

The Integration of Data of Road Accident Deaths in Thailand from Three Sources

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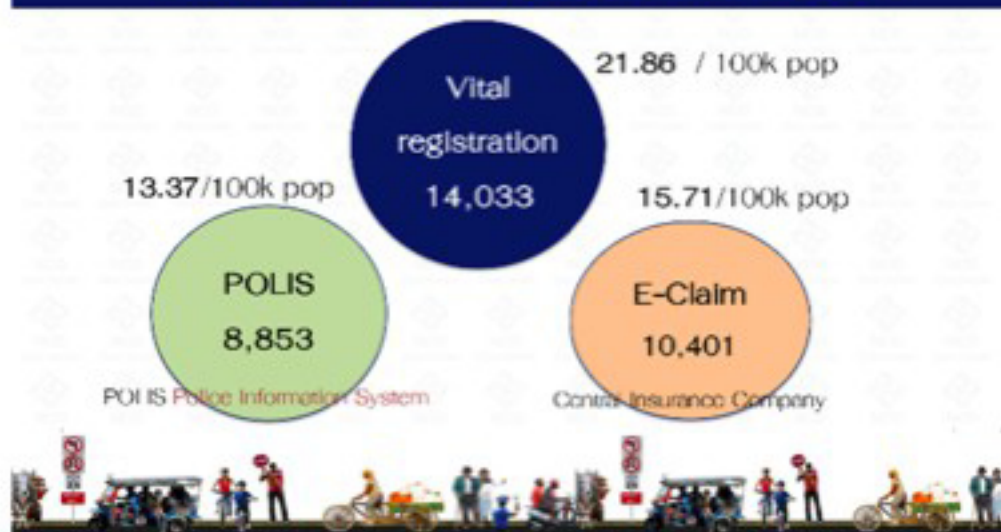
Background

Information systems are key to the prevention of road accidents for the public and private sectors and for all citizens. Establishing standards, planning strategies and taking action require data of the situation to accurately assess the severity of the problem being faced. At present, all information related to road accidents are collected and published by many agencies. Each agency will collate the data based on their main mission. The definition of data storage of casualties along with territorial jurisdiction differ among agencies. As a result of this, the record of casualties varies and differ, making information unreliable. The cabinet has resolved to assign the Ministry of Public Health as the center of coordination for the relevant agencies to improve data collection. Statistics of road accidents collected and published by various agencies and departments must be managed systematically, accurately and be unified so that the data can be used as credible reference and in decision-making.

This is in line with the Moscow Declaration which stipulates that member nations should further develop their data system of injuries to be at an internationally-recognized standard. The definitions of "injury" and "death" must be aligned and understood internationally. There must also be the integration of data from various sources in a way that is comparable to global data systems. Therefore, the department of Disease Control, as the governing body in managing data collection and evaluation, under the National Directing Center of Road Safety, has initiated the study of integrating road casualty data from multiple sources.

Since 2013, it was found that data from some sources were redundant. Therefore, information was then selected from three sources: certificate of death, POLIS data from the police department, and E-claim information from the insurance company. All the information regarding the individual was collected and cross-checked for duplication. The key variable used for such checks are the national identification number or passport number, first name and surname, date of accident or death, and province where accident or death occurred.

Road traffic fatality in Thailand 2011



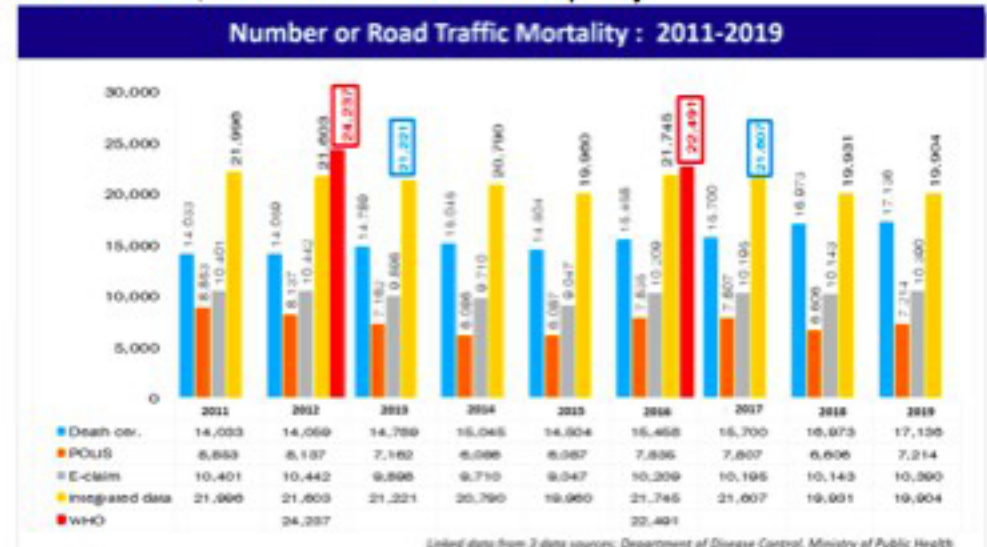
Process of Data Integration from POLIS and E-Claim Databases with Dead Certificate Database

The following steps must be conducted in the specified order. All data must be formatted in the same standardized manner before being entered into the program. If a match is found between databases, the information will be stored as follows:

- Step 1 Search data of same individual from 3 sources/ databases (Dead vs E-claim vs POLIS)
- Step 2 Search data of same individual from 2 sources (Dead vs E-claim)
- Step 3 Search data of same individual from 2 sources (Dead vs POLIS)

Step 4 Search data of same individual from 2 sources (POLIS vs E-claim)

Step 5 When remaining data cannot be matched with data from other sources, it is cross-checked for duplicity



Utilization of the integrated data

1. The integrated data can be analyzed and be presented in various forms via the agencies' dashboards. The Digital Government Development Agency under the Office of the Prime Minister can disseminate information through the government's open data centers allowing access to relevant agencies, academics, students, and all interested parties.
2. The Provincial Directing Center for Road Safety has integrated all road accident data and are analyzing it monthly with the readiness to present all findings at meetings of all levels.
3. The central database and that of the provincial system has been linked to the 3 sources for accuracy re-checking. All provincial personnel have undergone competency training in managing data collection and information utilization.
4. The Office of the Public Sector Development Commission is using the data for performance evaluation based on the Joint KPI of 3 ministries (Health, Interior and Transportation).

Challenges and Solutions

1. Delay of Data. The Certificate of Death issued by the Department of Provincial Administration of the Ministry of Interior must state the code of the illness resulting in death of individual. This information may take up to 2-3 months to finalize resulting in outdated information.
2. Shortage of Experts. There is a shortage in computer and data science experts. A budget was given by the Thai Health Promotion Foundation to recruit 2 programmers and 1 specialist.
3. Lack of Integration of "Injuries" Data. Currently, this is being processed using data from the ITEMS system of the National Institute for Emergency Medicine, data from the Ministry of Public Health's files (43 altogether) and information from the National Health Security Office.

Factors Contributing to Operational Success

1. Executives at the ministerial level and at the Department of Disease Control attaches importance to this with clear policies outlined.
2. Allocation of budget supporting data management from various agencies such as Thai Health Promotion Foundation, World Health Organization and the Road Safe Fund – Ministry of Transport.
3. Good relationship and cooperation from the network of partners especially the strength and commitment of representatives of each agency and team.
