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Innovations for Civil Registration and Vital Statistics in Asia and the Pacific

Background

Every child is born with a name and an identity, yet 230 million children under the age of 5 remain unregistered. The majority of these children live in Asia and the Pacific. Without birth registration, children may face exclusion from essential services such as healthcare, education, social services and protection. An effective Civil Registration and Vital Statistics (CRVS) system helps us secure a person's legal identity, tracks the major events of an individual's life such as; birth, adoption, marriage, divorce, death, and cause of death, and is essential for planning, measuring and monitoring progress of development. Civil registration can also be a means of empowerment and strongly linked with equity and inclusive development.

Information and Communication Technology for CRVS

In the past few years, several initiatives have been underway to harness the potential of Information and Communication Technology (ICT) to strengthen CRVS. Success has varied; however, a wealth of lessons learned and knowledge is available to lead the way forward in modernizing CRVS and developing well-functioning systems. Currently, there is a limited use of data standards and open source technology in CRVS. Beyond the paper-based systems, many of the existing stand-alone proprietary electronic systems were not designed with interoperability or integration in mind and cannot leverage the power of web-based and mobile platforms easily. Aside from the technical possibilities, the use of standards and open source technology can be a driving force in fostering the political dialogues that are necessary to implement organizational changes needed for integration of CRVS systems and data sharing across ministries and specialized systems and solutions.

Armenia
Improvements to demographic and health statistics

The Government of Armenia believes in the importance of better access to complete and accurate civil and vital records. The Ministries of Health and Justice and the National Statistical Service joined efforts to improve demographic and health statistics. Coordinated and synergetic efforts of the three government institutions helped significantly reform the system of civil registration and vital records, the health information system and natural movement statistics. To improve the quality of cause-of-death registration, death certification training (for which a WHO online tool is available) was conducted, ensuring that detailed causes are captured by using the WHO's International Classification of Diseases coding to at least 3 digits. In addition, a full assessment of the vital registration system, including the quality of available hardware and software, esnures full, effective coverage of birth and death reporting.

Why is it innovative?

- Realistic assessment of sectoral performance, services and investments;
- More accountability;
- Evidence-based, sound and efficient decision-making conforms with established international standards and modern trends;
- Regular collection, tabulation and publishing of current data both at national and provincial levels;
- The following measures were undertaken to improve the quality of health statistics, civil and vital records and natural movements registration:
  - A package of amendments was introduced to the law on Civil Registration and Vital Records to ensure completeness of birth, marriage and death registrations;
  - Medical forms for birth and death registrations were reviewed;
  - Health system performance assessment and projections were performed to assess the public health status and its linkages to various determinants;
  - Health statistics and key healthcare indicators are now routinely collected, analyzed and disseminated.
- Future plans include:
  - Design of a new policy and strategy for health information, a new model and infrastructure for national and regional information systems and creation of a single national electronic data system;
  - Establishment of a single national common electronic system for civil registration and vital records;
  - Modernisation of functions for capturing and processing data on natural movements.

Bangladesh
Child Incentive Card (KIA)

The Birth Registration Information System (BRIS) was developed by the Government of Bangladesh with the support of UNICEF. It employs a software program to computerize birth registration data. Under the BRIS, birth information is securely stored on the centralized database server as soon as a birth is registered anywhere in the country. It thus increases the reliability of birth registration as an instrument of protection and identity.

Why is it innovative?
- Designed so that it is inter-operable with other databases and information systems of the country;
- Periodically produces automated statistics and identifies any duplicated areas;
- Increases transparency and reduces possible adulteration of data at various reporting stages;
- Aims to store all citizens' birth records in a central database, allowing any organization to use this database to verify the person's existence;
- Potential to link the database to immunization and education databases.

Cambodia
Implementing Web-based CRVS Database

A collaborative effort introduced a web-based CRVS database with the following features: data stored on a cloud-based Amazon server, access restricted by username and password, data encrypted before transmission, and easy-to-use mechanisms to perform services such as retrieving and searching client data as well as printing certificates. This resulted in improved client satisfaction, less waiting time, faster receipt of certificates, and a more modern and secure system.

Why is it innovative?
- Ensures real-time access;
- Enable robust monitoring and evaluation;
- Regular data compilation and analysis/user friendly reports;
- Reduce hand writing workload;
- Easy to print and sign on multiple birth certificates;
- Able to retrieve existing clients' information;
- Avoid duplication registration;
- Produce unique ID for birth registration;
- Use fingerprint scan for verification-marriage and reports.

Indonesia
Child Incentive Card (KIA)

The Government of Surakarta with technical support from UNICEF introduced the Child Incentive Card (KIA) in 2009. KIA was developed as a form of direct benefit to the child upon birth registration. It is popularly known as a "discount card" through which participating partners – usually commercial businesses – offer discounted products and services. The KIA card currently has 45 participating partners, including those in the education, health, sport, food, clothing and tourism sectors.

Why is it innovative?

- Provides an incentive for registering births;
- Reflects and encourages partnerships between the public and private sectors;
- Aims to integrate KIA issuance into the existing integrated birth registration system;
- Increases demand for birth registration, while noting that the introduction of the KIA does not replace the 'protection' principle of having a birth certificate in the first place.
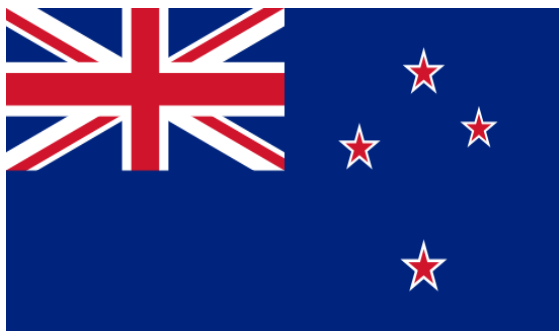
Iran
Health Equity Monitoring System (HEMS)

The Health Equity Monitoring System (HEMS) was developed by the Iranian Ministry of Health and Medical Education to reveal social determinants of health and reduce inequities or deprivations. HEMS consists of 52 health equity indicators in one of five domains: health and vital statistics, physical environment and infrastructure, social and human development, economic development, and governance. In monitoring the indicators, the system allows the Ministry to analyze health data disaggregated by socio-economic factors.

Why is it innovative?
- Takes an inter-sectoral approach to reducing health inequities;
- Measures 52 different indicators from various domains at the district level – reaching approximately 400 districts;
- Verified by data from the Iran Census 2011;
- Underlying data collection process composed of
- Produces data based on socio-economic deciles and other variables such as level of education, occupation, and geographical zones.
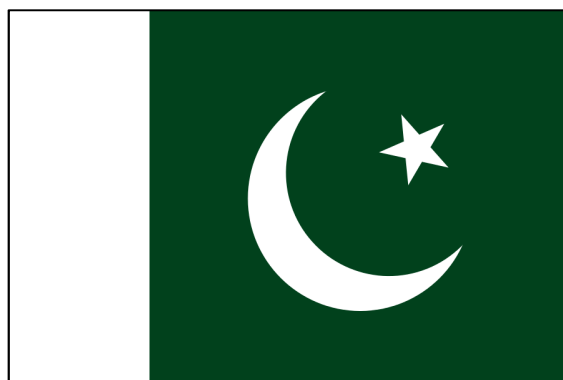
New Zealand
RealMe

RealMe is an initiative by the New Zealand Government which uses civil registration data to allow citizens to get a verified online identity. RealMe is a secure, consent based way to access and share personal information online. With a RealMe verified account a customer can prove who they are for government and private organizations offering online services. This results in less work for the civil registrar as they no longer need to issue as many certificates and it makes it easier for customers who can complete transactions online. As more services come on board with RealMe, multiple government interactions can be achieved through one digital channel and customers' needs will be more easily met as important life events occur. This may include the ability to registering a birth, getting a passport, enrolling for health services and being issued a tax number all at the same time!

Why is it innovative?

- The civil registration process becomes a tool to access a range of online services;
- A secure, consent-based way to access and share personal information online;
- Multiple government interactions can be achieved through one online transaction;
- Customers' needs easily met as important life events occur – such as birth, education, migration, health, financial planning and taxes, retirement and death.

Pakistan
Using Cellular Technology
for Augmenting Birth Registration Rates

Funded by Telenor Pakistan and implemented by UNICEF in partnership with local government departments and the National Database Registration Authority, this pilot project aims to simplify and increase the effectiveness of the birth registration process using cellular technology. The pilot is currently being implemented in two districts; it is intended to establish a working model and any customized solutions will be detailed in the resulting national scale-up plan.

Why is it innovative?

- Reflects partnership between Telenor Pakistan and UNICEF Pakistan;
- Proactive approach will entail activating community-based gate keepers to reach out to unregistered children;
- Entails a customized SMS-based application to allow authorized community-based hot-spots to register births in their population;
- Focuses on demand creation, improved citizen interactions through process optimization, and better planning and management of data.

Pakistan
Digital Birth Registration and CRVS Strengthening

The National Database and Registration Authority (NADRA) and Provincial Governments in collaboration with Plan International, WHO and Mobilink (Pakistan's largest cellular network) are developing a scalable and sustainable model for Digital Birth Registration (DBR) and CRVS strengthening. Currently in the Analysis Phase, the DBR programme aims to increase the birth registration rates in the target regions and prove a model for scalable and sustainable CRVS strengthening across Pakistan.

Why is it innovative?

- CRVS analysis methodology used to identify scalable and sustainable solutions (complimenting the CRVS Comprehensive Assessment);
- Use of Lady Health Workers (LHWs) as informants of birth through a mobile phone application
- Secure transmission of birth data to the NADRA database in real time;
- Issuance of birth certificate at the local level (Union Councils);
- Elimination of additional and hidden expenses of travel for parents;
- Data is secure and kept confidential;
- Opportunity for public-private partnerships with mobile data providers;
- SMS informs parents and LHWs that the birth certificate is ready to be collected;
- Integration with health systems e.g. periodic immunization SMS.

Philippines

PhilCRIS

The Philippine Civil Registration System (PhilCRIS) was developed by the Philippine Statistics Authority for free use by local civil registrars, hospital, churches, and other end-users. PhilCRIS software allows easy encoding of relevant information from civil registry documents, stores vital data, queries and retrieves encoded records, enables printing and issuance of certified copies of encoded civil registry documents, and facilitates data management and maintenance of local civil registry databases. It also allows online checking of updates, as well as automatic transmittal of civil registry files from local offices to the central office.
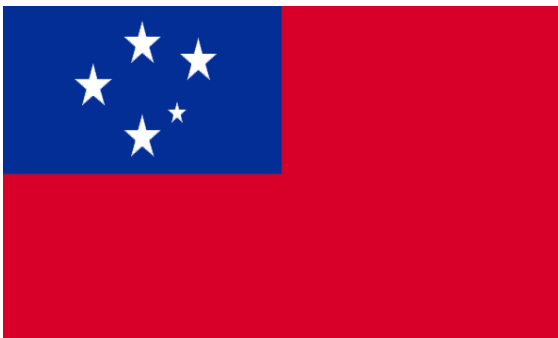
BCRS

The Barangay (Village) Civil Registration System, or BCRS, is a strategy to facilitate timely registration of vital events at the community level. It empowers village officials to assist local civil registrars in civil registration work. It is a systematic process of reporting and monitoring vital events, particularly birth, marriages and deaths, down to the village level.

Why is it innovative?

- Easier data entry for certificates of live births, marriages, and deaths
- Support data entry for attachments, such as for Muslims and indigenous peoples;
- Automatically codes statistical items at the bottom of new forms while entering corresponding data items;
- Has simplified backup and restore procedures;
- Facilitates data management and maintenance of Local Civil Registry Offices.

Why is it innovative?

- Provides village officials with an information system to record and manage demographic and biographic information about residents by household;
- Encourages village officials to visit households and interview individuals about possible occurrence of births, deaths, and marriages;
- Provides a basis for village officials to actively monitor pregnancies, and maternal and neonatal deaths.

Samoa and KE Software's *VitalWare*

Why is it innovative?

- Enhanced with security features reduce the risk of fraudulent access
- Secure system ensures all and only actual events are recorded, and verifies certificate details after issuance;
- Provides the flexibility and ease of use necessary for day-to-day management of vital statistic information;
- Flexibility and speed also enables statistics offices to develop new business services that quickly recoup their costs – in fact, users have typically experienced full cost recovery for their installations within two years due to greater efficiencies;
- Provides staff with instant responses to almost all queries.

KE Vitalware is a comprehensive vital records management system that securely manages the records and business operations of Vital Records Offices and Registries of Birth, Deaths, and Marriages. Vitalware systems are installed in seven countries, including in the U.S., Canada, Australia, and New Zealand. As one important example, KE Software was chosen by Samoan Justice Department to customize and implement the system to suit their requirements. Nearly 200,000 records have been captured onto the system, which is accessed by 9 concurrent users.

Sri Lanka
Use of E-health and M-health innovations to strengthen CRVS

Informed by a comprehensive literature review on the information systems in place for civil registration in developing countries, this research proposes the development of two separate databases loosely integrated for an optimal CRVS system. It recommends that the two databases – one for birth/death and one for marriage/migration – are managed by different departments and each department adminsters its respective databsae, while a common interface grants universal access. The software is a noncommercial open source software package, adaptable to future civil registration needs.

Why is it innovative?
- Managing the separate databases for birth/death and marriage/migration spreads out the responsibility while solidifying a sense of ownership in the respective departments;
- Integration between the databases magnifies the links between the two systems;
- Open source package is accessible to all;
- Provides mechanisms for notification of registrations for births/deaths using mobile technologies, generation of legal documents and vital statistics, and integration with the Health Information System already in place.
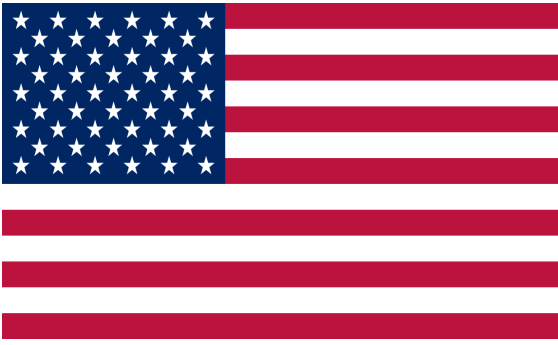
Thailand
Innovative use of data linkages between National Birth/Death Registration and the National AIDS Program

Thailand addressed issues of weak coverage and the quality of *Cause of Death (COD)* reporting by combining data sets related to Civil Registration and HIV prevalence. Forming these linkages helped to provide insights on the impact of the HIV ART program and strengthen overall HIV program monitoring.

Why is it innovative?
- The techniques used to link birth/death registration to National Aids program monitoring can be scaled, replicated to other disease programs as well as transported to other countries;
- Satellite district offices send data to central Ministry of Interior, which transmits the information via an encrypted message to the National AIDS Program database;
- Connects mortality and morbidity data for improved health monitoring and planning;
- Security protection for linking the two databases.

United States
EDRS and Influenza Cause of Death Reporting in Hawaii

Hawaii's web-based Electronic Death Registration System (EDRS) is linked to the Electronic Laboratory Reporting System (ELRS) that enables the interoperability between two different information and communication technology (ICT) systems and software applications to communicate, exchange data, and use the information in real time to improve cause of death reporting in the civil registration system and track influenza deaths for public health purposes. Open-source standard messaging languages (HL7/XML) and international data standards are used to communicate and exchange data between the two ICT systems. The linkage is a powerful tool to improve cause of death reporting of influenza by confirming subtype (e.g., H1N1) and differentiating seasonal flu from new strains and as a disaster preparedness informational tool in case of disease outbreak or pandemic. The linkage has wider application to all causes of death that can be confirmed with laboratory results.

Why is it innovative?
- Public health disaster preparedness information tool for disease outbreak and pandemics;
- Improves cause of death reporting with laboratory confirmation (e.g., H1N1);
- Uses open-source standard messaging languages;
- Uses international data standards and definitions;
- Interoperability of EDRS with other ICT systems
- Automates identification of all deaths due to influenza;
- Automates daily email notification of influenza deaths by age and geographic area.

WHO and Smart Registry
OpenSRP

The WHO Open Smart Register Platform (OpenSRP) is a mobile application that bridges health information systems used by frontline health workers and CRVS systems. Health providers interact with the OpenSRP app on their mobile handsets; the application provides generic birth and death registration tools. All data entry is performed using the app, which can run on any Android device. It strives to strengthen the ability of the skilled health worker to more effectively deliver and account for their health services to rural populations.

Why is it innovative?
- Among the first tool to integrate CRVS systems with external integrated platforms;
- Provides a single application for integrating previously discrete, proven innovations including a client register, online forms, scheduling tools, multimedia, and automated reporting;
- Enables the use of legacy digital CRVS tools that may already exist in the country of operation;
- Free, unrestricted open-source application;
- Mixes mobile technology, information system, and support materials.

Vanuatu
People-led Solutions Nationally led Data Management System

Vanuatu resulted in an increase of birth registration of children under 5 from 40% in January 2013 to 52% at the end of 2013 by introducing decentralized services and a nationally-led data management system. Specifically, the Office of the Civil Registrar, under the Ministry of Home Affairs, developed a low-cost, open-source electronic data base system linked to remote outer islands which ensures the transfer of timely, accurate and secure data. The expanded and decentralized approach addresses the unique challenges of civil registration in Vanuatu, which comprises 88 islands – 65 of them inhabited – spread over more than 700,000 square kilometers of ocean.

Why is it innovative?

- Volunteerism – The database was developed by a consulting volunteer together with Government partners and in consultation with UNICEF. The value of volunteerism is particularly relevant in Vanutu where the Civil Registration Office obtains only 0.8% of the annual budget allocated to the Ministry of Internal Affairs;

- Non-commercial – The software developed is a noncommercial open source software package, adaptable to future civil registration needs and those of other Ministries and Government Departments in Vanuatu. It is a fully flexible home-grown system, source-codes are owned and it is under full control of the Civil Registry Office;

- Overcoming unique geographic challenges – The database has allowed for successful decentralization of the Civil Registration Office with successful roll out of the database to the education and health sectors. The system is allowing for quick transfer of data in hardest-to-reach locations in Vanuatu;

- Skills transfer – The initiative has had a solid and strong focus on capacity building and sustainability from the outset. The initiative continues to raise in-house capacity;

- Raising the profile of civil registration - The availability of timely and reliable data has generated demand amongst Government departments and recognition of the value of civil registration core functions in informing national planning. An increasing number of government departments including the Prime Minister's Office are requesting access to data for use in planning;

- Appealing to the public - Providing the service directly to parents and children in schools and hospitals has increased public interest and demand. Introduction of a photograph of the newborn baby and mother on the birth certificate has generated great public interest in birth registration.

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