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CORRESPONDENCE

Still using MS Excel? Implementation of the WHO Go.Data software for the COVID-19 contact tracing

In the fight against the current epidemic of COVID-19, contact tracing has been used with success in China, as part of a series of containment efforts.[1] Historically, data collection has been done through paper forms and, over time, this data collection has been digitalized, usually using the tools at hand, which are typically spreadsheets and custom-made databases, and in some cases, specialized software.[2] Throughout the world, many agents, from regional public health agencies to hospitals of all levels, have to choose a platform to record cases, determine exposures, register contacts, and manage their follow-up assessments, that is, document all the events in the chains of transmission. Although in small outbreaks the management of this information is not overwhelming, and spreadsheets or small ad-hoc databases can be used, in an outbreak of the scale of COVID-19, with a high number of cases and around 36 contacts for each one,[3] these traditional solutions may not be scalable to the required levels. Needless to say, the speed and

TABLE 1 Relevant Go.Data characteristics in the follow-up of COVID-19 cases in the HCB

Element	Features
Outbreaks	The current Go.Data build includes preloaded outbreak templates for the First Few COVID-19 X cases and contacts transmission investigation protocol (FFX) for COVID-19, as suggested by WHO.[7]
	In general, several outbreaks can be defined, but the "active" outbreak is followed up.
Cases	Cases defined are defined through web forms. They can also be imported/exported through MS Excel files and other formats or in the native "json" *Go.Data* format, which is an open standard for exchange information.
	Cases can be grouped into *exposures*, *clusters*, *events*, and assigned to locations, and users can even add information on the development of medical tests and assign levels of case confirmation (suspected, confirmed).
	Adding contacts and defining a common exposure is easy and can be done individually with forms or through spreadsheet imports.
Contacts	Go.Data allows saving personal data and generating *follow-ups* that can be assigned to a team of contact tracers with preset, standard, forms for this. The management of all pending follow-ups can be done through a visual dashboard.
	A very useful feature is that contacts can be converted into a case through a single click, safely managing the exchange of information and recording it. These transitions can be monitored through the transmission chains.
Users	The platform allows to create multiple users with different profiles, which can safely work simultaneously updating data, tracing contacts, and exploiting epidemiological information.
	The default user types include contact tracers, contact tracer coordinators, epidemiologist, system administration, and many others.
	User management is carried out within the same application without the intervention of IT services, only with a user who has administrator permission.
Visualization and reports	Immediately after login, the user can see a visual dashboard which includes epidemic visualizations and different elements to inform the user of the status of pending tasks.
	Besides bar charts, the platform has a built-in map of cases (using WHO map server) and some transmission network visualization capabilities.
	A number of reports can be automatically generated. It is also possible to produce well-formatted lists of cases and contacts to follow-up.
Security and interoperability	Secure access control through an Internet browser. Users are required to login at the beginning of every session.
	Automatic backups and safe restoration. Information exchange through standard protocols and
	Possibility of synchronization with other servers at a lower level (*clients*), which can access part of the information or at a higher level (*mainstream*) that collects information from various Go.Data servers.
	Cases and Contact data can be downloaded in several formats and protected by a password.

effectiveness of contact tracking are critical elements for this tool to help contain the COVID-19 epidemic.[4]

The objective of this Correspondence is to provide a quick appraisal of the Go.Data software,[5] developed and recommended by the World Health Organization (WHO) for the investigation and monitoring of epidemic outbreaks. With this, we want to encourage all health care agents who are in charge of contact tracing and are using solutions based on spreadsheets, which are particularly subject to data loss and inadvertent errors in formulas,[6] to use it. It should be remembered that these tools are not just databases, although they contain tables and can give the impression of ease.

The Hospital Clínic de Barcelona (HCB) is a third-level university hospital, designated as the reference hospital in Catalonia for COVID-19. The initial objective of the implementation of the Go.Data platform was to perform the follow-up of patients who are contacts, and subsequently, it has also been extended to the follow-up of health care workers. Our overall impression is that this tool fits our needs reasonably well and has been used seamlessly by a number of users for the ongoing epidemic, although it may have to be integrated with the hospital information systems in the future given the large number of data that has to be entered manually into the platform.

Table 1 lists some of the more useful features of Go.Data for contact tracing. Note that these constitute only a part of the software capabilities, which allows for additional settings which can be used to produce detailed epidemiological data. Despite this wide functionality, we found the maintenance to be simple, not requiring computer skills beyond an advanced user level. Even its installation is simple when used on a single computer, which still allows for simultaneous use by several users with different roles over a local network. The platform, which is distributed as MS Windows, Mac OSX, and GNU/Linux binaries, also has a mobile app (which we have not yet used or tested).

Go.Data is distributed using the GPL v3 license, which means it can be used, modified, and redistributed for free. Although this is not critical for the present outbreak, it may help at developing client applications which interact with the platform through the API. The platform is multilingual (currently English, Spanish, French, and Portuguese) and although some translations are missing, they can be incorporated within the platform, together with new languages.

In conclusion, Go.Data is an excellent choice for centralizing the documentation of contact tracing activities and a viable alternative to health agents who rely on spreadsheets for data collection, and as a database substitute.

CONFLICT OF INTEREST

The authors declare no conflicts of interest.

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