Webinar: Contact tracing technology application in tackling COVID-19

Remaining Questions & Answers

Q1. Could you comment on the efficacy - centralized or not- of a Bluetooth approach to contact tracing.

Tony Wu（Project Manager based in Paraguay, TaiwanICDF）

Bluetooth is an excellent tool to keep the contact history, however, for this technology to be useful, there are few things that need to be in place:

1. The usage rate of the app has to be over 80%.
2. The users that installed the app will need to turn on their bluetooth. (say 80% of the people uses the app, and 80% of them will always have their bluetooth on, that gives us 64% of the usage)
3. A mechanism need to be in place, to identify if the user has COVID-19 or not, so the system can go through the contact history and send alerts to whoever that was in close contact with the person during the past 2 weeks(the time can be flexible).
4. Again, a mechanism will need to be in place, either through the app, or through telecom operators, to send out the warning messages.

Point 1 and 2 needs to be accomplished, otherwise, the function will not work properly due to the low usage rate, thus the promotion and policy level support is very important.

There are 2 approaches for point 3, 1st, we allow the users to register themselves as COVID-19 postive in the app once they are confirmed, this is the decentralized approach, however, the risk is, what if the user did not do the registration? there's nothing we can do if we use the decentralized approach.

This is the down side with google+apple's app, and that's why these 2 companies decided to release their source code and api for Government ONLY, because they know to make it effective, the Government's position is the key.

The 2nd approach is to establish a central server to store those contact registries, and link to the central lab, so once the patient is confirmed, the lab system will send notification to the contact registries, and the server can send notification to those registries that were in close contact, this also resolve the 4th point.

We can de-identify the contact histories through technology, ie, we can setup many different servers, each server stores different key information, to make it super

difficult to identify who the person is.

Of course there are ways to break through, but again, technology isn't the only reason that threats people's privacy, it's the policy itself.

Thus, for contact tracing to be effective, the combination of de-centralization and centralization must be used.

Joseph Wu（Technical Advisor, Luke International; Cooper/Smith）
It depends on each country/context's digital infrastructure. Data availability and legal framework must in place (privacy protect, data access, etc.) are fundamentals to enable using innovative digital solutions for contact tracing. Otherwise, the data shall be centralized to collect, analyze, and disseminate. The information must be decentralized to enable efficiently respond at ground level.

Q2. Thanks Mohini for sharing the great experience. Could you explain how to validate the data collected from the front line?

Mohini Bhavsar (Senior Partnerships Director, Dimagi)
Data collected in CommCare can be viewed and analyzed in many different ways. It can be viewed on simple aggregate reports on CommCare's web platform by administrators, decision makers at various levels. It can be exported in csv or excel formats for raw data analysis.
It can be pushed into statistical software packages and/or BI visualization platforms in a turn key way, such as Tableau or PowerBi. It can also be pushed into health information systems like DHIS2 for high level operational aggregate indicator monitoring and review,

Data validation can be support at various stages of this process: 1) Data can be validated for quality assurance and correctness at the point of data entry using skip logics, conditional logics etc in a simple manner; 2) There can be workflows that can be implemented to review the data submitted on the web platform, where data can be corrected, archived or validated by web users with special permissions to carry out validations or 3) Data be reviewed and validated in external systems, with feedback loops back to the users collecting the data at the frontline. Dimagi can also support more advanced data validation by implementing machine learning based algorithms that can detect outlier data that can be prioritized for review through regular data quality checks.

Joseph Wu（Technical Advisor, Luke International; Cooper/Smith）
It' is critical to embedded logical and verification algorithms in the digital data collection tool to provide frontline data validations.

Q3. In Taiwan is there any observed difference in transmission to or from children?

MD Wan-Ling Cheng[1] (Director of Division of Infectious disease, Hsinchu Cathay General Hospital)

Since there are very few confirmed pediatric COVID-19 cases in Taiwan, it's hard to draw conclusions. However, according to data from other countries, it seems that the clinical symptoms of children and adults are different. There are also some studies that believe it can be directly transmitted from the placenta of the pregnant woman to the baby.
Generally speaking, there is no difference in transmission for children than for adults.

[1] In consultation with Taiwan based pandemic infection and control expert