

# The Role of the Institute of Public Health based in Usti nad Labem (Zdravotní ústav se sídlem v Ústí nad Labem) in the public health system



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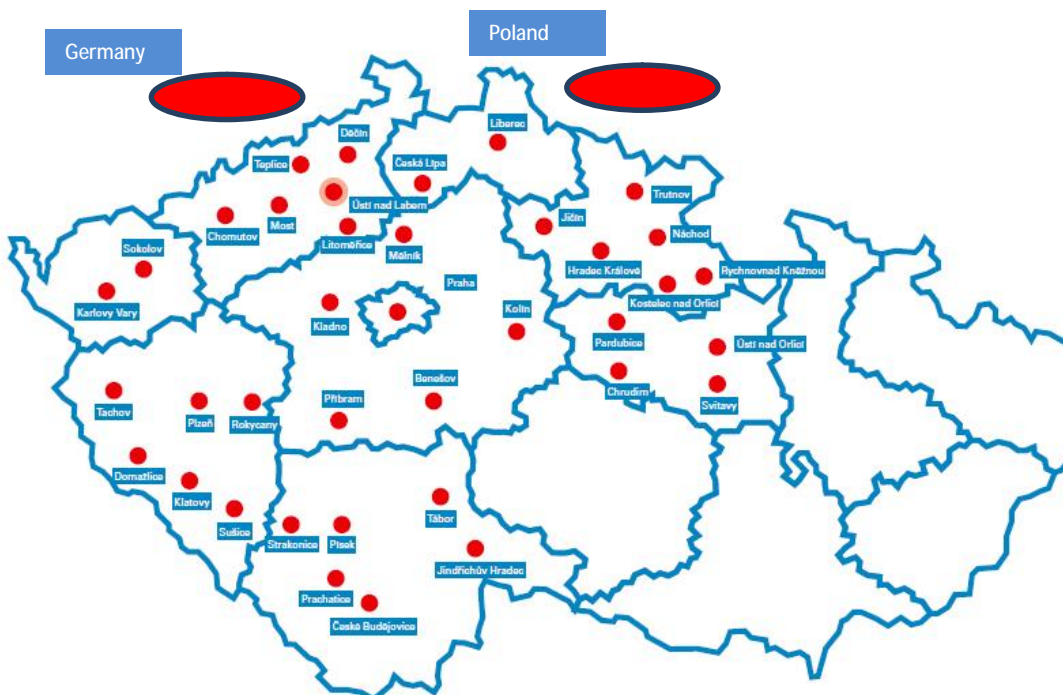
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The right for protection of health of citizens is anchored in Article 3 of the Czech Constitution and in Article 31 of the Declaration of Fundamental Rights and Freedoms. The legal framework for prevention activities has been constituted by the Act No. 258/2000 Coll. on the protection of public health, as amended, which lays down main responsibilities of individual public administration bodies.

The main mission of the Institute of Public Health (hereinafter only the ZU) is to provide expertise to public health bodies, to strengthen the public awareness in the field of health protection and prevention of infectious and non infectious diseases. Traditionally the ZU also carries out research as a part of its activities. The institutional base of the ZU was laid already in 1954.

**Fig. 1 – The Institute of Public Health based in Usti nad Labem - territorial scope of activities**



The services are provided mainly in the following fields:

## 1. environment

Specialized units and laboratories provide services in the following fields:



- Drinking water
- Waste water
- Swimming pool water
- Raw and produced water
- Warm water
- Laboratory activities for EFSA and ECHA
- Waste
- Liquid waste
- Solid waste
- Sludge
- Fish pond and river sediments
- Food
- Food contact materials
- Noise
- Vibrations
- Internal environment
- Lighting
- Microclimate
- Air
- Airborne particles
- Chemical substances

Most of the specialized units of the ZU are certified according to Act No. 258/2000 Coll. which guarantees the highest quality of services provided and activities carried out in line with its statute. The laboratories are accredited by the Czech accreditation institute.

The high standard of the services provided is guaranteed by a stable quality management system and experienced and well trained specialists in all relevant fields.

## 2. working environment

Analysis of various factors of the working environment is carried out by **hygiene laboratories**, department of **occupational medicine and labour physiology**. The activities involve assessment of lighting quality, impact of noise and vibrations, dust load and impact of other harmful substances, assessment of physiological parameters of the working environment and work place ergonomic parameters and other occupational medical services including plant inspections, consultancy and offer of health programs for businesses.



## 3. specialized inpatient and outpatient care

The top quality care is provided by the Centre for Immunology and Microbiology in the field of:

- ✓ Allergology, clinical immunology, ecoimmunology
- ✓ Medical microbiology, parasitology, virology, mycology and mycobacteriology
- ✓ Genetic toxicology
- ✓ Including referential activities.



## 4. support and protection of public health

This includes activities in the field of protection and improvement of the health status of the population and various population groups, in particular primary prevention with the aim to restrain relevant health risks and threats generated both by human or natural activities and prevent spreading of infectious diseases and epidemics, occupational diseases and other substantial health defects. The public health protection and support consists of:

- ✓ Authorized activity according to the Act No. 258/2000 Coll. and Act. No.100/2001 Coll.
- ✓ Authorized assessment of health risks according to the Act No. 258/2000 Coll.
- ✓ Monitoring and assessment of the health status of the population
- ✓ Consulting activities on environmental issues – air quality, chemical substances, health impacts
- ❖ Development of strategic documents
  - ✓ Vaccination and travel medicine
  - ✓ HIV/ AIDS consultancy services and testing
  - ✓ Consultancy on healthy lifestyle



The ZU also participates in **national and international projects** and in many **research and scientific studies** in the field of public health. Traditionally, in long term, we are

involved in handling the tasks of the **National HIV/AIDS programme** targeted at population groups with risk behaviour and aimed at identification and prevention of HIV/AIDS, STI, HBV, HCV. Besides that we implement health promotion projects for kindergardens, primary and secondary schools and high schools aimed at prevention of obesity, smoking, alcohol abuse, STD etc. Since 2012 we have been involved in the project “**Assessment of impact of external environment factors on the child’s allergy load**” financed by the Technology Agency of the Czech Republic.

**Participation in international projects aimed at:**

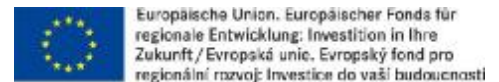
- ✓ HIV/AIDS, HBV a HCV prevention aimed at young population
- ✓ cervical cancer prevention (*AURORA*). The EC conference “**EU Health Programmes**“ held in 2012 ranked this project **among twenty EU best projects**.



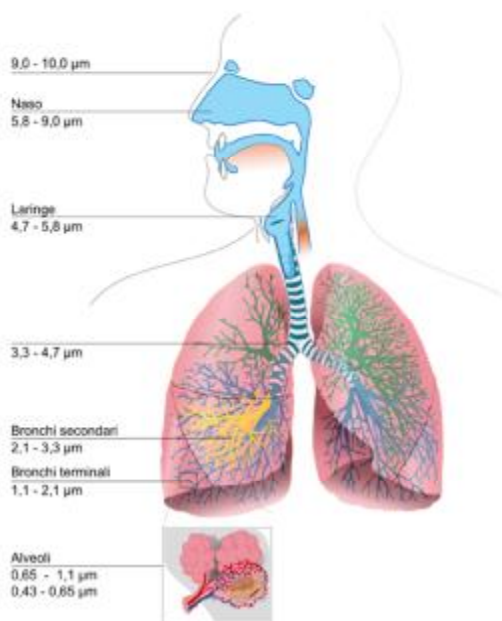
In 2011 a project led by the Medizinische Fakultät Carl Gustav Carus, Technische Universität Dresden was launched with financial support from the **Operational**

**Programme Cross-Border Cooperation CR-Saxony under the European Territorial Cooperation Objective**. The project titled “*Ultrafine particles and the health in Erzgebirgskreis and in the Ústí Region*” is aimed at identification of ultrafine aerosol particles and their impact on population health and is implemented by five partners from both countries:

- ✓ Technische Universität Dresden
- ✓ Sächsisches Landsamt für Umwelt, Landwirtschaft und Geologie
- ✓ Leibnitz – Institut für Troposphärenforschung e.V.
- ✓ Český hydrometeorologický ústav (Czech hydrometeorological institute)
- ✓ Ústecký kraj (Usti Region)
- ✓ Zdravotní ústav se sídlem v Ústí nad Labem (Institute of Public Health based in Usti nad Labem)



The main objective of the project is monitoring of ultrafine aerosol particles and their impact on the health status of the population. The size of ultrafine particles (UFP) does not exceed 100 nm. Thus, the particles can get deep into the lungs and go even through the cell wall and increase the risk of lung, allergic and cardiovascular diseases and neurological disorders.



During the project particle counters have been installed at two sites – Annaberg-Buchholz and Ústí nad Labem. Counting of particles is complemented by monitoring of meteorological conditions and particle quality in higher size ranges. The ZU shall use their own sampling equipment for collection of UFP in 8 campaigns in both localities during two years. Following the sampling the particles shall be analysed with special focus on metals, ions and organic compounds in order to identify main pollution sources.

Additionally, in cooperation with outpatient specialists and inpatient specialists from Masaryk Hospital in Usti nad Labem the project monitors changes in the health status of selected respondents from Usti nad Labem. Similarly, such monitoring is carried out also by the Technische Universität Dresden in Annaberg-Buchholz area. The

results will be processed by the ZU. The monitoring of the impact of transport will also be an integral part of the output. We presume that the study results will allow for proposing measures to reduce the UFP concentrations and possibly also their medically acceptable upper limits. Detailed project outputs will be accessible on the ZU web page after the project closure.

The ZU cooperated with Saxon partners already in the past. In 1996 - 1997 a joint study financed by the Ministry of Environment focused on odour substances in the air was carried out in cooperation with the Saxon Ministry of Environment and Land Use Planning; the representative of our Institute was a member of the Czech-Saxon work group for clean air. In 2005 – 2007 we participated in the project “Cross-border health prevention and care” implemented under the trinational project EU-MED-EAST.

Currently there are other potential cross-border projects with Saxony under discussion. On our part we see following topics of potential interest to both sides:

- Monitoring of air quality in populated areas on both sides of the border
- Monitoring of health data on both sides of the border to allow for assessment of environmental impact on health
- Prevalent and incident studies of diseases caused by environmental factors and the life style
- Monitoring of health determinants and health affecting behaviour in cross-border regions
- Monitoring of exposure to pollutants and physical factors linked with transport on both sides of the border
- Krušné hory as a holiday and wellness resort
- Sharing experience in health education from both sides of the border
- Natural focal infections – tick-borne encephalitis (National Park Czech-Saxon Switzerland)
- HIV/AIDS and STD in cross-border regions.

In parallel the ZU participates in WHO activities, namely in the Regions for Health Network which is a network of 32 European regions which address actions set in the new strategic document „Health 2020“.

Last but not least, we are participating in tenders for several projects, namely a tender launched by the Czech Ministry of Environment “Evaluation of the impact of interventions under axis 2 and 5 of OP Environment and a tender launched by the Technology Agency of the Czech Republic “The Competence Centre – COAL” and the Competence Centre “Sustainable development”.

**Remember:**



*“Health risks accumulation during the life prevents healthy aging”*

*The way to health in partnership  
with the Institute of Public Health based in Ustí nad Labem*

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