

Emergency Obstetric Care in Nicaragua:

A 2005/6 National Level Assessment and Assessment of a MOH/UNFPA/AMDD Project in three SILAIS (2002-2005)

Impact and UNFPA/Nicaragua

Background

This report presents key results of two assessments of the availability and use of emergency obstetric care in Nicaragua: a national level assessment which gathered data from all health facilities which provided obstetric care in 2006, and an assessment of a three-year emergency obstetric care project jointly sponsored by the Ministry of Health, the United Nations Fund for Population and the Averting Maternal Death and Disability project at Columbia University (MOH/UNFPA/AMDD). This Project was carried out between 2002 and 2005 in the following three SILAIS; Chontales, Jinotega and Rio San Juan (Figure 1).



Figure 1 Map of SILAIS, Nicaragua

The objectives of this Project were to improve quality of care and to strengthen EmOC services in ten MOH health facilities in the Project SILAIS and to increase access to and demand for EmOC services in the health facilities targeted for improvement. Both the national and the project assessments are based on the UN process indicators of availability and use of emergency obstetric care (see box), and results are interpreted relative to the goals associated with those indicators. The assessments were undertaken as a joint activity between UNFPA headquarters, UNFPA/Nicaragua and the Initiative for Maternal Mortality Programme Assessment (Impact).

The National Assessment of Emergency Obstetric Care in Nicaragua

The National Level Assessment collected data from 127 public and 40 private sector health facilities which provide obstetric care in Nicaragua.

The data are from 2004 to 2006. Results show that in 2006, the number of comprehensive emergency obstetric care facilities (CEmOC) - facilities which provide all of the signal functions associated with emergency obstetric care, except assisted vaginal delivery for the case of Nicaragua - was more than twice the number recommended by the UN for its population. The situation with basic emergency obstetric care (BEmOC) - facilities which provide the signal functions for emergency obstetric care, except for caesarean, blood transfusion and assisted vaginal delivery - is starkly different. In 2006, Nicaragua had only 38%, or 33 of the 87 BEmOC facilities required to meet the UN goal of four BEmOC facilities per 500,000 population. Efforts are clearly warranted to upgrade existing facilities to meet the requirements for BEmOC services. Such facilities can be a cost-effective way of treating many of the obstetric complications which lead to death or morbidity, and are almost always more conveniently located than CEmOC facilities for much of the population.

In 2006, just over one in two births in Nicaragua took place in a health facility (53%) and one third took place in a CEmOC or BEmOC facility. 14% of births were delivered via caesarean section, which is near the upper level of 15% recommended by the WHO. None of the SILAIS in Nicaragua showed caesarean section rates below the lower recommended rate of five percent. The assessment also showed that among caesarean deliveries, half (49%) were repeat caesareans, and in Managua the repeat caesarean rate reached 76%. Such high repeat caesarean section rates suggest very low prevalence of vaginal birth after caesarean and promises very rapid growth of the caesarean section rate in the future. A review of related policies and facility-based data on caesareans is needed to establish responsive policies and to avoid the very high caesarean section rates seen throughout the rest of Latin America.

Figure 2 presents the percent of all births that took place in a health facility in the Project and comparison SILAIS in 1999-2000 and 2004-2005, of note is that the source of the data on all births differed in 2001 and 2005.

A total of 41 maternal deaths were identified in health facilities between 2004 and 2005, nearly 60% of whom died from direct causes. Among those dying from direct maternal causes, pre-eclampsia/eclampsia was the leading cause of death at 40%, followed by haemorrhage at 30%.

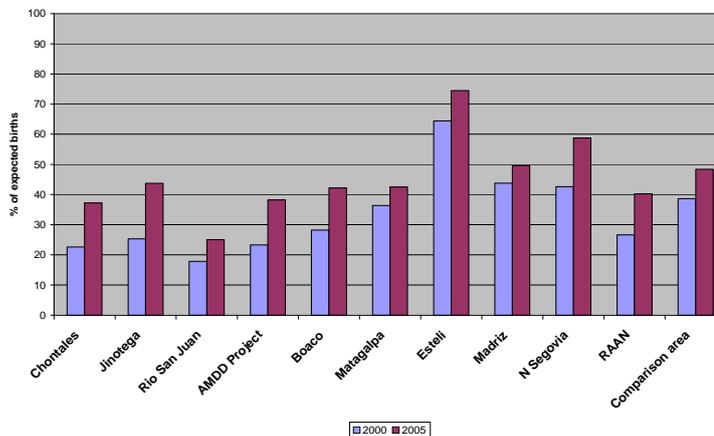


Figure 2 Percent of all births occurring in a health facility by SILAIS; 1999-2000, 2004-2005

The case fatality rate in CEmOC facilities was very low nationally (0.2%) and did not exceed the UN suggested maximum of 1% in any of the SILAIS. The infrequent occurrence of maternal deaths underscores the importance of emergency preparedness at all levels of the health system.

The policy environment regarding which health personnel are authorized to perform various emergency obstetric care procedures is under review and merits continued attention. Currently, only physicians are authorized to perform the signal functions for BEmOC, with caesareans restricted to specialists/obstetricians. Regarding deployment of health personnel, nearly all public sector facilities have some type of physician on staff, including obstetricians available in some Health Centres without beds. However, data presented here suggest that coverage with appropriate staff is inconsistent, as the risk of maternal death on weekends is more than two and a half times higher than the risk on week days.

The MOH/UNFPA/AMDD Project Assessment

The assessment of project achievements is based on a simple comparison of the change documented between 2001 and 2005/6 in the UN process indicators in the three SILAIS which were targeted for intervention by the MOH/UNFPA/AMDD Project and the change documented in six neighboring SILAIS. Given that organizations other than the MOH and MOH/UNFPA/AMDD were also providing various maternal health interventions both in the three project SILAIS and in the six neighboring SILAIS, direct attribution of the changes shown in this report to the MOH/UNFPA/AMDD project is not possible.

Findings

Three of the six UN process indicators assessed before and after the project showed greater improvement than that shown in the six comparison SILAIS. Very impressive increases were shown in the availability of BEmOC facilities in the project SILAIS. Between 2001 and 2006, seven additional facilities qualified as BEmOC in the three project SILAIS. Thus, the BEmOC minimum requirement was met in 2006 in two of the three project SILAIS (Chontales and Jinotega).

In contrast, very little progress was made regarding BEmOC in the six comparison SILAIS. One additional BEmOC facility became available in each of two SILAIS

(Boaco and Madriz) and three facilities lost their status as BEmOC during the time period (in RAAN and Matagalpa).

UN Process Indicators for the Availability and Use of Emergency Obstetric Care

- 1. Availability of emergency obstetric care (EmOC)** – For every 500,000 population, there should be at least four basic EmOC facilities and one comprehensive EmOC facility. See criteria for basic and comprehensive emergency obstetric care below.
- 2. Geographical coverage of EmOC facilities** – The minimum availability of EmOC services (described in indicator #1) is met in sub-national areas.
- 3. Proportion of births in EmOC facilities** – At least 15% of all births in the population should take place in either basic or comprehensive EmOC facilities.
- 4. Met need for EmOC** – One hundred percent of births estimated to have obstetric complications are treated in EmOC facilities. 15% of all births are assumed to have obstetric complications.
- 5. Caesarean sections as a percentage of all births** – The recommended range for the caesarean section rate is 5-15% of all births in the population.
- 6. Case fatality rate** – The facility-based death rate among women with obstetric complications in EmOC facilities is less than 1%.

Source: AMDD, AMDD Workbook – Using the UN Process Indicators of Emergency Obstetric Services, 2003

It seems clear that a project focus on the upgrading of facilities in the three Project SILAIS was responsible for the improvement seen there, given that this positive change runs counter to change in the comparison SILAIS and to the very low level of BEmOC available elsewhere in the country.

Equally impressive was the decrease shown in the case fatality rate in the project SILAIS between 2000 and 2005. During a 12 month period in 1999-2000, 14 maternal deaths were recorded in health facilities in the Project SILAIS. During a 12 month period in 2004-2005, only one maternal death was recorded. Although the case fatality rate in 2000 was 0.8 percent, which meets the UN recommendation of less than one percent, it decreased to less than 0.1 percent in 2005. The case fatality rate in the comparison SILAIS decreased modestly from 0.3 to 0.2 percent.

The project SILAIS also showed greater increases in the percentage of births taking place in an EmOC facility than the six comparison SILAIS. By 2005 in the project SILAIS, the percentage of births in an EmOC facility had

increased by 73%, from an initial 14% to 25%. The comparison SILAIS reported only a 23% increase, from 23 to 28%. Thus, although a slightly higher percentage of births occurred in EmOC facilities in the comparison than the project SILAIS in 2005, the project SILAIS made substantial progress toward closing the gap.

The results of the remaining three process indicators of emergency obstetric care were similar or inconclusive across the project and comparison SILAIS. There was little change in CEmOC in both areas. With the exception of Esteli in the comparison SILAIS, all SILAIS had and maintained at least one CEmOC, and met the minimum requirement for CEmOC when expressed in terms of population. Esteli gained a CEmOC facility and met the minimum requirement by 2005. Caesarean section rates increased dramatically in both areas; from five to eight percent in the project SILAIS and from six to nine percent in the comparison SILAIS. In two of the three project SILAIS, however, the caesarean section rate increased to above the five percent minimum recommended by WHO.

In both the project SILAIS and the comparison area, the indicators on the percent of obstetric complications that are treated in a health facility appear at odds with the other related indicators presented in this report. Despite increases in the percent of health-facility-based births, increased percentages of births in facilities that provide all or some of the signal functions required for EmOC and substantially increased caesarean section rates, indicators of the percent of obstetric complications treated in a health facility suggest no change over time in the project SILAIS (37% to 38%) and a decrease in the comparison SILAIS (58% to 49%). A satisfactory explanation for these results was not found, but differences in data collection regarding obstetric complications and/or differences in the external data used to estimate the total number of births in the population between the first and second assessment may be partially responsible.

Summary and recommendations

- These indicators suggest that some key process indicators of the availability and use of EmOC did increase more in the project SILAIS than the comparison area between 2001 and 2005.
- With the exception of the indicator suggesting no change in the project SILAIS in the percent of obstetric complications treated in health facilities, this cursory assessment suggests that the main stated objectives of the Project were met.
- Attributing these changes to the MOH/UNFPA/AMDD project is not possible, given the data available for this assessment, other on-going activities in the project SILAIS and on-going changes in birth-related behavior throughout Nicaragua. However, acknowledging that this project was by far the largest and most comprehensive of the maternal health projects in place in the three project SILAIS, their efforts very likely contributed largely to the change.

For further information, visit **Impact** at www.impact-international.org.

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List of Acronyms

AMDD	Averting Maternal Death and Disability
BEmOC	Basic emergency obstetric care
CEmOC	Comprehensive emergency obstetric care
EmOC	Emergency obstetric care
INEC	National Institute of Statistics and Census, Nicaragua
MOH	Ministry of Health
NGO	Non-governmental organization
SINEVI	Evaluation of Vital Statistics, Nicaragua
UNFPA	United Nations Fund for Population
UN	United Nations
WHO	World Health Organization