**development
initiatives**

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Digital civil registration and legal identity systems

A joined-up approach to leave no one behind

report

Contents

Executive summary

The golden thread of the Sustainable Development Goals (SDGs) agenda is the promise to leave no one behind. Without this commitment, history tells us that only pockets of society will progress and the poorest and most disadvantaged will fall further behind. To realise this promise, we first need data that is timely, comprehensive and disaggregated – to better understand where these people are, their circumstances and how we can capture them in the data we collect. We know that the data revolution has the power to transform lives, but the poorest and most marginalised people often remain invisible because they are not counted by official statistics systems.

The multiple disadvantages resulting from extreme poverty, geographic remoteness, lack of education and recurrent crisis inhibit efforts to increase the coverage of birth registration.

- The populations most at risk of being left behind are increasingly concentrated in situations of crisis and civil unrest.
- Development, humanitarian and peace actors have a unique responsibility to support sustainable, inclusive and resilient data systems.
- Better targeting of subnational financing towards the poorest regions and populations will support this work.

Many countries have plans in place to improve their civil registration and identity systems, but these will take time to reach maturity.

- Treasuries and donors need to break out of their three- to five-year policy and return-on-investment cycles.
- These stakeholders need to commit to long-term investments to ensure sustainable solutions.

There is now a global consensus that a holistic and interoperable approach is required in order to achieve legal identities for all.

- This approach should bring together civil registration, vital statistics production and identity management.
- Maintaining paper-based registries is no longer acceptable and identity management systems need to place digital birth registration at the centre of their designs.

The current monitoring framework for the implementation of universal civil registration and vital statistics is not fit for purpose.

- Data is not comprehensive or accurate as it relies primarily on small sample household surveys.
- Surveys do not take place with enough regularity to provide up-to-date data.
- Datasets lack a sense of national or regional ownership and accountability, as governments and agencies are not directly involved with the frameworks, methodologies and managing entities.

Recommendations

1. Global advocacy needs to make the case for long-term investments in digital civil registration systems, led by national treasuries and supported by donors. The Bern Network is positioned well to leverage the opportunity the World Data Forum in 2020 presents to build this case.

2. Vital statistics should be produced directly from registration systems, even if those systems are incomplete, as the data can highlight underperforming areas and the process of production can develop the capacity needed to produce better statistics.

3. Monitoring statistics should be derived from civil registration and identity management systems in order to drive efforts to meet SDG 16.9 ("provide legal identity for all by 2030").

4. Pathways to sustainable, interconnected foundational data systems – civil registration, education and health – need to be prioritised by all those working to leave no one behind.

1. Introduction

Civil registration, legal identity as well as the production and use of vital statistics are fundamental to achieving the Sustainable Development Goals (SDGs) by 2030. There are discrete targets on registration (SDG 16.9: "to provide legal identity for all, including birth registration" and SDG 17.19.2: "to have achieved 100% birth registration and 80% death registration"). Many other goals will be impossible to monitor or meet without complete population data. But most importantly, the overarching pledge of Agenda 2030 that no one should be left behind, depends on counting all people. Without data on the whole population, it is not possible to know who is missing out on services or to target policies and resources effectively.

Figure 1: Completeness of birth registration data by region (%)
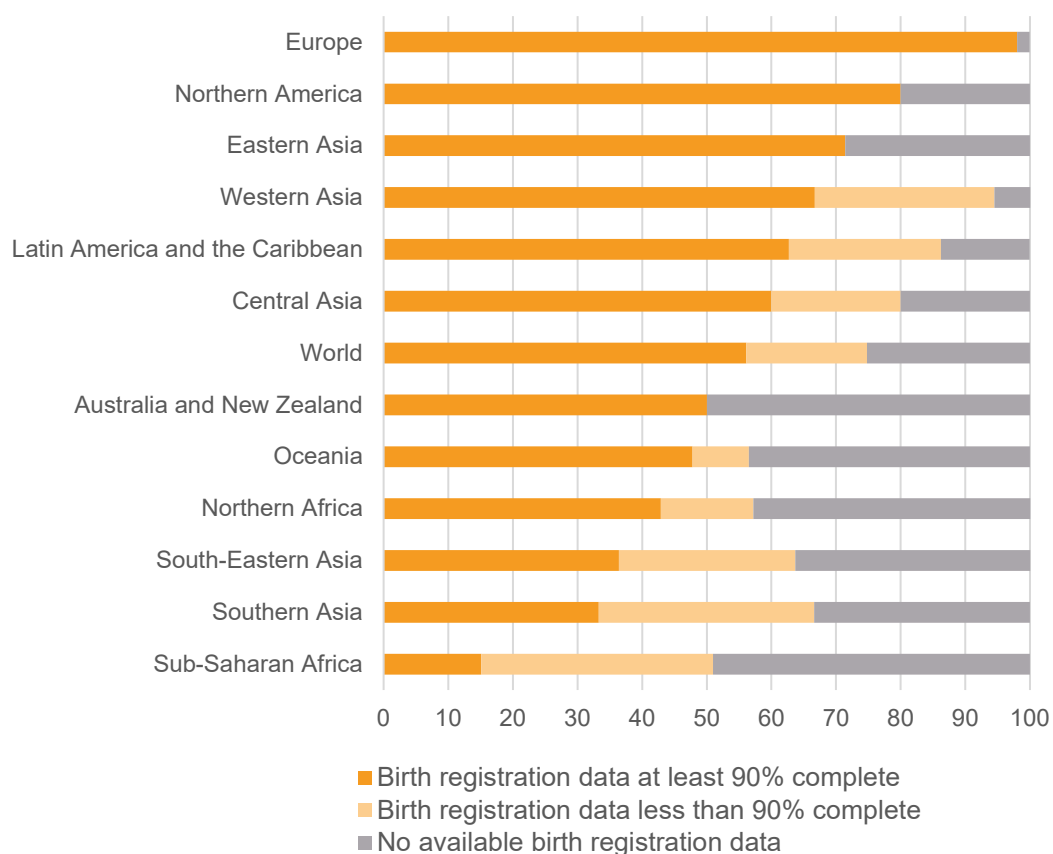
Note: Based on 2015 data. Oceania excludes Australia and New Zealand.
Source: United Nations, 2017. *Progress towards the Sustainable Development Goals: report of the Secretary-General – supplementary information.* September 2017. Available at:
https://unstats.un.org/sdgs/files/report/2017/secretary-general-sdg-report-2017--Statistical-Annex.pdf

Over the last few years, the attention of governments in developing countries has increasingly been focused on the administrative challenges posed by their commitment to leave no one behind. As indicated in Figure 1, the global statistics on birth registration are stark: one billion people cannot prove their legal identity;[1] a quarter of children under the age of five have no form of birth registration;[2] and half of the population of Africa is not registered at birth.[3]

International responses such as the UN Global Civil Registration and Vital Statistics Group[4], the Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS)[5], the World Bank's ID4D Initiative[6] and the Canadian-led Centre of Excellence for CRVS Systems[7] have stepped up their efforts to support national programmes to improve CRVS and ID systems.

This report aims to support and complement these efforts by focusing on three key areas.

Chapter 2 explores trends in birth registration to identify populations at risk of being left behind. Aggregate global estimates are not always the best vehicle for understanding problems. This report explores trends in coverage of birth registration for those living in the poorest 20% of households in the population. The gaps in household survey data on civil registration and vital statistics (CRVS) are highlighted to show where better data on implementation of CRVS is needed.

Chapter 3 examines progress towards digitising CRVS. For birth registration to empower everyone, including the dispossessed, to access the services they are entitled to there is a need for digital connectivity between registration and service provider systems.

Chapter 4 shares a new framework to monitor the global commitment to universal civil registration and legal identity. This proposal complements the data from household surveys and empowers national statistics offices to maintain ownership and accountability for the monitoring process. The chapter concludes by focusing on how CRVS systems should be linked to service delivery in order to empower those most at risk of being left behind.

# 2. Birth registration coverage for poor and disadvantaged people

There are significant gaps between the progress of those who are most likely to be left behind and everyone else. However, these gaps are often masked by a reliance on global averages. This chapter provides an analysis of disaggregated current and historic survey data, which shows that progress on birth registration coverage for the poorest, least educated and those living in fragile and conflict affected areas has not kept pace with the rest of the population. This has resulted in increasing inequalities, vulnerable populations being left behind and a risk that these populations will be permanently left behind in the future.

This report analyses birth registration related data from the US Agency for International Development (USAID)'s Demographic and Health Surveys[8] and United Nations Children's Fund (UNICEF)'s Multiple Indicator Cluster Surveys.[9] This data has been integrated with data from the World Bank's PovcalNet[10] in order to make the observations outlined in Chapter 2 (for a more detailed explanation, see Appendix 2). While this study goes to question the accuracy and usefulness of survey data to monitor CRVS progress (see Chapter 3), the data is the best currently available and does allow for a number of meaningful conclusions to be drawn.

Birth registration and poverty

There are persistent gaps in birth registration coverage between those in poverty and the rest of the population. In the years 2000–2015, birth registration coverage for children aged under five living in the poorest 20% of households increased from 29% to 49%. In contrast, registration coverage for children in the rest of the population increased from 58% to 80% (see Figure 2).
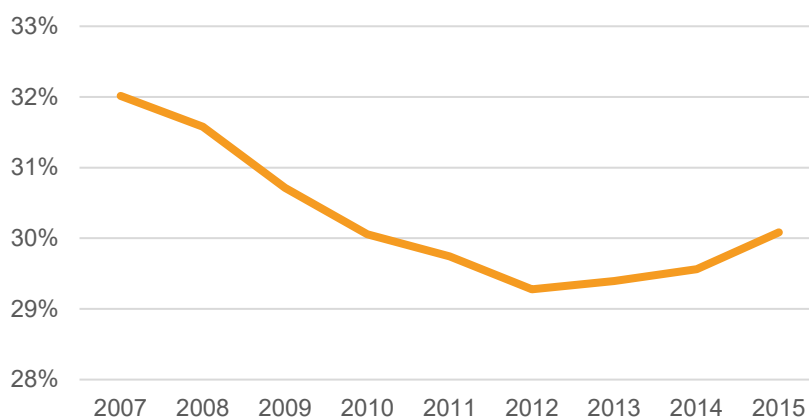
Figure 2: Proportion of births registered among children (aged under five), 2000–2015
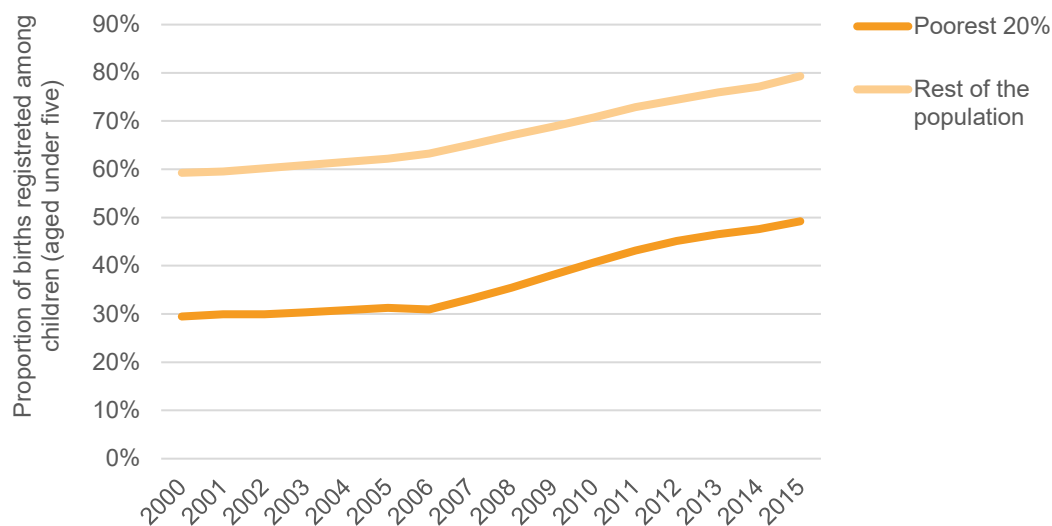
Source: Development Initiatives based on World Bank PovcalNet, Demographic Health Surveys and Multiple Indicators Cluster Surveys.

Between 2007 and 2011, the gap between the poorest 20% of households and the rest of the population fell.[11] However, since 2011 the gap has begun to increase again and if trends continue children living in the poorest households will continue to be left behind (see Figure 3).

Figure 3: The gap between the proportion of births registered among children (aged under five) in the poorest 20% and in the rest of the population, 2007–2015
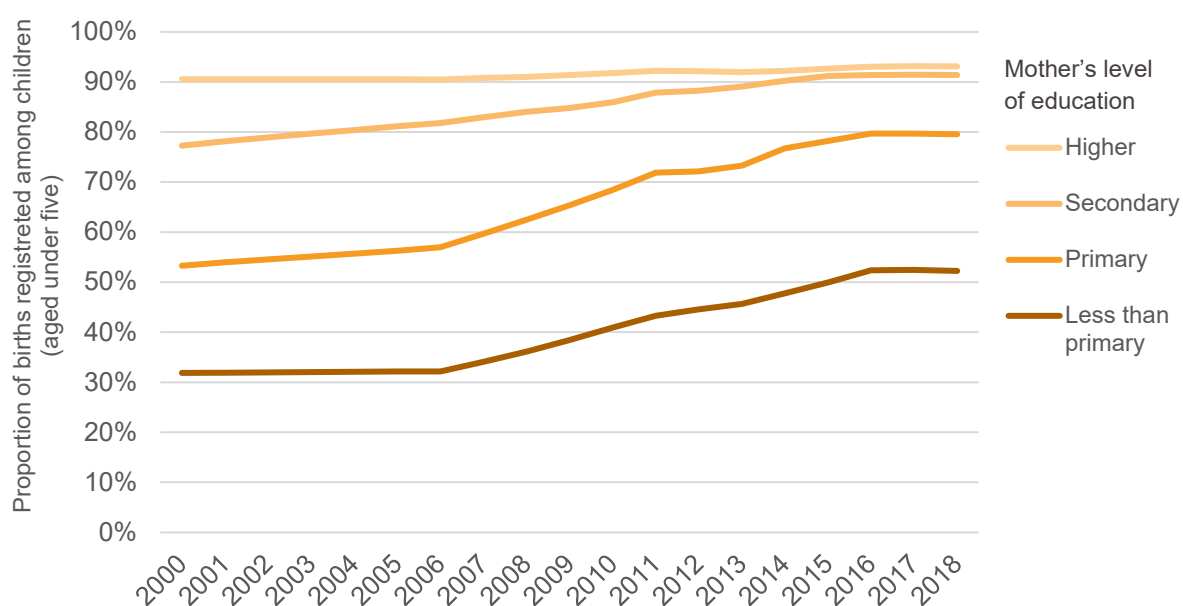

Source: Development Initiatives based on World Bank PovcalNet, Demographic Health Surveys and Multiple Indicators Cluster Surveys.

Birth registration and education level

Increasing gaps in birth registration coverage for children are also evident when considering the mother's level of education. Since 2000, birth registration coverage has improved the most for children with mothers who have a primary level of education, closing the gap between those with higher levels of education. Figure 4 shows that children born to mothers with little or no schooling are being left behind. Almost half of these children remained unregistered during the period surveyed.

Figure 4: Proportion of births registered among children (aged under five) by education level of mother, 2000–2018

Source: Development Initiatives based on Demographic Health Surveys and Multiple Indicator Cluster Surveys.

Similar patterns are seen when the education level of fathers is considered. However, research by Data2x has shown that a child's registration is more likely to be determined by their mother's level of education than by that of their father.[12]

Previous research by DI and the Overseas Development Institute found that subnational financing is not well targeted towards the poorest regions, in addition there is little evidence of a progressive allocation of education resources by governments to the regions with the worst education outcomes and no consistent trend among donors.[13]

The impact of intersecting factors

The poorest people often face multiple and intersecting deprivations, for example poor nutrition and low levels of education are mutually reinforcing and pass poverty from one

generation to the next. For birth registration, inequalities are more extreme when low education and poverty levels intersect. The impact of increasing the education level of the mother is lessened for those living in the poorest 20% of households. Figure 5 shows that the rate of registration for the children of uneducated mothers falls a further 10% (compared to Figure 4) if they are also in one of the poorest 20% of households.

Figure 5: Proportion of births registered among children (aged under five) by poverty and education level of mother, 2015
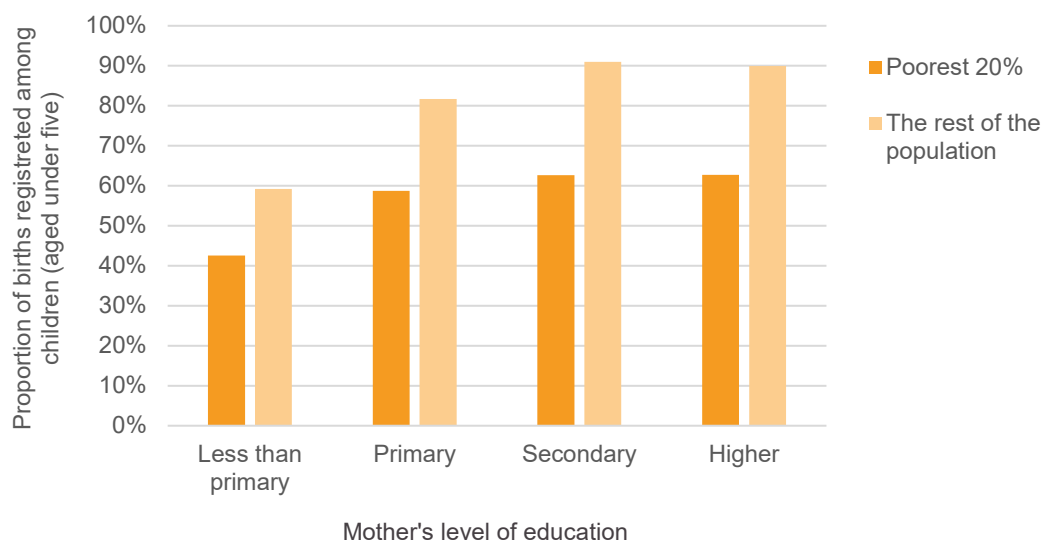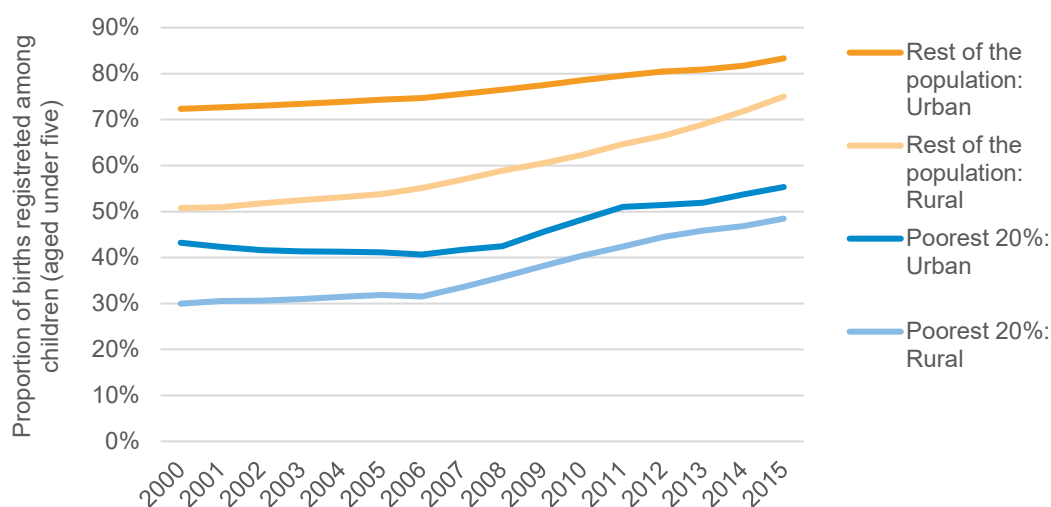

Source: Development Initiatives based on World Bank PovcalNet, Demographic Health Surveys and Multiple Indicators Cluster Surveys.

Women and girls may be especially impacted, as previous research has shown that birth registration is negatively correlated with early marriage, young age at birth of the first child and wider adverse health outcomes.[14]

Geographical location can also have an impact on those already left behind by lack of birth registration, poverty and low education levels. Figure 6 illustrates that the poorest people, living in rural areas with lower levels of education face the greatest challenge and are the populations that development programme and domestic services find arguably the hardest to reach.

Figure 6: Proportion of births registered among children (aged under five) by poverty in rural versus urban locations, 2000–2015

Source: Development Initiatives based on World Bank PovcalNet, Demographic Health Surveys and Multiple Indicators Cluster Surveys.

Furthermore, detailed country-level data shows that populations with the lowest levels of birth registration are concentrated in Sub-Saharan Africa and Asia, often in fragile and conflict affected contexts, where extreme poverty persists (see Figure 7). Over 80% of the poorest children aged under five have no birth registration in Ethiopia, Guinea-Bissau, Chad, Zambia, Pakistan, Tanzania, Bangladesh and Nigeria.

Figure 7: Proportion of births registered among children (aged under five) for the poorest 20% of populations across the globe, 2015
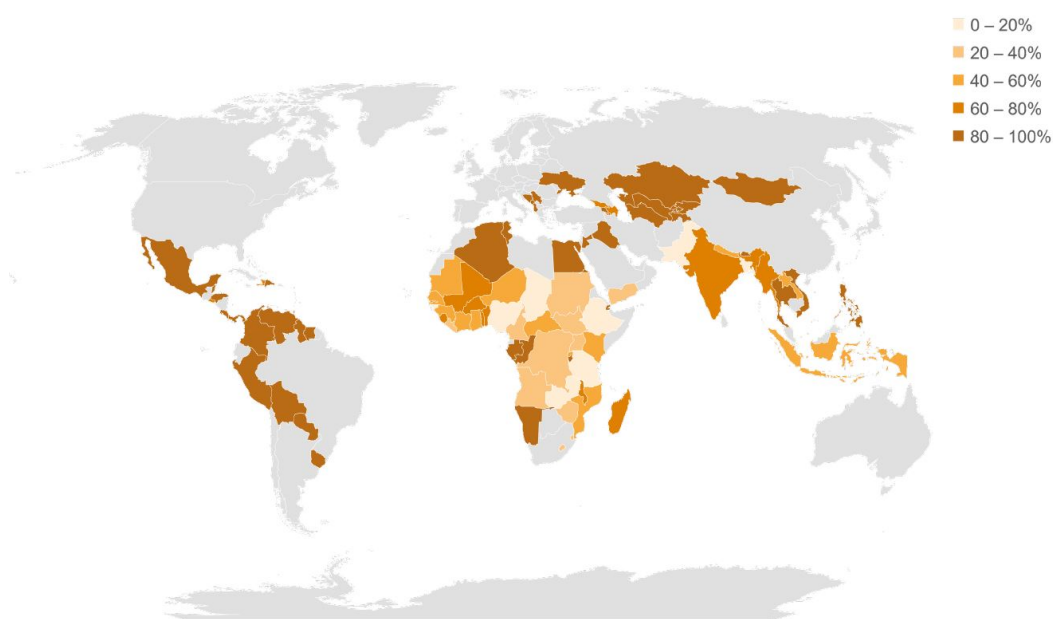
Some countries have made improvements in birth registration coverage for the poorest, however significant conflict and civil unrest has resulted in the proportion of registered births falling below 50% in several central African countries, most notably the Central African Republic, Cameroon and Zimbabwe (see Figure 8). There have also been reported decreases in coverage for the poorest in the Democratic Republic of Congo (from 34% in 2000 to 24% in 2015) and even more starkly in Guinea–Bissau where the impact of conflict, corruption and ongoing instability as seen the birth registration rates for the poorest children drop from 41% in 2000 to only 2% in 2015.

There is a growing recognition that – with a third of people in extreme poverty worldwide living in countries with recurrent crisis[15] – there is a need to build greater coherence across development, humanitarian and peace sectors.[16] Recent analysis from DI looked specifically at how two donors (Sweden and the UK) were delivering on this. While there are challenges to integrating approaches there are also clear benefits of joint planning; for example, harmonising approaches between humanitarian, development and peace actors could form the basis of plans to deliver sustainable foundational data systems, such as civil registration, in protracted crisis contexts.[17]

Figure 8: Change in the proportion of births registered among children (aged under five) in the poorest 20% of populations across the globe between 2000–2015* (%)
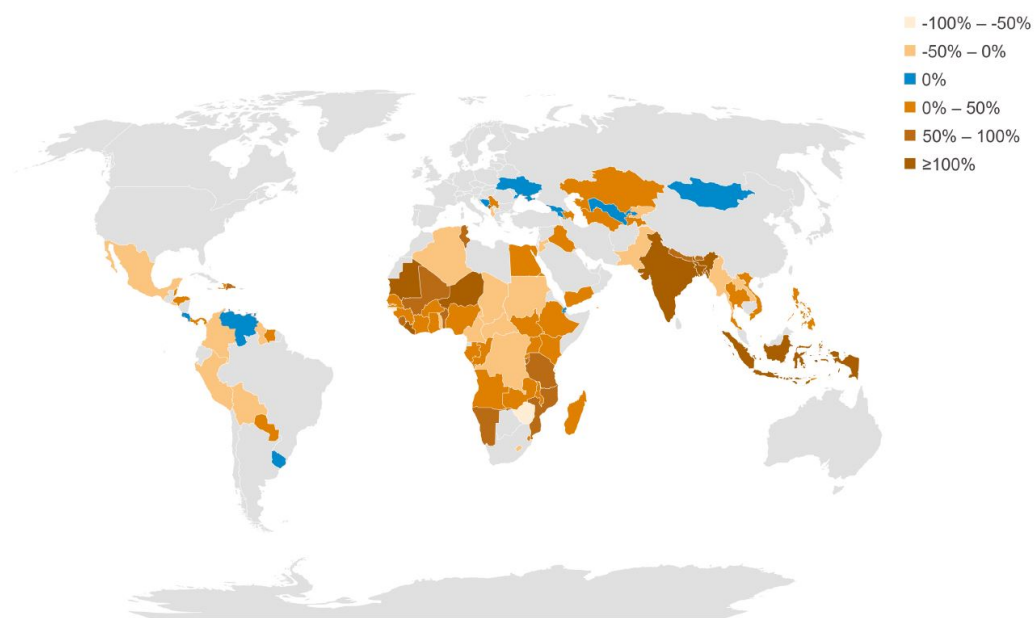
3. Delivering digital CRVS and legal identity systems

Progress so far

In November 2019, the results of a survey that tracked progress across 40 countries were tabled at the Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics (APAI-CRVS)'s fifth ministerial conference (see Table 1).[18] The results showed that:

- 73% of countries have developed costed plans to improve their systems
- 65% have begun implementing these plans
- 45% have allocated budget for the improvement plans
- 60% have a national civil registration database
- 65% have begun to capture birth and death records electronically at local registry offices.[19]

Much of the survey reflected good intentions rather than achieved results. New systems for the most part do not seamlessly connect registry offices to national databases and are currently not capable of automatically generating vital statistics. There is little interoperability between health systems, and mobile technology is surprisingly under-utilised.

Nevertheless, the underlying trend in some of the world's most challenged economies is towards digital data capture at the point of registration and the production of vital statistics from national databases that are dynamically fed from local registry offices.

Table 1: Selected results from a survey on the status of CRVS in Africa

Questions from a survey of African countries conducted by APAI-CRVS secretariat. 40 countries out of 54 responded.	Responses (%) (n=40)		
	Yes	No	n.r.
Has your country conducted a comprehensive assessment on the national CRVS system?	78	23	0
Has your country developed a costed strategic plan to improve CRVS system using the results of the comprehensive assessment?	73	28	0
Has the government allocated a budget for the implementation of the CRVS improvement strategic plan?	45	50	5
Has your country started implementing CRVS improvement costed strategic plan?	65	28	8
Are birth and death records captured electronically at the local civil registration office?	65	35	0
Is mobile technology used to notify about the occurrence of birth and death at the community level?	8	90	3
Do health facilities notify electronically local registration offices about the occurrence of birth and death?	18	83	0
Are civil registration records transmitted electronically from the civil registration office to an agency responsible for compiling vital statistics?	28	73	0
Are vital statistics on birth and death compiled from the civil registration system?	68	33	0
Does your country publish annual vital statistics reports compiled from civil registration data?	38	18	45
Is there a national civil registration database?	60	40	0
Can vital statistics tables be compiled automatically from the database?	35	13	53
Does your country have a national digitised identification database?	73	28	0

Is the national identification database linked to the CRVS system?	30	18	53
Do civil registrations and National IDs share a Unique Identification Number?	20	10	70
Are the CRVS system and national ID management under the same Ministry?	63	38	0

Case study: Digitising civil registration in Benin

In Benin, most civil registration records are found on decades-old paper forms stored in books that are frequently falling apart or damaged. This can prevent people from accessing public services, despite having their birth registered. Keeping paper documents requires significant labour for government officials compared to digital record-keeping; there is also a higher risk of fraud, as it is difficult to validate birth certificates against records held in municipalities.
To address this challenge, the country is currently digitising its civil registration systems. Recently, the municipality of Kandi in northern Benin invested a significant amount of time and municipal budget in fully digitising its civil registration. Historic records have been fully digitised and new records are now recorded directly through software. Consequently, the city has significantly reduced the workload of employees and has improved services for its citizens.

Source: Personal observations by a DI analyst working in Benin.

Digital solutions

Converting CRVS systems from paper to digital format is no trivial task (see Figure 9). The challenge of implementing the technological part of the solution nationally is surpassed by the large volume of historical paper-based records that require digitisation.

Figure 9: The four steps towards digital CRVS
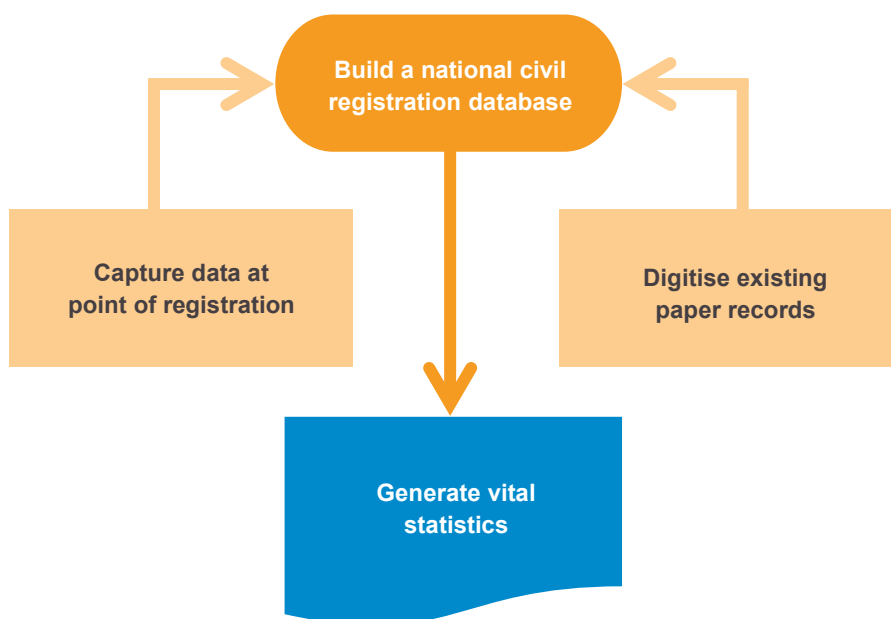
Advances in optical character recognition technologies are making the task of scanning historical records easier. These technologies are also enabling the development of solutions such as Plan International's OpenCRVS, which combines industry-level standards with open source code and inexpensive mobile data capture (see Figure 10).

Figure 10: OpenCRVS as part of CRVS and service delivery systems
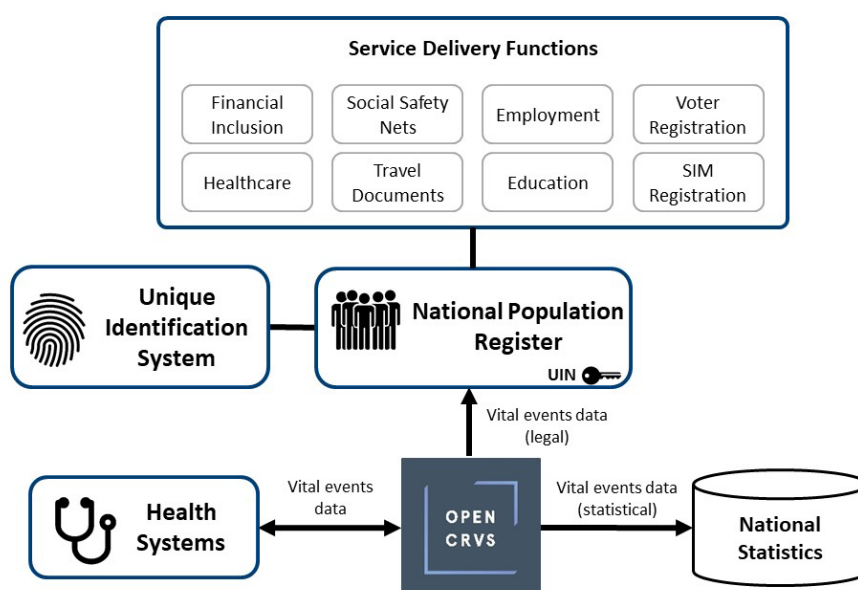
Source: Open CRVS, https://www.opencrvs.org/our-solution (accessed 16 March 2019).

One obstacle to digitising CRVS is a lack of short-term incentive for decision-makers. Taking such an action will not provide a government treasury or donor a three- to five-year return on their investment, nor will it benefit a policymaker seeking equivalent political mileage. The key to securing sustainable investment in CRVS systems is a stronger business case built on the long-term benefits of digital infrastructure. This business case is now starting to happen through a joined-up approach between birth registration and legal identity.

Legal identity

Over the past decade, there has been increasing recognition that for civil registration to have the required impact it needs to be integrated with national identity systems that deliver the link between foundational and functional (passport, banking, health, education, social welfare, etc) identities.

For example, according to a World Bank programme review, "robust CRVS systems linked to identity management (IDM) systems and tailored to local contexts form the foundation of all sectors and pillars of the economy and contribute to the sustainable development goals (SDGs) to end poverty, and ensure prosperity for all."[20]

However, the World Bank's Identity for Development Global Dataset[21] reveals that while 51 African countries have some form of national ID, only five require ID below the age of 10 and the vast majority only allow the issuance of an ID number at the age of 16 or 18.

SDG 16.9 aims for "legal identity for all, including birth registration", but refers to the registration of children at birth as only "the first step in securing their recognition before the law".[22]

On 4 March 2020, the UN Statistical Commission endorsed a new UN Legal Identity Agenda which, significantly, "builds on the existing methodological framework for civil registration and vital statistics … and expands it to ensure a holistic and interoperable approach between civil registration, vital statistics production and identity management."[23]

This reframing of legal identity means that interoperability between civil registration and national identity systems can no longer be regarded as the preferable option; it becomes essential.

Case study: Progress towards digitising CRVS in Nigeria

The National Population Commission (NPopC) in Nigeria is responsible for CRVS and has over 2,300 registrars managing a paper-based system. The National Identity Management Commission (NIMC) is responsible for issuing national identity cards and national identification numbers (NINs) and has digitally registered about 35 million Nigerians.

The NPopC and NIMC have adopted a strategic roadmap that is inextricably linked to the digitisation of all birth and death records. It includes the following aims:

- NPopC to digitise all its current birth (and death) records going back to an agreed starting point.

- NPopC to develop human and technical capacity to register all new births in a digital registry of births and deaths, using digital data capture.

- NPopC and NIMC to work together to link new entries in the registry of births and deaths to the issue of a unique NIN – linked to the parents' NINs – and therefore to the issue of a paper birth certificate containing the NIN.

- This will require automated interoperability between NPopC's registry of births and deaths and NIMC's identity number database.

4. Towards a new monitoring framework for CRVS

The analysis presented in Chapter 2 uses disaggregated data to counter the accepted narrative of progress in relation to civil registration and vital statistics (CRVS), which is based on broad aggregated national estimates. While this analysis produces some relevant insights, it is insufficient because of various shortcomings in the survey data.

Shortcomings in household survey data

Household surveys omit the most vulnerable populations by design. Only considering households means that CRVS data on those living outside traditional household settings – including undocumented nationals, refugees or migrants and those living in institutions – is simply missing.

Timeliness is also an important issue. USAID's Demographic and Health Survey (DHS) and UNICEF's Multiple Indicators Cluster Surveys (MICS) are typically conducted once every three to five years and the microdata is usually released two years thereafter. With progress being made on digital registration as outlined in Chapter 3, household survey data is not timely enough to inform planning and target resources.

In addition to the missing populations, the survey data as it currently stands does not provide the level of detail required to inform the planning and implementation of CRVS systems; track the progress towards digitisation and interoperability with other foundational systems; or provide the detailed subnational information for health and local government administrators to plan and target their interventions more accurately and in a cost-effective manner.

Survey data also lacks detail on the timeliness of the registration itself, as this information is not captured by the standard questions used on surveys. For example, standard survey results show little difference between the birth registration rates of boys and girls as they are based on a question which asks whether children aged under five within the households have been registered. Recent research from Mexico highlighted a gender bias against girls, with the registration of girls more likely to be delayed until school age, while boys are typically registered nearer to birth. This is important as delayed registration is associated with incomplete, incorrect and unreliable information.[24]

Another issue is that the two main global datasets on birth registration provide substantially different results and it is not clear which one is more authoritative. Recent analysis by Development Initiatives (DI) on Africa[25] considered these two

databases, one maintained by UNICEF[26] and one by the UN Statistics Division.[27] Over one third (35%) of countries had discrepancies between the two systems. Some of these were the result of different sources being used, but a number had different values recorded, despite coming from the same source.

There are also significant concerns about the quality of the data generated by questions from household surveys. For example, the household head may not understand the difference between birth notification and birth registration or whether the birth certificate is linked to a legal identity. In this instance, important information about whether the birth is recorded in a national database or whether the paper certificate is the only lifetime proof of identity that the child has would not be captured.

Given these issues, it seems appropriate to question our reliance on standard household survey data to monitor birth registration coverage.

> **"While data coverage has improved over time, this has largely been the result of investment in collecting data on birth registration in low- and middle-income countries through household surveys. In fact, in the absence of reliable administrative records, household surveys have become a key source of data to monitor levels and trends in birth registration. While it is clear that household surveys provide a rich source of valuable data, there are a number of problems if we continue to rely on surveys to monitor our progress towards complete civil registration coverage."**

UNICEF, 2019. *Birth Registration for Every Child by 2030: Are we on track?* Available at: https://data.unicef.org/resources/birth-registration-for-every-child-by-2030/

System-based monitoring

Most developing countries are now making steady progress in their development of national registries and administrative data. These systems, by their nature, contain a built-in monitoring framework. In this new monitoring framework, all performance statistics should be sourced wherever possible from cleaned, aggregated counts of records stored within the national CRVS and ID registries, or from considered, documented estimates produced by senior officials within the registration agencies. Monitoring the experience of detailed implementation would provide valuable global lessons on how to reach those being left behind. It would free up resources so that household surveys could be used to collect data that cannot be captured elsewhere and ensure that monitoring is owned, maintained and accounted for by those responsible for securing sustainable data infrastructures.

Case study: Using statistics to improve quality of registrations in India

Evidence from India shows that the production of vital statistics even from incomplete registration systems can be extremely valuable. India has established an institutional mechanism for routinely assessing levels of completeness for birth and death registrations at the national, state and district levels and publishes these in its annual vital statistics report.[28] This mechanism helps identify underperforming areas and therefore drives resources to improve the coverage and quality of registrations and also develops capability and expertise to produce better quality statistics.

In October 2019, DI proposed a new sustainable and accountable monitoring framework that is governed by the implementing countries.[29] Reporting directly from the CRVS system itself as implementation occurs, it would track actual registrations in a timely manner as well as building capability to produce vital statistics. Data from household surveys and national household and population censuses should continue to be used for quality assurance and sense checking of the new data sources.

As more and more countries adopt national databases to manage their registries the aggregation of performance indicators becomes an automated process, making timely, annual reporting a feasible option. Annual reporting will not only shine a light on progress within a timescale that is meaningful to policymakers, but over time it will ensure that exaggerated and inaccurate reporting is either eradicated or made transparent to those seeking to hold the registration agencies to account.

With statistics being drawn from the primary data source, national registration agencies – supported by national statistics offices – should be empowered to maintain both ownership of and accountability for the monitoring process. National registration agencies should be responsible for the timely and accurate validation and production of the required statistics. National statistics offices should be responsible for coordinating, collating and reviewing the data received from their partner agencies.

Table 2 shows a simple annual country monitoring framework proposed by DI. It contains six questions relating to the development of CRVS and ID systems, and their interoperability. The framework aggregates data from these systems in order to track a range of indicators.

Table 2: Proposed monitoring framework

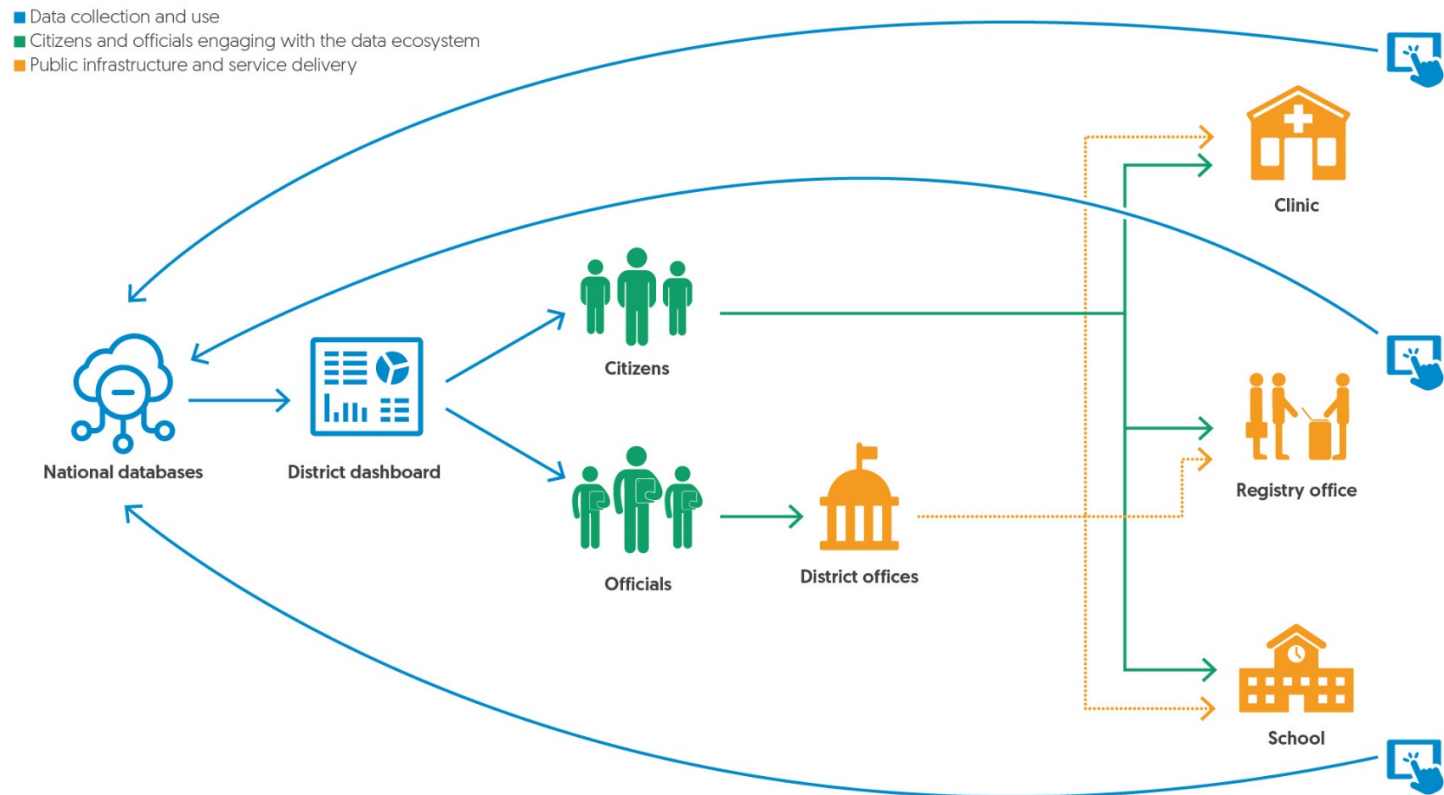| Country:	Year:
Is there an operational CRVS system? **[YES / NO / PLANNED]**	Percentage of population with births registered
	Percentage of births registered in last year
Is there a digital national registry of births? **[YES / NO / PLANNED]**	Percentage of population with births digitally registered
	Percentage of births digitally registered last year
Is digital data captured at the point of birth registration? **[YES / NO / PLANNED]**	Percentage of birth registrars using digital data capture
Is there a national ID system? **[YES / NO / PLANNED]**	Percentage of population with ID numbers
	Percentage of population issued ID numbers in last year
Is digital data captured at point of ID registration? **[YES / NO / PLANNED]**	Percentage of ID registrars using digital data capture
Is an ID number issued at the same time as birth registration? **[YES / NO / PLANNED]**	Percentage of newborns in last year with digital birth certificate and ID number

Source: Development Initiatives, 2019. *Measuring the state of civil registration and legal identity*. Available at: http://devinit.org/wp-content/uploads/2019/10/measuring-the-state-of-civil-registration-and-legal-identity.pdf

Beyond monitoring: linking CRVS to service delivery

There is a tendency within the development community to focus on the use of data solely for monitoring and evaluation. This approach often overlooks the fact that data is needed more urgently in order to inform action, so that the Sustainable Development Goals (SDGs) are **met** by 2030, not just **monitored**. Universal digital registration of births is not only about identifying dispossessed communities that are being left behind – it is about empowering those communities through better access to services.

The findings in Chapter 2 illustrate the complexities of registering those furthest left behind. For legal identity to have an impact on vulnerable communities, it needs to result in improved access to services. From a data point of view, improved service delivery requires the three foundational information systems – education, health and civil registration – to be embedded in every school, clinic and registry office and for the data collected and the point of service delivery to be shared as usable information in the same locality (see Figure 11).

Figure 11: First steps for a sustainable data ecosystem to improve service delivery

■ Data collection and use
■ Citizens and officials engaging with the data ecosystem
■ Public infrastructure and service delivery

National databases

District dashboard

Citizens

Officials

District offices

Clinic

Registry office

School

5. Conclusions and recommendations

It is now well recognised that a complete and efficient civil registration and vital statistics (CRVS) system is both the foundation of an inclusive, robust and trustworthy national statistics system and also the first step towards providing people with a legal and secure identity.[30] With this recognition, there is also a growing global consensus that, to achieve legal identities for all, governments and donors will need to adopt holistic and interoperable approaches.

With the evidence of identity provided by civil registration, people are better equipped to access education, health services, social protection and employment, to open a bank account and buy or sell assets such as land. CRVS is fundamental to women's empowerment, increasing independent control over property, inheritance and family relationships. Children who have been registered are better protected from early marriage, child labour and exploitation. The comprehensive nature of a well-functioning civil registration system, which records every birth and every death, means that no one can be invisible, and policymakers can see the 'universe of need'. Data from CRVS can then be paired with administrative data on health, education and other critical sectors to help plan, deliver and monitor basic services and basic rights.

Analysis of birth registration data collected from household surveys illustrates that there are significant gaps between the progress of those who are most likely to be left behind and everyone else. The poorest 20% of the population who experience multiple disadvantages resulting from geographic remoteness, low education levels and the impact of recurrent crisis and civil unrest are often not counted and remain invisible to official statistics systems. These intersecting inequalities indicate that achieving universal coverage of birth registration in low income countries in order to leave no one behind is not just a matter of putting effective administrative practices and technology in place. Without improvements to access, education and poverty itself, registry offices will struggle to establish satisfactory communications and processes to deliver the results they seek to the population they serve. The problem is multi-dimensional and therefore requires a joined-up solution that covers better targeting of resources, more coordination between development, humanitarian and peace actors and global advocacy to make the case for long-term investment in sustainable, digital CRVS systems.

If comprehensive civil registration for all is to be achieved, both governments and donors need to ensure that resourcing – in particular at a sub-national level for education – is better targeted towards the poorest regions with the worst educational outcomes. While better targeting on its own will not eliminate the inequality, it is a necessary enabling factor for faster progress in the populations most likely to be left behind. It is clear that maintaining comprehensive and robust civil registration systems in contexts of recurrent crisis and civil unrest is an ongoing challenge; and in these situations, the role of actors

across the development, humanitarian and peace sectors is crucial. Harmonised approaches could form the basis of plans to deliver sustainable and resilient civil registration systems in protracted crisis contexts. It is also clear that the ongoing development and digitisation of foundational civil registration systems that are linked to digital identity systems requires a new longer-term approach to investment that goes beyond the traditional funding cycles. The case for long-term investments in digital registration systems that are led by national treasuries and supported by donors needs to be promoted through global advocacy. The Bern Network on Financing Data for Development is well positioned to build the case for the long-term investment that civil registration systems require.[31] The World Data Forum in 2020[32] presents a unique opportunity to develop the concrete commitments needed to mobilise domestic and international resources and facilitate a joined-up solution covering digital CRVS and legal identity systems.

Digital CVRS systems are increasing being adopted in developing countries. This underlying trend in some of the world's most challenged economies – towards digital data capture at the point of registration and the production of vital statistics from national databases that are dynamically fed from local registry offices – offers an opportunity to better monitor registration data across the world to access those at risk of being left behind. While household survey data provides some direction to inform long-term investment, it does not give a complete picture. A monitoring system that is derived directly from civil registration and identity management systems would be more timely, accurate and detailed than survey data. It would also empower national implementing agencies, as they would have ownership of and be accountable for the monitoring. Case studies have shown that the production of vital statistics, even from incomplete civil registration systems, is valuable – as the data can be used to inform where improvements in quality and coverage are needed, while the production of the data develops capability and expertise to produce better statistics. It is crucial that this data is used to enable action by those delivering basic services, so that the Sustainable Development Goals (SDGs) are **met** by 2030, not just **monitored**. Universal digital registration is not only about identifying dispossessed communities that are being left behind – it is about empowering those communities through better access to and delivery of services.

Recommendations

1. Global advocacy needs to make the case for long-term investments in digital civil registration systems, led by national treasuries and supported by donors. The Bern Network is positioned well to leverage the opportunity the World Data Forum in 2020 presents to build this case.

2. Vital statistics should be produced directly from registration systems, even if those systems are incomplete, as the data can highlight underperforming areas and the process of production can develop the capacity needed to produce better statistics.

3. Monitoring statistics should be derived from civil registration and identity management systems in order to drive efforts to meet SDG 16.9 ("provide legal identity for all by 2030").

4. Pathways to sustainable, interconnected foundational data systems – civil registration, education and health – need to be prioritised by all those working to leave no one behind.

Appendix 1: Abbreviations and acronyms

APAI–CRVS	Africa Programme on Accelerated Improvement of Civil Registration and Vital Statistics
CRVS	Civil registration and vital statistics
DHS	Demographic and Health Survey
MICS	Multiple Indicators Cluster Surveys
SDGs	Sustainable Development Goals
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development

Appendix 2: Methodology

This report uses two major data sources for estimates on birth registration for the poorest 20% – USAID's Demographic and Health Survey (DHS) or UNICEF's Multiple Indicators Cluster Surveys (MICS). These surveys do not provide a comprehensive dataset because they:

- Are not carried out in high income countries
- Survey only households (therefore missing homeless populations, displaced populations and people in institutions)
- Do not ask about death registration
- Are only carried out periodically.

The likely result of this missing data is that global-level estimates will understate gaps between the poorest 20% of households and the rest of the population. Typically, birth registration data for high income countries indicates that rates are near 100%. Since high income countries have only a small share of the poorest 20% compared with the rest of the world, these high birth registration rates would increase the average rates of higher income populations and increase the gaps between the poorest and the rest of the population.

DI obtained the microdata for all available MICS and DHS surveys historically and sought to identify any birth registration questions. The microdata allowed DI to examine household characteristics among those who had births registered and those who did not. In particular, it allowed for disaggregation of birth registration coverage by household wealth. DHS and MICS have a series of questions about items that a household owns, such as a car, radio or television. The DHS program has developed a method to create a wealth index for each household based on the ownership of these items.

The World Bank's PovCalNet database includes estimates of the percentage of the population below a certain poverty line. When a poverty line is selected that would include 20% of the global population, it is possible to see what percentage of a country's population would be in the global poorest 20% of households. For instance, the most recent data on PovCalNet (from 2015) indicates that 20% of the world's population lived below the poverty line of $2.68 per person per day (based on purchasing power parity for 2015). For 2015, 68% of the population of Benin fell below that poverty line. Assuming that PovCalNet represents the true distribution of the poorest 20%, it is possible to look at the bottom 68% of Benin's population in a nationally representative dataset and make an assumption that they are in the global poorest 20%. In this case, this analysis does this by using the DHS/MICS wealth scores. In the case of Benin, this would mean taking the households in the bottom 68 percentile in the 2014 MICS and assuming they are in the poorest 20%. While different definitions of wellbeing would put different populations in the poorest 20%, the approach used here aims to provide indicative trends. DI uses a similar approach to estimate if a household is identified as being above the international extreme poverty line of $1.90 per person per day.[33]

The authors of this report have made some assumptions to standardise responses from different surveys. The DHS and MICS programmes provide questionnaires that are standardised; however, with MICS there is much more variation and variable names are not as standardised (as they are with DHS). While DHS has made more effort to standardise responses, MICS typically maintains variations in variable names and responses based on context-specific adaptations. Some variables required little more modification than translating variables and responses (such as sex). On the other hand, variables such as education have highly context-specific responses. To standardise globally, this report followed the International Standards Classification of Education, as used by UNESCO and other international bodies. Education levels were categorised as 'less than primary', 'primary', 'secondary' or 'higher'. In some cases, questions classified primary together with less than primary. For the purposes of this report, they were combined as 'less than primary'. In cases where secondary was grouped with post-secondary, these were classified as secondary. Informal education was classified as a missing variable.

The MICS or DHS wealth index was used as a given. When it was not available, principle component analysis methods were replicated using dummy variables for assets. These assets were: radio, car or truck, television, electricity, computer, watch, bicycle, refrigerator and mobile phone.

The report categorised a respondent as having a birth registered if they reported their registration (civil or otherwise) or if they had a birth certificate (regardless of whether the survey enumerator saw it).

The DHS and MICS surveys are not carried out annually, with few exceptions, meaning that income distribution data and birth registration rates are interpolated. The report takes the World Bank method for providing period distributional data as correct. Surveys were then backcast or forecast within a five-year period for population estimates. If a country did not have data on birth registration within that period, that country was dropped from aggregate estimates. For China, there were no DHS or MICS data. The authors reviewed the China Family Panel Study, which has questions about the Hukou system. This system was not deemed similar enough to birth registration in other countries for China to be included in aggregate estimates. Additionally, aggregate estimates excluded high income countries which did not have surveys with birth registration questions available for use. This means that aggregate trends in this report do not include these populations.

Notes

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