, Kestilä L, Martelin T, Aromaa A ed. *Nuorten aikuisten terveys. Terveys 2000 -tutkimuksen perustulokset 18-29-vuotiaiden terveydestä ja siihen liittyvistä tekijöistä*. Helsinki: Kansanterveyslaitos, 2005:58-59. (B 7/2005).
17. Härmä M, Kronholm E, Kukkonen-Harjula K, Fogelholm M: Unihäiriöt ja lihavuus. In: *Lihavuus - painavaa asiaa painosta*, Konsensuskokous 24.-26.10.2005. Helsinki: Duodecim, Suomen Akatemia, 2005:47-52.
18. Impivaara O, Åstrand S: Osteoporoosi. In: Aromaa A, Huttunen J, Koskinen S, Teperi J ed. *Suomalaisten terveys*. Helsinki: Duodecim, 2005:172-177.
19. Järvisalo J, Raitasalo R, Salminen JK, Klaukka T, Kinnunen E: Depression and other mental disorders, sickness absenteeism and work disability pensions in Finland. In: Järvisalo J, Andersson B, Boedeker W, Houtman I ed. *Mental disorders as a major challenge in prevention of work disability : experiences*

- in Finland, Germany, the Netherlands and Sweden. Helsinki: Kela, 2005:27-59. (Sosiaali- ja terveysturvan katsauksia 66/2005).
20. Kattainen A, Reunanen A, Salomaa V: Differences in secondary prevention of coronary heart disease by sex and age at population level. In: Second International Conference on women, Heart Disease, and Stroke. 2005.
 21. Kiiskinen U, Suominen-Taipale L, Cairns J: Eliciting consumers' preferences for public and private dental service [oral presentation]. 2005. (Nordic Health Economists Study Group (NHSEG). 19-20.8.2005 Uppsala, Sweden.).
 22. Kiiskinen U, Suominen-Taipale L, Aromaa A, Arinen S: Koettu suunterveys ja hammashoitopalvelujen käyttö hammashoitouudistuksen aikana. 2005. 55 p. (Publications of National Public Health Institute, Series B 22/2005/2005).
 23. Kinnunen TI, Aittasalo M, Fogelholm M, Pasanen M, Ojala K, Mansikkamäki K, Lehtomäki L, Koponen P, Weiderpass E, Vainio H, Hilakivi-Clarke L, Luoto R: Neuvonta, elintavat ja liikunta neuvolassa (NELLI): kontrolloidun pilottitutkimuksen kuvaus. In: Anttila S, Holmberg-Marttila D, Hutri-Kähönen N, Koivisto E, Palmio J, Anttila P ed. Tampereen XXVI Lääkäripäivät, Luonnot ja posterit. 2005:311.
 24. Kinnunen TI, Aittasalo M, Fogelholm M, Pasanen M, Ojala K, Mansikkamäki K, Lehtomäki L, Koponen P, Weiderpass E, Vainio H, Hilakivi-Clarke L, Luoto R: Physical activity and dietary counseling and supervised group exercise for first-time pregnant women - a feasibility study of a controlled trial (MOVE-Maternal OVERweight cohort, NELLI - Neuvonta, Elintavat ja Liikunta neuvolassa). In: Abstracts of the 14th European congress on Obesity (ECO). 2005:82.
 25. Knekt P: Psykoterapian vaikuttavuus masennus- ja ahdistuneisuushäiriöiden hoidossa - Helsingin psykoterapiaprojektin väliarvioinnin tuloksia. In: Kuntoutuspäivät. 2005:20-21.
 26. Knekt P: Riittääkö lyhytterapia avuksi? In: Luentolyhennelmät, Mielenterveysmessut. 2005:6-7.
 27. Knekt P, Lindfors O, The Helsinki Psychotherapy Study Group: A randomized trial of the effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy during a one-year follow-up. In: Book of Abstracts, Society for Psychotherapy Research Conference. Ulm: 2005:36.
 28. Knekt P, Montonen J, Järvinen R, Aromaa A, Heliövaara M, Reunanen A: Dietary patterns and coronary heart disease mortality. In: 18th International congress of Nutrition, Abstracts. 2005:167.
 29. Koskinen S, Kestilä L, Martelin T, Aromaa A: Nuorten aikuisten terveys. Terveys 2000 -tutkimuksen perustulokset 18-29-vuotiaiden terveydestä ja siihen liittyvistä tekijöistä. 2005. 175 p. (Publications of National Public Health Institute, Series B 7/2005/2005).
 30. Koskinen S, TEROKA-hankkeen projektiryhmä: Väestöryhmien väliset terveyserot ja niiden kaventaminen. In: Ritamo M ed. VIII Terve Kunta -päivät. 2005:43-47. (Stakes Aiheita 4/2005).
 31. Lindfors O, Knekt P, Helsingin Psykoterapiaprojektin tutkijaryhmä: Vaikuttavuuden arviointi Helsingin psykoterapiaprojektissa: kvantitatiivinen ja kvalitatiivinen näkökulma. In: Abstraktit, Psykoterapiatutkimuksen päivät. 2005.
 32. Lindfors O, Knekt P, Marttunen M, Mikkola M: Determinants of remission from depression following short-term psychodynamic psychotherapy and solution-focused therapy. In: Book of Abstracts, Society for Psychotherapy Research Conference. Ulm: 2005:59.
 33. Luoto R: Sukupuolierot. In: Fogelholm M, Vuori I ed. Terveysliikunta. Fyysinen aktiivisuus terveyden edistämässä. Helsinki: Duodecim, 2005:186-194.
 34. Luoto R: Sukupuolivaikutusten arviointi kansanterveyslaitoksen tutkimusstrategiassa eli SUVAUS. 2005. 24 p. (Publications of National Public Health Institute, Series B 19/2005).
 35. Luoto R: Syöpä. In: Fogelholm M, Vuori I ed. Terveysliikunta. Fyysinen aktiivisuus terveyden edistämässä. Helsinki: Duodecim, 2005:123-128.
 36. Maljanen T, Paltta P, Härkänen T, Virtala E, Renlund C, Lindfors O, Knekt P: The cost-effectiveness of short-term psychodynamic psychotherapy and solution-focused therapy in the treatment of depressive and anxiety disorders. In: iHEA 5th World Congress. 2005:61.
 37. Mattlar C, Alanen E: Är finnar annorlunda än svenskar? In: Daun Å ed. En stuga på sjätte våningen: Svensk mentalitet i en mångkulturell värld. Stockholm: Brutus Östlings Bokförlag, 2005:91-98.
 38. Meronen M, Knekt P, Lindfors O, Rissanen H, Raitasalo R: The associations between psychotherapy suitability and the therapeutic alliance. In: Book of abstracts, 36th Annual Meeting of Society for Psychotherapy Research. Ulm: 2005:120-121.
 39. Männistö S, Montonen J, Pietinen P, Knekt P: Ravintokysely. In: Heistaro S ed. Terveys 2000 - tutkimuksen toteutus, aineisto ja menetelmät. Helsinki: Hakapaino, 2005:121 -123. (Kansanterveyslaitoksen julkaisuja B6/2005/2005).
 40. Nordblad A, Knuutila M, Suominen-Taipale L: Oral hygiene and periodontal diseases in relation to health services [poster]. 2005. (: J Dent Res 84(Spec Iss C):0042, 2005 (www.dentalresearch.org)).
 41. Puska P, Heliövaara H: Tule-sairaudet ja vammat kansanterveydellisenä ja kansantaloudellisena haasteena. In: Laine-Häikiö K, Javanainen M ed. Asiantuntijat äänessä. Helsinki: Suomen tuki- ja liikuntaelinliitto, 2005:18-20.

42. Reunanen A: Lihavuuden epidemiologia. In: Konsensuskokous 2005. Lihavuus. Painavaa asiaa painosta. Suomalainen lääkäri-seura Duodecim, Suomen Akatemia, 2005:9-12.
43. Reunanen A: Sydän- ja verisuonisairaudet - miten meillä ja muualla? In: Ammattina lääke, Farmasian päivät. 2005:28.
44. Revonta M, Luoto R: Lapsettomien naisten ja miesten elintavat Terveys 2000 -tutkimuksessa. Kätilölehti 2005;110:276-277.
45. Saarni S: Elämänlaatu. In: Koskinen S, Kestilä L, Martelin T, Aromaa A ed. Nuorten aikuisten terveys. Helsinki: Kansanterveyslaitos, 2005:73-74.
46. Sainio P, Martelin T, Koskinen S, Heliövaara M: Educational differences in mobility: the contribution of chronic conditions, health behaviours, and physical work load. In: Valtakunnalliset Fysioterapiapäivät 2005. Suomen fysioterapeuttiliitto, 2005.
47. Salmelainen U: Vanhuksen arki kuntoutuspäivän ohjelman valossa. In: Sarvimäki A, Syren I ed. Ikääntyvien arjen ja elämäntilanteen tutkimus : seminaariesityksiä 12.13.10.2004 = Researching ageing and the quality of life : seminar presentations 12-13 October 2004. Helsinki: Ikäinstituutti, Kuntokallio-säätiö, 2005:39-41. (Oraita 2/2005).
48. Suominen-Taipale L, Widström E: Treatments provided in the Public Dental Service before and after a major health political reform [oral presentation]. 2005. (http://www.uta.fi/laitokset/tsph/terttu/index_dokumentit/abstraktit_terveyspolitiikka/Session_E.pdf).
49. Toropainen E, Kaila M, Ketola E, Luoto R, Rissanen P, Mäkelä M: Developing prioritization tool for guideline topic selection. In: Valtakunnalliset Lääkäripäivät, luentolyhennelmät. 2005:296.
50. Toropainen E, Kaila M, Ketola E, Luoto R, Rissanen P, Mäkelä M: Työväline Käypä hoito - suositusten aihevalintaan. In: Anttila S, Holmberg-Marttila D, Hutri-Kähönen N, Koivisto E, Palmio J, Anttila P ed. Tampereen XXVI Lääkäripäivät, Luennot ja posterit. Tampere: Tampereen yliopisto, 2005.
51. Venojärvi M, Aunola S, Puhke R, Glad M, Hämäläinen H, Marniemi J, Nuutila P, Hänninen O, Atalay M: Role of oxidative stress in the regulation of glucose metabolism in middle-aged subjects with impaired glucose tolerance during a long-term exercise and dietary intervention [abstract]. In: 14th European Congress on Obesity. 2005:190. (Obesityreviews 6 (Suppl 1)/2005).

D. Other publications

1. Hyyppä MT: Kulttuuria terveydeksi. Knuutiset 2005(2):3-5.
2. Hyyppä MT: Kulttuuriin kannattaa panostaa. 2005. (Helsingin Sanomat 24.1.2005).
3. Hyyppä MT: Terveyttä yhdessä puuhaamisesta. 2005. (AVH-lehti nro 3/2005).
4. Jula A: Kohonneen verenpaineen lääkkeetön hoito : elämäntavoilla on vaikutusta. 2005. (AVH-lehti nro 4/2005).
5. Luoto R: Avioero lisää auto-onnettomuuden riskiä. Duodecim 2005;121:2150.
6. Luoto R: Elämäntavat, syöpä ja hormonihoidot - 2000-luvun hyvät, pahat ja rumat. Suom Lääkäril 2005;60:3117.
7. Luoto R: Krooninen stressi suojaa rintasyövältä. Duodecim 2005;121:2393.
8. Luoto R: Liikunnan merkitys rintasyöpäpotilaille. In: Suomen rintasyöpäryhmä News. 2005:8.
9. Luoto R: Melatoniinista ei apua aikaeron aiheuttamiin unihäiriöihin. Duodecim 2005;121:827.
10. Luoto R: Mitä eläkeikäisten liikuntaohjelma maksaa ja kannattako se? Duodecim 2005;121:255.
11. Luoto R: Tylsää terveyspolitiikkaa sitkeälle nuorisolle - vaikuttavatko rajoitukset? Duodecim 2005;121:1283.
12. Luoto R: Uutta tietoa menarken ja aikuisiän pituuskasvun yhteydestä. Duodecim 2005;121:19.
13. Palosuo H, Sihto M, Keskimäki I, Koskinen S, Lahelma E, Manderbacka K, Prättälä R, Linnanmäki E: Monet maat etsivät keinoja terveyserojen kaventamiseen. Englannin, Ruotsin ja Hollannin kokemukset kiinnostavat. Dialogi 2005(5).
14. Surakka J: Fysioterapeutista lääkintätyöntekijäksi. Fysioterapia 2005;52:45--46.

E. Theses

1. Hyvönen E: Employee, partner and mother. Woman's three roles and their implications for health [pro gradu]. Helsinki: University of Helsinki, 2005. 114 p.
2. Laaksonen M: Model-based estimation of Population Attributable Risk (PAR)[pro gradu]. Jyväskylä: University of Jyväskylä, 2005. 159 p.
3. Lavikainen H: Iteraportoitujen koulunkäynti- ja oppimisvaikeuksien yleisyys ja yhteydet lapsuuden ja nuoren aikuisuuden elämäntilanteisiin ja koettuun terveyteen [pro gradu]. Jyväskylä: Jyväskylän yliopisto, 2005. 86 p.
4. Montonen J: Plant foods in the prevention of type 2 diabetes mellitus with emphasis on dietary fiber and antioxidant vitamins [dissertation]. Helsinki: Edita Prima, 2005. 105 p. (Publications of the National Public Health Institute A 13/2005).

5. Surakka J: Power-type strength training in middle-aged men and women [dissertation]. 2005. 80 p. (Publications of National Public Health Institute, Series A 2/2005).

2006

A. Original articles and reviews

1. Aasvee K, Jauhiainen M, Kurvinen E, Tur I, Sundvall J, Roovere T, Baburin A: Determinants of risk factors of atherosclerosis in the postinfarction period: the Tallinn MI study. *Scand J Clin Lab Invest* 2006;66:191-199.
2. Ahola K, Honkonen T, Isometsä E, Kalimo R, Nykyri E, Koskinen S, Aromaa A, Lönnqvist J: Burnout in the general population. Results from the Finnish Health 2000 Study. *Soc Psychiatry Psychiatr Epidemiol* 2006;41:11-17.
3. Ahola K, Honkonen T, Kivimäki M, Virtanen M, Isometsä E, Aromaa A, Lönnqvist J: Contribution of burnout to the association between job strain and depression: the Health 2000 Study. *J Occup Environ Med* 2006;48:1023-1030.
4. Ahola K, Honkonen T, Pirkola S, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J: Alcohol dependence in relation to burnout among the Finnish working population. *Addiction* 2006;101:1438-43.
5. Alaranta A, Alaranta H, Heliövaara M, Airaksinen M, Helenius I: Ample use of physician-prescribed medications in Finnish elite athletes. *Int J Sports Med* 2006;27:919-925.
6. Alaranta A, Alaranta H, Patja K, Palmu P, Prättälä P, Martelin T, Helenius I: Snuff use and smoking in Finnish olympic athletes. *Int J Sports Med* 2006;27:581-586.
7. Aro A: The scientific basis for trans fatty acid regulations - Is it sufficient? A European perspective. *Atherosclerosis Supplements* 2006;7:67-68.
8. Aro A, Becker W, Pedersen JI: Trans fatty acids in the Nordic countries. *Scand J Food and Nutrition* 2006;50:151-154.
9. Bidel S, Hu G, Sundvall J, Kaprio J, Tuomilehto J: Effects of coffee consumption on glucose tolerance and serum glucose and insulin levels-A cross sectional analysis. *Horm Metab Res* 2006;38:38-43.
10. Borodulin K, Tuomilehto J, Peltonen M, Lakka TA, Sundvall J, Jousilahti P: Associations of leisure time physical activity and abdominal obesity with fasting serum insulin and 2-hour post-challenge plasma glucose levels. *Diabet Med* 2006;23:1025-28.
11. Era P, Sainio P, Koskinen S, Haavisto P, Vaara M, Aromaa A: Postural balance in a random sample of 7979 aged 30 years and older. *Gerontology* 2006;52:204-213.
12. Erlund I, Freese R, Marniemi J, Hakala P, Alftan G: Bioavailability of quercetin from berries and the diet. *Nutr Cancer* 2006;54:13-17.
13. Grandell-Niemi H, Hupli M, Puukka P, Leino-Kilpi H: Finnish nurses' and nursing students' mathematical skills. *Nurse Educ Today* 2006;26:151-161.
14. Haara M, Heliövaara M, Impivaara O, Arokoski JPA, Manninen P, Knekt P, Kärkkäinen A, Reunanen A, Aromaa A, Kröger H: Low metacarpal index predicts hip fracture : a prospective population study of 3,561 subjects with 15 years of follow-up. *Acta Orthopaedica* 2006;77:9-14.
15. Hannula JA, Lahtela K, Järvikoski A, Salminen JK, Mäkelä P: Occupational Functioning Scale (OFS): An instrument for assessment of work ability in psychiatric disorders. *Nordic Journal of Psychiatry* 2006;60:372-378.
16. Harald K, Pajunen P, Jousilahti P, Koskinen S, Vartiainen E, Salomaa V: Modifiable risk factors have an impact on socio-economic differences in coronary heart disease events. *Scandinavian Cardiovascular Journal* 2006;40:87-95.
17. Harjutsalo V, Reunanen A, Tuomilehto J: Differential transmission of type I diabetes from diabetic fathers and diabetic mothers to their offspring. *Diabetes* 2006;55:1517-1524.
18. Hetemaa T, Manderback K, Reunanen A, Koskinen S, Keskimäki I: Socioeconomic inequities in invasive cardiac procedures among patients with incident angina pectoris or myocardial infarction. *Scandinavian Journal of Public Health* 2006;34:116-123.
19. Hinkka K, Karppi SL, Aaltonen T, Ollonqvist K, Gronlund R, Salmelainen U, Puukka P, Tilvis R: A network-based geriatric rehabilitation programme: Study design and baseline characteristics of the patients. *Int J Rehabil Res* 2006;29:97-103.
20. Honkonen T, Ahola K, Pertovaara M, Isometsä E, Kalimo R, Nykyri E, Aromaa A, Lönnqvist J: The association between burnout and physical illness in the general population - results from the Finnish Health 2000 Study. *J Psychosom Res* 2006;61:59-66.
21. Huovinen E, Härkänen T, Martelin T, Koskinen S, Aromaa A: Predicting coronary heart disease mortality—assessing uncertainties in population forecasts and death probabilities by using Bayesian inference. *Int J Epidemiol* 2006;35:1246-1252.
22. Hyypä MT, Mäki J, Impivaara O, Aromaa A: Leisure participation predicts survival: a population-based study in Finland. *Health Promotion International* 2006;21:5-12.

23. Hätönen KA, Similä ME, Virtamo JR, Eriksson JG, Hannila M, Sinkko HK, Sundvall JE, Mykkänen HM, Valsta LM: Methodologic considerations in the measurement of glycemic index: glycemic response to rye bread, oatmeal porridge, and mashed potato. *Am J Clin Nutr* 2006;84:1055-1061.
24. Johansson E, Alho H, Kiiskinen U, Poikolainen K: Abstaining from alcohol and labour market underperformance--have we forgotten the 'dry' alcoholics? *Alcohol Alcohol* 2006;41:574-579.
25. Johansson E, Alho H, Kiiskinen U, Poikolainen K: The association of alcohol dependency with employment probability: evidence from the population survey 'Health 2000 in Finland. *Health Econ* 2006(Dec 22):Epub.
26. Joukamaa M, Heliövaara M, Knekt P, Aromaa A, Raitasalo R, Lehtinen V: Schizophrenia, neuroleptic medication and mortality. *Br J Psychiatry* 2006;188:122-127.
27. Joutsenniemi KE, Martelin TP, Koskinen SV, Martikainen PT, Härkänen TT, Luoto RM, Aromaa AJ: Official marital status, cohabiting, and self-rated health - time trends in Finland, 1978-2001. *Eur J Public Health* 2006;16:476-483.
28. Joutsenniemi K, Martelin T, Martikainen P, Pirkola S, Koskinen : Living arrangements and mental health in Finland. *J Epidemiol Community Health* 2006;60:468-475.
29. Juonala M, Viikari JSA, Rönnemaa T, Taittonen L, Marniemi J, Raitakari OT: Childhood C-reactive protein in predicting CRP and carotid intima-media thickness in adulthood: The cardiovascular Risk in Young Finns Study. *Arterioscler Thromb Vasc Biol* 2006;26:1883-1888.
30. Järvinen R, Knekt P, Rissanen H, Reunanen A: Intake of fish and long-chain n-3 fatty acids and the risk of coronary heart mortality in men and women. *Br J Nutr* 2006;95:824-829.
31. Järvisalo MJ, Jartti L, Marniemi J, Rönnemaa T, Viikari JSA, Lehtimäki T, Raitakari OT: Determinants of short-term variation in arterial flow-mediated dilatation in healthy young men. *Clin Sci (Colch)* 2006;110:475-482.
32. Kaitosaari T, Rönnemaa T, Viikari J, Raitakari O, Arffman M, Marniemi J, Kallio K, Pahkala K, Jokinen E, Simell O: Low-saturated fat dietary counseling starting in infancy improves insulin sensitivity in 9-year-old healthy children. *Diabetes Care* 2006;29:781-785.
33. Kattainen A, Salomaa V, Härkänen T, Jula A, Kaaja R, Kesäniemi YA, Kähönen M, Moilanen L, Nieminen MS, Aromaa A, Reunanen A: Coronary heart disease: from a disease of middle-aged men in the late 1970s to a disease of elderly women in the 2000s. *Eur Heart J* 2006;27:296-301.
34. Kauppinen-Mäkelin R, Sane T, Sintonen H, Markkanen H, Välimäki MJ, Löyttyniemi E, Niskanen L, Reunanen A, Stenman U, Finnish Acromegaly Study Group: Quality of life in treated patients with acromegaly. *J Clin Endocrinol Metab* 2006;91:3891-3896.
35. Kestila L, Koskinen S, Martelin T, Rahkonen O, Pensola T, Aro H, Aromaa A: Determinants of health in early adulthood: what is the role of parental education, childhood adversities and own education? *European Journal of Public Health* 2006;16:306-315.
36. Kestila L, Koskinen S, Martelin T, Rahkonen O, Pensola T, Pirkola S, Patja K, Aromaa A: Influence of parental education, childhood adversities and current living conditions on daily smoking in early adulthood. *European Journal of Public Health* 2006;16:617-626.
37. Kilkkinen A, Erlund I, Virtanen MJ, Alfthan G, Ariniemi K, Virtamo J: Serum enterolactone concentration and the risk of coronary heart disease in a case-cohort study of Finnish male smokers. *Am J Epidemiol* 2006;163:687-693.
38. Kilkkinen A, Heistaro S, Laatikainen T, Janus E, Chapman A, Absetz P, Dunbar J: Prevention of type 2 diabetes in a primary health care setting Interim results from the Greater Green Triangle (GGT) Diabetes Prevention Project. *Diabetes Res Clin Pract* 2006(Oct 25).
39. Kilkkinen A, Virtanen SM, Klaukka T, Kenward MG, Salkinoja-Salonen M, Gissler M, Kaila M, Reunanen A: Use of antimicrobials and risk of type 1 diabetes in a population-based mother-child cohort. *Diabetologia* 2006;49:66-70.
40. Knekt P, Teppo L, Aromaa A, Rissanen H, Kosunen TU: Helicobacter pylori IgA and IgG antibodies serum pepsinogen I and the risk of gastric cancer: changes in the risk with extended follow-up period. *Int J Cancer* 2006;119:702-705.
41. Korpela R, Tuomilehto J, Höglström P, Seppo L, Piironen V, Salo-Väänänen P, Toivo J, Lamberg-Allardt C, Kärkkäinen M, Outila T, Sundvall J, Vilkkilä S, Tikkanen MJ: Safety aspects and cholesterol-lowering efficacy of low fat dairy products containing plant sterols. *Eur J Clin Nutr* 2006;60:633-642.
42. Kronholm E, Härmä M, Hublin C, Aro AR, Partonen T: Self-reported sleep duration in Finnish general population. *Journal of sleep research* 2006;15:276-290.
43. Laatikainen T, Pietinen P, Valsta L, Sundvall J, Reinivuo H, Tuomilehto J: Sodium in the Finnish diet: 20-year trends in urinary sodium excretion among the adult population. *Eur J Clin Nutr* 2006;60:965-70.
44. Lallukka T, Martikainen P, Reunanen , Roos E, Sarlio-Lähteenkorva, Lahelma E: Associations between working conditions and angina pectoris symptoms among employed women. *Psychosom Med* 2006;68:348-354.

45. Lee DH, Silventoinen K, Hu G, Jacobs JDR, Jousilahti P, Sundvall J, Tuomilehto J: Serum gamma-glutamyltransferase predicts non-fatal myocardial infarction and fatal coronary heart disease among 28,838 middle-aged men and women. *Eur Heart J* 2006;27:2170-2176.
46. Lehto U, Ojanen M, Dyba T, Kellokumpu-Lehtinen P, Aromaa A: Baseline psychosocial predictors of survival in localized breast cancer. *Br J Cancer* 2006;94:1245-1252.
47. Leino-Arjas P, Kaila-Kangas L, Solovieva S, Riihimäki H, Kirjonen J, Reunanen A: Serum lipids and low back pain: an association? *Spine* 2006;31:1032-1037.
48. Leino-Arjas P, Solovieva S, Kirjonen J, Reunanen A, Riihimäki H: Cardiovascular risk factors and low-back pain in a long-term follow-up of industrial employees. *Scand J Work Environ Health* 2006;32:12-9.
49. Lindström J, Ilanne-Parikka P, Peltonen M, Aunola S, Eriksson JG, Hemiö K, Hämäläinen H, Härkönen P, Keinänen-Kiukaanniemi S, Laakso M, Louheranta A, Mannelin M, Paturi M, Sundvall J, Valle TT, Uusitupa M, Tuomilehto J: Sustained reduction in the incidence of type 2 diabetes by lifestyle intervention: follow-up of the Finnish Diabetes Prevention Study. *Lancet* 2006;368:1673-1679.
50. Luoto R: Menopausal transition and chronic diseases. *Current Women's Health Reviews* 2006;2:125-32.
51. Macfarlane G, Jones GT, Knekt P, Aromaa A, McBeth J, Mikkelsen M, Heliövaara M: Is the report of widespread body pain associated with long-term increased mortality? Data from the Mini-Finland Health Survey. *Rheumatology* 2006(Dec 22).
52. Manderbacka K, Hetemaa T, Keskimäki I, Luukkainen P, Koskinen S, Reunanen A: Are there socioeconomic differences in MI event rates and fatality among patients with angina pectoris? *J Epidemiol Community Health* 2006;60:442-447.
53. Mattila AK, Salminen JK, Nummi T, Joukamaa M: Age is strongly associated with alexithymia in the general population. *J Psychosom Res* 2006;61:629-635.
54. Mettovaara H, Suominen-Taipale AL, Uutela A, Martelin T, Knuuttila MLE: Cynical hostility as a determinant of tooth brushing frequency and oral hygiene. *J Clin Periodontol* 2006;33:21-28.
55. Myllymäki J, Syrjänen J, Helin H, Pasternack A, Kattainen A, Mustonen J: vascular diseases and their risk factors in IgA nephropathy. *Nephrol Dial Transplant* 2006;21:1876-1882.
56. Niiranen TJ, Jula AM, Kantola IM, Reunanen A: Comparison of agreement between clinic and home-measured blood pressure in the Finnish population : the Finn-HOME Study. *J Hypertens* 2006;24:1549-1555.
57. Niiranen T, Jula A, Kantola I, Reunanen A: Prevalence and determinants of isolated clinic hypertension in the Finnish population: the Finn-HOME study. *J Hypertens* 2006;24:463-470.
58. Niskanen L, Laaksonen DE, Lindström J, Eriksson JG, Keinänen-Kiukaanniemi S, Ilanne-Parikka P, Aunola S, Hämäläinen H, Tuomilehto J, Uusitupa M: Serum uric acid as a harbinger of metabolic outcome in subjects with impaired glucose tolerance. *Diabetes Care* 2006;29:709-711.
59. Nurmi A, Mursu J, Nurmi T, Nyssönen K, Alfthan G, Hiltunen R, Kaikkonen J, Salonen JT, Voutilainen S: Consumption of juice fortified with oregano extract markedly increases excretion of phenolic acids but lacks short- and long-term effects on lipid peroxidation in healthy non-smoking men. *J Agric Food Chem* 2006;54:5790-5796.
60. Paalanen L, Männistö S, Virtanen MJ, Knekt P, Räsänen L, Montonen J, Pietinen P: Validity of a food frequency questionnaire varied by age and body mass index. *J Clin Epidemiol* 2006;59:994-1001.
61. Pertovaara M, Heliövaara M, Raitala A, Oja SS, Knekt P, Hurme M: The activity of the immunoregulatory enzyme indoleamine 2,3-dioxygenase is decreased in smokers. *Clin Exp Immunol* 2006;145:469-473.
62. Puhke R, Aunola S, Ailanto P, Alev K, Venojärvi M, Rusko H, Seene T: Adaptive changes of myosin isoforms in response to long-term strength and power training in middle-aged men. *Journal of Sports Science and Medicine* 2006;5:349-358.
63. Puhke R, Aunola S, Surakka J, Venojärvi M, Alev K, Seene T, Rusko H: The profile distribution of myosin heavy chain isoforms in middle-aged sedentary persons. *J Sports Med Phys Fitness* 2006;46:176-82.
64. Pussinen PJ, Alfthan G, Jousilahti P, Paju S, Tuomilehto J: Systemic exposure to *Porphyromonas gingivalis* predicts incident stroke. *Atherosclerosis* 2006.
65. Rutkiewicz T, Könönen M, Suominen-Taipale L, Nordblad A, Alanen P: Occurrence of clinical signs of temporomandibular disorders in adult Finns. *J Orofac Pain* 2006;20:208-217.
66. Saarijärvi S, Salminen JK, Toikka T: Temporal stability of alexithymia over a five-year period in outpatients with major depression. *Psychother Psychosom* 2006;75:107-112.
67. Saarni S, Härkönen T, Sintonen H, Suvisaari J, Koskinen S, Aromaa A, Lönnqvist J: The impact of 29 chronic conditions on health-related quality of life: A general population survey in Finland using 15D and EQ-5D. *Qual Life Res* 2006;15:1403-1414.

68. Sainio P, Koskinen S, Heliövaara M, Martelin T, Härkänen T, Hurri H, Miilunpalo S, Aromaa A: Self-reported and test-based mobility limitations in a representative sample of Finns aged 30+. *Scand J Public Health* 2006;34:378-386.
69. Salminen JK, Saarijärvi S, Toikka T, Kauhanen J, Äärelä E: Alexithymia behaves as a personality trait over a 5-year period in Finnish general population. *J Psychosom Res* 2006;61:275-278.
70. Salomaa-Räsänen A, Kosunen TU, Karjalainen J, Aromaa A, Knekt P, Sarna S, Rautelin H: IgA antibodies in persisting *Helicobacter pylori* infection in Finnish adults. *Clinical microbiology and infection* 2006;12:236-240.
71. Schwab U, Torronen A, Meririnne E, Saarinen M, Alfthan G, Aro A, Uusitupa A: Orally administered betaine has an acute and dose-dependent effect on serum betaine and plasma homocysteine concentrations in healthy humans. *J Nutr* 2006;136:34-38.
72. Schwab U, Törrönen A, Meririnne E, Saarinen M, Alfthan G, Aro A, Uusitupa M: Acute effect of betaine on serum betaine and plasma homocysteine concentrations. *J Nutr* 2006;136:342-38.
73. Shiri R, Viikari-Juntura E, Varonen H, Heliövaara M: Prevalence and determinants of lateral and medial epicondylitis: A population study. *Am J Epidemiol* 2006;164:1065-1074.
74. Soinio M, Marniemi J, Laakso M, Lehto S, Rönnemaa T: High-sensitivity C-reactive protein and coronary heart disease mortality in patients with type 2 diabetes. *Diabetes Care* 2006;29:329-333.
75. Sulander T, Martelin T, Sainio P, Rahkonen O, Nissinen A, Uutela A: Trends and educational disparities in BADL difficulties among people aged 65-84 years. *Int J Epidemiol* 2006;35:1255-1261.
76. Sundvall J, Leiviskä J, Alfthan G, Vartiainen E: Serum cholesterol during 27 years: Assessment of systematic error and affecting factors and their role in interpreting population trends. *Clin Chim Acta* 2006.
77. Sundvall J, Leiviskä J, Alfthan G, Vartiainen E: Serum cholesterol during 27 years: Assessment of systematic error and affecting factors and their role in interpreting population trends. *Clin Chim Acta* 2006.
78. Suominen-Taipale AL, Martelin T, Koskinen S, Holmen J, Johnsen R: Gender differences in health care use among the elderly population in areas of Norway and Finland. A cross-sectional analysis based on the HUNT Study and the FINRISK Senior Survey. *BMC Health Services Research* 2006;6:110.
79. Surakka J, Alanen E, Aunola S, Karppi S, Pekkarinen H: Effects of external light loading in power-type strength training on muscle power of the lower extremities in middle-aged subjects. *Int J Sports Med* 2006;27:448-455.
80. Taskila T, Lindbohm M, Martikainen R, Lehto U, Hakanen J, Hietanen P: Cancer survivors' received and needed social support from their work place and the occupational health services. *Support Care Cancer* 2006;14:427-435.
81. Tolonen H, Helakorpi S, Talala K, Helasoja V, Martelin T, Prättälä R: 25-year trends and socio-demographic differences in response rates: Finnish adult health behaviour survey. *Eur J Epidemiol* 2006;21:409-415.
82. Tuomisto K, Jousilahti P, Sundvall J, Pajunen P, Salomaa V: C-reactive protein, interleukin-6 and tumor necrosis factor alpha as predictors of incident coronary and cardiovascular events and total mortality. *Thromb Haemost* 2006;95:511-518.
83. Turpeinen AM, von Willebrand E, Salminen I, Linden J, Basu S, Rai D: Effects of cis-9, trans-11 CLA in rats at intake levels reported for breast-fed infants. *Lipids* 2006;41:669-677.
84. Viiri LE, Raitakari OT, Huhtala H, Kähönen M, Rontu R, Juonala M, Hutri-Kähönen N, Marniemi J, Viikari JSA, Karhunen PJ, Lehtimäki T: Relations of APOE promoter polymorphisms to LDL cholesterol and markers of subclinical atherosclerosis in young adults. *J Lipid Res* 2006;47:1298-1306.
85. Voho A, Impivaara O, Järvisalo J, Metsola K, Vainio H, Hirvonen A: Distribution of glutathione S-transferase M1, P1 and T1 genotypes in different age-groups of Finns without diagnosed cancer. *Cancer Detect Prev* 2006;30:144-151.
86. Voho A, Metsola K, Anttila S, Impivaara O, Järvisalo J, Vainio H, Husgafvel-Pursiainen K, Hirvonen A: EPHX1 gene polymorphisms and individual susceptibility to lung cancer. *Cancer Lett* 2006;237:102-108.
87. Volanen I, Järvisalo MJ, Vainionpää R, Arffman M, Kallio K, Anglé S, Rönnemaa T, Viikari J, Marniemi J, Raitakari OT, Simell O: Increased aortic intima-media thickness in 11-year-old healthy children with persistent *Chlamydia pneumoniae* seropositivity. *Arterioscler Thromb Vasc Biol* 2006;26:649-655.

B. Original articles and reviews published in domestic languages

1. Aromaa A, Hakulinen K: ECHIM - tavoitteena yhteiset eurooppalaiset terveyden osoittimet. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2006(5-6):10-11.
2. Blomgren J: Asuinseutujen vaikutukset aikuisväestön huono-osaisuusriskeihin. *Yhteiskuntapolitiikka* 2006;71:92-95.
3. Blomgren J: Sosiaalinen ympäristö vaikuttaa huono-osaisuuteen. *Kuntalehti* 2006(3):40-41.

4. Blomgren J, Martikainen P, Martelin T, Koskinen S: Ikääntyneiden saama epävirallinen ja virallinen apu Suomessa. *Yhteiskuntapolitiikka* 2006;71:167-178.
5. Hakulinen K, Koskinen S, Martelin T, Sainio P, Aromaa A: Ketkä käyttävät fysioterapiaa Suomessa? *Terveys 2000 -tutkimuksen tuloksia. Fysioterapia* 2006(3):5-11.
6. Hakulinen K, Koskinen S, Martelin T, Sainio P, Aromaa A: Ketkä käyttävät avofysioterapiapalveluja Suomessa? *Terveys 2000 -tutkimuksen tuloksia. Sosiaalilääket Aikakausi* 2006;43:13-23.
7. Hannula L, Leino-Kilpi H, Puukka P: Imetyksestä selviytyminen ja lisäruoan käyttö synnytyssairaalassa - äitien näkökulma. *HOITOTIEDE* 2006;18:175-185.
8. Huusko T, Arnala I, Hirvensalo E, Impivaara O, Jäntti P, Kovanen J, Laukkanen P, Lindahl J, Luthje P, Pitkänen M, Viinamäki S, Välimäki M, Österman H: Käypä hoito -suositus. Lonkkamurtumapotilaiden hoito. *Duodecim* 2006;122:358-379.
9. Huusko T, Arnala I, Hirvensalo E, Impivaara O, Jäntti P, Kovanen J, Laukkanen P, Lindahl J, Luthje P, Pitkänen M, Viinamäki S, Välimäki M, Österman H: Lonkkamurtumapotilaiden hoito. *Duodecim* 2006;122:3025-3026.
10. Hyypä MT: Kansanterveyttä kansalaisyhteisöstä. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2006(10):8-9.
11. Hyypä MT: Kulttuuriharrastuksista koituu terveyttä. *Suom Lääkäril* 2006;61:2128-2129.
12. Hyypä MT: Stafettkarnevalen - yhteisöhenen lujittajana. *Liikunta ja tiede* 2006;43:4-9.
13. Karhula K, Kiiskinen U, Suominen-Taipale L, Helminen S, Klaukka T: Vain harva vaihtoi hammashoidon palvelusektoria. *Suom Hammaslääkärilehti* 2006;16:30-32.
14. Knekt P, Laaksonen M, Lindfors O: Helsingin psykoterapiaprojekti: Hoidollisia haasteita sekä lyhyelle että pitkälle terapialle. *Sosiaalivakuutus* 2006(2):20-22.
15. Knekt P, Laaksonen M, Lindfors O: Lyhyen ja pitkän psykoterapian riittävyys masennus- ja ahdistuneisuushäiriön hoidossa. *Psykoterapia* 2006;25:251-259.
16. Knekt P, Laaksonen M, Lindfors O: Psykodynaamisen psykoterapian vaikuttavuus masennus- ja ahdistuneisuushäiriöissä. *Psykoanalyttinen psykoterapia* 2006(3):42-47.
17. Koskinen S: Terveudessa suuria eroja sosiaalisen aseman mukaan - haaste terveydenhuollolle. *Pro terveys* 2006;6:10-12.
18. Koskinen S, Martelin T, Sainio P: Iäkkäiden toimintakyvyn kohentaminen välttämätöntä. Toimintarajoituksista kärsivien määrä uhkaa kasvaa lähes kaksinkertaiseksi 30 vuodessa. *Duodecim* 2006;122:255-256.
19. Koskinen S, TEROKA-projektiryhmä: Sosioekonomiset terveyserot-Suomen kansanterveyden keskeinen ongelma. *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2006(1):7-9.
20. Lavikainen H, Koskinen S, Aro H, Kestilä L, Lyytinen H, Martelin T, Pensola T, Rahkonen O, Aromaa A: Kouluvaikeuksien yleisyys ja yhteydet elämäntilanteeseen ja koettuun terveyteen. *Yhteiskuntapolitiikka* 2006;71:402-410.
21. Nieminen T: Synnyttääkö sosiaalinen pääoma hyvää terveyttä? *Kansanterveys - the Bulletin of National Public Health Institute of Finland* 2006(10):14-15.
22. Palosuo H, Linnanmäki E, Sihto M, Koskinen S: Sosioekonomiset terveyserot - terveyspolitiikan ikuisuusongelma? *Duodecim* 2006;122:1409-1411.
23. Palosuo H, Sihto M, Koskinen S, Lahelma E, Prättälä R, Keskimäki I, Manderbacka K: Sosioekonomiset terveyserot ja terveyspolitiikka Suomessa, Ruotsissa, Englannissa ja Hollannissa. *Yhteiskuntapolitiikka* 2006;71:154-166.
24. Paltamaa J, Karppi SL, Smolander J, Koho P, Vaara M, Hurri H: Suomessa käytössä olevia fyysisen toimintakyvyn arviointimenetelmiä ja WHO:n uusi toimintakykyluokitus ICF. *Suom Lääkäril* 2006;61:459-464.
25. Peltonen M, Korpi-Hyövälti E, Oksa H, Puolijoki H, Saltevo J, Vanhala M, Saaristo T, Saarikoski L, Sundvall J, Tuomilehto J: Lihavuuden, diabeteksen ja muiden glukoosiaineenvaihdunnan häiriöiden esiintyvyys suomalaisessa aikuisväestössä. *Suom Lääkäril* 2006;61:163-170.
26. Raitasalo R, Salminen JK, Saarijärvi S, Toikka T: Persoonallisuuden piirteiden yhteys masennuksesta kuntoutumiseen. *Suom Lääkäril* 2006;61:293-298.
27. Reunanen A: Diabetes yleistyy Suomessa entistä kiivaammin, mutta diabeetikoiden ennusta paranee ja lisäsairauksien ilmaantuminen vähenee. *Diabetes ja lääkäri* 2006;35:16-19.
28. Romberg A, Surakka J: Fyysisen harjoittelun vaikutuksista MS-taudissa on näyttöä. *Fysioterapia* 2006;53:5-9.
29. Saarijärvi S, Salminen JK, Äärelä E: Tunnistamattomat tunteet - uhka terveydelle ja hoitosuhteelle. *Duodecim* 2006;122:1279-1280.
30. Slätis P, Sainio P, Heliövaara M, Malmivaara A, Kinnunen H, Kankare J, Seitsalo S, Rönty H, Kortekangas P, Niinimäki T, Turunen V, Knekt P, Hurri H, Finnish Lumbar Spinal Stenosis Research Group: Leikkaushoidon vaikuttavuus spinaalistenoosissa. *Suomen Ortopedia ja Traumatologia* 2006;29:250-253.

31. Suominen-Taipale L, Widström E: Hammashoitouudistus ja hoitopalvelujen käyttö ja sisältö terveyskeskuksissa. *Sosiaalilääkät Aikakausi* 2006;43:134-145.
32. Toropainen E, Kaila M, Ketola E, Luoto R, Rissanen P, Mäkelä M: Käypä hoito -suositusten aiheiden valinta. *Yleislääkäri* 2006;21:13-19.
33. Tuomi K, Koskinen S: Työntekijöiden terveys kohenee hitaasti. *Työ, terveys, turvallisuus* 2006;36:62-3.
34. Valkonen J, Ehrling L, Lindfors O, Helsingin Pysokoterapiaprojektin tutkijaryhmä: Psykoterapian merkitykset ja haastattelukontekstit. *Psykoterapia* 2006;25:45-59.
35. Vitikainen K, Pekurinen M, Kiiskinen U: Onko tupakoinnin lopettaminen taloudellisesti kannattavaa? *Suom Lääkäril* 2006;61:2985-2989.
36. Vuorma S, Aromaa A, Laakso A, Donau-työryhmä: Miksi terveystalvelujen tarvetta arvioidaan ja miten sitä on tehty? *Suom Lääkäril* 2006;61:1389-1392.
37. Widström E, Suominen-Taipale L: Aikuisten hammashoidosta terveyskeskuksissa. Tietoja vuoden 2003 erillisselvityksestä. *Suom Hammaslääkärilehti* 2006;16:2-6.
38. Widström E, Suominen-Taipale L: Aikuisten hammashoito terveyskeskuksissa vuonna 2003. *Suom Hammaslääkärilehti* 2006;15:810-814.

C. Textbooks and chapters in textbooks, reports and proceedings

1. Aromaa A, Gould R, Hytti H, Sihvonen A, Martelin T, Sainio P, Koskinen S: Functional capacity and work ability. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. KTL, Stakes, STM, 2006:54-58.
2. Aromaa A, Heliövaara M, Knekt P, Reunanen A, Rinne S: *Autoklinikka*. Vantaa: Kansaneläkelaitos, Kansanterveyslaitos, 2006. 128 p.
3. Aromaa A, Huttunen J, Koskinen S, Teperi J: Conclusions and recommendations. In: Koskinen S, Aromaa A, Huttunen J ed. *Health in Finland*. KTL, Stakes, STM, 2006:175-176.
4. Aromaa A, Huttunen J, Koskinen S, Teperi J: The development of public health and related factors: summary. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. KTL, Stakes, STM, 2006:168-174.
5. Chapman A, Dunbar JA, Bunker S, Janus ED, Kilkkinen A, Heistaro S: The greater green triangle diabetes prevention project [abstract]. In: *ADS & ADEA Meeting, Gold Coast Exhibition & Convention Centre*. 2006.
6. Dunbar J, Heistaro S, Laatikainen T, Kilkkinen A, Tideman P, Baird A, Tirimacco R, Chapman A, Kao-Philpot A, Janus E: Chronic disease risk factors in the greater green triangle [abstract]. In: *Rural Health 2006 Conference*. 2006.
7. Gould R, Ilmarinen J, Järvisalo J, Koskinen S: Työkyvyn ulottuvuudet - yhteenveto ja päätelmät. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:311-328.
8. Gould R, Ilmarinen J, Järvisalo J, Koskinen S: Työkyvyn ulottuvuudet. *Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela KTL, TTL, 2006. 366 p.
9. Gould R, Ilmarinen J, Järvisalo J, Koskinen S: Johdanto. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:13-16.
10. Gould R, Koskinen S, Seitsamo J, Tuomi K, Polvinen T, Sainio P: Aineisto ja menetelmät. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:35-54.
11. Gould R, Martelin T, Koskinen S, Sainio P: Yhteenveto väestöryhmien välisistä työkyvyn eroista. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Vantaa: ETK, Kela, KTL, TTL, 2006:104-110.
12. Heistaro S, Janus E, Dunbar J, Laarikainen T, Kilkkinen A: Greater green triangle risk factor study. Limestone coast and corangamite shire surveys. 2006. (Basic Report).
13. Hemminki E, Luoto R, Gissler M: Sukupuolierot terveystalvelujen kohdentumisessa. In: Teperi J, Vuorenkoski L, Manderbacka K, Ollila E, Keskimäki I ed. *Riittävät palvelut jokaiselle - näkökulmia yhdenvertaisuuteen sosiaali- ja terveydenhuollossa*. Helsinki: Stakes, 2006.
14. Hyypää MT, Kronholm E: Sleep and rest. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. Helsinki: KTL, STAKES, STM, 2006:36-37.
15. Häkkinen U, Alha P: Terveystalvelujen käyttö ja sen väestöryhmittäiset erot. *Terveys 2000 -tutkimus*. 2006. 168 p. (Publications of National Public Health Institute, Series B 10/2006).
16. Hämäläinen H, Röberg M: Kokonaisvaltainen katse sydänkuntoutukseen. Helsinki: Kelan tutkimusosasto, 2006. (Sosiaali- ja terveydenhuollon tutkimuksia XX/2006).

17. Hämäläinen H, Virtanen A, Röberg M: Only women had long-term weight loss in cardiac rehabilitation, men need cooking exercise for achieving long-term weight loss [abstract]. In: . 2006:79S. (Eur J Cardiovasc Prev Rehabil 13 (Suppl 1)/2006).
18. Impivaara O: Osteoporosis. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. Helsinki: KTL, STAKES, STM, 2006:66.
19. Kiiskinen U, Suominen-Taipale L, Sintonen H: The dental care subvention reform - modelling the policy effect [poster]. In: <http://www.dsi.dk/nhesg2006/>, 27th Nordic Health Economists Study Group (NHESG) Meeting: DSI Danish Institute for Health Services Research. 2006.
20. Kiiskinen U, Suominen-Taipale L, Cairns J: Julkista vai yksityistä hammashoitoa? Asiakasmaksut ja hammashoitopalvelun hinta. In: Klavus J ed. Terveystaloustiede 2006. Stakes, 2006. (Työpaperieita 2/2006/2006).
21. Kiiskinen U, Teperi J, Häkkinen U, Aromaa A: The societal cost of public health problems. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. KTL, Stakes, STM, 2006:160-164.
22. Knekt P: Psykoterapian tuloksellisuus: Helsingin Psykoterapiaprojekti. In: Psykoterapia, Konsensuskokous 2006. Suomalainen Lääkäriseura Duodecim, Suomen Akatemia, 2006:49-58.
23. Knekt P, Heliövaara M, Aromaa A, Marniemi J: Serum selenium and serum alpha-tocopherol predict asthma risk [abstract]. Public health nutrition 2006;9:235.
24. Knekt P, Laaksonen M: Kort och lång psykoterapi inverkar på olika sätt. Kelan Sanomat 2006;2:21.
25. Knekt P, Laaksonen M: Pitkä ja lyhyt terapia vaikuttavat eri tavoin. Kelan Sanomat 2006;2:4.
26. Knekt P, Laaksonen M, Lindfors O: Lyhyt ja pitkä psykoterapia vaikuttavat eri tavalla. Kansanterveys - the Bulletin of National Public Health Institute of Finland 2006(9):6-7.
27. Knekt P, Lindfors O, Härkänen T, Mikkola M, Laaksonen M, Virtala E, Helsinki Psychotherapy Study Group: Randomized trial on the effectiveness of long and short-term psychodynamic psychotherapy on psychiatric symptoms during a 3-year follow-up [abstract]. In: Abstracts, 19th World Congress of Psychotherapy. 2006:32.
28. Knekt P, Lindfors O, Marttunen M, Härkänen T, Mikkola M, Uusimäki H, Virtala E, The Helsinki Psychotherapy Study Group: Randomized trial on the effectiveness of long- and short-term psychodynamic psychotherapy and solution-focused therapy on psychiatric symptoms during a 3-year follow-up [abstract]. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:22.
29. Knekt P, Lindfors O, Marttunen M, Härkänen , Mikkola M, Uusimäki H, Virtala E, The Helsinki Psychotherapy Study Group: Randomized trial on the effectiveness of long- and short-term psychodynamic psychotherapy on psychiatric symptoms during a 3-year follow-up [abstract]. In: Abstraktit, Psykoterapiatutkimuksen päivät. Jyväskylän yliopisto, 2006.
30. Knekt P, Lindfors O, Marttunen M, Härkänen T, Mikkola M, Uusimäki H, Virtala E, HPS Group: Randomized trial on the effectiveness of long- and short-term psychodynamic psychotherapy on psychiatric symptoms during a 3-year follow-up [abstract]. In: Book of Abstracts, Society for Psychotherapy Research, 37th International Meeting. 2006:158.
31. Koponen P, Alha P: Terveystarkastukset, seulontatutkimukset ja terveyden edistäminen. Terveys 2000-tutkimus. In: Häkkinen U, Alha P ed. Terveyspalvelujen käyttö ja sen väestöryhmittäiset erot. Terveys 2000 -tutkimus. 2006:22-31. (Publications of National Public Health Institute, Series B 10/2006).
32. Koponen P, Aromaa A: Health in Finland in an international comparison. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. KTL, Stakes, STM, 2006:106-111.
33. Koskinen S: Finland and its people. In: Nutrition in Finland. Helsinki: 2006:4-7.
34. Koskinen S: Health of the Finnish population. In: Nutrition in Finland. Helsinki: 2006:8-10.
35. Koskinen S, Aromaa A, Huttunen J, Teperi J: Health in Finland. KTL, Stakes, STM, 2006. 175 p.
36. Koskinen S, Martelin T, Sainio P, Gould R: Elintavat. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia. Helsinki: ETK, Kela, KTL, TTL, 2006:151-161.
37. Koskinen S, Martelin T, Sainio P, Gould R: Työkyky ja terveys. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia. Helsinki: ETK, Kela, KTL, TTL, 2006:114-134.
38. Koskinen S, Sainio P, Martelin T, Gould R, Järvisalo J: Onko väestön työkyky parantunut? In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia. Helsinki: ETK, Kela, KTL, TTL, 2006:291-310.
39. Laaksonen M, Knekt P, Lindfors O, The Helsinki Psychotherapy Study Group: Psychological predictors of the recovery from depression or anxiety disorder in short-term and long-term psychotherapy during a 3-year follow-up [abstract]. In: Abstraktit, Psykoterapiatutkimuksen päivät. Jyväskylän yliopisto, 2006.
40. Laaksonen M, Knekt P, Lindfors O, The Helsinki Psychotherapy Study Group: Psychological predictors of the recovery from depression and anxiety disorders in short-term and long-term psychotherapy during a 3-year follow-up [abstract]. In: Abstract, 19th World Congress of Psychotherapy. 2006:10.
41. Laaksonen M, Knekt P, Lindfors O, The Helsinki Psychotherapy Study Group: Psychological predictors of the recovery from depression or anxiety disorder in short-term and long-term psychotherapy during a

- 3-year follow-up [abstract]. In: Book of Abstracts, Society for Psychotherapy Research, 37th International Meeting. 2006:206.
42. Laaksonen M, Knekt P, Lindfors O, The Helsinki Psychotherapy Study Group: Psychological predictors of the recovery from depression or anxiety disorder in short-term and long-term psychotherapy during a 3-year follow-up [abstract]. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:123.
 43. Laaksonen M, Knekt P, Marniemi J, Montonen J, Aromaa A, Reunanen A: Serum vitamin D and occurrence of subsequent type 2 diabetes. *Public health nutrition* 2006;9:232.
 44. Laitinen A, Sainio P, Koskinen S, Rudanko S, Laatikainen L, Aromaa A: Visual impairment multiplies functional and mobility limitations [abstract]. In: Abstracts, 18th Nordic Congress of Gerontology. Jyväskylä: 2006:28-29.
 45. Lehto U, Ojanen M, Dyba T, Aromaa A, Lehtinen PK: Baseline psychosocial predictors of survival in localized cancer [abstract]. In: Ninth International Congress of Behavioral Medicine. 2006. (*International journal of behavioral medicine* Vol 13/2006).
 46. Lindfors O, Knekt P, Kaipainen M, Renlund C, Helsinki Psychotherapy Study Group: Quality control of interview assessments in the Helsinki Psychotherapy Study (HPS) [abstract]. In: *Abstraktit, Psykoterapiatutkimuksen päivät*. Jyväskylän yliopisto, 2006.
 47. Lindfors O, Knekt P, Mikkola M: Changes in self-concept following solution-focused therapy and short-term and long-term psychodynamic psychotherapy in a 3-year follow-up [abstract]. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:23.
 48. Lindfors O, Knekt P, Mikkola M, Helsinki Psychotherapy Study Group: Effectiveness of solution-focused therapy and short-term psychodynamic psychotherapy on self-concept improvement in a 3-year study group. In: Book of Abstracts, Society for Psychotherapy Research, 37th International Meeting. 2006:161.
 49. Luoto R, Laine M, Martelin T, Roine R, Koskinen S, Aromaa A: Health and need for care: future outlook. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. Vammala: KTL, Stakes, STM, 2006:165-166.
 50. McNamara K, Heistaro , Kilkkinen A, Janus E, Tideman P, Baird , Laatikainen T, Dunbar J: A population-based approach to optimising antihypertensive use [abstract]. In: GP&PHC Research Conference. 2006.
 51. Maljanen T, Paltta P, Härkänen T, Virtala E, Lindfors O, Knekt P, The Helsinki Psychotherapy Study Group: Cost-effectiveness of solution-focused therapy compared with short-term psychodynamic psychotherapy in the treatment of depressive and anxiety disorders [abstract]. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:24.
 52. Martelin T, Koskinen S, Lahelma E: Health disparities between population groups. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. Vammala: KTL, Stakes, STM, 2006:102-105.
 53. Martelin T, Koskinen S, Valkonen T: Mortality. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. Vammala: KTL, Stakes, STM, 2006:48-51.
 54. Martelin T, Sainio P, Koskinen S, Gould R: Työkyky koulutusryhmissä. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:71-74.
 55. Martelin T, Sainio P, Koskinen S, Gould R: Työkyvyn vaihtelu pääasiallisen toiminnan ja ammattiaseman mukaan. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen E ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:75-81.
 56. Martelin T, Sainio S, Koskinen S, Gould R: Työkyky eri asuinalueilla ja kieliryhmissä. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. *Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia*. Helsinki: ETK, Kela, KTL, TTL, 2006:64-70.
 57. Mikkola M, Knekt P, Lindfors O, Helsinki Psychotherapy Study Group: Effectiveness of short- and long-term psychodynamic psychotherapy on interpersonal problems in a 3-year follow-up [abstract]. In: Book of Abstracts, Society for Psychotherapy Research, 37th International Meeting. 2006:217.
 58. Mikkola M, Knekt P, Lindfors O: Effectiveness of solution-focused therapy, and short- and long-term psychodynamic psychotherapy on interpersonal problems in a 3-year follow-up. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:131.
 59. Mikkola M, Knekt P, Marttunen M, Lindfors O, The Helsinki Psychotherapy Study Group: Predictors of remission from depression after short-term psychodynamic psychotherapy and solution-focused therapy during a 1-year follow-up [abstract]. In: *Abstraktit, Psykoterapiatutkimuksen päivät*. Jyväskylän yliopisto, 2006.
 60. Montonen J, Reunanen A, Järvinen R, Knekt P: Fructose intake and the risk of type 2 diabetes [abstract]. *PRZEGLEK* 2006;63(Suppl 4):41.
 61. Nieminen M, Koskinen S: Population. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. *Health in Finland*. Vammala: KTL, Stakes, STM, 2006:19-21.
 62. Nieminen T: Social capital and health in Finland. Social capital and health as an object of research. In: Iisakka L ed. *Social Capital in Finland - Statistical Review*. Helsinki: Statistics Finland, 2006:57-61. (Living conditions).

63. Nieminen T: Sosiaalinen pääoma ja terveys Suomessa. Sosiaalinen pääoma ja terveys tutkimuskohteena. In: Iisakka L ed. Sosiaalinen pääoma Suomessa - Tilastokatsaus. Helsinki: Tilastokeskus, 2006:55-59. (Elinolot).
64. Paronen O, Fogelholm M, Luoto R: Tampereläisen aikuisväestön terveys ja hyvinvointi 2005. Tampere: Sosiaali- ja terveystoimi, UKK-instituutti, 2006. (Tampereen kaupungin sosiaali- ja terveystoimen julkaisuja 1/2006/2006).
65. Paturi M, Nieminen R, Reinivuo H, Ovaskainen ML: Ruokien annoskuvakirja. Helsinki: Kansanterveyslaitos, 2006. 95 p. (Kansanterveyslaitoksen julkaisuja B 11/2006).
66. Pelkonen R, Alftan G, Järvinen O: Trace elements in edible wild mushrooms. Helsinki: Environmental Institute of Finland, 2006. (Report series of Environmental Institute of Finland 17/2006).
67. Reunanen A: Circulatory diseases. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. KTL, Stakes, STM, 2006:60-63.
68. Reunanen A: Diabetes. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. KTL, Stakes, STM, 2006:84-85.
69. Ruulio N, Lindfors O, Knekt P, The Helsinki Psychotherapy Study Group: The validity and reliability of the level of personality organization assessment scale [abstract]. In: Abstracts, The 28th Nordic Congress of Psychiatry. 2006:132.
70. Sainio P, Koskinen S, Martelin T, Gould R: Toimintakyky. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. Työkyvyn ulottuvuudet. Terveys 2000 –tutkimuksen tuloksia. Helsinki: Eläketurvakeskus, Kansaneläkelaitos, Kansanterveyslaitos, Työterveyslaitos, 2006.
71. Sainio P, Koskinen S, Martelin T, Gould R: Toimintakyky. In: Gould R, Ilmarinen J, Järvisalo J, Koskinen S ed. Työkyvyn ulottuvuudet. Terveys 2000 -tutkimuksen tuloksia. Helsinki: ETK, Kela, KTL, TTL, 2006:135-150.
72. Sainio P, Martelin T, Koskinen S, Heliövaara M: Educational differences in mobility. The contribution of physical work load, health behaviour and chronic conditions [abstract]. In: Abstracts, Innovations for an aging society. 29th Nordic Congress of Gerontology. 2006:83.
73. Salminen JK: Psykodynaamisen lyhytpsykoterapian vaikuttavuus depressiossa. In: Psykoterapia. Konsensuskokous 2006. Helsinki: Duodecim, 2006:59-64.
74. Sihvonen A, Hakulinen K, Natunen S, Koponen P, Aromaa A: Availability and comparability of information for ECHI indicators in European Health Surveys. In: International epidemiological Association, European congress of Epidemiology. 2006.
75. Suominen-Taipale L, Nordblad A, Vehkalahti M, Arinen S: Hammashoitopalvelut. In: Häkkinen U, Alha P ed. Terveyspalvelujen käyttö ja sen väestöryhmittäiset erot. Terveys 2000 –tutkimus. Helsinki: Kansanterveyslaitos, 2006:55-67. (Kansanterveyslaitoksen julkaisuja B 10/2006).
76. Tamminen-Peter L, Stenholm S, Hantikainen V, Arve S: An ergonomic evaluation of three transfer methods. In: Proceedings IEA 2006 Congress CD-rom., The 16th World Congress of the IEA. 2006.
77. Tamminen-Peter L, Stenholm S, Hantikainen V, Arve S: An ergonomic Comparison of Patient Transfer Methods. In: Proceedings of NES 2006, The 38 th annual congress NES. 2006:144-147.
78. Valkonen J, Lindfors O, Helsingin psykoterapiaprojektin tutkijaryhmä: Psykoterapia, masennus ja tarinat. Laadullinen tutkimus psykoterapian vaikutuksista masennukseen. In: Abstraktit, Psykoterapiatutkimuksen päivät. Jyväskylän yliopisto: 2006.
79. Vaughan C, Heistaro S, Kilkkinen A, Laatikainen T, Dunbar J: Food & Move - a secondary school based intervention project promoting healthy eating and participation in regular physical activity [abstract]. In: Rural health 2006 Conference. 2006.
80. Vitikainen K, Pekurinen M, Kiiskinen U, Mikkola H: Kannattaako tupakoinnin lopettaminen? Tupakoinnista aiheutuvien elinlääkärin hoitokustannusten ja tupakoinnin lopettamisesta syntyvien säästöjen arviointia. Helsinki: Stakes, 2006. 42 p. (Raportteja 1/2006).
81. Vitikainen K, Pekurinen M, Kiiskinen U, Mikkola H: Onko tupakoinnin lopettaminen taloudellisesti kannattavaa. In: Klavus J ed. Terveystaloustiede 2006. Helsinki: Stakes, 2006:30-36. (Työpapereita 2/2006).
82. Widström E, Suominen-Taipale L: Oral diseases. In: Koskinen S, Aromaa A, Huttunen J, Teperi J ed. Health in Finland. Helsinki: National Public Health Institute, Stakes and Ministry of Social Affairs and Health, 2006:90-91.
83. Winell K, Reunanen A: Diabetesparometri 2005. Tampere: Suomen Diabetesliitto ry, 2006. 52 p.

D. Other publications

1. Antila P, Knekt P: Paranemisen pitkä tie. 2006. (Suomen Kuvalehti hro 7 ss. 40 -45).
2. Arola H, Knekt P, Laaksonen M: Psykoterapiaprojekt slâ hâl pâ myter. Kelan Sanomat 2006(2):21.
3. Aromaa H, Knekt P, Laaksonen M: Helsingin Psykoterapiaprojekti rikkoo myyttejä terapeioista. Kelan Sanomat 2006(2):3-4.
4. Hannula L, Leino-Kilpi H, Puukka P: Imetyksen ja imetysohjauksen toteutuminen sairaalassa. 2006. (Tutkiva hoitotyö Vol 4 Nro 4 2006).

5. Hyyppä MT: Me-henki pitää pinnalla. 2006. (Vesiposti. Päihdejärjestöjen jäsenlehti 1/2006).
6. Hyyppä MT: Tavataan kirjastossa. Se on terveellinen paikka. Kirjastolehti 2006(1):7-8.
7. Karppi SL, Vaara M: Hyvät mittauskäytännöt. Fysioterapia 2006(6):20-22.
8. Könönen E, Pussinen P, Paju S, Hyvönen M, Suominen-Taipale AL, Knuutila M: A population-based study on periodontal pathogens in adults [poster]. In: <http://www.dentalresearch.org>, IADR/AADR/CADR 85th General Session and Exhibition. 2006.
9. Luoto R: Diabetes, raskaus ja epämuodostumat. Duodecim 2006;122:2315.
10. Luoto R: Sydäntautien riskitekijät ja vaihdevuodet: muna vai kana -ongelma. Duodecim 2006;122:1861.
11. Luoto R: Teenjuojilla vähemmän munasarjasyöpää. Duodecim 2006;122:275.
12. Luoto R: Uutta tietoa näisten syöpien ehkäisystä. 2006. (UKK sähköutiset, helmikuu 2006).
13. Luoto R: Voimaharjoittelulla laatua rintasyöpäpotilaiden elämään. Duodecim 2006;122:1147.
14. Paronen O, Fogelholm M, Luoto R: tamperelaisen aikuisväestön terveys ja hyvinvointi 2005. 2006. (UKK sähköutiset, maaliskuu 2006).
15. Riikola T, Knekt P, Leiman M: Konsensuskokous: psykoterapian vaikuttavuuden tutkimusta tarvitaan lisää. Suom Lääkäril 2006;42:4310-4311.
16. Suominen-Taipale AL, Kiiskinen U, Tyyni U, Aromaa A: Condition of teeth in relation to use of dental care [poster]. In: <http://www.dentalresearch.org>, IADR Pan European Federation 2006. 2006.
17. Sykäri S, Knekt P: Lyhytterapiasta hyötyy noin puolet asiakkaista, ja hyöty näyttää pysyvältä. 2006. (Käsikädessä-lehti).
18. Söderholm A, Suominen-Taipale L: Oral mucosal health in adult Finns. Health 2000 Health Examination Survey in Finland [abstract]. J CRANIOMAXILLOFAC SURG 2006;34(Suppl 1):128-129.
19. Ylöstalo P, Suominen-Taipale AL, Reunanen A, Knuutila M: Body mass index is associated with the extent of periodontitis [poster]. In: <http://www.dentalresearch.org>, IADR Pan European Federation 2006. 2006.

E. Theses

1. Ehrling L. Psykoterapian vaikutusten arvioiminen. Keskusteluanalyttinen tutkimus arviointihaastattelun käytänteistä. [dissertation]. (Evaluation of the effectiveness of psychotherapy) 2006. 280 p. (Sosiaalipoliittisia tutkimuksia 3).
2. Ivori K. Principal Component Analysis (PCA), Factor Analysis and Independent Component Analysis (ICA) in the analysis of nutritional data. [pro gradu]. Tampere: University of Tampere, 2006.
3. Röberg M: Tasa-arvoisuus fysioterapian käytössä ja fysioterapian tarpeeseen vastaamisessa : Terveys 2000 -tutkimuksen fysioterapiaa käsitteleviä raportteja [kandidaatin tutkielma]. 2006.
4. Seppänen E: Kehon koostumus suomalaisilla aikuisilla 2000-luvun alussa (Body composition of adults) [pro gradu]. Helsinki: Helsingin yliopisto, 2006. 95 p.
5. Sääksjärvi K: Kahvin yhteys Parkinsonin taudin ilmaantuvuuteen ja kahvin kulutuksen mittaaminen (Coffee consumption and Parkinson's disease) [pro gradu]. Helsinki: Helsingin yliopisto, 2006. 110 p.

Appendix 3. Resources

Department of Health and Functional Capacity's (TTO) funding in the last 5 years						
Unit	Year					
	2002	2003	2004	2005	2006	Total
3080, Department's shared (TTOY)						
KTL's funding / budget funds	79 517	86 492	124 964	192 495	223 661	707 129
The Academy of Finland	7 964	18 935	33 852	20 961	29 817	111 529
EU funding	0	0	16 330	25 697	1 895	43 922
Other funding	0	0	0	1 250	724	1 974
TOTAL	87 481	105 427	175 146	240 403	256 097	864 554
3081, Public Health Research Unit (KTY)						
KTL's funding / budget funds	727 265	603 821	816 208	845 009	837 882	3 830 185
The Academy of Finland	72 512	57 888	116 106	212 843	221 014	680 363
EU funding	98 584	32 733	0	90 488	236 377	458 182
Other funding	391 575	519 286	555 032	449 387	651 746	2 567 026
TOTAL	1 289 936	1 213 728	1 487 346	1 597 727	1 947 019	7 535 756
3082, Immunobiology laboratory						
KTL's funding / budget funds	192 989	229 909	349 318	69	0	772 285
The Academy of Finland	36 040	45 000	76 575	0	0	157 615
Other funding	6 646	14 348	201	0	0	21 195
TOTAL	235 675	289 257	426 094	69	0	951 095
3083, Analytical Biochemistry Laboratory (ABIL)						
KTL's funding / budget funds	322 179	301 564	401 317	466 655	416 256	1 907 971
Other funding	65 979	49 940	27 967	73 610	86 777	304 273
TOTAL	388 158	351 504	429 284	540 265	503 033	2 212 244
3084, Biomarker Laboratory (MALA)						
KTL's funding / budget funds	247 101	186 531	203 791	307 736	207 572	1 152 731
The Academy of Finland	0	0	38 043	37 170	44 787	120 000
Other funding	13 140	45 152	35 012	53 683	97 384	244 371
TOTAL	260 241	231 683	276 846	398 589	349 743	1 517 102
3085, Population Research Laboratory (VTL)						
KTL's funding / budget funds	0	0	1 766 918	1 997 765	1 867 523	5 632 206
Other funding	0	0	0	40 325	59 348	99 673
TOTAL	0	0	1 766 918	2 038 090	1 926 871	5 731 879
DEPARTMENT'S TOTAL	2 261 491	2 191 599	4 561 634	4 815 143	4 982 763	18 812 630