# ANNEXE 2

## PROGRAMME INTERNATIONAL DE SÉCURITÉ CHIMIQUE (PISC)

**SOURCE: OMS - GENEVE (PCS)**

# THE INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY

## AN OVERVIEW

November 1987

## Introduction

Chemicals are essential for producing and sustaining national development. They are of major importance in virtually every industry, and have a key role in preventing and controlling disease, increasing agricultural productivity and facilitating food storage and preservation. While chemicals have brought many benefits they have also had negative effects on human health and on the integrity of the environment, notably when they are produced, used and disposed of carelessly and indiscriminately.

The safe production, use and disposal of chemicals is often seen, mistakenly, as a problem confined to the developed industrialized countries. However, the growing production of chemicals in the developing countries and the ever-increasing international trade means that all countries are now either producers, formulators or users of chemicals and are exposed to the possibility of adverse effects. Chemical safety is relevant to all, from national authorities to individuals, because all are exposed to chemicals in the home, the workplace and the natural environment.

The primary purpose of chemical safety is to ensure that exposure to chemicals, natural as well as synthetic, does not harm humans or the environment. This is not only to avoid the dramatic effects of acute poisoning but also to prevent the possible insidious effects of long-term low-level exposures of large populations.

A large number of chemicals is available commercially with, for example, around 70,000 listed in the US Toxic Substances Control Act inventory and 100,000 in the European Economic Community's list. However, the volumes of production and use, and the range of uses vary widely. The number of mixtures and formulations in use worldwide is many times greater.

The number, type and quantities of chemicals used in countries vary widely according to factors such as the national economy, its industrial base and the extent of agriculture. The productivity, ingenuity and competitiveness of chemical industries are noteworthy and innovation is vigorously pursued. Thousands of chemicals are synthesized experimentally each year to determine if they offer advantages over their predecessors and are viable commercially. Of this number, probably over 1,000 enter commerce. The chemical scenario is constantly changing because new chemicals and formulations come on the market, older ones are superseded by better alternatives, and the quantities produced and used vary with demand.

## Development of the International Programme on Chemical Safety (IPCS)

The IPCS is a cooperative programme of the United Nations Environment Programme (UNEP), the International Labour Office (ILO), and the World Health Organization (WHO). WHO is the executing agency for the programme and the Central Unit of the IPCS is located in the WHO Division of Environmental Health in Geneva, Switzerland.

In 1972 the United Nations Conference on the Human Environment took place in Stockholm, Sweden. There was intense international concern about the dangers of chemicals for humanity and the natural environment. This conference recommended that programmes, to be guided by WHO, should be undertaken for the

early warning and prevention of the harmful effects of the various environmental agents, acting singly or in combination, to which humans were being increasingly exposed, directly and indirectly, and for the assessment of the potential risks for human health.

As the Specialized Agency for Health in the United Nations system, WHO has a mandate from its Member States to address all the factors which have an impact on human health and this includes chemicals. WHO is striving for Health for All by the Year 2000, based on balanced social and economic development, with health both a result of, and a key factor in, this development.

In 1977 the World Health Assembly requested the Director-General to study the problem of long-term strategies to control and limit the impact of chemicals on human health and the environment. On this basis a programme was developed and structured by WHO. The interest of other international organizations in chemical safety was clearly demonstrated by ILO and UNEP joining with WHO in the IPCS which was formally launched in 1980 when a Memorandum of Understanding (MOU) was signed between the three organizations.

**Objectives of the IPCS**

The objectives are to catalyse and coordinate activities in relation to chemical safety, and in particular to:

(i) carry out and disseminate evaluations of the risk to human health and the environment from exposure to chemicals, mixtures of chemicals or combinations of chemicals and physical and biological agents;

(ii) promote the development, improvement, validation, and use of methods for laboratory testing and ecological and epidemiological studies and other methods suitable for the evaluation of health and environmental risks and hazards from chemicals;

(iii) promote technical cooperation with Member States, in particular developing countries to:

  (a) facilitate the use of available evaluations of health and environmental risks and hazards from chemicals;

  (b) improve the capabilities of national authorities in conducting their own evaluations of health and environmental risks and hazards from chemicals;

  (c) strengthen infrastructures for safety aspects relating to chemicals - their production, importation, transportation, storage, use, and disposal;

(iv) promote effective international cooperation with respect to emergencies and accidents involving chemicals;

(v) support national programmes for prevention and treatment of poisonings involving chemicals;

(vi) promote training of the required manpower.

In order to ensure efficient use of resources and integration of the results the IPCS works closely with other international and WHO programmes which are also involved in the area of safe use of chemicals. Examples are collaboration with the Council for Mutual Economic Assistance (CMEA), the Organization for Economic Research and Development (OECD), the Commission of the European Communities (CEC) and the WHO programmes on environmental pollution, occupational health, safe use of pesticides and food safety. There is close collaboration with the Food and Agriculture Organization (FAO) for the joint safety evaluations of food additives, pesticide residues in food and veterinary drug residues in meat.

## Activities and Outputs of the IPCS

For each objective there are outputs. These include the worldwide dissemination of information and publications directed to a wide range of readers, meetings of international experts and training courses for students from many countries.

### Publications on Risk Assessment

#### Environmental Health Criteria (EHC) Documents

This series covers evaluations of specific chemicals or groups of chemicals, monographs dealing with methodology and monographs on physical hazards.

Seventy-three EHC documents have been published, two are in press, and thirty-nine are in various stages of preparation. Of those published there are fifty-five monographs on chemicals, ten on methodology and eight on physical hazards. These documents, prepared in collaboration with experts from all parts of the world, review and evaluate current knowledge and provide a basis for assessment of hazards.

Priority chemicals for assessment by IPCS and publication as EHCs are identified with the participation of international experts and in collaboration with IARC, IRPTC and allied WHO programmes. A new list has recently been prepared based on inputs from international bodies, governments and industries using broad selection criteria such as quantity of production, types and extent of uses, toxicity, ecotoxicity and environmental persistence.

IPCS publications are disseminated widely to international organizations, national authorities, and scientific and industrial associations to provide a basis for chemical safety planning and for the development and implementation of control measures. The documents are available in English and French and many have been translated into other languages.

#### Health and Safety Guides (HSGs)

To make information on chemicals more widely available these booklets have been designed to meet the needs of a wide range of administrators, managers and decision-makers in governmental ministries and agencies, and in commercial and industrial undertakings to enable them to achieve chemical safety and avoid human and environmental health hazards. Health and Safety Guides are short

documents summarizing in simple, non-technical language the relevant physical and chemical properties and evaluated information on toxicity and ecotoxicity. They give practical advice on safe storage, handling and disposal, accident prevention, and human health and environmental protection measures. First aid and medical treatment in cases of human exposure and clean-up procedures for environmental contamination are important sections for handling emergencies. HSGs also give information on permitted occupational exposure levels and other limits for a range of countries. The aim is to keep these booklets concise and use a simple style and presentation to ensure that the advice is easy to read, understand and apply. Simplicity of text facilitates translation into other languages. To date, eleven HSGs have either been published or are in press. HSGs for another fifty-four chemicals will be produced in 1988-89. HSGs are prepared routinely for all the chemicals reviewed and evaluated in EHCs.

**International Chemical Safety Cards (ICSCs)**

These are being developed to provide a simple summary of essential identity data and health and safety information on a card (or poster). They are designed for use by people who use chemicals in their work or may be involved with them in storage and transportation. The cards also provide useful information to people involved in handling cases of poisoning such as "first-aiders", workplace safety officers, police, firemen, para-medical personnel, and primary health care workers. A standard format for the cards will ensure wide acceptability, easy use and facilitate translation into many languages. It is planned to publish ICSCs on 400 chemicals in 1988-89.

**Monographs on i) Food Additives and ii) Pesticide Residues in Food**

In collaboration with FAO, the IPCS has evaluated or re-evaluated more than 200 food additives, food contaminants and growth-promoting agents in order to establish acceptable daily intakes. For pesticides, maximum residue levels in food have been set for 140 used extensively in agriculture and public health. Monographs are published annually and the evaluations provide information on toxicology and safe levels of exposure and assist governments in establishing permissible legal levels of these substances in foodstuffs. Veterinary drugs are now coming under similar scrutiny because their use can leave residues in meat and similar evaluations will be made by an expert advisory committee.

**Development of Methodology**

An important task of the IPCS is to foster the development of internationally accepted approaches and methods for testing, assessing and predicting the effects of chemicals on human health and the environment. In this context, human epidemilogical studies linked with chemical exposure on a global level are important. Harmonization of test methods will facilitate comparability, general acceptance and use of data obtained in different countries and promote effective chemical safety. Harmonization is not just bringing national test methods closer together but is also directed to producing a better understanding of the philosophy and scientific basis for testing.

In this area IPCS works closely with intergovernmental organizations such as the Council for Mutual Economic Assistance (CMEA), the Commission of the European Communities (CEC), and the Organisation for Economic Cooperation and Development (OECD) and with scientific groups. This ensures coordination and avoids duplication of effort and waste of scarce resources. The involvement of IPCS contributes to the work of other organizations because it facilitates truly international understanding and agreement on the basic principles on which national requirements for testing and assessing chemicals for their toxic and ecotoxic effects can be based. A crucial part of the development of methodology is publication of monographs which provide a critical analysis of current test methods and approaches to predicting health and environmental risks. Better testing strategies for producing more reliable and comparable results are developed in these monographs.

Another important IPCS activity in the field of methodology is the organization , coordination and facilitation of inter-laboratory collaborative studies aimed at validating existing test methods, developing new methods and improving the interpretation of results. This is reserved for test areas where the international cooperation of scientific bodies and institutions is essential for the work to be carried out satisfactorily and meaningful results produced. Other intergovernmental and scientific organizations may collaborate with IPCS in these studies.

An outstanding feature of the development of methodology is the active participation of scientists from all over the world. This participation, and the interactions between individual scientists and institutions, contribute greatly to the harmonization of testing and risk assessment in the developing, industrializing countries as well as in the developed countries. An international approach to the principles and methodology of risk assessment is of particular benefit to countries where rapid industrialization and expansion of agriculture give rise to serious potential hazards from chemicals because their scientists normally have to use data and risk assessments generated elsewhere and apply them to their own national situation. Participation also directly contributes to the development of scientific and institutional expertise at national level.

**Management of Chemical Emergencies**

The large number and volume of chemicals extracted, manufactured, transported, marketed, stored, used and disposed of as wastes, constitute a significant risk of accidental exposure and poisoning. Accidents ranging from major catastrophes to minor leakages and spills occur frequently. More rational and effective approaches are needed to prevent, or where prevention fails, to tackle the consequences of chemical accidents in order to avoid damage to human health and the environment. At a practical level, IPCS is working with the World Federation of Clinical Toxicology Centres and Poison Control Centres to define the type of information and institutional capacity required for the treatment of poisoning and structured poison prevention and control programmes. The clinical diagnosis and treatment of poisoning is now a regular feature of EHC documents on chemicals and Health and Safety Guides. Special attention is given to specific antidotes and their use, although it must be recognized that these are available for relatively few chemicals; frequently, general supportive treatment is all that can be given. A primary aim is to make developing countries, whose populations experience a high proportion of poisoning by

chemicals, self sufficient in poison control and treatment. The training of manpower and production of teaching material is an important part of this activity.

## Manpower Development in the Field of Chemical Safety

The capacity of countries to ensure the safe use of chemicals and to adapt to their needs toxicological and ecotoxicological data and risk assessments made elsewhere is conditioned by the availability of resources (financial, individual, institutional) and scientific and managerial expertise. Achieving chemical safety requires governmental initiative, trained manpower and an informed population. The IPCS gives high priority to manpower development and promotes training in understanding the nature of chemical hazards, the uses of toxicological and ecotoxicological test data, risk assessment and safe use of chemicals under a variety of conditions.

Training materials are prepared and courses and seminars are organized. Training materials and approaches to training must be adapted to meet the needs of different countries to make them self-reliant and able to manage their own chemical safety and training programmes. Workshops are organized to promote chemical safety, provide awareness of the practical uses of toxicology and ecotoxicology and stimulate the development of national programmes. The majority of training activities are funded and organized jointly with other international and national bodies. Activities organized with national authorities are especially valuable because they provide a firm foundation on which countries can develop and run their own courses.

## Technical Cooperation

This is an integral part of all IPCS activities. In WHO technical cooperation is a primary responsability of Regional Offices. WHO is divided into six Regions. Each Region defines its priorities for health based on the conditions prevailing within its countries. Some Regions already have established programmes dealing with chemical safety and others are in the process of doing so. To deal with the increasingly complex health and environmental problems caused by the use of chemicals, it is obviously in the interest of all to share knowledge and resources. Scientific knowledge needs to be shared otherwise developing countries will not be able to achieve the expertise needed to tackle their problems. The IPCS has a key role because it is directed to international cooperation rather than isolated national efforts. Public demand for protection from chemical (and other) hazards is not unique to any country and assessments of risk and hazard provided by IPCS and its internationally recognized and independent experts have an important role to play in ensuring chemical safety worldwide.

# ANNEXE 3

## LES SERVICES D'URGENCE MÉDICALE EN FINLANDE

SOURCE: Ministère de la Santé - Finlande - 1987

Geneve 12-14 October 1987

# EMERGENCY MEDICAL SERVICES IN FINLAND

M. Murtomaa, M.D.

Finland is a Nordic country which is large by area but having only 4.8 million-inhabitants. The northern and eastern regions are sparsely populated while the majority of the people are living in the south.

Variations in climate are considerable fluctuating from -35°C in wintertime to +35°C in summer. This couldness in wintertime makes special features for disaster preparedness.

The local administrative units, basic communes or municipalities are responsible for maintaining services like health care, schools, social services, fire brigades etc. From this basis and with guidance and subsidies from central administration it is possible to create networks of services which covers evenly the whole country.

In comformity to the law (1975) the country is divided into 60 alarming centre areas, each with its own Dispatching Centre maintained jointly by communities. They are established in connection with fire brigades. The common emergency telephonenumber is 000 for the whole country. These are the nucleus of the emergency preparedness organization and they serve also the police and the health care. Ambulance service, health centres and hospitals are directly joined to these centers. These centers are functioning as operation centers in exceptional situations for civil defence. With their network it is possible to command, coordinate and control operations at local, regional and national levels.

## Local Primary Health Care and Ambulance Services

Local aid is the only available immediate aid at the primary stage. The resources of the area can be guided to the scene with the aid of dispatching centers. The institution for local primary health care, the health centre, is reponsible also for ambulance services.

Each health centre shall be prepared to send a medical group under direction of a physician to the scene when needed. The number of health centres in Finland is 213 all having a local hospital at the primary care level.

## Specialized Hospital Care

Finland is divided into 21 central hospitals districts with a central hospital in each of them. Five of them are university teaching hospitals. Furhermore there are 20 smaller district hospitals and some local hospitals of the bigger cities at the same levels as the central hospitals but with only 3-5 medical specialities. These hospitals are obligated to send surgical/anaesthesiological personnel and equipment to the scene. These are problems with maintainance of the skills and preparedness of these groups to work in the outside hospital environment.

## Health Care and Exceptional Situations

The health centres and hospitals are obligated to make plans for ultimate exceptional situations like disasters and wartime. Also the ordinary health care organization is responsible on health services in those situations. The organization remains the same, but the enlargement of the capacity needs extra resources and the working principles might be altered. The National Board of Health has given instructions how to plan services from the everyday need level to the escalation for major disasters and for the wartime preparedness.

It has clearly been seen that microbiological outbreaks, chemical accidents and even radiation accidents are coming more and more prominent dangers in our society. It has created a new type of situations, potentially dangerous, needing different type of response from the society. General principles of management and

political responsibility, the modes of treatment and materials and equipment needed require consideration.

A network of laboratories (50), local, regional and central assigned to analytical services for microbiology, radiation and toxicology in the event of a disaster are defined and networks to supportive experts have been established. This network and a special radiation protection organization was tested in accordance with the Chernobyl power plant accident.

Any restrictions or activities of health care was not needed, but the need of - information to health care personnel and public was not sufficient enough. The co-operation between multisectoral taskforce and political decision makers was not very successful. New type of communication and leading networks are under consideration. New possibilities of modern telecommunication systems and data networks will ameliorate the rapid information change and consultations between the key persons.

Planning

National authorities of each sector of Emergency services have their national plans and organizations. Instructions for regional and local plans are given from Central Offices.

Every municipality are obligated to prepare a common local working plan for emergencies. There should be description of the existing taskforces, resources and detailed management and information systems. Use of computers in regional alarming centers are now under development.

# ANNEXE 4

# ORGANISATION DE LA SANTÉ ENVIRONNEMENTALE EN FINLANDE ET DANS LA VILLE DE HELSINKI

WHO : TARGETS FOR HEALTH FOR ALL 2000,
EUROPEAN STRATEGY

FINLANDS OWN STRATEGY ACCORDINGLY

ENVIRONMENTAL HEALTH IS ONE OF THE THREE
MAIN SECTORS OF HEALTH CARE IN FINLAND

I ENVIROMENTAL HEALTH

II PRIMARY HEALTH CARE

III HOSPITAL

ENVIROMENTAL HEALTH ORIGINATES FROM 1809

(NATIONAL BOARD OF HEALTH); BELONGS TO

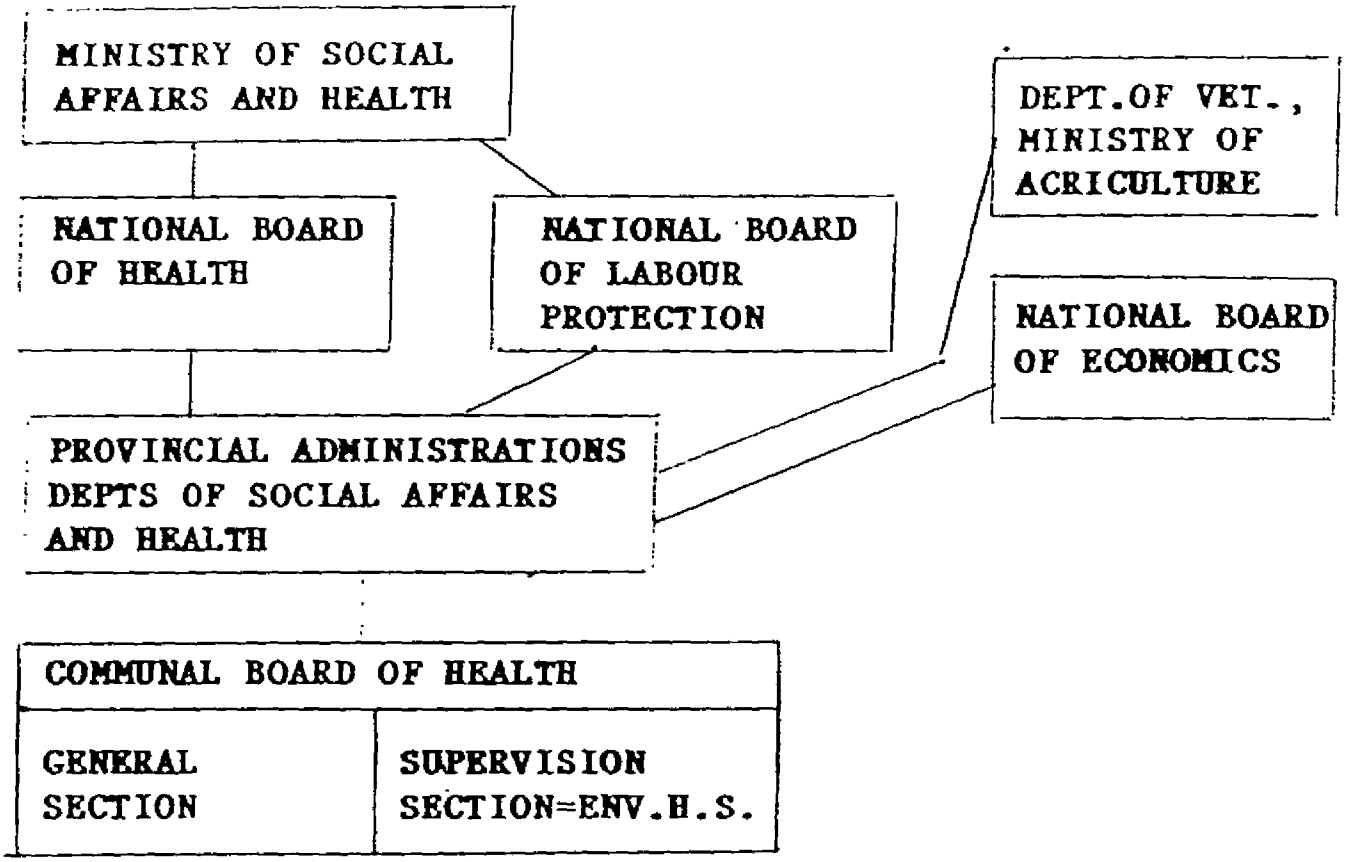
SECTOR OF MINISTRY OF SOCIAL AFFAIRS AND HEALTH

SEPARATED FROM ENVIROMENT PROTECTION, WHICH

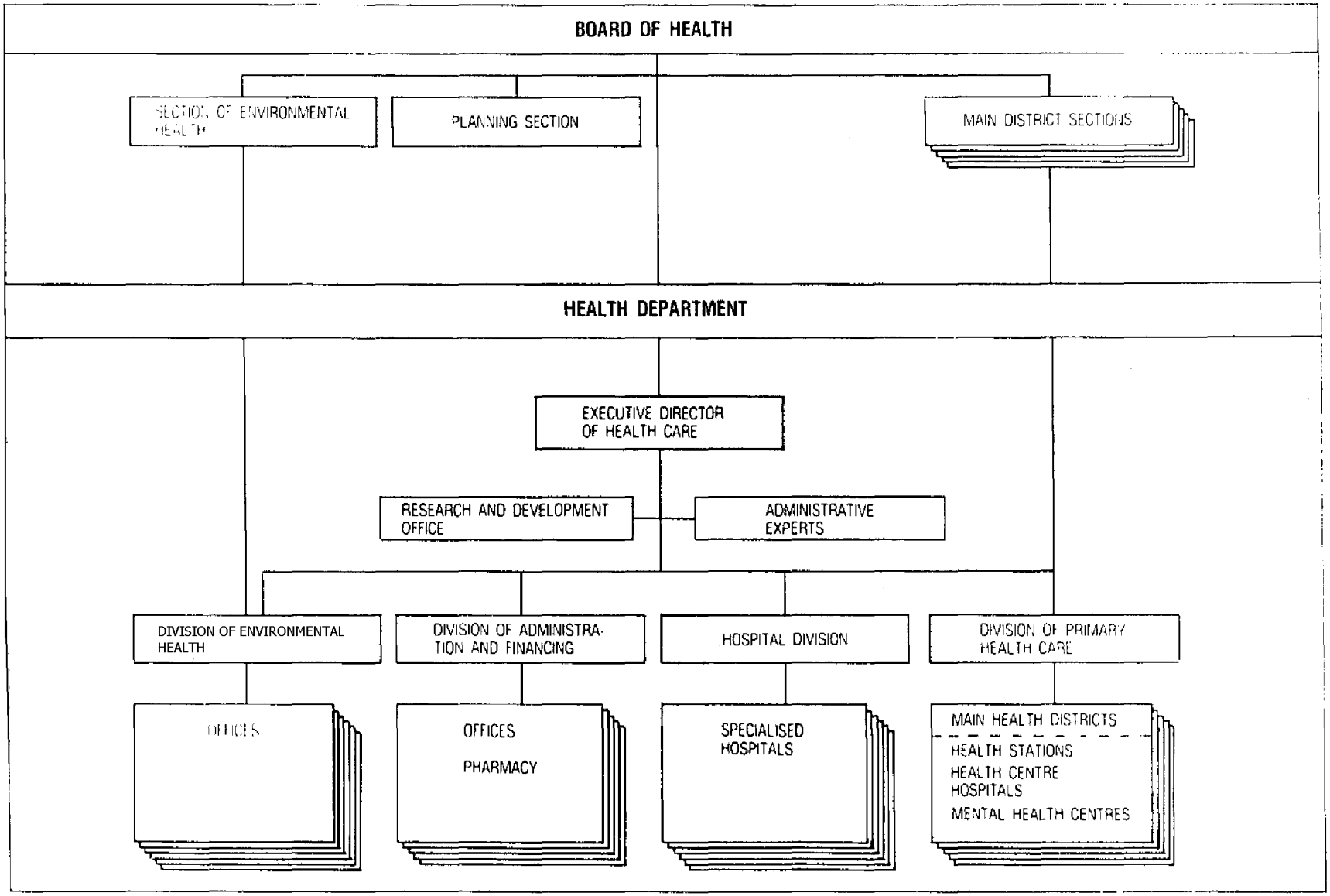
HAS OWN MINISTRY SINCE 1983

ORGANIZATION OF ENVIRONMENTAL HEALTH

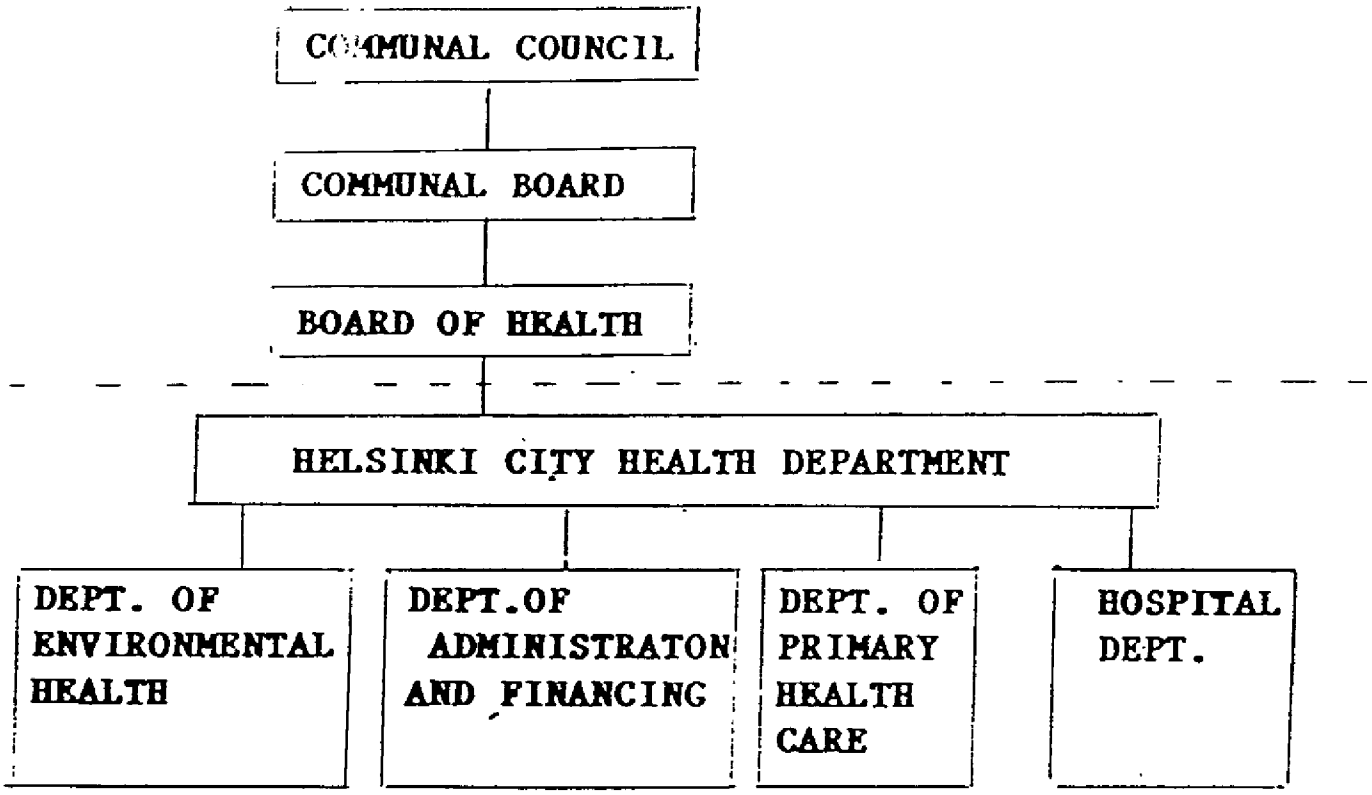
IN FINLAND



# ORGANISATION OF PUBLIC HEALTH CARE IN HELSINKI



COMMUNAL ORGANIZATION



## THE BOARD OF HEALTH AND THE HEALTH DEPARTMENT

The responsibility of organizing health services rests with a 13-member Board of Health. The Board decides on matters concerning primary health care and hospital care. Its action is guided by the Public Health Act, The Primary Health Care Act and the Foodstuffs Act.

The Board has seven sections, each with seven members.

There are five Main District Sections, which deal with matters concerning the primary health care and hospital care of the population of their districts.

The Section of Environmental Health makes decisions concerning environmental health care.

The Planning Section prepares large issues to be dealt with by the Board.

The Health Department is responsible for preparing matters to be dealt with by the Board of Health and its sections and executes the decisions.
The Executive Director of Health Care is head of the Health Department.

The Health Department has four divisions

- Division of Administration and Financing
- Division of Primary Health Care
- Hospital Division
- Division of Environmental Health

The Health Department also has a Research and Development Office.

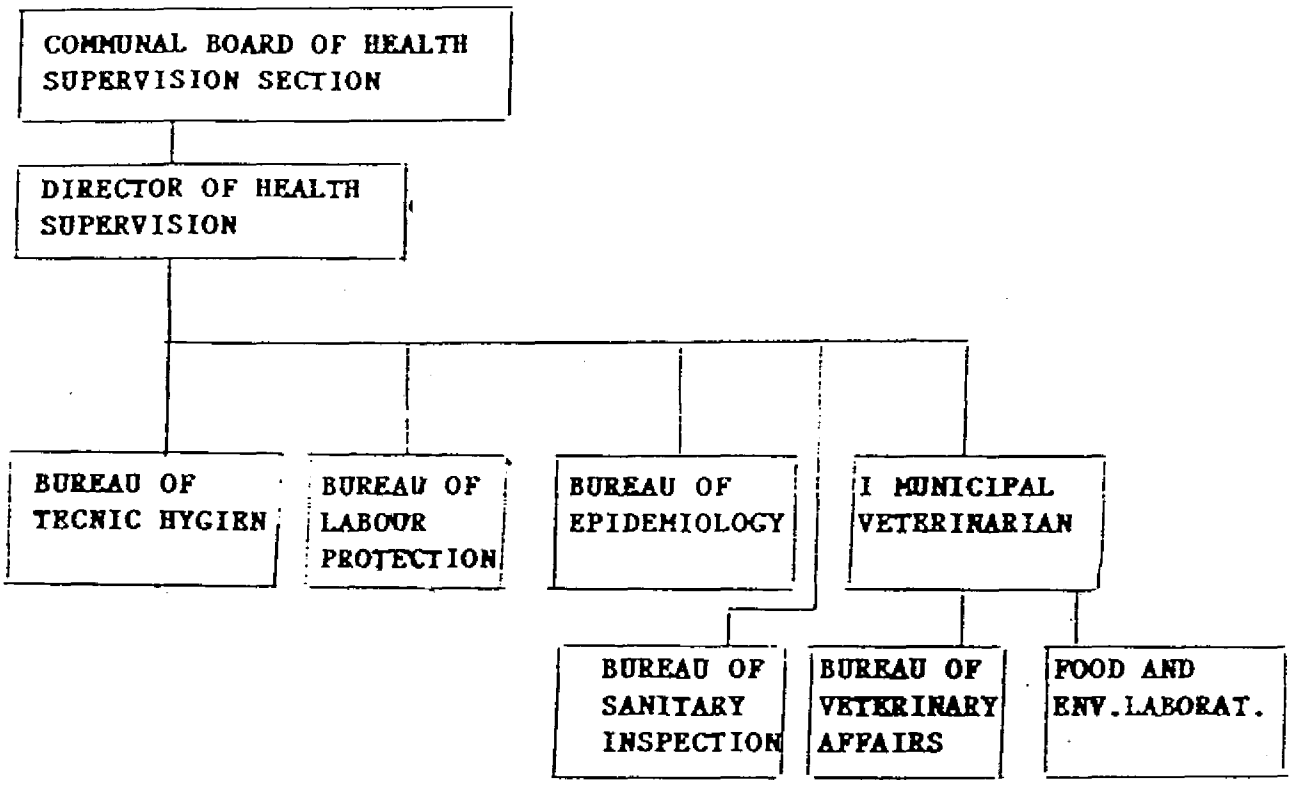
The Division of Administration and Financing, which is headed by the Administrative Director, is responsible for general administrative, personnel, finance and technical matters.

The Division of Primary Health Care, headed by the Director of Primary Health Care, is responsible for primary health care and general hospital care of the citizens.

The Hospital Division, headed by the Director of Hospital Services, is responsible for specialized hospital services.

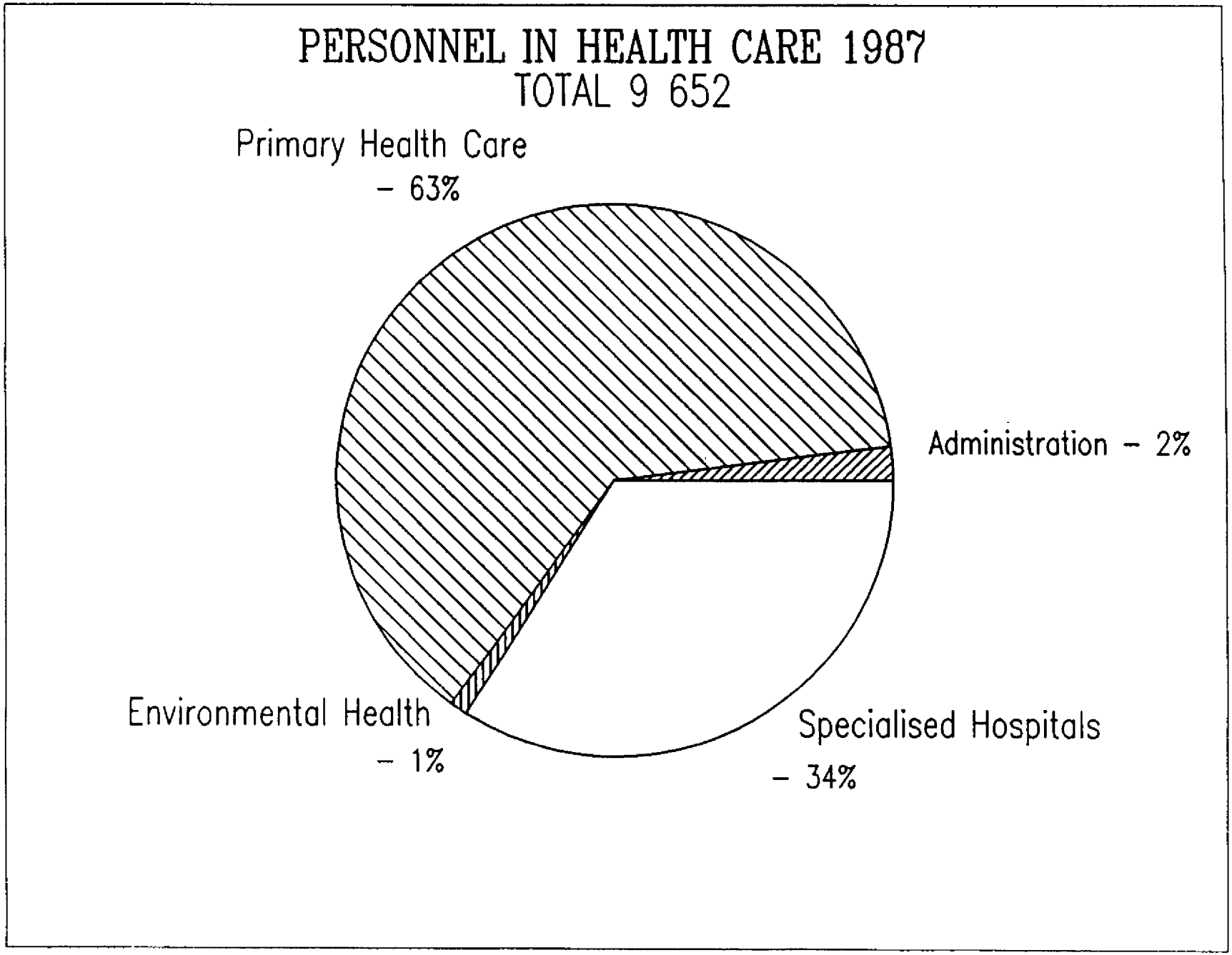
The Division of Environmental Health, headed by the Director of Environmental Health, is responsible for environmental health care of the population.

DEPT. OF ENVIRONMENTAL HEALTH IN HELSINKI



ENVIRONMENTAL HEALTH

| Activity | Performance | Number |
|---|---|---|
| Inspection and supervision of sanitary conditions | | |
| - Environment and foodstuffs | inspection | 44 673 |
| - Disinfection | inspection | 20 176 |
| Technical hygiene | | |
| - Environmental and building hygiene | inspection | 3 457 |
| Labor protection | inspection | 2 577 |
| Epidemiological activities | | |
| - Prevention of communicable diseases and vaccination | visit | 17 529 |
| Activities of the food and environmental laboratory | sample | 114 403 |
| Veterinary services | inspection | 3 636 |


PERSONNEL IN HEALTH CARE 1987
TOTAL 9 652
Primary Health Care
– 63%
Administration – 2%
Environmental Health
– 1%
Specialised Hospitals
– 34%

PERSONNEL BY PROFESSIONAL CATEGORY

| | Number | % |
|---|---|---|
| Total | 9 788 | 100 |
| Physicians | 679 | 6.9 |
| Dentists | 140 | 1.4 |
| Nursing personnel | 4 948 | 50.6 |
| Others | 4 021 | 41.1 |

**PERSONNEL BY DIVISION**

| | Number | % |
|---|---|---|
| **Total** | **9 788** | **100** |
| Division of Administration and Financing | 202 | 2.1 |
| Division of Primary Health Care | 6 113 | 62.5 |
| Hospital Division | 3 338 | 34.1 |
| Division of Environmental Health | 135 | 1.4 |

MAIN FUNCITIONS IN HELSINKI

I CONTROL OF ENVIRONMENT HEALTH FACTORS

- WATER
- AIR
- WASTE MANAGEMENT
- NOISE
- HOUSING AND PLANNING
- CONTROL OF CHEMICALS AND/OR POISONS
- DESINFECTION
- RADIATION (FOOD, SOIL, WATER)
- SANITATION OF PUBLIC PLACES, STORES ETC.

II CONTROL OF FOOD

III COMMUNAL LABOUR PROTECTION

IV VETERINARY FUNKTIONS

V CONTROL OF INFECTIOUS DISEASES; FOOD POISONING

The tasks of the Division of Environmental Health

Organization

The Section of Environmental Health within the Board of Health

The Division of Environmental Health

Performances, costs and productivity of activities

Community hygiene

Town planning and community planning

Inspection of factories and plants

Housing hygiene

Recreation areas, play grounds

Soil hygiene

Disinfection

Inspection of buildings

Dwellings

Schools, day nurseries and other institutions

Workplaces and assembly rooms

Food handling premises

Air pollution control

Water pollution control

- Drinking water
- Water at beaches and in swimming-pools
- Waste water and sewerage

Health supervision of waste management

Noise pollution control

Chemical control

Supervision of product safety

Epidemiological activities

Food control

Veterinary services and supervision of protection of animals

Municipal labour protection

Research and development