

# Public Health Electronic disease surveillance systems and eHealth integration

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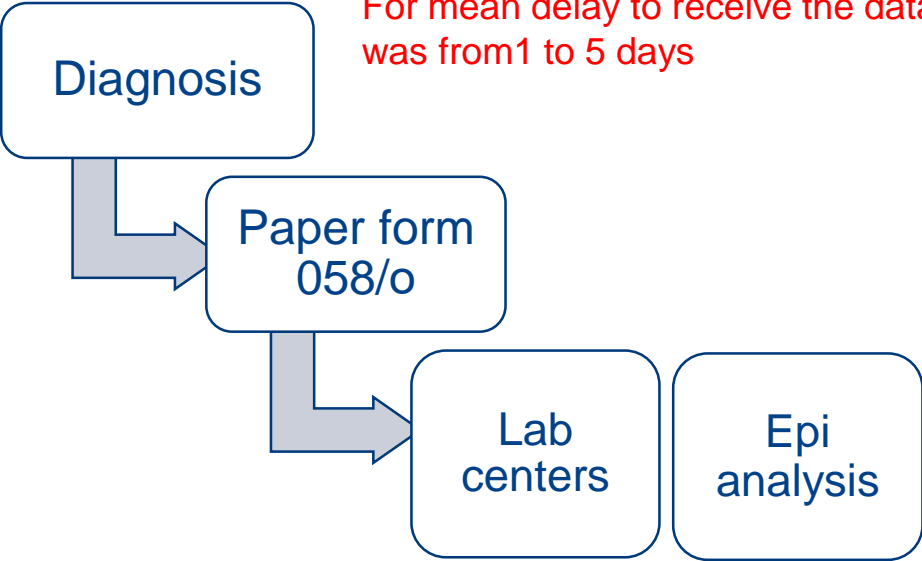
*Ihor Kuzin, deputy director SI "Public Health Center of the Ministry of Health of Ukraine"*



# Status of the system before EIDSS wide implementation



For every case registration before, doctor would spend 20 minutes, for epi notification around 24 hours. For mean delay to receive the data was from 1 to 5 days



- Takes way too long
- Many fields to be filled
- Separate lab and epi parts
- e-Health works separately
- Manual tracking

# Public Health Electronic Disease Surveillance System (EIDSS)



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*EIDSS – Electronic Disease Surveillance System, which strengthens and supports the monitoring and prevention of diseases in the concept of One World-One Health. Through the integration of veterinary and human cases of diseases, and vectors of threats.*

- Passive and active surveillance
- Outbreak investigation for each case and aggregated data
- Samples and tests results related to cases
- Comprehensive data analysis and decision-making including historical data and GIS
- Real-time event notifications
- Multiple platforms: PC, Web, Mobile Web, Android
- Development Funded by DTRA, implementation Is funded by DTRA in conjunction with the Ministry of Health or other institutions (depending on the country's participation)

Data for  
possible  
epi  
analysis

- Joint analysis of epidemiology and threat vectors
- Analysis of time, place and object
- Monitor supervision indicators
- Basic statistical analysis
- Standard, custom, and customized reports
- Tables, graphs, maps, and printing
- Export to common formats

User  
friendly  
interface

The screenshot displays the EIDSS web interface with a case record for Salmonellosis. The interface is divided into several sections:

- Notification:** Includes tabs for Notification, Case Investigation, and Tests.
- General Information:** Fields include Date of Completion of Paper form (7/5/2019), Diagnosis (Salmonellosis), Notification Date (7/8/2019), and Local Identifier (2).
- Investigation:** Fields include Notification sent by (Kozeletskiy IDD), Notification received by (SI Chernigov OLC MoH), and Investigator Organization (Kozeletskiy IDD).
- Demographic Information:** Fields include Name (Ivan Ivanov), Date of Birth (5/15/1980), Age (39), Sex (Male), Region (Chernihivska), Rayon (Kozeletskiy), and Town or Village (Kozelets).

A "Search for Duplicates" button is visible at the bottom right of the form.

# Final decision on EIDSS implementation

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- The EIDSS system existed and been piloted before COVID-19
  - There was no political will to implement it
  - When COVID-19 hit and when in May/June 2020 there's been too many cases there was a window of opportunity
  - Within a few months all the country was covered by EIDSS

# Number of users, institutions, records

## Status at different time periods:

22.04.2020

25 healthcare facilities

136 system users

Number of registered cases  
21184 (Imported from Google Docs)

Access configuration – didn't happen due to absence of demand



21.04.2021

274 healthcare facilities

745 system users

Number of registered cases  
2 385 000

Access configuration - changed according to requests 84 times

# Prominent advantages

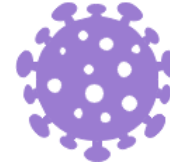


- Short notification time
- Automated reporting
- Daily analytical note on confirmed, hospitalized, recovered-deceased, distribution by age groups, sex, children/healthcare workers in the context of each region
- Intensive incidence and mortality per 100 thousand people in the regions
- Visualization of growth dynamics and mapping
- Summary of information on the total number of tested per day

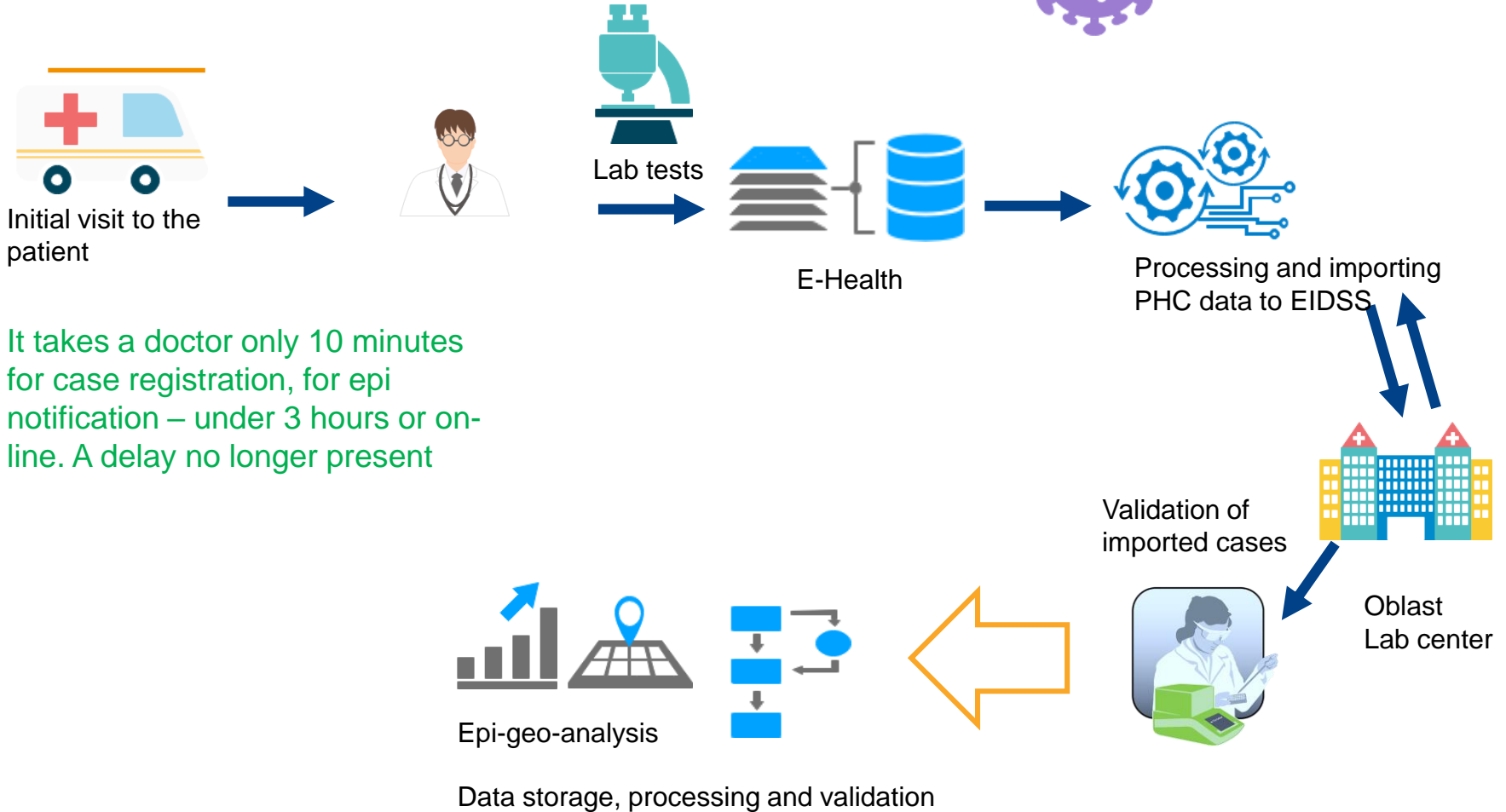
Since there are two system which functions overlap EIDSS and eHealth - It is logical to have an integration between the two with the purpose of:

1. Automatic data transfer
2. Fully paperless system
3. Use of existing infrastructure

# COVID-19 Data Collection Process



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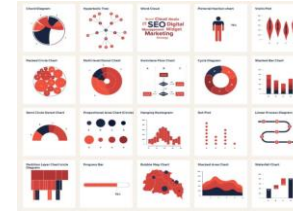
It takes a doctor only 10 minutes for case registration, for epi notification – under 3 hours or on-line. A delay no longer present

# System Development Plans



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- Data visualization and data upload in many contexts.
- One Health
- Further plans on integration with national registries
- Data optimization and storage (bonus to the speed of the system).
- Creating functionality for advanced system administration by a national-level administrator.
- Development of functionality that will allow integration with other medical systems





**Thank you for your attention!**



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