Responding to Public Health Challenges

Academy of Finland Research Programme SALVE 2009–2012
Public health challenges

In most developed countries, the most common causes of death include cardiovascular diseases (including stroke) and cancer, in addition to external causes and pulmonary diseases. Alcohol-related diseases are major killers in working age population. Psychiatric, neurological and musculoskeletal disorders and diabetes constitute a major disease burden, in terms of disability and health services use. Health service expenditure is growing rapidly in many developed countries. The reasons for this include population ageing, which increases the need for health services, and the introduction of new, expensive pharmaceuticals and treatment methods.

Many of the diseases causing the greatest disease burden share common risk factors that can be influenced. There may also be hereditary risk factors that are significant for the overall risk. The major risk factors affecting public health include tobacco and alcohol, inappropriate diets, and insufficient physical activity. These lifestyle factors result in physiological changes such as obesity, hypertension and type-2 diabetes. These risk factors, for instance intoxicant abuse and unhealthy diets, are influenced by individual choice, access and availability of these factors in our surroundings, as well as by political decisions and economic structures.

Responding to public health challenges requires knowledge about the major causes of diseases and the effectiveness of the interventions aimed at decreasing the disease burden. Combining scientific excellence and applicability of the research results calls for a multidisciplinary approach that covers both the impact of etiologic factors and the evaluation of public health measures to be applied. There are excellent possibilities in Finland to anticipate and counteract major challenges to public health. Finland’s high-quality healthcare system, unique healthcare registers and population databases are major assets that have helped Finnish
The goal of the SALVE programme is to provide applicable knowledge for preventative public health work and reducing the impact of diseases. It is an aim of the programme to identify key public health challenges and to offer solutions for them. As a consequence, the programme places emphasis on applying research to create instruments for early intervention in lifestyle choices before the onset of disease hazards, rather than applying a disease-centred approach. The programme is divided into four thematic areas:

- Health-protecting and health-promoting factors
- Life-course approaches and critical periods of life
- Health inequalities and clustering of ill health
- Predicting future health
**Aims of the SALVE programme**

The strategic aims of the programme are:

- to enable planning, development and implementation of new procedures and policies
- to improve public health;
- to support evaluation of existing interventions and approaches in healthcare and policy;
- to open new opportunities for health promotion;
- to establish new collaborative networks across disciplinary boundaries;
- to disseminate information on research results and to meet the information needs of society on major public health issues and health promoting activities;
- to create new knowledge aiming at significant public health impacts, in addition to scientific impacts; and

- to support researcher training, and in particular to provide opportunities for postdoctoral researchers.

The specific objectives are:

- to strengthen the knowledge base concerning the hereditary, social and environmental determinants of health;
- to clarify the role of different life-course stages and events for adult health;
- to better understand the development of health inequalities; and
- to provide new approaches for predicting future development of public health.

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*Layout: Sole Lätti*

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PROJECTS TO BE FUNDED

The health effects of a diet rich in plant-based foods and fish. Focus on Nordic food

Erlund Iris, National Institute for Health and Welfare
Blomhoff Rune, University of Oslo

Finnish Geriatric Intervention Study to prevent cognitive impairment and disability

Kivipelto Miia, National Institute for Health and Welfare
Laatikainen Tiina, National Institute for Health and Welfare
Rauramaa Rainer, Kuopio Research Institute of Exercise Medicine
Soininen Hilkka, University of Kuopio
Strandberg Timo, University of Oulu
Suikava Raimo, University of Kuopio
Tuomilehto Jaakko, University of Helsinki
Hachinski Vladimir, University of Western Ontario

Life-course Determinants of Mental Health, Marginalization and Social Coping - Interdisciplinary Perspectives of Risk and Protective Factors in Five Birth Cohorts

Gissler Mika, National Institute for Health and Welfare
Eriksson Johan, National Institute for Health and Welfare
Solantaus Tytti, National Institute for Health and Welfare
Taanila Anja, University of Oulu

Developmental origins of Health and Disease

Eriksson Johan, National Institute for Health and Welfare
Kajantie Eero, National Institute for Health and Welfare
Räikkönen-Talvitie Katri, University of Helsinki
Widen Elisabeth, University of Helsinki

Climate change, air quality and housing - future challenges to public health

Pekkanen Juha, National Institute for Health and Welfare
Jaakkola Jouni, University of Oulu
Kukkonen Jaakko, Finnish Meteorological Institute
Tuomisto Jouni, National Institute for Health and Welfare

Musculoskeletal disorders in a life-course approach: Effects of work exposures, lifestyle, and genetic factors

Viikari-Juntura Eira, Finnish Institute of Occupational Health
Karpinen Jaro, University of Oulu
Lehtimäki Terho, Tampere University Hospital
Pihlajamäki Harri, Aeromedical Centre
Raitakari Olli, Turku University Hospital

Multidisciplinary approach for the assessment of gene-environment interactions contributing to the allergy epidemic

Hyötö Heikki, University of Tampere
Kere Juha, University of Helsinki
Knip Mikael, University of Helsinki
Lahesmaa Riitta, University of Turku
Virtanen Suvi, University of Tampere

Health trajectories from midlife to post-retirement: An international multi-centre study

Lahelma Eero, University of Helsinki
Martikainen Pekka, University of Helsinki
Vahtera Jussi, Finnish Institute of Occupational Health

Improved methods of lifestyle modification for patients at high risk for metabolic syndrome

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Ala-Korpela Mika, Helsinki University of Technology
Herzig Karl-Heinz, University of Oulu
Huotari Maija-Leena, University of Oulu
Laatikainen Jaana, Finnish Institute of Occupational Health
Schwab Ursula, University of Kuopio
Järvelin Marjo-Riitta, Imperial College London

Putting Public Health Genomics to practice in Cardiovascular diseases - making sense and use of random associations in the “grey area” of genomewide association studies

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Nieminen Markku, Helsinki University Central Hospital
Salomaa Veikko, National Institute for Health and Welfare
Vehktari Aki, Helsinki University of Technology
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