Health is a primary human right and one of the major driving forces for the development of countries. According to the World Health Organization’s definition, health is specified as a state of complete physical, mental, and social well-being and not merely the absence of disease. The major responsibility of the State is to ensure the health of the population and is based on a new public health concept emphasizing that the main direction of global health development in the twenty-first century is early diagnostics and prevention of diseases and their symptoms, as well as personalized treatment based on the peculiarities of the human genome.

Early detection and prevention of diseases is the core mandate of the National Center for Disease Control and Public Health. A precondition of its implementation is strong infrastructure, modern laboratories, and most significantly, highly trained human resources. This allows NCDC to promote and implement the measures for prevention of communicable and non-communicable diseases, monitoring, reduction of harm caused by environmental and other behavioral risk factors on the basis of evidence-based information through public health preparedness, and timely response to threats.

I am honored to have been involved in establishing the National Center for Disease Control and Public Health in the 1990s and to now be in charge of one of the leading, traditional, and distinguished institutions of our country’s health system.

Amiran Gamkrelidze, MD, PhD, Prof.
Director General of National Center Disease Control and Public Health
INTRODUCTION

The LEPL L. Sakvarelidze National Center for Disease Control and Public Health (NCDC or Center) is designated as a central agency for public health in Georgia. The history of the institution takes its origin from 1937, when a Georgian Anti-Plague Station (APS) was established. After Georgia regained its independence, the Georgian APS was transformed into the Research Center for Especially Dangerous Pathogens (EDPs) in 1992 and, following reform of the Sanitary Epidemiological System in 1996, it was legally established as NCDC.

Additional major reorganizations took place from 2003 to 2007 by assuming the functions of a medical statistics and the public health department. In 2013, the Richard G. Lugar Center for Public Health Research (Lugar Center) was fully integrated with the NCDC.

The NCDC is a legal entity of Public Law accountable to the Ministry of Labour, Health and Social Affairs (MoLHSA) with a dedicated line in the State budget. The NCDC provides national leadership in preventing and controlling communicable and non-communicable diseases through developing national standards and guidelines, health promotion, disease surveillance, immunization, laboratory work, research, providing expert advice, and responding to public health emergencies. The NCDC provides health statistics to monitor population health and guide policy actions.

Since 2013, the NCDC has been a principal recipient of grants from the Global Fund to Fight HIV/AIDS, tuberculosis (TB), and malaria and has implemented the HIV and TB grants since April 2014.
VISION: Our Knowledge - for Public Health

MISSION: Protection and improvement of the health of the Georgian population through scientific, evidence-based prevention, preparedness, and timely response to public health threats.

In accordance with the 2013-2017 strategic plan, the NCDC articulates four major strategic priorities:

- Decrease morbidity, disability, and mortality caused by communicable diseases
- Decrease morbidity, disability, and mortality caused by non-communicable diseases
- Assess and correct environmental hazards and behavioral risk factors to improve health status of population
- Develop applied and fundamental biomedical and biotechnological scientific research potential
Based on the immense importance of NCDC’s functional activity, a Supervisory Board, which is a multisectoral management body, was established to manage the Center.

Decree #422 of the Government of Georgia from May 7, 2013 provided the basis for establishing the Supervisory Board. In compliance with the Decree, NPLE Richard G.Lugar Center for Public Health Research was liquidated and liquid and real assets were transferred to the NCDC. According to the Decree, full functional integration of the Lugar Center into the NCDC organizational structure was implemented.

The Board is chaired by the Minister of Labour, Health, and Social Affairs of Georgia, Mr. David Sergeenko. The Board members represent: Ministry of Labour, Health, and Social Affairs, Ministry of Agriculture, Ministry of Finance, Ministry of Education and Science, Ministry of Environment and Natural Resources Protection, Ministry of Defense, Ministry of Internal Affairs; U.S. Defense Threat Reduction Agency (DTRA), U.S. Centers for Disease Control and Prevention (CDC), Walter Reed Army Institute of Research (WRAIR) and other international/partner organizations participate in the Board activity with deliberative vote, as necessary.

The main functions and powers of the Supervisory Board are to review the Center’s policy, strategic direction, annual budget, center Development Strategy and Action Plan; presentation the reports of the Director General; and implement other authorities provided by the law.
After restoration of Georgia’s independence, the Georgia APS became part of Georgia’s Ministry of Health. Professor Guram Katsitadze was appointed as the APS Director in 1991, following the death of Professor Levan Sakvarelidze, who had been the director since 1978. I was fortunate enough to work as Prof. Katsitadze’s Deputy at the Institute of Hygiene and Epidemiology and I continued to work with him at the APS. Our first real test was during the war in the Abkhazia region, after Russian TV stations broadcast disinformation stating Georgians released infected monkeys from the Sukhumi Monkey Breeding Facility with the intention of waging biological warfare against Abkhazians. At the end of August, the APS virologist and I flew to Sukhumi, along with our soldiers. We verified that both the Sukhumi Breeding facility and the “Culture Museum” were intact. We documented this in our report and provided it to the Director, an ethnic Abkhaz, who signed the report and sent it to Moscow. During the same year, despite the war and disturbance, a field epidemiology group conducted work in the Samtskhe-Javakheti region and identified Y. pestis cultures from samples collected in the Javakheti plateau. It is also important to note that we successfully contained and eliminated the threat of an outbreak in the village of Maghlaki (Tskaltubo region), where one patient died from intestinal anthrax, which was Georgia’s first case of this type. In autumn 1992, I assumed the roles and responsibilities as Director from Prof. Katsitadze, and I have since had the privilege of leading this ama-
In 1992, laboratories of intestinal and hospital infections from the Institute of Medical Parasitology and Tropical Medicine, and the Department of Especially Dangerous Pathogens from the Republican Sanitary Epidemiological Station, joined APS. In 1993, APS became the Scientific-Practical Center for EDP Infections. From 1994 to 1995, USAID supported the work of the CDC/Atlanta office in Tbilisi, led by Dr. Stanley Music. Dr. Stanley Music was instrumental in training Georgian epidemiologists. Several trainees travelled to CDC/Atlanta to learn about the CDC structure and work. In 1996, Georgia started widespread reforms of our health system, including the sanitary-epidemiological system. In pursuance of the decision of the Ministry of Health, the NCDC was established and Epidemiology and Immunization departments from the Republican Sanitary-Epidemiological Station joined the Center. At that time, the utmost priority was controlling a diphtheria epidemic. A massive immunization campaign was conducted with the support of USAID, UNICEF, and the EU and resulted in a sharp reduction of morbidity incident rates to single cases. Also noteworthy are the large-scale immunization campaigns against polio during Operation MECACAR, funded by the WHO (Europe and Mediterranean regions) and the establishment of a polio surveillance program in Georgia. In 2002, the WHO declared Georgia free of polio. The next serious challenge was the return of malaria to Georgia almost 30 years after its elimination. The large-scale anti-epidemic and prophylactic measures implemented by the NCDC, with the assistance from the WHO and the Global Fund, allowed us to contain malaria and avoid a possible epidemic. In the late 1990s, despite lack of funding, we identified the causative agents and transmission routes for shigellosis (Rustavi), NEG-vibrios (Qobuleti), amebiasis (Tbilisi), and typhoid fever (Zugdidi and Kizil Ajalo) and were able to stop outbreaks. In 1996, the Molecular Epidemiology Department was established, which became the face of our institution. Our first scientific projects began in 1997, with grants from the Fogarty Foundation. This provided the opportunity to fully implement molecular biological methods in both laboratory and epidemiological practice. Since that time, we have received grants from the International Science and Technology Center (ISTC), Bioinformatics Training and Education Program (BTEP), Science and Technology Centre of Ukraine (STCU), and through Cooperative Biological Research (CBR) projects funded by DTRA.
Official reliable data about large-scale actions for infectious disease prevention have only been available since the 1920s. These data are mostly about “decreed” vaccinations against smallpox.

For centuries, malaria was a national calamity throughout Georgia. During the same period, a large percentage of the population was infected by TB. Widespread airborne infections were the main cause of child mortality and there were high incidences of typhoid, dysentery, and parasitic typhus.

The totalitarian nature of the Soviet regime reflected on the character of the fight against infectious diseases. Along with a number of defects, successes achieved in the fight against infectious diseases should be mentioned. Universal and compulsory smallpox vaccinations led to a practical eradication of the disease in a very short period of time. Anti-malaria measures were well-targeted. Wetlands were dried and systematic implementation of bonification of inhabited areas substantially reduced the malaria vector spread area. The coordinated work of anti-malaria stations and the entire epidemiological service provided identification of every patient and their proper treatment. Through the well-established epidsurveillance system,
widespread complex anti-malaria measures were provided to achieve the practical elimi-
nation of malaria morbidity (since the 1970s). The following period continued with the per-
manent control of meso and hipermalarigious areas, large- and small-scale bonification
work, introduction of gambusia into water reservoirs, and the epidemiological monitoring of
individuals who traveled from malaria-affected countries.

One of the health service’s achievements of that time was the practical elimination of diphen-
teria morbidity. It is noteworthy that in the Soviet Union, the first official decree regarding the
mandatory vaccination of children ages 1 to 8 was adopted by the Tbilisi Council in 1930.
During the following years, the vaccination schedule was changed several times (identifying
the groups for vaccination, initial age, revaccination terms, and nature of vaccines). One of
the reasons the vaccination schedule was changed was the result of the negative attitude
toward vaccination of a significant part of the population, which unfortunately, was support-
ed by some unqualified or dishonest doctors. Vaccination personnel often faced powerful,
insurmountable resistance. The breakthrough came after the Sanitary-epidemiological Ser-
vice of one of the regions started vaccination and laboratory testing in collaboration with
the Department of Epidemiology of the Medical Institute. In a short time, impressive results
showed that managing diphtheria with active immunization was an achievable task. In the
1960s, diphtheria incidence minimization and practical elimination were achieved.

Planned vaccination against TB, diphtheria, tetanus, pertussis, polio, measles, and mumps
were conducted in Georgia since 1950-1960.
The Lugar Center is a brand-new facility of the NCDC that became operational in August 2013.

The Lugar Center is a top-tiered institution of the country’s laboratory network and serves as a reference laboratory for Georgia’s public health system.

In 1997, the U.S.–Georgia Umbrella Agreement was signed. In 2002, the U.S.–Georgia Implementing Agreement was signed (U.S. Department of Defense [DoD]/Georgia Ministry of Defense [MoD]) regarding “Cooperation in the Area of Prevention of Proliferation of Technology, Pathogens and Expertise Related to the Development of Biological Weapons” and the Center building construction began in 2007.
During the last 13 years, based on those agreements, the U.S. government has provided approximately USD$350 million in financial and technical assistance in the area of human and animal health and biosafety. The Cooperative Biological Engagement Program (CBEP), implemented by DTRA, supported renovating laboratory networks with modern biosafety features for detection of human and animal pathogens. Significant resources were also invested in personnel training.

The Lugar Center, including all equipment, has been transferred to the Georgian Government,
and in 2018 the Government of Georgia will take full responsibility for funding and operating the Laboratory Network.

The Lugar Center is a unique capacity laboratory that plays a significant role in reducing public health threats and increasing the safety of the country. The main functions of the Lugar Center include the following:

- Proper operation of the laboratory system for EDP detection, surveillance, and response;
- Conducting public health, epidemiology, bio-security, epizootiology, and environmental health problems research;
- Providing scientific and practical training in cooperation with universities;
- Providing laboratory service for a communicable disease surveillance system;
- Conducting the epizootic and entomological surveys in the foci of especially dangerous and other infections;
- Organizing and functioning of national reference laboratories, especially dangerous infection-related activities, laboratory biosafety, and the national repository of bacteria and viruses;
- Providing laboratory diagnosis of hospitalized and ambulatory patients, laboratory investigation of environment, pathogen reservoirs, and vectors;
- Checking antimicrobials and anti-insecticides for their disinfection and sterilization power;
- Monitoring biosafety;
- Participating in the development and classification of biological agents and standards for the laboratory activities on especially dangerous infections.

The Lugar Center consists of modern biosafety level 2 and 3 (BSL-2 and BSL-3) laboratories, with emphasis on timely detection and identification of human and animal pathogens based on the One Health principle.
The BSL-3 facility houses bacteriology and virology laboratories and the national repository of human and animal EDPs. The BSL-3 facility is unique to Georgia as well as the entire Caucasus and Central Asia region.

All clinical laboratory work and research that requires BSL-3 containment is carried out at the BSL-3 facility.

The BSL-2 space encompasses several laboratories: bacteriology, virology, serology, molecular biology/genomics, cell culture, parasitology, and entomology.

Three laboratories are accredited by the WHO: polio, influenza, measles/rubella, and four laboratories are connected to the WHO laboratory network for External Quality Assessment (EQA): rotaviruses, invasive meningitis, malaria, and salmonellosis. Based on this, the NCDC plans to apply for WHO Collaborative Center status.

The BSL-3 space is also used by the Laboratory of the Ministry of Agriculture (LMA) and Eliava Institute of Bacteriophages, Microbiology, and Virology; the BSL-2 space is shared with the WRAIR.

The Lugar Center provides venues for training graduate and doctoral-level students from different universities, including neighboring countries.
The EDP Investigation Unit represents a structural unit at the NCDC that has been involved with the EDP investigation for more than 60 years. It has BSL-2 and BSL-3 level laboratories for diagnosis and research of infectious diseases, modern equipped buildings, and highly experienced, qualified personnel. The Unit is the former APS; it currently represents one of the main bases of Global Security/Safety in Georgia. The Unit is responsible for the following strategic aims: 

a) Identifying EDPs; 
b) Monitoring EDPs and natural foci, reservoirs, and vectors; 
c) Laboratory investigation and scientific/research studies of infectious diseases, including EDPs in the Country of Georgia and the south Caucasus region.

The NCDC will become the main and most significant entity in the area of biosecurity of the country through the EDP Investigation Unit’s activities.
Strains of infectious disease causative agents, including EDPs, are stored at NCDC’s Bacterial and Viral National Repository. The history of the repository has begun since the ‘60s of the last century when the live “culture museum” of the Georgian APS received two strains of *V. cholerae asiatica* (OGAWA).

Strains collected during the last 60 years, such as *B. Anthracis, F. Tularensis, Y. Pestis, Shalmonella spp, Shigella spp, C. Botulinum, and V. cholerae*, are stored at -80°C at the Repository. The repository is located in the BSL-3 facility and applies specific processes including procedures for registration, storing, transferring, renewing, and so forth that are linked to international biosafety/biosecurity standards.

The Repository is one of the units that enforces biosecurity and biosafety principals for safe keeping, transferring, and monitoring the EDP strains. In addition to human pathogens, animal pathogens are kept at the Repository, monitoring of which is crucial to the economy of the country.

**Distribution of Anthrax cases in Georgia**

**High-Mountainous Focus of Plague in Georgia**

*Vectors Distribution by Altitude*
**Zoentomology Unit**

The Zoentomology Laboratory of the NCDC monitors reservoirs and vectors of infectious diseases, including EDPs. Entomologists and zoologists regularly perform studies of foci of infectious diseases, including EDPs, collecting vectors for identification and screening, and assessing the epizootology situation during sporadic cases or outbreaks. The Zoentomology Laboratory is one of the units in the organization that administers the surveillance program; its staff is highly qualified.

**General Bacteriology Unit**

The General Bacteriology Laboratory conducts diagnostic and research activities on parasites, fungi, and different gram positive/gram negative aerobes and/or anaerobes. The main activities are: study of morphology and biochemical characteristics of microorganisms (bacteria, fungi, and protozoa); study of antimicrobial susceptibility testing and sensitivity against different disinfectants; participation in the program of prophylaxis and prevention of pathogenic microorganisms; and diagnosis of parasitic diseases.

The Laboratory is an integral part of the surveillance program and participates in several State and research programs.

Under the WHO, the General Bacteriology Laboratory is functioning as an Antimicrobial Resistance (AMR) Reference Laboratory within Georgia and leads the National Microbiological Laboratory Network across the country.
### BIOSAFETY AND ESPECIALLY DANGEROUS PATHOGENS DEPARTMENT UNITS

<table>
<thead>
<tr>
<th>Division/Unit</th>
<th>Leader/Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOSAFETY DIVISION</td>
<td>Gela Mgeladze</td>
</tr>
<tr>
<td>NATIONAL REPOSITORY OF BACTERIA AND VIRUSES</td>
<td>Natia Chubinidze</td>
</tr>
<tr>
<td>ESPECIALLY DANGEROUS PATHOGENS LABORATORY</td>
<td>Merab Shavishvili</td>
</tr>
<tr>
<td>ZOOENTOMOLOGY LABORATORY</td>
<td>Nikoloz Tsertsvadze</td>
</tr>
<tr>
<td>GENERAL BACTERIOLOGY LABORATORY</td>
<td>Lile Malania</td>
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<tr>
<td>VIVARIUM</td>
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<tr>
<td>ANALYSES RECEIVING AND PROCESSING GROUP</td>
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</table>

### Virology, Molecular Biology, and Genome Research Department

**Head of Department**

Gvantsa Chanturia

### GENOME STUDIES

The Laboratory of Molecular Epidemiology of the Lugar Center has a well-equipped Genome Center that contains all main and supplementary equipment and software for Sanger and Next...
Generation (MiSeq, Illumina) sequencing. This laboratory has the potential to sequence selected gene fragments and for whole genome sequencing of bacterial genomes, RNA sequencing, transcriptomics, and for sequencing of metagenomic samples. Data obtained from Next Generation Sequencing can be analyzed with CLC-Bio, EDGE, and other software available at the Center. Our scientists participate in the scientific projects along with other Georgian and international partner organizations. They also provide training and consultations for the colleagues and students of Georgian and regional universities and institutions in sequencing and genotyping methods.

<table>
<thead>
<tr>
<th>VIROLOGY, MOLECULAR BIOLOGY, AND GENOME RESEARCH DEPARTMENT UNITS</th>
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<tbody>
<tr>
<td>❯ LABORATORY OF MOLECULAR EPIDEMIOLOGY</td>
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<tr>
<td>(Ekaterine Zangaladze)</td>
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<tr>
<td>❯ LABORATORY OF INFLUENZA AND RESPIRATORY VIRUSES</td>
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<tr>
<td>(Ann Machablishvili)</td>
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<tr>
<td>❯ LABORATORY OF POLIOMYELITIS AND OTHER ENTEROVIRUSES</td>
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<tr>
<td>(Tamar Kutateladze)</td>
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<tr>
<td>❯ LABORATORY OF TISSUE CULTURE</td>
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<tr>
<td>(Tatiana Shutkova)</td>
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<tr>
<td>❯ LABORATORY OF SEROLOGY / MEASLES-RUBELLA AND ROTA VIRUSES</td>
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<tr>
<td>GROUPS</td>
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<td>(Nazibrola Chitadze)</td>
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</table>
Since 2012, I have been honored to be a member of the NCDC team. It is a great honor but also a great responsibility to manage the Communicable Diseases Department, the Regional Public Health Management Department and the State Programs Department. Proper functioning of these departments is very important to maintain favorable epidemiological situation for the general population.

The Communicable Diseases Department is responsible for reducing public health threats, that is the center’s priority direction. The staff of the Department works in 24/7-on mode to provide health security of the population through communicable diseases prevention, timely response and control. The reduction of vaccine-preventable diseases is an especially noteworthy contribution of the Communicable Diseases Department, since creation and maintaining a high immune status for the population is the most effective means of preventing communicable diseases and is the greatest achievement of modern medicine.

The Regional Public Health Management Department is represented as the divisions in Imereti, Adjara Samegelo-Zemo Svaneti, Guria, Poti, Racha-Svaneti, Shida Kartli, Kakheti, and Samtskhe-Javakheti. The Department plays the important role in terms of prevention of communicable and non-communicable diseases. Each unit is represented by regional di-
agnostic (BSL-2 level) TB bacterioscopy laboratories and epidemiological group. Their main function in the region is epidemiological and laboratory surveillance of EDPs and other communicable and non-communicable diseases, delivery of laboratory services in case of epidemiological outbreak and survey of other unfavorable public health situations.

The State Programs Department, which manages and monitors eight public health programs, contributes to the reduction, early detection and control of communicable and non-communicable diseases. Program activities decrease the burden caused by the different diseases, as well as helps the country to reach the Millennium Goals.

From 2015, I am responsible as well for management of the newly created Business Development Unit (BDU). The BDUs functions and tasks are in response to the challenges the Government took after signing the Joint Transition Agreement (JTA) with the U.S. government and include increasing scientific and research potential and commercial capabilities. At the same time, activities united under the BDU have a special importance, because their efficiency largely determines the long-term financial sustainability of the Center.
One of the NDCD’s most important priorities is to perform surveillance on communicable diseases. The Communicable Disease Department is working in cooperation with the public health laboratory network to conduct unified surveillance on communicable diseases, as well as execute outbreak and pandemic investigations; perform surveillance on HIV infection/AIDS, hepatitis, sexually transmitted diseases (STDs), and TB; within the competence of the Center, coordinate International Health Regulations (IHR) on a national level; plan and coordinate management of immunization activities; fulfill “cold chain” principles, etc.

Within the framework of the Department’s activities during the recent two years, it was possible to introduce two new vaccines (against rotavirus disease and pneumococcal infection) into the national immunization calendar. Hexavalent vaccines will be introduced by the end of 2015.

In 2014, the Department identified an enterovirus (ECHO 30) meningitis outbreak in a timely manner.

In 2013, additional immunization activities began, and were directed toward controlling the measles outbreak, which has allowed to overcome exceeded the epidemic peak. In 2013-2014, additional doses of the MMR vaccines were administered to 110,000 people. The total number of measles cases were decreased by 2.4 times compared to 2013.
The Department performs surveillance by using the One Health approach. Within the framework of these activities, it was possible to stop the August 2014 Crimea-Congo Hemorrhagic Fever outbreak; reduce the number of 2014 human anthrax cases by 60 percent compared to 2013; for the first time identify previously unknown species of Orthopoxvirus; and circulation of Parapoxvirus in the country. Highly-sensitive surveillance system led to the identification of the food type contaminated by botulism toxin, that had been imported for personal use. Upon the international notification initiated by the department, the product has been removed from production by the manufacturing country.

Rapid response procedures have been created to minimize public health risks related to the Ebola outbreak in West African countries. Together with other structural units of the Center, the public health, clinicians, revenue service, and representatives of other structures
were trained on biosafety issues. Active epidemiologic surveillance was conducted on 94 persons who arrived from the affected regions.

For surveillance purposes, Center and public health municipal units are using the Electronic Integrated Disease Surveillance System (EIDSS). EIDSS provides real-time biosurveillance throughout Georgia and is being used as a registration, notification, and reporting system for the notifiable diseases/conditions of human cases, and also for veterinary diseases (by the respective structural units of the Ministry of Agriculture).

**EIDSS Locations for Registration of the Diseases of Human Cases**

Since 2014, the EIDSS connected with the unified health care information system to provide improved, timely notification.
### ROUTINE VACCINATION SCHEDULE

<table>
<thead>
<tr>
<th></th>
<th>0-12 hour of birth</th>
<th>0-5 days</th>
<th>2 months</th>
<th>3 months</th>
<th>4 months</th>
<th>12 months</th>
<th>18 months</th>
<th>5 years</th>
<th>14 years</th>
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<tbody>
<tr>
<td><strong>1</strong> BCG</td>
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<td><strong>2</strong> HepB</td>
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<tr>
<td><strong>3</strong> (DPT+HepB+Hib)*</td>
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<td>X*</td>
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<tr>
<td><strong>4</strong> OPV</td>
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<td>X*</td>
<td>X*</td>
<td>X*</td>
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<td>X</td>
<td>X</td>
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<tr>
<td><strong>5</strong> DPT</td>
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<td>X*</td>
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<td><strong>6</strong> MMR</td>
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<td><strong>8</strong> Td**</td>
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<td><strong>9</strong> Rota</td>
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<td><strong>10</strong> PCV10</td>
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**Notes:**

* By the end of 2015, the DPT+HepB+Hib+ipv hexavalent vaccine will be used for children in the 2-, 3-, and 4-month age groups, instead of the OPV and DPT+HepB+Hib (penta) vaccines. These changes to the vaccination schedule are based on the decision of the MoLHSA.

** TD - Every 10 years until the age of 55 years.

Within the framework of international projects, the following have been established and ensured:

1. Sustainable sentinel surveillance on influenza-like illness and severe acute respiratory infections (“Sustaining Influenza Surveillance Networks and Response to Seasonal and Pandemic Influenza by National Health Authorities outside the United States”).

2. Sustainable sentinel surveillance on rotaviral infection and invasive meningitis (“Rotavirus Sentinel Surveillance and Disease Burden Estimation in Georgia” and WHO project: “Surveillance of Bacterial Meningitis and Disease Burden Estimation in Georgia”).
<table>
<thead>
<tr>
<th>COMMUNICABLE DISEASES DEPARTMENT UNITS</th>
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<tbody>
<tr>
<td>- HIV/AIDS, TUBERCULOSIS, STI, AND HEPATITIS DIVISION (Maia Tsereteli)</td>
</tr>
<tr>
<td>- VACCINE-PREVENTABLE, RESPIRATORY, AND ZOONOTIC DISEASE DIVISION (Olgha Tarkhan-Mouravi)</td>
</tr>
<tr>
<td>- NOSOCOMIAL, EMERGING, WATER-BORNE, AND FOOD-BORNE AND PARASITOLOGY DIVISION (Levan Baidoshvili)</td>
</tr>
<tr>
<td>- IMMUNOPROPHYLAXIS AND MONITORING DIVISION (Lia Jabidze)</td>
</tr>
<tr>
<td>- VACCINE EXPEDITION AND COLD CHAIN DIVISION (Giorgi Kachlishvili)</td>
</tr>
</tbody>
</table>
THE ROLE OF NCDC IN THE HEPATITIS C ELIMINATION PROGRAM

Hepatitis C is a major problem in Georgia. According to a survey conducted in 2002 in Tbilisi, the prevalence of the disease was 6.7 percent. A large population-based seroprevalence survey that is being conducted with the support of the CDC will re-estimate the prevalence of this disease in the general population, in different regions, and among different risk groups. In recent years, significant steps have been made in hepatitis C care and treatment. The Georgian government declared the fight against hepatitis C as a high priority and, in collaboration with foreign partners, set a goal of eliminating this disease in the country. The NCDC is one of the main agencies involved in the process and coordinates different activities.

Currently, the NCDC is working in the following three main areas:

1. With the support of the CDC, NCDC is conducting a population-based seroprevalence survey of hepatitis C. After completion of this survey, accurate and updated data about disease prevalence, modes of transmission, risk factors, and other C hepatitis-related aspects will be available. Parallel to the field work, the laboratory network of the NCDC and the Lugar Center provide laboratory diagnostics of hepatitis B and C using advanced methodology.
2. To start the elimination program, a special group of invited experts, including representatives of the MoLHSA, the NCDC, different non-governmental organizations, and clinicians, developed the national action plan for the urgent, first-phase activities of the elimination program. The first phase of the program includes diagnostic investigations of enrolled patients and free-of-charge treatment of the first 5,000 patients with the new antiviral drugs.

3. A special working group is developing the long-term elimination plan, which will include the main goals, objectives, and activities for the next few years (2015 to 2020) to achieve elimination. Specialists of NCDC are actively involved in the working process in addition to providing overall coordination of the working group.
Regional Public Health Management Department

Head of Department
Ramaz Urushadze

Deputies:
Maya Alkhazashvili
(coordination of regional laboratory network)

Konstantin Gvetadze
(management/coordination of sections and divisions)

One of the main priorities of reorienting the health system for independent Georgia was recognition of the preference of preventive medicine, based on the worldwide-tested concept of public health. A well-developed public health system should fully provide for the population the organization of medical-preventive services, disease control and surveillance, monitoring the impact of environmental factors on health status, increasing public awareness, and supporting establishment of healthy lifestyles through the correction of harmful behaviors.

In accordance with the Health Care Concept of Georgia, which was discussed and approved by the Parliament of Georgia in 1994, the public health system could be established with these functions through drastic reformation of the existing sanitary-epidemiological service. The reform included improving and strengthening the processes for managing communicable and non-communicable diseases, reorienting the system on preventive services, and performing preventive awareness-raising activities at individual, separate group, and general population levels. The system would be separated from the area of sanitary regulation and hygienic care, for example, “Executive” and “Regulatory” functions of “Traditional” sanitary-epidemiological services would have been fully separated institutionally.
The legal basis for reformation of the sanitary-epidemiological surveillance service was the Decree of the Head of the State #400, from December 23, 1994, and the Resolution of the Cabinet of Ministers #389, from June 30, 1995, on the “Reorganization of State Sanitary-Epidemiological Service of the Ministry of Health of the Republic of Georgia.” Under this Resolution, two conceptually independent services were established:

1. The Department of Public Health of the Ministry of Health (sub-department), executive agency.

2. The State Department of Sanitary-Hygienic Surveillance and Hygienic Regulation of the Ministry of Health of the Republic of Georgia with supervisory oversight functions.

Based on the same principles, existing regional/local (city, district) sanitary-epidemiological services were then divided into two parts. One part was direct sanitary-epidemiological surveillance inspection and the other was formed as a local public health agency (center). Public health centers were subordinated to local governments and local sanitary inspection service to the central level.

The legal foundation and main basis for such reformation of the health system was Article 37 of the Constitution of Georgia, stating that “Everyone has the right to live in a healthy environment.” In turn, these changes required introduction of new legal regulations, later reflected in the Law of Georgia on Health Care (December 10, 1997), and in amendments and additions of the same Law (2002, 85, 85 [1]), 85 [2], 85 [3]). The relevant definitions were also given in the Law of Georgia on Local Governance and Self-Governance, and then from 2005, the Law on Self-Governance. Sanitary Code – C (2003) was an important basis for regulation of this field (repealed in 2007 after introduction of the “Law on Public Health”).

The definition of Public Health appeared in the Law of Georgia on Health Care for the first time, “System of State obligations, designed to protect, maintain and restore the individual’s physical and mental health through disease prevention, control over their prevalence, establishment of healthy lifestyle, creation and support of safe for health environment.” In 2007, in the Law of Georgia on Public Health, a new definition was developed as follows: “Combination of measures aimed at improvement of the health of the population, and disease prevention and control.”

Despite the differences in definitions, the contextual elements of public health remained unchanged: the management of vital statistics, study of causes of epidemics and pandemics, laboratory epidsurveillance, and evidence- and data-based decision-making; a focus on the general
population rather than separate individuals; a commitment to social justice and equality; through implementation of behavioral epidsurveillances with a special focus on prevention rather than on treatment and establishment of a healthy lifestyle.

From 1996 to 2005, the priorities of public health and central State programs funded through the Department of Public Health included the following programs: Immunization, Epidsurveillance, Oncologic Diseases, Prevention of Drug Addiction, Safe Blood, Prevention of Traumatism, Healthy Lifestyle, Mass Preventive Screening of Population, Active Detection of Morbidity. At the local levels, the municipal programs funded included Prevention of Communicable Diseases, Management of Chronic Diseases, and Healthy Lifestyle Programs, as well as measures and activities that met the health needs of the population living in particular areas and considered social-economic, cultural, and natural peculiarities of the region.

Thus, local public health centers were municipal public units, aimed at providing public health through basic public health services to the population living in the attached administrative area. In the initial stage, regional public health centers were not established, although public health centers located in central cities of regions were asked to coordinate, monitor, and assess the health of program-based activities, taking into consideration local cultural, environmental, and social peculiarities. At present, with gradual changes occurring in the system, the integration of the Department of Public Health into the NCDC, and the establishment of the Department for Regional Public Health Management within the NCDC, the public health center functions were allocated to Administrations (Kutaisi, Batumi) and Divisions. Based on appropriate contracts, the Mtskheta Community Center and Rustavi Municipal Center were asked to provide public health services in the Mtskheta-Mtianeti and Kvemo Kartli Regions (where NCDC offices have not been established). In fact, the two-level system of public health services has been established and is still functioning: central, at the NCDC level and local/municipal at 68 local public health centers. Their functions are based on general public health strategy.

In 2012, the regional laboratory network (bacteriology, serology) was created with the support of the public health strategic development plan and partner organizations to ensure wide-scale laboratory provision of epidprocesses. In 2013, the Lugar Central Referral Laboratory was included in this network. Establishment of this network significantly improved and made more effective the laboratory diagnostics of especially dangerous diseases (infections).

At present, the Department’s laboratory network includes two zonal diagnostic laboratories and seven laboratory service provision stations. Laboratories are BSL-2 and are equipped with ad-
vanced equipment. Zonal diagnostic laboratories in Kutaisi and Batumi include serological, bacteriological, and molecular studies, and other laboratories offer just serological and general bacteriological services.

One of the important functions is TB diagnostics. The laboratory network is equipped with GeneXpert modules, enabling timely diagnostics and identification of Riphampicicine resistance through rapid molecular diagnostics.

IMERETI ADMINISTRATION (Gocha Giorgidze)

The Kutaisi zonal-diagnostic laboratory has been in operation since 2005, although its history began in 1996, when the Regional Public Health Service was established in Kutaisi, facilitating implementation in the Imereti region of the policy of the Department of Public Health of the MoLHSA. From 2004 to 2005, the Imereti Regional Public Health Service was involved in the implementation of DTRA international program for reduction of biological threat and under this program, established a BSL-2 laboratory in March 2005. Since 2008, following the reorganization of the system, the NCDC and Public Health Department were united and the Imereti Regional Public Health Service was transformed into the Imereti Regional Branch of the NCDC. It is currently represented as the Imereti Administration of NCDC with a well-developed zonal diagnostic laboratory system of BSL-2 laboratories.

ADJARA ADMINISTRATION (Nino Gugushvili)

The Batumi Zonal Diagnostic Laboratory was created on the basis of the Plague Laboratory. In 1927, when the laboratory served as a plague laboratory at Batumi seaport, it provided quarantine supervision on the maritime transport. After 1934, it was under All-Union (Moscow) subordination, as a structural unit of the Plague Station of the Soviet Union, and in 1937, it became an independent station. Following the reorganization implemented in 1996, the Batumi Zonal Laboratory
was given the status of the Adjara Branch of the NCDC. In 2010, within the framework of the Harm Reduction Program, its building was renovated, laboratory equipment renewed, existing staff re-trained, and the laboratory was given the status of Zonal-Diagnostic Laboratory.

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Since 2013, the Regional Public Health Management Department, created after the structural reorganization of the NCDC, has been actively involved in State Program development. The department provides: Onsite support to implement program-based activities and monitor ongoing accomplishments; Epidemic surveillance of communicable diseases and study of the causes of epidemic outbreaks; Implementation of antiepidemic and preventive measures; Organization of planning and conducting epizootological, entomological,
and epidemiological studies in the sources of especially dangerous infections; Logistical provi-
sion and implementation supervision (monitoring and evaluation) in coordination with relevant
departments; Organization of healthy lifestyle and health promotion activities at regional and
municipal levels; Implementation of onsite accomplishment methodology; Organization of moni-
toring and analysis of the population’s health status; Support to maintenance of medical statistics
– collecting medical statistical information; Visual analysis of production quality and organization
of timely delivery to the Department of Statistics; Laboratory activities; Participation in ensuring
biological safety; Participation in development of pathological biological agents classification
and standards of working on especially dangerous infections; Working cooperatively with re-
gional administrations/divisions to develop/prepare guidelines for municipal public health centers
and educating the onsite personnel about them; Participation in development of epidemiologic
standards, and hygienic norms and standards; Identification of public health human resources
training/retraining needs and support for organization of training processes; Organization of the
delivery to governmental and non-governmental organizations and general society information/
recommendations related to public health; Preparation of legislative proposals within the com-
petencies.

The department has drafted a concept for further development of the public health system; ex-
panded and disseminated the list of typical municipal programs based on local needs; and de-
veloped recommendations related to organization of municipal public health centers, required
qualifications and professional affiliations, provision of optimal human resources, and type of
further operation. The new version of Statutes for the Department for Regional Public Health Man-
agement and its structural units, typical statutes for municipal centers, and job descriptions for the
staff of the Department (Administrations, divisions) have also been developed. Department staff
also prepared detailed projections and approximate estimates for the following: Enhancement of
the spaces at existing buildings in the event of expanding functions of regions; Project for provi-
sion of municipal public health services with transport; Guidelines and instructions on functioning
of municipal public health services/centers; System for monitoring/supervising activities performed
by municipal public health centers in the framework of the State Program on Epidemiological Sur-
veillance; Guidelines for development of municipal programs and a tentative list
LABORATORY NETWORK DEVELOPMENT

- New method of TB diagnostics – GeneXpert express molecular TB diagnostic modules have been implemented in regional laboratories;
- Registration of cases in the electronic information system have improved, complete registration of TB cases and application of the laboratory module have been actively started;
- Laboratory waste management has been improved;
- Laboratories located in Telavi, Gori, Zugdidi, and Poti have been involved in commercial activities as laboratory service providers;
- Existing biosafety and quality standards have been updated and are being implemented

At present, the Center is in the process of achieving ISO 1518 certification for the laboratory network.
One of the core functions of the Center is the implementation of the State programs and public health activities in the public health field.

State programs that target health promotion, healthy lifestyle, and disease prevention include activities focused on health improvement of the population that promote the prevention of communicable and non-communicable diseases and ensure the optimization of State expenditures.

The Immunization and Epidemiological Surveillance Programs have the longest history among the programs implemented by the NCDC. In order to protect the population from vaccine-preventable diseases through immunization, the Center provides procurement, storage, and distribution of routine immunization vaccines as well as specific serums (against botulism, diphtheria, tetanus, and snake venom toxoid), rabies vaccine, immunoglobulin, and vaccination materials (syringes and safe boxes), in compliance with the cold chain principles, from the central level through the administrative units. Thus, program activities ensure full geographical and financial accessibility to the immunization services for Georgian citizens.

The Epidemiological Surveillance Program has the most important role in terms of maintaining a favorable epidemiological situation in the country. Program activities have been continuously carried out since 2007, focusing on improvement of the early detection of communicable diseases through effective functioning of the epidemiological surveillance and laboratory-based system, as well as the medical statistics system, and improving the prevention and control for malaria and other parasitic diseases.
Since 2011, the Center’s role has significantly increased in terms of health prevention programs administration. State programs, such as Early Disease Detection and Screening, Safe Blood, Prevention of Occupational Diseases, TB Management, HIV/AIDS, and Maternal and Child Health have been delegated to the Center.

**Early Disease Detection and Screening Program.** The main goal of the program is the early detection and prevention of the spread of diseases. This includes early detection and screening components for cancer, epilepsy, and childhood developmental disorders:

**Cancer Screening Component** - According to the WHO data, the share of mortality rate caused by non-communicable diseases, amounts to 91 percent, and malignant tumors account for 12 percent of this rate. The mortality rate caused by malignant tumors greatly depends on the stage at which the tumor is identified, as the early detection of precancerous pathologies and tumors supports the effectiveness of treatment and prolongation of patients’ life.

Based on the previously mentioned evidence, a full coverage for screening of breast, cervical, colorectal, and prostate cancer is provided by the government within the program limits, in consideration of geographical and financial principles, which aim to reach a significant reduction of cancer mortality rate across the country through the screening tests for cancer detection.

**Early Detection and Screening of Childhood Developmental Disorders** - Based on the reality that mental developmental disorders occur in approximately 10 to 20 percent of children throughout the world, the early identification of patients with developmental and behavioral problems and the provision of timely interventions is crucial. Mental disorders will deteriorate without early detection and treatment and will have severe negative impacts on child development, often these children are subjected to stigmatization, isolation, and discrimination.

**The Early Diagnosis and Surveillance of Epilepsy** component provides epilepsy detection, optimization of disease management and psychosocial rehabilitation. Epilepsy is one of the most common conditions among the brain chronic diseases and its morbidity occurs mostly in early childhood and school-age children. Identifying epileptic seizures is of critical importance for timely diagnosis of patients and achieving effective treatment and maintenance of psychosocial adequacy and complete health.

**Safe Blood** - Each year, individuals throughout the world die from lack of access to safe blood; therefore, addressing blood and blood product safety issues is an integral component of each country’s health care system. The purpose of the program is to prevent the spread of blood-trans-
mitted diseases and reduce the possibility of transmission of infectious diseases through blood transfusion. The following activities have been achieved through the program:

- Screening blood donors for hepatitis B and C, HIV/AIDS, and syphilis as well as blood group and rhesus determination provided by blood banks
- External quality control
- Support campaigns to attract volunteer donors

Replacement of paid donations with volunteer donations is the priority goal of the Center. It is worth noting that a 10 percent annual increase in the target indicator of non-paid donations was achieved due to the effective collaboration with blood banks.

**TB Management** - TB is a serious public health issue and every year kills approximately 1.5 million people worldwide. TB is also a particular challenge for the Georgian public health system (in 2014, prevalence of all types of TB amounted to 103 per 100,000 population in Georgia). The Center is responsible for the TB Epidemiological Surveillance and Laboratory components, effective implementation of which plays a crucial role in the early detection and treatment of diseases.

Within the *Epidemiological Surveillance* component, contact tracing of TB patients, detection of suspected cases, and timely referral and treatment are provided. These activities are designed to render early diagnosis of TB cases, timely treatment, and reduce the spread of infection.

Laboratory testing provided within the *Laboratory Control* component ensures rapid and precise diagnostics and timely treatment of TB and drug-resistant TB, which is essential to prevent the lung widespread destruction and transmission of infection.

Ongoing activities are in full compliance with the National TB Strategic and Action Plan for 2013 to 2015, which is aimed at stopping the spread of TB and reducing the burden associated with the disease, and with the one of the goals of Health Strategic Plan of Georgia for 2011 to 2015, which targets a 25 percent reduction in the spread of TB in 2016 compared to 2005.
HIV/AIDS. HIV/AIDS remains one of the most serious challenges of global health. Despite the fact that Georgia is among the low-prevalence countries in Eastern Europe and Central Asia, there is still a rising trend of HIV infection, and consequently, there is a danger of an epidemic.

The main goal of the program carried out by the Center is the early detection of new HIV/AIDS cases and reducing the spread of HIV/AIDS. As in former Soviet countries, injection drug use is the major transmission mode. At the same time, recent data and Bio-Behavioral Surveillance (BSS) studies indicate the potential growth of the epidemic among men who have sex with men (MSMs). Therefore, the main objectives of the program for high-risk groups (injection drug users and their sexual partners, MSMs, and sex workers and their clients) is early detection of HIV/AIDS new cases. In addition to these groups, since Georgia is a high prevalence country for hepatitis B and C, there is a risk of a rapid spread of HIV infection in these groups. Therefore, the program is designed to provide HIV/AIDS screening for patients with a diagnosis of hepatitis B and C.

Maternal and Child Health - Maternal and child health is of paramount importance worldwide internationally. Proper planning of antenatal visits and comprehensive counseling provided by the program are an important prerequisite for prevention of perinatal morbidity/mortality and maternal deaths.

The program component implemented by the Center provides the test systems (hepatitis B and C, HIV/AIDS, and syphilis) and consumables (gloves, cotton, alcohol, syringes, tips, and blood collection tubes) that are required for screening pregnant women enrolled in the antenatal component and ensures confirmatory diagnostics of screening positive cases (procurement of materials for confirmatory testing) and purchase of hepatitis B immunoglobulin for infants born to a hepatitis-B infected mother. Program activities focus on identifying infectious diseases in the early stage of pregnancy (up to 13 weeks) to prevent deterioration in the pregnant mother’s health condition and to minimize newborn infection.

The program also provides newborn hearing screening in all existing maternity homes throughout Tbilisi that primarily aims to identify congenital hearing problems in children. Appropriate and timely screening is of great importance in the prevention of further complications in newborns, as hearing disorders create speech impediments and exert a negative impact on child development.

Prevention of Occupational Diseases - The protection and preservation of the health of employed individuals is one of the most important functions and a social-political foundation of the State. The goal of the program is the protection of the health of the employed population through the
prevention of occupational diseases and diseases caused by occupational activities, as well as through the exploration and assessment of external factors influencing the labor process, and provision of employers and employees with information concerning the occupational health risks and measures of risk protection.

Implementation of program activities and their enhancement is a priority for all countries and the existing statistical data emphasize the reality of the problem. (Worldwide, approximately 2.34 million people die each year as a result of industrial accidents and diseases and a great majority of them, as many as 2.02 million people, die from a variety of occupational diseases – WHO, 2013).

Health Promotion - In 2015, the Health Promotion program was added to the programs implemented by the Center. It is based on the WHO approach to health promotion. The program aims to raise the awareness and education of the Georgian population on health and to create an environment supporting population health to enable them to better control and improve the determinants of their health. The program includes the following priority directions:

- Strengthening tobacco control
- Education on healthy diet and raising the awareness about alcohol abuse
- Promotion of physical activity
- Prevention of hepatitis C and promotion of public education
- Health promotion popularization and strengthening

The program envisions conducting a knowledge, attitudes, and practices (KAP) national survey on tobacco use and other behavioral risk-factors, along with numerous important interventions. The survey will be carried out for the first time in Georgia and will allow assessment of the spread of tobacco use and other behavioral risk factors and exploration of behavioral determinants associated with knowledge and attitude, according to the integrated behavioral model of contemporary behavior. The results will be applied for the following purposes: a) to plan further interventions for modification of population behavioral factors, b) to obtain baseline data that will serve as the basis for evaluating the health promotion program (or/and any other interventions) in the next year. The distribution of educational materials and popularization of a healthy lifestyle will also be carried out during the survey.
Business Development Unit

To achieve future sustainability, a BDU was formed on behalf of NCDC at the end of 2014. In early 2015, the BDU started working in two major business directions:

- Fee-For-Services - laboratory services based on the capacity of Zonal Diagnostic Laboratories and Laboratory Surveillance Stations; genetic tests, based on Lugar Center capacity; and laboratory services to support clinical and nonclinical researches and training;

- Grants and Research Contracts - responding to calls from the National Institute of Health (NIH) and EU-funded Horizon 2020, increasing the number of scientific publications.

BDU is in close collaboration with experts from the Battelle and CIF to design market research and entry strategies for the business directions.

To commercialize NCDC services, frequent meetings are organized with medical facilities, donor organizations, research institutes, and leading clinicians.
In 2013, I joined the NCDC team after returning from the U.S., where I earned a Master’s Degree in Public Administration. Out of the four I manage two of the strategic priorities of the Center: the reduction of mortality, morbidity, and disability related to non-communicable diseases, and the assessment of environmental and behavioral risk factors. The Department of Non-communicable Diseases of the Center serves to achieve these strategic objectives along with promoting a healthy lifestyle and tobacco use control in the country.

The NCDC is responsible for monitoring the health of the population and gathering health statistics since 2007. The Department of Health Statistics operates under my management as well. It ensures gathering health-related data, developing yearly reports reflecting the status of the health indicators at the national level, and international reporting to the respective international institutions.

Since 2014, the NCDC has implemented HIV and TB Grants of the Global Fund to Fight AIDS, TB, and Malaria. I have been responsible for managing these programs from their initiation. Under the overarching framework of the State and donor programs/funding, universal access to and delivery of HIV and TB diagnostics, treatment, and preventive services is ensured in Georgia.

I am privileged to be a member of the NCDC team and am using this opportunity to make my contribution toward improving the overall health of the population in the country. The knowledge, experience, and ethical principles of the NCDC lay the groundwork for achieving and sustaining the best possible results in the field.
One of the main directions of the NCDC is surveillance on non-communicable diseases and their risk factors. The goal of the Non-communicable Diseases Department is to develop assessment indicators for epidemiological surveillance and to carry out prevention and control activities in the field of non-communicable diseases; conduct epidemiological analysis of the data; identify mortality, morbidity trends, and health risks; work on improvement of surveillance on non-communicable diseases, strategies, and action plans; participate in the development of public health regulatory acts and policy drafts; register disinfection, insecticide, and deratization means; and plan and implement healthy lifestyle and health promotion activities in collaboration with various sectors.

The main achievements of the department:

- Strategies and action plans were developed on prevention and control of non-communicable diseases, hypertension, cancer, diabetes, chronic lung disease, obesity, healthy nutrition, violence and injuries, alcohol in Georgian and English languages. The strategy for prevention and control of hypertension was approved by the Government of Georgia.
• A population-based cancer registry was developed to improve surveillance on oncological diseases. The registry began operations on January 1, 2015.

• The United Nations Inter-agency Group on Child Mortality Estimates (IGME) mission conducted a visit to specify maternal and child mortality assessment rates in Georgia. As a result, maternal and child (0-5 years) mortality rates in Georgia were corrected.

• The Reproductive Age Mortality Survey RAMOS-2014 was carried out with the support of USAID/SUSTAIN.

• The Tobacco Control State Strategy (Government Decree N196; July 30, 2013) and 5-Year Action Plan (Government Decree N304; November 29, 2013) were developed and approved with intersectoral collaboration. Activities fulfilled under the 2013-2018 Tobacco Control Action Plan include: The Ministry of Finance increased taxes on tobacco products twice (2014 and 2015); surveys were conducted; hotline counseling became operational; and training was conducted for primary health care doctors in delivering tobacco cessation services.

• Following legislative amendment, projects were prepared and submitted to the government for further discussion (draft amendments for the following: the Tobacco Control Law, the Law on Advertisement, the Law on Public Broadcasting, the Administrative Offence Code, and the National Tax Code).

• The State Program “Health Promotion-Public Movement for Healthy Georgia” was prepared.

• The following projects were implemented: “GLAAS” (Global Analysis and Assessment of Sanitation and Drinking-Water), “National Tobacco Survey in Georgia,” “Global Youth Tobacco Survey,” and “Enforcement of 100% Smoke-free Policy in Medical Facilities and Public Schools of Georgia”.
• On February 25, 2015, the NCDC signed an agreement with The International Union against Tuberculosis and Lung Disease to implement the grant project, “Building supportive environment for the enforcement of the effective tobacco control tax and measures in Georgia.”

• Currently, 150 normative documents on environmental health issues are being updated/developed and aligned with EU regulations. In line with the implementation plan agenda of the Association Agreement between EU and Georgia, elaboration of the National Environment and Health Action Plan (NEHAP) and development of environment and health indicators are in progress.

• Activities toward public awareness raising and education about behavioral risk-factors were implemented.

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<td>➤ DIVISION OF CHRONIC DISEASES</td>
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The NCDC plays a leading role in the health statistics field in Georgia. The Medical Statistics Department is a structural subdivision of the NCDC. Its main functions are as follows:

- Participation in the institutionalization of health information systems - On January 1, 2014, a new electronic system for statistical data collection in the hospital sector was implemented, that is oriented toward case-based reporting. On January 1, 2015, a National Cancer Registry was introduced countrywide. Consulting of personnel involved in the Cancer Registry, reporting form corrections, and software support are occurring simultaneously and continuously. The Department is actively involved in improving the birth / death registration process;

- Statistical data collection (using routine methods and through the use of registers) and data management (processing, control, and validation) - Annually reporting forms are modified in compliance with modern international requirements and the country needs.

- Calculation of the health indicators and disease trends description – population health status indicators by age, sex, and geographic area, and health service utilization and effectiveness indicators are calculated based on the data collected through health statistics. The Department, following the international requirements, regularly calculates such internationally recognized indicators as the United Nations Millennium Development Goals (MDG), Health for All (HFA), Health Resources, and Health System Performance Assessment (HSPA). Mortality and morbidity for various diseases and ma-
ternal and child health indicators are calculated and compared with other countries, and the dynamics of the trends are identified.

- The descriptive analysis and presentation of statistical data through publications and a variety of materials – annually is prepared statistical yearbook “Health Care” and other statistical reviews in Georgian and English languages. In 2015 small publications on various issues were prepared, including comparisons between Georgia and other countries.

- Database management (data collected by different population-based surveys conducted by the NCDC).

- Training preparation and provision.

- Participation in local and international studies and projects. The Department is actively involved in the WHO, JSI, USAID, UNICEF, UNFPA, the International Red Cross, and other institutions and research projects. In 2014, the Memorandum of Understanding with the University of Washington, Institute for Health Metrics and Evaluation (IHME), was signed, which was aimed at implementing the mechanisms for the assessment and evaluation of the national burden of diseases, injuries, and risk factors.
In its September 2000 Millennium Development Declaration, the UN General Assembly articulated combating HIV/AIDS, TB, and other infections resulting in significant mortality as one of the Goals (MDGs).

In 2002, the Global Fund to Fight AIDs, TB, and Malaria (TGF) was established with the moral imperative for the international community to achieve the MDGs and goals related to HIV, TB, and malaria. The concept of the TGF was clear and simple: the countries were responsible for defining strategic plans for fighting the diseases, while TGF was mobilizing the respective financial resources and issuing grants.

Tuberculosis, the once forgotten disease, has become an important challenge for global health, especially in the light of the HIV/AIDS epidemic, and represents the major cause of mortality among HIV-infected populations. Moreover, rapid spread of the multidrug-resistant strains further aggravates the situation.

TGF launched its programs in Georgia in 2003 and to date has provided a total of USD$94.9 million in funding with the following allotments: 61 percent for HIV/AIDS, 36 percent for TB, and 3 percent for malaria.

Through the support of TGF, Georgia has mainstreamed contemporary, effective principles for HIV prevention targeting the most vulnerable, strengthening HIV and TB infrastructure, and delivering universal access to quality diagnostics and treatment of said diseases. Significant successes include eliminating malaria. First and second line antiretroviral (ARV) and anti TB medicines purchased within the framework of GF projects saved the lives of thousands of infected patients.
Since 2013, the NCDC has been nominated as the Principal Recipient (PR) for the TGF HIV and TB Grants. Since April 1, 2014, the NCDC has managed two grants from the TGF: “Universal Access to Quality Diagnosis and Treatment of All Forms of TB, Including MDR/XDR TB” (grant # GEO-T-NCDC) and “Sustaining and scaling up the existing national response for implementation of effective HIV/AIDS prevention activities, improving survival rates of individuals with advanced HIV infection, and strengthening treatment and care interventions (grant # GEO-H-NCDC).

1. GF HIV Program

Program Title: “Sustaining and scaling up the existing national response for implementation of effective HIV/AIDS prevention activities, improving survival rates of people with advanced HIV infection and strengthening treatment and care interventions (grant # GEO-H-NCDC).


Program Summary:

Goal of the Program: To reduce transmission of HIV among most-at-risk populations risk, and reduce the mortality of People Living with HIV (PLHIV) in Georgia.

Objectives: Prevention of HIV transmission among the most-at-risk populations: people who inject drugs (PWIDs), female sex workers (FSWs), MSMs, and prisoners, through: Providing services included in the HIV prevention package and HIV voluntary counseling and testing (VCT) services; Implementing an Opioid Substitution Treatment (OST) program among PWIDs, both in public and penitentiary systems; Ensuring access to high-quality HIV diagnostic, treatment, and care services for PLHIV, including highly effective ARV treatment.
program; Ensuring access to pegylated interferon treatment programs for HIV patients with hepatitis C co-infection; Conducting the most-at-risk populations' size estimation and high-risk behavior and HIV biomarker prevalence surveys among PWIDs, FSWs, MSM, and prisoners; Conducting HIV-related Stigma and Discrimination Assessment Surveys for evaluation of the program effectiveness and improved program planning.

2. **GF TB Program**

   **Program Title:** 'Universal Access to Quality Diagnosis and Treatment of All Forms of TB, Including MDR/XDR TB' (grant # GEO-T-NCDC)


   **Program Summary:**

   **Goal of the program:** To reduce the disease-related burden and mortality though improving adherence to treatment and ensuring universal access to quality diagnosis and treatment of all forms of TB, including multidrug-resistant (MDR) and extensively drug-resistant (XDR), as well as strengthening management, monitoring, and evaluation capacities in both public and penitentiary sectors.

   **Objectives:** To provide diagnostic investigations to all TB suspects, along with provision of quality treatment to all TB patients, including MDR/XDRs; improve treatment success/treatment adherence rates through provision of cash incentives; and strengthen the management, coordination, monitoring, and evaluation capacities of the National TB Program.
I have occupied the position of Deputy Director General at the NCDC since 2012. I supervise the overall financial-economic and administrative activities of the NCDC and am actively involved in the financial operations and the State procurement processes. I am a chair of the Electronic State Procurement Commission and the specialized Competition-Certification Commission.

It is noteworthy that the NCDC is a financially sustained countrywide institution financed by 15 to 17 various financial resources and comprises highly qualified staff. The Center is financed through the State budget and has income and financial support from international donors and collaborators through grant projects. Because of this significant financial support, the NCDC is able to implement the important activities of strengthening public health, developing sciences, and implementing various organizational activities.

It is a great honor and responsibility for me to manage and coordinate the financial and administrative direction of this significant Center of Georgia.
The functions of the Administrative Department include the administration of activities such as: human resources management (HRM), legal activities, public and media relations, information technologies, organizational-technical logistics, and support.

The main priority of the Administrative Department is developing legal policy for public health, and active involvement in the regulatory normative base.
The Administrative Department coordinates the activities of mobile groups during emergency cases as well as epidemiological activities, safe movement of epid-detachments, and transportation/technical issues.

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<th>ADMINISTRATIVE DEPARTMENT UNITS</th>
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<td>LEGAL DIVISION</td>
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<td>(Lali Ebanoidze)</td>
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<td>(Kakhaber Pirtskhalashvili)</td>
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Financial-Economic Department

Head of Department
Otar Namicheishvili

The financial sustainability, the appropriate policy definition, and the provision of financial support to all functions, are an important part of the NCDC’s activities.

The Center carries out the expenditure of the State budget appropriations (including public health programs), grant projects, and commercial financial procedures.
The Department is responsible for consolidated budget planning and implementation, providing a competition-based environment for State procurements, accounting, and recording of assets. As of today, the NCDC, in comparison with other Legal Entities of Public Law, manages a large portion of grant project finances.

The dramatic increase of funds directly affects the working capacity of the Department. Current assets have been increased at the Center. As of July 1, 2015, assets in amount of 242.2 ml. GEL (excluding financial assets) are at NCDC’s disposal. The 2015 budget funding has been also increased to 62.8 ml GEL.

In 2014, 982 procurement contracts were signed with a total amount of 37.0 ml. GEL, including 184 tender-based contracts. As of July 1, 2015, the Center’s procurement plan includes 49.4 ml. GEL.
INCOMES FROM COMMERCIAL ACTIVITIES

Including laboratory researches

FUNDING DYNAMICS FOR 2010-2015
(in thousands GEL)

COMMERCIAL INCOME DYNAMICS FOR 2012-2015
(in thousands GEL)
FINANCIAL-ECONOMIC DEPARTMENT UNITS

- FINANCIAL DIVISION
  (Gia Kobalia)

- ACCOUNTING DIVISION
  (Nana Marjanidze)

- PROCUREMENT DIVISION
  (Shorena Tchilashvili)

- LOGISTICS DIVISION
  (Zurab Zariashvili)

PUBLIC AND MASS MEDIA RELATIONS


Informational social media clips and appeals for media campaigns are prepared. International conferences, congresses, working meetings, visits, and other events are planned and covered, as well as lectures, workshops, and other activities and marathons.

Statistics for 2014 include: Recording 462 interviews for various TV and internet channels; 79 TV shows, 137 TV reports, 9 live broadcasts, 6 visits in press clubs, 26 radio programs, 26 radio interviews, awareness-raising campaigns conducted for Crimean-Congo hemorrhagic fever, measles-rubella-mumps, meningitis, and pneumococcal vaccine, 24 articles and 122 phone interviews posted to the internet, 26 articles, 17 press conferences, 5 briefings, working meetings, visits, 4 conferences published in print media. New website for the NCDC was designed.

Information, photographs, and video materials are posted on the NCDC web page and social networks (Facebook, Myvideo, YouTube, and Twitter)
Web site: www.ncdc.ge

Facebook: www.facebook.com/ncdcgeorgia
INTERNATIONAL PARTNERSHIP

After the collapse of the Soviet Union, the healthcare and social systems of a newly independent Republic of Georgia were on the verge of destruction. International partnership and assistance, starting in the early 1990s, played a vital role in the development processes for the country, including healthcare and biomedical fields.

For more than two decades, various international projects in the sphere of public health and biosciences have been completed or are being implemented successfully. Modern management approaches, international expertise, and financial support provide a basis for the effectiveness and sustainability of the Georgian healthcare system.

The NCDC has a long history of collaboration with international partners, which dates to the early 1990s.

The CDC / Atlanta is one of the primary partner institutions for the NCDC. CDC’s goal in Georgia is to support and develop timely identification and response to outbreaks on an institutional level.
The CDC / Georgia Country Office provides ongoing technical assistance in detecting various health risk factors through laboratory and surveillance studies as well as through human resources development. The main scope of the CDC’s activities in Georgia are: immunization, influenza, zoonotic diseases, hepatitis, intestinal diseases, EDPs, and reproductive health.

The organizational structure of the NCDC is based on the CDC’s structural model.

In terms of financial and technical assistance, the NCDC’s most important collaborator is DTRA. DTRA’s activities target strengthening biosecurity and human and animal health issues in the region under the One Health principle.
On the basis of an umbrella agreement between the U.S. government and Georgia concerning, “Cooperation in the Area of the Prevention of Proliferation of Weapons of Mass Destruction,” the CBEP was established. Under this program, joint scientific projects and training in the field of epidemiology, surveillance, biosafety, and biosecurity have been implemented. The result of this collaboration and unprecedented financial and technical investment from the U.S. government is the Lugar Center. This BSL-3 Reference Laboratory is supported by a modern standardized laboratory network throughout the country – linked into the Ministries of Labour, Health and Social Affairs and Agriculture and operating under the One Health principle.

The NCDC has a notable collaboration with the National Institutes of Health (NIH) in developing bio-sciences. The Georgian bio-medical community has had a pronounced opportunity to widen their expertise through joint scientific projects and conferences.

The NCDC has implemented several NIH grant projects and carried out several conferences.

The NCDC is a main focal point of the WHO in Georgia. The collaboration with the WHO includes exchange of knowledge and experience of WHO experts, as well as its technical support in nearly all areas the NCDC has been implementing within its mission. These areas include Surveillance of Communicable and Non-communicable Diseases, Immunization, Environmental Health, Medical
Statistics, International Health Regulations (IHR), AMR, and Tobacco Use.

The NCDC maintains partner cooperation with the following American and European Universities: University of Florida, University of Maryland, Emory University, Johns Hopkins University, Arizona University, Oslo University, Bundeswehr Microbiology Institute, Cardiff University.

The NCDC also collaborates with almost all international organizations operating in Georgia in terms of technical assistance and development of bio-sciences: UNFPA, UNICEF, USAID, FAO / OIE, GAVI Alliance, WB, EU, and the Rostropovich-Vishnevskaya Foundation, etc.
GEORGIA AND GLOBAL HEALTH SECURITY (GHS)

The GHS Initiative is an informal, international partnership among countries to globally strengthen health preparedness and prevent chemical, biological, nuclear, and radionuclear terrorism (CBRNE). Today, intensive travel and increased commercial affairs have created an increased risk of disease dissemination that results in a potential increase in mortality, decrease of economy strength, and instability of defense. Through global cooperation with international organizations and involvement of public and/or private stakeholders, it is possible to protect the world from infectious diseases and the Global Health Security to become a priority for International Security.

In 2014, Georgia, along with 39 countries (now 44 countries), participated in a new Global Initiative. Georgia was invited as one of the priority countries, actively involved in political (Minister of Labour, Health and Social Affairs and Minister of Agriculture) as well as in technical processes. Among 11 Action Packages, including three directives (to prevent, detect, and respond), Georgia is a leader in real-time bio-surveillance and supports laboratory and zoonotic infections surveillance action packages. On September 26, 2014, Georgia was announced as one of the exemplary international partner countries. Under this Initiative, the NCDC is a key leading institution.
**Georgian Partners**

National Food Agency/Laboratory of the Ministry of Agriculture (NFA/LMA); 6 Universities: Ivane Javakhishvili Tbilisi State University, Ilia State University, Georgian Agricultural University, University of Georgia, Kutaisi Akaki Tsereteli State University, Batumi Shota Tustaveli State University; the Eliava Institute; and private laboratories and clinics.

Human Resources

312 regular staff

(including 41 PhDs, 32 Masters)

The NCDC implements a variety of scientific projects and programs with the assistance of international donor and partner organizations supporting topical public health diseases prevention and monitoring. To achieve the objectives of the projects/programs, the NCDC collaborates with the different medical experts and consultants on a contract basis.

**The NCDC was awarded ISO Certification**

On the basis of the decision of “SAI Global” Head Office group of experts “L. Sakvarelidze National Center for Disease Control and Public Health” was awarded “Quality Management System” (in the area of laboratory examinations) International Standard ISO 9001: 2008 certification.
Scientific Council

The NCDC Scientific Council is an advisory body that operates under the guidance of the annual plan approved by the Director General. The Council discusses annual and long-term plans, major tasks, methods of implementing results of research into practice, projects, programs, grants, contracts, major documents about the Center’s work; proposals about change in direction, structure, and staffing; staff training and future plans; plans and directives about instructions, monographs, and other publications; plans for working with media; coordination of work with relevant organizations.

Council members include: Amiran Gamkrelidze, NCDC Director General, Chair of Scientific Council, Paata Imnadze, Science Director - NCDC Deputy Director General; Deputy Chair of the Scientific Council, Irma Khonelidze, NCDC Deputy Director General, Ekaterine Kavtaradze, NCDC Deputy Director General, Guram Katsitadze, Scientific Advisor, Khatuna Zakhashvili, Head of the Communicable Disease Department, Lela Sturua, Head of the Non-communicable Disease Department, Nana Mebonia, Head of Chronic Diseases Division, Shota Tsanava, Head of the Biosafety and EDP Department, Maia Kereselidze, Head of the Medical Statistics Department, Merab Kekelidze, Chief Specialist of the Laboratory of Molecular Epidemiology, Department of Molecular Biology and Virology, Gvantsa Chanturia, Head of the Department of Molecular Biology and Virology, Nikoloz Tsertsvadze, Head of the Entomology Laboratory, Ramaz Urushadze, Head of the Regional Public Health Department, Lile Malania, Head of the Bacteriology Laboratory, Ekaterine Adeishvili, Manager of the Lugar Center, Neli Chakvetadze, Academic Secretary, Academic Secretary of the Scientific Council.

Other members of the Scientific Council include: Alexander Anjaparidze, WHO expert, Tengiz Tsertsvadze, Director General of Infectious Diseases, AIDS and Clinical Immunology Research Center, Mamuka Jibuti, Director of the School of Public Health, Tbilisi State Medical University, Revaz Solomonia, Director of the Chemical Biology School, Ilia State University, Nikoloz Shavdia, Director of “Cito” Ltd., Rema Gvamichava, Director of the National Screening Center, Head of the
Epid Bulletin

NCDC Research Projects

NCDC implemented more than USD$23 million 160 international projects and research grants in the field of public health, including:

• Malaria Prevention and Control
• Surveillance and Response to Avian and Pandemic Influenza
• Prevention of Amebiasis in Georgia
• Enforcement of 100% Smoke-free Policy in Health Care Institutions and Secondary Schools of Georgia
• Reproductive Health Survey (2000, 2005, 2010)
• Non-communicable Diseases Risk-factors Survey (STEPS)
• Surveillance work on acute febrile illness (AFI)
• Epidemiology and Control of Nosocomial Infections
1. "Molecular Epidemiology of Multidrug Resistant and Extensively Drug Resistant Tuberculosis in country of Georgia," BTEP/ ISTC, G-2100; Project duration: 01.02.2014 – 31.01.2015; The project is implemented jointly with National Center for Tuberculosis and Lung Diseases;

2. "Molecular Epidemiology of Toxigenic Escherichia coli in country of Georgia," BTEP/ ISTC, G-2099; Project duration: 01.03.2014 – 01.09.2015;

3. "Distribution and diversity of Bartonella pathogens among people and animals in Georgia and evaluation of factors associated with the emergence of bartonellosis," BTEP/ ISTC , G-1683; Project duration: 01.12.2013 – 31.05.2015;

4. "Emerging zoonotic pathogens in Georgian bats," BTEP/ ISTC, G-2101; Project duration: 01.02.2014 – 01.08.2015;


11. “Establishment of Regional Training and Resource Centre in Biosafety, Biosecurity and Laboratory Management in the South Caucasus,” EU/UNICRI, Project B1; Project duration: 15.08.2013 – 15.08.2015;


Since 2006, 120 articles have been published in various journals, including:


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