



Context

With growing popular interest around big data and new data innovations, the value of more traditional civil registration and vital statistics (CRVS) systems risks being overlooked. CRVS systems record statistics about life events, such as births, deaths, marriages, and divorces. Through civil registration, individuals are granted formal legal status, which allows them to access essential services such as healthcare, education, and financial services. Vital statistics. which are produced by these systems, provide basic demographic and health data for governments that inform policy. They are essential to the monitoring of the Sustainable Development Goals (SDGs) (Mills et al. 2017). A robust CRVS system can support a country's development through a wealth of important data and the provision of basic human rights (UN Economic and Social Commission for Asia and the Pacific 2017). Despite the many benefits, CRVS systems remain weak globally, and more than 100 developing countries still do not have functioning CRVS systems (UNICEF 2016).

Data Solution

Civil registration and vital statistics (CRVS) provide continuous, real-time, and localized flows of information about health and social issues (Cobos Muñoz, Abouzahr, and de Savigny 2018). CRVS data are necessarily more detailed than periodic surveys, making CRVS fundamental to population and socioeconomic policy development (Cobos Muñoz, Abouzahr, and de Savigny 2018). Researchers from the Swiss Tropical and Public Health Institute and its international collaborators have proposed a set of 10 milestones that describe the technical and institutional requirements for a functioning CRVS system (Cobos Muñoz, Abouzahr, and de Savigny 2018). CRVS is necessarily complex, combining hundreds of smaller tasks, including the registration of events, issuing certificates, maintaining registries, and producing vital statistics (Cobos Muñoz 2018). According to the proposed milestones, the civil registration subsystem begins with the notification of an event by an official, followed by validation and verification, and then the formal registration of the event by a registrar. The registrar then issues a legal document certifying the event. Next, information about the event is shared with other government systems and archived. The vital statistics subsystem deals with the aggregation of information. Data is tabulated according to demographic groups





to produce vital statistics. After quality control, vital statistics are generated and disseminated (Cobos Muñoz 2018).

Vital statistics are used to create evidence-based solutions and tailored policies and programs. As the proportion of the population that is registered increases, these policies and programs are strengthened. The policy implications extend to a range of issues:

Measuring and Monitoring the SDGs

CRVS represents a key data source to monitor 12 of the 17 SDGs and 67 of the 230 SDG indicators (Mills et al. 2017). SDGs include targets related to education, economic growth, employment, health, and disabilities. In particular, CRVS is central to SDG target 16.9, which promotes legal identity for all by 2030, including free birth registrations. Moreover, CRVS is necessary for monitoring maternal and infant mortality, along with both communicable and non-communicable disease-related deaths. It also informs indicators on education and access to social services. With a legal identity, one has access to entitlements and social protections making CRVS a direct contributor to the global agenda. CRVS systems can increase tax revenues, modernize banking, and improve the overall delivery of social services. Furthermore, as a data source, CRVS can provide continuous, systematic, and up-to-date information on the population in complement to the population census, which is normally conducted every five or 10 years.

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- Mills et al. 2017





Child Protection

A child's quality of care and health outcomes can depend on a functioning CRVS system. In 20 countries, children need to have a birth certificate in order to receive vaccinations, and in more than 30 countries, a birth certificate is required for treatment at health facilities (Wenz and Abouzahr 2016). Not being registered at birth can have extreme consequences. Among sub-Saharan African countries with a high prevalence of child mortality, none have satisfactory vital registration data (Wenz and Abouzahr 2016).

Additionally, children can be made vulnerable if they lack legal proof of their age. Individuals under the age of 18 are entitled to particular rights under the United Nations Convention on the Rights of the Child (UN General Assembly 1989). Therefore, having proof of age becomes a tool for protecting against child trafficking, child labor, and child marriage. Children that cross international borders without legal identification face added difficulties with accessing protection services or being returned home safely. Moreover, a lack of legal identification makes prosecution difficult when child abuse does occur. Research shows that in the Philippines, approximately 50 percent of cases involving child labor or prostitution could not be prosecuted because a birth certificate was not available to prove the alleged victim was a child (Plan 2009).

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Human Rights

Civil registration acknowledges a person's existence before the law and therefore serves as the foundation for a number of fundamental rights





and privileges (Pacific CRVS, n.d.). These benefits can include the right to nationality, the right to access healthcare and education, and the right to vote. Not being legally registered can prevent individuals from accessing these rights. Even where a birth certificate is not needed to enter primary school, children are not allowed to sit government exams for secondary schools without proper identification (Plan 2009). Death registration and marriage registration are also pivotal in claiming basic rights. In some countries, a marriage certificate is needed when registering a child at birth. Additionally, having structured marriage, divorce, and death registration helps protect inheritance rights (Data2X 2014).

Gender Equality and Empowerment

Gender inequalities are more pronounced when women and girls go uncounted, and well-functioning CRVS systems are instrumental in allowing women and girls access to their individual rights. However, women are still regularly under-registered. In Sudan, Niger, Namibia, Guinea Bissau, Tajikistan, Costa Rica, Armenia, and Thailand, birth registration is significantly lower among girls than among boys (Bhatia et al. 2017). Women are often underrepresented in death registration as well, making it difficult for families to obtain an inheritance and depriving families of assets. Furthermore, since a greater proportion of male deaths are registered, the causes of death that disproportionately affect women are more challenging to identify (O'Donnell 2016). In particular, CRVS is critical to measuring SDG target 3.1, concerning the reduction of the global maternal mortality ratio; estimates suggest that 830 women die every day from preventable causes during childbirth or pregnancy (WHO 2018). With adequate CRVS systems, health services would be able to target areas with high maternal mortality rates, understand causes of death, and offer reproductive health services.

CRVS can be used to understand and address gender disparities in education enrollment. Currently, only 39 percent of countries have equal proportions of boys and girls enrolled in secondary education (UNESCO, n.d.). Global studies show that legal identities are associated with school enrolment and continued education (Wandasari et al.



2016). Understanding differences in enrollment between boys and girls through a well-functioning CRVS system creates a pathway towards gender equality in education at all levels.

Marriage and divorce registration are both effective tools for women's empowerment (Pryor 2016). Both enable social benefits and protection. In many places, a marriage certificate is used by a woman to claim her inheritance rights in the case of her spouse's death, and divorce certificates permit women to access a pension, alimony, and child support.

Finally, CRVS is a key data source for SDG target 5.3, concerning the elimination of all harmful practices, such as early marriage and female genital mutilation. While there has been an overall decline in child marriage, progress is still not sufficient to reach the SDG target. Research shows that, if current trends in sub-Saharan Africa continue, it would take a minimum of 100 years to eliminate child marriage (UNICEF 2017). A birth certificate can prove that a girl is under the legal age of marriage, and the proper registration of marriages allows the government to know at what age young women are getting married. Yet as of 2016, at least 10 sub-Saharan African countries lack any legal obligation to register a marriage (Hanmer and Elefante 2016). Birth and marriage registration systems help to enforce minimum age of marriage laws (Hanmer and Elefante 2016).

Funding

Sufficient levels of funding are necessary to achieving proper CRVS standards. Research shows that when national income is above US\$6,000 per capita, a country is likely to have a birth registration rate above 80 percent (UNICEF 2013). The World Bank, UNICEF, and others have recognized the importance of CRVS, but the sector has suffered from underinvestment for the past 60 years (Dincu 2018). Significant investments will be required to achieve universal coverage of CRVS systems. In 2016, UNICEF estimated that US\$3.8 billion would be needed to expand CRVS coverage by 2024 in 73 countries, excluding China and India (UNICEF 2016).





The Sustainable Development Solutions Network (SDSN) et al. (2015) analyzed 77 of the 100 countries that are still without a functioning CRVS system, concluding that they would collectively require US\$3.3 billion of investments into CRVS between 2015 and 2030, with annual costs of US\$220 million (SDSN 2015). However, improved CRVS would reduce the need for comparatively more expensive household surveys, potentially bringing down total levels of investment required in statistical systems over time (Dincu 2018). The SDSN analysis suggested that investments would be frontloaded as CRVS system capacities are developed, with external assistance forming a majority of the initial funding, but domestic resources could then cover all operational costs after 2024 (SDSN 2015).

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Several international donors are addressing CRVS funding needs. The Global Financing Facility for Women and Child Health works to empower low and lower-middle income countries by investing into domestic institutions, and the Government of Canada has provided US\$100 million specifically for CRVS development (Government of Canada 2015). Likewise, Bloomberg Philanthropies' Data for Health Initiative is investing US\$100 million over four years in 20 low and middle-income countries to support health systems, including CRVS (Vital Strategies 2018). Nevertheless, this still leaves 85 percent of the estimated need unmet (Espey, n.d.). The Swiss Tropical and Public Health Institute has developed a costing tool to help countries document the expenses and impact of CRVS systems, and the results from initial applications are forthcoming (Cobos Muñoz 2018).



Country Examples



Bangladesh: The Story of an Undocumented Child Bride

Bangladesh has among the highest rates of child marriage in the world. Despite the fact that the legal age of marriage for women is 18, an estimated two-thirds of girls are married before reaching this age, and one-third are married before the age of 15 (UNICEF, n.d.). The potential consequences of this trend are demonstrated by the example of Rani, a Bangladeshi girl who was married at the age of 11 (UNICEF 2013). The marriage was possible because Rani was not registered at birth and her father had falsified legal documents showing that she was 18 years old. Rani's husband then forced her to bear children immediately after the marriage. She experienced extreme complications during delivery, becoming unconscious for two days and requiring multiple blood transfusions (UNICEF 2013). This story is not uncommon. When civil registration can be falsified or is not available, it is difficult for children to be protected by the law.

The Bangladeshi government has set up initiatives to combat low birth registration rates and child marriage. The 2004 Birth and Death Registration Act, which went into effect in 2006, provided the legal basis for the use of birth certificates as proof of age to access services. This law makes it necessary for a bride and groom of any age to present their birth certificates before their marriage can be legally registered. Additionally, an online birth registration system was implemented in 2009 to simplify the birth registration process. The virtual platform uses a centrally maintained and computerized system to counter the falsification of birth certificates (IRIN 2012). According to Anwarul Igbal, advisor to Bangladesh's Ministry of Local Government, Rural Development, and Co-operatives, "Birth registration certificates will enhance our vigilance to stop child trafficking, child marriage, and abuse of children" (IRIN 2008). These initiatives have contributed to increases in birth registration in Bangladesh, which grew from 12 percent in 2006 to 31 percent as of 2011 (IRIN 2012).

Botswana: Removing Barriers to CRVS Access

Botswana is a sub-Saharan African country of 2.2 million with a stable democracy and low levels of corruption. It has developed a





middle-income economy with a GDP per capita of US\$18,100 as of 2017 (Central Intelligence Agency, n.d.). Prior to independence in 1966, Botswana's CRVS system was restricted to its European population (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). CRVS then became open to all, and registration was compulsory in towns and villages. National registration was introduced in 1988, and the process was subsequently automated along with the creation of a National Identification System. In 2003, Botswana formed the Department of Civil and National Registration and launched an automated Birth and Deaths Registration System (BDRS).

The government has expanded CRVS initiatives, working towards the goal of universal registration by 2022 (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). Legal frameworks require that all births and deaths are registered and that all persons above the age of 16 be provided with an identification card. Registration services have been decentralized to reach more people and, as of 2015, 13 hospitals had electronic onsite registration centers for recording births and deaths. All 12 districts have outreach programs for registering nomads and other people in remote areas. As a part of removing barriers to registration, the government has suspended late fees for vulnerable people and relaxed paperwork requirements for more remote communities. Capacity has also been developed through special training for officials and investment into information and communications technology (ICT) infrastructure (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015).

Funding for Botswana's CRVS system has been described by a University of Botswana and Botswana Ministry of Labour and Home Affairs report as ultimately "inadequate," with a recurring annual budget of US\$5.6 million from the government and additional support from development partners (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). Yet along with committed leadership, these investments have contributed to notable improvements in registration. Between 2011 and 2014, the proportion of births that were registered increased from 75.9 percent to 83.2





percent (Statistics Botswana 2016). In particular, onsite registration at health facilities rose from 4.2 percent in 2011 to 35.1 percent by the first half of 2015 (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). The previously mentioned report concluded that "the dividends and benefits achieved through investment in accelerated improvement of civil registration and vital statistics far outstrips the costs of investment," noting that an up-todate registry reduces costs to other agencies and avoids the expenses of an unimproved system (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). A 2013/2014 review of CRVS in Botswana found that the BDRS was comprehensive and generally aligns with international guidance (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015). Universal registration has not yet been achieved, though, and the coverage of the electronic registration offices needs to be increased (Botswana Ministry of Labour and Home Affairs and University of Botswana 2015).

Ethiopia: Breaking the Invisibility of Refugees

As of March 2018, there are 916,678 refugees and asylum seekers registered in Ethiopia, the majority coming from South Sudan and Somalia (UNHCR 2018). After UN member countries unanimously adopted the New York Declaration for Refugees and Migrants in 2016, Ethiopia was among the first to apply the resulting Comprehensive Refugee Response Framework (UNHCR, n.d.). The country made several pledges to improve the lives of refugees, including issuing birth certificates for refugee children and, in October 2017 launched a civil registration system tailored for refugees. Refugees within the country can record birth, death, marriage, and divorce directly with national authorities at no charge, and more than 70,000 refugee children born in Ethiopia over the last decade are to be issued birth certificates (United Nations Economic Commission for Africa et al. 2017). The platform has also issued over 1,500 birth, death, marriage, and divorce certificates. These registrations have been made possible by special CRVS offices placed within 26 refugee camps and in locations with high numbers of refugees (United Nations Economic Commission for Africa et al. 2017). The initiative is helping refugees



gain access to essential services and opportunities including school enrollment and employment. Over the 2016/2017 and 2017/2018 school years, 52,786 additional refugees were enrolled in pre-school through tertiary education (UNHCR, n.d.). In particular, 35,863 additional refugees were enrolled in primary school over this period, representing a 37 percent increase up to a 72 percent overall enrollment rate (UNHCR, n.d.).

Challenges

On a global level, CRVS progress has been moderate. Between 2000 and 2012, the percentage of deaths registered increased from 36 percent to 38 percent, and the percentage of children under five that are registered at birth has only increased from 58 percent to 65 percent (Mikkelsen et al. 2015). Some 230 million children around the world remain unaccounted for, with Asia and the Pacific accounting for 135 million of these unregistered children (UNICEF 2016). Overall, data about CRVS is limited, but the data that is available indicates that coverage levels are disproportionately low among poor and marginalized groups. Throughout the Global South, CRVS systems remain incomplete, often substantially so. The UN Statistics Division Population and Vital Statistics Report provides information on the completeness and timeliness of data on reported births and deaths. At the beginning of 2017, no country in continental sub-Saharan Africa met the standard for a complete birth registration system and, for a significant number of countries, the available data are more than five years out of date (UN Department of Economic and Social Affairs 2017). In order to reach universal coverage of births, deaths, marriages, and divorces, many structural obstacles need to be overcome.

Historical underinvestment has left a void, with a limited number of specialists and a general lack of capacity building mechanisms (Dincu 2018). There are still no regionally synchronized plans for development, and funding continues to be inadequate. One representative example is Senegal, which needs US\$30 to \$40 million over the next five years to overhaul its CRVS system, but has only US\$5 million available (Dincu 2018).





Individual Budget and Capacity Constraints

Families that face financial limitations may not see the importance of spending money on a piece of paper, whether it's a marriage certificate or a birth certificate. Even when registration is free, people living in rural areas may need to take days off or pay to travel to a registration center. Some families who live far from registration sites only choose to register their children when they have a reason to do so, such as prior to vaccinations or school enrollment. Moreover, infrastructure issues and inadequate knowledge about how to register children and marriages create barriers. Children living in urban areas are one and a half times more likely to be registered than children in rural areas (UNICEF 2013).

Legal and Cultural Constraints

Some countries legally prohibit single mothers from registering their child at birth. For example, in Bhutan, children cannot be registered in the civil registry without a specified father. Likewise, in Indonesia, a marriage certificate is commonly needed to register the birth of a child. There are also cultural barriers that pose challenges in birth registration. Some ethnic groups follow naming ceremonies that can last for days or months, whereas some other cultures might introduce a child to society over an extended period. After these practices are completed, a child might no longer be in convenient proximity to a registration center or the family might have to contend with late registration fees and added paperwork (Pais 2002).

A birth certificate provides proof of a person's registration and can be used to access services. Yet in some areas, birth certificates are issued weeks or months after a child is registered and might not be properly distributed. As a result, there are significant differences between the number of children whose births are registered and those who possess a paper document. One in seven registered children do not have a birth certificate, and 290 million children under the age of five worldwide lack proof of their registration (UNICEF 2013). The numbers are even more drastic in Eastern and Southern Africa, where only about half of the registered children have a birth certificate (UNICEF 2013). In Rwanda, where 63 percent of children under five



are reportedly registered, only one in 10 have a document that can attest to their registration with civil authorities (UNICEF 2013).

25 percent of children under five worldwide are not registered.

- UNICEF 2016

Conclusion

Improving CRVS systems will require collaboration. Governments need to make CRVS investments a central component of their statistical development, affording it political priority and financial resources. A range of compelling evidence shows the benefits of these investments for health and wellbeing, as well as child protection and improved governance and administration. Additional quantitative research is required to systematically demonstrate the scale of these impacts and the associated monetary benefits. International organizations need to support with funding for research and technical assistance, research organizations should evaluate interventions and understand factors impacting access, and civil society should help to illuminate the ways in which CRVS impacts daily lives. Global CRVS systems will be central to the monitoring and success of the SDGs, and investments into data production will be key to realizing the commitment of leaving no one behind.

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Civil registration and vital statistics benefit health, child protection, and governance

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