

Ukraine Health Information System (HIS)

Anton Luchitsky
Program Officer in the Ukraine
Health Management Information Systems Projects
PATH

Background

The Ukraine Infectious Disease Program: Health Information Systems and Management Reform program was developed in part from lessons learned from the USAID humanitarian assistance program to combat the diphtheria epidemic in Ukraine. In working with the Government of Ukraine (GOU) during that effort, concern arose regarding the effectiveness of Ukraine's public health surveillance and management information systems. USAID/Kiev requested assistance in the evaluation and development of a three-year plan to provide technical assistance and support to the GOU's efforts to reform its health information system.

An assessment of the Ukraine health and management information systems was conducted in April 1997. The evaluation and design team was composed of staff from USAID/Washington, U.S. Centers for Disease Control and Prevention Epidemiology Program Office, USAID's Basic Support for Institutionalizing Child Survival Project (BASICS), and the Program for Appropriate Technology in Health (PATH). The team conducted two assessment trips and held a three-day project-planning meeting in 1997 to draft a strategy and workplan. PATH was selected as the lead organization, with technical assistance provided by all three partners.

Due to funding constraints, the second and third years of work were implemented by PATH through the Technologies for Child Health (HealthTech) cooperative agreement.

Strategic Approach

An approach was used that provided the GOU with an assistance package that concentrated on the development of public health management information tools and technical training to monitor, evaluate, and adapt the HIS to strengthen local and regional management and meet the changing needs of the Ministry of Health (MOH). This strategy was intended to address the current gap between public health monitoring and evaluation as defined and practiced in the West and those statistics coming out of Ukraine. To implement this strategy, the project:

- *Focuses on data collection, analysis, and utilization needs at each level of the public health surveillance system, reforming the system from the initial point of data collection upward.*

To ensure effective use, data quality, and timely response, tools were developed that enabled each level to collect, monitor, and analyze data and translate them into action. This approach explicitly shifted the decision-making capability to local health workers, especially at the point of data collection, and reinforced the relevance of data to their daily decision-making responsibilities.

- *Limits the collection and processing of data to relevant information at each level and only sends directly relevant information to successive management levels.*

This ensures that the system is not overwhelmed with irrelevant data and reinforces at each level of responsibility the ability to make timely decisions based on appropriate surveillance and management information.

- *Promotes the "democratization" of public health management data.*

The old system was designed around centralized, top-down decision making, while access to and use of data at the point of service delivery empowers local management.

- *Recognizes that public health and administrative data are not separate, but interconnected, and must be addressed simultaneously to have any impact.*

The project specifically targeted interventions and processes designed to facilitate the integration of public health and program management information.

- *Concentrates on the quality and management use of Health Information System content rather than the more common HIS emphasis on information technology and computer-based data processing and automated report generation.*

Strengthening data integrity and management problem solving was the overarching program goal. The project development team felt that an emphasis on computers would not guarantee this, and could actually be counterproductive. Furthermore, the program recognized that available computer resources would vary widely by region and, as a result, computer-dependent systems would not be appropriate for many *oblasts* (administrative area) during the life of the project, and probably for several years after. Accordingly, the need to focus on reforms that were independent of computerization became a central strategic decision of the program design team. This strategic decision has been strongly endorsed by the MOH.

- *Designs and introduces reforms according to public health priorities and management needs as defined by the local oblast and raion authorities.*

Locally appointed Working Groups of pediatricians and epidemiologists from *raion* and *oblast* levels of the health system, as well as the national MOH, were a key factor in program success. These Working Groups set priorities, review, propose, and approve changes to data and processes and assure that program activities directly address the management needs and capabilities of *oblast* and *raion* health staff. This strategy ensures Ukrainian ownership of the program and a greater likelihood of sustainability.

Results to Date

Since October 1997, the project has accomplished the following:

- Developed and introduced public health surveillance reforms throughout three *oblasts*, Lviv, Odessa, and Zhitomir.
- Convened a national working group within the MOH composed of national and regional representatives. This working group, appointed and empowered by the Minister of Health, determined policy and prepared the reform package for national adoption. This national introduction began during the last quarter of 1999. The system was adopted formally nationwide in January 2000 and is now operating in every *oblast* in the country. The new forms, definitions, and procedures completely replaced the old system on July 1, 2000.

As a result of changes in recording and reporting policy and practice introduced by the program, every level of the immunization service delivery system, from the central *oblast* SES to the village ambulatory clinic, can now monitor and evaluate immunization program activities, identify problem areas, and accurately forecast needs.

Principal outputs have been:

- Developed, published, and disseminated revised reporting forms, procedures, and training manuals that are appropriate for management and public health surveillance at each level of the system, from the FAP and village ambulatory clinic to the *oblast* SES.
- Introduced changes in the definition and interpretation of key public health indicators, including computation of key statistics needed for monitoring EPI activities in accordance with World Health Organization (WHO) standards.
- Introduced standardized, epidemiologically valid methods for calculating base populations for annual and monthly surveillance statistics and annual workplans, and for monitoring program performance.
- Introduced forms and procedures for continual, timely, and accurate tracking of the distribution and consumption of biological supplies, remaining stores, wastage, and forecasted need.
- Established systems for public health data collection and analysis that enable efficient resource management and allow cost efficiency and economic evaluations of different program strategies and disease control interventions.
- Developed instruments and procedures for ongoing monitoring of service delivery indicators, including cold chain maintenance, accuracy and completeness of record keeping, and completion of inservice training.

As a result of these changes in recording and reporting policy and practice introduced by the program, the following is apparent:

- Every level of the public health service delivery system, from the central *oblast* SES to the village ambulatory clinic, now has the capability to accurately forecast needs and monitor and evaluate their activities.
- Standardly applied, internationally accepted definitions and procedures for computing key performance indicators are in use.
- *Oblasts* have the capacity to monitor supplies from existing stores accurately, through distribution, consumption, and equipment maintenance.
- *Oblasts* now have the ability to monitor and respond to vaccine wastage and contraindication rates, major causes of inadequate immunization coverage in the past. For the first time, *oblast* and national authorities have evidence of the extent of these problems and the information tools necessary to address them effectively.
- Forecasting of key biological supply requirements can be computed accurately and rapidly.

In summary, as a direct result of program reforms, Ukrainians now have evidence of previously hidden major constraints in their public health service delivery systems. Problem areas (*raions*) have been identified and interventions targeted to identify and correct the source of program deficiencies. Managers at every level now have access to up-to-date supply balances with usage patterns, and tools for accurate forecasting and efficient, effective resource management and program monitoring and evaluation. In immunization programs, this has resulted in more children being immunized, and those immunizations being more timely.