

Skilled attendant at birth 2006 updates

Introduction

The maternal mortality ratio and the proportion of births attended by skilled health personnel are the two indicators used to monitor progress towards achievement of the 5th Millennium Development Goal (MDG) which aims to improve maternal health.

Measuring maternal mortality accurately is difficult, except where there is comprehensive registration of deaths and causes of death (Stanton et al. 1997, Stanton et al. 2000). In addition, although unacceptably high in developing countries, a maternal death is still a relatively rare event to capture changes during short intervals.



Among the potential process indicators to track changes in maternal mortality levels, “proportion of births attended by skilled health personnel” is being accepted to be the most relevant due to the historical data showing a correlation between having skilled care at delivery and declining maternal mortality (Graham et al. 2001). It is, therefore, a key indicator for the MDG 5 of improving maternal health and its target of reducing maternal mortality.

At a special session held by the United Nations General Assembly in 1999 as a five-year follow-up to the International Conference on Population and Development (ICPD) it was

agreed that all countries should continue their efforts so that globally, by 2005, 80% of all births should be assisted by skilled attendants, by 2010, 85%, and by 2015, 90% (United Nations 1999).

Here, we present nationally representative data of births attended by skilled health workers available up to 2005 together with global, regional and subregional estimates.

Definitions

The indicator “proportion of births attended by skilled health personnel” represents the percentage of all births attended by a skilled health worker. The term ‘skilled attendant’ refers to “an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of complications in women and newborns” (WHO, 2004).

Traditional birth attendants (TBA) either trained or not, are excluded from the category of skilled health workers. Strictly, the term TBA refers only to traditional, independent (of the health system), non-formally trained and community-based providers of care during pregnancy, childbirth and the postnatal period (WHO, 2004).

Methodology

Data on the proportion of births attended by skilled health personnel were collected. Only nationally representative data were included. Most of the data were obtained from household surveys conducted to assess mother and

child's health status such as:

- Demographic and Health Surveys (DHS)
- Multiple Indicator Cluster Surveys (MICS)
- Reproductive Health Surveys (RHS)

In addition, WHO regional office databases and web pages were searched for available data and for published and unpublished documentation. These estimates also include data available from the WHO/EIP country consultation that took place in 2003. Countries are grouped according to the United Nations classification (United Nations 2003).

Global, regional and subregional estimates were calculated as population-weighted averages of collected country-specific proportions, the weights being the number of live births in each country. The number of live births used was that of the World Population Prospects, the 2002 Revision (United Nations 2003).

Results

Globally, the availability of nationally representative data for skilled attendant at birth is high and data are available for 96.6% of all live births. In America, Africa, Asia and Oceania data are available for virtually all live births.

World-wide, 61.5% of births were attended by a skilled health worker. Although virtually all births were attended by skilled health personnel in more developed countries, this proportion is 57.4% in less developed countries and only 33.7% in the least developed countries.

In Africa and Asia, only 46.7% and 58.3%, respectively, of women gave birth with professional assistance. In less developed regions, the lowest levels of skilled attendant at birth were in Eastern Africa (34.5%), South-Central Asia (38.9%) and Western Africa (40.9%) with the highest levels in South America (86.8%). Africa and Asia are furthest away from the ICPD + 5 target of 80% for 2005. Special efforts are needed to accelerate the slow progress in these regions.

The designations employed and the presentation of the material on these pages do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

References

Graham, WJ, Bell, JS, Bullough, CHW (2001) Can skilled attendance at delivery reduce maternal mortality in developing countries? In: *Safe motherhood strategies: a review of the evidence* (eds V De Brouwere and W Van Lerberghe). ITG Press, Antwerp, pp.97-129.

Making pregnancy safer: the critical role of the skilled attendant: a joint statement by WHO, ICM and FIGO. Geneva, World Health Organization, 2004.

Report of the Ad Hoc Committee of the Whole of the Twenty-first Special Session of the General Assembly. New York, United Nations, 1 July 1999 (General Assembly document, No. A/S-21/5/Add.1).

Stanton C, Abderrahim N, Hill K. *DHS Maternal mortality indicators: an assessment of data quality and implications for data use*. Calverton, Maryland, USA, Macro International Inc. DHS Analytical Reports, 1997.

Stanton C, Abderrahim N, Hill K. An assessment of DHS maternal mortality indicators. *Studies in family planning*, 2000, 31:111-23.

World Population Prospects. The 2002 Revision. New York, Department of Economic and Social Affairs, Population Division, United Nations, 2003.

Table 1

Global, regional and subregional estimates of the proportion of births with skilled attendant. The population coverage in terms of live births attained by the estimates are also shown for the world and by region and subregion.

Region/subregion	% births with skilled attendant	Coverage of estimates*
World total	61.5	96.6
More developed regions	99.1	68.3
Less developed regions	57.4	99.7
Least developed countries	33.7	100.0
Africa	46.7	99.4
Eastern Africa	34.5	99.8
Middle Africa	54.0	96.5
Northern Africa	70.3	99.8
Southern Africa	82.8	100.0
Western Africa	40.9	100.0
Asia	58.3	99.8
Eastern Asia	97.0	100.0
South-Central Asia	38.9	100.0
South-Eastern Asia	69.1	100.0
Western Asia	73.4	97.4
Europe	99.1	58.4
Eastern Europe	99.2	100.0
Northern Europe	99.2	79.7
Southern Europe	97.5	30.0
Western Europe	99.9	10.2
Latin America & The Caribbean	83.2	99.9
Caribbean	73.7	98.3
Central America	77.3	100.0
South America	86.8	100.0
Northern America	98.9	100.0
Oceania	83.9	98.3
Australia/New Zealand	100.0	100.0
Melanesia	61.2	100.0
Micronesia	93.9	48.8
Polynesia	97.6	84.2

*Proportion of live births for which data are available.

Table 2
Proportion of births with skilled attendant by country and the reference year

Country/region	% skilled attendant	Year
Afghanistan ¹	14.0	2003
Albania ²	94.0 ^a	2002
Algeria ³	92.0	2000
American Samoa ⁴	100.0	2002
Andorra	nd	-
Angola ⁵	47.1	2000
Anguilla ⁶	100.0	2004
Antigua and Barbuda ⁶	100.0	2004
Argentina ⁷	98.7 ^b	2004
Armenia ⁸	96.8	2000
Aruba ⁶	96.0	2002
Australia ⁴	99.3	2000
Austria	nd	-
Azerbaijan ⁹	84.0	2000
Bahamas ⁶	99.0	2003
Bahrain ¹⁰	99.0	2003
Bangladesh ¹¹	13.4	2004
Barbados ⁶	100.0	2003
Belarus ¹²	99.9	2002
Belgium	nd	-
Belize ¹³	83.8	1999
Benin ¹⁴	65.5	2001
Bhutan ¹⁵	23.7	2000
Bolivia ¹⁶	60.8 ^c	2004
Bosnia and Herzegovina ¹⁷	99.6	2000
Botswana ¹⁸	94.2	2000
Brazil ¹⁹	87.6 ^c	1996
British Virgin Islands ⁵	100.0	2004
Brunei Darussalam ⁴	100.0	2002
Bulgaria ²⁰	99.2	2002
Burkina Faso ²¹	56.5 ^d	2003
Burundi ²²	25.2	2000
Cambodia ²³	31.8	2000
Cameroon ²⁴	61.8	2004
Canada ²⁵	98.3	2001
Cape Verde ²⁶	88.5 ^a	1998
Cayman Islands ⁶	100.0	2004
Central African Republic ²⁷	44.0	2000
Chad ²⁸	14.4	2004
Channel Islands	nd	-
Chile ⁶	99.8	2003
China ²⁹	82.8 ^a	2004
China, Hong Kong SAR ⁴	100.0	2002
China, Macao SAR ⁴	100.0	2003
Colombia ³⁰	90.7 ^c	2005
Comoros ³¹	61.8	2000
Congo	nd	-
Cook Islands ⁴	98.0	2001
Costa Rica ⁶	97.5	2002
Cote d'Ivoire ³²	62.5	2000
Croatia ²⁰	99.9	2002
Cuba ⁶	99.9	2004
Cyprus	nd	-
Czech Republic ²⁰	99.9	2002
Democratic People's Republic of Korea ³³	96.7	2000
Democratic Republic of the Congo ³⁴	60.7	2001
Denmark	nd	-
Djibouti ³⁵	60.6	2003
Dominica ⁶	100.0	2003
Dominican Republic ³⁶	98.7	2002
Ecuador ³⁷	68.7	1999
Egypt ³⁸	69.4	2003
El Salvador ³⁹	69.4	2002-03
Equatorial Guinea ⁴⁰	64.6	2000
Eritrea ⁴¹	28.3	2002
Estonia ²⁰	99.6	2002
Ethiopia ⁴²	5.6	2000
Faeroe Islands	nd	-
Falkland Islands (Malvinas)	nd	-
Fiji ⁴	99.0	2000
Finland ⁴³	99.9	2002
France	nd	-
French Guiana ⁶	100.0	2003
French Polynesia ⁴	99.0	1999
Gabon ⁴⁴	85.5	2000
Gambia ⁴⁵	54.7	2000
Georgia ⁴⁶	96.4	1999
Germany	nd	-
Ghana ⁴⁷	47.1	2003
Greece	nd	-
Grenada ⁶	100.0	2003
Guadeloupe ⁶	100.0	2003
Guam ⁴	99.4	2001
Guatemala ⁴⁸	41.4	2002
Guinea ⁴⁹	34.8	1999
Guinea-Bissau ⁵⁰	34.7	2000
Guyana ⁵¹	85.6	2000
Haiti ⁵²	23.8	2000
Holy See	nd	-
Honduras ⁵³	55.7	2001
Hungary ²⁰	99.6	2002
Iceland	nd	-
India ⁵⁴	42.5	2000
Indonesia ⁵⁵	66.3	2002
Iran (Islamic Republic of) ⁵⁶	89.6	2000
Iraq ⁵⁷	72.1	2000
Ireland ⁵⁸	100.0	2002
Isle of Man	nd	-
Israel	nd	-
Italy	nd	-
Jamaica ⁵⁹	94.6	1997
Japan ³²	100.0	1996
Jordan ⁶⁰	99.5	2002
Kazakhstan ⁶¹	99.1	1999
Kenya ⁶²	41.6	2003
Kiribati ⁴	88.9	2002

Country/region	% skilled attendant	Year
Kuwait ¹⁰	100.0	2003
Kyrgyzstan ⁶³	98.1	1997
Lao People's Democratic Republic ⁶⁴	19.4	2001
Latvia ²⁰	100.0	2002
Lebanon ¹⁰	93.0	2001
Lesotho ⁶⁵	55.4	2004
Liberia ⁶⁶	50.9	2000
Libyan Arab Jamahiriya ⁶⁷	94.4	1995
Liechtenstein	nd	-
Lithuania ²⁰	100.0	2002
Luxembourg ⁶⁸	99.9	2002
Madagascar ⁶⁹	51.3	2003-04
Malawi ⁷⁰	60.5	2002
Malaysia ⁷¹	97.0	2002
Maldives ⁷²	70.3	2001
Mali ⁷³	40.6	2001
Malta	nd	-
Marshall Island ⁴	95.0	2002
Martinique ⁶	100.0	2003
Mauritania ⁷⁴	56.9 ⁹	2001
Mauritius ⁷⁵	98.5	1998
Mexico ⁷⁶	85.5	1997
Micronesia (Federated States) ⁴	87.7	2001
Monaco	nd	-
Mongolia ⁷⁷	99.2	2003
Montserrat ⁶	98.0	2004
Morocco ⁷⁸	62.6	2003-04
Mozambique ⁷⁹	47.7	2003
Myanmar ⁸⁰	56.4	1997
Namibia ⁸¹	75.5	2000
Nauru	nd	-
Nepal ⁸²	10.9	2001
Netherlands ⁸³	99.9	1995
Netherlands Antilles	nd	-
New Caledonia	nd	-
New Zealand ⁸⁴	100.0	1995
Nicaragua ⁸⁵	66.9 ⁹	2001
Niger ⁸⁶	15.7	2000
Nigeria ⁸⁷	35.2	2003
Niue ⁴	100.0	2002
Northern Mariana Island ⁴	99.6	2000
Norway	nd	-
Oman ⁸⁹	94.7	2000
Pakistan ⁹⁰	23.0	2001-02
Palau ⁴	100.0	2002
Panama ⁹¹	92.5	2003
Papua New Guinea ⁹²	53.2	1996
Paraguay ⁹³	77.2	2004
Peru ⁹⁴	71.1 ¹	2004
Philippines ⁹⁵	59.8	2003
Pitcairn	nd	-
Poland ²⁰	99.8	2002
Portugal ⁹⁶	99.7	2000
Puerto Rico ⁶	99.8	2003

Qatar ¹⁰	100.0	2002
Republic of Korea ⁴	100.0	2000
Republic of Moldova ⁹⁷	99.1	1997
Reunion	nd	-
Romania ⁹⁸	97.9	1999
Russian Federation ²⁰	99.3	2002
Rwanda ⁹⁹	31.3	2000
Saint Kitts and Nevis ⁶	100.0	2004
Saint Lucia ⁶	99.0	2003
Saint Vincent and the Grenadine ⁶	100.0	2004
Samoa ⁴	100.0	2003
San Marino	nd	-
Sao Tome and Principe ¹⁰⁰	78.6	2000
Saudi Arabia ¹⁰	93.0	2002
Senegal ¹⁰¹	57.8	2000
Serbia and Montenegro ²⁰	92.6	2001
Seychelles	nd	-
Sierra Leone ¹⁰²	41.7	2000
Singapore ⁴	100.0	2003
Slovakia ²⁰	99.4	2002
Slovenia ²⁰	99.8	2002
Solomon Islands ⁸⁴	85.0	1999
Somalia ¹⁰³	34.2	1999
South Africa ¹⁰⁴	84.4	1998
Spain	nd	-
Sri Lanka ¹⁰⁵	96.6	2000
St. Helena	nd	-
Sudan ¹⁰⁶	56.9 ¹	1997
Suriname ¹⁰⁷	84.5	2000
Swaziland ¹⁰⁸	70.0	2000
Sweden	nd	-
Switzerland	nd	-
Syrian Arab Republic ¹⁰⁰	70.0	2002
Tajikistan ¹⁰⁹	71.1	2000
TFYR Macedonia ¹¹⁰	98.2	2002
Thailand ¹¹¹	99.3	2000
Timor-Leste ¹¹²	23.6	2002
Togo ¹¹³	48.6	2000
Tokelau ³²	100.0	1999
Tonga ⁴	91.3	2002
Trinidad and Tobago ¹¹⁴	96.0	2000
Tunisia ¹¹⁵	89.8	2000
Turkey ¹¹⁶	83.0	2003
Turkmenistan ¹¹⁷	97.2	2000
Turks and Caicos Islands ⁶	100.0	2004
Tuvalu ⁴	100.0	2002
Uganda ¹¹⁸	39.0	2000
Ukraine ¹¹⁹	99.0	1999
United Arab Emirates ¹⁰	100.0	2003
United Kingdom ¹²⁰	99.0	1998
United Rep. of Tanzania ¹²¹	46.3	2004-05
United States of America ¹²²	99.0	2001
United States Virgin Islands ⁶	98.3	2002
Uruguay ⁶	99.4	2002
Uzbekistan ¹²³	95.6	2000
Vanuatu ⁴	87.0	2003

Country/region	% skilled attendant	Year
Venezuela ¹²⁴	94.0	2000
Viet Nam ¹²⁵	85.0	2002
Wallis and Futuna Islands	nd	-
West Bank and Gaza Strip ⁸⁸	97.4	2000
Western Sahara	nd	-
Yemen ¹²⁶	21.6	1997
Zambia ¹²⁷	43.4	2001-02
Zimbabwe ¹²⁸	72.5	1999

(Endnotes)

^a Institutional birth

^b Excludes “comadre”

^c Excludes “partera”

^d Includes “trained traditional birth attendant”

^e Includes “parteira”

^f Includes “comadrona/partera”

^g Includes “matrone”

^h Excludes “comadrona/partera”

ⁱ Excludes “sanitario/promotora/partera/comadrona”

^j Covers Northern and selected sites in Southern Sudan

13. Central Statistical Office. 1999 Belize Family Health Survey. Females. Belize: Central Statistical Office, 2001.
14. Institut National de la Statistique et de l'Analyse Economique (INSAE) and ORC Macro. Enquête Démographique et de Sante au Bénin 2001. 2002. Calverton, Maryland, USA, Institut National de la Statistique et de l'Analyse Economique and ORC Macro.
15. Ministry of Health. National Health Survey Bhutan 2000. 2003. Bhutan, Ministry of Health.
16. Instituto Nacional de Estadística (INE) Bolivia and ORC Macro. Bolivia Encuesta Nacional de Demografía y Salud ENDSA 2003. 2004. Calverton, Maryland, USA, INE and ORC Macro.
17. UNICEF. Household Survey of Women and Children Bosnia and Herzegovina 2000. 2001. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/georgia/georgia.htm> (accessed: 20.03.2006), UNICEF.
18. UNICEF and Central Statistics Office Republic of Botswana. Botswana Multiple Indicator Cluster Survey 2000. Charumbira, G. M. 2001. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/botswana/botswana.htm> (accessed: 20.03.2006), UNICEF.
19. Demographic Health and Surveys (DHS), Sociedade Civil Bem-Estar Familiar no Brasil B, Fundação Instituto Brasileiro de Geografia e Estatística I, Ministério da Saúde, USAID, UNICEF et al. Pesquisa Nacional Sobre Demografia e Saúde 1996 Brazil. Calverton, Maryland USA: Macro International Inc., 1997.
20. UNICEF Innocenti Research Centre. Innocenti Social Monitor 2004. 2004. Florence, Italy, UNICEF Innocenti Research Centre.
21. Institut National de la Statistique et de la Démographie (INSD) et ORC Macro. Enquête Démographique et de Santé du Burkina Faso 2003. 2004. Calverton, Maryland, USA, INSD et ORC Macro.
22. UNICEF, Ministère de la planification du développement et de la reconstruction, and Institut de statistics et d'etudes économiques du Burundi. Enquête Nationale d'Evaluation des Conditions de vie de l'Enfant et de la Femme au Burundi (ENECEFBURUNDI 2000). Rapport Final. 2001. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/burundi/burundi.htm> (accessed: 20.03.2006), UNICEF.
23. National Institute of Statistics, Directorate General for Health Cambodia and ORC Macro. Cambodia Demographic and Health Survey 2000. 2001. Phnom Penh, Cambodia and Calverton, Maryland, USA, National Institute of Statistics, Directorate General for Health (Cambodia); ORC Macro.
24. Institut National de la Statistique (INS) et ORC Macro. Enquête Démographique et de Santé du Cameroun 2004. 2004. Calverton, Maryland, USA, INS et ORC Macro.
25. Statistics Canada. <http://www.statcan.ca/start.html>. 2004. Statistics Canada, 120 Parkdale Avenue, Ottawa, Ontario K1A 0T6.
26. UNFPA, VERDEFAM Associação Caboverdiana para protecção de Família. Cape Verde Inquérito Demográfico e de Saúde Reprodutiva 1998. Atlanta, Georgia USA: Department of Health Human Services, Centers for Disease Control and Prevention, 1998.
27. UNICEF. Enquête Indicateurs Multiples en Republique Centrafricaine 2000. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/car/car.htm> (accessed: 20.03.2006), UNICEF, Ministère de l'économie, du plan et de la Cooperation Internationale, Division des Statistiques et des etudes économiques, Bureau Central du Recensement.
28. Ouagadjio B, Nodjimadji K, Bagamla T, Madnodji R, Tokindang JS, Ngakoutou N, Ngoniri JN, Bédaou C, Koyalta D, Barrère B, and Barrère M. Enquête Démographique et de Santé Tchad 2004. 2004. Calverton, Maryland, U.S.A., INSEED et ORC Macro.
29. Ministry of Health. Health Statistics Yearbook 2004, China. 2005. Ministry of Health.
30. Asociación Probienestar de la Familia Colombiana Profamilia. Salud sexual y reproductiva. Encuesta Nacional de Demografía y Salud 2005. 2005. Bogota, Colombia, Profamilia and ORC Macro.
31. UNICEF. Comoros Multiple Indicator Cluster Survey 2000. 2002.
32. UNICEF. Enquête Indicateurs Multiples en Côte d'Ivoire 2000. 2000. Internet communication at web site: (accessed: 20.03.2006), UNICEF.
33. UNICEF. Report of the second Multiple Indicator Cluster Survey 2000, DPRK. 2000. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/cotedivoire/cotedivoire.htm> (accessed: 20.03.2006), UNICEF.
34. UNICEF. Democratic Republic of Congo Multiple Indicator Cluster Survey. 2001. (Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/drc/drcongo.htm> (accessed: 20.03.2006), UNICEF.
35. Ministère de la Santé. Rapport Annuel d'Activités, Programme Santé de la Reproduction 2003, Djibouti. 2005. Djibouti, Ministère de la Santé.

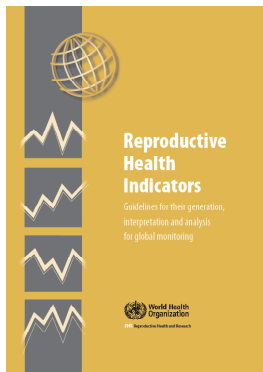
Data sources

1. Central Statistics Office, Afghanistan Transitional Authority and UNICEF. Moving beyond 2 decades of war: progress of provinces. Multiple Indicator Cluster Survey 2003. Afghanistan. 2004. Available at: <http://www.childinfo.org/MICS2/newreports/afghanistan/afghanistan.htm> (accessed: 20.03.2006), Central Statistics Office, Afghanistan Transitional Authority and UNICEF.
2. Institute of Public Health (IPH), Ministry of Health Albania and Division of Reproductive Health CDC. Albania Reproductive Health Survey 2002. Morris L, Herold J, Bino S, Yili A, and Jackson D. 2005. Atlanta, USA, Albania Ministry of Health and CDC.
3. UNICEF. Enquête nationale sur les objectifs de la fin décennie Santé mères et enfants Algérie 2000. République Algérienne Démocratique et Populaire, Ministère de la Santé et de la Population, and Institut National de Santé Publique. 2001. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/algeria/algeria.htm> (accessed: 20.03.2006), UNICEF.
4. World Health Organization Regional Offices for South-East Asia and Western Pacific. Core Indicators. Health Situation in the South-East Asia and Western Pacific Regions. 2005. Manila, Philippines, WPRO. 2005.
5. Instituto Nacional de Estadística. Resultados do Inquérito de Indicadores Múltiplos. MICS2 - 2001. 2002. Instituto Nacional de Estatística. Folha de Informação Rápida.
6. Pan American Health Organization and World Health Organization. Health Situation in the Americas. Basic indicators 2005. 2005. Washington, USA, Pan American Health Organization and World Health Organization.
7. Ministerio de Salud, Argentina. Estadísticas Vitales - Información Básica 2004. República Argentina. 2005. Buenos Aires, República Argentina, Ministerio de Salud, Secretaría de Políticas, Regulación y Relaciones Sanitarias, Subsecretaría de Relaciones Sanitarias e Investigación en Salud, Dirección de Estadísticas e Información de Salud. Serie 5, Número 48.
8. *Demographic and Health Survey (DHS)*. Armenia Demographic and Health Survey 2000. Calverton, Maryland USA: ORC Macro, 2001.
9. UNICEF. *Azerbaijan Multiple Indicator Cluster Survey 2000*. UNICEF. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/azerbaijan/azerbaijan.htm> (accessed: 20.03.2006), UNICEF.
10. World Health Organization Regional Office for the Eastern Mediterranean. Country Profiles. <http://www.emro.who.int/emrinfo> (accessed: 20.03.2006). 2006. EMRO.
11. National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ORC Macro. 2005. Bangladesh Demographic and Health Survey 2004. Dhaka, Bangladesh and Calverton, Maryland, USA: National Institute of Population Research and Training, Mitra and Associates, and ORC Macro.
12. UNDP. *Human Capacity of Belarus: Economic Challenges and Social Responses*. National Human Development Report 2003. UNDP, 2004.

36. UNICEF. República Dominicana. Encuesta por conglomerados de indicadores múltiples 2000 (MICS-2000). Molina Achécar, M. and Polanco, J. J. 2001. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/dominicanrep/dominicanrep.htm>(accessed: 20.03.2006), UNICEF.
37. Centro de Estudios de Población y Desarrollo Social CEPAR, CDC. Ecuador Encuesta Demográfica y de Salud Materna e Infantil. Endemain-1999. Atlanta, Georgia USA: Centers for Disease Control and Prevention USA, 2001.
38. El-Zanaty F and Way A A. 2003 Egypt Interim Demographic and Health Survey. 2004. Cairo, Egypt, Ministry of Health and Population (Egypt), National Population Council, El-Zanaty and Associates and ORC Macro.
39. Asociación Demográfica Salvadoreña (ADS) and CDC. República de El Salvador, C. A. Encuesta Nacional de Salud Familiar (FESAL) 2002/03. 2004. San Salvador, El Salvador, ADS and CDC.
40. UNICEF. Equatorial Guinea Multiple Indicator Cluster Survey 2000. 2002. UNICEF.
41. National Statistics and Evaluation Office (NSRO) [Eritrea] and ORC Macro. Eritrea Demographic and Health Survey 2002. 2003. Calverton, Maryland, USA, National Statistics and Evaluation Office and ORC Macro.
42. Demographic and Health Survey (DHS). Ethiopia Demographic and Health Survey 2000. Calverton, Maryland, USA: ORC Macro, 2001.
43. Ministry of Health, Finland. Information obtained from the Ministry of Health through the country consultation by EIP, 2003.
44. Direction Générale de la Statistique et des Économiques (DGSEE)(Gabon), ORC Macro. Gabon Enquête Démographique et de Santé 2000. Calverton, Maryland USA: Direction Générale de la Statistique et des Économiques, Direction Générale de la Statistique et des Etudes Economiques, et Fonds des Nations Unies pour la Population, et ORC Macro, 2001.
45. UNICEF. The Gambia Multiple Indicator Cluster Survey 2000. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/gambia/gambia.htm>(accessed: 20.03.2006), UNICEF.
46. UNICEF. Multiple Indicator Cluster Survey, 1999 Georgia. State Department of Statistics, National Center for Disease Control UNICEF. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/georgia/georgia.htm> (accessed: 20.03.2006), UNICEF.
47. Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research (NMIMR), and ORC Macro. Ghana Demographic and Health Survey 2003. 2004. Calverton, Maryland, USA, Ghana Statistical Service (GSS), Noguchi Memorial Institute for Medical Research (NMIMR) and ORC Macro.
48. Demographic and Health Survey (DHS). Guatemala Encuesta Nacional de Salud Materno Infantil 2002. Guatemala City, Guatemala: Instituto Nacional de Estadística (INE); Ministerio de Salud Pública y Asistencia Social (MSPAS); Agencia para el Desarrollo Internacional (USAID); Fondo de Población de las Naciones Unidas (FNUAP), 2003.
49. Demographic and Health Survey (DHS). Enquête Démographique et de Santé Guinée 1999. In Diallo A, Kaba I, Diallo I, Diallo MB, Diallo O, Doualamou MA et al. eds. Calverton, Maryland USA: Macro International Inc., 2000.
50. UNICEF. Multiple Indicator Cluster Survey Guinea-Bissau 2000. Pinto, C. L., Santos, H. H., and Jaramillo, H. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/guineabissau/guineabissau.htm> (accessed: 20.03.2006), UNICEF.
51. UNICEF. Guyana Multiple Indicator Cluster Survey 2000. 2002. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/guyana/guyana.htm> (accessed: 20.03.2006), UNICEF.
52. Demographic and Health Surveys (DHS). Enquête Mortalité, Morbidité et Utilisation des Services EMMUS-III Haïti 2000. Calverton, Maryland USA: ORC Macro, 2001.
53. Secretaría de Salud, Asociación Hondureña de Planificación de Familia (ASONPLAFA), Agencia de los Estados Unidos para el Desarrollo Internacional (USAID/Honduras), Centros para el Control y Prevención de Enfermedades (CDC). Honduras Encuesta Nacional de Epidemiología y Salud Familiar ENESF-2001. Encuesta Nacional de Salud Masculina ENSM-2001. Informe Final. Atlanta, Georgia, USA: Centers for Disease Control and Prevention USA, 2002.
54. UNICEF. Multiple Indicator Cluster Survey 2000 (MICS-2000) India. Summary Report. 2001. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/india/india.htm> (accessed: 20.03.2006), UNICEF; Department of Women and Child Development of India.
55. Badan Pusat Statistik-Statistics Indonesia (BPS) and ORC Macro. Indonesia Demographic and Health Survey 2002-2003. 2004. Calverton, Maryland, USA, Badan Pusat Statistik-Statistics Indonesia (BPS) and ORC Macro.
56. Ministry of Health. Iran Demographic and Health Survey 2000. Iran: Ministry of Health, 2002.
57. UNICEF and Council of Ministers, Planning Commission The Central Statistical Organization. Iraq Multiple Indicator Cluster Survey for the year 2000. Detailed Report. 2001. Baghdad, Iraq, UNICEF and The Council of Ministers, Planning Commission Fund.
58. Ministry of Health, Ireland. Information obtained from the Ministry of Health through the country consultation by EIP, 2003. 2003.
59. National Family Planning Board and Centers for Disease Control and Prevention USA (CDC). Jamaica Reproductive Health Survey 1997. McFarlane, C. P., Friedman, J. S., Goldberg, H. I., and Morris, L. 1999. Atlanta, Georgia 30333 USA, U.S. Department of Health & Human Services.
60. Department of Statistics (Jordan) and ORC Macro. Jordan Population and Family Health Survey 2002. 2003. Calverton, Maryland, USA, Department of Statistics and ORC Macro.
61. Demographic Health and Survey (DHS). Kazakhstan Demographic and Health Survey 1999. Calverton, Maryland USA: Macro International Inc., 2000.
62. Central Bureau of Statistics (CBS) [Kenya], Ministry of Health (MOH) (Kenya), and ORC Macro. Kenya Demographic and Health Survey 2003. 2004. Calverton, Maryland, USA, Central Bureau of Statistics (CBS) (Kenya), Ministry of Health (MOH) (Kenya), and ORC Macro.
63. Demographic and Health Survey (DHS). Kyrgyzstan Demographic and Health Survey 1997. Calverton, Maryland, USA: Macro International Inc., 1998.
64. UNICEF. Lao People's Democratic Republic Multiple Indicator Cluster Survey. 2001. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/lao/lao.htm> (accessed: 20.03.2006), UNICEF.
65. Ministry of Health and Social Welfare (MOHSW) (Lesotho), Bureau of Statistics BOS Lesotho and ORC Macro. Lesotho Demographic and Health Survey 2004. 2005. Calverton, Maryland, MOH, BOS, and ORC Macro.
66. UNICEF. Liberia National Nutrition Survey 1999-2000. 2001. Monrovia, Liberia, Ministry of Health and Social Welfare, Christian Health Association of Liberia and United Nations Children's Fund.
67. Pan Arab Project for Child Development (PAPCHILD). Arab Libyan Maternal and Child Health Survey 1996. The Great Socialist People's Libyan Arab Jamahiriya The General People's Committee for Health and Social Insurance. 1998. EL-Faresssiya st Cairo, League of Arab States.
68. Ministry of Health, Luxembourg. Information obtained from the Ministry of Health through the country consultation by EIP, 2003.
69. Institut National de la Statistique (INSTAT) et ORC Macro. Enquête Démographique et de Santé de Madagascar 2003-2004. 2005. Calverton, Maryland, USA, INSTAT et ORC Macro.
70. Statistics Department. Malawi Core Welfare Indicators Questionnaire Survey (CWIQ). Report of Survey Reports. 2004.
71. Ministry of Health (Malaysia). MOH/Malaysia, Health Management Information System 2002. 2004. Information provided by UNICEF.
72. UNICEF. Multiple Indicator Cluster Survey (MISC 2) Maldives. 2001. Internet communication at: <http://www.childinfo.org/MICS2/newreports/maldives/maldives.htm> (accessed: 20.03.2006), UNICEF; Ministry of Health, Republic of Maldives.
73. Cellule de Planification et de Statistique du Ministère de la Santé (CPS/MS), Direction Nationale de la Statistique et de l'Informatique (DNSI), and ORC Macro. Enquête Démographique et de la Santé au Mali 2001. 2002. Calverton, Maryland, USA, Cellule de Planification et de Statistique du Ministère de la Santé (CPS/MS), Direction Nationale de la Statistique et de l'Informatique (DNSI) and ORC Macro.
74. Office National de la Statistique (ONS) (Mauritanie) and ORC Macro. Enquête Démographique et de Santé Mauritanie 2000-2001. 2001. Calverton, Maryland, USA, Office National de la Statistique (ONS) (Mauritanie) and ORC Macro.
75. Ministry of Health and Quality of Life. Mauritius Health Statistics Annual 1998. 1999. Mauritius, Ministry of Health and Quality of Life.
76. Ministry of Health (Mexico). Encuesta Nacional de la Dinámica Demográfica 1997. 2002. Information provided by UNICEF.
77. The Directorate of Medical Services, The Government Implementing Agency. Mongolia Ministry of Health, Administrative Report. 2004. Ministry of Health.
78. Ministère de la Santé (Maroc), ORC Macro et Ligue des États Arabes. Enquête sur la Population et la Santé Familiale (EPSF) 2003-2004. 2005. Calverton, Maryland, USA, Ministère de la Santé et ORC Macro.
79. Demographic and Health Survey (DHS). Mozambique Demographic and Health Survey 2003. Preliminary Report. 2005.
80. Ministry of Immigration and Population. Fertility and Reproductive Health Survey 1997. 2004. Yangon, Myanmar, Ministry of Immigration and Population.
81. Demographic and Health Surveys (DHS). Namibia Demographic and Health Survey. Preliminary report. 2002. Calverton, Maryland, USA, Macro International Inc.

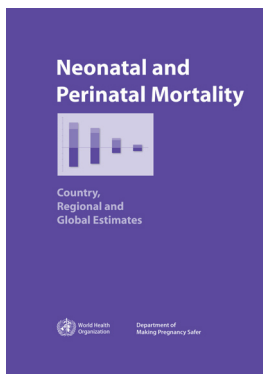
82. Demographic Health and Survey (DHS). Nepal Family Health Survey 2001. 2002. Calverton, Maryland USA, Ministry of Health of Nepal, New ERA and ORC Macro.
83. World Health Organization, EURO. Health for All Database. Health for All Database, EURO . 1995. EURO (Internet communication on 11 January 2002 at web site <http://www.who.dk/country/country.htm>).
84. World Health Organization Regional Office for the Western Pacific. Country health information profiles. 2001 revision. Manila, Philippines: WHO, Regional Office for the Western Pacific, 2002.
85. Demographic and Health Surveys (DHS), Instituto Nacional de Estadísticas y Censos, Ministerio de Salud. Encuesta Nicaragüense de Demografía y Salud 2001. Calverton, Maryland USA: Macro International/DHS+ Program., 2002.
86. UNICEF. Enquête à Indicateurs Multiples de la fin de la Décennie (MICS2) Niger 2000. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/niger/niger.htm>(accessed: 20.03.2006), UNICEF.
87. National Population Commission (NPC) (Nigeria) and ORC Macro. Nigeria Demographic and Health Survey 2003. 2004. Calverton, Maryland USA, National Population Commission (NPC) (Nigeria) and ORC Macro.
88. Palestinian Central Bureau of Statistics. Health Survey 2000. Main findings. 2000. Palestine (West Bank and Gaza), Palestinian Central Bureau of Statistics.
89. Ministry of Health. Oman National Health Survey 2000. 2002.
90. Ministry of Health (Pakistan). Pakistan Integrated Household Survey Round 4: 2001-02. Pakistan, Federal Bureau of Statistics, Statistics Division. (Internet communication at web site: <http://www.statpak.gov.pk/depts/fbs/statistics/pihs2000-2001/pihs2000-2001.html>(accessed: 15.03.2006).
91. Department from the General Comptrollership of the Republic of Panama. Statistics and Census. 2002.
92. National Statistics Office (Papua New Guinea). Papua New Guinea Demographic and Health Survey 1996. Port Moresby, Papua New Guinea: National Statistics Office, 1997.
93. Centro Paraguayo de Estudios de Población (CEPEP). Paraguay Encuesta Nacional de Demografía y Salud Sexual y Reproductiva (ENDSSR) 2004. 2005. Asuncion, Paraguay, CEPEP and CDC.
94. Instituto Nacional de Estadística e Informática (INEI) Perú and Measure/DHS+. Peru. Encuesta Demográfica y de Salud Familiar 2004. 2005. Calverton, Maryland, USA, INEI and ORC Macro.
95. National Statistical Office (NSO) (Philippines), ORC Macro. Philippines National Demographic and Health Survey 2003. Calverton, Maryland USA: National Statistical Office (NSO) (Philippines) and ORC Macro, 2004.
96. Instituto Nacional de Estatística, Portugal. Estatísticas da Saúde 2000 Portugal. 2002. Lisboa, Portugal, Instituto Nacional de Estatística.
97. Serbanescu F, Morris L, Stratila M, and Bivol O. Reproductive Health Survey Moldova 1997. 1998. Atlanta, Georgia USA, U.S Department of Health and Human Services, Centers for Disease Control.
98. Serbanescu F, Morris L, Marin M. Reproductive Health Survey in Romania, 1999. Final Report. Atlanta, Georgia, USA: Division of Reproductive Health, Centers for Disease Control and Prevention, 2001.
99. Demographic and Health Surveys (DHS). Enquête Démographique et de Santé EDSR-II Rwanda 2000. Calverton, Maryland USA: ORC Macro, 2001.
100. UNICEF. Sao Tome and Principe, Enquête de grappes à indicateurs multiples, MICS 2000. Rapport d'analyse. 2002. Internet communication at website: <http://www.childinfo.org/MICS2/newreports/saotome/saotome.htm>(accessed: 20.03.2006), UNICEF.
101. UNICEF. Rapport de l'Enquête sur les Objectifs de la fin de decennie sur l'Enfance (MICS-II-2000) Sénégal. UNICEF. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/senegal/senegal.htm> (accessed: 20.03.2006), UNICEF.
102. UNICEF, Central Statistics Office Ministry of Development and Economic Planning. The Status of women and children in Sierra Leone 2000. 2000. (Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/sierraleone/sierraleone.htm>(accessed: 20.03.2006), UNICEF, UNFPA, UNHCR, ACTION AID CCF, CHASL.
103. UNICEF. Multiple Indicator Cluster Survey 2000 Somalia. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/somalia/somalia.htm> (accessed: 20.03.2006), UNICEF.
104. Demographic Health and Survey (DHS). South Africa Demographic and Health Survey 1998. In Department of Health MRC, ed. Calverton, Maryland USA: Macro International Inc., 1998.
105. Department of Census and Statistics, Ministry of Finance & Planning. Demographic and Health Survey Sri Lanka 2000. Preliminary Report. 2002. Ministry of Health and World Bank.
106. Central Bureau of Statistics Khartoum. National Safe Motherhood Survey Sudan, 1999. 2001. Khartoum, Sudan, Sudan Federal Ministry of Health and UNFPA.UNICEF.
107. Suriname Multiple Indicator Cluster Survey 2000. UNICEF. 2001. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/surinam/surinam.htm> (accessed: 20.03.2006), UNICEF.
108. UNICEF. Multiple Indicator Cluster Survey, Swaziland. Model Full Report 2000. 2001. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/swaziland/swaziland.htm> (accessed: 20.03.2006), UNICEF; Central Statistical Office, Swaziland.
109. UNICEF. Multiple Indicator Cluster Survey Tajikistan 2000. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/tajikistan/tajikistan.htm>(accessed: 20.03.2006), UNICEF.
110. Ministry of Health. Statistical Yearbook of the Republic of Macedonia 2002. 2003.
111. Bureau of Health Promotion, Department of Health Ministry of Public Health. Evaluation of the Health Promotion Programs under the 8th National Social and Economic Development Plan. Health promotion in Reproductive Age Women, Thailand. 2001. Ministry of Public Health.
112. Government of Republica Democratica de Timor-Leste and UNICEF. Multiple Indicator Cluster Survey (MICS-2002), Timor-Leste. 2003. Dili, Timor-Leste, UNICEF and Government of Republica Democratica de Timor-Leste.
113. UNICEF. Togo Multiple Indicator Cluster Survey 2000. 2002. Internet communication at website: <http://www.childinfo.org/MICS2/newreports/togo/togo.htm> (accessed: 20.03.2006), UNICEF.
114. UNICEF. Multiple Indicators Custer Survey. Trinidad and Tobago. Full Report. 2002. (Internet communication at website: <http://www.childinfo.org/MICS2/newreports/trinidad/trinidad.htm> (accessed: 20.03.2006), UNICEF.
115. UNICEF. Tunisia Multiple Indicator Cluster Survey 2000. 2002. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/tunisia/tunisia.htm> (accessed: 20.03.2006), UNICEF.
116. Hacettepe University Institute of Population Studies. Turkey Demographic and Health Survey 2003. Ankara, Turkey: Hacettepe University Institute of Population Studies, Ministry of Health General Directorate of Mother and Child Health and Family Planning, State Planning Organization and European Union, 2004.
117. Demographic and Health Survey (DHS). Turkmenistan Demographic and Health Survey 2000. Calverton, Maryland USA: MEASURE DHS AND ORC Macro, 2001.
118. Uganda Bureau of Statistics (UBOS), Demographic and Health Surveys (ORC Macro). Uganda Demographic and Health Survey 2000-2001. Calverton, Maryland USA: ORC Macro, 2001.
119. Centers for Disease Control (CDC). 1999 Ukraine Reproductive Health Survey 2001. Kiev International Institute of Sociology, USAID, and CDC. 2001. Atlanta, Georgia USA, Department of Health and Human Services CDC.
120. The Stationery Office. Birth Counts Statistics of Pregnancy and Childbirth 2000. Macfarlane A, Mugford M, Henderson J, Furtado A, Stevens J, and Dunn A. 2000. London, United Kingdom Stationery Office.
121. National Bureau of Statistics (NBS) (Tanzania) and ORC Macro. Tanzania Demographic and Health Survey 2004-05. 2005. Dar es Salaam, Tanzania, National Bureau of Statistics and ORC Macro.
122. Ministry of Health, United States of America. Information obtained from the Ministry of Health through the country consultation by EIP, 2003.
123. UNICEF. Multiple Indicator Cluster Survey Republic of Uzbekistan 2000. UNICEF. 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/uzbekistan/uzbekistan.htm> (accessed: 20.03.2006), UNICEF.
124. UNICEF. Multiple Indicator Cluster Survey Venezuela 2000. Internet communication at web site: <http://www.childinfo.org/MICS2/newreports/venezuela/venezuela.htm> (accessed: 20.03.2006), UNICEF.
125. Committee for Population, Family and Children Vietnam and ORC Macro. Vietnam Demographic and Health Survey 2002. 2003. Calverton, Maryland, USA, Committee for Population, Family and Children (Vietnam) and ORC Macro.
126. Demographic Health and Surveys (DHS). Yemen Demographic and Maternal and Child Health Survey 1997. Calverton, Maryland USA: Macro International Inc., 1998.
127. Central Statistical Office [Zambia], Central Board of Health (Zambia), and ORC Macro. Zambia Demographic and Health Survey 2001-2002. 2003. Calverton, Maryland, USA, Central Statistical Office; Central Board of Health; ORC Macro.
128. Demographic and Health Survey (DHS). Zimbabwe Demographic and Health Survey 1999. Calverton, Maryland, USA: Macro International Inc., 2000.

Publications



Reproductive health indicators - Guidelines for their generation, interpretation and analysis for global monitoring

This document is intended for national public health administrators and health programme managers. It briefly reviews theoretical and practical considerations of indicators, followed by a discussion of the definition, data sources, collection methods, periodicity of collection, disaggregation, use, limitations and common pitfalls for each of the shortlisted indicators. It is hoped that the document will contribute towards a consistent global monitoring and evaluation of reproductive health.



Neonatal and perinatal mortality - Country, Regional and Global Estimates

The report provides neonatal and perinatal mortality estimates by country, regional groupings and globally. For countries that do not have data, models were developed to estimate mortality. Since data on deaths come from a number of different sources, the methods used to obtain the estimates are also described. Country-specific estimates of stillbirth and early neonatal deaths are published here for the first time. Estimates of stillbirth deaths that occur during delivery (intrapartum) by regional groupings, as well as estimates of sex ratio in neonatal, early neonatal and stillbirth mortality for the developing world are other recent contributions to the understanding of early mortality that are presented in this document.



Making Pregnancy Safer: The critical role of the skilled attendant

A joint statement by WHO, the International Confederation of Midwives (ICM) and the International Federation of Gynecology and Obstetrics (FIGO)

This document is especially aimed at countries in which the coverage of skilled attendance at birth is below 85%. It defines clearly who is a skilled attendant, what skills she/he should have and how she/he should be trained and supported.

Pour une grossesse à moindre risque : Le rôle capital de l'accoucheur qualifié Une déclaration conjointe OMS, ICM, FIGO

Ce document est particulièrement destinée aux pays dont le taux de couverture en soins obstétricaux par des accoucheurs qualifiés est inférieur à 85%. Cette déclaration définit clairement ce qu'est un accoucheur qualifié, ce qu'elle/il doit avoir comme compétences et comment elle/il devra être formé(e) et appuyé(e).

These publications are accessible through the WHO web site www.who.int/reproductive-health

For more information contact:

Department of Reproductive Health and Research
World Health Organization
Avenue Appia 20, CH-1211 Geneva 27
Switzerland
Fax: +41 22 791 4171
E-mail: reproductivehealth@who.int

www.who.int/reproductive-health