ITS Webinar on Tracking & Tracing

Apps

29 Sept. 2020

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What is Big Data?

BIG DATA

- Volume
- Velocity
- Variety
- Variability
- Veracity
- Value
Were/are Apps and Big Data or Big Data Analytics useful during the course of the Covid-19 pandemic?

New tools for a new problem?
Tracking COVID-19 Cases in Taiwan


Photographer: Tomohiro Ohsumi/Getty Images AsiaPac
Contact Tracing in South Korea

Traditional + tech-enhanced contact tracing in South Korea

Investigation
- Interview
  - Obtain information through patient interview (identify route)
  - If necessary, perform preemptive defense against infectious diseases

Risk assessment
- Collect objective information
- Gather additional information
- Check and verify results of the interview
- Perform evaluation for the classification of contacts

Contact classification

Contacts management
- Close contact
  - Move restriction
- Casual contact
  - Sx. monitoring

Contents
- Interview
  - Patient
  - Primary physician
  - Family

Method/Tool
- Interview medical records
- Phone location information (GPS mobile)
- Card transaction log
- CCTV (Closed-Circuit Television)

• Perform contacts classification and management by following guidelines

Osong Public Health and Research Perspectives 2020; 11(1): 60-63. DOI: https://doi.org/10.24171/j.phrp.2020.11.1.09

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Apps, Big Data and Big Data Analytics

Number of infected persons

Time since beginning of the outbreak

Health system capacity

Without measures

With measures

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Limitations of tracking apps: high risk versus low risk exposure

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## Limitations of tracking apps: high risk versus low risk exposure

<table>
<thead>
<tr>
<th>High-risk exposure (close contact)</th>
<th>Low-risk exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>A person:</td>
<td>A person:</td>
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<tr>
<td>• having had face-to-face contact with a COVID-19 case within two metres for more than 15 minutes;</td>
<td>• having had face-to-face contact with a COVID-19 case within two metres for less than 15 minutes;</td>
</tr>
<tr>
<td>• having had physical contact with a COVID-19 case;</td>
<td>• who was in a closed environment with a COVID-19 case for less than 15 minutes;</td>
</tr>
<tr>
<td>• having unprotected direct contact with infectious secretions of a COVID-19 case (e.g. being coughed on);</td>
<td>• travelling together with a COVID-19 case in any mode of transport;</td>
</tr>
<tr>
<td>• who was in a closed environment (e.g. household, classroom, meeting room, hospital waiting room, etc.) with a COVID-19 case for more than 15 minutes;</td>
<td>• A healthcare worker or other person providing care to a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case, wearing the recommended PPE.</td>
</tr>
<tr>
<td>• in an aircraft, sitting within two seats (in any direction) of the COVID-19 case;</td>
<td></td>
</tr>
<tr>
<td>• A healthcare worker or other person providing care to a COVID-19 case, or laboratory workers handling specimens from a COVID-19 case, without recommended PPE or with a possible breach of PPE.</td>
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(ECDC, 2020)
Limitations of tracking apps: high risk versus low risk exposure

- Evaluation
- Calibration
- Notion of cumulative exposure