European project SCORCH kick-off meeting
Supportive Risk Awareness and Communication to Reduce impact of Cross-Border Heatwaves
Heidelberg University, Germany, March 27-29, 2019

Environmental Health Challenges and Priorities for Georgia

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Georgian National Center for Diseases Control and Public Health
www.ncdc.ge
NCDC

is a central public health and research institution under the authority of Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs
Established in 1996 on the basis of CDC / Atlanta

Functional Structure

1937    Establishment of the Anti-Plague Station in Georgia

1992    Research Center of Especially Dangerous Pathogens (EDPs)

1996    National Center for Disease Control

2004-   As a result of large-scale reorganization: Integration of
2007    Medical Statistics Center and Public Health Department

2013    Integration of R. Lugar Center for Public Health Research
NCDC Strategic Priorities

- Decrease of Morbidity, Disability and Mortality caused by Communicable Diseases and Non-Communicable Diseases
- Assessment and correction of environmental hazards and behavioral risk-factors for improvement of health in population
- Development of applied and fundamental bio-medical and bio-technological scientific research potential
- Strengthen preparedness capacities for rapid and effective response to the public health threats
- Develop electronic information systems
State Public Health Programs:
- Early Disease Detection and Screening
- Epidemiological Surveillance
- Immunization
- Blood Safety
- TB Management
- HIV/AIDS Management
- Maternal and Child Health
- Prevention of Occupational Diseases
- Health Promotion
- HCV Screening

Surveillance of Communicable Diseases:
- VPD
- Diarrheal
- Vector borne
- Respiratory
- Zoonotic
- Parasitic
- Hepatitis /STI/HIV/ TB

Surveillance of Non-communicable Diseases:
- CVD
- Cancer
- Diabetes
- CRD
- Risk- factors
- Health promotion
- Tobacco Control Strengthening

Non-Laboratory Part of NCDC

Medical Statistics
- Environmental Health
- Public Health Preparedness and Response
- Quality Control
- GF Programs
- International Collaboration

Training Center

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R. Lugar Center for Public Health Research

Accreditation & Certification – NCDC / Lugar Center

Bio-safety and EDP Department
- Bio-Safety Division
- National Repository
- EDP Lab
- Zoo-Entomology Lab
- General Bacteriology Lab
- Vivarium
- Sample Receiving group

Virology, Molecular Biology and Genomic Department
- Molecular Epidemiology / Genomics
- Influenza and Respiratory Viruses Lab
- Polio and other Entero viruses lab
- Cell Culture Lab
- Serology Lab – HCV Research Subunit

3 Labs accredited by WHO
- Polio
- Influenza
- Measles/Rubella

5 Labs Connected to WHO Lab Network with EQA
- Rota
- Invasive Meningitis
- Malaria
- Salmonelosis
- AMR

ISO 15189
MEDICAL TESTING LABORATORY

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Surveillance System
Under “One Health” Concept

194 sites:

Human / Veterinary 2 sites

Human sites: 90

Veterinary sites: 102

Population based surveillance:

- 72 diseases/conditions are reported through surveillance system
- Two types of notification: urgent and aggregated
- Urgent – 52 diseases/conditions
- Reporting and epi investigation is performed by PHC workers

Syndromes under surveillance: Sentinel surveillance:

- AFP - ILI /SARI
- Diarrheal diseases - Rotovirus
- Food poisoning - Invasive meningitis
National Immunization Program Achievements

Vaccination coverage

Immunization program budget, Gel

Vaccination Schedule

<table>
<thead>
<tr>
<th>Vaccines</th>
<th># of doses</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCG</td>
<td>1</td>
<td>Newborns 0-5 days</td>
</tr>
<tr>
<td>HepB</td>
<td>1</td>
<td>0-12 hours from birth (mono)</td>
</tr>
<tr>
<td>Hib+DPaT+HEPB+IPV</td>
<td>3</td>
<td>2, 3, 4 months</td>
</tr>
<tr>
<td>Polio (bOPV)</td>
<td>2</td>
<td>18 months, 5 years.</td>
</tr>
<tr>
<td>DPT, DT, Td</td>
<td>3</td>
<td>18 months, 5 years, 14 years</td>
</tr>
<tr>
<td>MMR</td>
<td>2</td>
<td>12 months, 5 years</td>
</tr>
<tr>
<td>Rota</td>
<td>2</td>
<td>2, 3 months</td>
</tr>
<tr>
<td>PCV</td>
<td>3</td>
<td>2, 3, 12 months</td>
</tr>
</tbody>
</table>
Hepatitis C Elimination Program in Georgia

Goal
Elimination of HCV by ensuring prevention, diagnostics and treatment of the disease

Targets
90-95-95
By 2020

- 90% of people living with HCV are diagnosed
- 95% of those diagnosed are treated
- 95% of those treated are cured

Initiated treatment 50 000
Completed treatment 44 000
Overall cure rate - 98.2% (April 2018)

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GHSA has become a new vision for Georgia since 2014:

- **Real-Time Surveillance** - as a leading country
- **National Laboratory System** – as the contributing country
- **Zoonotic Diseases** – as the contributing country

As Georgia is active in contribution to Regional Disease Surveillance, it is chairing The Biosurveillance Network of the Silk Road (BNSR);

NCDC was designated as the national IHR Focal Point;

- WHO IHR was fully implemented in 2012;
- 24/7 Duty Officer System is established;

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Universities, Research Centers, Public Health institutions:
- University of Florida
- University of Maryland
- Emory University
- Johns Hopkins University
- North Arizona University
- Bundeswehr Institute of Microbiology
- University of Oslo
- The Italian National Institute of Health
- German Environment Agency
- Public Health England etc.

Principal Recipient of GFTAM Grants

CDC / Atlanta

WRAIR

NIH

FAO / OIE

WB

WHO

WHO

UNFPA

UNICEF

USAID

GAVI ALLIANCE

BMJ
Georgia. 2012. Disease Burden and Deaths Attributable to the environment

Source: WHO Global Health Observatory data repository

- Total Deaths: 352,203
- Total DALYs: 123,622
- DALYs due to Infectious, parasitic, neonatal, nutritional: 172
- DALYs due to Noncommunicable Diseases: 178,381
- DALYs due to DALYs: 116,600
- DALYs due to DALYs: 295,626
- DALYs due to DALYs: 530
- DALYs due to DALYs: 387,400

- 21% DALYs
- 25% Deaths
- 22% DALYs
- 23% Deaths

WHO Global

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Air Pollution and Health
SDG indicator 3.9.1.: Mortality rate attributed to household and ambient air pollution. Georgia.2016

6845 Deaths

SDG 3.9.1. Index/per 100 000

Lower respiratory infections 14
Trachea, bronchus, lung cancers 259
Ischemic heart disease 4092
Stroke 1886
COPD 595

Global 94.8 WHO ER 60.8 Georgia 184.0

Deaths

Source: WHO World Health Statistics 2016Georgia 184.0

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Water and Sanitation

Burden of disease attributable to water, sanitation and hygiene, for the year 2016. WHO. Georgia

WSH Deaths Total (95%CI) - Diarrhea

0-4 years

Total WSH DALYs (95%CI)

Regulation of water consumption represents one of major challenges not only for water supply system and sanitation, but also for effective environmental activities and sustainable development.

Source: WHO/UNICEF Joint Monitoring Programme estimated trends on water coverage for Georgia


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Climate Change and Health

Mortality index attributed to ambient and indoor air pollution is high - 204.9*

Climate action is necessary in all sectors to be able to meet NCD targets and the long-term goals of the Paris Agreement to limit global temperature increase to "well below 2°C"

Source: WHO World Health Statistics 2016
Climate Change. What Georgia has committed

As a Party to the UNFCCC and Paris Agreement, Georgia is committed to reduce adverse effects of climate change on the environment and human health and is taking concrete action in this direction

1. Under the INDC Georgia is committed to:
   • 15% GHG emissions reduction comparing to the BAU scenario by 2030;
   • 10% additionally in case of international support.
2. Currently Georgia works on:
   • Elaboration of Nationally Determined Contribution (NDC);
   • Elaboration of Climate Action Plan 2021-2030 (CAP);
   • Preparation of Second Biennial Update Report (BUR) addressing the national GHG inventory and mitigation policies and measures.
3. Elaboration of Law Emission Development Strategy (LEDS) until 2050 will start in 2019;
4. Elaboration of National Adaptation Plan 2021-2030 (NAP) will start in 2020;
Vulnerability of Georgia’s Health Sector to Climate Change

01 Vulnerability parameter values for 3 municipalities were assessed by using the multi-criteria analysis in conditions of the current and projected climate changes. The results revealed that until 2050 the healthcare sector is the most vulnerable to current and projected climate changes, which creates the need to strengthen appropriate adaptation measures.

02 Lack By taking into account the alarming increase in diarrheal, CVD, Respiratory system diseases and trauma, appropriate recommendations were developed and prepared for healthcare sector.

03 Risk assessment
Control and management of the relevant risk factors
Surveillance of the potential diseases;
Monitoring and Environmental Public Health Tracking

Environmental and health system should include:

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In accordance with the analysis conducted in the framework of the Third National Communication, climate-related diseases in Georgia are not evenly distributed among regions and depend on the type of manifestation of climate change.

- Among climate-related diseases, diarrheal diseases turned out to be the most widely spread in Ajara region, incidence of which exceeded average indicator of Georgia 5 times in 2009-2010 in adults as well as in children.

- Out of climate-related diseases, the most actual in Upper Svaneti was trauma, and out of chronic pathologies–cardio-vascular and respiratory system diseases.
Vulnerability of Georgia’s Health Sector to Climate Change

• Significant increase of cardio-vascular diseases was also recorded in Kakheti region, where, according to the data of 2010-2011, lethality caused by these pathologies in Kakheti was twice as much as in Tbilisi.

• For all the three examined regions it was revealed that the increase of air temperature, activation of heat waves and decrease of precipitation contribute to the persistence of the trend of increase of total number of incidences of cardio-vascular diseases.

• This effect was particularly clearly revealed on the example of Tbilisi for the data 2003-2013, which, according to the indicators of spreading of cardio-vascular diseases, twice exceeds the parameters of Kakheti and Imereti.
National Environmental Health Action Plan
Adopted by the Government of Georgia in December 2018

1. Establishment of National Coordination council
2. Activation of Coordination and Monitoring Mechanism
3. Annual Reporting and Evaluation
4. Assessment of Effectiveness

Strategic objective
Water Sanitation
Physical Activity
Air
Chemicals

2018
2019
2020
2021
2022
NEHAP 2. *Strategic Objectives*

1. Ensure public health through improvement of access to safe and sustainable water supply and sanitation. Ensure access of each child to safe water supply and sanitation.

2. Improved children accessibility to healthy and safe environments and settings of daily life, promoting their increased physical activity.

3. The impact of ambient and indoor air pollution on human health assessed and implemented measures to reduce the harmful effects.

4. Prevention of morbidity caused by exposure to chemical substances.

5. Integration of health issues in climate change adaptation and mitigation policy.
NEHAP 2. Strategic interventions

- STRATEGIC OBJECTIVE 5: INTEGRATION OF HEALTH ISSUES IN CLIMATE CHANGE ADAPTATION AND MITIGATION POLICIES.

  - MTO 5.1 Evaluate vulnerability to climate change, health impacts and adaptation (health care aspects) including assessment of existing and anticipated risks related to health impacts of climate change.
  - MTO 5.2 Develop National Health Care Adaptation Strategy and Action Plan, among them, for medical facilities;
  - MTO 5.3 Harmonize the legislation with regard to the requirements of the UNFCCC Convention and assessment of health outcomes.
  - MTO 5.4 Health care facilities reduce the share of greenhouse gas emissions X% in national emissions by 2020 (from 2018), including introduction of renewable energy use in several hospitals within the framework of the pilot project.
NEHAP 2. Strategic interventions

Strategic objective 5 KPIs

• 1. The final report, which analyzes the current and expected risks of vulnerability to climate change, is approved and published;

• 2. The Public Health Policy and Programs required to reduce the climate change attributable health risks are elaborated;

• 3. National Reports on Vulnerability, Impact and Adaptation to Climate Change (Midterm and Final) are approved;

• 4. National Strategy and Action Plan for Health Care Adaptation to Climate Change are published;

• 5. Report on analysis of deaths resulting from high temperature impacts is published;

• 6. Report on Detailed Analysis of Health System Energy Efficiency is developed and published;

• 7. Manuals on energy efficiency and climate change are elaborated and published, Health Care personnel are trained.
Why does Georgia need a Climate Action Plan (CAP)?

The process can help deal with existing challenges and embrace opportunities.

**Challenges**

- Lack of **financial resources** to implement additional measures.
- Difficulty to **coordinate** between institutions on **responsibilities** for additional measures.

**Opportunities**

- The CAP will increase the visibility on the international stage, potentially **attracting climate finance**.
- The process for development of the CAP involves **dialogue between stakeholders** and the clear designation of **roles and responsibilities**.
CAP in line with Georgia’s other development priorities

In 2016, the EU Association Agreement entered into force, requiring Georgia to implement a range of measures across sectors in the coming years.

**EU AA Directives**

- **2008/50/EC** on ambient air quality specifies clear targets and limit values for local air pollutant concentrations.
- **2010/31/EU** on energy performance of buildings specifies performance standards for building structures and construction materials.
- **2009/28/EC** on the promotion of renewable energy specifies minimum targets for the use of renewable energy and for supporting policies.

**Potential actions under CAP**

- Measures to improve energy efficiency and public transport will reduce CO2 emissions as well as local air pollutants.
- Measures to improve energy performance in buildings will reduce CO2 emissions whilst supporting compliance with the EU Association Agreement.
- Measures to support renewable energy will reduce CO2 emissions whilst supporting compliance with the EU Association Agreement.
Environmental Public Health Tracking Project

1) Waterborne diseases and WASH in Child Care and Educational facilities;
2) Surveillance of Lead Poisoning in Children/Lead Biomonitoring;
3) Urban Air Pollution impact on health
   (Mortality, Hospital admissions, Emergency Visits);
4) Carbon Monoxide Poisoning – Deaths and serious injuries
Collaboration with international Organizations in the field of Environmental Health is our priority.

Main Partners:
- LRTAP Convention
- THE PEP
- Children’s Environmental Health
- Twining Projects
- World Health Organization
- German Federal Environment Agency
- Italian National Institute of Health
- UNECE
- CDC
- UNICEF

Environmental Health European Process

European Process

Collaboration with international Organizations in the field of Environmental Health is our priority.

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Thank you for your attention!