

# **Organization and Status of Civil Registration and Vital Statistics**

## **in English-speaking Countries of the Caribbean**

It has long been recognized that vital statistics are the principal foundation for health situation analysis and health planning. As part of an effort to assist countries in improving their registration and vital statistics systems (Box 1), in 1999 the Pan American Health Organization (PAHO) and the International Institute of Vital Registration and Statistics (IIVRS) carried out an evaluation survey in English-speaking countries of the Caribbean. This survey has provided a first overview of the structure of civil registration and vital statistics systems in these countries. It has also generated information on the level of registration of vital events. For all the above, it has been considered important to publish the results of this study. Even though the data presented (among others, of birth and death registration) cover the period 1996-1999, the situation is not thought to have changed radically in the countries covered by the survey. More importantly, the recommendations arising from the analysis of data gathered through this survey form the basis of PAHO's recommendations to countries and institutions striving to reduce under-registration of vital events and improve the administration of civil and vital registration systems.

### **Box 1: Definitions of civil registration and vital statistics**

#### *Civil Registration System*

Civil registration is defined as the continuous, permanent, compulsory and universal recording of the occurrence and characteristics of vital events (among others, live births, deaths, foetal deaths, marriages and divorces) pertaining to the population as provided through decree or regulation in accordance with the legal requirements of a country.

Civil registration is carried out primarily for the purpose of establishing the legal documents provided by the law.

These records are also a main source of vital statistics. Complete coverage, accuracy and timeliness of civil registration are essential for quality vital statistics.

A civil registration system refers to all institutional, legal, technical settings needed to perform the civil registration functions in a technical, sound, coordinated, and standardized manner throughout the country, taking into account cultural and social circumstances particular to the country.

### *Vital Statistics System*

A vital statistics system is the total process of:  
(a) collecting information through civil registration or enumeration on the frequency of occurrence of specified and defined vital events, as well as relevant characteristics of the events themselves and of the person or persons concerned,  
(b) compiling, processing, analyzing, evaluating, presenting and disseminating these data in statistical form. The main source is civil registration, supplemented by data from population census, sample surveys and administrative records.

*Source:* United Nations. Statistics Division. Vital Statistics [Internet Page]. Available at: [http://unstats.un.org/unsd/demographic/vital\\_statistics/cr.htm](http://unstats.un.org/unsd/demographic/vital_statistics/cr.htm). Accessed on 22 September 2003.

### **Methods**

Using two questionnaires - one to focus on civil registration topics and one for vital statistics matters - information was obtained on 16 of the 21 English-speaking countries in the Caribbean: Anguilla, Antigua and Barbuda, Bahamas, Barbados, Belize, Bermuda, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, Saint Vincent and the Grenadines and Trinidad and Tobago. All are former British colonies and all but two (Belize and Guyana) are islands. Bermuda is geographically part of North America. In terms of population, only two of the sixteen – Trinidad and Tobago and Jamaica – have more than one million inhabitants, while the median population in the group of countries studied is less than 100,000. In terms of physical size, countries surveyed vary from as small as 21 km<sup>2</sup> in Bermuda to as large as 22,700 km<sup>2</sup> in Belize, while the median size is around 430 km<sup>2</sup>.

In most countries, two separate ministries are responsible for civil registration and vital statistics, although in five both systems fall within the same ministry. Accordingly, for each of the 16 countries, the civil registration questionnaire was directed to the Registrar General or equivalent officer and the vital statistics questionnaire was sent to the Chief Statistician or similar statistical officer. Of the countries that responded to the survey, nine completed both the civil registration and vital statistics questionnaire, three completed only the vital statistics questionnaire and two completed only the civil registration questionnaire. The overall response rate for the Civil Registration questionnaire was 68.8% and for the Vital Statistics questionnaire, 75%. Observations made from the collected data are not expected to have been biased greatly by the non responses.

**Table 1: Ministries responsible for civil registration and vital statistics**

Country	Legal/judicial	Home affairs	Health	Finance and economic development	Other
Anguilla					
Antigua and Barbuda					

Bahamas (2)	■			■	
Barbados (2)	■				■
Belize	■			■	
Bermuda (2)		■	■		
Cayman Islands (2)				■	■
Cuba	■			■	
Dominica			■	■	
Jamaica		■			■
Puerto Rico			■	■	
Saint Kitts & Nevis (2)			■	■	
Saint Lucia (1)	■				■
Saint Vincent & the Grenadines	■			■	
Trinidad & Tobago (2)	■			■	
Turks & Caicos Islands (2)	■				■
	■ = Civil registration		■ = Vital statistics		

In Saint Lucia, civil registration is located in a combined Ministry of Legal Affairs, Home Affairs and Labor and tallied under "Legal/Judicial" for purposes of this review

Information based on IIVRS survey conducted in 1994 for both civil registration and vital statistics for Bahamas, Barbados, Saint Kitts & Nevis, Trinidad and Tobago and Turks & Caicos Islands, and for vital statistics only in Bermuda and Cayman Islands.

**Organization of the Civil Registration System**

In 63 percent of the English-speaking Caribbean countries, unlike any other region of the world, the Registrar General is part of the judiciary system. Although the functions of a civil registration system are nearly universally in place on a world-wide basis, the responsibility for national oversight of the system varies from country to country. The organizational placement of civil registration may be found in a variety of ministries or departments of government, the most commonly encountered being the Ministries of Interior, Justice, or Health. Because of the many legal uses for vital records, a Ministry of Justice is considered an appropriate locus for the registration function by many countries; alternatively, a Ministry of the Interior typically has a national network of local government offices which can facilitate the registration of vital events at the local level, while a Ministry of Health has under its jurisdiction community clinics, health centers, and hospitals where many of the births and deaths occur and where prenatal, postnatal, and infant care is provided. No one of these or any other organizational location can be considered, a priori, to be superior to any other and each country must take into consideration a wide range of factors before making its own organizational arrangements. However, the uses of vital records and their derivative information usually involve several ministries and departments of government and should be taken into account in the design and operation of the system. For example, civil registration data, in addition to

their legal uses to establish the facts of birth and death on an individual basis, become important tools for government activities such as the issuance of passports, establishment of eligibility for school enrollment, social security and other social entitlements, health programs, clearance of deceased persons' names from voter registration and other official lists, and for such applications as intercensal population estimation and the production of national demographic and vital statistics.

In addition to the placement of the national registration authority, registration systems may be centralized or decentralized. A centralized system is where the regional and/or the local registration offices are part of the same Ministry or Department as is the national registration office. A decentralized system is where the regional and/or the local registration offices are part of another Ministry or Department. The difficulty with a decentralized system is that the functionaries at the sub-national level usually have other responsibilities which they consider more important than the registration function. Therefore, the registration of vital events is given low priority. Generally speaking, the centralized system is to be preferred. However, even in a centralized system, there are instances where the regional office personnel have little time to devote to registration activities or to the supervision or monitoring of the work of the local registrars under their jurisdiction. What is really important is that there exists a clear chain of command with respect to registration matters from the director of the national registration office down to the local registrars.

Among the 11 countries responding to the civil registration questionnaire and five other English-speaking countries, based on information from prior surveys (Table 1), the placement of central responsibility for civil registration was most frequently found in a ministry for legal or judicial affairs (10 countries); ministry of health (3), home affairs (2) and ministry of finance and economic development (1). Again, the ministry of choice in a given country is less significant than the recognition that civil registration has multi-disciplinary importance and a fully successful program requires inter-agency coordination and cooperation.

An important consideration for the accuracy and completeness of a registration system is the number and distribution of local registration offices and their accessibility to the general public. In countries small in geographic area or in population size, such as many of those included in this study, the number and placement of local registrars can be an important concern. Even where the geographic area is not large, it may be difficult to make it convenient for the public to visit a local registrar to register vital events because of difficult terrain and lack of transportation or because the population density is so low that it is not feasible to locate registration offices in remote areas. For these reasons, timeliness, accuracy, and completeness of registration often varies significantly among cities, towns, and rural areas. In the English-speaking countries of the Caribbean region, the number of local registration offices ranges from none to as high as 330. In some of the smaller countries, a single registration office serves the entire population. This is the case in five of the countries: Anguilla, Bermuda, Cayman Islands, Dominica, and Montserrat. On the other hand, Grenada reports 7 local offices, St. Lucia reports 20, and St. Vincent and the Grenadines reports 16. In some countries with more than just a few

local offices, district offices have been set up to assist in the management of the registration information from the local offices. For example, in Belize 6 district offices oversee 53 local offices, in Guyana 10 district offices oversee 135 local offices, and in Jamaica 4 district offices oversee 330.

The local registrars in most countries have a very small workload. This is a part time activity for them since they typically register, on average, fewer than one vital event per day. Thus, registration is usually not a priority concern to them, which results in difficulties at the central level in improving accuracy and completeness of reporting. However, it is important for the public to have easy access to the registration system at the local level. As a consequence, the optimum number of local, and where warranted, district, offices for efficient operation and for accurate and complete registration is not easily determined and should best be arrived at on a country by country basis. This is particularly true in the Caribbean region because of the combination of both small population sizes and remote, sparsely settled areas.

### **Organization of the Vital Statistics System**

A central statistical office is responsible for the national compilation of vital statistics in most countries of the world, but these statistical offices are found in various ministries. The placement of central authority was most frequently found in the ministry of finance and economic development (7); ministry of health (5); Home affairs (1) and other ministries (4). Table 1 summarizes the information obtained from the countries surveyed. Among the countries for which information is known about both civil registration and vital statistics, Bermuda, Cayman Islands, Grenada, Jamaica, and St. Kitts and Nevis, carry out civil registration and vital statistics within the same ministry. The advantage of having both functions in the same ministry is that it makes coordination between the two less difficult. This is most important from the standpoint of compilation of national vital statistics where uniformity of data is a prime requisite. It is essential that all areas in a country use the same basic definitions and registration procedures, identical forms for the collection of data, and the same classifications of data in order to produce uniformly comparable vital statistics for all parts of the country and from year to year. It is also essential that the definitions of the items to be tabulated for statistical purposes be understood and precisely applied both in the collection of the information through the registration process as well as in the interpretation of the resultant statistics. In the case where the registration and statistical functions fall under different ministries of government, special mechanisms for coordination and cooperation should be established and maintained in order for the civil registration and vital statistics systems to fully meet their objectives.

Essential factors in assessing the quality and usefulness of vital statistics data are the measures of completeness of the registered birth and death data, and the timeliness of their availability in tabulated form. There are no standards for the registration of births and deaths for legal and administrative purposes. For statistical purposes, the standard of completeness of birth and death registration has been arbitrarily set at 90 percent or more. However, the method of determination of completeness of registration coverage is left up to the national authorities. Therefore, the basis for the reported estimates may vary. Even

in the case of measurements, the results may differ considerably depending on the method used. For example, the Central Bureau of Statistics in one of the countries reported the completeness of death registration to be 85 percent based on an indirect method of measurement. In another study in the same country, only 70 percent of the deaths occurring in the hospitals of two urban districts were found to be registered. This estimate was obtained by matching the hospital deaths with the registration records. If the same study had been conducted country-wide, the estimated completeness of death registration would surely have been much lower than 70 percent. On the other hand, if the Central Statistical Office had made different assumptions regarding the estimated population size when using the indirect method, the resulting estimate of completeness would have been higher or lower than the 85 percent that they obtained. These varying outcomes illustrate some of the problems involved in the measurement of registration completeness.

As mentioned before, in five countries for which information on both civil registration and vital statistics was provided (or available from the earlier survey), there is a single ministry for both of these functions. In Grenada, Jamaica and St. Kitts and Nevis the two systems are part of the Ministry of Health. In Bermuda, both systems are in the ministry for home affairs and in the Cayman Islands in finance and economic development. The advantage of a single ministry is that it makes communication and coordination between the two functions considerably easier. While there may be compelling reasons in a country for having these functions located in separate ministries, administrative processes should be put in place to facilitate the cooperation between the two.

It has been reported that the public does not appreciate the importance of vital registration, pointing to the need for promotion of public education on the subject. To solve the under-registration problem, it will be important to shift the responsibility for registration from the parents or guardians to the medical attendants at birth or death.

Completeness of registration is a self-assessed measure of the quality of the vital statistics data in each country. Some countries do a better job than others in estimating completeness, basing their assessment on objective measures such as cross checks of hospital records of deliveries with registered events of births or reviewing the annual volume of requests for late registration (one or more years after the event) of births in order to establish age for school enrollment or to establish citizenship and other basic facts for passport applications or other entitlements. In some countries, completeness is assumed without specific measurement; e.g., that death registration is complete because the law requires registration before burial can take place. It is in the best interests of the individuals living in a country and of the government itself to periodically assess completeness of registration and to take steps to improve or maintain satisfactory completeness percentages.

Table 2 presents assessments of completeness of birth and death registration as estimated by each country. As can be seen, most assess their systems as virtually complete. Without hard evidence to support these estimates, some question can be raised about the actual degree of completeness, particularly in view of the fact that the informants responsible

for registration are, typically, the parents of the child in case of births, and relatives of the deceased in case of deaths. Because many informants do not see the need for a birth or death record, their failure to register vital events is a real problem. Therefore, consideration should be given by each country to a periodic assessment of registration completeness until the registration officials are satisfied that birth and death registration is complete.

Lack of timely availability of vital statistics data has been a chronic problem in countries all around the world. Part of this problem is unavoidable since there is a time lag built into the collection of birth registration information. Informants are given a legally specified time period after an event occurs to report to the local registrar. Therefore, in order to include as many events as possible in the annual tabulations, the statistical office must wait after the end of a calendar year not only for the informants' legal reporting period to pass but also for the registered information to be sent from the local registrars to the central office and prepared for tabulation. Furthermore, in countries where there are large numbers of delayed or late registrations, tabulation may be additionally delayed in order to maximize the number of events to be counted in the appropriate year of occurrence. Alternatively, some countries, (e.g., Anguilla, Antigua and Barbuda, Dominica, Grenada, and Jamaica) tabulate their vital statistics data according to the year of registration instead of the year of occurrence of the events. Depending on the proportion of delayed and late registrations, this latter practice may lead to misleading annual statistics.

**Table 2: Estimated completeness of registration, and latest data year available at the time of the report (2001)**

Country	Births	Deaths	Year of latest data available
Anguilla	C	C	1999 *
Antigua & Barbuda	C	C	1999 *
Bahamas	7	C	1998
Belize	C	8	1998
Bermuda	C	C	1999
Cayman Islands	C	C	1996
Dominica	C	C	1999 *
Grenada	C	C	1999 *
Guyana	8	8	1999
Jamaica	C	8	1999 *
Montserrat	C	C	1999
Saint Lucia	C	C	1998

Saint Vincent & Grenadines	8	C	1999
Trinidad & Tabago	C	C	1997

C = 90% or greater completeness of registration

8 = Between 80 and 89% completeness

7 = Between 70 and 79% completeness

\* Indicates annual data tabulated by year of registration of events

### Country Self-Assessment of Problems and Areas Needing Improvement

Several common themes were observed of which the most common was the need to improve computerization. In most countries, even those with computerized central systems, registration at the local level continues to be a labor-intensive manual process and the transmission of registration information from the local level, through the district level where districts have been established, to the central registration authority is not automated, nor is there much evidence of sharing of electronic data files among agencies of government having a need for the registration data. In addition, where electronic data processing does exist, e.g., at a central statistical office, there was mention of the need for help in developing computerized editing programs that can check for data inconsistencies among key variables such as age, sex, and cause of death.

Timeliness of the availability of registration files and of tabulated vital statistics data was mentioned frequently, usually in conjunction with automation issues. In fact, respondents to the questionnaires frequently reported that timeliness continues to be an important concern, this in spite of the fact that most of these countries have recently made significant improvements in this area. Several countries suggested that a review of their current procedures, coupled with greater use of automation could add further enhancements in data quality and timeliness. Improvement can be brought about through changes in the methodology of registration, particularly in those systems which are completely manual and which rely on redundant hand-copying of records, and in the application of electronic data capture, transmission, and tabulation.

Another problem area mentioned by several countries is the need for training and upgrading of staff. The need for training of local registrars and for records management workers and others at the central registration office was emphasized, but training for vital statistics and data processing staff were also indicated as important needs. Still another kind of training need that received mention was training for physicians and medical officers on how to properly complete the medical certification section on death certificates and how to use the International Classification of Diseases to correctly arrive at underlying cause of death statistics.

A need for coordination between registration officials and vital statisticians and other users of registration data was apparent in the comments from several countries. It was pointed out that several of the national registration systems do not collect items such as birth weight, usual place of residence of mother, occupation, or other variables deemed to

be important by statisticians and other users of vital statistics data, and that no mechanism existed to address these and other cross-cutting issues.

Other problems or issues mentioned included the need for greater public awareness of the importance of timely and complete registration of births and deaths, better remuneration for local registrars, and needs for local area statistics and for quarterly data in addition to the annual tabulations.

### **Conclusions**

Although detailed recommendations for the improvement of individual national civil registration and vital statistics systems cannot be made without an in-depth, on-site, review in the countries, several generic recommendations can be made on the basis of the findings of this overview.

There is a general need for coordination of the registration system that ensures that the needs of the users of the system are met. This need could be addressed by a coordinating committee made up of representatives of each government group with an interest in registration records or in vital statistics, as well as representatives of other interested non-government groups. This is especially true in those countries where civil registration and vital statistics functions fall in different ministries.

To evaluate the quality of the existing information, periodic objective reviews of completeness of registration of births and deaths should be carried out by each country until registration officials are satisfied that registration is virtually complete. Each country should review its own registration procedures to determine if there are redundant manual steps which could be eliminated, either by using redesigned registration forms or through the use of computers. The item content of registration forms, i.e., birth and death certificates, and the design of tabulations should be compared with United Nations recommendations for conformity with international standards for “minimum basic vital statistics data sets” and with the recommended standard vital statistics tabulations.

Consideration should be given to assigning responsibility to hospitals and local health clinics for the registration of births and deaths occurring within their purview, and for medical attendants outside of institutions to have a direct responsibility for the registration of events for which they are cognizant.

Registration officials should determine needs for training of local registrars and others working in the system in terms of course content and frequency of need and to arrange for such training.

*Source:* Article based on a report prepared in 2001 by the International Institute for Vital Registration and Statistics (IIVRS) for the Pan American Health Organization.

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