SUPPORT TO UKRAINE FOR DEVELOPING A MODERN PUBLIC HEALTH SYSTEM

A project funded by the European Union and implemented by a consortium consisting of GFA Consulting Group GmbH, Hamburg, and the Finnish Institute for Health and Welfare, Helsinki.
The project continues its activities to assist Ukraine with a focus on advancing its progress towards EU accession under Component 1 and supporting the establishment of a modern Blood Safety System under Component 2.

Project Newsletter
March 2024

Artificial Intelligence for EU Approximation

Together with the legal department of the Ministry of Health of Ukraine (MoH), GFA Consulting Group GmbH has been piloting an AI-bot to support legal EU approximation.

EU approximation requires:

1. a sector-specific gap analysis and adaptation of national legislation to the EU acquis as well as
2. subsequent cross-sectoral consistency checks of the national legal corpus to adapt also all related laws.

The work of the MoH´s team requires extraordinary attention to detail and domain expertise, as they need to identify, review and adapt all relevant documents. Tight timelines of the EU approximation process are adding pressure to the process.

Traditionally, legal experts had to screen document by document and relied exclusively on "keyword search", where the limitation to"exact matches" requires search terms to constantly be adapted. Instead, the Legal Bot leverages artificial intelligence's ability to understand the contextual ("semantic") meaning of a query to find relevant passages regardless of the terminology and even across languages. This results in more comprehensive search results and potentially frees up valuable expert time.

The MoH can seamlessly access and work with the bot in English and Ukrainian. The search is also not limited to one source, but all documents are searched at the same time which are uploaded in the bot´s library. In their workflows, users can alternate between traditional keyword and semantic search to systematically explore the stored documents.

"Semantic" Search

For example, a semantic search for "storage of biological material" will, among others, also retrieve passages referring to "tissue storage" and "packaging of implants" in a given legal text. The user can also modify the stringency of search and decide whether the bot should stay narrowly at the indicated search term.

Importantly, the bot is built entirely on Open Source technology and can be accessed on the Cloud, or be deployed on-premise.

Over the coming weeks, the project will continue working with the MoH to further customise the tool to their work-flow and needs.

The IT development team will also explore new basic and advanced features, the latter being for example a preliminary gap identification between legal texts or automated adaptation suggestions.

The project team would like to thank MoH staff for continuously testing and contributing to refining the tool.

Interface of the legal bot:

Volodymyr Ivchuk

project senior national non-key expert in healthcare economics (blood transfusion), independent consultant, analyst, and trainer.

Areas of expertise: healthcare facilities network management, building a hospital quality management system, financial and economic analysis of healthcare institutions, standards of hospital emergency departments, DRG-based financing systems, clinical coding according to the Australian DRG system, inter-municipal cooperation in healthcare.

What are the main goals of the national blood system development and how were they transformed over martial law?

The strategic objectives of national blood system development are determined by its role, function, and tasks as an integral component of the public health system. These include ensuring sufficient quantities of donated blood and its components, standardising the entire production chain to ensure high safety levels, and shaping public attitudes towards donation. The state plays a crucial role in regulatory influence, financing mechanisms, standards implementation, and relationships between blood system entities, customers (payers), consumers, and donors. The state's policies in this area are established by the Law of Ukraine "On safety and quality of donor blood and blood components" and the Resolution of the Cabinet of Ministers of Ukraine "On approval of the Strategy for the development of the national blood system for the period up to 2022 and approval of the action plan for its implementation".

However, in the context of the Russian aggression against Ukraine, the priorities in achieving strategic goals have shifted. The volume of demand and the structure of production of blood components have changed. The alternation of the financing mechanisms of the blood system, assessing the effectiveness of blood entities operation during wartime is expected to be inferior in priority to increasing the volume of blood collection and range of blood products, as well as effective management of finances and blood components turnover.

Yet, certain goals and objectives remain a priority, if not becoming more crucial, during times of war. These include enhancing donor recruitment efficiency, ensuring blood safety, and updating clinical management of donor blood and its components. Additionally, the national system's effectiveness depends on logistical and analytical capacities at both national and institutional levels.

Among the priorities, creating a favourable environment for blood system entities' work remains essential. This includes adequate financial and resource support, clear baseline data for annual planning, and preferably, a short-term outline of expected changes. In addition, at the institutional level, it is necessary to develop own capabilities for routine economic analysis, standardisation at all stages of the technological chain of blood components production. Moreover, developing institutional capabilities for routine economic analysis and standardisation at all stages of the technological chain of blood component production is necessary for improving operational efficiency.

In 2024, improving data collection and analysis systems became possible and necessary to analyse costs at the blood entity and hospital levels, facilitating the formulation of a tariff policy for including transfusion services in the program of medical guarantees as provided the Law of Ukraine "On safety and quality of donor blood and blood components".

Apart from the specifics of the blood system operation during wartime, the overarching goal remains building a safe and effective national blood system, largely regulated by the state.

How do you see the priorities for blood system entities in 2024?

Regarding the priorities for blood system entities in 2024, integrating state-owned and municipal blood establishments into the new funding mechanism within the framework of state medical guarantees is essential, as provided by law.

However, the change in status of municipally owned blood establishments to municipal non-profit entities didn't yield expected economic incentives similar to other healthcare facilities. Mere entity status isn't sufficient to implement new business opportunities. Issues such as the rights of blood entities to freely sell their products, uniform pricing and earnings approaches, and economic analysis methods need to be addressed through improvements in bylaws and sectoral regulations. When developing such documents, it is necessary to ensure the evidence and validity of the decisions made, which is possible with a sufficient level of methodological support in the context of pilot projects.

What methodologies/ principles/ guidelines could improve strategic planning for blood service facilities?

What seems to be non-negotiable today is to move in line with the long-term perspective of the blood system development strategy, while taking into account the realities of war. Approving and implementing a methodology for calculating the cost of blood components based on entity-level cost analysis is pivotal for enhancing efficiency and establishing a tariff policy under new financing conditions. It also creates the basis for the establishment of a tariff policy under the new conditions of blood donor financing.

The development of electronic tools or their prototypes will help to standardise and scale the application of the costing methodology, expediting calculation results.

Implementation of the costing methodology in pilot blood entities requires methodological support via coaching and mentoring, along with the development of a standardised organisational and functional model of a blood entity that will allow modelling relevant costs that will not be based on actual costs in the context of financing.

Clinical transfusion management requires the extensive implementation of protocols for the use of donor blood and its components for medical purposes across all healthcare system levels.

The obtained results should be the basis for amending existing regulations, guidelines or developing new ones.

What support do you expect from the 'Support to Ukraine for developing a modern public health system' project in terms of the EU experience integration into blood safety reform?

In view of the above, it is quite a challenge to implement such consecutive actions without international technical support. The EU project "Support to Ukraine for development of a modern public health system" has been deeply involved in addressing problematic issues for a long time and provides sustainable support, benefiting the reform of the national blood system. Continued support from the project will significantly strengthen the capacity of the Ministry of Health of Ukraine.

Roman Lanskyi

head of project IT team of national non-key experts, with over 7 years of experience in GovTech.

Currently, IT solutions are being developed in the field of blood donation, including various registers such as the register of licences, register of blood donor visits, and register of honorary donors. Could you tell us more about how this software will work for donors and blood centres?

The primary goal of digitising the blood donation system is to ensure transparency and control of the blood flow from vein to vein. One of the key elements of this system is the donor visit register, designed for standardised and electronic recording of visits of individuals who have expressed a desire to donate blood and/or its components. Implementing a digital register will allow obtaining information on the number and success of visits to build a donor pool. It will simplify recording and registration processes for blood centres, digitise the processes for donors with the current "certificate" of visit that gives benefits and days off, and finally it will provide the country with the first national system in this area that systemises donation records.

The register of honorary donors, or, more accurately, the register of donor distinctions, will provide digital processing of information regarding citizens receiving the status of honorary and distinguished donors.

This system aims to improve the efficiency of maintaining and utilising the register, storing information on donor distinctions, and generating reports on various aspects. Consequently, there should be a centralised electronic database of information on donor distinctions with the ability to exchange this information with other systems.

The purpose of the licence register is to create a key digital infrastructure for the blood donation sector, ensuring full exchange and interoperability of all information on the operations of blood centres and collecting information through digitising licensing procedures for blood system entities. This ensures their transparency, control, and historical accuracy. In essence, this is one of the basic elements forming the foundation of the entire eKrov , fulfilling our commitment to harmonise the blood sector with EU legislation.

Please describe the tasks and challenges of the eKrov information and communication system.

1. Completeness of the system

Although the blood system may appear narrowly focused, it is, in fact, very complex and comprehensive, resembling a miniature healthcare system. Unlike other sectors that can be implemented relatively simply, such as pharmacovigilance or procurement, the eKrov system is much more intricate. Implementing this system requires having a donor registry similar to a patient registry, maintaining medical records, and controlling logistics, among other aspects. Thus, the system essentially duplicates the healthcare system on a large scale.

One of the major challenges is integrating the blood system into the existing IT infrastructure of the Ministry of Health. For the system to function properly, it is necessary to take measures in various areas, from standardisation to laboratory testing. However, the difficulty lies in having a unified and coherent vision of the system when it's fragmented and leading it as a joint project due to numerous interdependencies.

2. Data privacy

Data confidentiality is another critical aspect. Information about blood stocks is medically important, but also considered a state secret, especially during war circumstances. This poses many challenges in ensuring data security.

3. Restructuring the regulatory framework

Another significant challenge is the need to rebuild the regulatory framework.

Launching all mechanisms of the eKrov system requires significant changes to regulations at various levels, which demands time, resources, and discussions.

What support do you expect from the 'Support to Ukraine for developing a modern public health system' project in terms of European experience in ensuring the safety and quality of donor blood and blood components?

In terms of safety assurance, significant attention is paid to haemovigilance, involving various stakeholders from blood system entities to hospitals providing transfusion services. Haemovigilance also includes the State Service of Ukraine on Medicines and Drugs Control, which monitors all processes and investigates the causes and consequences of adverse reactions. It's necessary to coordinate the activities of all participants within a single information and legal environment to ensure their interaction.

Considerable time has already been devoted to a detailed study of how the eKrov system should function. To further develop the project, escalation points need to be created and the already formed common vision must be implemented. Using European experience as a basis for further development is crucial. For example, holding strategic sessions with European experts and representatives of the Ministry of Health can help synchronise the list of tasks required to implement the system, facilitating Ukraine's accession to the EU. The focus should be on building capacity to implement the vision.

This publication was produced with the financial support of the European Union. Its contents are the sole responsibility of the project "Support to Ukraine for Developing a Modern Public Health System" and do not necessarily reflect the views of the European Union.

The overall project's objective is to support the modernisation and development of a sustainable Public Health System that is able to ensure disease prevention and control standards in line with EU legislation, requirements, and practices. The project shall contribute to strengthening national leadership and capacity in Public Health policy programming and implementation. The project continues its activities to assist Ukraine with a focus on advancing its progress towards EU accession under Component 1 and supporting the establishment of a modern Blood Safety System under Component 2.