



Department of Infectious Disease Epidemiology

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Infectious diseases are the most common diseases in the population. Everyone falls ill with a respiratory tract infection 1–10 times a year, depending on age. Annually 60,000 Finns suffer from pneumonia. A gastrointestinal infection hits everyone once a year on the average.

Sexually transmitted infections are common among the young and those in working age. Travel and the increasing prevalence of HIV infection in the neighbouring countries increase the risk of HIV infection.

Almost 10 per cent of those in hospital care contract a hospital infection.

Microbes also cause many chronic diseases, such as rheumatic diseases, cancers, ventricular ulcer and infertility.

Goals

The Department of Infectious Disease Epidemiology produces reliable information on the occurrence of infectious diseases, risk factors for contracting infections, as well as control measures. The department also participates in the implementation of control measures.

Means

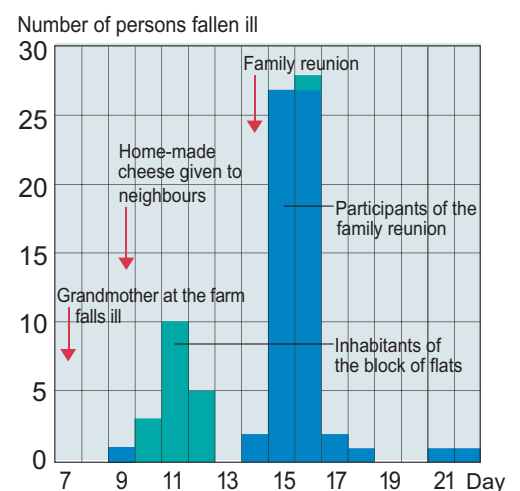
The department continuously collects data on individual cases of infectious diseases employing several complementary surveillance systems, and transmits information from these to health care authorities and the population. The department also carries out scientific research, which is based on data from the surveillance systems and outbreak investigations, or is implemented as separate research projects.

Main activities

Outbreak surveillance and investigation

The department participates in the surveillance, detection, investigation and control of outbreaks in collaboration with local, regional and national health and environmental health authorities. Municipal outbreak investigation groups send a notification to the department immediately when they suspect a food- or waterborne outbreak. The department relays the notification to national and regional health and veterinary authorities.

Annually, from 50 to 100 suspected food- or waterborne outbreaks are notified. The department has a central role in the investigation of 5 to 10 large or geographically widespread outbreaks per year. We investigate particularly outbreaks that can provide new knowledge for preventing similar outbreaks in the future.



These two Salmonella typhimurium outbreaks in August 1999 were caused by unpasteurized milk bought directly from a farm.

National Infectious Disease Register

The department maintains the National Infectious Disease Register, mandated by the communicable disease law. All the clinical microbiology laboratories notify their findings on a wide range of disease-causing microbes. The great majority of the 50,000 annual notifications are implemented electronically. Physicians notify a more limited range of diseases to complement laboratory notifications. The register also contains results from susceptibility and typing tests of the microbial strains from notified cases, carried out in the national reference laboratories at KTL. The data from different sources are merged into a case using the national person identifier. The weekly updated data are publicly available through the KTL www service. Reports are published monthly and annually. To promote outbreak recognition and control, personnel responsible for communicable diseases in regional hospital districts and primary health care have encrypted remote access to all data in the national register from their own geographic area. The data of the register are also used in research.

Surveillance and control of nosocomial infections

The Finnish Hospital Infection Programme (SIRO) is based in the department. The objective of the programme is to prevent nosocomial infections by standardizing surveillance methods in acute care hospitals and providing a national database on nosocomial infections. Hospitals participating in the programme can compare their own infection rates anonymously with other hospitals. This benchmarking aims at increasing the use of surveillance data for feedback and prevention. We also use prospectively collected surveillance data in research projects, develop common infection control guidelines, assist in the investigation of nosocomial outbreaks, and organize training and courses.

Preparing for unexpected major epidemics and intentional use of microbes

The department supports and coordinates the actions of health and environmental authorities if sudden or unexpected infectious disease epidemic or intentional release of microbes is suspected. It serves as a partner in EU and WHO infectious disease surveillance networks and works in close collaboration with the newly formed European Centre for Disease Prevention

and Control (ECDC). Past and current activities include participation in preparedness and investigation work during the SARS and powder-letter outbreaks as well as pandemic influenza preparedness planning. In the newly started collaboration with the Finnish defence forces the department is responsible for coordinating rapid laboratory diagnostic preparedness of rare and dangerous pathogens.

Advice on travel-related health

The department is a knowledge centre of travel-related health. Daily telephone service is provided for health professionals. A handbook titled Travellers' Health Guidelines is issued regularly in updated versions. Surveys and investigations on diverse topics in travel health are carried out. Communicating issues of travel health to the public is an important activity.

Training in infectious disease epidemiology

The department organises courses in infectious disease and field epidemiology for professionals responsible for communicable disease control and environmental health. The department is also a training site for physicians specialising in infectious diseases, for veterinarians aiming at the specialty of food and environmental technology, and for the European Programme for Intervention Epidemiology Training (EPIET).



Surveillance, control and research on HIV infection

The HIV unit is responsible for active and passive surveillance of the HIV epidemic. The unit has a strong R&D emphasis, and its laboratory serves as the national HIV diagnostics reference laboratory. Passive surveillance is implemented through reporting of HIV and AIDS cases to the National Infectious Disease Register. For active surveillance the unit develops and implements serological, molecular epidemiological and behavioral surveillance, targeting especially vulnerable groups. The department also has an active expert role in HIV policymaking and prevention work. As an example, the unit works in collaboration with health care providers to reduce harm and provide low threshold health services among injecting drug users.

