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Lessons from implementation research of the Kaliganj model: A Sustainable project to improve birth and death registration in Bangladesh

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Abstract

Objective: To find out the implementation drivers and barriers of Kaliganj Model before replicating it across the country. **Method**: The study followed mixed –method design. For qualitative study the study population included both front line service providers and decision makers and NVivo 10 software was used to analyze it. For quantitative study a total of 371 respondents were approached for a short quantitative exit interview at the Union Parishad offices and the EPI (Expanded Programme on Immunization) centers of the study sites.Study site included 9 unions of 4 upazilas of 4 different districts. Those who completed the birth or death registration (346 respondents) were eligible for the interview. The study tool was a structured questionnaire using ODK (Open Data Kit) platform and analysis was done in Stata 13. The sampling technique was purposive type. Study period was 2019. Ethical approval of the study was obtained from BRAC JPGSPH (James P Grant School of Public Health) IRB (Institutional Review Board). Informed written consent or thumb print was taken from the participants. **Result:** Implementation drivers were: Assigning community health workers in raising community awareness and also in notification, registration and distribution processes of birth and death registration; linking of birth registration process with EPI activities ; linking of verbal autopsy with death registration; the active role of the village police in notification, document collection and verification; regulation of the registration process by birth and death Registration act; orientation and training of responsible persons at different levels; verification of documents in time; effective monitoring, supervision and coordination among health department and local government and strong leadership of Cabinet Division.

Implementation barriers were: Inadequate Human Resource (HR); unavailability of mothers due to visit to parents place for childbirth; reluctance and lack of cooperation from beneficiaries; duplication of registration due to poor coordination between health and Family planning department ; shortage of logistics for registration; poor Internet connectivity; low capacity of the registration server; unofficial fees charged for registration; inadequate knowledge of service providers, reluctance of beneficiaries to collect certificates.

In intervention sites 71.13% of the respondents completed birth registration within 45 days of birth while in non-intervention site 51% of the respondents completed birth registration within 45 days of birth. 50% of the applicants in the intervention sites had received the certificate within seven days, for non-intervention sites, it was only 8.12%. **Conclusion**: The pilot project of ‘Kaliganj model’ which was launched at Kaliganj Upazila in Gazipur District increased both birth and death registration rates within 45 days from 7.7% to 93.7% and from 21.2% to 70.8% respectively by 2017.The successful implementation of Kaligonj model led the government to adopt and scale up the model nationwide.Strong coordination between different departments of the government, strong leadership, Clear assignments of tasks to specific stakeholders and ensuring adherence to official job, strengthening monitoring and supervision were essential to the successful scale up of ‘Kaliganj Model’.

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Introduction

In recent years, Bangladesh has prioritized strengthening its CRVS system to ensure all vital events, including births and deaths, are recorded for better national planning and policy decisions. A comprehensive pilot model named ‘Kaliganj Model' for improving birth and death notification and registration was launched in August 2016 in Kaliganj Upazila (sub-district) in Gazipur District of Dhaka Division. The ‘Kaliganj Model’ increased both the birth and death registration rates within 45 days, from 7.7% to 93.7% and from 21.2% to 70.8%, respectively, by 2017. This study is the first attempt to have systematically assessed and analysed the birth and death registration process in Bangladesh. The focus of the research was to identify the main barriers and success factors of the ‘Kaliganj Model’ – a pilot test in the whole of Kaliganj sub-district of Gazipur district on birth and death registration, comparison with the non-intervention sites, and to make specific recommendations to replicate the model across Bangladesh.

In 2016, the government established a national civil registration and vital statistics coordinating group to oversee efforts to increase birth and death registration. The group consisted of stakeholders in health, civil registration, statistics, local government, information and technology, justice, legal affairs and the Cabinet Division, which is responsible for inter-ministerial coordination. A team of community-based frontline health workers, selected from Kaliganj Upazila Health Complex (UHC), under the supervision and leadership of the Upazila Health and Family Planning Officer (UHFPO) was established to undertake this initiative. Before the commencement of the pilot project, the HAs and FWAs received training on the essential steps and aspects of the CRVS. Later, they participated in motivational workshops with local leaders, municipality mayors, councillors, and community members. In addition to routine duties related to the national Expanded Program on Immunization (EPI), Health Assistants (HA) and FWAs (Family Welfare Assistants) collected births and deaths data and facilitated the notification and registration of these vital events as per the CRVS protocol (Bangladesh Implementation Working Group, 2018). They also ensured that all currently unregistered children were registered with the Union Parishad and duly recorded in the EPI card while receiving the vaccinations. HAs/FWAs helped families to apply for registration of the birth/ death of the newborn/ deceased by obtaining, assisting the families in filling up the birth/ death registration application form and submitting to the civil registrar within 45 days of the occurrence of the vital event. After the official registration of birth and death, the elected chairman of the respective Union Parishad issues the certificates. The Kaliganj model is widely considered as a successful intervention for scaling-up birth registration in Bangladesh.Small cash payments were provided to the health assistants and to their supervisors to compensate for the additional transport costs.

Methods

The study relied on the embedded mixed-method design. In the embedded mixed-method design, one data set provides a supportive and secondary role in a study based primarily on the other data set .“QUAL” represents the primary data or qualitative part and “quan” represents the secondary data or quantitative part and the interpretation is based on the primary data (QUAL) which is being supported or validated by the

secondary data. The premise of this design is that a single data-set- either qualitative or quantitative - is not sufficient and that different questions need to be answered.

The qualitative information collected through IDI, KII, and FGD, and the quantitative data (exit interviews) played the secondary role to support/validate the primary qualitative data.

The 'Kaliganj Model' is currently implemented in 13 sub-districts (Upazilas) selected from 8 districts of Bangladesh. The study was conducted in a total of four sub-districts/ Upazilas, namely; Kaliganj, Anwara, Fultola, and Mohonganj. Kaliganj upazila of Gazipur was selected on the criteria that the pilot model was first tested in Anwara upazila of Chattogram district and Fultola upazila of Khulna district had the highest and lowest birth registration rates, respectively. Since the real-time data on birth registration rates of the 13 Upazilas were not available, a four steps process was followed for the estimation. The estimated highest birth registration rate was 9.35% for the Khulna district and 3.42% for the Chattogram district. The fourth site, Mohonganj upazila of Netrokona district, was selected as a control site, where the birth and death registration processes were not based on Kaliganj Model. Two unions were randomly selected from each Upazila. The study approach for Phase-2 was an embedded mixed-methods design using both quantitative and qualitative approaches. Qualitative interviews with the relevant stakeholders and the exit interviews with the beneficiaries outside the birth and death registration office and at immunization centres were the sources of primary data. Secondary data was collected from Union Parishad.

Method of data collection	**Participant selection technique**	**Numbers targeted**
Key Informant Interviews (KIIs)	Purposive (Respondents were selected based on the criteria that they are currently working or was previously working, with birth and death registration service, from both national and international organizations, at the administrative level)	**8**
In-depth Interviews (IDIs)	Purposive (Respondents were selected based on the criteria that they are currently working or was previously working with birth and death	**10(x4) = 40** (10 respondents from each sub-district from the

	registration service, at the community level, specifically in the selected study sites)	target population mentioned in Table-2)
Focus Group Discussions (FGDs)	Purposive (Respondents were selected based on the criteria that they represent the local community)	**4** (Two FGD among Male participants and Two among Female participants from the community)

We interviewed individuals working in the public sector, both national and international organizations for KIIs. We conducted IDIs with employees of the Ministry of Health (MoH) as well as the Local Government Division (LGRD) in each selected Upazila and union. We carried out exit interviews with parents of infants and children and relatives of the deceased who visited the registration facility for birth or death registration. We conducted four FGDs and each consisted of 7-11 participants.

Qualitative data

Transcription and translation of qualitative data were done simultaneously. The transcripts were read at least three times to get familiar with it. We analyzed the data with Nvivo 10 software. Then the data were clustered, compared, and categorized using a priori and inductive codes. The members of the research teams checked data validity for inter-coder reliability**.** Thematic analysis was done, and results were documented and are presented as the final report.

Quantitative data

Upon completion of data collection, data was compiled, and converted into STATA file format from CSV file format. Variable names and labels were checked, and the data was cleaned. Recording of values and categorization of variables were done to facilitate further analysis. Univariate analyses included descriptive statistics such as frequencies, means, proportions and standard deviations was also undertaken.

The study included 41 In-Depth Interviews, 9 Key Informant Interviews, and 4 Focus Group Discussions and a quantitative exit interview survey. The data was collected from both intervention and non-intervention areas. The study population was the front-line service providers, local stakeholders, key decision-makers (Cabinet division and ORG officials), development partners (UNICEF and Plan International), and target beneficiaries selected from the community living in the proposed study sites. Thematic analysis was conducted for the qualitative data using Nvivo 10 software. Univariate analysis was done with quantitative data using STATA software and reported as descriptive statistics.

Ethical Considerations

Ethical approval of this study was obtained from BRAC JPGSPH IRB. In addition, permissions were taken from the Cabinet Division before data collection. Informed written consent or thumb print was taken from each respondent after verbally explaining the study objective, voluntary nature of participation, and rights of withdrawal at any time during the interview.

Confidentiality was ensured by not disclosing the identity of respondents to any third party outside the research team. The questionnaires were given a unique ID to maintain the anonymity of the respondents. There was no discrimination against participants who refused to participate in the study or left the study at any point in time. Furthermore, participants did not receive any financial incentive or compensation for participating.

Results

We have organised the findings on registration process in three steps: notification, registration and distribution.

1.Intervention site

1.1Birth Registration

Notification and application process

- The integrated approach by health department and LGRD played an essential role in the significant increase in birth registration.
- The involvement of the Health Department and Community health workers in the notification process has facilitated registration to a great extent.
- Linking Birth registration with EPI activities has accelerated the process to a great extent.

- The coordination between two departments, strong administrative leadership of Upazila Nirbahi Officer, regular monitoring, and supportive supervision, resulted in more accountability and commitment of the service providers.
- Besides the community health worker, the active role of the Village Police in notification and distribution of the certificates was praiseworthy. All these factors strengthened the verification process, ensured timely registration, and decreased chances for fraudulent practices and issuance of duplicate certificates.
- When pregnant mothers visit EPI centers for TT, they collect the phone numbers and later call or visit after delivery. HAs maintains a pregnancy registry and Expected Delivery Dates (EDD) and call mothers to stay informed about the birth.
- HAs also ensure that the child receives vitamin A capsule within 42 days, and birth registration is done within this time period.
- Birth Registration forms are available and distributed from the Union Parishad. The UP Secretary gives the registration forms to the HI and AHIs, and they distribute it to HAs. HAs work in their assigned catchment areas and help applicants fill out the forms and prepare for submission.
- HAs and FWAs fill out the birth registration forms and give them to the AHI and FPI, respectively. The AHI and FPI meet in the Community Clinic every one- or two-weeks for duplication check before submitting it in the office.

Necessary documents and verification

- If HA or FWA do not fill up the birth registration form and submit to AHI or FPI, the parents or guardians with proper identification documents can also collect the birth registration forms from the UP for free.
- For birth registration, a child's EPI card, NID and/or parents' birth certificate, and holding tax receipts are required at the intervention site.
- In the case of the hospital/facility delivery, the hospital certificate is also required.
- Passport is also accepted as proof of identity
- One major challenge is the submission of false documents for registration. UP secretary and chairman review the documents and verify the information through UP Members and village police.
- Tax receipt submission is mandatory in some unions to prevent fraudulence.
- The respondents emphasized that strict regulations are maintained to prevent any fraud or false documentation.

If the same birth is registered more than once, the UP office sends a cancellation application and the duplicate certificate to the UNO office. Later, it is forwarded to the DC office for further proceedings. But the incidence of the duplicate certificate has decreased recently due to the improved verification system.

In some instances, legal action is taken for fraud cases. Besides these, UP Chairman, UNO, and DDLG check for authenticity of submitted documents, so the chance of error is very low. They give special attention to the birth registration of older people during verification.

Registration Cost at Union Parishad

- If registration is done within 45 days, no fees are taken, but after 45 days, the registration costs 25 taka.
- In case of late registration, UP Secretary receives the late fee and gives a receipt to the applicant. It usually takes three days to one-week for registration after applying.

Distribution of certificates

- The HI or HA or the entrepreneur informs the beneficiaries to collect their certificates from the Union Parishad (UP) office a few days after the submission of birth registration application forms.
- Although beneficiaries can collect the certificates themselves, most of them often do not collect the certificates unless they need it urgently.
- If the beneficiaries don't collect the certificates within a week or two, the UP Chairman or Secretary give the certificates to HIs or HAs for distribution. The HAs distribute the certificates to the rightful individuals at the EPI centers or during the Inter-Personal Communication (IPC) household visits. As the HAs maintain a list of children for vaccination, they deliver the birth certificates at the weekly EPI centers.
- In addition to the HAs, the VPs, UP members, and the entrepreneurs also occasionally deliver the certificates if they know the beneficiary personally, or the beneficiary has asked them to collect it. The VPs is assigned by the UP secretary to notify and bring the beneficiaries to collect their certificates or deliver it to them if a lot of uncollected certificates piled up in the office.

In one of the intervention sites, beneficiaries are exclusively responsible for collecting the certificates. The entrepreneurs and HAs tell the beneficiaries to collect their certificates when it is ready. The certificates are kept at the UDC and filed according to the wards. The beneficiaries collect the certificates from the UP office after paying the appropriate fees.

1.2 Death Registration

- Immediately after a death in the community, the VPs or HAs collect the information and documents required for registration from the family members.
- The HA (and in one site, the VP) fills up the death registration application form and submits it in the UP office for registration. The UP secretary and UP members verify the form and the documents.
- The documents are further verified after 45 days as it requires the signature of five people who attended the funeral of the deceased.
- The entrepreneurs enter the information online and complete the registration.
- If the birth of the deceased is not registered, the birth registration needs to be done after death registration is complete.
- Once the death registration number is generated, the HAs use it to conduct verbal autopsies by going to the households.
- The HAs usually give a paper slip to the family members of the deceased, which can be submitted to the UP office for collecting the death certificates.
- If the family members do not collect the death certificates, the HAs, UP members, or other individuals assigned by the UP chairman to distribute it.

Monitoring and supervision

HIs and AHIs maintain the CRVS registry and note down the number of birth /death forms submitted and certificates distributed for keeping the track. They also regularly visit the worksites and supervise their work. Routine staff meetings are held every fortnight or monthly for overall updates. The AHI and HA report to the HI, while the UHFPO supervises the HI. On the other hand, the UNO oversees the UP Chairman and Secretary, while the Secretary, Members, Entrepreneurs, and VPs report to the Chairman. The UP Secretary sends monthly reports to the UNO and quarterly reports to the DC office on birth and registration. The UNO office maintains a registry where monthly registration data are recorded. The UNO office sends a copy of the report to the Cabinet division (central level) and a copy to the DDLG office (district level).

2.Non-intervention site

2.1 Birth Registration

Notification

At the non-intervention site, the health and FP department are not assigned for any registration work and notification from the household level.

The health department routinely submits a monthly report online (DHIS-2) from the field registry.

At the non-intervention site, the Social Welfare department has no role in the birth and death registration process. The department provides the disability certificate to a child at six years of age and needs the birth certificate before issuing the certificate. So, if the disabled child does not have a birth certificate, the social welfare office advice to do the registration. The office also needs the death certificate of an old deceased person to stop the old age allowance.

Necessary documents and verification

Registration is done at UP. For children under 45 days of age, the EPI card, and for older children/ elderly, photocopy of school certificate, NID of parents and or/or UP tax papers, a medical certificate from a doctor, and other documents are required for birth registration. And unless EPI card is issued, parents cannot register the birth. According to a UP secretary of the non-intervention site, sometimes people give wrong information, so verification is important to ensure accuracy. UP member and chairman verify and sign the forms and certificates. The village police also help in verification. Birth registration immediately after birth is not a common practice.

Distribution

The distribution mechanism is not structured or systematic. The beneficiaries are responsible for the submission of birth registration application forms and the collection of birth certificates.

2.2Death Registration

The HAs and FWAs keep track of the deaths in the community, but only the aggregated number of deaths in a month. The health workers record no other information or details of the death. However, UP Secretary instructed village police to inform the family/households to registrar the death. Death registration is not a routine practice, and often the family members only apply for the certificate for legal proceedings. Formal letters or attestations from the UP chairman are also used as alternatives to death registration.

Occasionally, the UP members help beneficiaries complete the registrations as part of other responsibilities. For example, when the death registration is needed for getting a widow allowance, UP members may help the beneficiary register.

Monitoring and supervision

The communication/coordination between LGD (District, Upazila, and Union level) with MoH for the registration process is poor. In addition, no structured and systematic monitoring and supervision exist, which hinders routine reporting and accountability for B&D registration.

Quantitative Findings

A total of 371 respondents were approached for a short quantitative exit interview at the Union Parishad offices and the EPI centers of the study sites. Those who completed the birth or death registration were eligible for the interview. Out of 371, 346 respondents met the selection criteria for the survey and agreed to participate in the interview.

The coverage of birth and death registration was significantly higher in the intervention sites. The knowledge about 45-days limit was similar in both intervention and non-intervention sites. Still, people in the intervention's sites were more likely to register within the period compared to those who live in the non-intervention sites. However, only two-thirds of the applicants in both sites received birth certificates. While more than 50% of the applicants received the certificates within seven days, barely 8% did so in the non-intervention sites.

Table: Timing of registration and site

Timing of registration	Unit	Site		
		Intervention	Non-intervention	Total
Registered within 45 days of birth	Frequency	202	28	230
	Percentage	71.13	51.85	68.05
Registered after 45 days of birth	Frequency	82	26	108
	Percentage	28.87	48.15	31.95
Total	Frequency	284	54	338
	Percentage	100	100	100

Most of the respondents (73.58%) at the EPI centers had completed registration within 45 days of birth, while most respondents at the UP offices (74.36%) had registered after 45 days. This could due to the fact that the respondents at the UP office registered for different reasons.

Facilitators of the study

- Intervention sites followed the amended Birth and Death Registration Law.
- The collaboration between the Health Department and the Local Government Division was crucial for the registration process.
- The integrated approach played an essential role in the significant increase in birth registrations.
- In accordance, the involvement of the Health Department and community health workers in the notification process facilitated registration to a great extent.
- Besides the community health workers, the active role of the Village Police in notification and distribution of the certificates was praiseworthy. Linking Birth registration with the Expanded Program for Immunization (EPI) activities and death registrations with Verbal Autopsy accelerated the process to a great extent.
- The coordination between two departments, strong administrative leadership of UNO, regular monitoring, and supportive supervision, resulted in more accountability and commitment of the service providers. All these factors strengthened the verification process, ensured timely registration, and decreased chances for fraudulent practices and issuance of duplicate certificates.

Barriers

However, several bottlenecks were also identified in the different steps of the registration process in both sites.

- The notification was often delayed and missed due to the inadequate number of health workers in the field. The active engagement of the beneficiaries is yet limited to the birth registration due to their awareness of the benefits linked to it.
- The distribution process of the certificates was not systematic and lagging. Although engaging village police in the intervention sites was quite successful in improving the distribution, in many instances, they were often reluctant to do the job pro bono.
- Another primary reason for the reluctance of beneficiaries to collect certificates was the payment of 'unofficial' fees. There were irregularities regarding the late registration fee, which were being taken from the recipients in various ways. Many respondents had very little or no idea about the reasons for any additional costs.
- Poor understanding of the need for such a document, the poor knowledge of the process of getting a certificate, and out-of-pocket expenses have been identified as major demand-side impediments.
- The registration process was further delayed and exacerbated by poor infrastructures such as low storage capacity of the registration server, and poor internet connectivity.
- There is no automated system to identify duplicate records. Although this is done manually with success, an automated interoperable system would enhance the process.

Discussion

The findings revealed significant improvement of birth registration in the pilot sites within the 45 days compared to the comparison sites. It also correlates well with high child immunization rates, which is being carried out by the national Expanded Program on Immunization (EPI) across the country and establishes the close link between high immunization rates and birth registration. The role of community health workers, their supportive supervision of the front-line health workers by mid-upper level management, and active

involvement of local government played a crucial role in the success of the Kaliganj Model. Parents and caregivers were also aware of the benefits of birth registration, which created a positive demand as well.

Despite the government agencies' engagement in death notification, and registration process along with birth registration, death registration in all the study sites are far below birth registration rates. In the Kaliganj Model, the study revealed a lack of awareness about the registration process at the beneficiary level and also to furnish the necessary documentation to validate the registration process. Parents and relatives are reluctant to submit the application and submit necessary documents and are also unwilling to pay the fee for completing the registration process[1]. Obtaining necessary documents for the proper identification of the deceased, fines for late registration, opportunity costs, transportation expenses are some of the major barriers for the low death registration rates[2]. Relatives and successors are, however, interested in the death registration when there is a need to establish a relationship for claiming property, inheritance, insurance claims, and transfer of bank account of the deceased to the lawful beneficiary. In Bangladesh, there is a legal obligation to register all deaths and for obtaining death registration certificates of the deceased[2]. Understanding the necessity of such a document at the beneficiary level, the complex legal obligations of obtaining a death certificate after the due registration process, out-of-pocket expenses have been identified as major impediments.

If death registration is not done on time, it negatively impacts the updating of the population registers for calculating crude death rates, cause and epidemiological factors of deaths, updating of the voter list, and other vital information. Therefore, the benefits accrued by the Kaliganj Model to the community as well as for effective policymaking, awareness building for death registration based on this study is a crucial step forward.

Currently there is no designated person for the distribution of certificates. Although both health and LGRD field staff (Health Assistant, Health Inspector, Entrepreneurs, Upazilla parish members) sometimes distribute the certificates, there is no systematic distribution. In order to resolve this, the task of distribution can be assigned to a specific staff as part of their job description. Besides this, there also needs to be strong community mobilization, to not only register on time but also collect certificates from the UP offices.

Based on the study findings, there is a need for a comprehensive assessment of the Civil Registration and Vital Statistics (CRVS) and several other policy and documents. It is also recommended to secure adequate funding for creating a nationwide public awareness through the use of print and electronic media, local level meetings and campaigns to promote both birth and death registration to resolve this challenge[3]. Amendment of law, particularly for death registration, can also be done after further research.

According to the amended birth and death registration law, both birth and death registration fees, if done within the stipulated 45 days of the event is free of any charges. After the stipulated 45 days, there is a late fee to be paid by the beneficiary, and the providers practice undue financial advantage with the beneficiaries. There are discrepancies and irregularities regarding the registration fee, which are taken from the beneficiaries in various ways. There is a tendency by the ‘duty-bearers’ to unnecessarily request fees from the beneficiaries unofficially. Similar findings were also found in some countries of South Asia and Africa where unofficial or excess fees are collected from the beneficiaries [4,5,6].

During filling up the form, online submission, time of collection or distribution of the certificates, and where necessary correction of the certificate, unnecessary fees are taken from the beneficiaries by Health Assistant (HA), entrepreneurs, member of the Union Parishad and 'chowkidar' (village police). Many respondents had very little or no idea about the reason for the additional cost if there is a delay in registration.

These widespread practices may cause reluctance to register birth and death by the beneficiaries and also creates a burden on the government and seriously hinders the birth and death registration process and vital statistics as per the CVRS and to track the achievement of the SDG target as well.

In both the intervention and non-intervention site service providers like Upazila Health and Family Planning Officer, Union Nirbahi Officer, Union Parishad Secretary, Chairman, Health Inspector, Assistant Health Inspector, Health Assistant are well aware of the importance of birth and death registration.

At the sub-district level, the Upazila Chairman is more cautious about age modification and false registration following government orders. In the pilot site, there was training at Union, Sub-district, and district level where stakeholders from Local Government, Health and family planning department participated. Among the pilot sites, only Kaliganj had organized frequent meetings, and the registration process also showed an increasing trend. But practically, at the field, the understanding of the process of registration at the service provider's level differs. Rules and regulations are not well understood by the field staff in some of the areas observed. A significant implementation barrier in the Kaliganj Model was the inadequate training, poor knowledge, and understanding of the problems at field level and mid-level staff regarding the registration process. At times registration of people not having a permanent residence and the marginalized population (such as floating population or people living in hard to reach areas) are missed. From the supply side, lack of knowledge by the concerned field level and mid-level workers on alternative procedures and the necessary and timely documentation required are some of the significant barriers for registration. Some of the service providers expressed their disappointment that during their training, these issues are not discussed.

Similar findings are also seen in neighbouring countries and Africa[7,8]. where field staffs were unable to resolve problems regarding registration processes like understanding the law and filling out forms. They also said that training sessions were too theoretical, lacking practical field-based exercises[7] Though monitoring and supervision are done based on the intended number of registration, it is not reported whether monitoring is also done to see whether clauses of laws are being followed or not. Also, in case of any uncertainties or need for guidance, the lack of interaction between the field staff and their higher authorities cause significant difficulties .These limitations in training negatively impact accurate data collection on registration. Reinforcement of training and refresher training of all relevant staff with emphasis on the understanding of birth and death registration law, field exercise, effective communication, proper guidance to field staff, and strict monitoring and supervision of registration process by higher authority may alleviate this problem. Further research is also recommended to address this issue.

A number of documents are needed during the registration process. The national ID card, Tax Identification Number (TIN) and certificate, birth certificate from the hospital, education completion certificate, and issuance of the death certificate from a hospital in case of hospital death are required for the birth/death registration process. Verification of these documents is also time-consuming and troublesome. There is no

automated system to identify duplicate registrations. Bangladesh currently does not have an effective, integrated data-sharing platform across different stakeholders by using the unique personal ID. If a single unique personal ID were available, the verification of these relevant documents would be improved.

The birth registration number is obtained after birth registration, which is the sole responsibility of the ORG and the same person will get his/her NID when he/she becomes 18 years old as a proof of being a voter. This responsibility of issuance of NID lies with the Election Commission (EC). But these shared responsibilities and accountabilities can be resolved by having a common data-sharing platform by different organizations. This Unique ID, if available, will represent a person's vital events like birth, death, educational qualification, voter ID, marriage certificate, divorce, migration, and through this reliable data on vital statistics of that particular individual can be derived.

Another major problem is poor internet connectivity which further complicated by the slowness of the server. The delay in producing certificates often happens due the IT problems. Though the internet problem can be resolved locally by using modems, the server problem cannot be solved locally. Server upgradation is currently in progress and being piloted at certain locations.

Though there is a dearth of literature, the decentralized birth and death registration process may not be a good option in Bangladesh due to systemic discrepancies in the registration process and unavoidable fees in Bangladesh[2]. Bangladesh has a decentralized CRVS system with the Office of the Registrar General (ORG) as the nodal authority. Both birth and death registrations are conducted through Local Government with the help of the Health Department, which highlights the importance of convergence and integration by all concerned government ministries and departments and coordination by the Cabinet Division. Accountability of the concerned authority, effective coordination, and supervision at the field level is necessary. Taking legal action against persons involved in charging unnecessary fees can be a good step. On the other hand, beneficiaries also need to be conscious while paying regular fees, also be aware of any unlawful requests as per the law, including the collection of late fees. Different stakeholders like the Ministry of Local Government, Rural Development and Cooperatives (MOLGRD), Ministry of Health and Family Welfare (MOHFW) and Bangladesh Bureau of Statistics and others engaged in collecting different data, but according to the UNICEF report no agency is able to provide reliable and complete vital statistics that represent the entire population and administrative requirements of civil registration[2].

With this in view, the nodal agency for CRVS has been established at the Cabinet Division to develop the Integrated Service Delivery Platform (ISDP) to recognize every individual by his/her unique ID (UID). Gradual up-gradation and implementation of CRVS and beyond will identify the beneficiary and produce a ten-digit UID, which will cover his/her birth registration, parent's NID identification, enrolment in education institute, marriage registration, death registration, and other information. Success stories of using a single unique ID from South Africa and New Zealand [9] is an excellent example to emulate. If this interoperability of different agencies is well established, it will have great policy implications for the success of birth and death registration in Bangladesh.

Recommendations

Strong coordination between different departments of the government and strong leadership is essential to the successful scale-up of the 'Kaliganj Model. Generating public demand for registration by raising awareness about the benefits of registration is a crucial step forward. Focusing on bottom-up planning and improving resource management will alleviate the registration process. Strengthening professional development and performance management of human resources through targeted training, assessments, and rewards would motivate and empower the workforce. Clear assignments of tasks to specific stakeholders and ensuring adherence to official job descriptions will streamline the registration process. Strengthening monitoring and supervision, through activating CRVS task forces and generating demand for CRVS data across ministries is crucial for successful scale-up. Investing in the capital for a sustainable CRVS system with an interoperable platform is crucial for preparedness for universal civil registration.

Conclusion

The pilot project of ‘Kaliganj model’ which was launched at Kaliganj Upazila in Gazipur District increased both birth and death registration rates within 45 days from 7.7% to 93.7% and from 21.2% to 70.8% respectively by 2017.The successful implementation of Kaligonj model led the government to adopt and scale up the model nationwide.Strong coordination between different departments of the government, strong leadership, Clear assignments of tasks to specific stakeholders and ensuring adherence to official job, strengthening monitoring and supervision were essential to the successful scale up of ‘Kaliganj Model’. Later, the model was implemented in 13 other subdistricts and prioritized for nation-wide scale-up.

References

1. Mukut M. A. A. Fellowship report: Evaluation of the ‘Kaliganj Model’ for Proactive Birth and Death Notification and Registration. CRVS Development Series. Melbourne, Australia: Bloomberg Philanthropies Data for Health Initiative, Civil Registration and Vital Statistics Improvement, University of Melbourne.2019.
2. UNICEF. Status of Civil Registration and Vital Statistics in South Asia Countries 2018. United Nations Children's Fund (UNICEF), Regional Office for South Asia (ROSA). 2019.
3. Azad AK. Report of the Comprehensive Assessment and Strategic Action Plan on CRVS System in Bangladesh. Ministry of Health and Family Welfare. Government of the People’s Republic of Bangladesh.2013.

4. Bhatia A, Ferreira LZ, Barros AJ, Victora CG. Who and where are the uncounted children? Inequalities in birth certificate coverage among children under five years in 94 countries using nationally representative household surveys. *International journal for equity in health*, 2017;*16*(1): 148.
5. Mikkelsen L. Assessing the quality of vital statistics systems: Lessons from national evaluations in Sri Lanka and the Philippines. *Pacific health dialog*.2012; *18*(1): 236.
6. Wood S. The bureaucracy of birth registration in Tanzania. *Critical Policy Studies*. 2019; *13*(4): 379-395.
7. Gupta M, Rao C, Lakshmi PVM, Prinja S, Kumar R. Estimating mortality using data from civil registration: a cross-sectional study in India. *Bulletin of the World Health Organization*, 2016; *94*(1): 10.
8. Musah A, Abdulai Z, Dawuni M, Abdul H AEvaluation of the Effect of Birth and Death Registration on Health Service Delivery (A Case of Tolon District of Ghana). *Afr J Health Sci*. 2015; *5*(2): 32-41.
.
9. World Health Organization. (2014). Global Civil Registration and Vital Statistics: A Scaling Up Investment Plan 2015-2024.