RIVM has been safeguarding and promoting public health and environmental quality in the Netherlands for over a 100 years. It all began in 1909 with a small group of researchers fighting cholera and other life-threatening diseases.

RIVM has expanded to become a knowledge institute at the centre of Dutch society, advising on health and the environment. In our role as trusted advisor, we provide government with impartial advice on infectious diseases, vaccination programmes, population screening, life style, nutrition, pharmaceuticals, environment, sustainability, safety and security. We carry out research, provide advice and recommendations, and direct and implement prevention and control responses.

Our work is primarily commissioned by Dutch ministries and inspectorates, and projects are also undertaken within international frameworks, such as the European Union and United Nations. We have many national and international partners, and are continuing to build new networks in multidisciplinary cooperation.

Cooperation with other organisations enables us to combine our strengths and to develop new knowledge and expertise. We are committed to supporting government and society in improving health and the environment. Now and in the future.

This brochure provides an overview of our activities. More information is available at www.rivm.nl/en

“Our position as a nationally and internationally respected knowledge institute is based on the quality of our work, and the commitment and involvement of our staff.” Prof. Dr André van der Zande
Cooperation in the European Union

Much policy on health and environment is developed and formulated at European level. The European Commission uses RIVM expertise in formulating proposals for legislation, for instance, in expert panels of European agencies on the environment, prevention of infectious diseases, and food safety. The Dutch Government uses RIVM knowledge in determining its position in Europe on health and environment issues.

RIVM also has tasks in implementing European agreements in the Netherlands. For instance, on behalf of the government, we inform local governments, producers and distributors of chemical substances about the requirements of EU directives.

RIVM participates in projects commissioned by the European Commission, which co-finances research projects carried out in cooperation with organisations in other EU Member States. Together with international partners, RIVM gives innovative impulse to improving health and the environment in Europe.

Cooperation with WHO

RIVM cooperates with the World Health Organisation (WHO) in various ways. For instance, members of staff are seconded to WHO Europe to work on prevention of tuberculosis and antimicrobial resistance. In 2012, RIVM made an agreement with WHO Europe for cooperation on health information and antimicrobial resistance in Eastern Europe and Central Asia.

RIVM also functions as a supranational tuberculosis laboratory and as a polio reference laboratory. In addition, we host WHO Collaborating Centres supporting various WHO programmes including immunotoxicology, disease pathogens in food and water, and tobacco regulation.

International cooperation

Disease pathogens, radiation and air pollution extend beyond national borders, and many health and environmental issues require an international approach. Thus, we work in cooperation with organisations in other countries to ensure the safety of food and medicines. Moreover, much policy is developed within international frameworks, for instance, in the European Union and in the United Nations.

RIVM looks beyond national borders. We cooperate with partners in other countries to extend our own knowledge and to improve the quality of our research and policy advice. RIVM has a strong international position and is among the top institutes in specific areas, with demand for our expertise, for instance in risk assessment.

Much of our international work is done in the European context and networks. We also cooperate with United Nations organisations, such as the World Health Organisation (WHO). Furthermore, RIVM has bilateral arrangements with institutes in the United States and other countries, for instance, China on influenza and nutrition, and Turkey on the environment.

RIVM participates in cooperative arrangements on specific themes such as health policy and evaluation. In some cases, we are the project coordinator, and in other cases we are advisor to the national government or international organisations. We may also contribute as research partner.
Maintaining public health

RIVM monitors public health in the Netherlands and the factors that have an impact on health. To safeguard public health, studies and investigations are carried out on the safety of medical products and pharmaceuticals, and on food and nutrition. We also monitor lifestyle factors in the Netherlands because physical activity, diet and smoking behaviour all have an impact on public health. Studies are undertaken, for instance, on salt intake and on the health risks of being overweight. We collaborate with national and international organisations and research institutes worldwide.

Our work is recognised internationally, as reflected in our designation as WHO Collaborating Centre on matters such as nutrition, tobacco product regulation, and immunotoxicology. We participate in a wide range of EU funded projects, for instance, on evidence-based prevention. These activities link closely with our role in quality assessment of health-promoting lifestyle interventions and programmes. This information supports local authorities and health professionals in determining the most appropriate actions and interventions to meet the needs of the populations they serve.

RIVM also monitors the effectiveness of the health care system and its contribution to a healthy and productive population. Our findings are used in advice to local authorities, ministries and international organisations, and to health professionals and through them to the general public.

Food consumption survey

People in the Netherlands need to include more fruit, vegetables, fish and fibre in their diet. Although the amount of trans fat (unhealthy hydrogenated fat) in the diet has decreased, the proportion of saturated fat is too high and overweight is often a problem. These and other data were obtained from the Dutch Food Consumption Survey, which RIVM started 25 years ago and updates regularly. The food consumption data are used in formulating policy on what constitutes a healthy diet and on food safety. They are also used to improve the range of food products on offer in the Netherlands, and also in public information and research.

Population screening

In the Netherlands, the government offers population screening programmes, such as breast cancer screening for women and the heel prick test for new-born babies. Participation is free of charge, voluntary, and focuses on disease prevention. The most recent screening programme to be conducted is for colon cancer, which is scheduled for implementation between 2013 and 2019. Population screening focuses on early detection of disease and disease preconditions so that treatment can be offered. RIVM directs, manages and coordinates these programmes, and is responsible for providing the public with clear, concise information. Screening programmes offered include blood tests for pregnant women for infectious diseases and blood group antibodies, screening for Down syndrome and 20 week echo, infant hearing test, new-born heel prick, breast cancer, cervical cancer and colon cancer.
Surveillance of Antimicrobial Resistance (AMR)

RIVM monitors and informs the government about potential national health threats with regard to antimicrobial resistance. Based on a national AMR surveillance system (ISIS-AR), trends in antimicrobial resistance are monitored using routine antibiotic susceptibility data from microbiology laboratories in the Netherlands. These data are mainly derived from samples from hospital patients, and patients treated by general practitioners and from residents in nursing homes. Some of the data are also made available to the European AMR surveillance network (EARS-net), in which we are actively involved.

RIVM is participating in setting up a network to develop and strengthen national AMR surveillance systems in countries in Eastern Europe and Central Asia that are not part of the EARS-net. This is a joint initiative with the European Society of Clinical Microbiology and Infectious Disease, and WHO Europe.

The National Immunisation Programme (NIP) has been providing vaccination against infectious diseases free of charge for more than 60 years. Currently, children up to the age of 13 are vaccinated against 12 diseases. The NIP is an excellent example of effective collective action for the prevention of death and disease. RIVM directs and coordinates the NIP, and the local Child and Youth Health Services administer the vaccinations. RIVM monitors and investigates the effectiveness of the programme, and uses results for optimisation. Significant developments worldwide are monitored for implications for the future direction of the programme policy. Effective information is essential for wide public acceptance and for expert implementation. To ensure this, RIVM provides information for the public through brochures, websites and social media, and for health professionals through training, guidelines, on websites and electronic newsletters.

Preventing infectious diseases

In the Netherlands, effective prevention and control of infectious diseases is the joint responsibility of a network of health organisations and professionals. RIVM Centre for Infectious Disease Control is the national knowledge centre and coordinator, providing policy advice to the Dutch Government and supporting professionals in health care and public health. The Centre is responsible for surveillance of infectious diseases, preparedness and response, and supervision of the National Immunisation Programme. There are three specialised laboratories: perinatal screening and diagnostics, immunology and vaccinology, and zoonoses and environmental microbiology.

As the Dutch Coordinating Competent Body, RIVM coordinates nationwide interaction with the European Centre for Disease Prevention and Control. RIVM also hosts the WHO Collaborating Centres for Risk Assessment of Pathogens in Food and Water, and Smallpox Vaccine.

RIVM is dedicated to evidence-based public health policy. Driven by public health challenges, we collect data and carry out research in close collaboration with universities and research centres worldwide. Our priorities for international collaboration on infectious disease are vaccine preventable diseases, preparedness and response to emergencies, antimicrobial resistance, mathematical modelling, and molecular epidemiology.

National Immunisation Programme

The National Immunisation Programme (NIP) protects children against 12 diseases: diphtheria, whooping cough, tetanus, polio, mumps, measles, rubella, Hib infections, Streptococcus pneumoniae, Meningococcus C, hepatitis B, and cervical cancer (HPV).
Healthy and sustainable cities

A healthy city has adequate green space because people feel more comfortable living in a green environment where there is the stimulus to walk and cycle, and even to grow their own vegetables. Green spaces in cities are also needed to moderate the consequences of climate change: increasing temperatures and dry periods, and more periods of heavy rain. Parks, woods and gardens provide shade in hot periods, and are less susceptible to flooding than paved areas.

To support municipalities in the Netherlands, RIVM has developed an approach that uses maps to assess where green spaces will be most beneficial. RIVM is also involved in European cooperation on developing a healthy environment for older people, a topic high on the agenda in Brussels.

Ultrafine particles and health

Fine particles in the air can be harmful to human health. RIVM investigates how to prevent emissions of the most harmful fine particles and to reduce the exposure of the population. The smallest particles – ultrafine particles – can penetrate deep into human lungs. Such ultrafine particles are the product of combustion processes in traffic, industry and heating. It is possible that the human immune system does not respond to ultrafine particles as well as it does to larger particles and thus the body is not as well protected against their toxic effects. It is also plausible that ultrafine particles have undesirable effects on the heart and other organs. RIVM is investigating how ultrafine particles can affect human health. RIVM participates in knowledge development in this area, for instance in cooperation with the WHO and with universities and research institutes.

Maintaining a healthy and safe environment

The Netherlands is a densely populated country with great pressure on the environment. National and local government have to make smart use of the options available to maintain a clean, healthy and safe environment.

RIVM is a leading institute in knowledge and expertise on the relationship between the environment and health. We monitor the quality of air, water and soil, and assess the risks to health and the environment. In the event of an accident or natural disaster, we measure and monitor the release of substances that may pose a threat to human health and the environment. For more than 50 years, we have been carrying out research on various sources of radiation, such as radioactive substances, light sources, high voltage power lines, and mobile phones.

In addition, RIVM responds to new environmental issues and new issues posed by society, for instance, the risks of pharmaceutical residues in wastewater, and whether there are health risks associated with nanotechnology. RIVM supports the transition to a sustainable and green economy so that future generations can live in a healthy environment.

Air pollution, dispersal of toxic substances and risks as a result of large-scale accidents or disasters do not cease at national borders and thus policy is set in a European framework. RIVM participates in international networks and leads the European Topic Centre on Air Pollution and Climate Change Mitigation of the European Environment Agency.
Integrated and multidisciplinary approach

RIVM delivers high quality scientific knowledge and expertise to meet specific requests of national and international organisations dealing with complex issues in public health and the environment. We keep abreast of new developments and trends in science and society, and use the expertise in our institute as effectively as possible in an integrated and multidisciplinary approach to problem solving. By continually exchanging and integrating knowledge and experience, we monitor and improve the quality of our output. In this respect, the Chief Science Officers (CSOs) play a key role. Their expertise and our extensive international contacts make us well positioned to connect people and knowledge within and outside our organisation.

The CSOs advise management on conducting research and are collectively responsible for RIVM Strategic Research that covers all RIVM activities under our own budget in anticipation of future challenges and developments. In addition, RIVM Strategic Research involves capacity building, innovation and sustainability. For this, we invest heavily in cooperation with partners in the international scientific community.

Our Chief Science Officers are experts in the following areas:

- Health Economics
- Host Response
- Mathematical Disease Modelling
- Integrated Risk Assessment
- System Assessments for Policy Support
- Risk Communication

Mirjam Kretzschmar
Chief Science Officer Mathematical Disease Modelling

Mathematical modelling

“We use mathematical modelling to integrate and interpret data on health and diseases. These models provide a framework for developing and testing scenarios for disease prevention and health policy. Our results are used by policy makers to support the choices they make.

“My task is to increase the visibility and to demonstrate the added value of mathematical modelling. For instance, by introducing modelling methods and concepts in new knowledge areas, and by working with colleagues to develop reliable and standardised methods to link data from different sources. This requires a multidisciplinary approach. By integrating knowledge from different areas of expertise, we can make future scenarios more consistent and transparent. In this work, we collaborate in international projects with others in developing and using mathematical models.”

Johan Polder
Chief Science Officer Health Economics

Health costs and benefits

“Health economics concerns the costs and benefits of health and health care, including disease prevention and long-term care. Our Health Care Performance Report, for instance, uses some 100 indicators to assess the quality, accessibility and costs of these services in the Netherlands.

“The RIVM Cost-of-Illness studies are widely acknowledged as trendsetting, and we participate in expert groups of the Organisation for Economic Cooperation and Development (OECD) and Eurostat. We analyse the dynamic interactions between health, disease and health expenditure to gain insight, for instance, in the role of medical technology and the consequences of healthy ageing for health expenditure. We make our knowledge more widely available by contributing to books, journals and conferences.”
Independence and integrity

RIVM is a reliable partner with integrity, working with governments and other organisations involved in public health and the environment. We maintain our impartial position by independently determining the most effective research methods and by making our research results available publicly in reports and on our website. Our independent position is set down in RIVM statutes.

Scientific Advisory Board

The scientific quality of our work is monitored by the Scientific Advisory Board, which includes a number of well-respected scientists. In consultation with the RIVM Director-General, the Board carries out scientific audits to assess our research against objective criteria thus ensuring our accountability. The Board ensures any criticism from within or outside the RIVM is dealt with correctly. The Board is also closely involved in assessing our strategic research activities.

Scientific integrity

Our position as a nationally and internationally respected knowledge institute is due to the quality of our work, and to the commitment and involvement of our staff. We expect our researchers to act with integrity, which implies that they are conscientious, reliable, accountable, impartial and independent in their work. This is set out in the RIVM Code of Conduct for Scientific Practice, which is based on the Code of Conduct of the Association of Universities in the Netherlands.

In addition, the regulation on Scientific Integrity governs how complaints are handled with regard to improper behaviour in science. This regulation specifies a role for an Intermediary for Scientific Integrity, who takes action on indications of possible infringements in integrity with regard to science at RIVM.

RIVM acts to prevent improper influence through a code on conflict of interest. This code is the initiative of health and scientific research institutes including the Royal Dutch Academy of Science. The code ensures that experts who participate in scientific advisory committees are transparent about their relations and interests. RIVM has its own addendum to the Code with regard to how RIVM stimulates scientific integrity, and respects and ensures transparency.

The codes and regulations referred to above are available at www.rivm.nl/en