ANALYSIS OF GAPS ON COMPLETENESS OF BIRTH REGISTRATION IN MALAYSIA

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ABSTRACT

Malaysia participates in the frameworks of the Sustainable Development Goals (SDGs) and the Regional Action Framework on Civil Registration and Vital Statistics (CRVS) in Asia and the Pacific to pursue the goals relating to universal birth registration and accomplish them by 2030. Birth registration is a permanent record of a child's existence and an important source of legal identity, population statistics and policy planning, including on public health. From the perspective of children's health, early and complete birth registration will ensure that children can access health, nutrition and welfare programmes from the start. It also facilitates the collection and compilation of fertility and mortality data. However, the majority of countries in Asia and the Pacific do not have universal and responsive CRVS systems that meet relevant international standards. Using the method of desk review, this study will investigate relevant gaps pertaining to completeness of birth registration in Malaysia using primarily published data and statistics issued by Department of Statistic Malaysia (DOSM) and The Economic and Social Commission for Asia and the Pacific (ESCAP). Following the analysis, the study will provide a number of recommendations to ensure that the targets that Malaysia commits to achieve in the context of completeness of birth registration could be met for better progress on the rights and welfare of children.

Keywords: Birth Registration, children, completeness, CRVS, health, SDG, rights, welfare

INTRODUCTION

Birth registration provides numerous benefits to both society and individuals, including proof of age, access to health and education services, and identification and facilitation of legal entitlements (Allerton 2017; AbouZhar et al, 2015; and Todres 2003). The process of acquiring a legal identity, beginning with birth registration, has frequently been cited as a fundamental human right (Mitra, 2019; AbouZhar et al, 2015; Ladner et al, 2014) although birth registration alone may not be adequate to deliver on rights and development benefits unless connected to other legal identity indicators such as nationality (Sperfeldt, 2022). Lai and Tey (2021) view that Malaysia's birth registration is generally known to be complete. Every citizen in Malaysia needs a birth certificate to get health care, go to school, get a passport or identification card (ID), register to vote, open a bank account, get a loan for a house, or deal with government agencies. People who do not have an ID card and are not able to prove their links as citizens of any state will face barriers to realising the rights associated with citizenship. All births and deaths in Malaysia are recorded by the National Registration Department. Previous studies have reviewed the civil registration system for birth and death which focus among others, on manpower, infrastructure, services availability and feedback from beneficiaries (Rane et al. 2019; Uddin et al. 2019; Singh et al. 2012). In the Malaysian context, Lai and Tey (2021) in particular point out that no study has been conducted on the completeness of birth registration after independence in 1957, aside from the estimation by Leeta and Kwok (1986) of fertility in East Malaysia.

Malaysia first participated in the development of Sustainable Development Goals (SDGs) in 2014. The adoption of SDGs in 2015 constitutes a landmark shift towards a rights-based framework in the international development agenda (Gelb and Manby, 2016). The Department of Statistics Malaysia (DOSM) is responsible for putting together the SDG Indicators for Development at the national level and reporting on them. The most recent voluntary national report (VNR) on SDG is as of 2020, which addresses 146 different indicators out of 247 global indicators (DOSM, 2021). The VNR analyses 9 SDGs, namely SDG1, SDG2, SDG3, SDG8, SDG10, SDG12, SDG13, SDG16 and SDG17. SDG 16.9 is therefore included as one of the prioritised goals at the national level, namely the goal to achieve the provision of legal identity for all, including free birth registrations by 2030.

According to Selim (2022), birth registration is defined as the procedure of documenting a child's birth. It serves as a permanent and universal recording within the civil registry of the occurrence and characteristics of birth based on national legal requirements (UNHCR, 2014). Being the official record of a child's existence, it grants the child's identification legal legitimacy. Target 16.9 is essential to curbing inequalities, discrimination and exclusion in its widest terms (UNDP, 2019, Mohamed Razali et al., 2022) Birth registration and certificates are essential to meet other SDG Targets, such as universal health care and access to safe, effective, quality and affordable medicines and vaccines, as provided under SDG Target 3.8.

DOSM has provided vital statistics for the Malaysian population since 1963. The data can be cross classified by several criteria, including state, ethnicity, and age. Since 2015, information such as the rates of live births and crude births has been available at the district level, while the total fertility rate is only available at the state level (Lai and Tey, 2021). At the regional level, the

government has pledged to improve the CRVS statistics in Malaysia in 2017 when it participated in the declaration to "get everyone in the picture" at the Ministerial Conference on Civil Registration and Vital Statistics in Asia and the Pacific. Yet on the front of progress, as of 2021, South East Asia has been reported as regressing on all measurable targets under peace, justice and strong institutions (Goal 16), which covers the provision of legal identity for all through birth registration (UNESCAP, 2021).

Being a member of the Regional Steering Group for Civil Registration and Vital Statistics in Asia and the Pacific, the targets set by CRVS Asia and the Pacific that are relevant to birth registration for Malaysia and Malaysia's achievement include; Target 1A: By 2024, at least 98 per cent of births in the territory and jurisdiction in the given year are registered; Target 1B: By 2024, at least 99.5 per cent of children under 5 years old in the territory and jurisdiction have had their births registered, Target 1C: By 2024, at least 99.5 per cent of all individuals in the territory and jurisdiction have had their birth registered, Target 2A: By 2024, at least 100 per cent of all births registered in the territory and jurisdiction are accompanied with the issuance of an official birth certificate that includes, as a minimum, the individual's name, sex, date and place of birth, and name of parent(s) where known, Target 3A: By...(year), annual nationally representative statistics on births – disaggregated by age of mother, sex of child, geographic area and administrative subdivision –are produced from registration records or other valid administrative data sources, Target 3F: By ...(year), key summary tabulations of vital statistics on births and deaths using registration records as the primary source, are made available in the public domain in electronic format annually, and within one calendar year, and Target 3H: By ...(year), an accurate, complete and timely vital statistics report for the previous two years, using registration records as the primary source, is made available in the public domain. The table below summarises Malaysia's progress in relation to these targets.

Table 1: The CRVS Asia and Pacific target and Malaysia's status of achievement.

CRVS target for Malaysia	Malaysia's progress[1]
1A: By 2024, at least 98 percent of births in the territory and jurisdiction in the given year are registered	Malaysia achieved Target 1A.
1B: By 2024, at least 99.5 percent of children under 5 years old in the territory and jurisdiction have had their births registered.	Insufficient data in Malaysia to assess Target 1B. No Target has been set by Malaysia.
1C: By 2024, at least 99.5 percent of all individuals in the territory and jurisdiction have had their birth registered.	Insufficient data in Malaysia to assess Target 1C. No Target has been set by Malaysia.
2A: By 2024, at least 100 percent of all births registered in the territory and jurisdiction are accompanied with the issuance of an official birth certificate that includes, as a minimum, the individual's name, sex, date and place of birth, and name of parent(s) where known.	Malaysia achieved Target 2A.
3A: By…(year), annual nationally representative statistics on births –disaggregated by age of mother, sex of child, geographic area and administrative subdivision are produced from registration records or other valid administrative data sources.	Malaysia achieved Target 3A.
3F: By …(year), key summary tabulations of vital statistics on births and deaths using registration records as the primary source, are made available in the public domain in electronic format annually, and within one calendar year.	Malaysia achieved Targets 3F.
3H: By …(year), an accurate, complete and timely vital statistics report for the previous two years, using registration records as the primary source, is made available in the public domain.	Malaysia achieved Target 3H.

Source: CRVS Midterm Report

In terms of the administrative and legal frameworks, registration of births in Malaysia is managed by the National Registration Department (NRD), a line agency under the Ministry of Home Affairs, which also has the mandate on matters relating to deaths, marriages, adoptions and citizenship. Malaysia implements three different sets of legislation on birth registration for Peninsular Malaysia, Sabah and Sarawak respectively: the Birth and Death Registration Act 1957 (Act 299) for Peninsular Malaysia, the Sabah Birth and Death Registration Ordinance 1951 (Cap. 123) for Sabah, and the Sarawak Birth and Death Registration Ordinance 1951 (Cap. 10) for Sarawak. All three laws provide for registration of births of all children born in Malaysia, making it compulsory for all children born in Malaysia to be registered.

In Peninsular Malaysia, the time period for birth registration is 60 days from the occurrence of birth (Section 12, Act 299). In Sabah and Sarawak, the normal timeframe for births to be registered is 14 days from the occurrence of births (Section 9 of Cap 123; Section 10 Cap 10). Delayed registration refers to any registration made between the 15th to the 42nd day since the birth of the child in question (Section 16 Cap 123; Section 18 Cap 10), while late registration refers to any registration made after the 42nd day, which requires further procedures and evidence to prove the child's particulars entered in the late birth registration certificate (Section 22 Cap 123; Section 24 Cap 10). A number of issues contribute to gaps on completeness of birth registration, including late birth registration that are not reported and births that are not registered due to economic hardship, geographical barriers, and unregistered marriages or marriages that are not endorsed by the authorities in Malaysia, including those entered into in Thailand, lack of documentary evidence, and fears of apprehension or being turned away for certain categories of parents who lack regular status in the country (Cheong and Baltazar, 2021; Marrying outside countries, 2019; Lack of awareness, 2015). This study is

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[1] ESCAP, "CRVS Midterm Report," 14.
https://getinthepicture.org/resource/malaysia-crvs-decade-2015-2024-midterm-questionnaire

significant in highlighting to the Malaysian national authorities and CRVS actors knowledge and implementation gaps on completeness of birth registration that in turn risk creating 'legal identity gap'. Without paying close attention to take stock of the gaps and inadequacies in the systems and processes of our national CRVS, Malaysia may not be able to realise the global Target 16.9 of SDG and achieve the fundamental intrinsic value it seeks to promote, namely upholding one's recognition before the law for the protection of human rights and human dignity and its downstream practical benefits. The focus of this article is therefore to identify in the Malaysian context, possible frictions in the collection and reporting of birth registration completeness, being the only indicator of legal identity adopted by SDG.

BENEFITS OF BIRTH REGISTRATION TO CHILDREN

The majority of the previously published research on birth registration has concentrated on outlining the obstacles that stand in the way of birth registration rather than demonstrating a connection between possessing a birth certificate and being able to access government services (Becedas et al 2021; Lai and Tey, 2021; Phillips et al 2018). Access to education and educational attainment are two advantages of having birth registration or birth certificates (Becedas et al, 2021). As birth registration provides proof of one's place of birth and parental ties, lack of birth registration can heighten the risk of statelessness, a condition where a person is not considered as a national by any state (Article 1(1) 1954 Convention on the Status of Stateless Persons). Access to social assistance, formal employment, rights to inheritance and to vote depend on legal identification provided through birth certificates. Importantly, proof of age safeguards a child against child labour, treatment as an adult in criminal proceedings and child marriage (UNICEF, 2019). Incomplete birth registration, which is common among low to middle income countries, will prevent accurate and reliable fertility statistics via the monitoring of trends in birth rates, early age mortality rates, and will impede the production of information for population projection, as well as for social and economic planning for health, education and other development policies (Mitra, 2019; Adair and Lopez, 2021).

METHODOLOGY

Birth registration completeness is estimated by taking the number of registered births occurring in a given period of time and dividing this by the estimated number of total births (both registered and unregistered) occurring in the same period of time. In other words, birth registration completeness is the percentage of children born in a given period of time that have had their birth registered. (Mitchell and Sejersen, n.d.)

The completeness of birth registration is thus formulated as follows:

$$\text{Completeness of birth registration (\%)} = \frac{\text{Number of registered births}}{\text{Actual number of births}} * 100$$

Source: The University of Melbourne on the Bloomberg Philanthropies Data for Health Initiative, 2020

Completeness of birth registration should not be confused with the estimated percentage of children registered. Coverage instead points to the estimated percentage of the country covered by the civil registration system. Completeness of birth registration is important as the estimates give us crucial information on how many births remain uncounted, which point to how many children get excluded from the government data. Incompleteness of birth registration indeed constitutes the primary cause of poor-quality birth registration data. (The University of Melbourne on the Bloomberg Philanthropies Data for Health Initiative, 2020)

The total actual number of registered births can be estimated from various sources of fertility data such as the number of births from national census data, births in past years if the CRVS data record at least 90 percent of registration rate, and births recorded in the country's health information system, among others. Alternatively, a crude birth rate can be used to gauge the total number of births for that year. (The University of Melbourne on the Bloomberg Philanthropies Data for Health Initiative, 2020)

Two common indicators used to measure birth registration completeness are the registration of children less than 1 (i.e., registration within one year of birth) and the registration of children less than 5. These represent Targets 1A and 1B of the Regional Action Framework for CRVS in Asia and the Pacific respectively, which Malaysia is part of. Target 1.A underlines that by 2024, at least 98 percent of births in the territory and jurisdiction in the given year are registered; and Target 1.B requires that by 2024, at least 99.5 per cent of children under 5 years old in the territory and jurisdiction have had their births registered. Target 1B therefore is in line with SDG Indicator 16.9.1, which is the proportion of children under 5 years of age whose births have been registered with a civil authority.

To measure the performance of the CRVS system in Malaysia and identify potential adjustments and improvements in the system, we focus on examining the gaps in the collection and reporting of birth registration data to meet the completeness of birth registration based on the two targets within the Regional Action Framework for CRVS in Asia and the Pacific as explained above. Published Malaysian birth registration data as of 2021 by the Department of Statistics of Malaysia (DOSM) and data reported by Malaysia to the Economic and Social Commission for Asia and the Pacific (ESCAP) was searched online, compared, and analysed. For the latter, we rely on the information provided by NRD to the Midterm Questionnaire on the implementation of the Regional Action Framework on CRVS in Asia and the Pacific 2015-2024 published by ESCAP (UNESCAP, 2019). We consider the sources of data in calculating the completeness of birth registration in relation to the Targets and relevant gaps identified in the reporting of the national data to meet the Targets. Our recommendations go further to identify several best practices to overcome the gaps, including by addressing the collection of data census and disaggregation of data, connecting them to Malaysia's related national and international commitments.

We use nationally reported data to ensure better accuracy as the use of self-reported data and the definition of birth registration completeness as relied on by the Demographic and Health Surveys (DHS) and Multiple Indicator Cluster Surveys (MICS) employed in *The State of the World's Children* reports by UNICEF may result in inaccurate measurement of the completeness of the timely registration of births due to over-reporting or under estimation, mistakes, and biases associated with data collection from the respondents (Adair and Lopez, 2021; Phillips et al, 2018).

RESULTS AND DISCUSSION

Target 1A

As shown in Table 2 below, Target 1A has consistently exceeded 100% in all the years surveyed, namely from 2013 to 2018. The completeness level for each year was calculated using the number of births registered in the given year by the civil registration system within one year of occurrence divided by the total number of live births in the national territory. Whilst completeness of birth registration is fundamental to promoting the rights of surviving children, excluding children who died prior to birth registration visit might have overestimated the completeness of birth registration. Looking at the Vital Statistics reports by DOSM as of 2021, the yearly rates of live births and crude births in Malaysia are summarily reported from 2010 to 2020 (DOSM, 2022).

The rates of live births and crude births are published according to gender, with no detailed disaggregation according to rural versus urban and citizen versus non-citizen characteristics, among others. These characteristics are important as the SDG target 16.9 aims to provide legal identity for all, including free birth registration by 2030. The SDG Progress Report for Asia and the Pacific as of 2021 alludes to challenges in producing disaggregated data so that vulnerable populations are not left behind (UNESCAP, 2021). It is therefore difficult to draw accurate conclusions of completeness of birth registration when it is not known whether the total live births reported by DOSM also include births outside of health facilities or without skilled attendants.

Births outside of health facilities or without skilled attendants are usually unreported among the marginalised and hard-to-reach populations in states such as Sabah and Sarawak and among non-citizens who lack legal status, particularly undocumented migrants, refugees and stateless (Cheong and Baltazar, 2021; Mohamed Razali et al. 2022). According to the 2020 Situation Analysis Report of Women and Children in Malaysia, large inequities are caused by lack of legal status or the implementation of discriminatory laws, exclusion from data collection systems, social stigmatisation and policy vacuums, rendering these children and children among the country's indigenous minority populations invisible and marginalised (UNICEF, 2020). Other than unavailable health facilities in certain remote and small geographical locations, citizens who are married to non-citizens may choose not to register the births of their children for a variety of reasons (Lai and Tei, 2021). Such more comprehensive data that capture these populations may instead be extracted from multiple national census data sources such as the population censuses, household surveys, and demographic health surveys. (UNESCAP, n.d)

The stronger alignment between birth certification completeness that achieves the score of 100% from 2013 to 2018 as reported for Target 2A in Table 2 with the results under Target 1A on birth registration completeness should also be viewed cautiously as the former merely indicates whether a birth was certified rather than whether it was registered based on the method to calculate birth registration completeness.

Target 1B

In terms of Target 1B involving children under 5 years old in the territory and jurisdiction who have had their births registered, the information gathered for the Midterm Questionnaire on the Implementation of the Regional Action Framework on CRVS in Table 2 both do not report any data. On the column titled 'Notes and source', the corresponding entry mentions as follows:

> As it is regulated under the Births and Deaths Registration Act 1957 that it is compulsory for every birth to be registered, thus we do not estimate the number of unregistered children under the age of 5.

The justification provided by NRD above affirms the absence of the national target and consequently, lack of data to assess Target 1B (UNESCAP, 2019). The assumption made by NRD is technically untenable as it hypothetically concludes that it is unnecessary to estimate the percentage of children under 5 who have had their births registered as all children under the age of 5 are considered registered as per the legal requirement. This policy position further exhibits the discordance between the pledge to meet SDG Target 16.9 of which the indicator is the percentage of children under 5 whose births have been registered and what the government implements at the national level through the annual Children Statistics published by DOSM, in line with the government's commitment to enhancing children's well-being in four domains, namely; demography, health, education and child protection (DOSM, 2021). The 2020 VNR on SDG indicators by DOSM duly notes on the need for NRD to develop the national indicators to meet Target 16.9.1 (DOSM, 2020, p 90).

The significance for children under 5 to be registered should not be downplayed. To reiterate, children may be left out from timely registration due to various factors associated with geography, poverty, and lack of awareness on the importance of birth registration on the part of parents (Selim, 2019; Mohamed Razali et al, 2022). It is not uncommon for a delay of several years to occur from a given birth year before a child gets registered, for example, registration upon the child attaining schooling age where the birth certificate is required for enrolment. Without proof of legal identity, such invisible children risk separation from their family, exclusion from formal education and exploitation via child labour and child marriage, to name a few. In addition, unregistered children under 5 years old are more likely to be excluded from access to scheduled vaccines and health care (Selim, 2019).

Table 2: Midterm Questionnaire on the Implementation of the Regional Action Framework on CRVS

Line	Variable	2013	2014	2015	2016	2017	2018	2024	Notes and Source (provide link)	Availability of data in international databases
Registration Records										
1	**Number of births in the given year registered by the civil registration system within one year of occurrence**	516,132	535,376	527,262	515,643	516,445	507,359		-	-
2	*Of which:* **Number of births in the given year registered by the civil registration system within the legally stipulated time period**	445,397	460,007	454,920	445,501	467,342	485,467		**Peninsular: Before 31st July 2017: registered within 14 days After 31st July 2017: registered within 60 days** **Sabah/Sarawak/Labuan: registered within 14 days**	-
3	**Number of births in the given year registered by the civil registration system after the legally stipulated time period but within 1 year of occurrence (late civil registration)**	70,735	75,369	72,342	70,142	49,103	21,892		**Peninsular: Before 31st July 2017: registered between 15 days to 1 year After 31st July 2017: registered between 61 days to 1 year** **Sabah/Sarawak/Labuan: registered between 15 days to 1 year**	-

4	Number of births in the given year registered by the civil registration system after 1 year of occurrence (delayed civil registration)	5,509	5,120	3,636	2,704	1,630	433		Registered after 1 year	-
5	Total number of births in the given year registered by the civil registration system within one year of occurrence for which a certificate was issued (*A birth certificate contains minimum information including the individual's name, sex, date and place of birth, and names of parent(s) where known*)	516,132	535,376	527,262	515,643	516,445	507,359		-	-
Population Register Records										
6	<u>**Number of children under 5**</u> whose birth was registered by the civil registration system at any point during their lifetime									

7	**Number of individuals** whose birth was registered by the civil registration system (including delayed adult registrations) at any point during their lifetime									
Population estimates *(based on national estimates from the ministry of health, population census data or sample surveys)*										
8	**Total number of live births in the national territory**	503,914	528,612	521,136	508,203	508,685	501,945		DOSM	
9	**Total number of children under age 5**	2,559,300	2,571,200	2,601,600	2,630,400	2,613,700	2,595,300		As it is regulated under the Births and Deaths Registration Act 1957 that it is compulsory for every birth to be registered, thus we do not estimate the number of child unregistered children under the age of 5.	
10	**Total population**	30,213,700	3,070,800	31,186,100	31,633,500	32,022,600	32,382,300		DOSM	
Targets								**Target (2024)**		

11	**1A: Percentage of births in the territory and jurisdiction that are registered within one year of occurrence** *(=100*(1)/(8), if (8) not available use (16))*	102.4%	101.3%	101.2%	101.5%	101.5%	101.1%		**ESCAP comment: The percentages above 100% are due to the computation of the total number of births, which is based on birth registration but does not include the latest registrations.**	
12	**2A: Percentage of births registered accompanied with the issuance of an official birth certificate with minimum information in the given year** *(=100*(5)/ (1))*	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			
13	**1B: Percentage of children under 5 years old that have had their birth registered** *(=100*(6)/ (9), if (9) not available use (17), or survey)*									**Target 1B corresponds to SDG Indicator 16.9.1: Proportion of children under 5 years of age whose births have been registered with a civil authority (see Line 19 below). SDG Indicator 16.9.1 is collected by countries, and will therefore be considered as country data for Target 1B if no other data are submitted.**
14	**1C: Percentage of individuals that have had their birth registered** *(=100*(7)/(10), if (10) not available use (18), or survey)*									

Source: UNESCAP, 2019

RECOMMENDATIONS AND CONCLUSION

In evaluating the completeness of birth registration, the current usage of live births as the denominator should be reassessed. It is recommended that the total live births include reported and unreported births, as well as the births of children who died prior to birth registration. This will require data sources that enumerate all births at public and private healthcare centres, home births and births without skilled attendants and births notified and registered based on police reports, such as the births of babies found abandoned and orphaned (UNHCR, 2014). This approach certainly calls for the percentage of late registrations, which are common among unreported home births and births outside of formal health facilities to be carefully monitored despite the legal time limit for registering a birth (Kerber et al, 2015). This measure is especially important in the context of certain ethnic groups, non-citizens lacking legal status, indigenous populations, people living in rural or remote areas, as well as single and unmarried mothers, who may face more barriers to access healthcare facilities, skilled attendants and registration points in this country.

A centralised and inclusive data system should be put in place to provide comprehensive coverage of data and better accuracy of the calculation rates. The development of reliable demographic estimates of births for the country, even using alternative data sources may present a number of problems linked to low coverage of population and vital events and other misreporting (UNHCR, 2014). However, most of the demographic and statistical methods implemented to evaluate the completeness of birth registration rely on population censuses as the primary data source as they are grounded on strong assumptions, namely, stable populations and non-selectivity in age grouping rates (Moultrie et al. 2013; Lima et al. 2018). Despite this, investment in CRVS systems that are built on comprehensive coverage and strong evidence base should be pursued in favour of inclusive national data systems to measure birth registration, so that countries do not simply become dependent on national surveys or multiple data sources in the long term. Looking at the questionnaire for the 2020 Population and Housing Census for instance, the items cover identification documents and the status of citizenship and residence for adult participants as well as the number of children women gave birth to. Other key information includes 'how many children ever born alive' (DOSM and MyCencus, 2020). It is recommended that the questionnaire address both the number of live births and stillbirths, the year, as well as the place of each birth, in order to track and measure comprehensively the rates of all births in a year across all surveyed populations.

Collecting, monitoring and publishing real time and accurate disaggregated data on birth registration are key to effective planning and governance. Making available essential disaggregated data will foster public trust, reliability and the overall quality of data on birth registration, which contribute significantly to completeness of birth registration and evaluation of inequities in civil registration to deliver on the various SDG targets. It is therefore suggested that birth registration data be disaggregated according to equity-oriented approaches, which should extend to maternal age, birth weight, citizenship and specific ethnicity, and location, including rural versus urban demographics (UNESCAP, n.d). In many countries including Malaysia, such are rarely disaggregated and made public although target 3A, which sets at the minimum the required characteristics to be disaggregated, has been generally fulfilled according to the reported progress by CRVS for Malaysia. A health information system that sources data from various databases and allows for data processing to provide disaggregated data on birth registration would contribute to achieving this goal (UNHCR, 2014). The main challenge would be to put in place an automated process and merge different systems. Reorganising of the civil registration system and training should be considered in implementing a health information system to achieve reliable data. (Kakkar et al. 2017; AbouZhar et al. 2015)

This study importantly uncovered the paucity in the achievement of birth registration targets for under 5 years old. It is vital for Malaysia to set the national targets that accord with the specific CRVS targets to ensure that SDG goal 16.9 and other associated goals and targets, such as those related to universal health coverage (SDG Target 308), elimination of harmful practices, including early marriage (SDG Target 5.3), ending abuse, exploitation, trafficking, and all forms of violence against children (SDG Target 16.2), and ending preventable deaths of newborns and children under five (SDG Target 3.2) are met. Systematic enumeration of children under 5 who are registered using multiple demographic surveys and systematic reporting of births should be considered going forward. This data can subsequently be used to assist intervention efforts on catching up with birth registration in identified areas and among targeted populations that are left out. A complete data on registered children under 5 would certainly contribute towards a more accurate planning for children's rights and welfare to ensure no child is left behind, especially in the crucial years prior to early childhood education and during which most of child's vaccinations are completed (Stanford Medicine, 2022).

Birth registration is an important indicator of inequality. Inequality assessments to ensure completeness of birth registration that are linked to the specific CRVS targets are recommended to guide national policy by identifying groups with lower birth registration rates, causes of lower rates of registration and the difference in magnitude of birth registration rates compared to the rest of the population. As such, birth registration data should be comprehensive, and of high quality and accuracy for such assessments to be impactful. A Toolkit offering a detailed guide on conducting inequality assessments has been developed by the support office of the Bali Process on People Smuggling, Trafficking in Persons and Related Transnational Crime (Regional Support Office, The Bali Process).

Malaysia consists of a multiracial diverse population, many of whom may be excluded from birth registration due to factors such as gaps in our CRVS system and unfavourable policies against minorities, irregular, undocumented and marginalised groups. Yet birth registration is a basic human right for every child. It is fundamental for every child to be registered to realise their legal identity and gain access to basic services and benefits associated with their rights and legal status, as well as to prevent various forms of child exploitation (UNHCR, 2014).

In conclusion, to achieve SDGs and the pledge of leaving no one left behind in support of SDG goal 16.9 and various targets within the framework of CRVS Asia and the Pacific, working towards achieving complete birth registration is urgent and crucial. Usage of data from inclusive CRVS datasets and findings from the recommended inequality assessments are useful for targeted efforts in increasing birth registration coverage and completeness among various minority, non-citizen and marginalised groups, as well as single or unmarried mothers, to ensure that the children at risk of being left out can fulfil their rights, achieve their potentials and contribute towards Malaysia's success.

There are limitations in this study as it draws on readily available reports and does not directly approach government agencies or organisations that hold the data on birth registration. As such, we are unable to confirm the non-existence of the data required for the reporting or the process in which birth registration data is collected. Current or future plans for birth registration in Malaysia are unclear due to these limitations.

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