IMPROVING CRVS SYSTEM DESIGN

Enterprise architecture (EA) is a systems science tool that produces business process maps. It helps describe, understand, analyse, compare and visualise the organisation, processes, workflows and functionality of a CRVS system.

The Challenge

Country civil registration and vital statistics (CRVS) systems are complex, having evolved in unique ways in response to different political, legal, historical and administrative contexts. Despite the fact that all CRVS systems have the same output objectives, country systems have varied approaches to CRVS structures, governance, and policies. Accountability is also divided among multiple sectors and ministries such as justice, security, local government and health. Countries also differ in their CRVS organisation, implementation, processes, scale, partners, and capacities.

Almost all CRVS systems in low- and middle-income countries are struggling to achieve adequate levels of coverage and quality. Technical approaches proven to work well in high-income countries do not always work elsewhere, particularly when applied in a fragmented way. This suggests systemic failure rather than technical failure.

Technical approaches alone cannot deliver sustained results in the absence of a good understanding of how the various elements of the CRVS system are connected to each other and how they need to work together within the whole. To date most attempts to improve CRVS systems have been aimed at the technical weaknesses, and have been slow to achieve results. A systems-thinking approach to CRVS has the potential to achieve high-leverage tipping points that could rapidly and sustainably improve overall performance of CRVS.

Our Approach

As part of the Bloomberg Philanthropies Data for Health (D4H) Initiative and in close collaboration with the Swiss Tropical and Public Health Institute (Swiss TPH), training on business process mapping will be offered to all D4H countries as a fundamental intervention. Three types of descriptive process mapping will be taught, that, when put together, will clearly describe and suggest ways of improving: CRVS organisational design; CRVS processes, standards, and integration; and CRVS performance.

The **Relationship Map** will graphically depict the parts of the national CRVS ecosystem with all its stakeholders and sub-systems. This is important as all CRVS systems are also part of their larger political, economic, social, health and information systems. It will provide a detailed diagram of all the CRVS structural building blocks (government agencies, funding partners, suppliers, offices, users) at various levels of the system. It will show the part-to-whole relationships, connections, and linkages.

The **Process Map** graphically depicts the workflow of the CRVS system at a macro level. It helps to show the interfaces and links between functionally distinct parts of the system, such as how data relating to a vital event 'moves' through the system. This is the most instructive of the three types of process mapping in terms of describing the system and its design limitations.

The **Flow Chart Map** graphically depicts the sequence of more detailed work activities used to produce a particular output within

a process. This gives the most granular view of the work and facilitates the redesign of information collection forms at crucial stages, from notification to registration, and to the transfer of statistical information. It also distinguishes value creating activity from non-value creating activity such as overlaps, duplication, wastage, delays, storage, batching, movement, rework, etc., and illuminates where losses in time, data and data quality occur.

Expected Benefits

The intervention, which is also an innovation in CRVS systems strengthening, will teach business process mapping skills to CRVS staff. This will allow them to monitor the efficiency of their CRVS systems through visualisation of CRVS processes from notification of vital events to registration, certification, and the generation of vital statistics.

The training will enable CRVS staff to conceptualise CRVS design needs, identify bottlenecks, overlaps, failure points, as well as assist with **creative thinking on modifications to design for efficiency.** Building capacity for staff to regularly update the maps is crucial to assess and improve functioning of CRVS systems over time. Business process mapping is of particular value before the introduction of new information technologies into the CRVS system.

Improved process designs can be used to establish clearer pathways from community and health facility notification to sector registration, interoperability of databases, and continuous data sharing, hence closing the gap between notification and registration of both deaths and births. Reduced delays between notification and official registration will enable **timely production of a continuous stream of up-to-date and complete vital statistics.**

Figure 1: Example of a process map using Bizagi software
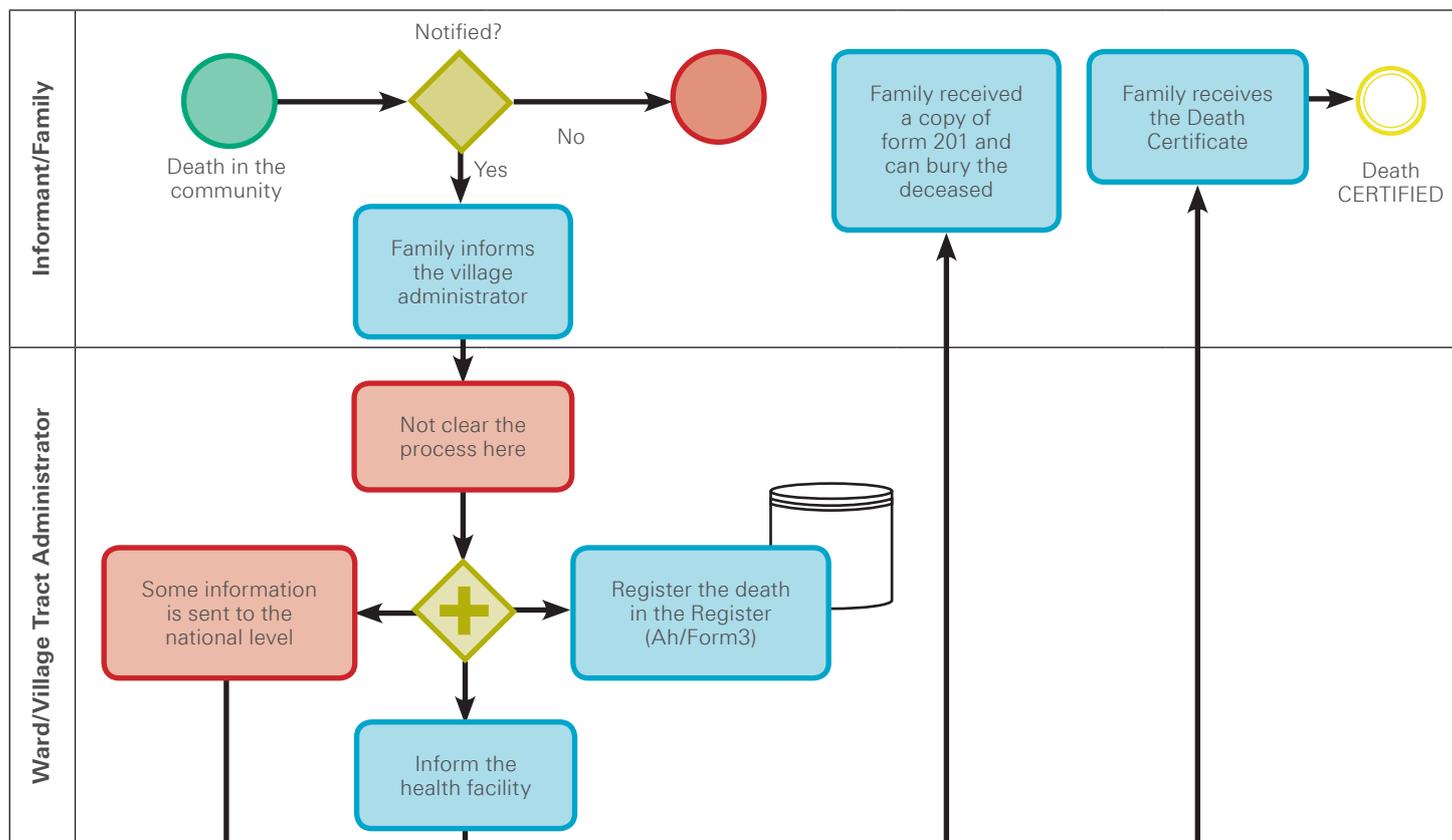
The University of Melbourne recognises the Swiss Tropical and Public Health Institute for their partnership and contribution.

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