Assessment of the Status of Digitalization/Digitization of CRVS systems in Africa

Statistics Department
African Development Bank
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Introduction

Definitions

Digitization/Digitalization:
- Increased use IT systems, the ability to convert paper-based systems into digital form, use of electronic tools to collect, transmit and store CR information

Objectives

• Assess the status of CRVS systems in Africa with regards to digitalization/digitization

• Look at the capacity, potential, opportunities and gaps concerning digitalization of CRVS systems in Africa
Data Collection

• Electronic survey questionnaires were sent to CR offices

• Estimated time to complete the survey was 10 to 15 minutes

• The questionnaires were shared in three languages (English, French and Portuguese)
Scope of the Assessment – Questions Asked

• Are there legal frameworks to Support CRVS?
• Are there provisions to link CRVS with other databases?
• Does the country have computerized databases where CR records are maintained?
• Are there steps of the CR process that are digitized?
• Does the CR office in the country host its own data or it outsources?
• What type of CRVS IT systems does the civil registration office in the country use?
• What are the existing initiatives that might inform the design of the digitized CRVS system?
• Capacity in terms of human resources, funding and infrastructure
• What are the Challenges/gaps?
Countries Covered

All African Countries were targeted and responses were received from 43 countries (82.7% response rate)
Analysis of Responses: Legal Environment

Registration of vital events - births, deaths, marriages, divorce (%)

- Yes: 97.7%
- No: 2.3%

Linking or interfacing with the other databases (%)

- Yes: 34.9%
- No: 65.1%
Analysis of Responses: Computerization of databases

Existence of Computerized databases where civil registration records are maintained (%)

- Yes, only towns in the urban areas have electronic databases: 9.3%
- Yes, all civil registration offices countrywide have electronic databases: 23.3%
- The country has a national database: 32.6%
- No, only few offices in major cities have electronic databases: 18.6%
- No electronic CRVS database in the country: 16.3%
Analysis of Responses: Digitalization of processes

Steps of the registration processes that are digitized

- Share data with other institutions: 25 Yes, 11 No
- Share data with National Statistics Office: 23 Yes, 13 No
- Search and data recovery of electronic database: 30 Yes, 6 No
- Validate a registration: 30 Yes, 6 No
- Issuance of certificates: 32 Yes, 4 No
- Consolidation of data nationally: 31 Yes, 5 No
- Complete the declaration form: 23 Yes, 13 No
Analysis of Responses: use of ICT

Transmission of birth and death records from local and regional offices to a central storage - 48.8% electronic

<table>
<thead>
<tr>
<th>Mode of transmission</th>
<th>Countries (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All information is exchanged electronically</td>
<td>48.8</td>
</tr>
<tr>
<td>Paper copies are sent from local office</td>
<td>14.0</td>
</tr>
<tr>
<td>Paper copies are used throughout the system</td>
<td>25.6</td>
</tr>
<tr>
<td>The system is still mainly paper based</td>
<td>11.6</td>
</tr>
</tbody>
</table>

Type of CRVS IT systems used by the civil registration office in the country - 72.1% custom developed

<table>
<thead>
<tr>
<th>CRVS IT software</th>
<th>Countries (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial off-the shelf software</td>
<td>9.3</td>
</tr>
<tr>
<td>Community-supported open-source software</td>
<td>4.7</td>
</tr>
<tr>
<td>Custom developed software</td>
<td>72.1</td>
</tr>
<tr>
<td>N/A</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Data hosting by civil registration office in the country – 72% self hosted

<table>
<thead>
<tr>
<th>Data Hosting</th>
<th>Countries (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outsourced system</td>
<td>14.0</td>
</tr>
<tr>
<td>Self-hosted system</td>
<td>72.0</td>
</tr>
<tr>
<td>N/A</td>
<td>14.0</td>
</tr>
</tbody>
</table>

Software Capabilities

- Dashboards & visualizations: Yes (15), No (22)
- User password expiration: Yes (10), No (27)
- Deactivate user login: Yes (8), No (29)
- Transfer and store encrypted data: Yes (12), No (25)
- Send user alerts: Yes (16), No (21)
- Fraud detection: Yes (9), No (28)
- Mobile phones and tablets in offline mode: Yes (12), No (25)
- Offline mode: Yes (17), No (20)
Analysis of Responses: Opportunities/Existing initiatives for Digitalization

National identification databases-linkage to the civil registration system

- Country has electronic national identification database
- National identification database linked to the civil registration system

Interoperability between the CRVS database and the patient-level electronic health record system

- Country has a patient-level electronic health record system
- Interoperability between the CRVS database and EHR system
- Have a data transfer agreement with the Ministry of Health

e-Government technical infrastructure

- System integration platform
- Cloud computing
- Data centres

[Bar charts and graphs showing the distribution of responses for each category]
Analysis of Responses: Challenges/Gaps

Funding

- Does the Government provide adequate funding meant for any maintenance and upgrades required over the expected lifetime of the CRVS IT system? (%)
  - Yes: 52.4
  - No: 47.6

Infrastructure

- Legislation that has provisions for linking or interfacing with the other databases (%)
  - No: 65.1
  - Yes: 34.9

Legal Provisions

- Does the civil registration office have dedicated staff members responsible for the management of the IT system? (%)
  - Yes: 83.7
  - No: 16.7

Human Resources
Conclusions

• There is a gradual digitization/digitalization of CRVS systems
• The digitization of registration processes for the consolidation of data nationally, issuance of certificates and validation of a registration appear to be more common, among the countries, than other registration processes
• The least common digitized processes are the completion of the declaration form and sharing of data with the national statistical offices and other institutions
• Most countries have electronic databases for storing and maintaining vital events records
• There are scalable initiatives for interoperability and integration of systems/databases
• There are best practices of digitalization/digitization within the continent
• In depth study of various systems is needed to identify and document the best practices
• Gaps still exist in resources, capacity, infrastructure and legal provisions
Recommendations

• **Digitalize CRVS business processes:** It is in the best interests of the countries to digitalize CRVS systems to improve their efficiency, accuracy, and accessibility.

• Conduct an **assessment**, based on APAI-CRVS guidelines, of the current CRVS system

• Develop a comprehensive digitalization **strategy**

• Engage with stakeholders

• Invest in technological infrastructure

• Train and engage human resources

• **Ensure data privacy and security:** The country should develop and enforce laws, regulations, and standards to protect personal information, prevent data breaches, and ensure data interoperability