Existing Elements of Public Health System in Ukraine: Current State and Historical Developments

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December 2018
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Funded by:
Medical Research Council, Wellcome Trust, ESRC, UKAid
Project name: Feasibility Study “Effectiveness of public health system in combating severe population health crisis in Ukraine”

Place of work: Ukraine
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1 Introduction

This working paper describes the historical developments and current state of the various elements that might together make up the public health function in Ukraine. To do this, we have drawn on the structure used by the European Observatory on Health Systems and Policies in their analyses of health systems in Europe (Rechel and McKee 2014), and the World Health Organization’s self-assessment tool for the evaluation of the essential public health operations in the WHO European region (WHO, 2015). We focus on a number of essential public health operations, as identified by the WHO Regional Office for Europe that guide our assessment of public health capacities and services. They are key issues for health policy-making, and look across the whole political and administrative spectrum, rather than focusing on the activities of specific institutions. For each key issue described in this working paper, we define the issue, briefly discuss the international context, and describe the situation in Ukraine, with reference to policies and regulations, organization and infrastructure, and operations and activities specific to the issue. The first key issue we address relates to the surveillance of population health and wellbeing. We then go on to explore issues of health protection, including emergency response, occupational health, environmental health and food safety. Next, we explore disease prevention and early detection of disease by examining screening in Ukraine. We then examine health promotion in the Ukrainian context, including action to address non-communicable diseases and social determinants of health. Finally, we look at the organization and financing of public health, and the state of the public health workforce in Ukraine.
2 Monitoring and evaluation of public health

Introduction

The collection and analysis of health-related data is the first of the ten essential public health operations identified for the WHO European Region (Rechel and McKee 2014). Strong health monitoring and evaluation is essential for good governance, since the effective provision of public health and health care requires a detailed understanding of the population’s health and disease burden, as well as the underlying determinants.

Since population health is an aggregate of individual health data, population health monitoring relies on the regular collection and analysis of mostly individual data on relevant components of health and its determinants in the population or in specific samples of the population (Verschuuren et al 2014). Reporting is a crucial part of public health monitoring, to ensure the information required for public health and healthcare planning is available to decision-makers when they need it.

Verschuuren et al (2014) state that “a first step in developing health monitoring is to identify the relevant components of health, health deficits, and health determinants – the factors that cause health to improve or deteriorate” (p.24). A well-defined and detailed conceptual model for health monitoring identifies general areas of interest (e.g. behavioural factors), specifies more detailed areas (e.g. smoking), and allows for precise definition of the data needed. Broad conceptual models consider a wide range of determinants of health and disease, including poverty and environmental issues. For instance, the conceptual model used for health monitoring in the Dutch public health status and forecast report includes health status (in terms of diseases and afflictions, functional capacity and quality of life, healthy life expectancy and mortality) in relation to policy (both healthcare and other policy), external developments (including economy, technology, demography), determinants of health (including environment, lifestyle and person-related factors), and prevention and care. In England, the Public Health Outcomes Framework sets out a vision for public health, desired outcomes and the indicators that will help us understand how well public health is being improved and protected. The framework has two high-level outcomes to be achieved across the public health system, and groups further indicators into four ‘domains’ that cover the full spectrum of public health.1 Data on indicators are published (open access) and updated in quarterly cycles, and are searchable and comparable by local authority district and regional levels.

Whilst vital statistics (births, deaths, causes of death) are widely available in Europe, Verschuuren et al (2014) note that there is still considerable scope to improve coverage and comparability. Registry data for some health topics (such as cancer, diabetes, hospital discharges and injuries) are available across Europe, but again there is some concern about availability and comparability. Data for other conditions and aspects of healthcare utilization is limited, as only a few countries (mostly the Nordic countries) have dedicated registries. Regular, nationally representative health examination surveys are rare – with Finland and the UK being exceptions (Verschuuren 2014).

Collection of health-related data in Ukraine

At the core of a health information system, there should be a set of carefully selected, policy-relevant and valid indicators that tell us, in an efficient way, something about an area of interest (like a policy target). The MOH in Ukraine accumulates a considerable number of health-related indicators from healthcare establishments and other related institutions. However, such data in Ukraine is almost exclusively aggregated at either national or regional level. District (rayon) level data submitted to the Ministry is incomplete and not published in any form. There is no unified system of reporting, monitoring and surveillance of data on population health in Ukraine, as different institutions collect medical statistics, sociodemographic statistics, statistics on health threats and causes of death,

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1 See [www.phoutcomes.info](http://www.phoutcomes.info) for further details.
disease and trauma, state sanitary condition, threats to safety and security. Currently the collected
data is rarely used in analyses to inform policy development. Some data is not publicly available, which
restricts many researchers and policy analysts in their capacity to analyze the population health needs,
provide evidence for sound policy making, and evaluate policies and programmes.

The health information system for reporting on health issues from the level of healthcare facilities
upwards is extremely complex (see Figure 1). The Ukrainian Center for Diseases Control and
Monitoring (UCDCM) is responsible for the central data compilation, analysis and reporting. The
Ukrainian Center for Control of Socially Important Diseases (UCDC) performs parallel surveillance
systems for HIV and TB. The State Emergency Service collects data on emergency cases related to
health problems. Other institutions that are responsible for primary data collection include the State
Service on Drug Control, Social Insurance funds (the State Fund of Compulsory Insurance in Case of
Temporary Loss of Ability to Work, the State Fund of Compulsory Insurance in Case of Working
Accidents and Occupational Disease, Unemployment Insurance Fund), State Service on Labour, and
various state inspections. Some of the contagious diseases and cancers are monitored through the
system of specialized regional health centres. The Ukrainian Statistical Service (Ukrstat) combines
some of the collected information and makes aggregated data public at national and oblast level.

Standardized forms defined by the MOH regulations are directed through several channels from the
facilities to the MOH Center for Medical Statistics. Primary medical records are paper-based, and
overall there are 246 such forms.²

![Figure 1 - state electronic health information system for reporting on health issues](image)

Source: Belli, Dzhygry, Maynzyuk, 2013

Currently there is no electronic register of patients in Ukraine. The use of a large number of paper-
based forms can constitute a heavy burden for doctors and heads of health facilities, and the quality

² There are several MOH Orders approved medical reporting forms that should be used in in-patient
and out-patient facilities (e.g. Orders No.369 of 29.12.2000 and No.184 of 26.07.1999)
of reporting could suffer due to a lack of time to carefully fill in all the forms. Paper-based reporting makes thorough checks more difficult than if data were available electronically. However, in recent years there have been some local initiatives (at either facility, rayon or oblast level) to create an electronic system of patient data in some cities or regions, including Vinnitsia and Poltava.

**Reporting of health-related data in Ukraine**

One of the biggest problems for monitoring population health outcomes is lack of public access to data at an adequate level of disaggregation and in a user friendly format. Overall, stratified data is not available. Only most essential health-related indicators, including life expectancy, HIV/AIDS and TB incidence, major diseases, and death rates by cause at national and oblasts levels are published in several reports (available for free on the Ukrstat website [http://www.ukrstat.gov.ua](http://www.ukrstat.gov.ua)). However, the way in which this data is provided makes it difficult to use – e.g. in separate tables on the Ukrstat website without possibility to make smart tables or charts, or in publications published mostly in Adobe Acrobat. This makes it more complicated to analyse and report on the data.

There are several regular annual publications on healthcare and the health of the population: National accounts of healthcare of Ukraine, Health establishments and morbidity of Ukrainian population, and Occupational accidents. The data is available only for very broad categories nationally and at regional level in paper form.

The data on the health of the population, as well as indicators for the healthcare sector, are presented in the Ukrainian database ‘Health for All’, which is available free of charge on the web-page of the Center of Medical Statistics of MOH of Ukraine. This database is similar to the European Health for All database. Data is provided for the same categories and indicators. It is expected to be provided by oblasts of Ukraine, but most of the data is available only at national level.

The data collected by the Ukrainian Center for Control of Socially Important Diseases (UCDC) is rather descriptive and available only for internal use. Neither the UCDC nor the MOH publishes surveillance summaries. There is also a lack of information sharing between public health and veterinary services officials.

Demographic data is collected and published by the Ukrstat. It includes data on birth rates, death rates, and migration flows. However, there is lack of accurate data on population as the most recent census was conducted in 2001.

Several major panel datasets exist, covering health-related issues, working and living conditions, social status, risk factors and social determinants of health. This data comes from the Ukrainian Longitudinal Monitoring Survey (ULMS, 2003, 2004, 2007, 2012) which surveys a statistically representative sample of approximately 4000 households. ULMS micro level data might be provided on request, but it has only several questions in the health section.

The panel household survey on health-related issues has been conducted by the Statistics Service of Ukraine since 2000, as part of a Household Budget Survey. This survey is completed with a representative sample. Household Budget Survey is conducted quarterly, while the survey of health status of household members runs every two years. It is an important source of information on population health, even though it still contains rather limited information. Micro-data from this survey is not typically available in the public domain. The survey is a source of data on household expenditures, and some of the lifestyle and disease-related self-reported information. It also contains information on whether households faced problems with financing healthcare needs. Aggregated data is published annually in the report Self-evaluation of health by population and access to specific

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4 Household budget Survey of Ukraine, [http://ukrstat.gov.ua/metaopus/2016/1-1_05_00_01_2016.htm](http://ukrstat.gov.ua/metaopus/2016/1-1_05_00_01_2016.htm)
types of healthcare. However, the level of aggregation does not allow for efficient use of this data for analytical purposes and elaboration of health-related policies. Only general observations can be made on the basis of this data.

Monitoring of population health status in Ukraine

The monitoring of the population health status in Ukraine is a more complicated task as compared to more developed countries due to the lack of electronic medical records. Despite promises from consecutive Ministers of Health, electronic records have not yet been introduced. At the end of 2015, there was a further promise that e-medical records would be introduced in 2016 with the financial support from the World Bank. However, at the time of writing this report, this has not yet happened. Electronic records are expected to restrict the common practice of providing fake statistics at various levels, although it will take time to get the system fully functional.

The absence of a unified system for collection of health-related data may undermine the population health monitoring function of the newly established National Public Health Center and National Food Safety Center (which incorporates the Veterinary Services). These Centers are likely to become fully responsible for the collection and surveillance of health-related data. They are anticipated to have stronger capacity than their predecessors, particularly in relation to analytical capacities, which would allow both Centers to analyse trends, define threats, develop policies, and forecast future trends. The expectation of much improved reporting of local-level data will require strengthening of technical capacities at all levels (starting from health facilities).

Data on population health status is typically provided at national and oblast level, with insufficient detail to perform comprehensive analyses. Most data (e.g. on life expectancy, TB and HIV incidence) is provided for national and oblast levels with segregation by gender.

There have been concerns about the accuracy of some of the data, leading to underestimated rates for some diseases - particularly HIV/AIDS and TB (Vermund, 2014; Abdul-Quader, 2013). The under-reporting of cancer mortality was highlighted in the Health System Assessment undertaken in 2011 by Tarantino et al (2011). This assessment concluded that “notable data quality issues exist for some types of indicators, resulting primarily from disincentives for accurate reporting and data quality assurance, and – perhaps to a lesser extent – from insufficient skills for completing and compiling some types of data records”. The Assessment also stressed the low accessibility of health data to the public.

Since the collapse of the Soviet Union, Ukraine has been suffering from one of the most severe HIV/AIDS and TB epidemics in Europe. TB incidence in Ukraine increased from 1998 to 2004. In 2007, the TB morbidity rate was estimated at 96 per 100,000 persons, which is three times higher than the target envisaged in the WHO Stop TB Partnership. For this reason, a number of international organizations and funding agencies have been providing support in this area, including establishment and improvement of the monitoring system. In particular, most of the funds for monitoring and evaluation as well as for prevention and provision of care in the case of HIV/AIDS have been financed through the Global Fund to Fight Aids, Tuberculosis and Malaria. The Global Fund allocated funds to a “Stop TB in Ukraine” program that was to be implemented in 2012-2016 by the Rinat Akhmetov Foundation for Development of Ukraine. This Foundation also invested its own funds into the Program. However, there were reportedly numerous problems related to insufficient funding, onerous bureaucratic reporting procedures and implementation. In particular, the efforts to improve the monitoring and evaluation system were far from satisfactory.

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5 The decision to create such Centers was taken in the end of 2015.
The International Charitable Foundation “Alliance for Public Health”\(^8\) (Alliance Ukraine) plays an important role in the HIV/AIDS area as it implements prevention programs and provides high quality technical assistance and financial support to local organizations.\(^9\) At the same time, there have been consequent USAID projects devoted to issues of HIV and TB, while the UCDC reports HIV/AIDS data in biannual publications\(^10\). The data on TB incidence as well as treatment is provided at national and oblast levels by the UCDC, the MOH and the Ukrstat\(^11\) as well as on web-sites of projects devoted to issues of HIV and TB.

**Data on key determinants of health in Ukraine**

With regards to data on lifestyle-related determinants of health, the Ukrstat publishes information on the rates of smoking and alcohol and dietary consumption among individuals. The main source of information for these data is an individual survey made in the framework of the large national Household Budget Survey (surveying approximately 10,600 households). The aggregate data is published in an annual publication.

With regards to data on environment-related determinants of health, the research and observation institute Central Geophysical Observatory (CGO) is the main hydro-meteorological organisation for meteorological, heliogeophysical, aerological, hydrological observations and observations of chemical and radioactive contamination of the environment.\(^12\) It is comprised of 11 departments and has its own laboratories. In particular, it has laboratories for monitoring the contamination of air, pollution of surface water and soil, pollution monitoring of soil on heavy metals, physical and chemical elements. Most data is published on its website. The index of air pollution is provided for oblasts and for the most polluted cities on a monthly basis (more data is provided bi-annually or annually).

Health laboratories conduct disease and outbreak detection, emergency response, environmental monitoring, and disease surveillance. According to the GHSA External Country Assessment of Ukraine, in 2015 Ukraine performed 9 of the 10 core tests in the assessment of the national laboratory system (GHSA, 2015).

The Ukrstat publishes most essential information on waste and pollution emitted. In particular, the information on emitted polluters is available at national level by type on a monthly basis. Respective aggregate level is also available by oblasts. Annually, the Ukrstat publishes the statistical report devoted specifically to issues of pollution, which contains data for emissions by specific sectors.

Data on occupational health is available from three institutions in Ukraine:

1. **Social Insurance Fund of accidents at work and occupational diseases**, which receives information about each case of injury and its consequences (Act H-1). The Fund maintains statistics on injuries / diseases in the context of each profession. Upon request the Fund may

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\(^8\) Previously *International HIV/AIDS Alliance in Ukraine*.


\(^12\) CGO official web-site: [http://www.cgo.kiev.ua/](http://www.cgo.kiev.ua/)
provide statistics about the total number of accidents and fatalities. More indicators can be obtained from the regional offices of the Fund.

2. State Service of Mining Supervision and Industrial Safety of Ukraine / State Service of Ukraine on Labour. Until 2015, the State Service of Mining Supervision and Industrial Safety of Ukraine (Derzhhirpromnahlyad) carried out state supervision of Social Insurance Fund "of accidents at work and occupational diseases" on: implementation of preventive actions aimed at eliminating the harmful and dangerous production factors, prevention of industrial accidents, occupational diseases and other accidents caused by working conditions; financing and implementation of national, sectoral and regional programs for improving safety, health and working environment. Derzhhirpromnahlyad accumulated information on all accidents at work, and made public on its website the statistics by the oblast level and by industries. It is possible to access rayon-level data by contacting the regional offices of the Service. In September 2015, Derzhhirpromnahlyad was disbanded and the powers of this service were transferred to the State Service of Ukraine on Labour (Derzhpratsi). Now Derzhpratsi publishes data on each case of occupational injuries, weekly and yearly data by oblasts of Ukraine and industries.

3. State Statistics Service. All companies and their structural divisions must submit, on an annual basis, form number 7 to the regional offices of the State Statistics Service. This form is a report on injuries in manufacturing, which indicates information on the number and causes of accidents; number of victims, the complexity and the main types of cases; the causes of cases by distribution on technical and organizational; material consequences of accidents; costs of safety measures, and other data. Data from the form is available in aggregate form by oblast level at the website of the State Statistics Service. It can also be obtained upon request from the Regional Statistics Departments by rayon/city level. In addition, State Statistics Service publish an annual Statistical Bulletin - "Injury at the workplace" - which provides broad information on injuries, types, effects, age of the victims and many other indicators. In the Bulletin, information is segregated by oblasts of Ukraine.

With regards to food safety, a central executive authority (the State Service of Ukraine on Food Safety and Consumer Protection – Derzhprodspozhyvsvluzhba) was established in September 2015. This service implements state policy in the field of: veterinary medicine; some indicators of quality of food; sanitary compliance; plant quarantine and protection; pesticides and agrochemicals; identification and registration of animals’ health legislation; and prevention and reduction of tobacco use. The Territorial Management Service has local representatives in all regions of Ukraine. The creation of this executive authority brought together the work of three former institutions: the State Veterinary and Phytosanitary Service of Ukraine, the State Inspection for Consumer Protection and the State Sanitary and Epidemiological Service.

Currently, the following registries related to the production and sale of food products are available:

1. The Register of market operators and food facilities, which are issued operating permits. The Registry has been launched in 2016.It contains a list of registered manufacturers / traders / carriers of foods and catering facilities, specifying the type of activity, the need for compliance with the conditions of use and storage, such as temperature, humidity, and so on. There are 114,648 of records (operators) in the register as of the date 12.02.2016.

2. The Register of facilities and their operators engaged in the production and / or circulation of food for the years 2007-2015, which were compiled by the State sanitary and epidemiological service. There are 33440 of records (operators) in the register as of the date 05.31.2015.

3. The Register of approved export facilities (food). It contains a list of all registered producers / storage facilities of food products, the list of foods allowed for export, the names of
countries to which export is allowed. There are 661 of records (operators) in the register as of 10.31.2016.

4. The list of the international enterprises from other countries that have been inspected by the State Veterinary Service of Ukraine and are granted the permission to import products in Ukraine.

5. The list of findings of the state sanitary and epidemiological expert commission issued by «Derzhprodspozhyvsluzhba» on products, convenience foods, substances, materials and hazards, use, transfer or sale of which could harm human health.

The monitoring of programmes in Ukraine

There is a number of state-funded programs related to public health. They are executed by a number of ministries and agencies as well as local authorities. The spending units responsible for the financing of these programs vary depending on the major aim of the program.

The MOH in 2015-2016 was responsible for financing the following programs in healthcare:

- Reproductive health of population (expired in 2015)
- The Program of fight with oncological diseases (expires in 2016)
- The Program of immunization and protection of population from infectious diseases for 2009-2015
- The program of fight with tuberculosis 2012-2016
- The Program of prevention, diagnosis and treatment of virus hepatitis until 2016
- The program of fight with HIV/AIDS for 2014-2018

The implementation of state targeted programs is not always effectively monitored and assessed. Occasionally there are reports by the Accounting Chamber of Ukraine on the efficiency of state programs related to health issues. In particular, there were reports evaluating the efficiency and effectiveness of programs that aimed to reduce incidence and mortality from TB and cancer. The MOH typically reports on the execution of financing and sometimes on actual results. However, it does not provide an analysis of whether planned performance indicators were fulfilled and does not report on reasons, if these indicators were not met.

Summary

The health information system in Ukraine is inadequate for routine surveillance of how health is distributed across the population, and what indicators contribute to or reduce opportunities to be healthy. Surveillance of risk factors for non-communicable diseases and broader determinants is poorly developed, although surveillance of environmental and occupational health is more comprehensive. Surveillance systems for communicable diseases are improved where there is particular international focus and input – such as for HIV/AIDS and TB. However, such improvements in surveillance are generally related to specific programmes, rather than embedded across the health information system.

The health information system as a whole is hampered by the use of paper forms, and the incompatibility of localised information systems (which usually focus only on the management of the individual facilities, rather than on national-level planning and coordination) (Lekhan et al, 2015). The establishment of the Center of Public Health is likely to improve the surveillance of diseases, but this will take time. The eHealth initiative (introducing electronic records) was introduced in first quarter of 2018 and is expected to improve the availability of statistics for analyses and policy purposes. However, given strong opposition to health care reforms in the medical sector, it may take years before the system is capable of producing quality data.
The ability to use health information within Ukraine for research and analysis is limited by issues of access to and comprehensiveness and quality of data. Most data is provided on aggregate level, which does not allow for comprehensive analysis. Official requests for more detailed data can be sent, but there is no clarity whether requested data will be provided. The introduction of e-documentation at the level of health facilities, which is one of the components of announced health reform, is expected to improve availability of improved quality data.
3 Health security

Introduction

The next key issue we turn to in the public health system is that of health security. The monitoring of and response to health hazards and emergencies is another of the essential operations of public health (Santos-O’Connor et al, 2014). Response to infectious disease outbreaks and other public health risks requires international as well as national coordination, a common understanding of public health emergencies, timely notification, and adequate public health capacities. Communication is identified as key to event management (Santos-O’Connor et al, 2014). According to International Health Regulations (2005), serious cross-border threats to health should be reported to WHO within 24 hours. Ukraine, as a country in the WHO European Region, belongs to the jurisdiction of the International Health Regulations (IHR). IHR is a legal framework originated from the International Sanitary Regulations, formed in response to cholera epidemics in 1851, which then formed the basis of the International Health Regulations in 1969. To account for new challenges, such as increased global movement of people and goods, and the development of communication technologies, a revised version of IHR was adopted in 2005. Article 2 IHR (2005) states: “The purpose and scope of the IHR are to prevent, protect against, control and provide a public health response to the international spread of disease in ways that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade” (WHO, 2005c: 14). The revised IHR were agreed upon at the World Health Assembly in 2005, after 10 years of development. The 2005 IHR entered into force on 15 June 2007 and (as of April 2012) legally binds 196 countries across globe.

According to the WHO’s classification of this essential public health operation, the monitoring and response to health hazards and emergencies encompasses (WHO, 2015):

- Monitoring;
- Identifying and predicting priorities in biological, chemical and physical health risks in the workplace and the environment;
- Risk assessment procedures and tools to measure environmental health risks;
- Release of accessible information and issuance of public warnings; and planning and activation of interventions aimed at minimizing health risks;
- Preparedness for management of emergency events, including formulation of suitable action plans;
- Development of systems for data collection and prevention and control of morbidity;
- Application of an integrated and cooperative approach with various authorities involved in management.

Emergency Response Framework in Ukraine

National Legal Framework on Civil Protection

Ukrainian legislation outlines the Single State System of Civil Protection. This system is functioning according to the “Code on Civil Protection” adopted in 201213. It sets the framework for Civil Protection from man-made and natural disasters, social disorders, and war. The overall coordination

13 It replaced the law from 2000 “On the protection of the population and territories from manmade and natural emergencies”
of the government bodies involved in the process is a responsibility of the National Security and Defence Council of Ukraine and the Cabinet of Ministers (CMU). The CMU created the State commission on technogenic and ecological safety and emergencies in 2015 to coordinate activities of the institutions and organizations related to the technological-ecological safety of population and territories, and prevention and response to emergencies. This commission consists of the Prime Minister, the Vice Prime Minister, all the Ministers, and the State Services.

The Single State System of Civil Protection outlines the responsibilities of the central executive bodies involved in monitoring, prevention, response and liquidation of the consequences of the emergencies and is supposed to make sure that responsible bodies have necessary legal rights, personnel, financial resources, and organizational capacities to perform their duties. The functional subsystems of the Single State System of Civil Protection are created and managed by the corresponding ministries within the scope of their functions (see Table 1 and Table 2).

Table 1. Functional Subsystems within the State System of Civil Protection

<table>
<thead>
<tr>
<th>Central Agency of Executive Power</th>
<th>Functional (Sub)System Created by the Agency</th>
<th>Responsible Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Agrarian Policy</td>
<td>protection of agricultural plants and animals</td>
<td>State Veterinary and Phytosanitary Service (dissolved, functions shifted to State Service of Ukraine on issues of food safety and consumer protection)</td>
</tr>
<tr>
<td></td>
<td>protection of forests</td>
<td>State Forestry Agency</td>
</tr>
<tr>
<td></td>
<td>prevention and emergency response in the area of fisheries</td>
<td>State Agency for Fisheries</td>
</tr>
<tr>
<td>Ministry of Internal Affairs</td>
<td>ensuring public (social) safety and order, road safety</td>
<td>National Police and the National Guard</td>
</tr>
<tr>
<td>Ministry of Ecology and Natural Resources</td>
<td>environmental monitoring</td>
<td>The State Agency for the exclusion zone</td>
</tr>
<tr>
<td></td>
<td>prevention and liquidation of emergency situations in the exclusion zone and zone of unconditional (obligatory) resettlement</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Flood management</td>
<td>State Water Resources Agency</td>
</tr>
<tr>
<td></td>
<td>monitoring, control, forecasting geological and geophysical processes and groundwater pollution</td>
<td>State Service of Geology and Mineral Resources</td>
</tr>
<tr>
<td>Ministry of Economic Development and Trade</td>
<td>State Material Reserves</td>
<td>State Agency of Reserve</td>
</tr>
<tr>
<td>Ministry of Energy</td>
<td>security of electricity and nuclear-industrial complexes</td>
<td></td>
</tr>
</tbody>
</table>

14 But many laws connected to the Code refer to the State Service of the National Security, which has been recently eliminated, and the National Security and Defense Council created instead.

15 The Cabinet of Ministers Decree on State Commission on Technogenic and Environmental Safety and Emergency No. 18 as of 26.01.2015: [http://zakon3.rada.gov.ua/laws/show/18-2015-%D0%BF](http://zakon3.rada.gov.ua/laws/show/18-2015-%D0%BF)
<table>
<thead>
<tr>
<th>Ministry</th>
<th>Responsibilities</th>
</tr>
</thead>
</table>
| **Ministry of Infrastructure**               | security of oil and gas industries  
security of coal-industrial complex  

**Ministry of Infrastructure** prevention and response to the threat or emergency situations on railways  
prevention and response to the threat or emergency situations at sea and river transport in the waters of commercial ports, organization of search and rescue operations in the Black and Azov Seas  
prevention and response to the threat or emergency situations in the roads sector | State Agency of Automobile Roads |
| **Ministry of Regional Development and Construction, and Communal Living** | safety in the Housing operation |
| **Ministry of Health**                       | medical, biological and psychological protection of the population  
ensuring sanitary and epidemiological welfare |
| **Ministry of Industrial Policy (merged to the Ministry of Economic Development and Trade)** | prevention of disasters and emergency response in the organizations and industries facilities |
| **Ministry of Education and Science**        | training preschool children, pupils and students in actions to respond the emergency situations (life safety) |
| **Ministry of Defense**                     | prevention of disasters and mitigation at subordinated organizations and subordinated objects and territories |
| **Ministry of Culture**                     | prevention of disasters and elimination of their consequences on the objects of culture and protection of cultural heritage, planning measures for the evacuation of property belonging to the national cultural heritage |
| **State Emergency Service (subordinated to the Ministry of Internal Affairs)** | emergency response, conducting rescue and other urgent works |
| **State Committee for Television and Radio-broadcasting** | informing the public about threats and emergencies |
Table 2. Specialized Services within the State System of Civil Protection

<table>
<thead>
<tr>
<th>Central Agency of Executive Power</th>
<th>Specialized Service Created by the Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Agrarian Policy</td>
<td>Specialized Service for Protection of farm animals and plants</td>
</tr>
<tr>
<td>Ministry of Energy</td>
<td>Specialized energy service</td>
</tr>
<tr>
<td>Ministry of Regional Development, Construction and Leaving Service</td>
<td>Specialized engineering service and Specialized Technical-Communal Service</td>
</tr>
<tr>
<td>Ministry of Economic Development and Trade</td>
<td>Specialized trade and food service</td>
</tr>
<tr>
<td>State Agency for Reserve</td>
<td>Service for specialized financial security</td>
</tr>
<tr>
<td>Ministry of Health</td>
<td>Specialized Medical Service</td>
</tr>
<tr>
<td>Ministry of Infrastructure</td>
<td>Specialized transport service provision</td>
</tr>
<tr>
<td>State Emergency Service, State Special Communications Service, State Committee for Television and Radio-broadcasting</td>
<td>Specialized Service for communication and notification</td>
</tr>
<tr>
<td>Ministry of Internal Affairs</td>
<td>Specialized Security Service for public order</td>
</tr>
<tr>
<td>State Emergency Service</td>
<td>Specialized fire service</td>
</tr>
<tr>
<td>Ministry of Industrial Policy (dissolved, functions shifted to the Ministry of Economic Development and Trade)</td>
<td>Specialized Technical Service</td>
</tr>
</tbody>
</table>

As table 1 shows, the coordination of health security measures is a function of the MOH. This function includes: medical, biological and psychological protection of the population, and ensuring sanitary and epidemiological welfare.

The network of agencies and units responsible for the execution of policies under the Code of Civil Protection includes: Operational Rescue Service of Civil Protection; emergency services; formations of civil protection; specialized civil protection; fire and rescue units (parts); and formation of voluntary civil protection. Medical assistance to people in an emergency situation is provided by the Disaster Medicine Service.

A separate chapter of the Code is devoted to “Medical, biological and psychological protection, ensuring sanitary and epidemiological welfare”. Emergency medical services are provided by the Ukrainian Emergency Medical Services (UEMS), a special government rescue service subordinated to the MOH. Its main task is to provide free of charge medical assistance to victims, rescuers and any other persons who take part in the response to and/or recovery process after incidents of any kind. The UEMS functions at both national (central) and local levels.
National Legal Framework on Sanitary and epidemiological welfare

A separate set of laws outline the basics of sanitary and epidemiological welfare. These include Laws:

- "On population protection against infectious diseases" (adopted in 2000 with latest amendments in 2012)
- "On Combating Tuberculosis" (adopted in 2001 with latest amendments in 2012)
- "On Prevention of Acquired Immune Deficiency Syndrome (AIDS) and social protection" (adopted in 1991 with latest amendments in 2012), and

These regulations cover the norms regarding hygiene (including licensing for construction objects and documents), requirements to exports, water use and water provision, air, noise, chemical and biological substances, obligatory vaccination against most dangerous diseases (tetanus, diphtheria, polio, measles tuberculosis, pertussis), obligatory screenings for particular groups of population, sanitary protection of the territory on the boarder by the sanitary-quarantine units and border inspection posts. The oversight presumes control of compliance of the enterprises and organizations of different forms of ownership with the sanitary norms, expertise, investigation, and response to the violation of the rules.

The policies in this area are developed by the MOH. Until 2016, they were implemented by the Sanitary Epidemiological Service. However, in 2016 the State Sanitary-Epidemiological Service was dissolved to form the basis for the new state agency – Center of Public Health of Ukraine – closing the long-standing history of the sanitary and epidemiological services in the country.

The MOH is also responsible for the development of the policies, and particularly targeted programs, aimed at prevention of infectious diseases such as tuberculosis and HIV/AIDS, and social support of those infected and their families. Preventive measures include: monitoring and recording of the infected; analysing and forecasting the epidemiological situation; supporting research; incorporating the basic necessary knowledge into the educational programs in schools; regular periodic disinfections conducted by the Sanitary Epidemiological Service; promoting screenings and testing; mandatory health checks for population groups at risk; and information campaigns. It is worth noting that, while the support for research and healthy life-style promotional campaigns are mentioned in the law, they are more evident in rhetoric than reality. The same applies to the monitoring of the epidemiological situation – even though the relevant statistics are regularly published on the governmental sites, it is almost impossible to find any evidence of forecasting.


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projects. “Humanitarian Response Plan” is dealing with humanitarian crises in Ukraine due to the military conflict. The plan is prepared by the Humanitarian Country Team, chaired by the Humanitarian Coordinator.

There are a number of rules, procedures and national programmes for ensuring and regulating the vaccination of populations against infectious diseases. These include: the law “On population protection against infectious diseases” (adopted in 2000 with latest amendments in 2012)\(^{17}\); and the decree “On the order of preventive vaccinations in Ukraine, and quality control and turnover of medical immunobiological drugs” (adopted in 2011 with latest amendments in 2015)\(^{18}\). The current programme on immunization and protection from infectious diseases details the planned activities for the period from 2009 to 2015\(^{19}\). Regular vaccinations for children and specified professional groups are expected to follow the timetable of the “Calendar of preventive vaccination” which is a responsibility of the MOH. The Chief Sanitary Doctor can introduce obligatory vaccination on the territory of his responsibility – State (if this is a Chief State Doctor), oblast, defence or military facilities, criminal justice facilities, areas under the jurisdiction of the State Security Service or at the border. The planned vaccination campaign is conducted under the responsibility of the health care facility head or the head where the special vaccination cabinet is located. The staff that conduct the vaccinations are required to complete special training, and are also in charge of informing the parents and the children, or employees, about the upcoming immunization. The quality of immunobiological drugs, their proper transportation and storage conditions are supposed to be ensured by the State Service of Ukraine for Drug Control. The immunization coverage ratio in Ukraine is among the lowest in the world due to shortages in the supply of vaccines and distrust towards vaccinations among the population. As a result, two cases of vaccine-derived polio were registered in 2015.

**Compliance with the International Health Regulations**

Since 2005, Ukraine has followed the IHR and interacted with the WHO to ensure timely exchange of information. The latest National Focal Point\(^{20}\) was appointed in 2014 (the first was appointed in 2010\(^{21}\)). Ukraine is also a member of the WHO Global Influenza Surveillance and Response System (GISRS), formerly known as the Global Influenza Surveillance Network (GISN)\(^{22}\). There is a National

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\(^{20}\) Called “National coordinator” in Ukrainian

\(^{21}\) This is the first time when it was mentioned in:


\(^{22}\) The new name came into effect following the adoption of the Pandemic Influenza Preparedness (PIP) Framework in May 2011
Influenza Centre (NIC) in Ukraine. Within the GISRS, the WHO Collaborating Centers and Essential Regulatory Laboratories are crucial elements of influenza surveillance and vaccine response.

Ukraine is also a member of the Polio Laboratory Network, a network of laboratories mandated by the WHO (Europe) to assist the Global Polio Eradication Initiative (GPEI) in fighting polio in the European Region. It supports member countries with the latest advancements in molecular biology to detect polio. The WHO (Europe) guarantees the quality of the laboratory services in the European Region by training and supplying network laboratories with the required equipment and chemicals and regularly assessing and facilitating improvement in the quality of their work. The network uses online Laboratory Data Management System (LDMS) launched in 2011 for the online reporting from the member countries.

Strong health monitoring and evaluation is essential for good governance, since the effective provision of public health and health care requires a detailed understanding of the population’s health and disease burden, as well as the underlying determinants.

Summary

Health security is a vital aspect of the public health function, both for the monitoring of and response to health hazards and emergencies within country borders, but also for complying with international obligations regarding cross border threats to health.

Ukraine’s Cabinet of Ministers and National Security and Defense Council coordinates government bodies with responsibilities for health security, and a high-level State commission coordinates activities of the institutions and organizations related to the prevention of and response to emergencies. However, it is not clear the extent to which public health emergency expertise is present either within these high-level bodies, or within the network of agencies responsible for the execution of policies under the Code of Civil Protection. The body responsible for identifying and predicting priorities in health risks in the environment in Ukraine has changed, since the dissolving of the State Sanitary Epidemiological Service. It remains to be seen how the new Center of Public Health will maintain and further develop capacity for health security. The limitations in surveillance noted in the previous section are also of relevance to health security, as good information is vital to ensuring strong preparedness, prevention and control responses, for instance, to communicable disease outbreaks.

Communication is another vital aspect; as Ukraine’s low immunization coverage ratio indicates, this

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23 NICs functions:
World Health Organization. Terms of Reference for National Influenza Centres.

24 Ukrainian NIC is located by Kiev L.V.Gromashevsky Institute of Epidemiology & Infectious Diseases of the National Academy of Medical Science of Ukraine

25 National Influenza Centres (NICs) collect virus specimens in their country and perform preliminary analysis. They ship representative clinical specimens and isolated viruses to the WHO CCs for advanced antigenic and genetic analysis. The results form the basis for WHO recommendations on the composition of influenza vaccine each year, as well as relevant risk assessment activities of WHO. The NICs are national institutions designated by the national Ministries of Health and recognized by the WHO. They form the backbone of the WHO’s Global Influenza Surveillance and Response System (GISRS).
needs to be greatly improved in order to ensure the public have access to and trust information, warnings and actions necessary for good health security.
4 Occupational health and safety

Introduction

The next issue we turn to in our analysis of the public health function is occupational health and safety. Interdependencies between health and employment are well known, and working conditions are an important aspect of maintaining health and well-being of employees.

In international law, safe and healthy working conditions are a human right, recognized in various human rights declarations and treaties, such as the Universal Declaration of Human Rights, and the International Covenant on Economic, Social and Cultural Rights 1966. A number of international commitments and instruments have been adopted at the global and European level on health and safety at work. WHO's work on occupational health is governed by the Global Plan of Action on Workers’ Health (2008-2017). The International Labour Organization, which brings together governments, employers and workers of 187 member states, also sets standards, develops policies, and devises programmes promoting decent work for all men and women. The European Social Charter also acts as a powerful instrument to promote occupational health and safety in Europe; it contains article 2 on ‘the right to just conditions of work’, and article 3 on ‘the right to safe and healthy working conditions’. There are a number of further relevant EU directives and strategies, including the EU Framework Directive on Safety and Health at Work (Directive 89/391/EEC), which made widespread changes to occupational safety and health legislation in some EU member states. The EU’s second strategy on Health and Safety at Work (2007-2012) aimed to cut by a quarter work-related accidents. This strategy acted as an important driver for national action, and facilitated coordination with respect to public health initiatives (Kim et al 2014).

Occupational health and safety programmes are an important part of modern public health services addressing not only workplace hazards, but also the wider social and environmental determinants of health (WHO 2007). They are essential for “maintaining and promoting workers’ health and working ability, ensuring work and the work environment are conducive to safety and health, and developing work organizations and working cultures so that they support health and safety at work” (Kim et al 2014: 72).

Occupational health and safety includes the provision of basic occupational health services. These services, according to ILO Convention No. 161, cover:

- Identifying and assessing the risks related to health hazards in the workplace.
- Advising on planning and organization of work and working practices.
- Providing advice, information, training and education on occupational health, safety, and hygiene, and on ergonomics and protective equipment.
- Surveillance of workers’ health in relation to work.
- Contributing to occupational rehabilitation and maintaining people of working age in employment, and assisting in the return to employment of those who are unemployed for reasons of ill health or disability.
- Organising first aid and emergency treatment.

The goal of WHO and ILO is a universal provision of occupational health services to all working people in all sectors and occupations. However, the survey among 48 country members of the International Commission on Occupational Health shows that the average coverage of adequate occupational health services is 24.8% (Rantanen et al 2017), revealing that many countries are far from the goal.
Mortality related to work-related accidents is a good indicator of the effectiveness of occupational health and safety systems, since deaths are less likely to be under-reported than injuries and diseases. According to official data reported to WHO’s European Health for All database, whilst mortality rates from work-related accidents have decreased consistently in the European region since 1980, there are higher death rates in the countries of central and eastern Europe and the former Soviet countries (Kim et al 2014).

**Occupational health and safety in Ukraine**

Ukraine ratified the 1981 ILO Convention on Occupational Safety and Health (No.155) and the 1985 ILO Convention on Occupational Health Services (No.161), but not the 2006 Promotional Framework for Occupational Safety and Health Convention (No. 187). Overall, Ukraine ratified 63 conventions of the ILO as of 2016 (including fundamental, governance and technical). Table 3 outlines the primary legislation in the occupational health and safety arena in Ukraine. “Labour Code of Ukraine” and Law of Ukraine “On Labour Protection” cover the basic freedoms of employees, sets the legal and financial provisions for the cases of damage to health brought about by work, outlines the framework for health safety organization; regulation, control and law enforcement regarding occupational safety. The Law of Ukraine “On Mandatory Social Insurance against Industrial Accidents and Occupational Disease which Caused Disability” obliges employers to pay Social Security Tax which is than accumulated by the State Social Insurance Fund to insure employees (and their families) in case of work-related accidents or diseases. Other laws (Table 3) outline major regulations enforced by the state to evaluate and prevent risks related to sanitation, epidemiology, risky construction, technologies and substances. Employers are subject to criminal and administrative prosecution in cases when violation of the rules results in the damage to health of workers (Table 3).

**Table 3. Primary framework legislation on Occupational Health and Safety**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>The Law of Ukraine “On Mandatory Social Insurance against Industrial Accident and Occupational Disease which Caused Disability”</td>
</tr>
<tr>
<td>5.</td>
<td>“Legislation Basis of Ukraine on Health Protection”</td>
</tr>
<tr>
<td>7.</td>
<td>Chapter 40 &quot;Liabilities entailed by causing damage&quot; of Civil Code of Ukraine sets forth general basis for reimbursement of damage and in particular establishes liability for health damage and death of an employee resulted from his/her performance of duties at work.</td>
</tr>
<tr>
<td>8.</td>
<td>Criminal Code of Ukraine comprises the chapter “«Crimes against production» clauses 271-275 of which stipulate liability for violation of labour protection requirements either entailing health damage or death of an employee or creating a situation dangerous for life of people.</td>
</tr>
</tbody>
</table>

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The major preventive actions are on mandatory preliminary and routine medical examinations for certain categories of workers, including workers involved in public services which could lead to the spread of communicable diseases or cause food poisoning, and employees who do heavy labour or work in hazardous conditions. The responsibility for arranging and conducting routine mandatory medical examinations of employees lies with the owners of enterprises, facilities and institutions.

Over the course of the last 20 years, there have been many attempts to reduce the regulatory constraints for business in Ukraine. Numerous laws and normative acts have been cancelled. In 2014 the Ukraine Government took the course of massive deregulation, eliminating a selection of state control bodies and restricting check-ups by most of the oversight bodies (except for tax authorities). The basic legislative framework for occupational health and safety developed in the early 1990’s, however, has remained largely the same.

Table 4 summarizes the key responsibilities in the area of Occupational Health and Safety of a number of central executive authorities.

<table>
<thead>
<tr>
<th>Agency</th>
<th>Head Ministry</th>
<th>Functions</th>
</tr>
</thead>
<tbody>
<tr>
<td>State Labour Service of Ukraine</td>
<td>Ministry of Social Policy</td>
<td>Implements the state policy in the field of industrial safety, occupational safety, occupational health, state supervision and control of compliance with labor legislation, compulsory state social insurance scheme;</td>
</tr>
<tr>
<td>State Sanitary-Epidemiological Service / Public Health Center</td>
<td>Ministry of Health</td>
<td>Oversight over sanitary and epidemiological safety, including surveillance, check-ups, cases investigations, state expertise, development of policy recommendations, development of standards and recommendations, etc. Has regional network of centers and operates the network of laboratories</td>
</tr>
<tr>
<td>State Nuclear Regulatory Inspectorate of Ukraine</td>
<td>Cabinet of Ministers of Ukraine</td>
<td>Oversight over safety of processes and substances related to nuclear power, development of standards and norms, state expertise, approves investment and other projects, issues permits and licences, conducts safety evaluation, sets rules of substances and wastes management, etc</td>
</tr>
<tr>
<td>State Emergency Service of Ukraine</td>
<td>Ministry of Internal Affairs</td>
<td>Civil protection, protection of population and territories from emergency situations and prevention of emergencies, emergency response, rescue, firefighting, fire and technological safety activities emergency services, prevention of injuries outside work and hydrometeorological activity.</td>
</tr>
</tbody>
</table>

In addition, a number of other Ministries have a mandate to lead policy development, surveillance, develop interventions and introduce country-level practices related to occupational health and safety. These ministries include the Ministry of Social Policy, the Ministry of Health, the Ministry of Agrarian Policy and Food, the Ministry of Ecology and Natural Resources, and the Ministry of Economic Development and Trade.

The State Labour Service of Ukraine is a new agency created in 2014. It became a successor of the State Service of Mining Supervision and Industrial Safety, and the State Inspectorate of Labour. These two bodies, created in 2010, were in turn successors of the State Committee of Ukraine for Industrial Safety, Labour Protection and Mining Supervision. This Committee in turn, was a successor of other
agencies and committees that had been created and dissolved one after another in 2006, 2005, 2003, 2000, 1998, 1993. Eight rounds of reincarnation of this set of functions restricted the ability of the government to make it stable and efficient.

The main governmental occupational health and safety programme related to public health is the “State social program to improve safety, health and the working environment for 2014-2018”. The goals of this programme are:

- to bring legal framework in the field of occupational safety in line with modern requirements and the EU legislation;
- to improve the system of state oversight and public control into compliance with the legislation, optimize structural units of the occupational safety at the local and central levels;
- to reform state bodies in the area of occupational safety management;
- to improve monitoring of risks at all levels and risk management at enterprises; reduce regulations and licensing for enterprises;
- to introduce economic mechanisms encouraging employers to sustain safe working conditions and increase their responsibility for not compliance to the law;
- to introduce new technologies into training of occupational safety professionals;
- to introduce innovative technologies and equipment which will lower the risks of trauma and occupational diseases;
- to facilitate R&D in the area of occupational safety and insure better informing of all the agents about the healthy and safe practices.

In our research we found no reports or evaluations of this programme, and found few details of how it was being implemented.

Summary

The International Labour Organization has concluded that the occupational safety and health situation in Ukraine is unsatisfactory, with a high rate of occupational traumatism and diseases (ILO, 2012). There are signs of widespread non-compliance with the labour protection legislation and other regulations relating to occupational safety, suggesting that employers do not pay adequate attention to occupational health and safety. For many years Ukraine maintained a heavy apparatus to inspect, issue licenses and permits, investigate and punish. However, there has been a great deal of change in the structure for oversight and compliance, and a concentrated effort to reduce regulatory constraints for business. Ukraine’s ability to ensure legislation is upheld and employment conditions are safe and supportive of good health is lacking.
5 Environmental health

Introduction

According to the WHO, the environment is estimated to explain almost 20% of all deaths in the WHO European Region. Environmental health encompasses the assessment and control of all physical, chemical, and biological factors external to a person, and all the related factors that can potentially affect health. Environmental health services, therefore, are aimed at preventing disease and creating health-supportive environments.

Environmental health is shaped by many stakeholders, including housing, transport, agriculture, and employment. Overall, the WHO defines the following areas that have an impact on environmental health:

- Air quality;
- Climate change;
- Housing and health;
- Noise;
- Working conditions;
- Transport and health;
- Urban development;
- Water and sanitation.

The analysis and comparison between countries of the impact of the environment on health and other aspects of life, is reflected in the Environmental Performance Index (EPI). The EPI was launched at the World Economic Forum fifteen years ago with the aim of stimulating data-driven environmental policymaking. The EPI reflects progress in achieving the United Nations’ Sustainable Development Goals, and provides decision makers with information relevant to environment and health policies. The EPI ranks countries' performance on high-priority environmental issues in two areas: protection of human health and protection of ecosystems, within which the EPI scores country performance in nine issue areas comprised of 20 indicators. The Environmental Risk Exposure indicator assesses human health risks associated with unsafe water and sanitation as well as household and outdoor air quality. It assesses hazards to human health posed by five environmental risk factors: unsafe water, unsafe sanitation, ambient particulate matter pollution, household air pollution from solid fuels, and ambient ozone pollution. The sub-index of Environmental Health (EH) is comprised of the following indexes: a) health impact, b) air quality, and c) water and sanitation.

Overall, the latest EPI (2016) found that the world is making progress with addressing some environmental issues, while others have worsened considerably. It reports promising trends in health impacts, access to drinking water and access to sanitation. However, air quality and fisheries

32 Environmental Performance Index, 2016. Key findings. [http://epi2016.yale.edu/chapter/key-findings](http://epi2016.yale.edu/chapter/key-findings)
show worrying declines. The report highlights that when measurement of environmental health factors is poor, or not aligned with proper management, environmental and human health suffer. The development of policy relevant indicators, based on scientific evidence, is essential to appropriate measurement and management.

One of the aspects of environmental health relates to food safety issues. The European Commission’s General Food Law Regulation (EC) 178/2002 (28 January 2002) provides the general principles of food safety. The European Food Safety Authority is responsible for the implementation of the food safety policies. Several EU Directives define major terms and requirements to food safety. The Regulation is aimed at ensuring a high level of protection for consumers whilst also taking into account the protection of animal health and welfare, plant health and the environment. In order to comply with regulations, operators must have strong systems and procedures in place to ensure relevant information can be made quickly available to competent authorities.

The Regulation gives legal effect to RASFF. The EU also introduced Rapid Alert System for Food and Feed (RASFF) that deals with the obligatory notification of any direct or indirect risk to human health, animal health or the environment within a network consisting of national competent authorities, EFSA and the European Commission.

**Environmental health in Ukraine**

The environmental performance index (EPI) shows that Ukraine’s record in 2016 (44 out of 180 countries) is a considerable improvement from that in 2014 (95 out of 178 countries) (Table 5). However, Ukraine still remains behind most European countries (the UK for example is ranked at 12), which makes meeting European standards a challenge (see Error! Reference source not found.).

<table>
<thead>
<tr>
<th>Name of indicator</th>
<th>2014 Score</th>
<th>2014 Rank</th>
<th>2016 Score</th>
<th>2016 Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EPI Score</strong></td>
<td>49.01</td>
<td>95</td>
<td>79.69</td>
<td>44</td>
</tr>
<tr>
<td><strong>Environmental Health</strong></td>
<td>85.74</td>
<td>62</td>
<td>85.74</td>
<td>51</td>
</tr>
<tr>
<td>Health impact</td>
<td>83.06</td>
<td>65</td>
<td>85.82</td>
<td>45</td>
</tr>
<tr>
<td>Air quality</td>
<td>84.76</td>
<td>71</td>
<td>74.18</td>
<td>76</td>
</tr>
<tr>
<td>Water and sanitation</td>
<td>65.31</td>
<td>62</td>
<td>87.22</td>
<td>61</td>
</tr>
<tr>
<td><strong>Ecosystem Vitality</strong></td>
<td>29.87</td>
<td>133</td>
<td>73.63</td>
<td>47</td>
</tr>
<tr>
<td>Water resources</td>
<td>14.7</td>
<td>73</td>
<td>73.32</td>
<td>62</td>
</tr>
<tr>
<td>Agriculture</td>
<td>62.03</td>
<td>107</td>
<td>98.18</td>
<td>44</td>
</tr>
<tr>
<td>Forests</td>
<td>32.52</td>
<td>67</td>
<td>47.08</td>
<td>70</td>
</tr>
<tr>
<td>Fisheries</td>
<td>25.3</td>
<td>50</td>
<td>50.39</td>
<td>64</td>
</tr>
<tr>
<td>Biodiversity and habitat</td>
<td>41.46</td>
<td>119</td>
<td>65.58</td>
<td>130</td>
</tr>
<tr>
<td><strong>Climate and energy</strong></td>
<td>27.78</td>
<td>110</td>
<td>87.45</td>
<td>25</td>
</tr>
</tbody>
</table>

Source: 2016 Environmental Performance Index, Ukraine. [http://epi2016.yale.edu/country/ukraine](http://epi2016.yale.edu/country/ukraine)
Ukraine’s improvement in the rankings may be partially explained by lower levels of polluters emitted to the air and water as well as smaller amount of generated wastes. This is against a background of a sharp decline in industrial output, which is related to the economic recession. Therefore, these may be rather temporary improvements, which in the absence of effective changes in regulation and law enforcement may fade as soon as the economy turns to recovery.

Ukraine’s Environmental Health (EH) indicator has also improved, particularly with regards to health impact, which moved from a ranked position of 65th to 45th between 2014 and 2016. However, such an improvement may be attributed to the change in the methodology of calculating health impact. In 2014, health impact was primarily determined by child mortality; in 2016 it was defined by risk of water and air pollution to human health. Ukraine is performing worse in international comparison for the child mortality indicator than water and air pollution.

In the framework of the Environmental Health Project prepared for the USAID Mission to Ukraine (Billig et al., 2000), experts defined the following environmental health risk factors in Ukraine:

- Air pollution poses the greatest health hazard at industrial locations and increases the local burden of chronic, non-infectious diseases, especially respiratory diseases.
- Drinking water problems are mostly bacterial and are probably more widespread than air pollution problems.
- Food hygiene problems are also mostly bacterial and fecal related.

Note: rank of the country in the PI ranking is provided in brackets.
Source: Hsu et al. 2016
Smoking, alcohol consumption, and nutrition are well-known risk factors that contribute significantly to poor health, but they receive little attention from the health sector.

One of the reasons for poor environmental health is related to the functioning of old industrial facilities with little or no control of air emissions and other toxic discharges to the surface water or soil, and a deteriorating water and sanitation infrastructure (Billig et al., 2000). The most known case is the city of Mariupol, where there were already several protests of residents wearing masks to show highly polluted air in the city.

The impact of the Chornobyl catastrophe in 1986 on health is one of the key reasons for the attention paid to environmental health in Ukraine. The accident has had a significant impact on the health of the population as it caused a huge release of radionuclides. One of the main health impacts has been an increase in the prevalence of childhood thyroid cancer caused by radioactive iodine (IAEA, 2005).

Regulations for environmental health in Ukraine

The Constitution of Ukraine declares the right of the population to be provided with ecological safety, to have a healthy and safe environment, and to have a right to free access to information regarding the environment. However, the EPI notes that the poor environmental health situation in the country is related to the outdated regulations, poor environmental impact assessment, and low enforcement of current ecological norms.

The framework Law On Environmental Protection was inherited from the Soviet Union (adopted in 1991). Other laws regulating environmental protection include the Law On Air Protection (1992, new version dated of 2001), the Water Code (1995), the Law On Waste (1998), and the Law On Regulation of Urban Development (2011). There are also other laws on the air pollution, mineral resources, and ecology. The legislation defines rules and ecological standards, which are aimed at improving the ecological situation. The regulation does cover all the major areas that relate to environmental health protection.

The regulatory framework in Ukraine is often outdated and does not take into account all modern aspects of environmental health. In particular, there is a lack of regulation in relation to factors such as soil contamination, noise, odour, vibration, electromagnetic radiation and other important environmental aspects. Moreover, the environmental permitting system in Ukraine was traditionally institutionally complex and inefficient (OECD, 2005). Some improvements were made recently, however, the situation de facto differs from the regulation as the law enforcement remains weak.

In 2011, the Verkhovna Rada (the Parliament of Ukraine) approved the Strategy on State Ecological Policies in Ukraine until 2020. The same year, the Cabinet of Ministries adopted a National Environment Action Plan for 2011-2015 to implement its environment strategy, which has been

33 Kommodova N., 2012. Stolen Air. The half-million population of Mariupol in Eastern Ukraine is standing for its right to breathe safely. The Ukrainian Week http://ukrainianweek.com/Society/67422

implemented only partially. One of the likely reasons for that was lack of adequate financing. Still, in 2015 the Cabinet of Ministers improved 26 plans for the implementation of the EU Directives related to the environmental policies. This includes the industrial emission air quality and water framework directives.

Environmental health institutions in Ukraine

Over the years, Ukraine has had several organizations focusing on issues related to the protection of environmental health. At the national level, the Ukrainian Center for Disease Control and Monitoring of the MOH is legally responsible for the environmental health issues, in particular, for monitoring and update of legislative and regulatory framework. However, according to a USAID study aimed at the assessment of the Center’s operation, it does not adequately fulfill these functions (USAID, 2015). In particular, there was a gap in the regulation of activities of central executive bodies on the environment protection issues.

Research on environmental, occupational and food safety is conducted by a number of organisations, who report to the MOH (USAID, 2015). These include:

- State Research Center for Nutrition Hygiene of the MoH of Ukraine;
- Research Center for Preventive Toxicology, Food and Chemical Safety named after Academician L.I. Medvid of the MoH of Ukraine;
- Ukrainian Research Institute of Transport Medicine of the MoH of Ukraine;
- Research Institute of Medical and Environmental Problems of Donbas and Coal Industry of the MoH of Ukraine.

The Sanitary-epidemiologic service (SES) was responsible, until April 2016, for inspecting chemical, physical and biological environment. According to the legislation, it had the primary responsibility for inspecting enterprises. The evidence of its work was mixed, even though some experts stressed their professional approach. The SES was responsible for preparing a regular report on the environmental factors that impact human health. The SES was abolished in 2016, partly due to accusations of corruption and the heavy burden it created for business. Most of its functions were shifted to the newly created Public Health Center.

The Government approved the decisions on the introduction of the state environmental monitoring system to be conducted by central executive authorities (Resolution No.391 from March 39, 1998) and the state social and hygienic monitoring (the resolution No.182 from February 22, 2006) to ensure environmental surveillance. However, neither of these resolutions were efficiently introduced and, thus, there are no substantial datasets to enable real surveillance (USAID, 2015).

Environmental impact assessment

Ukraine still lacks an environmental impact assessment (EIA), which should be a procedure of assessing the impact of planned activities on the environment that guarantees environmental safety

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36 Ukraine inherited its environmental impact assessment (EIA) model from the Soviet Union.
and safety for human health and life.37 Before 2011, the state ecological expertise of the EIA materials (prepared according to the approved state construction norms) was conducted by competent authorities. Such expertise was supposed to be made for certain types of environmentally hazardous economic activities, which resulted in harm to environment in general and health of population in particular. Since 2011 (according to the approved law On Regulation of Urban Development) only one joint inspection can be carried out instead of several inspections (fire, sanitary and ecological) in the past. Overall, the legislative amendments of 2011 changed the Ukrainian EIA system, which distanced it from the EU analogues further and weakened provisions for public participation (Oharenko, 2016). In November 2015, the Parliament failed to approve the draft law on environmental impact assessment (which was prioritized by Ukrainian environmentalists) despite high pressure from the civil society. However, issues of environmental health are receiving more attention from the Government. Overall, advocacy by civil society has become essential for such areas as climate change, higher energy effectiveness (at the level of individual housing, companies and plants), and better emission control.

Food security in Ukraine

Inconsistency of Ukrainian Food Safety Regulations has been a huge problem because of high standardization costs, and in compliance with WTO requirements. In 2015, Ukraine enacted Law No 1602-VII “On changes to Some Ukrainian Regulations as to Food Products”. The Law introduced significant changes into state food safety regulatory system. The law had been discussed by stakeholders for 3 years and had a 1 year implementation period. A complicated system of authorities responsible for different aspects of food safety was replaced with a single competent authority – State Service on Safety of Foodstuffs and Consumer Protection (SSSFCP). Ukraine introduced a new Law “On Main Principles and Requirements to Safety and Quality of Food Products” (instead of “On Food Safety and Quality”) and cancelled almost 40 different permits introducing over 150 other changes.

Summary

Overall, Ukraine’s approach to protecting and improving environmental health is rather fragmented, with some aspects more developed than others. There is evidence that environmental health is currently rather poor in the country. Air pollution is high, especially in industrial locations, with enterprises with outdated equipment and technologies with little or no control of air emissions. Clean drinking water and food hygiene remain a problem. The health of the nation was also hampered by the heavy negative impact of the Chernobyl disaster.

The environmental health situation in the country is not helped by the outdated regulations, poor use of environmental impact assessments, and low enforcement of current ecological norms. However, Ukraine is likely to change its environmental health policies taking into account its obligations within the framework of implementing the provisions of the Association Agreement with the EU.

6 Screenings

Introduction

Screening is a well-established public health function. It is aimed at the detection of possible diseases, which are not yet diagnosed, and is performed for people without symptoms, or with pre-symptomatic signs of a particular disease. Screening allows for the early detection of a disease and, thus, enables earlier intervention. For this reason, screening programmes can play an important role in reducing mortality rates, the risks of complications, and the development of serious conditions of a disease. The adoption of screening programmes is not without controversy. The economic impact is not always clear, since they might, on the one hand, reduce the spread of diseases and ensure higher efficiency of health budgets, on the other, they may be related to increases in health budgets due to the cost of screening itself, or due to longer life expectancies. In addition, many screening programmes either fail to meet their potential in identifying undiagnosed disease, or they might be ineffective or even harmful (McKee and Rechel, 2014).

Screening can either be targeted at the whole population or a subgroup (mass public health screening), or at a specific ‘at risk’ population (high risk or selective screening). When evaluating the efficiency and effectiveness of a particular screening program, the following criteria are usually taken into account: the screening’s validity, reliability, yield, cost, acceptance, and the follow-up services. Overall, according to Wilson’s Criteria (Wilson and Jungner, 1968), screenings are recommended when the following applies:

- The condition should be an important health problem.
- There should be a treatment for the condition, and facilities for the diagnosis and treatment should be available.
- There should be a latent stage of the disease.
- There should be a test or examination for the condition.
- The test should be acceptable to the population.
- The natural history of the disease should be adequately understood.
- There should be an agreed policy on whom to treat.
- The total cost of finding a case should be economically balanced in relation to medical expenditure as a whole.
- Case-finding should be a continuous process, not just a "once and for all" project.

Those individuals found during the screening to be at risk or to have a certain disease, are directed to additional tests and then either receive advice and support, treatment or are found not to need any other actions.

Taking into account these guidelines, different countries opt for different types of mandatory or recommended screenings.

Screening in Ukraine: organization and current status

In Ukraine, The MOH is responsible for all policies related to screening, including the introduction of mandatory screenings for different groups of the population. Currently, there are both mass and selective health screenings. The review of available state programmes related to the health of the
population reveals that most screenings are related to the aim of preventing TB, HIV/AIDS, and cancer. There is also mandatory neonatal screening.

The most widespread is the screening for tuberculosis (TB). In particular, adults are typically required to be screened for TB each year. The necessity of screening is envisaged in respective National Programmes to Fight the TB, even though they do not clearly stipulate mandatory mass screening. However, therapists (family doctors) often require adults to undergo X-ray fluoroscopy to receive further consultations (or to receive a sickness leave). Primary level doctors are required to report to the MOH the number of patients that accepted fluorography. There are defined specific cases for the screening of specific groups of individuals for TB, e.g., detained persons, recent inmates, employees of specific occupations.38 The most recent National TB Programmes aim at shifting more to the sputum-processing as a test for TB (particularly for the risk groups) as a more effective way of testing (according to the WHO39). For children, the Mantoux test (tuberculin diagnostics) is required.

Taking into account high mortality rates from cardiovascular diseases, primary level doctors are required to measure the blood pressure of all patients. Moreover, medical checks of school children of certain ages include mandatory screening for possible cardiovascular problems with the help of Ruffier test. 40

There are mandatory screenings for women in Ukraine.41 In particular, GPs refer women to gynecologists to carry out screening for infectious diseases at least once a year. This is done in the framework of the National Programs on Reproductive Health and Family Planning. Screening for breast cancer is not yet mandatory, despite the increased attention to this disease due to its high prevalence. According to the National Program for the Fight Against Cancer until 2016, the MOH introduced the screenings of breast and cervix for women42 with the aim of ensuring the early detection of cancer. However, unpublished, anecdotal evidence suggests that the implementation of these tests depends on the health facility and the doctor.

There is a mandatory screening of all pregnant women for HIV/AIDS as well as for TORCH infections (Toxoplasmosis, Other (syphilis, varicella-zoster, parvovirus B19), Rubella, Cytomegalovirus, and Herpes infections). At the same time, prenatal screening for Down syndrome, Edwards syndrome, and neural tube defects is recommended, but not mandatory (it is highly recommended for pregnant women above 35 years old).

40 The Ruffier functional test is the simple way to evaluate the efficiency of cardiovascular system with sufficient rate of reliability. It sets the functional state of the cardiovascular system and readiness of organism for load. (the description of the test could be found here: http://www.aos.sk/struktura/katedry/utv/ruffierang.html).
41 Men might be referred by primary level doctor to urologist; however, this is de facto far from mandatory.
42 Introduction of screening of cervix is also envisaged in the Program of Reproductive Health until 2015.
Neonatal mandatory screening in Ukraine includes tests for four diseases:

- phenylketonuria,
- congenital hypothyroidism,
- cystic fibrosis,
- adrenogenital syndrome.

Some types of screening are regularly made for some occupational groups in the framework of compulsory medical examinations. Such screenings include a GP visit, blood and urine tests. The MOH defines a list of hazardous occupations and work conditions that require employers to organize annual medical examinations for their employees.43 Such screening might include blood tests and X-ray fluoroscopy, as well as gynaecological and urological tests.

Moreover, the Cabinet of Ministers defines the list of occupations that are required to go through regular health checks for infectious diseases.44 These occupations include teachers, doctors, retail persons and other professions that are at higher risk of spreading infection.

The MOH also defines mandatory medical examinations for children aiming at the improvement of their health via early detection of some health problems.45 When children reach certain ages, they also visit specialized medical doctors, e.g. ophthalmologist, otolaryngologist, orthopaedic specialist and neurologist.

However, evidence reveals that such mandatory medical examinations are not always efficient due to several problems. One of the major problems is the corruption in health facilities, where the results of medical examinations might be falsified (e.g. employees may ‘ask’ doctors not to note their true health conditions with the fear to lose jobs, while parents might ‘purchase’ reference of results of medical examinations in order to avoid queues while visiting the specialist doctors). At the same time, anecdotal evidence reveals that equipment for the diagnosis and treatment of some diseases are not always available. In particular, not every hospital has the necessary equipment to conduct mammography and X-ray fluorography. Besides, not all required health establishments have laboratories to conduct sputum-processing to test for TB, even though the MOH has started discussions on possible analysis of the sputum in distance laboratories.

Summary

Whilst the mandatory screening programmes in Ukraine seem to broadly comply with the Wilson’s Criteria, there are severe limitations affecting Ukraine’s ability to implement strong population health screening programmes. Not all facilities have the capacity to diagnose and treat diseases being screened. Moreover, the way in which the health services are structured, and the multiple interfaces across organizational boundaries makes it possible for results of medical examinations to be falsified. Anecdotal evidence suggests that the implementation of screening programmes should be better

monitored and evaluated. It is not clear that the benefits and disbenefits, including economic implications, have been fully appraised for all screening programmes. There is no independent, non-government body for making decisions about them, and the implementation and impact (including economic) of screening programmes and procedures do not appear to be monitored, evaluated and reconsidered on an ongoing basis. We were not able to review the issue of informed decision making on the part of the person being screening, but this is a crucial element of the success of a screening programme. Trust and communication – which we have already discussed as being problematic in previous sections – are vital for successful operation. The poor availability of data about the target population – already discussed in section 1 – will also hamper efforts to improve screening.
7 Health promotion

Introduction

Health promotion is defined by the WHO (2005) Bangkok Charter for Health Promotion in a Globalized World as “the process of enabling people to increase control over their health and its determinants, and thereby improve their health”. Promoting health means addressing the multi-dimensional nature of health: physical, social, and mental (WHO, 2005d). The WHO identifies five action areas for health promotion:

- Advocate for health based on human rights and solidarity;
- Invest in sustainable policies, actions and infrastructure to address the determinants of health;
- Build capacity for policy development, leadership, health promotion practice, knowledge transfer and research, as well as health literacy;
- Regulate and legislate to ensure a high level of protection from harm and enable equal opportunity for health and well-being for all people;
- Partner and build alliances with public, private, nongovernmental and international organizations and civil society to create sustainable actions.

Health promotion therefore encompasses the development of healthy public policy that addresses the prerequisites of health such as income, housing, food security, employment, and quality working conditions. More recent work has used the term Health in All Policies (WHO 2014) to refer to the incorporation of health promoting goals into public policies, and to improve accountability of policy makers for health impacts at all levels of policy making.

Health promotion in Ukraine

Non-communicable diseases (NCDs) account for approximately 86% of deaths of Ukrainians annually (WHO, 2009). Many Ukrainians have lifestyles that present considerable health risks. In particular, smoking prevalence in Ukraine is high, there is medium consumption of alcohol, and sports are not very popular (WHO, 2009; USAID, 2015).

Historically and culturally, people from the former Soviet Union countries (including Ukraine) have tended to emphasize the responsibility of the state in the balance between state and individual responsibilities (Halpern et al 2004).

Some previous unpublished research work conducted by authors of this report (a project on the assessment of health reform in 2012-2013), heard through focus group discussions that many Ukrainians currently do not consider taking care of their health as their own responsibility. Preventive visits to GPs are not favoured by most, which is partially explained by low trust in the healthcare system as well as high costs. Healthcare reform was not conducted during years of Ukraine’s independence, which resulted in low access to quality healthcare. Moreover, the responsibilities of the health system for health promotion are not identified. This situation is expected to partially change

46 WHO. The 6th Global Conference on Health Promotion. WHO. http://www.who.int/healthpromotion/conferences/6gchp/en/
in the near future, taking into account the current plans regarding healthcare reform and Ukraine’s obligations taken in the framework of joining different health promotion initiatives.

Ukraine participates in the CINDI network (Countrywide Integrated Non-communicable Diseases Intervention), which is a major, WHO coordinated, international collaborative activity for theory-based, practical nation-wide intervention. It aims at health improvement via reducing mortality and morbidity from the major NCDs by means of integrated collaborative interventions that prevent disease and promote health (WHO, 2000). In particular, it aims to reduce the risk of NCD by reducing such risk factors as smoking, alcohol abuse and psychosocial stress, in addition to physical inactivity and unhealthy nutrition. Even though Ukraine is not very active in promoting specific measures in these areas it has made some recent measures to improve its policies.

To comply with the requirements of the international agreements signed by Ukraine in the area of health promotion, the Government and the Parliament restricted the advertisement of tobacco and alcohol. There is a limitation on printed advertisement of tobacco and alcohol near schools as well as restrictions on TV advertisement of alcohol in the day-time. Moreover, smoking is now effectively prohibited in public places. Alcohol usage on the streets is also limited by law, although enforcement of this regulation remains low.

Another WHO initiative in the area of health promotion is Healthy cities, where Ukraine has its representatives. This initiative aims to place health high on the agendas of decision makers and to promote comprehensive local strategies for health protection and sustainable development.48 Ukraine has a considerable way to go to improve the potential for health promotion in its cities – particularly in the provision of safe, clean physical environments.

Health in all policies approach in Ukraine

As a concept, health in all policies reflects the principles of legitimacy, accountability, transparency and access to information, participation, sustainability, and collaboration across sectors and levels of government. The WHO health in all policies framework for country action (2014) sets out six key components that should be addressed in order to put the HiAP approach into action: 1. Establish the need and priorities for HiAP 2. Frame planned action 3. Identify supportive structures and processes 4. Facilitate assessment and engagement 5. Ensure monitoring, evaluation, and reporting 6. Build capacity.

Ukraine has not yet demonstrated the enabling of intersectoral responses to health priorities. There is not a culture of assessing health, equity and health systems-related implications of policies. Investment in sustainable policies, actions and infrastructure to address the determinants of health remains low. Health promotion was expected to become a cornerstone of the National Program Health-2020, which had been debated for years. The draft Program tackled the issue of health promotion in a more comprehensive way than the previous national programs, but it has been significantly delayed in its introduction, and it lacks a clear understanding of priorities, concrete actions and commitments of different actors.49

49 The Concept of this Program was approved by the CMU on October 31, 2011 (Resolution No.1164-p http://zakon.rada.gov.ua/laws/show/1164-2011-%D1%80).
Nevertheless, in August 2015 the President finally approved the National Strategy on Human Rights, one of the Sections of which is devoted to health rights. The aim of the Strategy in protecting health rights is to ensure equal access to quality healthcare and prevention, early diagnosis and effective disease treatment. However, many health-related actions in the action plan for implementation, approved by the Cabinet of Ministers, are ill-defined. They envisage the approval of various Cabinet regulations and amendments to current laws on health-related issues; however, often do not specify the changes. The key performance indicators (KPIs) are not included into the Action Plan, which often makes it difficult to evaluate the effectiveness of any government program.

Health promotion programs in Ukraine

Currently there are numerous national and local programs which contain policies related to health promotion. However, these programs are fragmented and sometimes overlapping. There is no clear and common definition of health promotion, nor over-arching strategy or policy.

National programmes that include an emphasis on healthy lifestyles and increasing personal responsibility for health include those on family planning and reproductive health, and the Youth of Ukraine and Children of Ukraine programmes. However, there is no national health promotion program that either provides information on, or supports individuals in adopting a ‘healthy lifestyle’. Measurable changes in lifestyle behaviours tend not to be included as outcomes indicators on these national programmes, so it is difficult to see the impact they might have on the promotion of health.

Following recent healthcare reforms, from July 2017, primary care general practitioners will have a key responsibility for health promotion. Within state programs, such as those for prevention and treatment of hypertension and for prevention and treatment of cardiovascular and cerebrovascular diseases, GPs have a role in educating patients about risk factors and disease prevention. However, doctors receive little special training in health promotion, and it is unclear how well-placed these health professionals are to engage in individual behaviour change interventions. In addition, health promotion measures are often not specifically funded, meaning they are less likely to take place.

Organization and infrastructure

There are several institutions responsible for issues related to health promotion in Ukraine. Some institutional changes are now on-going, which does not allow for comprehensive assessment. In particular, the Sanitary Epidemiological Service was eliminated in spring 2016. This Service had been responsible for the inspections and interventions in cases related to health promotion and prevention. Its functions are to be transferred to the National Public Health Centre (PHC), the creation of which was approved in 2015, though there is a delay with its actual establishment. Meanwhile surveillance in health promotion is fragmented and only partially conducted by the MOH, which in itself is very restricted in its capacity.

The monitoring of the drug and alcohol situation in Ukraine belongs to the responsibility of the Ukrainian Medical and Monitoring Centre for Drugs and Alcohol at the MOH. This Centre was established first in 2006, then the decision on its restructuring was approved in 2013 but was stopped in 2015. As a result, the Centre continues its activities and as such is responsible for the establishment of the system of early prevention of the worsening of drug and alcohol situation. It has strong cooperation with the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). As such, it follows the practice of the EU Centre and prepares national monitoring reports on drug and alcohol usage to the EMCDDA.

The Ukrainian Institute for Strategic Research at the MOH is responsible for tobacco control. In particular, the Institute’s Department on Tobacco Control takes part in the elaboration of legislative and normative acts on tobacco control. The Institute has already published two national reports on Tobacco control in Ukraine, which is made in the framework of the WHO Convention on Tobacco Control. The Institute actively collaborates with different NGOs.

Overall, most public promotion campaigns have been typically prepared, conducted and financed by civil society and international organisations (e.g. UNESCO). They prepare informational brochures, conduct lectures and seminars in schools, elaborate and publish reports on health promotion issues as well as advocate for policy changes. In particular, limitations of tobacco consumption were advocated since 2000 by the Coalition for Free from smoking Ukraine, which is comprised of more than a hundred different NGOs and civil society initiatives. Several more coalitions and groups were organized afterwards. The Global Fund to Fight Aids, Tuberculosis and Malaria (GF) is aimed at the reduction of TB incidence. The UNESCO pays much attention to issues of vaccination. International Charitable Foundation “Alliance of Public Health” (Alliance Ukraine) plays an important role in promoting knowledge of individuals about HIV as it implements prevention programs. Public promotion campaigns are also in the focus of the Rinat Akhmetov Foundation for Development of Ukraine.

There are also private initiatives in the area of health promotion. In particular, Abetka Kharchuvannya (from Ukrainian – “Nutrition basics”) program was launched in 1999 as part of global program Nestlé Healthy Kids to promote healthy eating habits to children aged six to nine years old. It is important taking into account that gastroenterological diseases score the second place of all children diseases.

It remains unclear whether the situation would change after the introduction of healthcare reform and which institutions will be responsible for their implementation. According to the Ministry, after the healthcare reform, health promotion is to be conducted primarily by GPs. However, there is a risk that these specialists will not properly perform this task due to low level of knowledge, inadequate capacities and poor understanding of the essence of health promotion.

52 The web-page of the Centre: http://www.ummcda.org.ua/  
53 The web-page of the Institute: http://www.uiph.kiev.ua/  
55 Previously International HIV/AIDS Alliance in Ukraine.
Summary

Overall, health promotion is not seen to be a priority for government policies and government investments in Ukraine. There is no common legal definition of health promotion in Ukrainian legislation. Various (though fragmented) health promotion measures are envisaged in various national and local public health programs as well as a number of legislative acts. An important role in health promotion is played by international agencies and civil society, while the role of the Government is rather limited.
8 Organization and financing of public health

Introduction

Assuring sustainable organizational structures and financing is one of the essential public health functions identified by WHO. This function requires the development of “services that are efficient and integrated, have minimal environmental impact with maximal health gain and have sufficient funding for long-term planning to ensure that health is protected and promoted now and in the future.” (WHO, 2015).

Organisation and financing of public health in Ukraine

While the MOH of Ukraine has the strongest mandate to develop public health policies and oversee their implementation, many activities, such as food safety, occupational health, environmental health, and health safety, involve other central government bodies.

The MOH provides stewardship of the health sector, setting the policies and legal framework. A broader set of policies safeguarding people’s health are outlined within a set of laws, with execution of the laws under the responsibility of either Ministry of Health and subordinated bodies, or others such as the Ministry of Agriculture (Food Safety and standards), Ministry of Social Policy, Ministry of Labour, Emergency Response (including Ministry of Defense and National Security Council, State Sanitary and Epidemiological Service of Ukraine), and Ministry of Youth and Sports.

The set of health services provided by the state is quite rigid, and until 2016 was fixed in the normative acts outlining specific requirements such as numbers of beds and numbers and specialization of personnel in health facilities (Order of the Ministry of Health № 33 as of year 200056). MOH order №33 was abolished in 2016 and hospitals were granted autonomy in planning the staff schedule. Still there is little flexibility in provision of public health initiatives because it has not been possible to divert resources within the underfunded system to anything other than key expenditure items (like medical and support personnel, utilities and pharmaceuticals). All the services are being funded – to the extent to which resources are available and approved to be used in the health sector by the Parliament - within the Budgetary process.

The Ministry of Health currently has a department of public health as one of many departments within its structure. This department was created in 2015 to perform the functions of the State Service of Ukraine for combating HIV/AIDS and other socially dangerous diseases57. Also in 2015, the Decree of the Ministry of Health initiated the creation of the State institution ‘Public Health Centre of the Ministry of Health of Ukraine’. The Centre was launched in 2016 and consists of a number of institutions and public enterprises within the Ministry of Health that work to execute its core public health functions. It is modeled on the European and the United States Centers for Disease Control and Prevention. It was established in conjunction with existing research institutes of hygienic and

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56 Order of the Ministry of Health On staff standards and typical staff of health care facilities No. 33 as of Febrary 23, 2000: http://old.moz.gov.ua/ua/portal/dn_20000223_33n.html
epidemiological profiles of the National Academy of Medical Sciences of Ukraine (Order of the Ministry of Health №604 of year 2015)58.

To date, there has been no practice of publishing strategic or visionary documents about the planned activities by the Ministry of Health and subordinated agencies.

Financing of public health services

In 2011, the OECD and the WHO introduced an accounting framework - System of Health Accounts (SHA)59 – with the tools and technical support to institutionalize and set up an integrated platform for annual collection of health expenditure data. Within this framework, expenditure on ‘Preventive and Public Health Components’ is reported. This category includes maternity and child health, family planning and counselling, school health services, prevention of communicable and non-communicable diseases, occupational healthcare, and other miscellaneous services. According to SHA data (latest data available for Ukraine is 2011), Ukraine is about average, across the European region, in terms of the proportion of total expenditure allocated to prevention and public health services. However, this is still only 3% of total health expenditure.

Public health functions in Ukraine do not have specialized financial mechanisms to sustain them. Following the Soviet legacy, Ukraine has relied primarily on a general revenue financing model. However, compared to the Soviet times, there have been a number of notable changes which have had an impact on public health operations and ultimately population health.

First, the preventive programmes focusing on lifestyles, that were a key part of the Communist Party approach, have disappeared in Ukraine following the collapse of the Soviet Union. This is both because of the decreasing popularity of anything related to the Soviet past, and because of the diversion of financial resources in times of economic hardships. This resulted in a dismantling of previous organizational infrastructures of preventive activities and informational campaigns. For example, the “Ready for Labour and Defence of the USSR” program - a pan-Union holistic physical culture training program (abbreviated in Russian as GTO), focused on the strict social norms restraining unhealthy behaviours of the Soviet people - played an important health promoting role in Soviet society, but was eliminated in all the post-Soviet states. The remaining scarce resources had been shifted to the financing of acute care facilities. The governments were most often unable to introduce measures which would make a plausible case for cost-effectiveness when compared to the curative measures, especially in the case of life-threatening illnesses (Roberts et al.,2008).

Second, deterioration of the Ukrainian economy brought about by the collapse of the Soviet Union, followed by years of poor policies, resulted in a significant fall in the nominal and real value of the health sector budget. A growing shadow economy reduced the capacity of the state to collect and administrate taxes; hyperinflation accompanied by capture of the pharmaceutical market and corruption in procurement, together led to an increase of costs. As a result, a parallel informal market of medical services financed from out-of-pocket payments expanded.

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59 WHO. Health accounts. WHO. http://www.who.int/health-accounts/en/
Third, poor political accountability, the centralized nature of decision-making and the weakened administrative capacity of the young state hampered the potential of the local and central governments to reform the healthcare sector.

**Public Health Budget within the Health System**

Overall, according to Ministry of Finance data in 2015, the health sector made up UAH 71 bln, or 10% of the consolidated (national and local) budget, including resources managed by the Ministry of Health, local budgets and other ministries (see Table 6 below).

**Table 6. Distribution of the Budget by function of the Government, 2015**

<table>
<thead>
<tr>
<th>Budget expenses by function, 2015</th>
<th>Total, mln UAH</th>
<th>Total, mln USD</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public order, security and judiciary</td>
<td>54,963</td>
<td>2,520</td>
<td>8%</td>
</tr>
<tr>
<td>Spiritual and physical development</td>
<td>16,228</td>
<td>744</td>
<td>2%</td>
</tr>
<tr>
<td>Economic activity</td>
<td>56,257</td>
<td>2,579</td>
<td>8%</td>
</tr>
<tr>
<td>Utilities</td>
<td>15,700</td>
<td>720</td>
<td>2%</td>
</tr>
<tr>
<td>State administration</td>
<td>117,642</td>
<td>5,393</td>
<td>17%</td>
</tr>
<tr>
<td>Defence</td>
<td>52,016</td>
<td>2,385</td>
<td>8%</td>
</tr>
<tr>
<td>Education</td>
<td>114,193</td>
<td>5,235</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Health</strong></td>
<td><strong>71,001</strong></td>
<td><strong>3,255</strong></td>
<td><strong>10%</strong></td>
</tr>
<tr>
<td>Environmental Protection</td>
<td>5,530</td>
<td>254</td>
<td>1%</td>
</tr>
<tr>
<td>Social protection and social security</td>
<td>176,340</td>
<td>8,084</td>
<td>26%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>679,871</strong></td>
<td><strong>31,169</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Source: Ministry of Finance

Resources managed by the Ministry of Health, including subventions to the local budgets, can be classified by programs (Table 7 below). According to program data, 81% of funds are being spent at the local level. They are disbursed by the Ministry of Health in the form of subventions. 99% of all the subventions is a medical subvention. The local budgetary resources are used to support facilities in primary, secondary and tertiary care.

**Table 7. Distribution of the National Budget by program (Resources managed by the Ministry of Health), 2015**

<table>
<thead>
<tr>
<th>Indicator, Short</th>
<th>Budget executed, 1,000 USD</th>
<th>%</th>
<th>Responsible</th>
<th>Level of budget</th>
<th>Public Health Operation type</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;Serving People, Improving Health&quot; Project</td>
<td>127</td>
<td>0.005%</td>
<td>MOH Apparatus</td>
<td>Country</td>
<td>Primary-care, Screening/Disease Prevention, Renovation, Secondary care</td>
</tr>
<tr>
<td>Debt liabilities</td>
<td>14,715</td>
<td>0.560%</td>
<td>MOH Apparatus</td>
<td>Country</td>
<td>Debt</td>
</tr>
<tr>
<td>Organization &amp; regulation</td>
<td>7,265</td>
<td>0.276%</td>
<td>MOH Apparatus</td>
<td>Country</td>
<td>Organization &amp; regulation</td>
</tr>
</tbody>
</table>

---

60 Ukrainian State, National, Local Budgets, as well as budgets of public entities that function using Budget funds is presented, according to the requirements of the Ministry of Finance secondary legislation, in several formats: distribution according to economic activity classification, functional classification, and program classification.
<table>
<thead>
<tr>
<th>Management</th>
<th>1,445</th>
<th>0.055%</th>
<th>MOH apparatus</th>
<th>Country</th>
<th>Policy-making</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outpatient &amp; dental care at CL, research and MOH HE inst.</td>
<td>4,370</td>
<td>0.166%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Primary-care</td>
</tr>
<tr>
<td>Renovation of the &quot;Okhmardyt&quot; Children Hospital</td>
<td>6,015</td>
<td>0.229%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Renovation</td>
</tr>
<tr>
<td>Implementation of selected programmes</td>
<td>169,485</td>
<td>6.450%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Screenings/Disease prevention (EPHO5)</td>
</tr>
<tr>
<td>Rehabilitation of children with cerebral palsy</td>
<td>511</td>
<td>0.019%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Screenings/Disease prevention (EPHO5)</td>
</tr>
<tr>
<td>Sanatorium treatment</td>
<td>14,316</td>
<td>0.545%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Screenings/Disease prevention (EPHO5)</td>
</tr>
<tr>
<td>Secondary and tertiary care, CL facilities</td>
<td>39,597</td>
<td>1.507%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Secondary &amp; Tertiary care</td>
</tr>
<tr>
<td>Diagnosis and treatment at research and MOH HE inst.</td>
<td>39,660</td>
<td>1.509%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Tertiary care</td>
</tr>
<tr>
<td>Treatment of citizens of Ukraine abroad</td>
<td>9,251</td>
<td>0.352%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Tertiary care</td>
</tr>
<tr>
<td>National Scientific Medical Library, history of medicine</td>
<td>1,030</td>
<td>0.039%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Workforce training and research (EPHO7&amp;10)</td>
</tr>
<tr>
<td>Research and Development</td>
<td>3,806</td>
<td>0.145%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Workforce training and research (EPHO7&amp;10)</td>
</tr>
<tr>
<td>Training and professional development</td>
<td>128,639</td>
<td>4.895%</td>
<td>MOH apparatus</td>
<td>Country</td>
<td>Workforce training and research (EPHO7&amp;10)</td>
</tr>
<tr>
<td>State Service of Ukraine on Pharmaceutical Products</td>
<td>1,682</td>
<td>0.064%</td>
<td>SSUPP</td>
<td>Country</td>
<td>Organization &amp; regulation</td>
</tr>
<tr>
<td>Ukraine State Service on Drug Control</td>
<td>362</td>
<td>0.014%</td>
<td>USSDC</td>
<td>Country</td>
<td>Organization &amp; regulation</td>
</tr>
<tr>
<td>State Sanitary and Epid. Service (incl. lab. research)</td>
<td>61,921</td>
<td>2.356%</td>
<td>SSES</td>
<td>Country</td>
<td>Environmental health (EPHO3)</td>
</tr>
<tr>
<td>State Service of Ukraine on combating HIV / AIDS and other SDD</td>
<td>925</td>
<td>0.035%</td>
<td>SSU on HIV/AIDS and other SSD</td>
<td>Country</td>
<td>Screenings/Disease prevention (EPHO5)</td>
</tr>
<tr>
<td>Subventions to local budgets for:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;Serving People, Improving Health&quot; Project (S)</td>
<td>292</td>
<td>0.011%</td>
<td>Local Administration</td>
<td>Local</td>
<td>&quot;Serving People, Improving Health&quot; Project</td>
</tr>
<tr>
<td>Lviv Oblast Perinatal Centre (S)</td>
<td>2,063</td>
<td>0.079%</td>
<td>Local Administration</td>
<td>Local</td>
<td>Renovation</td>
</tr>
<tr>
<td>Medical subvention (S)</td>
<td>2,117,013</td>
<td>80.564%</td>
<td>Local Administration</td>
<td>Local</td>
<td>Medical facilities of all levels</td>
</tr>
</tbody>
</table>
From the list of programs managed by the MOH, it is possible to extract those that might be described as public health operations. **Error! Reference source not found.** demonstrates how health expenditures financed from the budget were classified according to essential public health operations. Almost 5% of the National level budget managed by the MOH is allocated to training personnel and research, and slightly more than 7% is allocated to public health programmes (listed in Table 8). In 2015, 2.36% of the budget was devoted to the State Sanitary and Epidemiological Service (SSES), including funds for administration and laboratories network. SSES performed some of the Environmental Health activities.

Table 8. Analogues of Public Health Operations. Health sector Budget managed by the MOH, 2015

<table>
<thead>
<tr>
<th>Public Health Operation/Other</th>
<th>Components</th>
<th>Budget executed, 1,000 USD</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy-making, organization &amp; regulation, including Monitoring (EPHO1)</td>
<td></td>
<td>10,754</td>
<td>0.41%</td>
</tr>
<tr>
<td>Screenings/Disease prevention (EPHO5)</td>
<td>Implementation of selected programmes</td>
<td>169,485</td>
<td>6.45%</td>
</tr>
<tr>
<td></td>
<td>Rehabilitation of children with cerebral palsy</td>
<td>511</td>
<td>0.02%</td>
</tr>
<tr>
<td></td>
<td>Sanatorium treatment</td>
<td>14,316</td>
<td>0.54%</td>
</tr>
<tr>
<td></td>
<td>State Service of Ukraine on combating HIV / AIDS and other SDD</td>
<td>925</td>
<td>0.04%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>185,237</td>
<td>7.05%</td>
</tr>
<tr>
<td>Workforce training and research (EPHO7&amp;10)</td>
<td>National Scientific Medical Library, history of medicine</td>
<td>1,030</td>
<td>0.04%</td>
</tr>
<tr>
<td></td>
<td>Post-graduate education</td>
<td>60</td>
<td>0.00%</td>
</tr>
<tr>
<td></td>
<td>Research and Development</td>
<td>3,806</td>
<td>0.14%</td>
</tr>
<tr>
<td></td>
<td>Training and professional development</td>
<td>10,973</td>
<td>0.42%</td>
</tr>
<tr>
<td></td>
<td>Training and professional development (1-2 AL)*</td>
<td>2,523</td>
<td>0.10%</td>
</tr>
<tr>
<td></td>
<td>Training and professional development (3-4 AL)*</td>
<td>111,278</td>
<td>4.23%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>129,670</td>
<td>4.93%</td>
</tr>
<tr>
<td>Environmental health (EPHO3) 2</td>
<td>State Sanitary and Epid. Service (incl. lab. research)</td>
<td>61,921</td>
<td>2.36%</td>
</tr>
<tr>
<td>Healthcare facilities of all levels</td>
<td></td>
<td>2,217,969</td>
<td>84.41%</td>
</tr>
<tr>
<td>Debt payment</td>
<td></td>
<td>14,715</td>
<td>0.56%</td>
</tr>
<tr>
<td>Other pharmaceuticals and medical products</td>
<td></td>
<td>7,056</td>
<td>0.27%</td>
</tr>
</tbody>
</table>
It is not possible to provide an estimate of the resources devoted to the public health operations at the local level. However, we can arrive at crude estimates based on distribution of resources between the levels of care. Primary and emergency care facilities constitute 20% of the health sector consolidated budget.

Planning and budgeting processes are complicated, time consuming and involve numerous regulations. In preparing budgets for their facilities, managers have to follow precise templates and rules prescribing the number of various personnel and their salaries, and follow specified norms on expenditures, prioritizing the “protected expenditures items” (Belli, Dzygyr, Maynzyuk, 2013). This process, together with the large share of the total funds being predefined by the mandatory expenditure norms, results in a situation where health facilities have almost no discretion in allocation of funds. This limits their potential to implement public health activities alongside standard medical treatment. It also means that the measures defined in the legislation as health promotion or prevention have to be executed without specifically allocated funds.

In 2002 Ukraine started a transition to “performance-based budgeting,” or so called “program-target” method in the budgeting process. The main stages of the transition of the central budget to using this method were implemented in 2002-200561. Over the period from 2011 to 2014, local budgets also switched to the new system. The key declared novelties of the “program-goal” approach were:

- Middle-term planning for 3-5 years instead of the short-term planning over 1 year period;
- Projected expenses justified by the targets, not based on historical data;
- Breaking down budget to items according to the classification of the economic activities – wages and supplementary compensation to personnel, purchase of goods and services, serving the debt, transfers, social benefits, non-material assets, capital transfers (such classification is being approved by the legislation62) and programs;
- Switching the aim of the system funding from maintaining existing infrastructure to achieving the targets of the programs;
- Clear identification of people responsible for the implementation of each programme, while such responsibility was not defined under the item-based approach to budgeting;
- Development of the predefined format for the specification of each program: goals, ways to reach these goals, relation to the priorities of the state strategic documents, performance indicators reflecting quantitative and qualitative results that are supported by official statistics63.

61 CMU resolution On Approval of the Concept of the Program-Target Method in the Budget Process No. 538-p of September 14, 2002. [http://zakon0.rada.gov.ua/laws/show/538-2002-%D1%80]
It is important to mention that the 2016 Budget was not prepared using the 3 or 5-year time horizon, and the targets were declarative rather than specific. Additionally, programs tended to focus primarily on procurement or in-kind supply of pharmaceuticals and medical equipment or materials.

**Funding of Public Health Budget Programmes and National/Regional Targeted Programmes**

Every budget programme has a “passport” which outlines resources that should be devoted to implementation of the program, its targets, key performance indicators, and normative acts that justify introduction of the program. The passport of the budget programme enters into force after approval by the Ministry of Finance. This procedure should be completed no later than 45 days after the adoption of the state budget law. Based on the passport, the State Treasury Service of Ukraine releases funds to the bodies responsible for the implementation of the program. Budget spending units are also responsible for the regular reporting of the results.

There are also “National/Regional targeted programmes”, which also belong to the normative acts, but focus on more specific public health problems like diabetes, infectious or non-infectious diseases, oncology, maternal health, etc.

The State Treasury Service controls all stages of the budgeting and execution process. The most recent published audit results (“Efficiency Of The Ministry Of Health Of Ukraine using the State Budget for the tasks and functions to ensure the sanitary and epidemiological supervision and disinfection measures”, 2009) reveal that government agencies are not always following the legislation. The budgeting and execution process is complicated and bureaucratic. It does not appear to be an efficient process, and there are opportunities for violations. The 2009 audit highlights the following problems:

- The budget money is being allocated to items that should not be funded from the state budget according to the law.
- Budgeting is being done without proper justification and explanatory documents stating the quantity of infrastructural objects for which the budget was calculated.
- Performance indicators used in the passports of the programme are inconclusive,
- Budget money are being allocated without prior estimates of the costs,
- The communal land of the sanitary epidemiological facilities was being used by the local governments for new investment projects, etc.

The underfinancing of budget programs remains an issue – an analysis of budgetary expenses on the delivery of target programs (using MOH 2012-2016) highlights that some program activities suffer substantially, or are totally abandoned.

**Mechanism to fund public health services outside of health care system**

There are at least 14 central bodies responsible for some of the public health functions. The most significant of these, and their budgets relative to MOH, are shown in figure 5. The National Academy of Medical Science supports 36 subordinated institutes, and there are 10 more public institutes and research centers.
### Decision-making criteria on resource allocation on public health

Decisions on resource allocation for public health follow general budgeting rules and procedures. The respective ministry collects the evidence of needs from the subordinated agencies and facilities to aggregate them at the central level and makes a request to the Ministry of Finance. The overall country budget is then approved by the parliament via voting.

### Summary

Ukraine’s health care system is inherited from Soviet times. With the collapse of USSR and economic hardships, the health sector budget fell significantly. With the collapse in funding and changing values, old preventive programs disappeared, while new effective programs have not been created.

Ukraine has a general tax-based financing model. Decisions on resource allocation for public health follow general budgeting rules and procedures. The budgeting and execution process is complicated and bureaucratic. It does not appear to be an efficient process, and there are opportunities for violations. The low level of financing and tight regulations limit the flexibility of health care providers and prevent effective allocation of resources. There appears to be insufficient consideration of value for money in program planning (hampered by insufficient health information and good quality evaluations), and inadequate monitoring of implementation. This calls for stronger links between evidence, policy and practice for improved decision making.
9 Public Health Workforce Training and Research

Introduction

A crucial area for improving performance of health systems is public health education. The World Health Report “Working Together for Health” underscores the importance of public health workforce development for strengthening health systems and addressing present and future national and global population challenges (WHO 2006: xv). The public health workforce is a central component of the national public health capacity, which also includes infrastructural components such as resources, facilities and appropriate technology (Beaglehole and Dal Poz 2003).

The definitions of public health workforce are multiple. This is because the public health workforce is characterized by its diversity and its complexity and includes people from a wide range of occupational backgrounds – for example, physicians, nurses, health managers, occupational health and safety personnel, health economists, environmental health specialists, health promotion specialists and community development workers. The public health workforce is trained in a variety of institutional settings, and not necessarily within the health sector, or the public sector (Beaglehole and Dal Poz 2003).

Public health workers can be defined as all those responsible for providing the essential services of public health, regardless of the organization in which they work (U.S. DHHS 1994: 4). The essential services provided by these workers include the following:

- Monitor health status to identify community health problems;
- Diagnose and investigate health problems and health hazards in the community;
- Inform, educate, and empower people about public health issues;
- Mobilize community partnerships to identify and solve health issues;
- Develop policies and plans that support individual and community health efforts;
- Enforce laws and regulations that protect health and ensure safety;
- Link people to needed personal health services and ensure the provision of health care when otherwise unavailable;
- Ensure a competent public health and personal health care workforce;
- Evaluate effectiveness, accessibility, and quality of personal and population-based health services;
- Conduct research for new insights and innovative solutions to health problems.

In a 2001 report, a senior medical adviser to the United Kingdom Government, the Chief Medical Officer for England, identified three major categories in the public health workforce: specialist, practitioner and wider workforce (Chief Medical Officer 2001). The specialist public health workforce can be thought of as comprising people who have higher qualifications in public health and who occupy positions exclusively or substantially focused on population health. The public health practitioner workforce can comprise many core disciplines – from health visitors and community nurses to health promotion practitioners and environmental health officers. Practitioners might have day-to-day responsibility for influencing population health through front-line, operational interventions with individuals, families or local communities, rather than at a higher level of policy or planning. The most diverse of the three categories is the “wider” public health workforce, which might comprise people from all sectors and at all levels of organizations, from chief executives to front-line service providers. They include, potentially, journalists, pharmacists, social care staff, teachers and workers in the retail, leisure and hospitality sectors. In his 2001 report, the Chief Medical Officer described this as a largely undefined and substantially underutilized workforce in public health terms.
Public Health Workforce Training in Ukraine

In Ukraine, public health education has only recently started to develop. At the time of writing, the programs that associate themselves with public health are presented in Table 9.

Table 9. Ukrainian Educational Programmes Related to Public Health

<table>
<thead>
<tr>
<th>School</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kharkiv Medical Academy</td>
<td>BA</td>
</tr>
<tr>
<td>Cherkasy Institute of Management</td>
<td>BA</td>
</tr>
<tr>
<td>“School of Public Health” at the Kyiv-Mohyla Academy</td>
<td>MA</td>
</tr>
<tr>
<td>“Lviv School of Public Health” at the Ukrainian Catholic University</td>
<td>MA</td>
</tr>
<tr>
<td>National Academy of Public Administration</td>
<td>MA</td>
</tr>
<tr>
<td>Interregional Academy of Human Resource Management</td>
<td>MA, BA</td>
</tr>
<tr>
<td>Kyiv Bohomolets University</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Lviv Halystkyi University</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Dnipro State Medical Academy</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Odesa State Medical University</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Kyiv Medical Academy of Postgraduate Education</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Kharkiv Medical Academy of Postgraduate Education</td>
<td>post-graduate program for MDs</td>
</tr>
<tr>
<td>Zaporizhzhia Institute of Medical Doctors Advancement</td>
<td>post-graduate program for MDs</td>
</tr>
</tbody>
</table>

Besides these specialist public health programs, the Ukrainian educational system also produces practitioner public health specialists (i.e. doctors and nurses of various specializations) and prevention and sanitary control specialists.

Although the list of specialist public health programs looks impressive, most of these programmes have little in common with the Western understanding of a specialist public health education. Instead, most of these programs represent exclusively the management side of public health. The only exceptions are the Kyiv-Mohyla Academy School of Public Health and the Lviv School of Public Health. The Kyiv School taught Western-style Public Health between 2005 and 2013, after which it has also opted for a managerial track. The Lviv School of Public Health is a classical public health educational program.

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64 Technically, there used to be more programs in Ukraine, but at the moment some of them are located in the occupied territories and therefore either do not operate or cannot be considered as fully Ukrainian programs. Those include: Donetsk State University of Management MA program, Donetsk Horkyi State Medical University post-graduate program for MDs, and Crimean State Medical University post-graduate program for MDs.
body modelled after the London School of Hygiene and Tropical Medicine public health program, but this program is still in the process of fundraising to start actual workforce training.

According to expert witnesses in Ukraine interviewed as part of our research, the key perceived problem with the specialist public health workforce in Ukraine is lack of knowledge and skills in areas of management and economics. This relates to a particular, rather limited understanding of public health as a specialism. As a consequence, almost all of the existing programs adopt a focus on management.

Karamyshev and Fedak (2011) argue that traditionally in Ukraine public health administrators came from medical practice, and knew nothing about management. Until recently there was no degree program in healthcare management. Whilst public health management programs have emerged, their graduates have tended to experience problems with finding jobs; the practice of hiring based on open competition is not well developed. It has been suggested also that existing post-degree courses in managerial skills (e.g. for medically trained workers) are not practical enough and do not help in managing health care units in the conditions of a market economy (Karamyshev and Fedak 2011, Prasol 2011).

The approach to public health in Ukraine remains more medically-oriented than in western countries. Prevention training is integrated as a part of medical education, with a clinical focus primarily on infectious diseases. As Piekkala (2012) explains, epidemiology in Ukraine is not understood as a part of public health but of medicine, while anything associated with non-infectious diseases and non-medical topics related to health is considered not a matter of public health, but rather of social medicine or psychology. The prevention of spread of infectious disease at population level is understood in terms of diagnostics, isolation and treatment within the medical care system; aspects of health awareness, health behaviour and communication at the community or population level are largely ignored. Piekkala’s (2012: 73) study reveals that public health students in Ukraine still believe that infectious diseases constitute the most serious threat to the health of the population, even though this is not in concordance with the surveillance data.

Training in the area of prevention continues to follow the Soviet approach focused on communicable diseases and enforcements of sanitary controls (Gotsadze et al. 2010). Preventive medicine and sanitation curricula typically include courses such as epidemiology, and general, communal, work and food hygiene, in addition to more medically oriented courses (Goodman et al. 2008). Additional hours within preventive medicine training are focused on surveillance and control of infectious diseases as well as organization of sanitary-epidemiologic departments. With this heavy emphasis on communicable diseases, chronic diseases are nearly excluded. Piekkala (2012) reports that epidemiology of non-infectious diseases is taught within different topics, for only around 6 hours of classes in total.

The problems outlined above are exacerbated by the fact that both public health students and professionals hold conservative attitudes that prevent changes in the system. Not only is there a lack of understanding of contemporary concepts and practice, but also the perceptions of benefits of the post-Soviet approach to prevention are strongly ingrained even among the younger generation of specialists and its disadvantages are not fully accepted. Piekkala (2012) found that although some were aware of the differences between the post-Soviet approach to prevention and public health concept in the west, the common belief was that the approach followed in Ukraine is the most
effective for the prevailing health situation in the country as prevention of infectious diseases was seen as a priority.

A major concern is limited time assigned for practical training. At present, students of preventive medicine and sanitation are offered only 6 months’ internship at post-diploma level, after which they become certified epidemiologists. Training in research skills, e.g. study designs, methods, analysis etc. is negligible. Other public health related topics such as epidemiological methods to evaluating health promotion and disease prevention interventions, as well as social and psychosocial aspects of epidemiology are also absent in the training programme (Piekkala 2012: 72).

As for the general public health workforce, as well as medical practitioner’s public health training there is little indication of public health perspective integration into their curricula. The exception is prevention and sanitation specialization, which gets more hours on public health. However, even they are only exposed to the infection-based epidemiology discussed above. When even the most progressive schools see public health as primarily management, little can be expected from other, non-public health units. Medical practitioners – like doctors and nurses – get some coverage of some public health issues in epidemiology and hygiene courses. Thus, in all levels of specialisation, there are problems with public health training throughout.

It is also worth mentioning that the aforementioned problems with public health education also tie into more general issues with Ukrainian medical profession:

- The declining quality of healthcare workforce. Some countries have even stopped recognizing Ukrainian medical degrees due to their inadequate quality (Avramenko 2012)
- Poor quality of applicants to medical schools as acceptance based on social guarantees criteria and via connections/corruption is pervasive
- Pervasive corruption in medical schools, which refers to bribes for grades and passing exams, leads to low quality of education
- Poor practical training

Public Health Research

Poor quality of education and lack of public health programs also leads to weak competence in research methods among the public health faculty, students and practitioners, and low number of research projects being conducted.

As a result, research publications in the area of public health coming from Ukraine are rare and of poor quality (Müller-Nordhorn et al. 2012; Tulchinsky & Varavikova 1996; Powles et al. 2005, Chenet and Telishevska 2000). The WHO study has also found that researchers in Ukraine are poorly trained in development of study design, data collection and analysis (WHO/UNAIDS/UNDP 2010: 20). The study noted that most of the reviewed research articles published in Ukrainian scientific journals would have never been accepted for publication in peer-reviewed journals.

Students and teachers of public health demonstrate little knowledge of methods for data analysis. None of the students interviewed in Piekkala (2012) study had used statistical packages such as SPSS and none of them were aware if such software could be accessed in their universities. Some study participants were not able to justify their research topics, indicating that scientific research is not always based on current gaps in knowledge and need for evidence. Given the conceptual differences between public health in the west and in Ukraine, the lack of academic research activity in the area of
non-communicable diseases is not surprising. A study by Powles et al. (2005) on the contribution of leading diseases on the deterioration of health in Eastern Europe, noted the low rates of published research on chronic diseases in Ukraine.

Finally, scarce public health research is also impacted by the problem of unconducive environment for publishing, which includes: limited access to international peer review journals, low number of trustworthy journals devoted to epidemiological research, lack of funding that limits the scope and quality of conducted research and the fact that journals in the region often charge author fees (Piekkala 2012 74). The rare research that does exist is of poor quality primarily due to almost nonexistent training in research methods and research design. A limited access to foreign publications and journal articles reinforces the low quality of research as many authors are unable to access foreign publications and are only exposed to Ukrainian- and Russian-language studies of poor quality (WHO/UNAIDS/UNDP 2010: 20).

According to the CMU Decree No. 1542 (2006) the Ministry of Health of Ukraine is responsible for cooperation with the national Academy of Sciences and the Academy of Medical Sciences to develop scientific research in the priority areas of medical science. Yet this cooperation has not produced any significant results yet.

Policies and Regulations

The State strategy for healthcare workforce training is based on “The Concept of Public Health Care Development in Ukraine” (2002). This document has legislated the need to start training of the following specialists: healthcare managers, healthcare economists, and healthcare information technology specialists. The new types of educational programs were also to be established in addition to the existing courses for professionals. Table 10 summarizes currently existing public health management training, while Table 11 shows the dynamics of the state demand for specialists in various health sector related areas.

Table 10. Existing public health management training in Ukraine.

<table>
<thead>
<tr>
<th>Program</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization in “Organization and administration of healthcare” for medical doctors</td>
<td>Includes courses in social healthcare, healthcare management, management culture, economics of healthcare management, managerial law, administration of healthcare units. Does not include internship. 2 months long (312 hours)</td>
</tr>
<tr>
<td>MA in public administration with the focus on healthcare</td>
<td>At the National Academy of Public Administration at the President of Ukraine and regional institutes of public administration. The program teaches public administration and health care strategy, primary medical-sanitary care, health promotion and healthy lifestyle.</td>
</tr>
<tr>
<td>BA</td>
<td>These programs train managers focused on healthcare for private healthcare units, healthcare insurance business, and pharmaceutical companies.</td>
</tr>
<tr>
<td>MA</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA in public administration with the focus on healthcare</td>
<td>At the National Academy of Public Administration at the President of Ukraine and regional institutes of public administration. The program teaches public administration and health care strategy, primary medical-sanitary care, health promotion and healthy lifestyle.</td>
</tr>
<tr>
<td>BA</td>
<td>These programs train managers focused on healthcare for private healthcare units, healthcare insurance business, and pharmaceutical companies.</td>
</tr>
<tr>
<td>MA</td>
<td></td>
</tr>
</tbody>
</table>
**Advanced training course for medical doctors** in healthcare administration

Covers health care management and marketing, economic issues in health care, primary medical-sanitary care, rural health care, informational aspects of healthcare etc.

**Re-attestation for healthcare units managers**

Every 5 years
During this they deepen their knowledge in healthcare management

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Table 11. 2014-2015 “state demand” for specialists in different health-related areas

CMU decree On the state order for training specialists, scientific, scientific-pedagogic and regular labor force, training and retraining of personnel for state needs in 2015, No. 462 of 1 July, 2015 [http://zakon5.rada.gov.ua/laws/show/462-2015-%D0%BF](http://zakon5.rada.gov.ua/laws/show/462-2015-%D0%BF)

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Graduated in 2014</th>
<th>To be admitted in 2014</th>
<th>Graduate d in 2015</th>
<th>To be admitted in 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors (Likuvalna sprava)</td>
<td>3236</td>
<td>5229</td>
<td>4246</td>
<td>8726</td>
</tr>
<tr>
<td>Nursing (Sestrynska sprava)</td>
<td>196</td>
<td>85</td>
<td>120</td>
<td>130</td>
</tr>
<tr>
<td>Lab diagnostics</td>
<td>42</td>
<td>35</td>
<td>65</td>
<td>93</td>
</tr>
<tr>
<td>Preventive medicine (Medyko-profilaktychna sprava)</td>
<td>476</td>
<td>430</td>
<td>461</td>
<td>376</td>
</tr>
<tr>
<td>Medical psychology</td>
<td>58</td>
<td>10</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Dentistry</td>
<td>370</td>
<td>210</td>
<td>207</td>
<td>215</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>659</td>
<td>788</td>
<td>810</td>
<td>1328</td>
</tr>
<tr>
<td>State administration in health care (MA level only)</td>
<td>10</td>
<td>10</td>
<td>14</td>
<td>80</td>
</tr>
</tbody>
</table>

This data demonstrates that there is no state demand for dedicated public health professionals, and even demand for healthcare managers is very small, although it does show a growing trend. It also shows that the number of MDs and paediatricians is increasing, while the number of other specializations, including prevention, medical psychology and healthcare management is decreasing.

**Summary**

This section has highlighted many important issues related to the public health workforce in Ukraine. There continues to be an outdated understanding of the public health function and of public health competencies, that is out of kilter with ‘new public health’ being progressed in western European countries. As a result, education and training for public health specialists focuses on managerial skills, and on a bio-medical approach to health. There is too little time for thorough study and for practical learning, and it does not sufficiently cover non-medical aspects of public health such as health policy, health promotion, prevention, organization of health systems, social and psychological determinants of health, human rights in health, and inequities in health. It lacks a focus on non-communicable and chronic diseases, and is yet to develop a broader conception of public health that looks beyond healthcare responses to disease. Furthermore, it does not make sufficient links between training,
research and practice. There is very little training in research skills and integration into the global scientific research community via access to international peer-review journals, databases and educational materials. To develop a public health workforce for the 21st century, there is also a need to start engaging in the need to improve support for the non-medical scientific public health workforce, knowledge and intelligence staff and academic staff, and to support public health leadership development.
References


World Health Organization (WHO). 2005d. The Bangkok Charter for Health Promotion in a Globalized World


research strategy in the context of implementation of national goals towards Universal Access to Prevention, Treatment, Care and Support by 2010. (unpublished).