The goal of the “WHO Global Survey on Maternal and Perinatal Health” is to create an on-line global data system with information on maternal and perinatal health services, and how they relate to maternal and perinatal outcomes. The application of this system strengthens the capacities of countries to collect maternal and neonatal health information. At the same time the system allows its users to conduct periodic, targeted, large-scale studies on specific topics recognized as priorities in the area of maternal and perinatal health. The internet-based data system produces real-time information and focuses on the quality of the services offered to women. In addition it identifies areas for expanding coverage to under-served populations. The information is immediately available to practitioners and can be used for planning and implementation purposes.

Well made statistics are the best instrument to fight newborn mortality

Since its inception 40 years ago the Latin American Center for Perinatology/ Women’s and Reproductive Health (CLAP/SMR) of the Pan American Health Organization has worked with the countries in the Americas to improve perinatal health.

One of the first problems identified in countries was the lack of uniformity in data collection when mother and newborn receive health care and, sometimes, the absence of relevant information that resulted in a deterioration of the quality of services. Therefore it was necessary to address the lack of data for service planning at local level.

By the end of the 70s, this clinical history had been implemented in several maternity clinics of the region with more difficulties than successes. A validation study carried out in the whole region of the Americas indicated that the major problem with the implementation was linked to the length of the forms and the irrelevance of some data to the quality of care for mothers and newborns.

For more information check the MPS web site at http://www.who.int/making_pregnancy_safeter/health_systems/global_survey/en/

Seventy professionals celebrated the 25th anniversary of the SIP in 2008.
Achieving MDG 5 by 2015 requires a decline in the maternal mortality ratio of around 5.5% each year. Globally, the maternal mortality ratio showed a total fall of 5.4% in the 15 years between 1990 and 2005, an average reduction of 0.4% each year. However, in sub-Saharan Africa, where most deaths occur, there was hardly any improvement between 1990 and 2005. Significant progress was made in eastern and south-eastern Asia, Latin America and the Caribbean, northern Africa and Oceania. In eastern Asia, where the largest decline was recorded, the maternal mortality ratio fell by more than 40% between 1990 and 2005.

With the 2015 target date fast approaching, it is more important than ever to understand where the goals are on track, and where additional efforts and support are needed, both globally and at the country level. Reliable statistics and data are key to understanding and addressing the causes of mortality, identifying the most vulnerable groups and reaching women who lack access to quality health services.

Counting maternal deaths accurately requires a system for recording deaths among women of reproductive age and a system for identifying and recording the cause of death. Estimating the maternal mortality ratio requires in addition a system for counting the number of live births. Most countries use surveys of a limited sample of households to produce maternal mortality statistics and a quarter of the world’s births take place in countries where complete civil registration systems do not exist.

At the time when the Perinatal Information System (SIP) was introduced in the Americas more than 25 years ago, there was a blatant lack of data on maternal and newborn health in many countries and also a lack of uniformity in data collection. The development of this information system was a huge step in improving the availability of data and programming. Today the system is used in 34 countries.

To be useful for countries, data need to be gathered, processed and used in a timely fashion, and presented in a user-friendly format, preferring maps and graphs rather than tables whenever possible. To this end, MPS is assisting countries and helping them to analyse and use the available information on maternal and newborn health indicators. MPS translated the data collected in many countries for example through the Demographic and Health Surveys (DHS) into detailed national profiles that show key health service coverage for mothers and newborns in different regions of 75 focus countries.

Today many countries are working hard to improve their routine and non-routine health information systems including the information related to maternal and newborn health. However, the use of data and information for programming and decision-making at the local level still remains a challenge. The Short Programme Review for maternal and newborn health developed by Making Pregnancy Safer aims at addressing this challenge and is a tool that can be used at subnational and district levels.

Analyzing and making available the best of information, developing guidelines and tools for improved monitoring and evaluation, sharing best practices in the area of information utilization, continues to be a primary focus of the work of MPS in coming years.

he importance of high quality data, statistics and disaggregated information for policy making and planning purposes in countries is undisputed. Since its creation in 2005, the Department of Making Pregnancy Safer has been active in helping countries improve the collection of quality data and their interpretation, and support governments to use the data and its analysis as basis of their decision-making processes. In particular the need to monitor countries’ progress towards Millennium Development Goal 5 - aimed at improving maternal health and achieving universal access to reproductive health (MDG 5) - reveals the weaknesses of data collection and civil registration systems in many countries.

The 10 years of civil war (1991-2001) destroyed half of all health facilities and led to the exodus or death of every second health professional in Sierra Leone. The health information system collapsed. With the end of the civil war, various health programmes introduced fragmented specialized monitoring and evaluation (M&E) systems. These systems were often redundant and inconsistent, containing overlaps and gaps. At district level, data management was entirely paper-based, and was the responsibility of poorly trained district M&E officers. The fragmented reports received from the health facilities made it difficult to analyse and use the data in any systematic way. At national level, analysis and dissemination of routine health statistics had long been neglected. The last annual health statistics summary of Sierra Leone was published in the 1990s.

To respond to this situation and with the support of Health Metrics Network, national authorities and partners came together to assess the information systems and developed the Health Information System (HIS) strategic plan. An integrated data system was established in order to address data collection issues including storage, analysis and overall management. In July 2007 consensus was reached on a set of 25 core health indicators to monitor and evaluate the Reproductive and Child Health Programme (RCHP). Most of these indicators are measured on a monthly basis by each health facility and district using data reported on the Maternal Mortality Reduction and Child Survival (MMRCS) forms. Other forms from specific diseases programs were streamlined to avoid duplication and fill information gaps.

Despite efforts to make computers available and train users, many computers were not yet in use due to power shortages, lack of skilled staff, and training delays. By April 2008, less than 50% of the health facilities in the country were actually using the new system. The stakeholder group that developed the HIS strategic plan analysed the shortcomings and listed activities to overcome the problems. The Ministry of Health and Sanitation in collaboration with the Health Information Systems Programme developed the District Health Information Software which was customized to meet data entry and reporting needs of the districts. Given the unpredictable supply of electricity, low-energy, solar-powered computers were supplied to four pilot districts. Data will be transferred from districts to the capital using internet connection and innovative solutions were adapted to ensure the connectivity. The responsible district M&E officers went through two rounds of training and supervision. A data entry incentive equivalent to a third of an M&E Officer monthly salary was introduced which in turn increased the number of districts submitting at least 50% of complete facility data from 48% to 88% in less than two months.

After months of careful work the initiative has began to yield dividends.

For more information contact the Health Metrics Network at healthmetrics@who.int.
How can information systems help to reduce maternal mortality?

Interview with Ties Boerma, Director of Health Statistics and Informatics

The inability to generate necessary reliable information to make decisions based on evidence is a major obstacle to public health in many developing countries. When Dr Ties Boerma became Director of WHO’s Department of Measurement and Health Information Systems in 2004, his brief was to enhance the availability, quality and use of health data.

Q: What role do health information systems play to reduce maternal mortality in developing countries?

A: Firstly, one needs to know the level of maternal mortality, where it is high and among what population groups. Secondly, one needs to know what is working so there are interventions to reduce maternal mortality, trends over time, where it’s going down, where it’s stagnating. I think health information is the starting point of any intervention to reduce maternal mortality.

Q: How has the adoption of the Millennium Development Goals changed the demand for stronger health information systems?

A: The good thing about the MDGs is first of all that all the UN organizations and countries rallied around a set of common goals. They are very ambitious targets but everybody is held accountable so the international donors are asked to invest in these areas, to meet these ambitious targets. The countries are also held accountable and from the information perspective there are very clear but few indicators that we can focus on. So I think it’s been very good to have those goals.

Q: What difference does it make having reliable and timely health data to the health of women and babies?

A: If you think about maternal mortality, one needs to know what are the levels and leading causes of maternal mortality. If it is abortion-related mortality then that requires a whole set of different interventions than if it is related to obstructed labor and women not getting to clinics in time, or if it’s haemorrhage. So the information has a huge impact on what types of programmes and interventions you need to design.

Q: Why are some countries having difficulties in establishing and maintaining efficient health information systems?

A: First of all health is complex as it has so many dimensions. Health information systems are partly receiving information generated by clinics. In many countries there are thousands of clinics, and therefore it is difficult to get all that information around core indicators in a reliable way. One other source of information are household surveys, often done by statistical offices. Then you have the administrative information, for example are the drugs there, can health care providers carry out a caesarean section there, so what’s on the supply side.

It’s very difficult to know how many maternal deaths are occurring in a country. First of all it’s very difficult to get reliable and accurate reporting on how many maternal deaths are happening in these institutions. There is under-reporting and therefore many maternal deaths are not recorded. Often the maternal deaths occur later, so the woman goes home, gets an infection, comes back and her death is not counted. A bigger problem for developing countries is that most births occur at home. We carry out household surveys, sibling history surveys, and censuses; however they are not always reliable especially because maternal deaths, even in high mortality countries, a relatively rare and therefore hard to detect and measure. So for most of Africa and many parts of Asia we don’t know the trend in maternal mortality very well, we only have a rough idea.

Q: What are the major challenges to develop effective health information systems?

A: The challenge today is that there are many surveys on single health topics and we need to bring them all together into fewer better-coordinated surveys. Then to get the clinical information up to speed is also a major challenge since there are so many clinics and there are problems regarding the quality of the data and the completeness of the information. I don’t see why we should not be able in the near future to help countries set up a system where maternity registers are electronic and linked up to national systems, where you have quality control. There are challenges but there are also big opportunities. Maternity registers could be upgraded soon and I don’t think it’s going to cost a huge amount of money, depending also on the infrastructure of the country.

Q: How is WHO helping countries to improve their health information systems and to measure and monitor the MDG targets?

A: Through our regional and country offices we are also working with Ministries of Health to try and improve their management of health information systems so the information generated by the clinics is more accurate. This includes information on where key obstetric services are available, through service availability mapping. Also WHO is involved in household surveys that include measurement of the causes of death. For instance, in 2010, WHO works with partners to support the Ministry of Health in Afghanistan to conduct a national mortality survey with a focus on maternal mortality. In addition, we are working to make analytical methods, be it to develop estimates or assess data quality, more accessible to countries.
WHO Regional Office for the Americas

The Pan American Health Organization (PAHO) estimates that in Latin America and the Caribbean 330,000 pregnant women who tested positive for syphilis are not treated when they go for antenatal care. Two thirds of maternal syphilis during pregnancy result in abortion, neonatal death or live births with congenital syphilis. Through the use of the Perinatal Information System (SIP), Uruguay was able to assess the dimension of the problem of congenital syphilis. Despite the fact that all cases of congenital syphilis have to be notified to the authorities, this medical condition had escaped the vigilance of the epidemiologists.

The analysis of the data collected revealed that the largest public maternity in Uruguay (Centro Hospitalario Pereira Rossell) had in fact more cases of congenital syphilis than notified to the Ministry of Health. The design has helped to reduce the workload of health care providers by drastically reducing the number of indicators and by avoiding parallel reporting.

WHO Regional Office for Africa

New information system reduces workload for health care staff and improves quality of data in Ethiopia

The Ministry of Health (MoH) of Ethiopia is making progress with the strengthening of its Health Information System (HIS). In its Health Sector Development Program (2005-2009) the MoH set the objective of developing and implementing a standardized national Health Management Information System (HMIS) to ensure effective collection and use of data for evidence-based planning and management.

Accordingly, a new HMIS was designed in 2006 and in June 2007 pilot testing began in selected districts over a five month period. It was evaluated at the end of 2008 and is currently being implemented in other parts of the country and is expected to be nationwide soon.

The evaluation showed that the reform was very comprehensive with a high level of participation by relevant groups. Core indicators for evaluation were selected in consultation with key stakeholders and relevant implementing groups in regions, districts and health facilities, private and public sector. The new design has helped to reduce the workload of health care providers by drastically reducing the number of indicators and by avoiding parallel reporting.

The pilot test revealed that there was an enhancement in data quality through the new integrated and harmonized system and that the available information was used in the decision-making process. In March 2008 a Health Metrics Network (HMN) team carried out on-site observations of selected pilot sites and reported on satisfactory data quality and use. The assessment also showed that key players were able to use the data to identify and reverse negative trends at an early stage by taking appropriate action. In one of the pilot sites, for example, the management had detected through HMIS data a drop in the coverage of antenatal care services (ANC) and institutional delivery. This early warning allowed the administrative staff to immediately mobilize the community health workers (CHW) and intensify efforts for an ongoing campaign known as the Information, Education and Communication (IEC) campaign at household and community levels. As a result, the health workers saw again an increase in the use of services over the following months.

Perinatal Information System (SIP) helps to monitor congenital syphilis in Uruguay

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SIFILIS - Diagnóstico y Tratamiento

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The data also showed that the number of cases of syphilis had increased in mothers and newborns in recent years. Based on the SIP, the hospital administration was able to identify the number of fetal deaths and of abortions linked to maternal syphilis and found out that one out of six fetal deaths was caused by the disease.

Certainly one of the most important outcomes was the confirmation of a high reinfection rate of mothers who had been treated appropriately during their pregnancy but were infected again before they gave birth. Out of the 16 cases in which maternal syphilis was detected in the first half of the pregnancy, 12 tested negative after the treatment, but all were reinfected prior to delivery. These findings exposed the flawed mechanisms of follow-up care and treatment of sexual contacts and the shortcomings of the material developed for education and prevention.

The early diagnosis of the medical condition in the mother requires immediate treatment of both herself and her partner as the eventual reinfection puts the life of the fetus further at risk and can cause severe harm to the newborn.

The current model of antenatal registration of the SIP includes the treatment of the partner and appropriate follow up as part of the antenatal services.
Some of the workshop findings regarding availability and use of reproductive health data include the following:

1. Information systems in Member States are at different levels of development, ranging from relying on manual tools to most advanced computerized ones.

2. Insufficient reporting, surveillance and information systems jeopardize national efforts aiming at improving maternal and neonatal health. Also, poor utilization of available data is hampering these efforts and is resulting in inefficient use of already scarce resources.

3. Data collection is perceived as an additional task rather than an essential activity to improve reproductive health services. Health workers in charge of data collection are overwhelmed with other tasks and lack training in data collection. All these factors lead to poor quality recording.

4. Information flow is usually slow and/or incomplete. This delays the use of the information for programme planning and leads to arbitrary decision-making. Data collected is analysed at a higher level of the information system with insufficient feedback to those who collected the data. Therefore, opportunities are missed to use the data to make corrections and improve the quality and utilization of services.

5. Decision making authority is rarely delegated to the lower levels. Lack of disaggregated data prevents decision-makers to allocate appropriate resources according to the needs.

6. The existence of separate data collection systems results in duplication as well as data inconsistency and lack of information credibility.

7. The national health information system usually covers only the services provided by the public sector, leaving out populations that rely on the private and other non-public health services. As a result, the reproductive health information produced by the national health information system lacks representativeness.

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The workshop introduced a monitoring and evaluation framework for reproductive health programmes developed by the Regional Office. This tool covers major areas that could facilitate standardization of monitoring and evaluation processes in Member States.

For more information contact EMRO at WRH@emro.who.int.

WHO Regional Office for South-East Asia

Maximizing the use of available data in the South-East Asia Region

In 2000, the South-East Asia Region accounted for approximately 170,000 maternal deaths and 1.3 million neonatal deaths every year, thus contribution to about a third to the global burden of maternal and neonatal mortality. In addition, one million stillbirths occurred in the Region. Since then, some of the South-East Asian countries have done well in reducing the number of mothers and newborn who die during pregnancy or childbirth, but many others are still struggling in improving these figures.

In 2007-2008, the WHO Global Survey on Maternal and Perinatal Health was carried out in Asia focusing on the relationship between mode of service-delivery and maternal/perinatal outcomes. India, Nepal, Sri Lanka and Thailand took part in this Survey in addition to Cambodia, China, Japan, Philippines and Viet Nam in the Western-Pacific Region. As a follow up, the WHO Regional Office for South-East Asia organized the Technical Group Meeting on Country Analysis of Data from the Global Survey on Maternal and Perinatal Health in Asia held on 22-23 January 2009 at SEARO, New Delhi.
Beyond the numbers available in Spanish

Mas allá de las cifras

Every year some eight million women suffer from pregnancy-related complications and over half a million die from them. Most of these deaths can be averted even where resources are limited but, in order to do so, the right kind of information is needed upon which to base actions. This book presents ways of generating this kind of information. The approaches described in this book go beyond just counting deaths to developing an understanding of why they happened and how they can be averted.

This book is directed at health professionals, health-care planners and managers working in the area of maternal and newborn health who are striving to improve the quality of care provided.

Beyond the numbers is now also available in Spanish. All language versions (English, French, Russian, and Spanish) are available on the MPS website at:


COUNTRY PROFILES

To assist countries in planning and decision-making, MPS analyses the data collected in 78 countries on a regular basis and makes this analysis available through MPS country profiles. This data is gathered through the Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), and other national surveys. The country profiles present in a visual format important key health service coverage and equity indicators for maternal and newborn health.

Data from several countries demonstrate great differences within-country in the coverage of maternal and newborn health interventions, between urban and rural populations and between the poorest and wealthiest population groups. The MPS country profiles are used both internationally and in country. For example, the profiles are widely used as an advocacy tool to raise awareness of the unacceptable high rates of maternal mortality in many developing countries in particular in sub-Saharan Africa. The profiles have also been used by WHO offices to develop national progress reports on maternal health. The country profiles were developed with financial support from the EC/ACP/WHO partnership.

The profiles are available on the Internet at: http://www.who.int/making_pregnancy_safer/countries/en/index.html

Safer pregnancy in Tamil Nadu

Between 1980 and 2006, maternal mortality ratio in Tamil Nadu fell from 450 to 90 per 100 000 live births. Neonatal mortality rate fell from 53 in 1971 to 26 per 1000 live births in 1990.

This monograph documents how these improvements in maternal and newborn health and shows that it is possible to improve maternal and newborn health through a health system approach in resource-poor settings.

Available at: http://www.searo.who.int/LinkFiles/Making_Pregnancy_Safer_Safer_Pregnancy_in_Tamil_Nadu.pdf

Monitoring emergency obstetric care: A handbook

This handbook is an update of an earlier publication on monitoring the availability and use of obstetric services, issued by UNICEF, WHO and UNFPA in 1997. The Emergency Obstetric Care indicators known as the "signal functions" defined within the publication have been used by ministries of health, international agencies and programme managers in over 50 countries around the world. The indicators can be used to measure progress in a programmatic continuum: from the availability of and access to emergency obstetric care to the use and quality of those services. The updated Handbook introduces the indicator "Perform basic neonatal resuscitation" as a new signal function to monitor Emergency Obstetric Care services.

Available at: http://www.who.int/reproductivehealth/publications/monitoring/9789241547734/en/index.html

Delhi, India. In October 2008, a dissemination meeting had been held in Phnom Penh, Cambodia.

Researchers, programme managers and the WHO focal points from the four above-mentioned SEAR countries attended the meeting in New Delhi. The overall objective was to facilitate the further use of the Global Survey data and its secondary analysis for country-specific needs. The following key issues were discussed:

- Identification of topics and research questions for a secondary analysis of the available data, new related research questions and dissemination plans.
- Maximization of the use of the collected information and maintenance/expansion of this network at country, regional and global levels.

The participants stressed that the Global Survey was an important and useful exercise that could help to advance the work on maternal and perinatal health in countries. It was however necessary to find a way to increase the use of the data and to continue to expand this network in countries in order to allow for regular data collection and their use for national and sub-national or local action.

The survey provides only information on the health status of women and newborns that had access to larger health facilities with at least 1000 deliveries per year. This means that in some countries these facilities are a secondary or even tertiary referral hospital. This has to be taken into consideration when using the information in countries with low institutional delivery rates.

The indicators can be used to measure progress in a programmatic continuum: from the availability of and access to emergency obstetric care to the use and quality of those services. The updated Handbook introduces the indicator "Perform basic neonatal resuscitation" as a new signal function to monitor Emergency Obstetric Care services.
In the beginning of the 80s, Dr Ricardo Schwarcz, Director of CLAP/SMR, suggested the development of a new basic model containing only the most relevant data. In 1982, a consensus building meeting organized by CLAP resulted in the Perinatal Clinical History (HCP/HCPS): a single sheet of paper with all relevant and essential data for quality services for mothers and babies. The form also allowed calculating some selected perinatal indicators. At the same time, CLAP/SMR also developed a data processing system for automated report production. The digital database allowed to broaden the information analysis and to transfer local data across distances, thus establishing the Perinatal Information System (SIP).

The SIP was first publicized in 1983. More than 70 professionals from 17 countries of Latin America and the Caribbean celebrated the 25th anniversary of the SIP in a meeting that took place in November 2008 in Montevideo, Uruguay. The participants shared their experiences with the implementation of the SIP in their countries and presented new HCP models for example on abortion, neonatal services and community participation.

Perinatal Information System (SIP)

1. What is the Perinatal Information System (SIP)?

The Perinatal Information System is a standard for perinatal clinical records developed by PAHO/WHO at the Latin American Centre for Perinatology. SIP is free domain software for filing and analysing the burden of problems, interventions and outcomes of health services at local level. SIP clinical records and software are periodically updated by consensus by a group of Latin American and Caribbean experts in obstetrics and neonatology. The material is available in English, French, Portuguese and Spanish.

2. What data does SIP provide?

SIP collects basic data needed for the care of women and neonates. The data are available in a modular format including: Maternal Identification, Woman History, Current Pregnancy, Antenatal Visits, Labor/Childbirth or Abortion, Women Diseases, Neonatal History and Diseases, Puerperium, Neonatal and Maternal Discharge.

3. Which countries are using it?

With different degrees of development, SIP is being used in 32 Latin American and Caribbean countries, as well as in Spain and Equatorial Guinea.

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For additional information please visit our web site at http://www.who.int/making_pregnancy_safer/en

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