National Public Health Institute, Finland

From Local to Global Concerns

Annual Report 2005

From Local to Global Concerns

> Making the healthiest choice the easy one should be our common goal.

In 2005 global issues dominated the activities of KTL. Answering the call of the WHO, preparations for pandemic influenza were made a high priority. Several of KTL's experts served in the Working Group on National Pandemic Preparedness. The institute's own pandemic preparedness group that has monitored the spread of avian influenza and prepared for a pandemic for more than ten years was not caught off guard.

KTL's role in global health promotion became stronger with the founding of the International Association of National Public Health Institutes. Through the expert activities of IANPHI we hope to help developing countries that now struggle under a dual burden of disease. Still afflicted by infectious diseases, they now have to find ways also to prevent the imminent epidemic of chronic diseases. We are motivated to export our experience in reducing mortality from cardiovascular diseases by lifestyle interventions.

Health has become one of the most important values in the lives of the people. Health is also an issue that is not controlled only by the health care sector or by the individual. In 2005, KTL experts were invited to prepare material for the health theme of Finland's EU Presidency in 2006. This theme, Health in All Policies, reminds us that many determinants of health fall to the sphere of other sectors. Solutions to problems such as overweight and substance abuse must be sought for in cooperation with all involved sectors of government. Making the healthiest choice the easy one should be our common goal.

KTL's other activities have also been focused more clearly on health promotion and prevention of diseases. A new law on public health passed in early 2006 gave KTL a clear task to support the health promotion and disease prevention work of local municipalities. Acting both as an advisory to and partner of municipalities that shoulder responsibility of the health of Finns, KTL looks for new ways to fulfill this statutory requirement.

Promoting the health of children and adolescents has become a new priority for KTL. Health-related behaviours are adopted at an early age, and we need to find more efficient ways to protect our children. Some unfavourable trends in the health of children and adolescents call for attention. KTL hopes to strengthen the national child and school health care system through the new department focusing on children and adolescents due to start its work in 2007.

This Annual Report 2005 aims at giving the international audience some highlights of KTL's work and major achievements. Further information is available on our website www.ktl.fi and in our numerous publications.

I want to express the institute's deep gratitude to its many partners for good collaboration. I am also grateful for the high level of work and commitment of the personnel at KTL.

Helsinki May 2006

Pekka Puska, Professor
Director General

Tasks and Responsibilities

The mission of the National Public Health Institute (KTL) is to protect and promote the health of the Finnish people. As a research and expert institute belonging to the administrative branch of the Ministry of Social Affairs and Health, KTL is responsible for providing decision-makers, professionals and citizens with the best possible health-related information for their choices.

KTL monitors public health, diseases and their determinants through surveys and registers. National vaccine service, many centralized laboratory functions, and forensic medicine investigations are some of KTL's service functions.

KTL maintains registers and databases on health determinants. Research and expert information is transferred into action by developing health-promoting and preventive measures and by advising and collaborating with various stakeholders.

In 2005, a new law on public health was passed. It emphasizes the institute's role as a national expert agency that promotes public health in the municipalities and local health services. This greatly strengthens KTL's possibilities to fulfill its responsibilities.

In 2005, the research programmes of KTL were successfully carried out. The different areas of KTL are well represented in the 873 research reports that were published during the year. Much of the information from this research was in many ways implemented in public health.

The state of the well-established national child and school health care has been the subject of growing public concern. To address this challenge KTL finalized in 2005 plans to restructure its units in Oulu into a new department focusing on child and adolescent health. This reform will come into effect in 2007.

KTL develops efficient ways to communicate current research results, preventive measures and actions to various target groups. The enhanced communication builds on the institute's website, the KTL journal addressed to health care professionals, and daily information services.

The successful work performance of the institute rests on everyday quality work. In 2005 KTL underlined good implementation of Guidelines for Good Research Practice in our in-house training, with special emphasis on ethical questions.

Improved health and functional capacity, better quality of life and increased life expectancy of the Finnish people are the aim of KTL's activies.

Global Responsibility

Global collaboration is essential in the prevention of infectious diseases.

In 2005, the World Health Organization urged the global community to respond to the spread of avian influenza and to prepare for an influenza pandemic. This universal health threat served to remind us that public health is always a global issue. No country is separate from others, and responsibility for the health of any nation requires international cooperation. Strong national public health institutes are recognized by WHO as an integral part of global health care, prevention of both infectious and chronic diseases and health promotion.

An active international collaborator in the field of research and expertise, KTL is a widely known, high quality health research institute. In 2005, KTL had close international contacts with several organizations and countries particularly with the neighbouring countries, EU countries, USA and also with several scholarly societies, the WHO and the European Commission.

The role of KTL in the ECDC

Since the beginning of the activities of the European Centre for Disease Control (ECDC) in 2005, KTL has contributed actively to its development and collaborated in the rapidly evolving range of its activities. Several KTL experts participate in the regularly convening Advisory Forum and regular or ad hoc working groups to support the development of the working processes of ECDC, which functions initially solely in the domain of infectious diseases.

A KTL-led international expert group developed a tool for the evaluation of the Disease Specific Surveillance systems (DSNs). This tool is currently being adapted for evaluation of all EU DSNs, which work will serve as a basis for future strategic decisions on infectious disease surveillance.

Health in all policies

Intensive collaboration with the European Union has continued also in other fields. KTL has had a pivotal role in preparing the health policy issues of Finland's EU Presidency on the latter half of the year 2006. The health theme of the Presidency "Health in All Policies", HIAP, reminds us that many determinants of health that can be influenced to improve the health of the people are controlled by policies of sectors other than health. The aim of HIAP is to address policies at all levels of governance from the European level to local policies. This focus extends beyond individual factors and lifestyles to addressing how these are influenced by public policies.

EU-funded research

KTL has been active in EU research projects especially in the fields of environmental health, epidemiology and genetics. Among the biggest projects are those coordinated by KTL to develop and standardize health indicators in Europe and to develop criteria for a European health examination survey.

International programmes

Our expertise has been in demand also outside the EU; scientists from around the world participate on our international visitors' weeks to learn about the prevention of chronic diseases.

CINDI Winter School offers an intensive, high-level training seminar to professionals involved in the planning, implementation or evaluation of programmes for health promotion and non-communicable disease prevention. CINDI is a WHO coordinated Countrywide Integrated Noncommunicable Diseases Intervention activity.

All experts interested in the results of the internationally known North Karelia Project are welcome to the annual North Karelia Project Visitors' Week held in September. The week offers a chance to become familiar with the theoretical and practical strategies of community-based and national programmes for disease prevention and health promotion.

Building a network of public health institutes

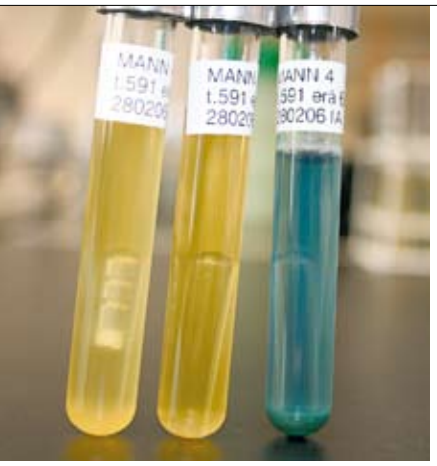
KTL has worked together with other institutes for years to build a global network of national public health institutes. In January 2006 these efforts resulted in the founding of the International Association of National Public Health Institutes (IANPHI). The aim of this new organization is to strengthen cooperation between public health institutes and support them in their tasks. The association forms a network of public health experts that covers all main fields of public health including infectious and chronic diseases and environmental health.

IANPHI helps in the founding of new institutes, especially in developing countries. The association receives funding from the Rockefeller and Bill and Melinda Gates foundations. The director general of KTL, Professor Pekka Puska serves as the Vice President of IANPHI and the secretariat of the association is located at KTL.

PS

Many developing countries suffer from the dual burden of both infectious and chronic diseases. IANPHI helps to spread information on effective methods of disease prevention and treatment.

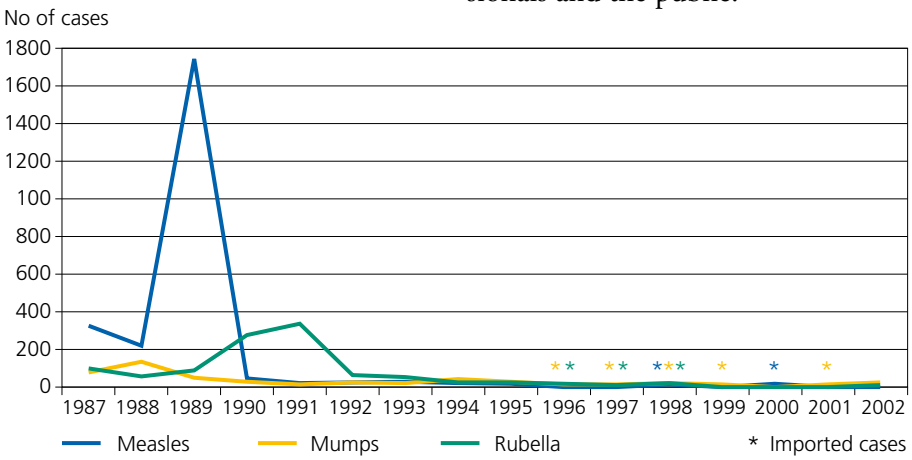
Infectious Diseases and Immunizations



Avian influenza and threat of influenza pandemic

The spread of avian influenza from Asia to South-East Europe and the finding that migratory birds also spread the disease caused increasing alarm and made the need to prepare for human influenza pandemic more urgent. A Working Group on National Pandemic Preparedness was set up in April of 2005 by the Ministry of Social Affairs and Health to draw up a national pandemic preparedness plan, to establish guidelines for health care preparedness action and to ensure effective collaboration between different administrative sectors. KTL experts serving in the working group made a major contribution to the preparedness plan published in March 2006.

Preparing for an influenza pandemic elicited the need to inform the public rapidly and reliably. KTL experts gave numerous interviews to all forms of the media. KTL web pages offered extensive coverage of bird influenza and preparedness for influenza pandemic to both health care professionals and the public.



Laboratory confirmed cases of measles, mumps and rubella in Finland 1987–2002. MMR vaccinations started in 1982.

Nosocomial infections

Surveillance and prevention of epidemics of methicillin-resistant Staphylococcus aureus continued to be a high priority in 2005. A special budget allocated in 2004 to KTL was used to improve diagnostics and enhance prevention nationwide. To help this change, KTL trained the staff of clinical microbiology laboratories in the diagnostics of MRSA. At the beginning of 2006 health care districts became responsible for MRSA verification testing while molecular typing remains at KTL.

KTL carried out a hospital infection prevalence study on acute wards for adult patients covering all types of infections. The detected 9% prevalence of hospital infections is similar to that observed in other European countries. Surgical wound and urinary tract infections were the most common hospital infections.

Vaccination programme

The general vaccination programme was renewed at the beginning of the year 2005. The changes included the switch from whole-cell pertussis vaccine to acellular pertussis vaccine and introduction of a new combination vaccine giving protection against diphtheria, tetanus, whooping cough, polio and serious infections caused by the Hib bacteria. With this new vaccine, the number of shots received during the first two years of life was reduced from 12 to 5. Altogether, the national programme provides protection against nine diseases.

KTL evaluated the general vaccination programme and gave its expert recommendations on the changed needed before the Ministry of Social

Affairs and Health made the final decision on the reform. To promote implementation of the new programme, KTL provided information, training and counselling for health care workers both before and after the reform. All guidelines and training materials were published on the KTL web.

A study on the vaccination coverage of children born in 2001 showed that 94.6% of the studied 1000 children had received all the vaccinations of the programme by the age of 2–3 years. The corresponding percentage for children born in 1999 was 93.3.

At the end of the year Finland had been free of domestic cases of MMR diseases (measles, mumps, rubella) for a full ten years as the first nation in the world. WHO works in close cooperation with KTL to monitor the efficacy of the Finnish vaccination programme.

To improve influenza vaccination coverage in the elderly population KTL produced campaign material for health care centres and made it easily available on the web. KTL also planned a 5-year campaign to vaccinate the population of the Aland Islands against tick-borne encephalitis.

Surveillance of infectious diseases

Since 1994 KTL has maintained a national infectious diseases register mandated by the communicable disease law. Laboratories notify annually some 50 000 findings of disease-causing microbes to the register, and physicians make notifications in approximately 30 different diseases. Weekly updated statistics on laboratory findings are published on the web. A 10-year report on infectious diseases was published in 2005 also in English. The report contains expert commentaries on trends in infectious diseases and major outbreaks.

In search for disease mechanisms

Research in the field of infectious diseases at KTL focuses on the complex interaction of microbes and man as well as on the role of genetic factors, host defence mechanisms and external factors in the aetiology of acute infections and some common chronic diseases.

This year a KTL research group was able to show that the VAP-1 cell surface protein, newly discovered by the same group, mediates leukocyte traffic to the site of infection. Studies with knockout mice showed that blocking the action of VAP-1 could be an effective way to control inappropriate inflammation in the body.

International cooperation near and far

In addition to its role in the ECDC (see page 6) KTL works closely with the WHO on a number of issues, for example by supporting the eradication of polio from the world. As part of our neighbourhood cooperation to prevent the spread of multidrug-resistant tuberculosis in Russia, KTL started genotyping of MDR-TB strains. KTL has promoted low-threshold needle exchange services in the Baltic States and Russia to control a serious HIV epidemic among injecting drug users. This policy previously helped to control effectively an emerging outbreak in Finland.

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Vaccines and antivirals are essential in protecting the people from pandemic influenza. Good coughing and hand hygiene help to prevent the transmission of all respiratory infections.

Chronic Disease Prevention and Health Promotion

Research on chronic conditions at KTL focuses on cardiovascular diseases, diabetes, asthma and allergies, cancer, musculoskeletal diseases, mental disorders and substance abuse as well as functional limitations. The prevention of home and leisure time accidents is a new field of investigation for KTL.

Health and functional capacity of the people

The health of the Finnish people continues to improve steadily and the added life years are years of activity and good functional capacity. In part, improved functional capacity has been shown to be due to the reduction of cardiovascular diseases. These observations have also led to a re-evaluation of gloomy predictions: the increase in the need for care among the ageing population may be smaller than anticipated.

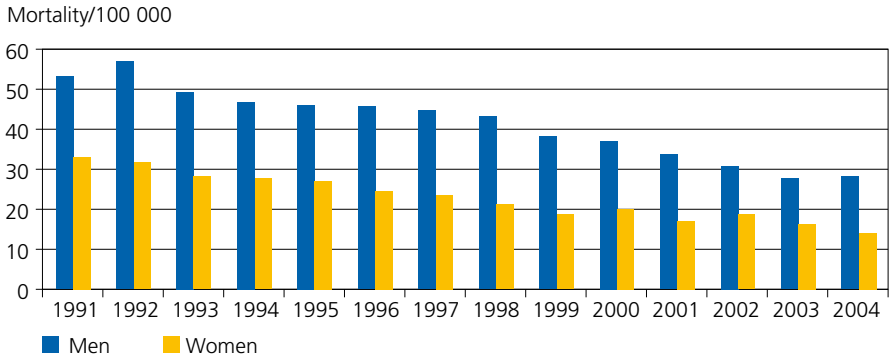
Health promotion has become an increasingly important part of KTL's activities. Preventing non-communicable diseases requires thorough understanding of the ways to influence people's behaviour and health-related choices. KTL's surveys show that the majority of people are in favour of smoke-free restaurants and bars. A reduction has been seen in the prevalence of smoking among adult men and the young, but not among women.

Favourable trends are, however, not seen to the same extent in all population groups. The health of the least educated groups has not improved, and in some aspects it has even deteriorated. Differences in smoking habits have increased between population groups and many unhealthy lifestyle factors prevail among those with the lowest education. Addressing socioeconomic differences in health and its determinants was made a high priority at KTL in 2005 and continues to be the subject of intense work.

A large population study showed that the prevalence of type 2 diabetes in the adult population is twice as common as had been previously known. This development is mainly explained by the increasing prevalence of obesity.

Although the health of young adults is generally very good, research shows that allergy affects every fourth young adult and 40% have problems with oral health. Comparison of allergies in Finland and Russia gave interesting results: increase in atopy seems to be closely related to improved living standards and changes in the environment.

Depression, anxiety disorders and substance abuse, mainly alcohol de-



Mortality from ischaemic stroke (ICD-10 codes I63, I64) for age group 35–74 years.

pendence, together affect some 12% of the population. The lifetime prevalence of psychoses is around 3%. Every seventh person suffers from a clinically significant mental disorder as shown by an extensive survey published by KTL in 2005.

Population studies: a KTL brand

Large, regularly conducted population studies are a hallmark of research at KTL. These studies produce reliable information on health and help to direct the actions of policy makers. The massive Health 2000 Survey with a nationally representative sample of 7 500 persons gives an up-to-date picture of the nation's health. A subset of results on the health of young adults was published in 2005.

Questionnaire surveys on the health behaviour and health of adult and elderly populations that are conducted annually and biannually give valuable information on the effects of health policy on people's health-related behaviours. The National FINRISK Study is carried out every five years to monitor chronic disease risk factors, health behaviour and diet of the population.

Expertise on population studies and lifestyle interventions is in demand internationally. Researchers from around the world attend KTL visitors' weeks to learn how the North Karelia Project reduced cardiovascular mortality or to attend the WHO CINDI Winter School on preventing major non-communicable diseases and promoting health. KTL experts on population studies also coordinate large EU projects that aim to implement health indicators across EU (ECHIM) and to evaluate the feasibility of a European Health Examination Survey (FEHES).

Genetics of chronic diseases

The focus of genetic research has been on cardiovascular and neuropsychiatric disorders and on the rare but genetically important diseases of Finnish heritage. KTL coordinates a large European twin study, GenomEUtwin, that aims to elucidate the interaction of lifestyle, environmental risks and hereditary predisposition in the aetiology of common diseases such as coronary artery disease and metabolic syndrome.

KTL researchers co-ordinate Centre of Excellence in Complex Disease Genetics of the Academy of Finland as well as the Nordic Centre of Excellence.

The year 2005 brought many discoveries: using both family samples and population cohorts of KTL, our investigators identified genes predisposing to neuropsychiatric disorders such as multiple sclerosis and schizophrenia. Three new genes associated with overweight and dyslipidaemias in the Finnish population were also uncovered and one of them proved to predispose women to coronary events in the FINRISK cohort. The genetic background of alcohol dependence has been the subject of several studies, and international collaboration to elucidate the role of genetics in nicotine dependence was continued. In 2005 KTL joined two major EU financed research collaboration projects titled "Genetics of healthy ageing" and "Neuropromise".

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Physical activity counteracts the risks of cardiovascular disease efficiently. Research shows that also overweight persons benefit from physical activity.

Environmental Health

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Man must be able to breathe, drink, eat and live trusting on the safety of the environment.

KTL has focused its research on environmental health more clearly on issues that have been recognized internationally as main topics in this field. Specific topics include risk assessment, exposure to environmental toxins, mechanisms of dioxin toxicity, effects of indoor microbes on health and their diseases-causing mechanisms, exposure to ambient air pollution and effects of drinking water impurities

Our knowledge on the effects of ambient air pollution on cardiovascular and respiratory disease prevalence and mortality has become more precise. KTL has assessed the health effects of fine particles from different sources and analyzed the sources of ambient air pollution in the capital city region.

Experts on mouldy buildings

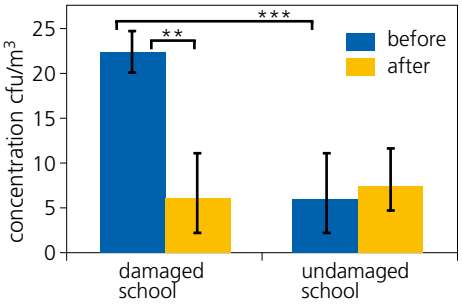
KTL has been a world pioneer in research on mouldy buildings and our experts serve in the advisory committees of the WHO and the U.S. National Academy of Science. Population studies conducted by KTL have shown definitively that exposure to moulds in water-damaged buildings is a real health risk causing various symptoms and conditions such as asthma. KTL continues to develop more accurate DNA microchip-based methods for assessing indoor air pollutants that could replace laborious cultivation in search for microbial allergens and toxins.

Allergy and microbes

Exposure to microbes can also be beneficial. Our studies have shown that children growing up on dairy farms are less likely to develop allergy. This finding is consistent with international studies and current understanding on the significance of exposure to microbes in early infancy for the maturation of the immune system.

Safe drinking water

The microbial quality of drinking water is still not fully satisfactory. The department monitors the quality of drinking water together with municipal authorities and helps to investigate water-borne epidemics. The byproducts of water purification processes can also be harmful to human health.



Fungal concentrations in water-damaged and undamaged schools before and after repairs.

KTL has produced new data on the mutagenicity of chlorinated drinking water.

Risk assessment

Environmental health risk analysis forms the umbrella that covers most of the research at the KTL Department of Environmental Health. Our Centre of Excellence for Environmental Health Risk Assessment aimed at improving risk analysis methodology using dioxins and urban air particles as case studies.

As environmental health risk analysis must be based on high quality multidisciplinary science, we focus on selected themes and study them from exposure to health effects. The research is typically conducted in multicentre studies involving often all five units of the Department and the most capable domestic and foreign collaborators.

National adviser

KTL serves as a national expert unit on the health effects of harmful chemical, biological and physical agents. We assess risks and examine environmental factors at population level. KTL will participate in the work of a newly established expert centre on severe chemical threats that supports the work of fire and rescue services and the police.

An extensive report titled Evaluation on health risks of chemicals in our environment was produced largely by KTL staff in preparation for a National Chemical Programme.

International partner

In 2005, KTL participated in 12 EU projects on environmental issues, coordinating one of them. Four new EU projects are about to start, with KTL acting as the coordinator in a large project to develop methods for evaluating the risks and benefits associated with foods (BENERIS).

Earlier EU projects have created a vast body on knowledge on air pollution and persistent organic pollutants, such as dioxins. Two KTL's experts serve in the EU Scientific Committee on Health and Environmental Risks.

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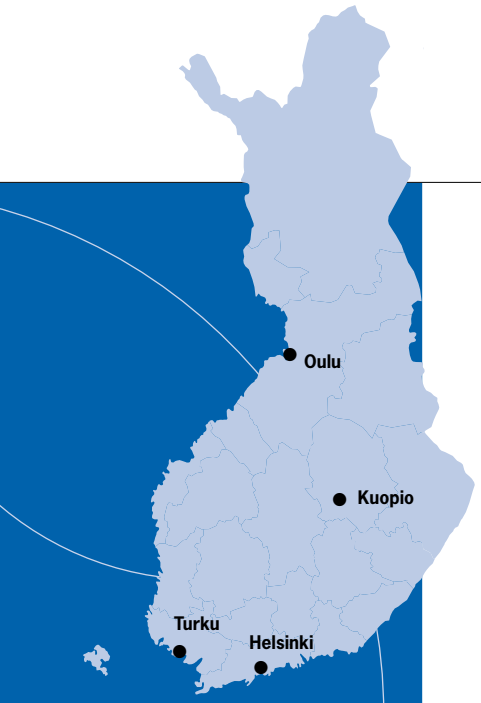
KTL has issued instructions on how to improve poor indoor air quality in schools and evaluate the health of both students and teachers. Health and school officials have been trained to tackle this complex issue.



Present in the Everyday Life of the People

KTL influences the lives of every Finnish citizen in many ways. The institute has several functions based on laws, such as surveillance of infectious diseases and protection from communicable diseases by vaccinations.

The institute also serves as an expert organization giving advice to health care professionals, policymakers and the public. In the prevention of chronic diseases KTL works in close cooperation with various NGOs. This work contributes to the health care system of the country and the health of the people.

A strong presence in the media is also a way to reach the people. The institute is considered a reliable source of information both by the public and media professionals. This need for reliable information was clearly manifested in the autumn of 2005 when the spread of avian influenza made headlines.

KTL Departments and Units 2006

Director General

Department of Bacterial and Inflammatory Diseases
- Enteric Bacteria Laboratory
- Anaerobe Reference Laboratory
- Cell Traffic Laboratory
- Microbial Immunology Laboratory
- Mycobacterial Reference Laboratory
- Antimicrobial Research Laboratory
- Pertussis Laboratory
- Microbial Ecology Laboratory
- Hospital Bacteria Laboratory
- Respiratory Bacteria Laboratory

Department of Infectious Disease Epidemiology
- HIV Unit
- Surveillance and Epidemiologic Investigations
- Biological Threats Unit

Department of Vaccines
- Vaccine Supply Unit
- Vaccine Safety Unit
- Vaccine Immunology Laboratory
- Clinical Unit
- Study Clinics

Department of Viral Diseases and Immunology
- Chlamydia and Respiratory Tract Bacteria Laboratory
- Prenatal Serology Laboratory
- Respiratory Viruses Laboratory
- Enterovirus Laboratory
- Infection Pathogenesis Laboratory
- Influenza Laboratory
- Infectious Disease Immunology Laboratory
- Viral Vaccines Laboratory
- Life Course Studies Unit

Department of Health Promotion and Chronic Disease Prevention
- Diabetes and Genetic Epidemiology Unit
- International Cardiovascular Disease Epidemiology Unit
- Chronic Disease Epidemiology Unit
- Health Promotion Research Unit
- Nutrition Unit
- Cancer Prevention Unit
- Chronic Disease Prevention Unit
- Injury Prevention Unit

Deputy Director Ceneral Administrative Director

Department of Health and Functional Capacity
- Public Health Research Unit
- Analytical Biochemistry Laboratory
- Biomarker Laboratory
- Population Research Laboratory

Department of Mental Health and Alcohol Research
- Alcohol Research Centre
- Mental Health Research Unit
- Drug Research Unit
- Adolescent Mental Health Unit
- Addiction Prevention and Treatment Unit

Department of Molecular Medicine
- Molecular Biology of Cardiovascular Diseases Unit
- Biotechnology Unit
- The Finnish Disease Heritage Research Unit
- Genetic Epidemiology Research Unit
- Bioinformatics Unit
- Paternity Testing Laboratory

Steering Group

Department of Environmental Health
- Department Office
- Air Hygiene Laboratory
- Chemistry Laboratory
- Environmental Microbiology Laboratory
- Toxicology Laboratory
- Environmental Epidemiology Unit

Department of Administration
- Computer Systems Unit
- Finance Unit
- Human Resources Unit
- Technical Unit
- Archives and Records Administration

Department of Research and Expertise Support Services
- Laboratory Animal Unit
- Laboratory Support Service
- Data Systems Unit
- Information Service Unit
- Communication Unit

KTL's main facilities are located in Helsinki and three other facilities in the university cities of Kuopio, Oulu and Turku. KTL's eleven departments cover the main fields of public health.

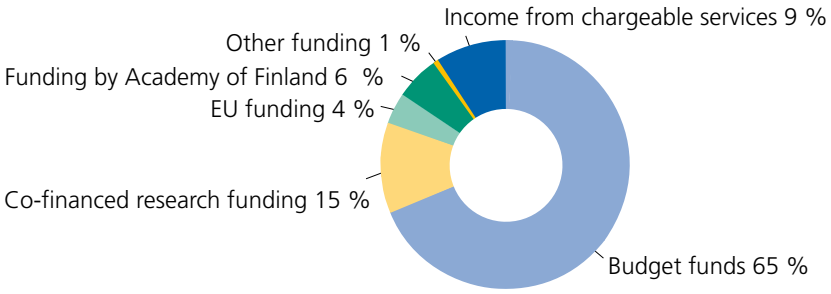
Budget 63 Million Euros

The funding of KTL has remained stable over the last few years. The core national budget funding has remained at the level of recent years. In 2005, total expenditure was 63 million euros, with and increase of 1 million from the previous year. The operating expenses were 54 million euros when the acquisition of vaccinations is excluded.

KTL's operational funding has been stable. Two thirds of total funding comes from the state budget. In 2005, external funding accounted for 25% of total funding. Some changes are seen in the sources of external funding as the proportion of funding from the Academy of Finland, the European Union and the Ministry of Health and Social Affairs has increased compared with private funding that has only a small share.

In 2005, income from services subject to charge was some 4.6 million euros. These services include national screening programmes, blood alcohol testing in suspect drunken driving cases, drug testing, paternity testing and some special laboratory tests such as for tuberculosis and HIV.

Operational Funding 2005



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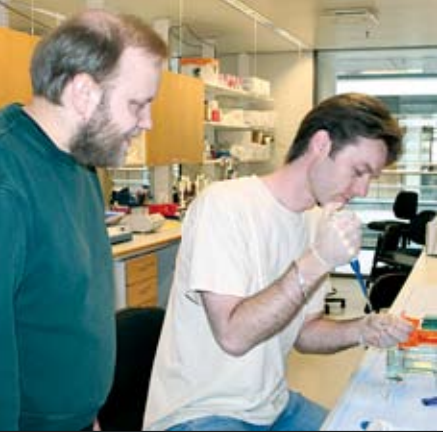
An extra budget of 20.8 million euros was allocated for the acquisition of vaccines in preparing for an influenza pandemic.



Inspiring Research Community

KTL is an inspiring and cooperative work community aware of its goals and free of barriers.

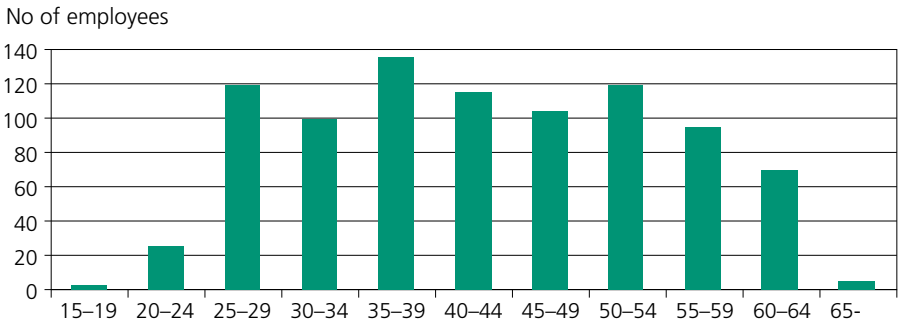
KTL is a popular place for doctorate studies. According to a survey carried out in 2005, young Ph.D. students appreciate KTL's good atmosphere, expert research groups, large sample collections as well as the facilities and research support services offered by the institute.

In 2005, three out of four of the 158 Ph.D. students working at KTL were women. The number of academic dissertations has remained constant over recent years. In 2005, altogether 34 academic dissertations, prepared at KTL, were presented at different universities.

At the end of the year 2005, KTL had a staff of 887 persons, of whom 367 (40%) were scientists or experts. Counted as person years the staff amounted to 844, equal to the number of staff the year before. Women make up 73% of the staff of KTL.

The share of temporary employment contracts counted as person years has reduced to one third (34%) in 2005, whereas at the end of 1990's half of all contracts were temporary.

KTL is an interesting research community also for foreign scientists and experts. In 2005, the staff included scientists from countries such as The Netherlands, Poland, Switzerland, Belarus, USA, Russia, Iraq, Libya, Lithuania, Italy, Sweden and Hungary.



The age structure of KTL staff at the end of the year 2005.

Publications: High in Numbers and Quality

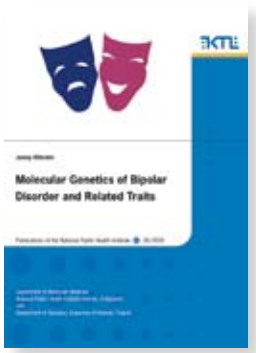
In 2005, scientists at KTL published more that 500 original articles for the second year in a row. The institute put out altogether 873 publications.

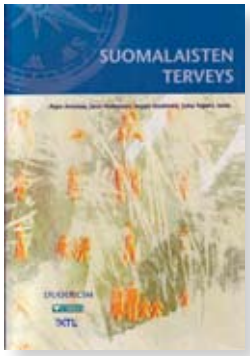
The scientific impact of KTL publications has also been significant. Citation index shows that KTL publications in the fields of medicine, biomedicine and environmental studies are of high international quality.

The three publications series of KTL (A, B, C) published 71 items including original research as well as reports, guidelines and recommendations for health care professionals and policy-makers.

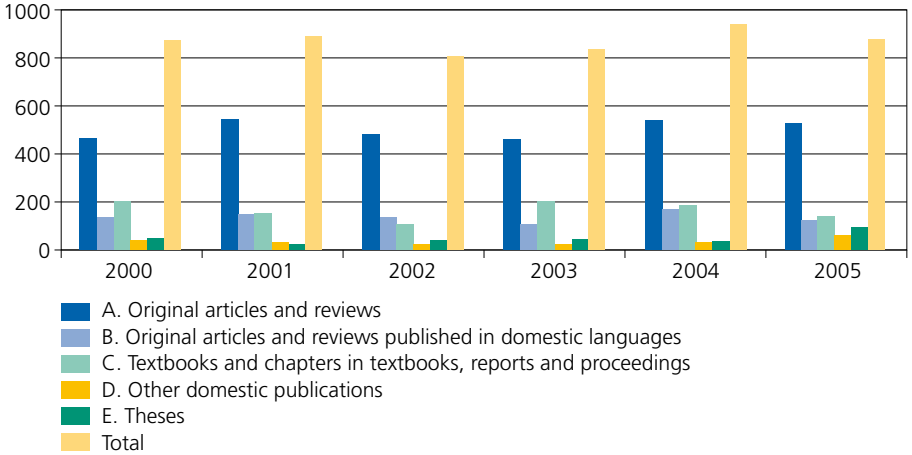
KTL's own journal reporting on the institute's activities and research to health care professionals and various interest groups was renewed in 2005 as a part of the process of strengthening communications services. The journal put out eight issues in the Finnish language.

The internet is the single most important media for dispersing information. Targeting policymakers and the general public, our website had on average 7 000 daily visits.





Publications



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