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Case Study on Narrowing the Gaps for Equity

Uganda

Right to identity: Using mobile technologies to improve delivery of, and access to, birth registration services for all children

unite for children

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Right to identity: Using mobile technologies to improve delivery of, and access to, birth registration services for all children

ABSTRACT

Uganda Registration Services Bureau (URSB), the government office mandated to oversee implementation of all civil registration activities in Uganda, with support from UNICEF and Uganda Telecom (UTL), started developing and testing a Mobile Vital Records System (Mobile VRS) in the third quarter of 2010. Mobile VRS uses mobile phones in communities and internet-connected computers in hospitals, to relay birth and death notifications via Unstructured Supplementary Service Data (USSD) to the central government server at URSB. Mobile VRS is intended to provide all children in Uganda irrespective of the geographical location of their place of birth, with an opportunity to access birth registration services.

The web-based component of Mobile VRS is now operational in Mulago hospital, Uganda's main national referral hospital with an estimated 3000 births a month. It will soon be progressively rolled out to the rest of the 66 government owned hospitals and 68 non-government hospitals in Uganda. Training has been done for 120 notifiers to use mobile phones to notify births in two sub-counties in Kiboga district, and more notifiers will be trained over the next years to capture and send in information about birth for the nearly 56% births that take place outside health facilities. The result is a simpler, more reliable birth and death reporting and certification process, and a stronger foundation for ensuring the delivery and use of basic services by all citizens, particularly the most isolated and marginalized ones.

The use of innovative technologies and basic hardware, such as mobile phone handsets, takes advantage of equipment already in the possession of those institutions and their staff who are mandated to notify and register births. The new system presents a game-changing improvement over the paper-based birth registration process in use to date. Furthermore, the software platform on which the system is being developed is open source, allowing users to study, change, and redistribute the software, which can improve and expand its use. Efforts are also underway to ensure the data is shared with the Ministry of Health and other government ministries and departments.

BACKGROUND

Article 7 of the Convention on the Rights of the Child (CRC) stipulates that every child shall be registered immediately after birth and shall have the right from birth to a name and to acquire nationality. Birth registration therefore upholds the child's right to an identity - an official record of their existence and claim to recognition by their national government. By the same token, the government is therefore obliged to acknowledge and plan for the child's future needs, including education, health, protection from violence, exploitation and trafficking, and a range of other services, rights and privileges.

However, despite a strong legal framework and progress achieved in prior interventions, only one in five children under the age of five years old is registered among the nearly 1.5 million babies born annually in Uganda.

At present, birth registration is a manual, paper-based, labor-intensive process. At times, parents have to travel long distances, bearing the associated transport and accommodation costs, and more often than not, significant waiting times, to be able to notify the legally mandated authorities of their child's birth. Information is manually compiled and aggregated at each level of administration, and requests for birth certificates are severely backlogged due to their quantity and the tardiness of the data processing exercise. Some parents can hardly afford to pay the fee for the certificates; others are unaware of the importance of the exercise. Adding to the challenge is the slow process of transferring birth records from sub-national registrars to central-level administration.

Through UNICEF's initiative, and with support from both UNICEF and Uganda Telecom (UTL), Uganda Registration Services Bureau (URSB), the government office mandated to oversee implementation of all civil registration activities in Uganda, has developed a Mobile Vital Records System (Mobile VRS). Mobile VRS links mobile phone users in communities to relay birth and death notifications via Unstructured Supplementary Service Data (USSD)[1] to the central government server at URSB, while at hospital level internet-connected computers are used. Mobile VRS was designed to record the 42 per cent of births that take place in hospitals (Uganda Demographic and Health Survey 2006) using internet-connected computers, and the approximately 56 per cent of births that take place outside health facilities (UDHS 2006). The result is a simpler, more reliable birth and death reporting and certification process, and a stronger foundation for ensuring the delivery of registration services to the approximately 33 million Ugandans, 56 per cent of whom are children under 18 years of age (Uganda Bureau of Statistics).

STRATEGY & IMPLEMENTATION

Status of birth registration and equity analysis. The results of the 2006 Uganda Demographic and Health Survey (UDHS 2006) revealed that nationally, only 21 per cent of children under the age of five years old were registered at birth. Registration rates among males and females and urban and rural populations were consistent with that figure, at 20 per cent to 24 per cent. However, major regional variations in birth registration rates existed between the Southwest, with the lowest reported rate of 12.1 per cent, and the East Central region, with the highest reported rate of 37.2 per cent. Yet with respect to wealth quintiles, there is no distinct pattern along the wealth progress line from poorest to wealthiest, although it is worth noting that the lowest and highest birth registration rates correspond with the lowest and highest quintiles, at 17.4 per cent and 25.8 per cent, respectively. In a nutshell, birth registration uptake is very low (below 30 per cent for males and females, urban and rural residents and for all quintiles and regions except in the East Central region, which comprises about 10 per cent of the Uganda's districts. Notably, the Karamoja sub-region, classified as part of Northern Uganda in the survey, reported the smallest proportion of registered children, at 5.2 per cent.

That said, there is a significant gap between the number of children whose births are registered and those who actually obtain a birth certificate. Across all quintiles, over 50 per cent of children under five whose births are registered do not possess a birth certificate, except in the highest quintile. This gap expands to 70 per cent for the Western region and 60 per cent for the second quintile, despite having the second highest birth registration rate among quintiles. Furthermore, the required fees of UGX 5,000 (USD 1.90) for a long-form birth certificate and UGX 1000 (USD 0.38) for a short-form birth certificate remain prohibitive and hinder many families from accessing birth registration services, especially the 7.5 million people (24.5 per cent of the population) classified as poor (UNHS 2009/10). In addition, this cost could also be contributing to the disparities reflected in the following graph showing the discrepancies between registered and certificated births of Ugandan children under five years old.

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[1] USSD is a protocol used by GSM (Global System for Mobile Communications) cellular telephones to communicate with the service provider's computers. USSD can be used for WAP (wireless application protocol) browsing, prepaid callback services, mobile-money services, location-based content services, menu-based information services, and for configuring the phone on the network

Birth Registration and Certificate Status of U5 Children in Uganda (%)
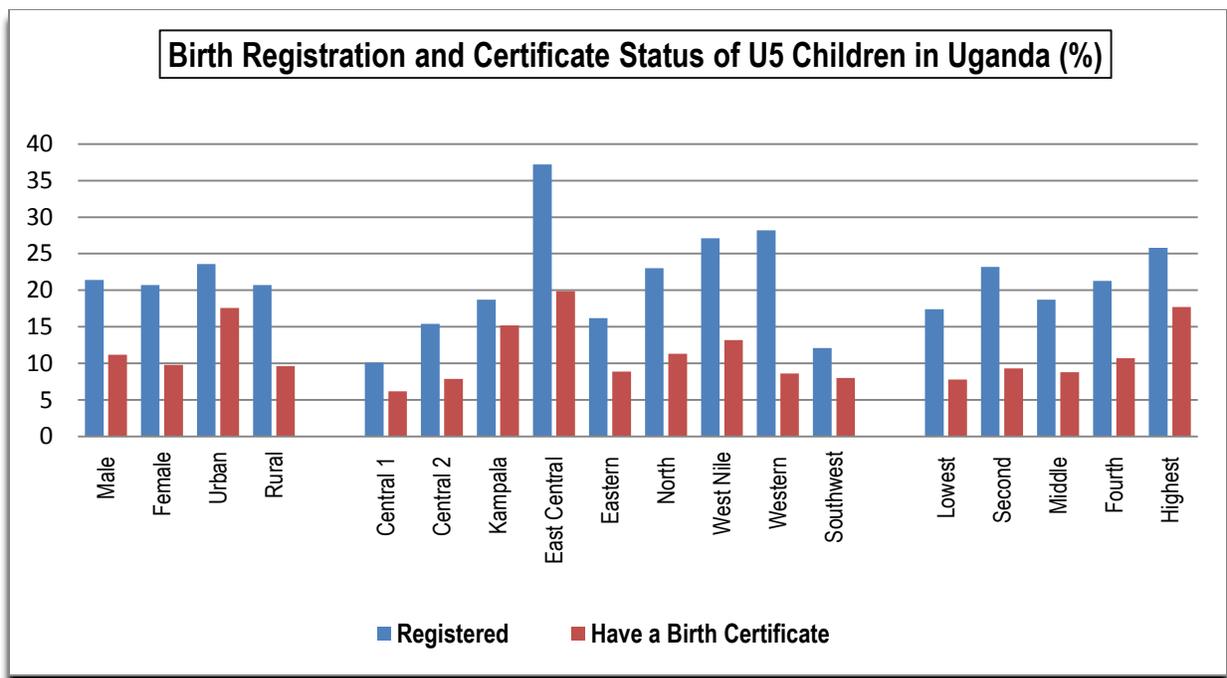
These UDHS 2006 results demonstrate that the bottlenecks and barriers that encumber birth registration uptake cut across gender; wealth and regional boundaries, and that even after accessing birth registration services, barriers to birth certification - such as fees to acquire a birth certificate - remain. Accordingly, as registration rates in the country are extremely low and inequalities within the country are limited, an equity-focused birth registration strategy for Uganda makes sense as a national strategy.

Bottleneck analysis, including planned country inputs. In order to strengthen and accelerate delivery of birth registration services in Uganda, UNICEF worked in partnership with UTL in a public-private partnership and with URSB to develop an electronic birth and death registration system that is designed to address the following challenges:
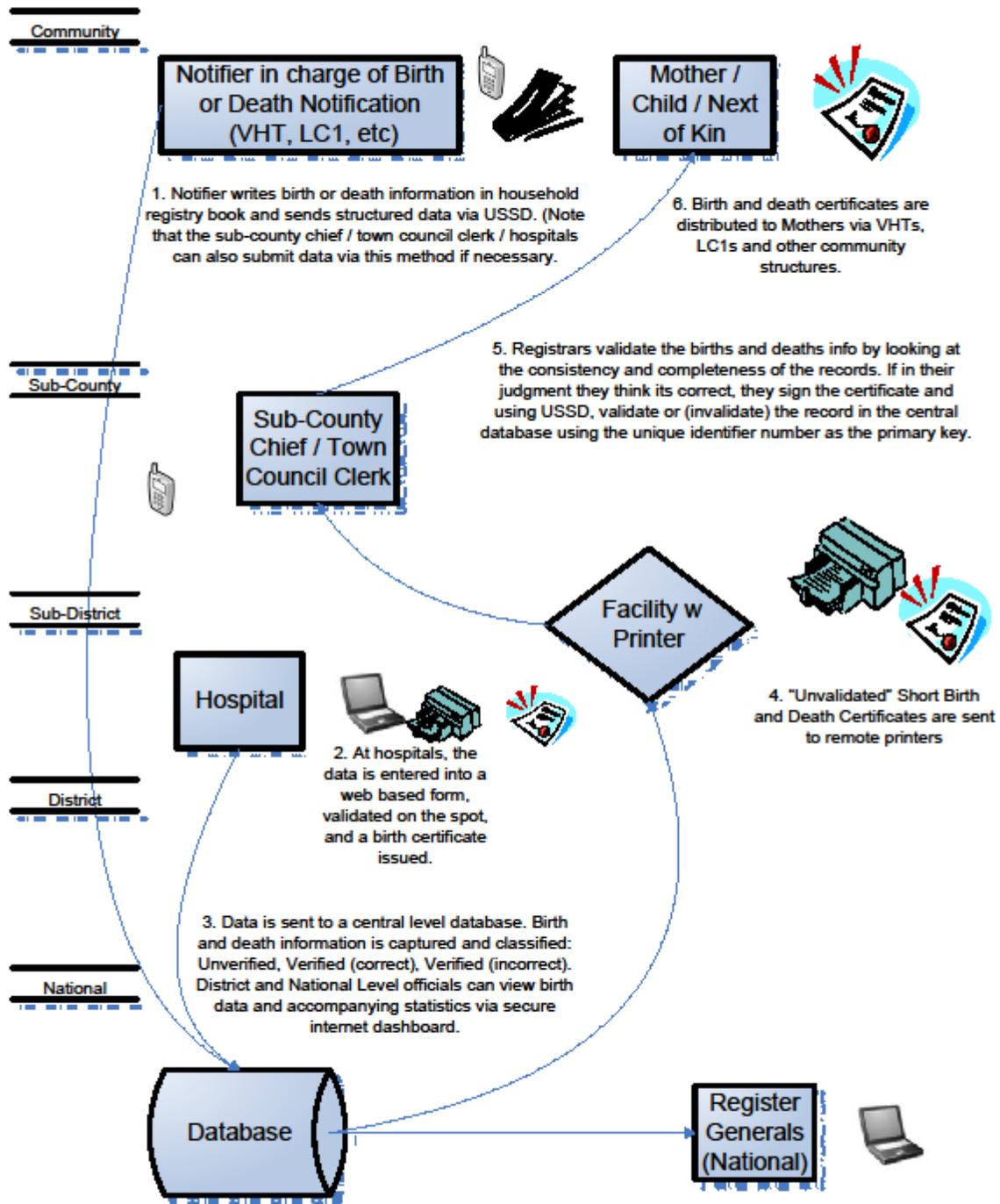
- Birth registration is a manual and labor-intensive process at all administrative levels; information is manually collected, compiled and aggregated at each level.

- Collection and transfer of vital information from sub-national to national level is overly time consuming.

- Long-form birth certificates are only issued at the national level in Kampala, making it difficult for most Ugandans to register and obtain them.

- The costs associated with certification are prohibitively expensive for many families.

- Many people lack awareness of the importance of birth registration or knowledge of its processes.

The new mobile electronic system, called the Mobile Vital Records System (Mobile VRS), coordinates the use of mobile phones within communities and internet-connected computers in hospitals to relay birth registration information to a national database at URSB.

Mobile VRS requires a two-step implementation process: At the community level, where birth notifications are normally issued on paper forms, the program leverages high existing mobile phone ownership rates to collect and send information to URSB via a cost-free program known as USSD. The people who send this information, called notifiers, are usually local leaders at village level working on a voluntary basis. Once the birth record is in the URSB database (Mobile VRS), it is automatically assigned a unique registration number and can be viewed by the respective sub-county chief on his computer and verified. If the information is deemed to be consistent and meaningful, a birth certificate will be printed, signed and readied to be issued. Officials in these administrative units continue to follow existing protocols of verification, stamping and signing the birth certificates, then validating the records using their computers.

The central database at URSB is automatically updated in real time and an SMS message is issued to the community-level notifiers that the birth certificate is ready.

Programmatic Schematic

Community

Notifier in charge of Birth or Death Notification (VHT, LC1, etc)

Mother / Child / Next of Kin

1. Notifier writes birth or death information in household registry book and sends structured data via USSD. (Note that the sub-county chief / town council clerk / hospitals can also submit data via this method if necessary.

6. Birth and death certificates are distributed to Mothers via VHTs, LC1s and other community structures.

5. Registrars validate the births and deaths info by looking at the consistency and completeness of the records. If in their judgment they think its correct, they sign the certificate and using USSD, validate or (invalidate) the record in the central database using the unique identifier number as the primary key.

Sub-County

Sub-County Chief / Town Council Clerk

Sub-District

Facility w Printer

Hospital

2. At hospitals, the data is entered into a web based form, validated on the spot, and a birth certificate issued.

4. "Unvalidated" Short Birth and Death Certificates are sent to remote printers

District

3. Data is sent to a central level database. Birth and death information is captured and classified: Unverified, Verified (correct), Verified (incorrect). District and National Level officials can view birth data and accompanying statistics via secure internet dashboard.

National

Database

Register Generals (National)

This strategy is effective because it maintains costs at reasonable levels and eliminates the logistical and sustainability issues of managing hundreds of thousands of devices. However, no system is ever perfect; less-than-complete phone ownership rates, shortfalls in human capacity and technical challenges (e.g.,

network failures) will always pose risks. Nevertheless, many of these risks are mitigated at the sub-county level where validation takes place.

Sub-county offices and hospitals supplied with basic hardware including low-power netbooks and printers ensure that validation procedures can be scaled up. Meanwhile, when problems arise at the community level, notifications can revert to the traditional paper registration system, whose information is sent to the Sub-county where birth records can be digitized and printed.

PROGRESS & RESULTS

- To date, nearly 141,000 people from over 29,000 households in six sub-counties in Kaberamaido, Kiboga and Kyenjojo districts, have had their births registered through the program.

- About 95,000 short-form birth certificates have been distributed in the three out of the 112 districts in Uganda.

- The web component of the Mobile VRS has been greatly improved in ongoing work with the Social Assistance Grants for Empowerment (SAGE) program. It has also been set up in Mulago national referral hospital and is expected to simplify registration for the approximately 3,000 monthly births there. The first phase of users has also been trained and provided with user access details.

CHALLENGES

- The mobile phone network infrastructure is weak in some areas where Mobile VRS has been introduced, leading to incomplete coverage and periodic communications failures.

- The unreliable electric power supply in many parts of the country presents a continuing challenge, hampering the aim of installing a working computer and printer in every sub-county and hospital as well as the charging of mobile phone batteries.

LESSONS LEARNED

- The introduction of Mobile VRS has led to an increase in demand for birth registration services, likely due, at least in part, to the timeliness and reliability of the system.

- The development and use of open-source, multifunctional applications increases the opportunities to leverage resources.

- Gaps in key staff positions at local government levels affect program implementation.

- Inadequate transport makes it difficult for district and sub-county staff to reach all geographic areas and to provide the required level of system supervision.

- The initial increase in the volume of work overwhelmed the sub-county chiefs; each chief had an average of 4,700 pages to validate and 20,000 short-birth certificates to sign.

INNOVATION

The design of the Mobile VRS system emphasizes cost effectiveness and long-term sustainability. By building a system that leverages very high ownership rates of the most basic mobile phone handsets by designated notifiers, both initial investments and concerns about the replacement of old, lost or stolen phones significantly decreased. Furthermore, the government's existing relationship with Uganda Telecom, in which it retains 31 per cent ownership, expedited the building and maintenance of the initial system.

The initial costs of setting up the system, including hardware and software development, training, and initial system monitoring, yielded the bulk of the initial investment expense. Recurrent and ongoing costs are likely to be modest with respect to the results achieved. Through this public-private partnership, the costs of capturing, digitizing and transferring the data on a per-transaction basis is estimated to be only UGX 75 (USD 0.03) for every birth or death entered into the system.

With the system's low cost for the government, its high volume of traffic, its potential to introduce new users to mobile technology, and its almost negligible SMS traffic costs for the telecom company, MobileVRS presents a compelling and workable business model.

POTENTIAL APPLICATION

- Provide unregistered, uncertificated Ugandans with an opportunity to legitimize their existence and facilitate their access to basic social services.

- Empower URSB to simply and reliably coordinate the provision of birth and death registration services to the public, thereby improving recordkeeping, reporting and budgeting.

- Provide the building blocks to develop a national civil registry in which each registered person is uniquely identified.

- Generate real-time information on citizens, with the potential to contribute to national identification and voter registration programs.

- Supply vital real-time data to various government programs - especially in the education, health and wider social sectors - to enhance delivery of services.

NEXT STEPS

- Use Mobile VRS to register children in hard to reach areas, such as Karamoja, and expand registration services to schools in order to reach all unregistered school children.

- Establish a birth and death notification system for children born outside health facilities, where mass registrations have been performed.

- Roll out the web-based MobileVRS application in 25 hospitals in 2012.

- Generate vital statistics from the information collected to date by MobileVRS in order to inform sub-national level planning.

- Progressively scale up Mobile VRS to cover all of Uganda by end of 2014.

RELATED LINKS*

Uganda MobileVRS – official website

Uganda Registration Services Bureau (URSB)

"Mulago Launches Electronic Birth, Death Registration," AllAfrica.com, 14 September 2011

"Is Your Birth Registered?" AllAfrica.com, 23 September 2011

"Uganda modernizes birth registration process," UNICEF, 14 December 2010

"Born Lucky: Birth and Death Records Go Digital," The Independent (Uganda), 1 October 2011

All titles are hyperlinked to their respective web-based files.

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