

**STATUS OF VITAL AND MORBIDITY STATISTICS AND STATISTICS ON
HEALTH RESOURCES AND SERVICES
IN THE COUNTRIES OF THE AMERICAS**

BAHAMAS

**Status of the country's vital and health statistics 2005
Preliminary, subject to revision**

November, 2007

CONTENT OF THE REPORT

This document presents a summary of the *Regional Report on the Status of Vital and Health Statistics in the Countries* (RR), prepared on the basis of information from a guide developed by PAHO in 2005 and completed by the countries in conjunction with the Meeting of Directors of Statistics (RD-2005) held in Buenos Aires in November of that year.

The data are both qualitative and quantitative in nature and give an overview of the situation with regard to the coverage and quality of vital and morbidity statistics and statistics on health resources and services in each of the countries of the Americas. At the same time, they also point to possible determinants of problems involving data, bearing in mind that such determinants can occur at a number of different points along the production process, from the time the event or practice actually occurs up to dissemination of the products of the statistics system.

The information gleaned from this exercise provides a useful basis for strengthening these statistics, thanks to contributions from the main statistics offices responsible for the production of health data in each of the countries—and thanks also to the Organization, for directing its technical assistance to this area and collaborating with the countries on the design, monitoring, follow-up, and ongoing support of activities that have made it possible to improve the coverage, quality and timeliness of statistics, which above all enables governments to define health policies and monitor outcomes, as in the current case of the Millennium Goals to which the States are committed.

The countries of the Americas present a heterogeneous picture in terms of their health statistics, reflecting differences both in coverage and quality, with enormous disparities in subnational contexts. The results confirm that there is a cumulative mass of experience and knowledge in the Region that has permitted the development of good practices in solving problems relating to the validity, quality, reliability and timeliness of the information produced.

There is also great awareness in many areas of the importance of improving these aspects of the information being produced, as well as solidarity and willingness to share practices and disseminate them throughout the Region.

Encouraged by the countries, the Organization has developed a regional strategy for strengthening vital and health statistics and statistics on health resources and services that will be embodied in the short term in an Action Plan that will reflect the realities of the countries, with the possibility of taking advantage of the numerous resources available for the development and implementation of regional activities, promoting horizontal cooperation, and coordinating with other international agencies that have similar goals for the quality of the health data that they use.

It is hoped that the analysis contained in the RR can soon be updated for all the countries for two reasons: first, because important advances have been made in some of them in terms of coverage and quality as a result of changes in their information production processes, and second, because, given the complexity of the information

being analyzed, there may be some vague areas in the description of the processes that need to be reviewed with the producers of the information in the countries.

The report, which is therefore must only be preliminary, contains a description of the antecedents leading up to the analysis of the statistical situation in the countries, and it then describes that situation in terms of both the production processes and the outcome of the evaluation of the coverage and quality of the country's statistics. Finally, some reflections are offered on the lines along which the Action Plan defined by the PAHO Strategy for the Strengthening of Vital and Health Statistics is expected to be carried out in conjunction with the countries.

1. Introduction

Each passing day bears out more strongly the need to have information that is valid, reliable, timely, and as fine-grained as possible in terms of geographical and topical breakdown for the formulation, monitoring, and evaluation of public policies in the area of population health.

The countries recognize that it is not always possible to meet the needs for the production of statistical data that actually reflect the quality of the data available. They also recognize the challenges they have to overcome as they attempt to design programs for strengthening health statistics, implementing them, and sustaining them over time.

These limitations become more evident, and the need to solve them becomes more pressing, when the countries agree on the importance of having indicators of higher quality at the subnational, national, and regional levels, not only for policy-making but also for monitoring the fulfillment of international commitments such as those subscribed to by the International Conference on Population and Development (ICPD, Cairo, 1994), the World Conference on Women (Beijing, 1995), the countries' Millennium Declaration (2000), the World Conference against Racism, Racial Discrimination, Xenophobia, and Related Intolerance (Durban, 2001), and other forums that have focused specifically on human rights in terms of access to information.

Indeed, almost all the countries have a challenge of some kind yet to resolve with regard to the coverage and quality of their vital and health statistics. Thus, quite apart from the need for political will to monitor progress toward the goals, there is also need to improve the quality of the health data being produced both in the offices of health statistics (especially health records) and the central bureaus of statistics through their censuses and surveys (often conducted in collaboration with the health offices).

The incorporation of programs for strengthening health statistics in the countries (especially vital and morbidity statistics and statistics on health resources and services) is almost as urgent as the need to develop policies for improving the health of the population. Moreover, it requires political commitment not only on the part of authorities in the technical offices, but also from those responsible for the fulfillment of these goals. Support from international agencies for the maintenance of these programs over time is fundamental, and PAHO has incorporated this concept in its strategic objectives.

The present document is a summary of the Regional Report, which analyzes the situation of vital and health statistics in the countries of the Americas as of the end of 2005. The Regional Report and a series country reports form part of the input taken into account in developing a strategy to improve these statistics and provide more effective assistance to the countries in order to promote horizontal cooperation, establish a format for collaboration between areas of PAHO, and coordinate actions with other international agencies and stakeholders that are working to strengthen these statistics in the countries of the Region.

The analysis presented in this document is based on preliminary data provided by the countries in 2005 and will be updated with their cooperation in a second phase scheduled to start in 2008. These updates will make it possible to adjust the ranking of the countries presented here, if necessary, as well as to update and revise the country reports.

During 2005 the countries responded to a set of questionnaires through their responsible and statistics offices, with guidance from the PAHO focal point in each country representative office.¹ Without their valuable contribution, it would not have been possible to implement the first phase, which began with the Regional Meeting of National

Directors of Statistics and Directors of Health Statistics in the Countries of the Americas, held in Buenos Aires in November 2005 (RD-2005), or to design an approach which culminated in October 2007 in approval of the Strategy for Strengthening Vital and Health Statistics in the Countries of the Americas (SSVHA) by the Governing Bodies of PAHO, which defines the second stage of the joint effort that the countries will be embarking upon in 2008.

2. Background

The Regional Advisory Committee on Health Statistics (CRAES), a PAHO advisory body, recommended at its last meeting, held in September 2003, that a sustainable mechanism be created to facilitate the development of plans in the countries to strengthen vital and health statistics.²

Starting in 2004 and over the course of 2005, PAHO conducted an initial analysis of the situation of vital and health statistics based on a guide designed especially for this purpose.³ The information was obtained with the collaboration of the two agencies responsible for the production of health statistics in the countries (the central bureau of statistics and the national office of health statistics). This activity yielded a 28-country

¹ Our thanks to Camille Delevaux and Charles Stuar, of the national statistics office of Bahamas mentioned above and to Yitades Gebre (PAHO focal point in Bahamas) for their participation in the production of the analytical guides.

² For further details, see OPS (2004). *Informe de la Segunda Reunión del Comité Regional Asesor en Estadísticas de Salud de la OPS/OMS* [Report of the Second Meeting of the PAHO/WHO Regional Advisory Committee on Health Statistics]. Washington, DC, 10-12 September 2003, Washington, D.C.

³ *Guía para el análisis de las Estadísticas Vitales, de Morbilidad y Recursos de Salud. Documento General*. [Guide for the Analysis of Vital, Morbidity, and Health Resources Statistics]. The Guide looks at the situation of data production from both a qualitative perspective (using six questionnaires) and a quantitative one (through two applications), both of them complementary to the situation analysis for each type of statistics.

database and made it possible to prepare a preliminary⁴ diagnosis in which the countries were ranked according to selected indicators of coverage and quality.

This preliminary diagnosis was presented at the Regional Meeting of National Directors of Statistics and Directors of Health Statistics in the Countries of the Americas (RD-2005), held in Buenos Aires in November 2005. One of the main outcomes of RD-2005 was the recommendation that a regional strategy be drafted that would make it possible, on the one hand, to develop national plans for strengthening vital and health statistics and on the other, to harmonize these plans in the regional context,⁵ with the Secretariat serving as coordinator

With a view to facilitating harmonization and coordination of the development of these statistics, the Secretariat adopted the goal, objectives, and principles of the Health Metric Network (HMN), a world partnership that brings together health systems and promotes global standards for the development and better performance of the countries' information systems.⁶

The year 2006 saw consolidation of the database and preparation the Regional Report, which provides information that can be used to identify weaknesses and strengths in the production of the countries' statistics. In addition, the report allows for the determination of relative differences, with a view to drafting an Action Plan at both the national and regional level that takes national differences and needs into account and will strengthen capacity for the management, operation, and maintenance of health information systems, which include vital and morbidity statistics and statistics on health resources and services.

⁴ OPS/OMS (2005a). *Diagnóstico para el análisis de la situación de las estadísticas vitales y de salud de los países de las Américas* [Diagnosis for Analysis of the Situation of Vital and Health Statistics in the Countries of the Americas], AIS/OPS. Buenos Aires, Chile, November 2005.

⁵ For further details, see: PAHO/WHO (2006a), Meeting of National Directors of Statistical and Directors of Health Statistics in the Countries of the Americas (RD-2005), Buenos Aires, 21-22 November 2005. Working Group Report. Washington; PAHO/WHO (2006b), Meeting of National Directors of Statistical and Directors of Health Statistics in the countries of the Americas (RD-2005), Buenos Aires, 21-22 November 2005. *Preliminary Report*. Washington, DC; and PAHO/WHO (2005b). Meeting of Directors (RD-2005). Guidelines for the discussion of the working group session (various documents), Washington, DC.

⁶ In this sense, it subscribes to and adopts to goal, objectives, and principles of the Health Metrics Network (HMN), a world partnership that brings together health systems and promotes global standards for the development and better performance of the countries' information systems., with a view to facilitating harmonization and coordinating the development of health information systems in its member countries, and facilitates the effective development of capacity at the national level. In this sense, the document *A Framework and Standards for Country Health Information System Development. Health Metrics Network* (WHO, Geneva, 2006) proposes that the goal of the HMN shall be to increase the availability of precise and reliable health information in countries at the world level through agreed-upon goals and coordinated investments in health information systems. The Objectives of the Network are: to develop a framework and standards for health information systems; support the countries in their initiatives to develop and apply plans within the framework of the HMN; and offer incentives to increase the dissemination and use of high-quality health information. Finally, its Principles are predicated on the involvement of the countries and the participation of all who are interested; harmonization and coordination; and integrated approach to health information. Like the HMN, the Plan for Strengthening Vital Statistics encourages inter-country relations and the exchange of experiences between countries and regions with the application of good practices in the development of health information systems. See also www.healthmetricsnetwork.org.

Also, the conceptual and operational aspects to be considered in designing the Strategy for the Strengthening of Vital and Health Statistics in the Countries of the Region, as well as the corresponding Regional Plan of Action, were explored and defined in collaboration with other technical areas of PAHO/WHO and with international organizations, including the United Nations Statistics Division, UNICEF, UNFPA, World Bank, CARICOM.⁷

In addition, within the framework of the agreement signed in 2006 between PAHO and the Economic Commission for Latin America (ECLAC) and through a joint initiative with the Latin American and Caribbean Center of Demography (CELADE), ECLAC Population Division, discussions on the conceptual and operational content were conducted in 2005 and 2006 with representatives of the countries and international organizations within the scope of the United Nations Statistical Commission and the Americas Statistics Conference.

3. The Statistics Being Analyzed

It is important to be aware of some general considerations with regard to the vital and other health statistics, especially the statistics on morbidity and health resources and services, produced by the countries on the whole. Why is there discussion about strengthening these statistics in the countries? How can PAHO collaborate with the countries in designing and monitoring a strategy that can be sustained over time? Three observations can be made in this regard.

In the first place, these statistics are part of a country's health information system (HIS), which is the group of entities or agencies which, regardless of whether or not they are part of the health system, contribute information on health to society and to the States.⁸ "Information" includes data related to health, disease, and death in the population and also to the corresponding institutions and their material, human, and financial resources. Most health policies and monitoring processes rely on these statistics, which are produced almost exclusively by statistics offices within the ministries of health, which

⁷ The Strategy for Strengthening Vital and Health Statistics was presented and adopted at the 140th Session of PAHO's Executive Committee, held in Washington from 25 to 29 June 2007. The document and resolution can be accessed at <http://www.paho.org/spanish/gov/ce/ce140-15-s.pdf> and <http://www.paho.org/spanish/gov/ce/ce140.r16-s.pdf>. See also OPS/OMS (2006c). *Plan de Fortalecimiento de las Estadísticas Vitales y de Salud de los países de las Américas (PSVHS). Aspectos conceptuales de su diseño*. Santiago. Chile. 2006.

⁸ The countries' HISs tend more and more to be a reflection of the so-called National Statistics systems (NSSs), which in most of the countries are governed by laws that entrust the National Statistics Bureaus with the role of coordinating all the country's statistics, especially sectoral statistics, and with the latter typically attached to the NHS. Thus, the development of a strategy that will be respected over time in this area cannot be done by PAHO alone in each and every country in the near term, since this means assuming functions that are already being carried out by the Ministries of Planning and Finance, which come under the NSSs in most countries. PAHO participates actively in the natural environments in which these subjects are addressed, including the United Nations Statistical Commission (Statistics Division) and the Americas Statistics Conference organized by the Economic Commission for Latin America and the Caribbean (CEPAL). Both organizations have are tied to the Directors of the national statistics bureaus, which may be have various titles in the different countries.

need to be strengthened as part of the national statistics system, which tend to rely on censuses and sampling surveys as their sources of information.⁹

Second, the subject areas and dimensions covered by the so-called Health Information System are so broad that diagnoses almost always show the system to be fragmented, uncoordinated, disorganized, and overlapping, which can result in producing the same information in different ways, or, equally troubling, not producing what the country needs or producing it badly. It is no accident that the system is seen in this way, because the State itself fragments the production of health statistics by assigning it to several different offices and/or agencies.

This leads us to the third point. How can PAHO collaborate in a comprehensive way so that the countries can improve the production of basic vital and morbidity statistics and statistics on health resources and services by their sectoral offices using mechanisms that will be sustainable over time? The answer is to develop a short-, medium-, and long-strategy, based on a diagnosis of the situation in each country, which includes an action plan aimed at improving the coverage and quality of the aforementioned statistics, fostering the dissemination of good practices developed by the countries themselves, regularly channeling fulfillment of the organization's own need for statistical information, and leading the call for coordination with other international agencies.

Of the four types of statistics considered, vital statistics are perhaps the most compromised in terms of the presence of possible factors that might affect quality and monitoring. This is because it is the only type of statistics that involves a broad system of institutional stakeholders in its production¹⁰ and does not depend on the health system alone. Vital statistics are almost always referred to in conjunction with the civil registry, so much so that it is common to regard vital statistics and the civil registry as unique or univocal¹¹ subsystems.

⁹ Of all the components of the HIS, with rare exceptions a subsystem is considered tangential, but not secondary, if it does not typically report to the national health areas; this is the case of population censuses and household surveys (usually the responsibility of the central bureau of statistics), which can provide valuable information for the health sector. Often the central bureau and the health statistics offices work together on designing the instruments and even carrying out the surveys, but the inclusion of health topics is almost exclusively the strategy of the central bureau as part of an annual statistical plan. This is one of the reasons why a strengthening strategy is unsustainable without the active and coordinated participation of both institutions. The other components of the SIS, which are important for the development of a health system, are not taken into account in the strengthening strategy for reasons explained elsewhere.

¹⁰ The names given to the different components of the HIS is another matter that sometimes gives rise to confusion. However, we do not believe this needs to be regarded as a problem unless the topic itself is being addressed, and it is beyond the scope of the present document. For practical purposes, all components of the HIS will be referred to hereafter as subsystems.

¹¹ This is no accident. It is broadly related to the history itself of statistics in the region (and not unlike experience in other regions of the world). The collection of vital statistics is an institution that dates back to Spanish colonial times, and even British colonial administration which shared many important similarities. The recorder was always to be found in the most remote corners of the colonized territory, to be replaced later by institutions that had their own buildings or special offices in municipal city halls, which were the hub of colonial power. In other words, the system of civil registries that exists today in the Americas goes back hundreds of years. In many places it remains unchanged, while in others it may have weakened or have serious operational problems. In any case, it is an institution well-established in the heart of the population.

Together, the two subsystems constitute a magnificent machine used by national states to address at least two essential needs. First, it establishes citizenship and therefore the entitlement of citizens to their rights (to have a name, vote, inherit property, go to school, receive social security benefits, move around within inside and outside the national territory, and have access to health care and other social benefits). In addition, the statistics that the system generates provide the essential basis for learning about the natural growth of the population and also their state of health and the nation's epidemiological profile—information that underlies much of national health policy.

Unfortunately for the quality of vital statistics, sometimes the cost of mobilizing all the actors involved exceeds the capacity of national health budgets. The process of identifying individuals, screening for purposes of the electoral systems, empowering citizens to exercise their rights and duties, and producing statistics in one way or another involves the civil registries, electoral committees, and national registry of citizens (these three usually assigned to the ministries of planning or the interior, or sometimes established as separate and independent entities), the central bureaus of statistics (in the ministries of economy or planning), and the ministries of health, through their sectoral offices of statistics.

Treatment of a problem in one part of the subsystem should be addressed by all the offices involved, which does not always happen or happens in the wrong way or in an untimely fashion. Institutions have different cultures and objectives; their regulations may differ, overlap, or conflict; budgets vary, and priorities may not always coincide. Coordination and joint action are most important at this level, and there should be specific provision for coordination at the highest levels of policy-making as a national priority. Paradoxically, while this subsystem is the best known and the most analyzed by the parties involved in the production process, it is also the most difficult to grasp when it comes to targeting a strategy for dealing with the problems associated with this multiplicity of functions. Hence, treatment of this issue is delicate and it is not easy, as can be seen in the complexity of solutions, ranging from merely technical fixes to political and strategic proposals for sustaining a democratic state.

Most important, the starting point of the production process (here we will concentrate on the production of statistics) is crucial and highly complex. Statistically, it is defined as the place where the event occurs, and this cannot be changed (except in the case of essentially scientific assumptions and adjustments). Thus, during the intimate processes of birth and death, especially the latter and often the former as well, individuals are experiencing the most critical moments of life, and they require privacy and anonymity. At the same time, society has a pressing need to become involved in the event—in the case of death, to know how it occurred, why, and what the determinants were, and to attempt to correct them. These needs are not always compatible, no matter how much care is taken.

To complicate the picture even more, the statistical events of birth and death are like none other: neither the newborn child nor the person who has died can speak for him/herself. In both cases, the characteristics of the event are assigned by others. It is a complex complicated (Vieira Pinto¹²) involving the individual experiencing the event, who is not in a position to declare it; the person who declares it, who does not always

¹² Vieira Pinto, Alvaro. *El pensamiento crítico en demografía*. Santiago, Chile. CELADE, 1973.

know, or is in a position to consider, the characteristics that surrounded the event (the event itself and the family context, which is so important in defining the determinants of the event); and the person who records the event, who in the best of circumstances has to record the event based on a declaration by someone who did not actually experience it and may never know that actually happened.

Another factor is the role of the civil recorder, whose primary function is to record the event in the legal registry, for which purpose the statistical function may appear to be unrelated. When there is only one official, the two contradictory functions overlap: legal certification, and collection of statistical records. In the first case, valid proof is required: it is not possible to record the event unless proof of identity has been provided by a responsible official. On the other hand, statistical information is based on what the person says and no proof is required to report a characteristic (for example, residence or occupation) or an event, and this contradiction often ends up being reflected in unanswered questions or data being filled in without previous consultation.

Unlike vital statistics (VS), the morbidity (MORBI) and resources and services (RECUR) subsystems depend exclusively on the national health system. This presumes that any problems are proper to the statistics system itself and can only be resolved at that level. This is an advantage, because then the offices of health statistics only have to deal with their own limitations.

In most of the countries, MORBI and RECUR statistics are much newer subsystems than vital statistics, having emerged for them most part when health system development began looking for increasingly broader information in order to target policies and understand the health status of the population, which was first affected by epidemics that decimated entire populations and later by other, more modern causes, framed and analyzed within the context of epidemiological changes taking place in societies, particularly since the mid-19th century. Today, for example, there is no clarity regarding the definitions of some of the events and processes that affect this type of phenomenon and even less clarity about which morbidity statistics and which statistics on resources and services should be captured.

They are affected by problems that mainly relate to processes associated with health sector reform. It is common, for example, to question whether the epidemiological surveillance subsystem is in fact part of this subsystem. Strictly speaking, if the system is functioning properly, the event that has to be reported immediately for surveillance reasons should be recorded by the MORBI and RECUR information subsystems.

MORBI statistics cover hospital discharges, consultations in outpatient clinics and emergency rooms, and the daily movement of patients, while RECUR statistics cover human resources, establishments, equipment, beds, and services.

Accordingly, the output of these subsystems should make it possible to characterize the epidemiological profile of the population, the ways in which it becomes ill, and how it solves its health problems. In addition, the information produced should account for the direct and indirect determinants of the population's health. At the same time, there are also statistics on the health system's services to the population, considered from the standpoints of quantity, quality, timeliness, and access at the different levels. The efficiency and effectiveness of the health system is reflected in statistics of this kind.

The countries are still debating which indicators are most appropriate for studying some of the aspects related to services and resources, and how to define these indicators. It is therefore likely that in many cases the statistics are not appropriate. More often than not, insufficient monitoring of the production systems would stand in the way of adopting a given indicator. There is too much overlap between what the statistics system produces and what is being produced by specific programs that address health policies. Much remains to be organized and understood, although it is possible that everything might be handled through a single system. This is reflected, as it will be seen further on, in the way the countries report the status of the MORBI and RECUR statistical subsystems.

In the case of particular countries, emphasis will be placed on certain characteristics of the vital and morbidity statistics subsystems and the health resources and services subsystems that may generate unwanted factors in the acquisition of data of the desired coverage, quality, and timeliness.¹³ Comments on the modality of a subsystem or the characteristics of a process point exclusively to the area identification of areas that should be taken into account when formulating a strategy for strengthening a country's health statistics production.¹⁴ These areas do not necessarily generate problems in terms of the validity and reliability of the data produced, but in some cases they do.

4. The Regional Situation

It is customary to treat countries independently or interact with them through regional groups that in reality represent trade agreements such as MERCOSUR, the Andean Community of Nations (CAN in Spanish), the Central American Integration System (SICA in Spanish), the Caribbean community (CARICOM), or the North American Free Trade Agreement (NAFTA). However, such geographical and commercial groupings encounter problems when it comes to harmonizing their statistics, particularly in the social field, since the differences in their production systems can show up in the coverage and quality of their data.

Not all regional groups face these problems, but one reason for delays or inadequacies in the implementation of joint programs or plans is precisely the relative differences among members within a single group. The dynamics of the better-situated countries can lead to group actions that do not always help bridge the gaps in the field of certain statistics.

Take, for example, the existence in a single bloc of countries with almost universal coverage of vital statistics alongside other countries that barely reach 50%. The needs are clearly different. In the first group of countries, the approach may be to improve the quality of information, or incorporate computerized steps into the coding processes, while the countries in the other group still need to expand the coverage of the

¹³ There may be some inaccuracies in the description of the production systems for the two types of statistics in light of the fact that the work was based on information provided by the countries. Any such defects will be corrected in the second working phase, which includes interviews with the statistics directors in the countries. This is the main reason the present document should be regarded as preliminary and subject to review. It is being disseminated only for purposes of analysis in consultation with the spokespersons themselves.

¹⁴ These aspects are to be discussed with each country at the time for the national SS is defined.

registration offices or launch major campaigns to raise the awareness of the data gatherers and the population itself.

On the occasion of the RD-2005 Meeting, the significance of grouping the countries by their statistics situation— analyzed before the meeting – was recognized. This meant on the one hand, that the speakers in a single group felt they were speaking from similar levels about similar problems. But when solutions were proposed, they were based on different starting points. General principles existed that were presented by all. However, for example, expanding coverage of vital statistics was not a priority in the group with almost universal coverage. Yet this issue was the main objective of the groups of countries in which any estimate is biased due to such problems. Curiously, the countries in the middle groups proposed solutions that went beyond the limits of the others with more extreme positions.

This fact led to the meeting to recommend the creation of a mechanism that would take advantage of these similarities and develop activities of a different nature that would favor the existence of a joint plan in some fields.¹⁵ The idea of taking advantage of the experience acquired by the relatively better-situated countries and even of the less-advantaged countries was stressed to encourage horizontal exchange, not only in the area of best practices but of lessons learned from failed efforts.

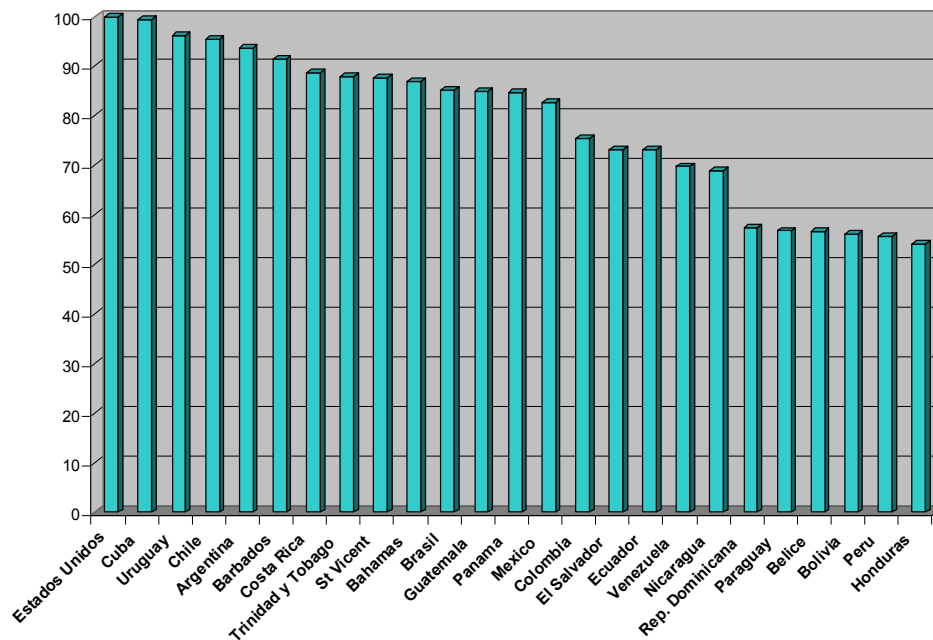
The regional strategy thus has a set of objectives of successive approximations that begin with the need to encourage national analysis and the delimitation of realistic activities to develop and sustain a plan to improve national statistics. The next step is a strategy to harmonize national plans into a regional plan, seeking common factors and differences that on the one hand will allow a given country to carry out its own activities (which due to its characteristics, are difficult to compare with others) and on the other, to propose activities that can be shared by a group of countries or by groups of countries that, respecting their idiosyncrasies, can advance a common standardized activity, harmonized for multiple purposes.

Based on those general principles, Figure 1 presents the ranking of countries that emerged from the compilation of a series of indicators considered relevant for their ranking: the coverage of their most important vital statistics (births and deaths); the qualitative view of the producers on the status of their vital statistics, and statistics on morbidity, resources, and services (their viewpoint on the importance of administrative, technical, and personnel factors that define the system's capacity); and the view of external stakeholders on the country's vital statistics system (their viewpoint on the importance of certain factors affecting the system).¹⁶

¹⁵ For more details, see: PAHO/WHO (2006a and b). op.cit.

¹⁶ Based on information provided by countries through the *"Guía para el análisis de las Estadísticas Vitales, de Morbilidad y Recursos de Salud Documento General."* (AD/AIS. Washington. 2005).

Gráfico 1
Situación de las EEVV y de salud los países



[INSERT TEXT IN PICTURE]

Figure 1.
Status of vital and health statistics in the countries

[From left to right:]

United States

Cuba

Uruguay

Chile

Argentina

Barbados

Costa Rica

Trinidad and Tobago

St. Vincent

Bahamas

Brazil

Guatemala

Panama

Mexico

Colombia

El Salvador

Ecuador

Venezuela

Nicaragua

Dominican Republic

Paraguay

Belize

Bolivia

Peru

Honduras

Based on this ranking, it is possible to outline differences and determine strategies to address problems in the three types of statistics, which can be shared in the near future. It can be seen that progress in the diagnosis itself and in the knowledge of strategies to overcome problems is much more developed in the field of vital statistics. Later, it will be shown how problems connected with the other statistics disrupt the ranking.¹⁷

A preliminary overview of the situation is presented below, which will be reviewed and adjusted with the countries in the design of regional and national action plans; as mentioned earlier, the classification is based on 2005 data. The overview can be used to help draft more detailed country reports, in support of the national plans that the Regional Meeting of Directors (RD-2005) agreed to harmonize in the Regional Plan of Action for Strengthening Vital and Health Statistics in the Countries of the Americas (PSVHS)¹⁸ and approved by PAHO's Executive Committee at its 140th Session.

Based on this ranking and the analysis of determinants of common problems, it is possible to outline differences and determine strategies to address the three types of statistics.¹⁹ It can generally be said that:

- ✓ Progress in the diagnosis itself and in the knowledge about strategies to overcome problems is much further along in the area of vital statistics. It is a subsystem that already exists and has been present in all countries since their founding as a national State.
- ✓ This is not true for the statistics on morbidity, resources, and services, which are newer and stem from the development of health systems requiring increasingly broader information to target policies and determine the population's health status. Today, for example, the definitions of the events and processes behind this type of phenomena are unclear, and it is even less clear what the statistics on morbidity, resources, and services should capture.
- ✓ The producers of statistics have a more positive view of the vital statistics subsystems and more erratic views about the other subsystems. In the countries with better relative advantages, the statistics are considered to be reliable, although the need for improvements and even considerable improvements in one or more of the

¹⁷ Two general questions worth mentioning prior to a more-detailed analysis: first, several producers of statistics who responded to the questionnaire have more immediate negative or positive opinions than those shown in the classification, which are very significant and coherent in the majority of cases. In the better-situated countries, authorities on statistics themselves express the need for improvements, sometimes considerable, in their statistics systems. Aspirations for more highly skilled human resources, greater coordination between producing offices, expansion of sectoral coverage of some statistics -- these are valid in the context of countries with good statistics. In other cases, the countries with serious problems in coverage or quality view the statistic system favorably in comparison with other aspects of the state and thus they have a positive and benevolent attitude toward the reliability of the system in question, despite empirical evidence showing need for change in some aspects. Second, given that the ranking of the countries is defined by four indicators, one of them a composite, a significant coverage of vital events may have modified the positioning of the country given a less-favorable opinion of the producers and users on the respective systems and vice-versa. This is obvious given the nature of the classification, but is worth mentioning explicitly.

¹⁸ For more details, see PAHO/WHO (2006a) op. cit.

¹⁹ The ranking could lead to definitions of country groups for the treatment of specific objectives. Belonging to one group or another could never be exact in the sense of complete homogeneity within one group and heterogeneity between groups, but it could contribute to the design of a collaborative strategy within a group and between groups, of more viable plans.

subsystems are proposed in some cases. The less the development in comparison with the rest of the countries, the greater the perception that considerable improvements are needed, whatever set of statistics is being considered.

- ✓ The centralization or decentralization of health systems does not necessarily determine the quality of statistics, which seems to have more to do with the degree of economic and social development attained in the country. When omissions occur for different reasons, those most seriously affected are the most unprotected groups (indigenous populations, rural populations, etc.) and the subsectors of social security and the private sector, which tend not to report, or even more problematic, tend to maintain statistics systems parallel to the official systems.
- ✓ Limited communication between health statistics offices and central statistic offices, the waste of available resources, the overlapping of activities in a single office at different administrative or geographical levels, or between different offices, the limited standardization of norms at different levels, and the lack of human resource training are determinants of coverage and quality.
- ✓ The interinstitutional committees are few and those that do exist need to be revitalized. When some evaluation activity is conducted and corrective measures taken, the results benefit statistics, although circumstantially. Clearly there is a need for more stable evaluation and monitoring mechanisms over time.
- ✓ Most countries have not routinely adopted procedures to evaluate coverage and quality, an issue more evident among the statistically less-developed countries (and most evident for statistics on morbidity and resources).
- ✓ The positive experiences of some countries can be applied in other countries in the Region. Through horizontal cooperation, the progress identified in better-situated countries in terms of evaluation techniques, standardizing norms and procedures, and designing training courses can be of benefit to other countries.

5. The Case of the Bahamas

Table 1 below presents basic information from the country produced within the framework of PAHO's Regional Core Data Initiative. The selected sociodemographic data provide the situational context in which the vital and health statistics analyzed in this document are produced. [Translator's note: There is no explanation of "a" and "d" after some of the figures]

BAHAMAS: Selected Demographic and Health Indicators, 2005

Total population (thousands)	323
Urban population (%)	90.0
Dependency ratio (100 pop.)	52.8
Annual birth average (thousands)	6.1
Annual death average (thousands)	2.2
Crude birth rate (1,000 pop.)	18.9
Crude mortality rate (1,000 pop.)	6.9
Annual population growth (%)	1.3
Total fertility rate (child/woman)	2.2
Maternal mortality rate (per 100,000 live births)	17.2
Infant mortality rate (per 1,000 births)	...
Life expectancy at birth (men)	67.9
Life expectancy at birth (women)	74.3
Life expectancy at birth (total)	71.1

Calorie availability (kcal/pc/day) (2002)	2,755
Gross national income (current value) (US\$ per capita) (2003)	14,920 ^d
Gross national income (PPP value) (US\$ per capita) (2003)	16,140 ^d
Annual GDP growth rate (%) (2003)	0.7 ^d
National health expenditure (public, % of GDP) (2002)	...
National health expenditure (private, % of GDP) (2002)	...
Population below the international poverty line (%) (1995–2002)	...
Population with access to improved potable source (2002)	97
Population with access to complete sanitation services (2002)	100
Literacy rate (15 years of age and older) (%)	95.8
Physicians per 10,000 population (2001)	16.7
Hospital beds per 1,000 population (2004)	3.4 ^a

*Source: Basic Health Indicators: <http://www.paho.org/english/dd/ais/BI-brochure-2006.pdf>

a. Subsystem for the Production of Vital, Morbidity, and Health Resources and Services Statistics

Type of System

Health services in the Bahamas are **centralized**. The national statistics office, the Department of Statistics (DOS), is responsible for the official production of vital statistics. This means that there are no autonomous subnational offices; rather, those that exist are under the national DOS. The statistics system's operating standards and procedures are therefore generated at the central level, which disseminates them to the local levels. This could be an advantage over decentralized systems, but it has already been seen in other countries that the coverage and quality of health statistics are not dependent on the health system model and consequent statistical model.

With respect to the other health statistics that the country produces, all **stages** in the production of morbidity and resources and services statistics are the responsibility of the Health Information and Research Unit (HIRU). The DOS is responsible for vital statistics, even though the HIRU also collects and produces them. The HIRU is responsible for the entire information production process for births (except for the construction of indicators and dissemination of the data, which is handled by the DOS). This overlapping of subsystems can result in a lack of standardization, be it from using different collection instruments or the existence and use of different standards and procedures or different data transmission mechanisms that can affect the productive process and thus result in different coverage and quality levels.

The Bahamas has **other data sources** that provide health information, most of which comes from DOS population censuses and household surveys. Among this latter group it is worth noting household behavior, expenditure, and income, living conditions (which tend to include health modules), and other specifics that make it possible to delve further into particular health matters (demographics and health, world health, national health, prevalence, and adolescent health).

There is no formal partnership among the institutions involved in the production of health statistics, which can hinder the coordination needed to develop and maintain a short-, medium-, and long-term strengthening strategy.

Training and Technical Cooperation

Although the DOS does not provide special **training** for the health statistics unit, staff do receive training in questionnaire design, the Statistical Program for the Social Sciences (SPSS), and statistical methods from other programs and institutions. In addition, national staff attend courses from the Caribbean Epidemiology Centre (CAREC), the Bahamas HIV/AIDS Center, and the Caribbean Health Research Council on the epidemiology and monitoring of HIV/AIDS. The DOS benefits from special technical cooperation programs with international agencies such as PAHO and CAREC.

b. Vital Statistics

General Characteristics in the Bahamas

Central level

The DOS is the **agency** in charge of producing vital statistics in the Bahamas, although it depends to a great extent on contributions from the civil registry, which collects statistical reports when an event is recorded or certified and enters the data with the DOS. The DOS is in charge of the other tasks at the central level involved in the productive process. As in most of the countries, this partnership is often based on common law and a longstanding, consensus-based tradition (civil registry statistical functions are not typically established in traditional legislation). In the case of the Bahamas, as in most countries with a relatively high level of statistical development, this arrangement tends to be positive but requires coordination and harmonization, especially in light of the different regulations and procedures that govern the operations of agencies that by nature are very different.

For births, there is a **single form** with questions developed by the central level. The form is prepared with carbon copies that are used for different purposes such as registry or statistical production. For deaths, there is an official questionnaire that is not the same as the registry certificate.

As in most of the countries, **there is a legal and regulatory framework** for the production of vital statistics, but it does not necessarily assign responsibilities. That function is governed by tradition, as stated above. A single official form is used countrywide for statistical information on births. This guarantees standardization of the information transferred from the local to the central level.

The DOS frequently **communicates** with the local level when there are problems that must be fixed or explained, and that communication is fluid, as demonstrated by the fact that a response is generally received. After the data is entered, consistency is ensured through electronic and manual editing, following the guidelines for consistency and validation found in the data entry manuals for each vital statistic.

This is the level with the greatest potential for meet the demands from other entities of the system, since, as mentioned earlier, most methodological decisions and tasks in the productive process are carried out here. **Tasks** such as the processing of open variables

are performed at the central level, where there are manuals with the official nomenclatures used by national and international agencies, among them the ICD-10 and the International Labor Organization. The country also follows international recommendations and uses the manuals and standards defined in that context.

The central level, then, consolidates the data and ensures its consistency through the use of Imps 4.0 and MS Excel software for data processing. Data are stored in a central server of the DOS and in computers of the unit.

There is a standardized **annual dissemination plan** for basic tabulations. The country publishes information by the date of occurrence and registration and by the place of occurrence and residence. It also presents information by age and gender for most of its indicators.

The Local Level, where the Event Occurs

Although there is a high level of institutionalization of events in the Bahamas, birth reporting forms are filled out and presented by the family member who reports the event, which in some cases could result in underreporting. Reports on deaths and fetal deaths are filled out by physicians.

After the event is recorded at this level, the principal **tasks** of the local civil registry include sending the information to the central civil registry, which forwards it to the DOS. The civil registry sends the birth, death, and fetal death forms just as they are filled out, without any editing or validation of the information provided. The information is sent weekly and monthly, generally through the public mail or the agency's special mail system.

Given the limited evaluation and monitoring mechanisms at this level, it is clear that the coverage and quality of the reporting is basically determined here. The quality of the data collected will be seriously affected if the statistical report is not filled out properly and questions are left blank—i.e., if the place of residence, education, or cause of death is not provided. Deficiencies in those processes are, in the best of cases, corrected at other levels.

These issues should be studied as part of a strengthening strategy. Hence, the importance of a detailed understanding of the processes that take place at this level in order to control factors that can potentially affect the coverage and quality of the data that are beginning to be transmitted.

As can be seen, because production of the statistical report at this level depends on the human, economic, and technological systems and resources of the local civil registries, the process can be impacted at any moment. Hence the importance of a detailed understanding of the processes that take place at this level in order to control factors that can potentially affect the coverage and quality of the data that are beginning to be transmitted. [TN: This sentence is repeated from the paragraph above.]

Second Administrative Level

As mentioned earlier, the statistical production processes take place entirely at the central level once the information arrives from the local levels.

Current Coverage and Quality of Vital Statistics

The country's estimated coverage is 85% for births and 90% for deaths. The high degree of urbanization (nearly 90% of the population resides in urban areas) and high literacy level are among the factors contributing to the registration of life events. These factors should lead to a higher level of coverage. However, the fact that health facilities do not complete the statistical forms and that the responsibility is with the informants may contribute to the omission of birth information.

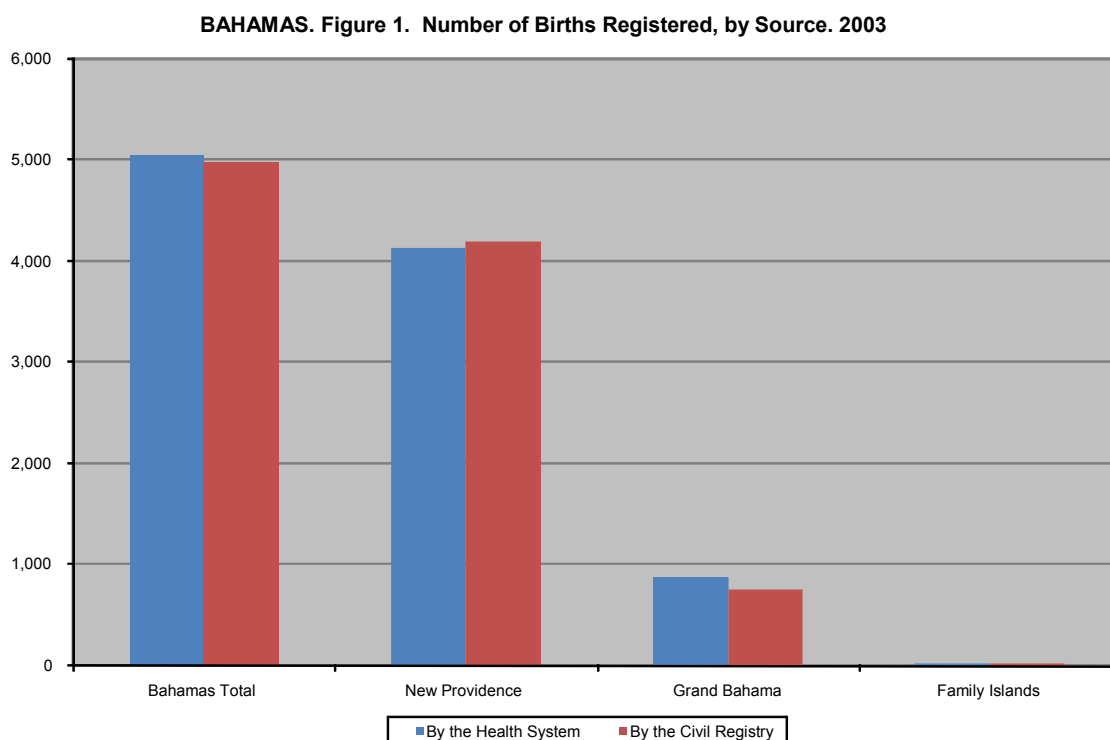
In light of this, raising coverage levels should be a priority, although quality improvement should not be neglected. The country does not generally undertake systematic assessments of the coverage and quality of these statistics. Quality assessment is limited to comparing the births recorded in the vital statistics with those recorded in the health system (see Figure 1).

Certain indicators that reflect the status of these statistics are listed in Table 2 below, which provides information on the coverage and quality of the country's statistics.

Table 2. BAHAMAS: Selected Coverage and Quality Indicators, 2005

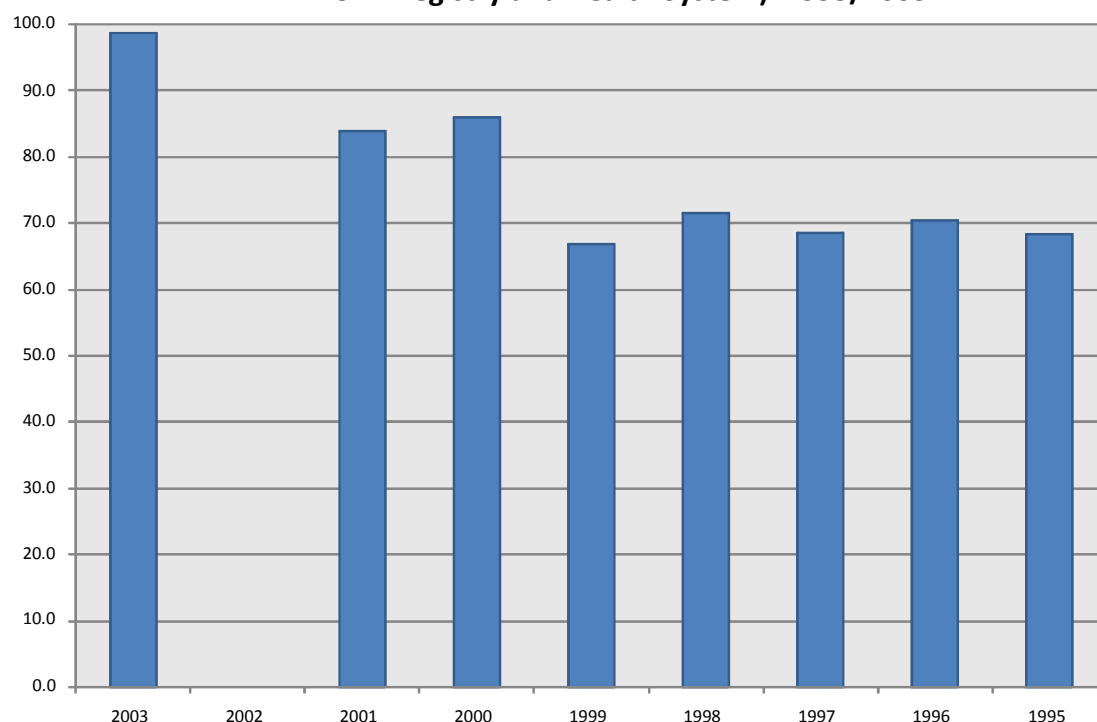
BAHAMAS	
COVERAGE INDICATORS	
	Percent*
Events recorded from one source to another for births	98.7
Events recorded from one source to another for deaths	81.6
Events recorded from one source to another for infant deaths	...
Events recorded from one source (continuous registry) to another for births	95.2
Coverage of male births (based on population projections)	68.4
Coverage of female births (based on population projections)	68.9
Coverage of births of both sexes (based on population projections)	68.6
Male birth rate	68.8
Risk of death estimated by the continuous system (first two years of life)	17.8
Risk of death estimated by the Brass method (first two years of life)	21.2
QUALITY INDICATORS	
<u>Live births</u>	
Delivery in a hospital or health center	>90
Delivery attended by physician	90
Age of mother not specified	<1
Birthweight of child not specified	<10
Deaths	
In a hospital or health center	80.0
Not in a health care facility	20.0
Attended by physician	90.0
Causes of death certified by physician	90.0
Age of mother not specified (for children under 1 year only)	
Birthweight of child not specified (for children under 1 year only)	
Ill-defined cause of death	5.0
Causes of death omitted	1.0
Age of the deceased not specified	1.0
Quality of information used to calculate the infant mortality rate	
Births with sex unknown	0.0
Deaths of infants of unknown sex	0.0
Births with mother's residence unknown	0.0
Infant deaths with mother's residence unknown	0.0
Births with mother's age unknown	0.1
Infant deaths with age unknown	0.1
Percentage of males among deceased infants	68.8

*Except for the case of male indices (ratios)



- ✓ The figure above shows that the differences between sources vary by jurisdiction. In New Providence, for example, the civil registry records more births than the health system, unlike the situation on Grand Bahama Island. A strengthening strategy should provide an analysis with a breakdown by jurisdiction.
- ✓ The figure below shows that birth coverage (according to other sources) has increased considerably in recent years.

BAHAMAS. Figure 2. Birth Coverage (Difference between Civil Registry and Health System). 1995/2003



Strengthening Strategies Implemented in the Country

As mentioned earlier, the country has not systematically implemented any strengthening strategies beyond the quality assessment, which is limited to comparing births recorded in vital statistics with those recorded in the health system.

An **interinstitutional committee** should be created to examine the country's vital and health statistics situation and develop a strengthening strategy and plan of action by agreement among the institutions most committed to the production of vital statistics in the country.

Bahamas has taken steps to improve its information system. The civil registry databases are being automated and would begin to be operational in 2006. In addition, the DOS contacted the information technology (IT) consultant in order to renovate the IT statistics system, which would begin operations in 2006.

The Bahamas has also taken some steps that have helped to improve the vital statistics system and civil registry, although many of them have not necessarily been part of a permanent and sustainable strengthening strategy. In any event, the design of a strengthening strategy should also involve reviewing the tangible results of these activities in terms of coverage, quality, and strengthening—not only to endorse or correct their design or implementation in the future, but to disseminate the most successful practices to the other countries. The activities are as follows:

✓ Training, outside the country, of key administrative staff from the national registration agency ✓ Training, outside the country, of key national office staff responsible for the compilation and dissemination of vital statistics ✓ Preparation of technical standards for the civil registry to help the work of the registrar ✓ Strengthening of the management and technical capacity of the national civil registry office ✓ Strengthening of the management and technical capacity of the national office in charge of the vital statistics program ✓ Provision of office equipment to certain registry offices ✓ Introduction of procedural reforms for the civil registry and statistical reporting ✓ Introduction of computers in the vital statistics division responsible for the national vital statistics program ✓ Automation of the priority functions of the civil registry in the central offices, e.g., issuance of certificates, storage of registries, etc. ✓ Automation of the priority functions of the civil registry in pilot/demonstration areas only ✓ Greater public awareness about registry matters ✓ Specific research to monitor the quality of certification of the causes of death ✓ Training seminars held for the people who process data on causes of death ✓ Recoding of a sample of statistical reports to confirm their quality ✓ Courses on ICD-10 coding

Evaluation of Vital Statistics

Statistics authorities consider vital statistics to be **GOOD BUT IN NEED OF IMPROVEMENT** due “*to the late registry and possible omission of certain events.*”

One aspect that needs to be taken into account in the design of a strengthening strategy is the importance that producers assign to different factors (administrative, technical, and public) when considering the operations of the civil registry and vital statistics subsystem.

For the Civil Registry	
VERY IMPORTANT:	
	✓ Administration of the civil registry by two or more government agencies ✓ Lack of commitment of the governments to these matters ✓ Poorly-equipped local registry offices ✓ Absence of periodic publicity campaigns to educate and inform the public ✓ Poorly trained local civil registrars ✓ Lack of periodic supervision of the work of the civil registrar by senior authorities of the system ✓ Public apathy about the civil registry, since it is not perceived as providing any social or personal benefit
IMPORTANT:	
	✓ Although the registry law/regulation is adequate, there is a lack of compliance with it ✓ Lack of technical orientation and supervision of civil registrars ✓ Lack of timely distribution of essential forms to the registry ✓ There is no ongoing monitoring or evaluation of system operations

c. Morbidity and Resources and Services Statistics

General Characteristics in the Bahamas

Central Level

The two agencies in the Bahamas that produce morbidity statistics are the Health Information and Research Unit (HIRU) of the Ministry of Health and the corporate office of the Public Hospitals Authority (PHA). For statistics on resources and services, those in charge, in addition to the HIRU and PHA, are the Health Facilities Council, Bahamas Medical Council, and Bahamas Nursing Council.

There is a **single form** for each of the morbidity, resources, and services statistics, but there is no **legal and regulatory framework** for the production of these statistics.

Morbidity statistics are recorded in two ways. On Grand Bahama Island, there is a statistics office in the central hospital that receives the information from the island's other hospitals, clinics, and health centers. This office sends a copy of the statistical reports to the HIRU and PAH. On the other islands of the Bahamas, the forms are submitted directly to the central level from the clinics. For statistics on resources and services, public and private hospitals send forms directly to the HIRU and PHA.

Reviews of the consistency of the information and its consolidation into a national database are conducted at the national level. For morbidity statistics, the national level uses its own software to process the data. The data are stored in central computers and the results are published in quarterly reports and an annual report.

The subsystem's **coverage** is complete for some practices but not for others in the case of morbidity, resources, and services statistics, since the information generally corresponds to the public sector. The private sector reports some morbidity events such as visits to the emergency room and hospital discharges, but it does not report others, such as surgeries and visits to general practitioners. In the case of resources and services, the private sector reports the number of beds and services, but not information on human resources and equipment. The public sector, on the other hand, reports all of those categories.

The Local Level, where the Event Occurs

This is the level where the information is obtained and transmitted to the central level. Some procedures for the monitoring of questionnaires and consistency among forms are conducted at this level. In the case of the instruments used for morbidity, adjustments to diagnoses are also made in consultation with physicians.

In general, a copy of the instruments used for the collection of morbidity statistics remains in the health center, which facilitates the use of the information for management purposes. Some clinics only maintain registry books, with copies of the statistical forms sent to the main clinic of the region.

The information produced by the health centers is sent once a month to the central office. The forms are sent both as hard copies and electronically. As mentioned earlier, Grand Bahama Island uses a different procedure than the rest of the islands. Grand Bahama's central hospital receives the information from the island's health centers. The hospital then sends a copy of the statistical reports to the central level. On the rest of the islands, the forms are sent directly from the clinics to the central level.

Current Coverage and Quality of Morbidity, Resources, and Services Statistics

As in most of the countries, the level of development of these statistics can be said to be a more of an early stage. There is no analysis of coverage, since, unlike the case of vital statistics, there are no indirect techniques or external sources to evaluate these indicators. It is presumed that the health centers monitor and keep a record of the events that occur and the characteristics of the resources and services that should be captured statistically by this subsystem. A future strengthening strategy should monitor the results of these activities for the benefit of the country and to disseminate good practices. What is certain, however, is that for morbidity, resources, and services statistics, a national database with information on the private sector for all practices has yet to be constructed.

However, a plan for evaluating the quality of the morbidity statistics produced is being implemented. The strategy is part of the National Health Strategic Plan, which includes human resources training and improvements in the quality of the data and databases. This reform includes morbidity reports from both hospitals and clinics. There is also a medical forms committee whose objective is to improve the quality of morbidity data. The Health Information System in public clinics—which would establish an interface between systems in clinics and hospitals to facilitate the collection of more complete morbidity profiles and information—was scheduled to become operational in 2006. For statistics on resources and services, a human resources information system is being set up in hospitals to provide up-to-date data on the staff of these institutions.

Strengthening Strategies Implemented in the Country

The country has **no interinstitutional committee** on general health statistics or contacts with the national statistics office to develop better definitions and indicators for national dissemination. However, as mentioned in the previous paragraph, some **strategies** have been implemented at the central level **to improve the quality** of morbidity, resources, and services statistics.

The Bahamas also has taken some steps to improve the operations of the subsystem for morbidity, resources, and services statistics. The design of a strengthening strategy should also involve a review of the tangible results of these actions in terms of overall coverage, quality, and strengthening—not only to endorse or correct their design or implementation in the future but to disseminate the most successful practices to the other countries. The activities are as follows:

Morbidity

- ✓ Courses held on the coding of data on diseases
- ✓ Courses held on the coding of data with the ICD-10

Resources

- ✓ Adaptation/Installation of software to enter, review, tabulate, and analyze statistical data on resources

Evaluation of the Subsystem for Morbidity, Resources, and Services Statistics

Statistics authorities consider the system for morbidity, resources, and services to be **GOOD BUT IN NEED OF IMPROVEMENT**. In the case of morbidity, the reason is because *“the outpatient care forms used by the clinics capture aggregate data, but it is anticipated that this problem will be solved by the improvement plans currently in place.”*

One aspect that needs to be taken into account in the design of a strengthening strategy is the degree of importance that statistics producers assign to different factors (administrative, technical, and public) when considering the operation of the subsystem for morbidity statistics.

IMPORTANT (Morbidity)

- ✓ Not enough personnel in local statistics offices to meet periodic statistical reporting requirements
- ✓ Not enough personnel for data processing in the compilation office
- ✓ Lack of uniformity countrywide in terms of the forms used for the statistics report

IMPORTANT (Resources)

- ✓ Legal framework needs considerable reforms
- ✓ Others: Lack of up-to-date information on staff movements