Visualization of Cases, Contact Tracing and Surveillance of COVID-19 – Case Study

How **Direction Software LLP** integrated **go.Data** with **PowerBI** to developed of a **worldwide standardized library** of **case investigation** and **contact tracing indicators** to understand the **dynamics of outbreaks**

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Executive Summary

The Client
An International Health Organization

Industry
Health Care

The Need
- Visualizing data as a whole on a single platform across situational or geographical conditions
- Health Systems integration and interoperability
- Contact tracing indicator generation

The Solution:
- A standardized library of case investigation and contact tracing indicators
- Harmonized connections from existing data collection systems in the country

Technology Used
- Microsoft Power BI

Benefits
- Monitor the evolution of the epidemic at the subnational level
- Dynamic & real time visualization of graphs and key indicators on cases, contacts, laboratory and follow-ups
- Timely and pertinent decision-making at the health level
- Reports on what has been achieved & also what can be
- Reports drilled down to country, state, city and location level.

The Client:

The World Health Organization, the Global Outbreak Alert and Response Network (GOARN) developed go.Data.

WHO has provided this tool freely available to all countries worldwide to collect, monitor, analyze and use data to visualize & to achieve the ambitious milestones on health indicators. Make Predictive Analysis and take prompt decisions to minimize the outspread.

Each country had the flexibility to combine "go-data" data collected in the field along with their country's own surveillance system to create more specialized dashboards.

Summary:

Direction Software LLP has worked in the development of a standardized library of case investigation and contact tracing indicators in Power BI that has been tailored to ensure harmonized connections from existing data collection systems in the country.

Challenges: Insights from field Data Collection

Lack of proper Data Visualization and Indicator Generation

Each country had difficulty in visualizing data as a whole and also to specific regions, due to their unique situational or geographical conditions.

The problems are compounded by the fact that most data visualization systems are rolled out on a national scale; thus evolving to become one-size-fits-all algorithms, and hence failing to address the specific needs of individuals

Although data was being collected from the field using go-data and the country specific surveillance system, it was not easy to churn and visualize the data on a single platform.

The Solution: How Direction Software LLP created Starter Kit for Countries

The initial study found that the requirements of each country was different depending on which key indicators were important for their analysis. This made it very difficult to build a common dashboard for all countries.

Direction Software LLP therefore developed a Innovative standardized library called the Starter Kit.
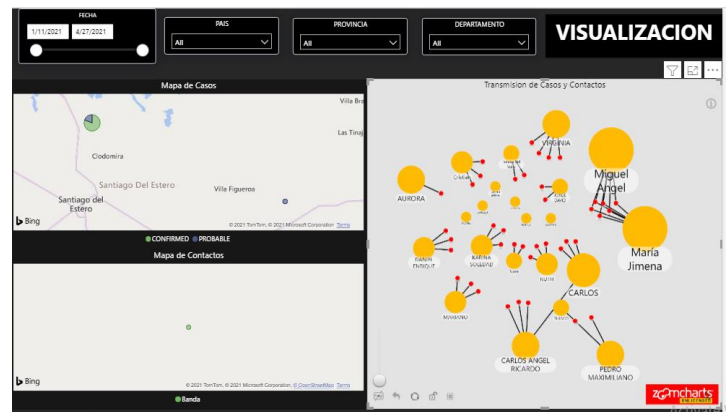
This Starter Kit would cover:

- A library of reports covering case investigation and contact tracing indicators in Power BI that has been tailored to ensure harmonized connections from existing data collection systems in the country.

- The prime objective is to provide visualization in simpler form as a uniform dashboard that would be applicable for all countries.

- Each country can pick up the Starter kit and start visualizing their key indicators and change / modify / add new reports on the go.

Direction Software LLP has also been involved in ad-hoc country specific requests to adapt these libraries to their own regional needs.

Direction Software LLP also provides documentation on Power BI reports using go-data.

Benefits: Helps study data to improve health conditions

Dashboards designed in Power Bi made it possible to monitor the epidemic by providing information:

- Registered by each provincial team in Go.Data-SNVS.

- At the subnational level, in a dynamic way, in real time

- Through visualization of graphs and key indicators on cases, contacts, laboratory and follow-ups

- Facilitating timely & pertinent decision-making at the health level.

- Understanding not only what has been achieved but also what can be.

- Drilled down to country, state, city and location level.

In Argentina, it is implemented: Article in next page

About Direction Software LLP

Today Direction Software LLP has expertise on working of wide range of frameworks.

We are constantly looking for latest offerings on the web, be it open source or enterprise frameworks, to use and give the customer the best solution for their requirements.

Take advantage of our flexible engagement terms to meet your requirements. This can be in the form of fixed price project or outsourcing of work on T & M basis. Whether you need enhancements to be done or maintenance for your Java projects, Power BI or even provide services in the form of Back-office to support your operations, Direction Software LLP has the solution to your needs.

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In Argentina, it is implemented by the National Directorate of Epidemiology, the National Directorate of Governance, Integration of Health Systems and supported by this Health Organization / World Health Organization

Regional presentation on the implementation of Go.Data as a tool to support contact tracing and surveillance of COVID-19 in Argentina
1 Apr 2021

Buenos Aires, April 2021: Professionals in epidemiology and information systems from the ministries of health of Argentina and other countries of the Region of the Americas shared in a virtual meeting the progress on the implementation of Go .Data, a tool to support the management of contact tracing, and its integration as a module in the National Surveillance System (SNVS)

"*Boards designed in Power Bi were presented, which feed on the information registered by each provincial team in Go.Data-SNVS. The implementation of these dashboards will make it possible to monitor the evolution of the epidemic at the subnational level in a dynamic way and in real time through the visualization of graphs and key indicators on cases, contacts, laboratory and follow-ups; facilitating timely and pertinent decision-making at the health level*"

Direction's support to WHO

Direction Software LLP has been providing support to the **World Health Organization's (WHO)** Go.Data team since October 2020. Our efforts are focused on:

- Understanding core metadata structure & data flows (Go.Data, or other system)

- Understanding/documenting how data system configurations vary from country to country and adapting to standardized software's.

- Mapping necessary changes

- Documenting data flow / data management strategy

- Documenting indicator calculations

More importantly, we have worked alongside WHO in developing epidemiological dashboards in Microsoft's Power BI for the use of communication and visualization of epidemiological data.

We have worked with datasets from the following areas:

- Health surveillance systems e.g., site specific information systems, DHIS2, Civil Registration & Vital Statistics Systems, census data, EOCs

- Electronic & Written Health Records

- Household Survey Data

- Field Data

- Lab Data

- Resource Inventory Data