Bloomberg Philanthropies

DATA FOR HEALTH INITIATIVE

Ghana CRVS Digitization Project

Implementation Recommendations

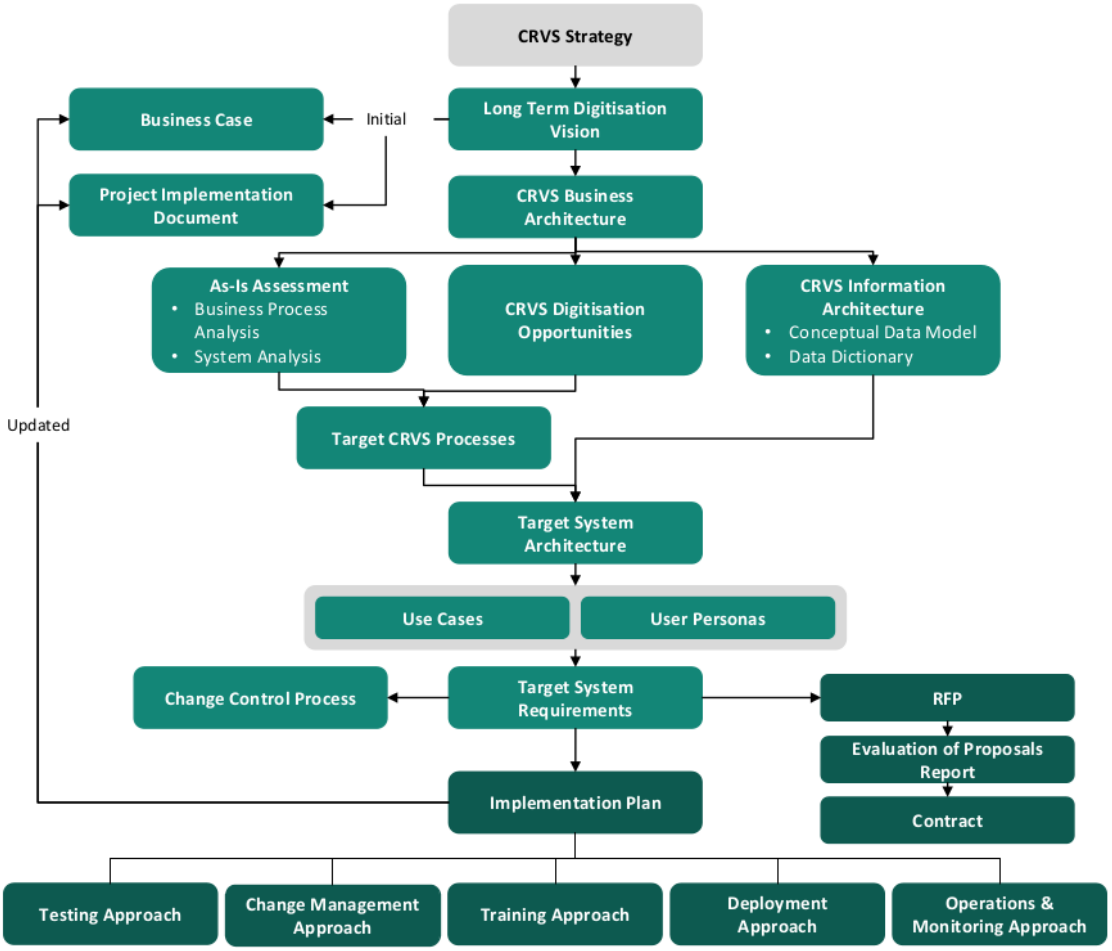
Vital Strategies

PLAN INTERNATIONAL

Overview

Plan International and Jembi Health Systems has used the CRVS Digitisation Guidebook (CRVS-DGB, www.crvs-dgb.org) together with key CRVS stakeholders (BDR, GHS, GSS, RGD, Judicial Service, NIA and NITA) to develop a future state technology architecture for CRVS in Ghana. The work was carried out in-country between November 2016 and February 2017 on behalf of Vital Strategies and as part of the Bloomberg Data for Health Initiative. Consultation and workshops were organised with all major CRVS stakeholders in 2 phases, the first focusing on the as-is situation and the second focusing on the to-be system architecture.

The outputs of this work are as per the CRVS-DGB (http://www.crvs-dgb.org/en/methodology/) methodology, included below for reference:



The following table shows the activities conducted and the deliverables produced, as per the CRVS-DGB:

CRVS Digitisation Guidebook Activity	CRVS Digitisation Guidebook Deliverables (with bulleted file names)
Define a Long-Term Vision for CRVS Digitization	1. Long-Term Digitisation Vision
Define the CRVS Business Architecture	2. CRVS Business Architecture
Conduct an As-Is Assessment of the CRVS Landscape	3. As-Is Assessment a. Business Process Analysis • Birth Registration • Death in a Community (Pre-Registration) • Death in a Health Facility (Pre-Registration) • Death Registration • Divorce Registration • Marriage Registration b. System Analysis • System Landscape • System Landscape Assessment
Identify CRVS Digitization Opportunities and Limitations	4. CRVS Digitisation Opportunities
Define the CRVS Information Requirements	5. CRVS Information Architecture a. Conceptual Data Model b. Data Dictionary
Document the Target CRVS Processes	6. Target CRVS Processes a. Target Business Process Maps • Birth and Death Notification • Birth Registration • Death Registration • Divorce Registration • Marriage Registration • Vital Statistics b. Target Business Process and System Future Context Assumptions c. Target CRVS Potential Business Process Enhancements d. Target CRVS Simplified Business Processes
Define Target System Architecture	7. Target System Architecture a. CRVS Potential System Enhancements b. CRVS Target System Architecture
Create User Stories	8. User Stories • Birth registration • Death registration • Marriage registration • Divorce registration
Define Target System Requirements	9. Target System Requirements a. CRVS Target System Requirements b. CRVS Target Functional Architecture
Develop a Business case for CRVS Digitization	10. Business Case

Implementation Recommendations

In order to maximise the potential of the to-be architectures described in the deliverables above, Plan International recommends the following in terms of next steps, to be conducted in cocordination with members of the CRVS Technical Working Group. In general, the implementation guidance should be followed from the CRVS-DGB (http://www.crvs-dgb.org/en/activities/implementation-planning/):

1. Review the output deliverables, amending as necessary. The review process should be conducted in sequence and final documents approved as Enterprise Architecture artefacts for CRVS in Ghana.
2. Confirm the Verbal Autopsy process to be adopted for deaths occurring in the community through the ongoing prototyping and pilots. Where required, the creation of minimum viable products (MVPs, http://theleanstartup.com/principles) should be considered for testing specific hypotheses. To-be business processes should be updated accordingly.
3. Confirm the use of the DHIS2 Mortality module through additional testing and feedback from users. To-be business processes should be updated accordingly.
4. Confirm the plans for the design and implementation of the Health Data Exchange layer, given its central role in the proposed technical architecture and importance for the interoperability between Civil Registration and Health.
5. Conduct the Service Point Delivery Strategy analysis based on the assumption of the future (to-be) processes. The analysis should not be carried out in isolation i.e. based on the current processes.
6. Test outstanding hypotheses through the creation of Minimal Viable MVPs (e.g. the community key informant has information about all vital events occurring in the local area)
7. Create a low-fidelity prototype to demonstrate the functionality with stakeholders and gather feedback from end-users.
8. Build a proof of concept for the interoperability layer between Civil Registration and Health systems.
9. Identify potential implementation options (e.g. extend the mBirth platform, OpenCRVS, proprietary CRVS software) and perform a gap analysis against the functional architecture and system requirements.
10. Cost out the most viable implementation option (Total Cost of Ownership) and compare with the (refined) business case and the RoI over the first 5 years.
11. Prioritise the system requirements into releases based on priority e.g.
    - Common CRVS repository for all vital events
    - Interoperability layer including standard messaging
    - Mobile outreach component
    - Health interoperbility
    - NIA interoperability
12. Establish a CRVS Digitisation Programme across all relevant stakeholders and draft an implementation plan including all necessary workstreams (e.g. application development and test, change management, training, deployment, legal framework).