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CIVIL REGISTRATION & VITAL STATISTICS
Asia and the Pacific

Overview of efforts to improve civil registration and vital statistics in the Asia-Pacific Region

Jointly prepared by the ESCAP Secretariat in collaboration with the Health Metrics Network and the University of Queensland, Health Information Systems Knowledge Hub

I. Introduction

1. It is universally recognized that a functional and reliable civil registration and vital statistics (CRVS) system is necessary for every country. A functional CRVS system forms the foundation for a modern public administration system that documents judicial facts which are crucial for exercising human, legal, economic and social rights. Also reliable statistics are needed to identify problems, monitor progress and evaluate the impact of development programmes. However, many countries in the Asia–Pacific region do not have functional CRVS systems. The registration of vital events is often incomplete as they are not recorded properly or they do not reach the vital statistics systems in a timely manner. Recognizing the urgent need for improving the CRVS systems, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in May 2011 endorsed a resolution on the improvement on civil registration and vital statistics in the countries of region.

2. The purpose of this report is to report on some of the work which has been undertaken in the Asia–Pacific region and to propose priority areas for the improvement of the CRVS systems as identified by rapid and comprehensive assessment that countries have carried out.

II. Background

3. The first session of ESCAP Committee on Statistics, held in February 2009, noted the urgent need for improving vital statistics in Asia and the Pacific region. Subsequently, in June 2010, the ESCAP Secretariat, in collaboration with the Regional Office for the Western Pacific of the World Health Organization (WPRO-WHO), the Asian Development Bank (ADB), the University of Queensland Health Information Systems Hub (UQ-HISHub) and the Australian Bureau of Statistics (ABS) organized a regional forum of development partners and representatives of 20 countries that explored ways and means of improving CRVS systems in the region. The regional forum recommended that all member States review the functioning of CRVS systems as a first step in a systematic approach to strengthening national CRVS systems. A task force, established in 2009, [1] recommended and supported countries in the use of standard tools, developed by UQ-HISHub and WHO, for the conduct of such assessments.[2]

4. Based on the recommendations of the regional forum, the second session of the Committee on Statistics, in December 2010, supported the development of a regional programme for improving vital statistics in the region. In May 2011, the 67th session of the ESCAP Commission endorsed resolution 67/12 on the Improvement of civil registration and vital statistics in Asia and the Pacific. Through the resolution, the Commission echoed the outcome of the regional forum in encouraging all members and associate members to review and assess the current functioning of the civil registration systems and the quality of the vital statistics produced internally within each country.

5. Since then, ESCAP has convened a number of meetings of partners, including in January and May 2012 in Bangkok. These meetings have provided the impetus to significantly expand the scope and

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[1] ESCAP and WHO-WPRO jointly convened a meeting on 15 and16 September 2009 to organize a regional task force and to hold consultations on developing a road map for improving vital statistics in the region. Health, civil registration and vital statistics experts from Australia, Cambodia, China, Mongolia, Samoa, Sri Lanka, Thailand, UNFPA, UNICEF, WHO, WPRO, the WHO Regional Office for South-East Asia (SEARO) and UQ-HISHub agreed to serve on the Regional Task Force.
[2] Rapid assessment of national civil registration and vital statistics systems, WHO/IER/HIS/STM/2010.1, in World Health Organization and the University of Queensland, *Improving the quality and use of birth, death and cause-of-death information: guidance for a standards based review of country practices,* (Geneva, 2010).

reach of the Regional Strategic Plan by demonstrating the widespread stakeholder interest in CRVS.[3] An overview of some of the main activities performed in the region is presented in Table 1.

Table 1. Activities to improve CRVS systems, February 2009-December 2012

Date	Activity
February 2009	The first session of the ESCAP Committee on Statistics noted the urgent need for improving vital statistics in the Asia–Pacific region.
May 2009	ESCAP organized a meeting (28–29 May 2009) with other development partners to set the scope of determine work plan. Senior statisticians and health experts from the ABS, ADB, UNICEF, UNFPA, WHO, WPRO and UQ-HISHub.
September 2009	ESCAP and WPRO jointly convened a meeting of the regional task force, established at the recommendation of the partners meeting to develop a road map. Health, civil registration and vital statistics experts from Australia, Cambodia, China, Mongolia, Samoa, Sri Lanka, Thailand, UNFPA, UNICEF, WHO, SEARO, WPRO and UQ-HISHub participated in the meeting.
February 2010	The ESCAP secretariat sent a request to all national statistical offices in the region inviting them to carry out a self-assessment of their respective CRVS systems using the assessment tool developed by Health Metrics Network (HMN) at WHO and UQ-HISHub. The national statistical offices were encouraged to engage other national stakeholders, including ministries of health and civil registrars, when completing the assessment.
June 2010	ESCAP and WPRO organized a regional forum (23–25 June 2010) in collaboration with ADB, UNDP, UQ-HISHub and ABS to build a consensus on the outline for a regional programme. The forum brought together key stakeholders associated with national CRVS systems, including national statistics, civil registration, ministry of health, academia, advocacy groups and development partners and civil societies. In all, 17 countries were represented at the forum.
December 2010	The second session of the Committee on Statistics proposed ESCAP to develop a regional strategy for improving CRVS systems in Asia and the Pacific region.
December 2010	At the initiative of UQ-HISHub and the Secretariat of the Pacific Community (SPC) the Brisbane Accord Group (BAG) of Pacific partners including UNFPA, WHO, UNICEF, ABS and others was formed and the Pacific Vital Statistics Action Plan 2011–2015 developed. This has been formally endorsed by Pacific health ministers.
May 2011	The ESCAP Commission, at its 67th session endorsed resolution 67/12, calling on all member and associate member states to review and assess the functioning of their CRVS systems. The resolution requested the ESCAP secretariat to coordinate and harmonize global, regional and country resources to support these efforts in close collaboration with development partners.
January 2012	An informal meeting of partners for the improvement of CRVS in Asia and the Pacific region was held to plan and start preparing for the high-level regional meeting of decision-makers from national statistical organizations, civil registration offices, ministries of health and other relevant stakeholders scheduled to take place in December 2012 in Bangkok. ABS, ADB, HMN, Plan International, SPC, UNDP, UNICEF, UNFPA, UQ-HISHub, and WHO (EURO, SEARO, and WPRO) attended the meeting.
May 2012	A partners' meeting on a regional plan for the improvement of CRVS in Asia and the Pacific was held with the objectives to: (i) bring together the development partners in CRVS to produce a plan to accelerate the strengthening of CRVS in Asia and the Pacific; (ii) understand partners' capabilities, interests and potential contributions to a regional CRVS initiative; (iii) develop a clear structure for the management and oversight and quality assurance of such an initiative; (iv) develop a draft 3–5 year work plan for accelerating CRVS strengthening in Asia and the Pacific; and (v) discuss the organization of the high-level meeting on strengthening civil registration and vital statistics systems in the Asia-Pacific region, scheduled to take place on 10–11 December 2012. ABS, HMN, SEARO, WPRO, EURO, UNDP, UNICEF, UNFPA, SPC, ADB, IOM, UQ-HISHub, Plan International, UNHCR, the Royal Thai government, and United

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[3] Draft Regional Strategic Plan for the Improvement of Civil Registration and Vital Statistics in Asia and the Pacific. Available at http://www.unescap.org/stat/vital-stat/high-level/index.asp

	Nations Nepal attended the meeting.
September 2012	HMN and UQ-HISHub organized an orientation workshop on harnessing multisectoral and multidisciplinary technical resources in support of CRVS systems. The workshop was designed to familiarize the participants with the contents and approach of the WHO/HMN/University of Queensland assessment tool and equip them to work as a part of or in support of country teams. The workshop was attended by representatives from Bangladesh, Bhutan, Egypt, India, Indonesia, Laos, Maldives, Myanmar, Nepal, Philippines, Thailand and Turkey.
December 2012	The High-level Meeting on the Improvement of Civil Registration and Vital Statistics in Asia and the Pacific takes place to review and consider the regional strategic plan (10-11 December).
December 2012	The third session of the ESCAP Committee on Statistics takes place (12-14 December). The Committee will consider the Regional Strategic Plan for endorsement.

6. Following the call for assessments from ESCAP, several Asian countries have conducted assessments of their CRVS systems and are developing national strategies and plans for accelerated improvement. Several Pacific island countries have also initiated processes to assess their current CRVS systems and develop national improvement strategies. These activities are supported through the Secretariat of the Pacific Community (SPC) and other development partners as part of the Pacific Vital Statistics Action Plan 2011–2014.[4]

III. Assessing the current situation

7. A first step in aiming to improve the civil registration and vital statistics systems is to review the functionality of the current system. The World Health Organization and the Health Information Systems Knowledge Hub at the University of Queensland developed a guidance tool entitled "Improving the quality and use of birth, death and cause-of-death information: guidance for a standards-based review of country practices"[5] aiming to assist countries to carry out a systematic evaluation of the quality and functioning of their current CRVS systems. This guidance tool consists of a comprehensive assessment tool and a rapid assessment tool. The rapid assessment tool is an automated Excel workbook and is part of a more detailed guidance tool which is completed prior to conducting a comprehensive assessment. A brief discussion on these tools is provided in the next section.

Box 1. Broad components of the rapid assessment tool

The rapid assessment instrument includes a set of 25 questions covering 11 different areas (Box 1). The rapid assessment should be completed through a process of discussion among all key CRVS stakeholders. Thus the purpose is not simply to answer a question and obtain a score but to engage in discussion on possible weaknesses and strengths of the system.
1. Legal framework for CRVS
2. Registration infrastructure and resources
3. Organization and function of the vital statistics system
4. Completeness of birth and death records
5. Registration data storage and transmission
6. ICD-compliant practices and certification within and outside hospitals
7. Practices affecting the quality of cause-of-death data

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[4] Secretariat of the Pacific Community and University of Queensland Health Information Systems Knowledge Hub (2011) Information Paper: Pacific Vital Statistics Strategy 2011-2014. Presented at the Ninth Meeting of Minister of Health for the Pacific Island Countries, Honiara, Solomon Islands, 28 June-July 2011.

[5] *Improving the quality and use of birth, death, and cause-of-death information: guidance for a standards-based review of country practices*, Geneva, WHO, 2010.This tool can be found at http://whqlibdoc.who.int/publications/2010/9789241547970_eng.pdf.

8. ICD coding practices
9. Coder qualification and training and quality of coding
10. Data quality and plausibility checks
11. Data access, dissemination and use

8. Each of the 25 questions has four scenarios for countries to choose from to describe the most relevant situation. Each scenario is attached to a numeric value (from 3 for the most relevant to 0 for the least or no relevance).[6] The scores of the 25 questions are then added together to reveal the total score for the CRVS system. This overall score provides a reasonable summary of the functionality and quality of the national CRVS systems. This enables country decision-makers to identify realistic broad areas that require improvement in the near- to medium-term. The rapid assessment is not a replacement for the comprehensive assessment; rather it provides a quick overview of how well or how poorly a country's overall system is functioning.

A. Standards-based comprehensive review

9. The standards-based, comprehensive framework is built around a results chain for CRVS covering CRVS inputs, processes and outputs, each of which contains analytical subcomponents (see Box 2).The framework provides a comprehensive method for systematically assessing the functioning of national CRVS systems.[7] Using this framework, countries are to identify priorities for action needed to improve the system.

Box 2. The CRVS assessment framework

The CRVS assessment framework	
Inputs	
A. Legal basis and resources for civil registration and vital statistics	
A1.	National legal framework for vital statistics
A2.	Registration infrastructure and resources
Processes	
B. Registration practices, coverage and completeness	
B1.	Organization and functioning of the vital statistics system
B2.	Review of forms used for birth and death registration
B3.	Coverage and completeness of registration
B4.	Data storage and transmission
C. Death certification and cause of death	
C1.	ICD-compliant practices for death certification
C2.	Hospital death certification
C3.	Deaths occurring outside the hospital
C4.	Practices affecting the quality of cause-of-death data
D. ICD mortality coding practices	
D1.	Mortality coding practices
D2.	Mortality coder qualification and training
D3.	Quality of mortality coding
Outputs	
E. Data access, use and quality checks	
E1.	Data quality and plausibility checks
E2.	Data tabulation
E3.	Data access and dissemination

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[6] The scores have no objective basis and should only be taken as a rough indication of the functionality and quality of CRVS systems

[7] The framework focuses on the needs of the health sector for information on births, deaths, and causes of death.

10. The tool outlines a roadmap and a process to be followed for the review as well as who should be part of the assessment and how to obtain the best results. Advice is also given of how to use the evidence to formulate a strategic improvement plan, how to implement this and how to monitor progress.

B. Progress to date

11. An overview of the status on the assessment work in countries is presented in Table 2. A total of 34 countries or areas have undertaken the rapid assessment while four countries have completed the comprehensive assessment. An additional 12 countries are at various stages of completing the process.

Table 2. Status of assessments in Asia and the Pacific*

CRVS Assessments	Countries
Rapid assessments completed	Armenia, Australia, Azerbaijan, Bangladesh, Bhutan, Cambodia, China, Cook Islands, Democratic Peoples' Republic of Korea, Fiji, Georgia, Indonesia, Iran (Islamic Republic of), Japan, Kazakhstan, Kyrgyzstan, Lao Peoples' Democratic Republic, Malaysia, Maldives, Mongolia, New Zealand, Pakistan, Philippines, Republic of Korea, Russian Federation, Sri Lanka, Thailand, Timor-Leste, Turkey, Uzbekistan, Vanuatu, Viet Nam, Hong Kong, China and Macao, China.
Comprehensive assessments completed	Maldives, Philippines, Sri Lanka, Timor-Leste
At various stages of completing the comprehensive assessment process	Bangladesh, Cambodia, India, Indonesia, Kyrgyzstan, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Nepal, Tajikistan, and Thailand.

*The table includes countries and areas for which assessment reports or other information have been submitted to or shared with the ESCAP Secretariat. The list therefore may not be complete.

12. The rapid assessment findings help to obtain a clear understanding of the strengths and weaknesses of national CRVS systems and the results of the rapid assessment would be used to develop proposals for a more detailed comprehensive analysis of the current functioning of CRVS systems.

IV. Common gaps and challenges

13. While each country setting is different and each faces specific challenges, there are a number of gaps and challenges that are common to most countries. Findings of the rapid assessments show that of the 34countries in the Asia–Pacific region that undertook the rapid assessment approximately one-third countries had a satisfactory CRVS system, while two-thirds had weak or inadequate systems that would strongly benefit from a development plan based on the findings of a comprehensive assessment. Of these, 11 countries have a "dysfunctional or weak" system which requires substantial improvement in all areas;12 countries have a "functional" system with many inadequate areas that function poorly and the remaining 11 countries have "satisfactory" systems which scored 85% or higher. These countries are deemed to be having CRVS systems that produce data of sufficient quality to adequately cover the needs for policy decision-making and monitoring the impact of interventions and development programmes.

14. The average score for the countries that completed the rapid assessment is 67% (see Table 3). Of the 11 components, the following six components were identified having major problems (with scores below the average): organization and functioning of the vital statistics systems, data storage and transmission, ICD-compliant practices and certification within and outside hospitals, practices affecting the quality of cause-of-death data, coder qualification and training and quality of coding, and data quality and plausibility checks.

Table 3. Summary of the 11 components of the rapid assessment

Component	Average (%)*
Legal framework for CRVS	75
Registration infrastructure and resources	79
Organization and function of the vital statistics system	60
Completeness of birth and death registration	72
Data storage and transmission	63
ICD-compliant practices and certification within and outside hospitals	66
Practices affecting the quality of cause-of-death data	64
ICD coding practices	78
Coder qualification and training and quality of coding	47
Data quality and plausibility checks	58
Data access, dissemination and use	80
Average percentage for the region	67

*Average of the total scores for 34 countries and areas in the region.

15. The weakest areas for most countries are practices affecting the quality of cause-of-death data, coder qualification and training and quality of coding, and data quality and plausibility checks. This finding is consistent with the results from the comprehensive assessments and it may be associated with lack of training of registrars, doctors and coders for certification and coding of mortality data.

16. There are some deficiencies in current legal frameworks which do not necessarily include a clear provision on vital statistics systems and delineation of roles and responsibilities of relevant stakeholders. This may reflect a need to ensure political commitment at the highest level in order to strengthen the limitations in the legal provisions.

17. Civil registration tends to be incomplete and does not adequately cover areas facing geographical and logistics challenges, internally displaced populations and marginalized communities.

18. Mortality statistics in several countries are less reliable because causes of deaths are not systematically recorded in the system, which may be associated with inadequate knowledge and training in properly completing the death certification forms.

19. Paper-based registration records are not stored safely, and inadequate provision for data backup or archiving does not provide opportunity to verify and substantiate vital registration.

20. Often inadequate budgetary allocation for CRVS systems tends to hamper smooth operation of the system because necessary additional staffing and equipment cannot be procured and registration facilities are not properly maintained.

21. All countries experienced problems in improved data exchange and communication practices, partly due to weak information technology infrastructure.

22. The collaboration among key stakeholders is usually weak, leading to inefficiencies and duplication or inconsistencies in efforts in civil registration, data processing and reporting.

23. The comprehensive assessment findings helped to obtain a clear and comprehensive understanding of the strengths and weaknesses of their CRVS systems, and generated the evidence needed to gain the necessary political and financial support to implement a national plan for strengthening the CRVS systems. Some lessons and results from the comprehensive assessments are described in four UQ-HIS Hub papers (DN 1, DN 2, WP No.8, and WP No. 24[8]).

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[8] The papers are available to be downloaded from http://www.uq.edu.au/hishub/all-publications.

V. Suggested priority areas

24. The results of the comprehensive assessments generated basis for prioritizing improvement CRVS systems and developing national action plans. Key recommendations are as follows.

- **Seeking political support:** It is crucial to have a strong political commitment at the highest level as well as an advocacy framework that demonstrates benefits of registration of vital events to provide evidence on emerging needs for better monitoring and evaluation of development performance. Therefore, efforts to seek continued support from policy-makers and political leaders to address the legal, administrative and operational gaps to increase the coverage of registration of vital events are needed.

- **Improving the legal framework:** For a well-functioning CRVS system, there should be clear provision of a vital statistics system including clearly defined roles and responsibilities of all stakeholders so that consistent and reliable statistics are produced and disseminated on time. Hence, one of the principal priority interventions recommended is to ensure a comprehensive civil registration and vital statistics legislation system. For this, the attention and continued support from policy-makers including political leaders is essential so that necessary legal amendments and provisions are made on time. In this regard, some countries have already put efforts towards amendments to national laws.

- **Improving institutional and technical capacities:** A well-functioning CRVS system should be supported with adequate institutional and technical capacity, including skilled and well trained human resources, adequate numbers and distribution of registration facilities, an efficient office set-up at the local level with office supplies and equipment, and expertise in data recording, reporting, compilation, archiving, analysis and dissemination of vital event statistics. There is also an urgent need for a concerted effort in developing and implementing a nationwide capacity-building programme including increased technical capacity to effectively use vital statistics, organizing workshops, training and knowledge sharing among national and regional specialists.

- **Strengthening national coordination and collaboration:** In each country, a national coordination structure should be established so that relevant agencies/stakeholders are on the same level of understanding and work together to contribute to a well functioning CRVS system. With an effective coordination mechanism, inconsistencies and inefficiencies in the production of vital event statistics can be minimized.

- **Seek support from development partners:** Countries should proactively coordinate with international agencies active in supporting CRVS systems. Coordination efforts should also focus on preparing action plans, creating mass awareness through publicity campaigns and producing guidelines and reference materials. International agencies should also be proactive in sharing best practices with national stakeholders. Furthermore, it is important to contextualize the design and implementation of CRVS into country systems and structures by aligning CRVS systems with other projects such as MOVE-IT or efforts with a country's immediate

plans and or future strategies and vision for strengthening the national CRVS system for universal coverage and the timely availability and use of vital statistics.[9]

- **Improving completeness of registration of vital events:** Serious efforts must be made to ensure that registration of vital events is complete and accurate. Actions to remove barriers to registration at all levels may include efforts to enhance awareness of the value of civil registration at all levels, improve registration facilities by making adequate budget provisions for the operation of civil registration and by providing training to upgrade the skill levels of registrars to ensure that every citizen is counted.

- **Seek sustainable investments towards incremental improvements in CRVS:** Countries need to seek sustainable investment for ensuring sufficient budgetary provisions which are required not only for salaries but also for training of staff involved in registration functions, providing infrastructural supports in terms of registration office facilities including office equipment and computer software to record registration, advocacy and awareness campaigns, and maintenance of a registration database. Improvement of CRVS systems requires long-term continuing efforts; a country's own commitment and investment ultimately determines whether improvement is sustainable and long-lasting.[10]

- **Ensure monitoring and evaluation is effective:** Countries should establish transparent monitoring and evaluation procedures and guidelines to ensure that registration data maintained, and more important, independently validated to ensure their credibility. Initial data collected through rapid and comprehensive assessments should be adopted as baselines, and progress should be evaluated at a later date using baseline data.

- **Use and dissemination of vital statistics:** Vital event statistics should be released and disseminated without delay following testing the credibility of data through validation. Demand for an effective CRVS system is guided by a need for quality vital statistics data by concerned agencies and advocacy groups so that they can play a significant role in strengthening CRVS systems. Quality data, however, depend on several factors such as accuracy in appropriately recording vital events during registration; completeness of information/data; skills and experience of registrars, coders and certifiers; and data quality assurance mechanism and protocol. The task ahead is to promote awareness of use of vital statistics, for which countries need to ensure that resources are available to complete the data tabulations on a regular basis according to agreed time schedules.

25. Based on these recommendations, countries would be able to formulate results-oriented national action plans including implementation strategies to accelerate the effectiveness of the CRVS systems.

VI. Conclusions

26. An effective CRVS system requires a strong political commitment at the highest level as well as an advocacy framework demonstrating benefits of vital events registration so that the required legal, administrative and operational support are provided as required. The two assessment tools have been

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[9] MOVE-IT is an initiative of the Health Metrics Network that focuses on the use of innovation and advances in information technology to record vital events.
[10] *Development of a regional programme for the improvement of vital statistics in Asia and the Pacific. Note by secretariat.* Bangkok, ESCAP, 2010:12. E/ESCAP/CST (2)/3; at http://www.ESCAP.org/stat/cst/2/CST2-3E.pdf.

useful for the countries in the region in learning about the status of their national CRVS systems and have helped them develop, with a better understanding of strengths and weaknesses of their systems. The assessment exercise has been instrumental in bringing together relevant stakeholders for needed inter-sectoral collaboration and coordination. As a result the systems can function more effectively and efficiently by minimizing or even eliminating duplication of functions across different areas of government and facilitate the effective use of registration records for statistical and policy purposes.

27. Given significant inter-country variations in the current state of CRVS systems in the region, improving vital statistics in different countries requires a targeted (focused) approach with a flexible mix of technical assistance and policy advice. The diversity in the state of CRVS systems in the region provides a wealth of experience, expertise and knowledge that can be drawn on for technical capacity-development in the region. Countries can benefit from each other through knowledge exchange, both bilaterally and multilaterally. These can be promoted through exchange visits as well as regional knowledge sharing events. A regional strategy for CRVS systems would help in this endeavour.

Appendix 1. Scores, ratings and action required for rapid assessment

Score (%)	Typology	Description	Action required
< 35	Dysfunctional	There is very limited registration of births and deaths and medical certification of cause of death. The systems do not produce vital statistics.	Systems require improvements in all areas.
35 -64	Weak	There is incomplete or patchy registration of births and deaths (with higher coverage in urban areas for example), limited medical certification of cause of death (mainly confined to secondary and tertiary hospitals), and vital statistics are not generally compiled and analysed.	Many aspects of the systems do not function well and multiple actions require attention.
65 - 84	Functional but inadequate	There is complete registration of births and deaths and medical certification of cause of death in hospitals, but limited medical certification for non-hospital deaths. There are concerns about the compilation, quality, and dissemination of vital statistics.	Systems work but some elements function poorly and require attention. The comprehensive assessment should be completed to identify weaknesses in the systems.
85 - 100	Satisfactory	There is complete registration of births and deaths with medical certification of cause of death. Vital statistics are produced and used, but there are some concerns regarding data quality.	Minor adjustments may be required for otherwise well functioning systems.