

**SAFE MOTHERHOOD AND MATERNAL MORTALITY REDUCTION STRATEGIES:  
A CROSS CULTURAL PERSPECTIVE**

by

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## SAFE MOTHERHOOD AND MATERNAL MORTALITY REDUCTION

### STRATEGIES: A CROSS CULTURAL PERSPECTIVE

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#### ABSTRACT

This essay provides a review of 25 years of maternal mortality reduction policies proposed by international bodies under the Safe Motherhood Initiative(SMI), and explores the relevance of cultural preferences for birth care in maternal death reduction policies.

This review is significant for public health because it addresses the public health mission of ensuring quality and effective health care for mother and child. From a global health perspective this essay provides a general view of the maternal death reduction interventions attempted, and of the successes and problems encountered in different areas of the world. This knowledge is a necessary step for preparing effective programs that build on previous experiences. As such the information contained here can be seen as an intervention history on which future programs can be tailored. Additionally it presents the case of maternal mortality reduction interventions in Peru.

The articles included in this essay were obtained through a systematic search of academic online databases, and online and in print publications from international policy and advocacy bodies. Articles come from peer reviewed publications and have been published in the last twenty years.

Database searches yielded 139 unique records; 90 of these articles, reviews and reports were directly related to the purposes of this essay. The selected publications which refer to policy strategies and interventions to reduce maternal deaths fall into four broad intervention categories: community level interventions, interventions in medical facilities, policy level interventions, and those related to a global policy change to skilled birth attendants.

The results indicate that the most effective interventions focus on more than one intervention level. Furthermore they indicate an uneasy relationship between maternal death education strategies and the cultural preference for home birth care. The development of intercultural birthing in biomedical facilities, as part of recent maternal mortality reduction efforts in Peru, provides a renewed perspective of cultural preferences in birth care. It also calls attention to the growing importance of cultural awareness in Latin America, and the increasing importance of cultural concerns in public health policy more generally.

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## 1.0 INTRODUCTION

It has been more than 25 years since the launch of the Safe Motherhood Initiative (SMI) in 1987 which brought maternal and infant mortality to the forefront of international concern. Advances have been registered in both realms; however there are still approximately half a million women who die of preventable causes related to pregnancy, childbirth and postpartum each year, and many more who suffer from illness and long term disabilities related to unsafe and unhygienic birthing practices ([Hill et al. 2007](#); [Ronsmans and Graham 2006](#); [Shah and Say 2007](#); [WHO 2006](#)).

The proximity of the 2015 deadline for the United Nations (UN) sponsored Millennium Development Goals (MDG), which have set the goal of reducing maternal mortality by two thirds (MDG Goal 5), has increased the interest in pursuing effective programs and has highlighted continuing challenges. The MDGs mark the first time that specific goals for maternal mortality reduction were part of a major concerted international initiative ([Hill et al. 2007](#)). This endeavor highlights the consensus among international policy bodies that reduction of maternal deaths can signal positive development changes and can be used as a reliable proxy to assess overall equality, access to health care and education, and female empowerment ([Abou Zahr and Wardlaw 2004](#)).

The importance of maternal death reduction in international policy through the MDG initiative has brought renewed attention to the evaluation of previous and existing maternal mortality reduction interventions. It has also prompted a closer exploration of the non-clinical aspects of maternal mortality reduction, such as the variation in cultural preferences for birth care, the availability and access to health care services, and the role of medically trained professionals versus lay traditional attendants in the pregnancy, birth and postpartum processes. As a result some of the prevalent interventions of previous decades have been

left behind, for example the work with lay birth practitioners, and new types of and sites for interventions are being promoted.

The objective of this essay is to present an overview of the main mortality reduction strategies of the last 25 years and to explore the ways in which these strategies have dealt with the differences in cultural preference for birth care. It will specifically refer to the changing role of traditional birth attendants in SMI strategies, and will examine the application of death reduction policies and the role of cultural differences in birth care in Peru.

The essay seeks to answer the following questions: How have the SMI strategies dealt with the differences in cultural preference for birth care in the past? and, Is there a role for cultural differences in the present push for the reduction of maternal mortality?

A review of maternal mortality reduction strategies in the developing world is of significance for public health's mission of providing quality and effective care to mothers and children. From a global health perspective this essay provides a general view of the interventions attempted, and of the successes and problems encountered in different areas of the world. This knowledge is a necessary step for preparing effective programs that build on previous experiences. From a regional perspective culturally competent strategies to reduce maternal deaths and improve mother and child health implemented in the developing world can be useful for managing maternal care among migrant populations in developed regions. Furthermore, experiences from the developing world can be useful as guides to tackling the inequalities in access to and use of maternal health services among immigrant and non-immigrant populations in some areas of the United States that have seen worrisome increases in maternal morbidity, mortality and perinatal death ([Geller et al. 2006](#); [Lang and King 2008](#)).

The following chapter introduces the problem of maternal mortality and presents an overview of the role of the UN and its conferences in highlighting the problem of maternal deaths on a global stage. The Methodology section describes the specific steps in undertaking the present review, identifying search criteria and results. The types of interventions enacted by the Safe Motherhood initiative, which constitute the results of the database search, are summarized by intervention level. These constitute an 'intervention history' against which newer programs and projects are measured. Additionally they represent an evolving under-

standing of the role of lay practitioners and the role of cultural preferences in birth care. The final section of the results will describe how global policy initiatives are replicated in Peru, specifically addressing the role of cultural preferences for birth care and the role of traditional birth practitioners.

## 2.0 BACKGROUND

The death of a new mother is a tragic event. Nonetheless, it is infrequent and avoidable in the face of proper medical care. However, in many areas of the world maternal death during birth is the leading cause of death among women of childbearing age. This chapter presents the latest data on the the state of maternal mortality indicators worldwide, and more specifically in Latin America. The continuing challenges facing impoverished areas to reduce high levels of maternal mortality and the successes of diverse interventions are presented here. Furthermore, this chapter introduces and describes the pivotal role played by the UN in furthering diverse solutions to the problems of birthing women and promoting the issue of maternal death reduction to center of development policy.

### 2.1 MATERNAL MORTALITY: AN OVERVIEW

A maternal death is defined as the death of a woman as a result of the process of pregnancy, from the first stages of gestation up to 42 days after the termination of pregnancy, irrespective of duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management ([WHO 1992](#)).

Maternal deaths are divided in two groups for registration purposes: a. Direct Obstetric Deaths, resulting from obstetric complications of the pregnancy, labor and puerperium, from interventions, omissions, incorrect treatment or a combination of the above; and b. Indirect Obstetric Deaths, which result from previously existing conditions that were aggravated by the physiological effects of pregnancy. Both types of maternal deaths are considered for the calculation of Maternal Mortality Ratios (MMR).

Approximately 70% of maternal deaths worldwide are caused by direct causes like hemorrhage, eclampsia, obstructed labor, sepsis or unsafe abortion. However, pregnancy in combination with infectious diseases like HIV, tuberculosis or malaria also contributes to direct causes of death, especially in geographic areas of high prevalence of these infectious diseases like Africa and Asia (Donnay 2000; Gil-Gonzalez et al. 2006; Khan et al. 2006; WHO 2006).

Although a maternal death can occur anywhere in the world, the rates at which it occurs in less developed regions are worrying, approximately 99% of maternal deaths occur in the developing world. In some impoverished areas a woman is 140 times more likely to die of preventable pregnancy-related causes than in a developed region (Donnay 2000; Harvey et al. 2004; WHO 2006). Table 1 shows the evolution of worldwide Maternal Mortality

**Table 1: Worldwide Maternal Mortality Ratios by Region**

	<b>Number of Deaths per 100,000 live births</b>		
	<b>1990</b>	<b>2000</b>	<b>2010</b>
<b>World Average</b>	400	320	210
<b>Developing Regions</b>	440	350	240
Sub-Saharan Africa	850	740	500
Southern Asia	590	400	220
Oceania	320	260	200
Caribbean	280	220	190
South East Asia	410	240	150
Northern Africa	230	120	78
Latin America	130	96	72
Western Asia	170	110	71
Caucasus and Central Asia	71	62	46
Eastern Asia	120	61	37
<b>Developed Regions</b>	26	17	16

Source: UN Millennium Development Goals Report 2012-Statistical Annex

Ratios (MMR)(number of maternal deaths per 100,000 live births) between 1990 and 2010. In general maternal deaths have decreased. However, the difference in death tolls between developed and developing countries and within specific regions is a stark reminder of the existing challenges posed by poverty, war and disease.

According to a recent UN statistics report ([WHO 2012](#)) the highest rates of maternal deaths in the world are in Sub-Saharan Africa. There 500 women die per 100,000 live births; in other words the lifetime risk of death by maternal causes is one in 39 ([WHO 2012](#)). Although this rate is an improvement from the 850 deaths calculated for the year 1990, the scale of the problem is greater than in all other regions of the world. Some studies have suggested that this may be due to the high prevalence of chronic infectious diseases and their coexistence with cycles of war and poverty. The combined effects of debilitating disease and the disruption in nutrition, health care services and violence take a toll on women's ability to overcome pregnancy and birth complications ([Khan et al. 2006](#)).

Other regions with high levels of mortality are Southern Asia and Oceania (see Table 1). Although their rates have also been drastically reduced from 590 and 320 respectively in 1990 to 240 and 200 in 2010, they still constitute an elevated lifetime risk of death (one in 160 and one in 130 respectively) when compared to that of developed nations (one in 3,800) ([WHO 2012](#)).

Furthermore, Maternal Mortality Ratios within regions are highly variable. For example, in Sub-Saharan Africa individual country rates range from 60 deaths per 100 thousand live births in Mauritius to 1,100 deaths per 100,000 live births in Chad. Similarly in Southern Asia the highest rates occur in Afghanistan (460/100,000 live births) and the lowest in Iran (21/100,00 live births). In Oceania, an aggregate of islands which excludes the developed nations of Australia and New Zealand, the highest mortality levels are found in Papua New Guinea (230/100,000 live births) and the lowest in Fiji (26/100,000 live births) ([WHO 2012](#)).

As a comparison, the lowest Maternal Mortality Rates were found in Europe, specifically Estonia (three deaths/100,000 live births) and Greece (four deaths /100,000 live births)([Hogan et al. 2010](#); [UN Statistics Division 2012](#)). The former Soviet Republic managed to reduce maternal deaths by 95% since 1990. Interestingly the United States (US) has one of the highest levels of maternal mortality among the 46 nations deemed developed by the UN. The US MMR, calculated at 21 deaths per 100,000 live births in 2010, has increased by 65% since 1990 when the reported rate was 12 deaths per 100,000 live births ([UN Statistics Division 2012](#)). This is a worrying trend with potentially important public health implications due to the growing inequality in health care access.

The Latin American and Caribbean region is also highly variable with respect to maternal mortality indicators. The lowest MMRs are reported in Puerto Rico (20 deaths/100,000 live births) and the highest in Haiti (350 deaths per 100,000 live births). Table 2 shows the evolution of mortality rates in South America. The lowest levels of maternal deaths in 2010 were found in Chile (25/100,000 live births) and the highest in Bolivia (190/100,00 live births). The Andean countries had consistently higher death ratios between 1990 and 2005.

**Table 2: Latin America Maternal Mortality Ratios by Country and Percentage Change Between 1990-2010**

Number of Deaths per 100,000 live births						
	1990	1995	2000	2005	2010	% Change
<b>Andean Region</b>						
Bolivia	450	360	280	240	190	-57
Ecuador	180	150	130	110	110	-42
Venezuela	94	98	91	94	92	-2
Colombia	170	130	130	100	92	-45
Peru	200	170	120	90	67	-66
<b>Non- Andean Countries</b>						
Paraguay	120	120	110	110	99	-16
Argentina	71	60	63	69	77	9
Brazil	120	96	81	67	56	-51
Uruguay	39	35	35	31	29	-26
Chile	56	40	29	26	25	-56

Source: UN Millennium Development Goals Report 2012-Statistical Annex

However, Peru and Bolivia have been able to reduce death rates by 66% and 57% respectively, and both countries are considered to be making good progress to reach the MDG Goal 5 in 2015 (Hill et al. 2007; Hogan et al. 2010; UN Statistics Division 2012). Reductions in Venezuela (2%) and Paraguay (16%) have been slight; however, only Paraguay is officially tracked as part of the MDG initiative. On the other side of the spectrum, Argentina has seen a 9% increase in the level of maternal deaths. A possible explanation is that it is a consequence of the long-term effects of the recent (1999-2001) severe economic crisis on the health system.



Several studies show that the main problems with evaluating maternal mortality indicators are the availability of data, and problems with current forms of mortality registration and measurement in developing countries (Betran et al. 2005; Gil-Gonzalez et al. 2006; Hill et al. 2007; Shah and Say 2007; Boerma et al. 2007; Iguñiz and Palomino 2012). These shortcomings make overall evaluations of regional and global trends difficult and have subsequently become a major source of contention.

Recent modeled estimates presented by Hogan et al. (2010), for example, present an optimistic picture of global indicators, a reduction by almost half the total number of deaths from 1980 to 2008, which contradicts earlier reports based on UN reporting data (Hill et al. 2007). Several researchers have criticized Hogan et al.'s findings due to the broad uncertainty estimates of his model, as such they have cautioned against using these data to evaluate individual country progress (Graham et al. 2010; Nicolas Meda 2010). Other critiques have also been leveled at the knowledge needed to comprehend results fully, which may send the equivocal message that the problem has been resolved at a time when more funding and commitment are needed in this area (Althabe et al. 2010; Frisancho 2010; Melgar and Melgar 2010). The outcome of this controversy has been a vigorous call to action to develop more consistent data among diverse agencies of development (Horton 2010). This information is important as countries are voluntarily benchmarked on their progress towards the Millennium development goals by the UN.

Going beyond the numbers, it is important to consider that in all regions the overall burden of death and disability impacts many aspects of life. It may mean economic problems and stresses for the family and the remaining children in case of death. In the case of the so called 'near misses' it may mean lifelong disabilities. Many of these, like obstetric fistula for example, can bring social stigma and economic problems due to the increased need for specialized care and the inability of the affected women to participate in economic activities of the household (Filippi et al. 2006; Ronsmans and Graham 2006). The following section describes the efforts of the international community to provide policy guidelines and programs to ameliorate the death toll and avoid increasing burdens on social and economic development. These efforts come under the broad encompassing actions of the SMI and the increasing importance of maternal mortality reduction in recent UN policy.

## 2.2 THE UNITED NATIONS AND MATERNAL HEALTH POLICY

The UN is the most important international policy body for topics related to international development. As such it has set the agenda for global policies related to many problematic health issues such as malnutrition and maternal mortality. The UN consists of several organizations dedicated to specific topics and constituencies, for example the World Health Organization (WHO), the UN Children's Fund (UNICEF), and the UN Development Fund (UNDP). Together and separately they host recurring conferences on selected issues. At these meetings researchers, policy makers, and others present and discuss recent findings and agree on a set of common goals that aim to be incorporated into national policies. In the related areas of maternal mortality, fertility and maternal health, the UN has convened eight such conferences over 25 years.

The first international UN led conference that directly tackled the issue of maternal mortality was the International Safe Motherhood Conference held in Nairobi in 1987 (WHO 1999; Rasch 2007). The agreements reached at this conference called for a 50% reduction in levels of maternal mortality by the year 2000. Additionally it led to the establishment of the Inter Agency Group (IAG) on safe motherhood, and the SMI (AbouZahr 2003b; Thompson 2005). The IAG was formed by the WHO, the World Bank, the United Nations Population Fund (UNFPA), United Nations Development Program (UNDP), United Nations Children's Fund (UNICEF), the International Planned Parenthood Federation (IPPF) and Population Council.

The SMI began its initial work championing the cause of maternal death reduction and promoting interventions with existing lay and medical practitioners. These achieved some advances. However, stronger commitments from national level agencies were needed (Liljestrand 1999). Some years later, in 1994 at the International Conference on Population and Development (ICPD), the importance of reducing maternal mortality was reiterated.

The International Conference on Population and Development (Cairo, 1994), the Fourth World Conference on Women (FWCW) in Beijing in 1995, and the Safe Motherhood Technical Consultation (Colombo, 1997) all helped to shift the attention of the international community to the need for accelerated action to achieve the goal of reducing maternal mor-

tality by 50% by the year 2000. The Colombo 1997 meeting marked ten years of the SMI and was also the culmination of an intense effort by relevant agencies to return international focus to the issue. It renewed appeals to engage policy makers to commit to reducing maternal mortality by placing it in the context of human rights. Thus urging governments to use their political, legal, and health systems to fulfill the obligations taken on with their official endorsement of various international human rights instruments ([AbouZahr 2003b](#)).

At this meeting experts from WHO, UNFPA, UNICEF, the World Bank, the Population Council, the International Planned Parenthood Federation, and other agencies concerned with safe motherhood reviewed progress and concluded that it was possible to reduce maternal mortality significantly with effective program and policy interventions. However, they also recognized the scant progress made over the last decade and the need for continued advocacy for the reduction of maternal mortality at the highest levels of policy making. The previous UN conferences led to signing and adoption of policy binding documents by representatives of developing countries worldwide.

However, both at the International Conference on Population and Development (ICPD) in Cairo (1994) and at the Fourth World Conference on Women in Beijing (1995) the problems of maternal mortality had been obscured by other issues related to reproductive health and reproductive rights. At the same time other UN conferences which analyzed the plight of women, other health issues and general issues of poverty and development also enacted specific agreements and goals, which resulted in a duplication of efforts and division of limited funding.

In the year 2000 the UN convened a new meeting in which to analyze the progress on several issues related to the promotion of international development. The declaration produced by the end of this meeting described in eight chapters the consensus opinion about the basic targets that should be attained to ensure equality and development around the world. The Millennium Development Goals (MDGs) are a response to the overlapping targets of many of the previous agreements and also to the lack of accountability in the achievement of those targets.

The MDGs set specific indicators, a total of 60, that are tracked on a country basis to measure the progress made in achieving eight broad encompassing goals:

1. Eradicating extreme poverty and hunger;
2. Achieving universal primary education;
3. Promoting gender equality and empower women;
4. Reducing child mortality;
5. Improving maternal health;
6. Combating HIV/AIDS, malaria, and other diseases
7. Ensuring environmental sustainability; and
8. Developing a global partnership for development.

Within this new policy framework maternal health is featured once again as one of the main global health challenges. The reduction of maternal mortality ratio by three quarters by 2015 is one of the sub goals of MDG 5, and its measurable indicators are country MMRs and the proportion of births under the care of skilled birth attendants.

The emphasis on achieving a reduction in maternal mortality and the other indicators of the Millennium Development Goals is in large part a moral commitment on the part of developing countries; although there are clear goals and deadlines there are no sanctions if a goal is not reached. However, countries whose legislatures have ratified the Final Document of the Millennium Conference have formally made a declaration that they consider these goals morally just, and have made a legal commitment to their own constituents that national policies will work towards achieving those goals. In this sense the drive to reach these goals is as much a matter of national pride as it is a need to respond to internal demands.

### 3.0 METHODOLOGY

This essay presents an overview of diverse strategies employed in the past 25 years for the reduction of maternal mortality in the developing world. It specifically addresses the manner in which past intervention strategies have managed cultural preferences for birth care and explores the role of cultural preferences in recent policies. The references and information included in this review essay were obtained through a systematic search of online databases, and online and in print publications from international policy and advocacy bodies. Articles come from peer reviewed publications and have been published in the last twenty years. Also included are reports and data summaries from international policy bodies and aid organizations that are intervening and/or monitoring maternal mortality indicators.

The databases and online catalogs used were PubMed, Annual Review of Public Health, Cochrane Database of Systematic Reviews, Ovid Medline, Web of Science, and PittCat. Organizational databases included in the search belong to the WHO, PAHO, UNFPA, UN Statistics Database, UN Millennium Development Goal Indicators, UK Department of International Development (DFID), Save the Children UK, and the International Federation of Gynecology and Obstetrics (FIGO) initiative.

The systematic search was conducted using combinations of the following descriptors: maternal mortality, maternal health, maternal deaths, reducing maternal mortality, interventions in maternal mortality, safe motherhood, maternal policy, millennium development goal 5, reproductive health, traditional birth attendants, skilled birth attendants, culture, and intercultural birth policy.

Database and organizational site web searches yielded 139 unique records; these were reviewed to ensure relevance to the stated objectives. The specific inclusion criteria for the articles and reviews selected for this essay were: appeared in a peer reviewed journals;

within the last 20 years; provided information on the types of interventions conducted in international settings in the search for reduction of maternal mortality; and also featured general policy level results of said interventions. This review identified 90 articles, reviews and reports that were directly related to the purposes of this essay.

The 90 selected publications fall into four broad categories:

1. Publications related to interventions conducted at the community level, specifically with existing traditional birth care practitioners and other community agents;
2. Interventions that focus on medically trained personnel in organizations like health centers or clinics;
3. Interventions on higher levels of the decision making process, designed to reorient national level policy; and
4. Interventions and programs advocating the global change to support only biomedically trained birth attendants.

These groupings loosely represent the evolution in UN sponsored SMI interventions over time. A specific subset of these interventions, which directly addresses the issue of cultural preferences, has also been included in the results.

## 4.0 RESULTS

The promotion of safe motherhood in developing nations has been a focus of several international policy bodies since the establishment of the SMI in 1987, with the participation of the WHO, the World Bank, UNFPA, UNDP, UNICEF, IPPF and Population Council.

The initial years of the SMI were influenced by the previous research and intervention agendas, which had been related to the perceived problem of overpopulation. Thus the participation of IPPF and Population Council in the IAG led to an early focus on understanding the influence of demography, family planning, and community development on maternal health outcomes. As a result, in the late 1980's and early 1990's much of the initial research and interventions proposed by the IAG focused on these issues, and especially on the introduction of modern family planning methods (e.g. the pill, condom, IUD) in underdeveloped countries.

At that time the intervention focus was conceived as a mother-child dyad, as a result of the link between contraception and mothering. Some researchers argued that this led to viewing the improvement of women's health not as valuable in and of itself but only as a way to improve the child's health ([AbouZahr 2003b](#)). However, a change in perspective and focus from 'maternal and child health' to 'reproductive health' resulted from the international conferences of the mid 1990's, the ICPD Cairo in 1994, the FWCW Beijing in 1995, and the Social Summit in Copenhagen in 1995.

As such the context for the SMI interventions changed, safe motherhood begun to be seen as a basic human right, and the focus of research and interventions was recentered on the social, cultural and gender-based determinants of health and development ([AbouZahr 2003a](#)). This focus on the broader framework that affects women's health, which remains current, has allowed policy makers to rethink maternal health within a social-ecological

model from a public health perspective. Furthermore, it has aided in the identification of new areas of possible interventions. In this policy climate issues of cultural preferences have increasingly taken center stage. The following sections describe the SMI interventions aggregated by type. Later sections of this chapter present the discussion of the changing cultural landscape for birth care and explore the application of the SMI related policies and the nascent intercultural birthing proposals in Peru.

#### 4.1 THE SAFE MOTHERHOOD INITIATIVE (SMI) INTERVENTIONS

In the 25 years since the beginning of the SMI there has been a significant advance in the reduction of maternal deaths worldwide ([Donnay 2000](#); [Shah and Say 2007](#)); these advances have been achieved by multiple strategies that have evolved over time in accordance with the changing nature of the problem and the specific needs of different developing countries. Several studies ([AbouZahr 2003b](#); [Freedman et al. 2007](#); [Thompson 2005](#)) agree that the most success in reducing maternal mortality is attained when interventions are combined to create a synergistic effect by tackling diverse factors at different levels. The authors assert that interventions on the policy, community and organizational levels that go further than just health care provision have been most effective.

Some of the interventions they advocate are those that address universal education, universal access to basic health services and nutrition before, during and after childbirth, access to affordable family planning services, attendance at birth by skilled professionals, access to quality obstetrical emergency care, and policies and projects that raise women's social and economic status, thus empowering them.

Another issue under consideration is the toll of unsafe abortion and the provision of safe abortion services to these populations as a way to curb maternal mortality ([Chowdhury et al. 2007](#)). However, due to the fraught political nature of this topic in various countries abortion is seldom at the forefront of policy suggestions. The following sections summarize some of the SMI policies and programs at the community, organizational and policy levels. This provides a broader view of the types of interventions generated by the initiative.



### 4.1.1 Community Level Interventions

The community level was the initial focus of the campaigns for safer motherhood and at this level there are many examples of interventions. Several interventions at this level have dealt with the Traditional Birth Attendant (TBA).

In the late 1980s and early 1990s training for TBAs was the most prevalent form of intervention. This occurred largely because the health infrastructure in many developing countries was not sufficient to provide access for most of the population. In this context the TBA became the first line of defense against maternal mortality.

Early interventions designed to improve management of labor and delivery were based on the belief that providing training in hygienic delivery and life-saving techniques to those TBAs already attending births in underserved areas would be the most far-reaching and cost-effective strategy for increasing maternal survival ([Ray and Salihu 2004](#)). The underlying assumption was that given the knowledge, skill set and tools of biomedicine in conjunction with their own personal experience, TBAs could safely perform normal low risk deliveries in the woman's home or in a community setting and identify high risk pregnancies to be referred to health centers ([Bergström and Goodburn 2001](#)).

These interventions were implemented with varying degrees of adaptation to the diverse geographical and cultural areas in which they were implemented. As a general rule they mostly involved the training of birth attendants with the support of health care service staff and the provision of clean birth kits and other materials to newly certified TBAs. This pattern of incorporation of TBAs as liaisons to and collaborators with government health care services was initially deemed successful as it contributed to the reduction of neonatal death due to sepsis.

However, projects with TBAs were difficult to follow up and maintain, and in the long run maternal mortality outcomes did not seem to improve significantly ([Ray and Salihu 2004](#)). In the mid 1990s several studies started to question the effect of these interventions on maternal mortality and morbidity and also raised concerns about uneven training and misuse of biomedical knowledge and skills ([Fleming 1994](#); [Rozario 1995](#)).

Later interventions at the community level focused on maintaining the continuum of care for pregnancy, delivery and postpartum, including the household as part of that continuum. For example, Portela and Santarelli (2003) base their approach on a social interactionist theory, which:

emphasizes that the central element in intellectual and psychological development and the learning process is the zone of proximal development. This zone is defined as the distance between the level of current development and the more advanced level of potential development that comes into existence in interactions between more and less capable participants. (Portela and Santarelli 2003:67)

Thus a key principle for the design of health education processes is the effective use of the zone of proximal development and the identification of existing knowledge and capacities. This approach recognizes that development of cognitive capacities, specifically the ability to understand and apply biomedical knowledge, is more efficient in a situation of social interaction. Thus the approach suggests the more effective way to transmit the information needed for prevention of maternal deaths at the community level is establishing a dialog among equals. As such this approach seeks to distance itself from the perception that poor health care choices are based on lack of knowledge. The authors propose that it is necessary to engage individuals and communities in meaningful horizontal interactions or dialog where local knowledge and medical knowledge can be shared on the same terms. This dialog would allow for a negotiated course of action that would empower the individual and the community and allow ownership of medical knowledge to lead to behavior change.

Portela and Santarelli(2003) identify four priority areas for intervention strategies based on this theoretical approach:

1. Developing capacities of women, families and communities to stay healthy, make healthy decisions and respond to obstetric and neonatal emergencies;
2. Increasing awareness among women, families and communities of women's sexual and reproductive rights, and of the needs and potential problems related to maternal and newborn health;
3. Strengthening linkages for social support between women, men, families and communities and with the health care delivery system; and

4. Improving quality of care, health services and health provider interactions with women, men, families and communities.

This approach to health education seems promising and can allow the health care provider or educator to engage with the community in more constructive ways than the vertical paradigm of expert versus lay person.

#### 4.1.2 Health Service Level Interventions

Very few interventions have been geared toward changes at the healthcare facility level. The most notable, and most replicated, is the application of the maternal death review method and its effects on maternal mortality at a district level hospital in Senegal ([Dumont et al. 2006](#)). Researchers produced a one-year baseline for maternal mortality in that particular hospital and followed maternal mortality for three years after the implementation of maternal death reviews (MDRs) in the facility. They also evaluated the qualitative effects of the MDRs on the organization of the health service during this time.

The MDR intervention was based on an audit cycle that commenced with the identification of the maternal death in the facility and its report by nurse-midwives through a special maternal death register. This document was then reviewed by a senior OB-Gyn to ensure quality of care, provide training to staff and aid in data collection. This same Ob-Gyn collected information from the staff and patients family about the circumstances of the death.

The cases collected were presented at an audit committee and to representatives of international organizations and local authorities once a year, and on the basis of this presentation agreed upon recommendations were implemented. The results of the evaluation demonstrated that there was a decrease in the number of maternal deaths and also a change in organizational structure as a response to MDRs. The authors suggest this could be an effective low-cost intervention for medium size health care settings. However, they also point out that more evidence is needed to recommend this approach in different types of health systems.

### 4.1.3 Policy Level Interventions

At the general policy and planning level there are three large partnership based initiatives that involve policy level planning and intervention strategies at the multinational level.

The first is the Skilled Attendance for Everyone (SAFE) toolkit, which was developed by the Dugal Baird Centre for Research on Women's Health at the University of Aberdeen as part of an international collaborative inter-agency and multidisciplinary network in five countries: Bangladesh, Ghana, Jamaica, Malawi, and Mexico ([Bell et al. 2003](#)).

This group has created a strategy and intervention development tool geared towards program managers and high-to-mid level policy makers. It consists of a series of modules that aid in the identification of problems and the formulation of tailored strategic responses. The toolkit was tested in the five collaborating countries at the regional and district levels. According to Bell et al.(2003), the methods employed were to be feasible in diverse cultural and organizational settings and produce evidence that would be useful in the formulation of strategies tailored to the specific needs of different areas.

The second partnership is an initiative of the International Federation of Obstetricians and Gynecologists (FIGO), which in 1997 started a plan through its affiliated societies to help change the ability of women in developing countries to obtain skilled attendance at birth. FIGO's initiative intervened in five areas of high maternal mortality: Central America (Guatemala, Honduras, Nicaragua and El Salvador), Ethiopia, Mozambique, Pakistan, and Uganda. The initiative based interventions on achieving four key goals for the reduction of maternal mortality: attendance by skilled personnel for all women during pregnancy and delivery, availability of emergency obstetric care services, existence of comprehensive obstetric services at the regional level and an ability to rapidly transport any woman in need ([Benagiano and Thomas 2003](#)).

Each partner country underwent a needs assessment, and customized projects were developed to remedy deficiencies. There was care in ensuring that all interventions and activities were low-cost, replicable and sustainable without international help. Although the main focus of the FIGO program was improving obstetrical emergency skills for medical professionals, some areas of intervention did not count with the required medical infrastructure

or suffered from a personnel shortage. In those cases the initiative also provided training for local traditional specialists, linking them to the health services as ongoing collaborators. The results of the initiative seem to have been largely positive in reducing cases of maternal deaths. However continuing progress depended greatly on consistent investment in personnel, technology and supplies, and on improving transport infrastructure.

Much in the same arena, the Averting Maternal Death and Disability (AMDD) initiative developed at the Columbia University's Mailman School of Public Health proposed a framework to understand some of the social and organizational causes of maternal deaths and identify tailored strategies to address them. The AMDD initiative is a global endeavor of research advocacy and policy analysis that is mainly focused on tackling the issue of obstetric emergencies through policy interventions at regional and district level and interventions in the health care setting. The basis of the AMDD interventions is the Three Delay Model, which identifies the three main causes for delay in seeking health care attention for an obstetric emergency:

1. Delay in decision to seek care; this could be due to an inability to recognize complications, to a fatalistic acceptance of maternal death, or to other socio-cultural barriers.
2. Delay in reaching appropriate medical care, due to poor or absent roads, rugged terrain, lack of transportation system, etc.
3. Delay in obtaining effective medical care, which could be due to user fees, poorly staffed or ill-equipped institutions with poorly skilled personnel ([Thaddeus and Maine 1994](#); [Stekelenburg et al. 2004](#)).

The AMDD group has partnered with several funding and research agencies and international NGOs and through them has been implementing interventions in around 50 countries. One of the partner organizations in this endeavor has been CARE, which implemented the program in the Peruvian region of Ayacucho ([Kayongo et al. 2006](#)).

In this area the project targeted five health care facilities and provided a package of interventions designed to improve capacity of services to provide quality Emergency Obstetrical Services (EmOC) and to promote a human rights approach. The activities included improvements in infrastructure, skill training for human resources through rotating internships, development of technical protocols and standards and activities to promote quality of care.

The intervention in Ayacucho engaged regional health officials, practicing doctors, midwives and nurses, as well as community participation. As a result of the intervention six functioning EmOC care facilities were created. These were able to provide 24/7 care and increased the met need for EmOC from 30% to 85% at the end of the intervention.

All three of these multinational initiatives can and have been used in conjunction as some are more useful for addressing broader policy level issues and others for facility level interventions. Given the broad scope of the interventions we cannot ascertain the specific organizational, community and individual level theories that may have been used for programs. However, they all seem to ascribe to the social ecological model of interventions.

A different multiple level approach, called Beyond The uMbers has been proposed by Lewis (2003). Its main objective is to produce reliable and useful information that can serve as a complement to the mere numbers and which will enable policymakers to better understand the scope of the problem of maternal mortality and to take specific corrective actions in national maternal death reduction programs. This approach can be used at different levels from the national level to the local and in health services and small communities:

1. At the community level MDRs, also called verbal autopsies, serve as a method of elucidating the medical causes of death and determining the personal, family or community factors that may have contributed to the deaths in women who died outside of a medical facility.
2. At the health care facility level, the MDR is a qualitative, in-depth investigation of the causes of and circumstances surrounding maternal deaths. This may be expanded to identify the combination of factors at the facility and in the community that contributed to the death, to evaluate which deaths were avoidable.
3. At a local or regional level maternal death reviews are called confidential inquiries into maternal deaths, and should be a systematic multi-disciplinary anonymous investigation of all or a representative sample of maternal deaths occurring at an area, regional or national level. They can identify the numbers, causes and avoidable factors associated with them.

Additionally, a review of the severe morbidity or ‘near misses’ that result in ongoing obstetrical or other impairments caused by the obstetrical emergency can be added. This type of review can be developed at any of the above mentioned levels. A higher level policy or a facility based review is the clinical audit, a quality improvement process that seeks to improve patient care and outcomes through systematic review of aspects of the structure, processes and outcomes of care based on explicit criteria and the subsequent implementation of change.

Overall the initial and longer lasting safe motherhood interventions focused on the community, and in later iterations on promoting changes at the level of policy. Multilevel interventions are not used frequently due to their need for large scale commitment and funding, and also because in many cases they require major changes in the organizational culture at all levels of health care delivery. The most widespread of these types of interventions to date, has been the work with traditional birth attendants and lay community women. As such the change in policy at the UN agencies and the Safe Motherhood Initiative, which had moved away from this initial model, signaled a major change in the way policy and funding priorities would be considered and also brought repercussions at the community level. The following section details this change and its implications for birth care.

#### **4.1.4 The Global Change to Skilled Birth Attendants**

Traditional birth attendants (TBA) held a privileged place in the early interventions to promote Safe Motherhood, much of this initial stage intervention was geared towards providing TBAs with knowledge about hygiene, basic medical concepts and clean birth kits. The underlying assumption was that given the knowledge, skill set and tools, TBAs could safely perform normal low risk deliveries in the woman’s home or in a community setting and identify high risk pregnancies. There were some gains such as the reduction of neonatal death due to sepsis which were attributed to the TBA interventions but overall maternal mortality outcomes did not seem to improve ([Ray and Salihu 2004](#)).

Although training and inclusion of TBAs were still seen as important for the safe motherhood initiative ([Koblinsky et al. 1994](#)), there was considerable discussion as to their merits. Those in favor of maintaining the TBAs within the scope of the health system argued that national and international policy bodies were not really focusing on women's health with some of the earlier interventions but rather were more interested in the child's health, thus the emphasis on hygiene and sepsis prevention ([AbouZahr 2003b](#)).

Furthermore, in response to criticism of the lack of effectiveness of TBAs to promote behavior change, supporters of their continued involvement in international safe motherhood programs, cited the lack of healthcare infrastructure to support that change. In addition other supportive studies ([Kebe 1994](#); [Chowdhury 1998](#)) demonstrated that TBAs could be extremely efficient when coupled with consistent prenatal and postnatal care in health care facilities.

However, many researchers opposed the continued funding of the work with TBAs under the Safe Motherhood Initiative. De Brouwere, Tonglet and Van Lerberghe ([1998](#)) pointed out that TBA training was not significantly associated with a reduction in maternal mortality, a claim that has been corroborated by other studies ([Sibley et al. 2007](#)). Furthermore they observe that several problems of TBA training had been underestimated: the variability in initial knowledge and in training, the need for constant and costly supervision, and the lack of consensus of what TBAs should be taught.

Additionally, the authors' analysis also noted that training in biomedicine changed TBAs, asserting that in trying to mold them to the image of a health care provider the interventions may have detached them from the traditional body of knowledge and from their communities. As a result they conclude that TBA training is uneven, its effects on reducing maternal deaths are ambiguous, and that resources used for TBA training may be more effective supporting the health care efforts through a different strategy.

Maclean ([2003](#)), also criticizes the TBA training effort and results, and proposes the idea that it would be more cost-effective to train existing health care providers, specifically of nurses and nurse-midwives, to deal more efficiently with childbirth in primary care. She asserts that these workers are easier and cheaper to train, given that they are already part of the biomedical institution.



Nonetheless, Maclean considers that TBAs can still have a worthwhile role in primary care, adding to the overall synergistic effect of an adequate health care system by involving community members and families.

As a result of these, and later studies that supported the importance of a skilled attendant at the time of birth, there was a palpable policy shift which declared that a TBA is never an acceptable substitute for a skilled birth attendant (SBA) (Cook 2002; de Bernis et al. 2003) An SBA, unlike the TBA, should be a person with at least some formal biomedical knowledge, who could master and use medical equipment and techniques, and manage crisis situations requiring minor medical interventions.

The WHO defines an SBA as someone trained to proficiency in the skills necessary to manage normal deliveries and diagnose, manage or refer obstetric complications (Harvey et al. 2004). An SBA should be able to perform the following functions:

1. Safely conduct a normal delivery using aseptic techniques;
2. Provide active management of the third stage of labor;
3. Provide immediate care of the newborn, including resuscitation;
4. Manage most postpartum hemorrhage through use of parenteral oxytocics <sup>1</sup> and abdominal massage;
5. Manually remove the placenta;
6. Manage eclampsia through provision of parenteral antihypertensives;
7. Recognize and manage postpartum infection through use of parenteral antibiotics;
8. Perform assisted vaginal delivery through the use of a vacuum extractor;
9. Manage incomplete abortions with manual vacuum aspiration (MVA); and
10. Identify correctly when to refer women to the next level of care and stabilize them for their journey (Carlough and McCall 2005).

However, some studies question the level of skills of midlevel professionals, who are well suited to become SBA, in different settings and the lack of homogeneity in training across large urban areas and rural outposts, and also between different generations of healthcare

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<sup>1</sup>Artificial oxytocin, also called pitocin, allows the blood vessels to contract to stop bleeding.

providers. Harvey et al. (2004) evaluated a sample of healthcare personnel in four international settings, Ecuador, Jamaica, Benin and Rwanda, to gauge their level of knowledge and practical skills related to pregnancy and delivery. They concluded that if the collected data accurately reflects the reality of provider competence, there would be cause for concern, because the results show a wide gap between evidence-based standards and current levels of knowledge and skill.

A related study in Bangladesh (Bhuiyan et al. 2005) reported similar results, prompting the researchers to assert that it is not only important to improve SBA competency to manage and resolve obstetrical emergencies but also to improve the image and acceptance of SBAs in the community. Furthermore, they assert that the presence of a skilled SBA is not enough to tackle the issue of maternal mortality and disability. These professionals, even the most skilled ones, also face structural and economic limitations, and unless they are part of an efficient referral system the presence of an SBA cannot ensure a woman's survival in the event of an obstetrical emergency.

In addition, although TBAs have been displaced from the locus of policy, some studies have suggested it may be counterproductive to leave them outside the health service structure, especially in areas where access to health services is limited and where TBAs are more likely to have an important social and cultural role (Kruske and Barclay 2004). In some traditional and rural areas there are still many barriers to the reassignment of delivery care to SBAs (Cotter et al. 2006), and TBAs can still be a cost effective way to curb maternal mortality (Sibley et al. 2004; Sibley and Sipe 2006). Furthermore, there is some evidence that links trained TBAs with a decrease in newborn deaths when combined with access to health services (Sibley et al. 2007). Therefore, there may be some support for involving TBAs to achieve optimal maternal and child outcomes, and in maintaining and strengthening the link between TBAs and health care services.

In some areas TBAs still hold special places in the community and are the 'de facto' primary care provider for pregnancy related issues. Given this, alienating TBAs from collaboration with the public health services can be counterproductive to the overall cause of preventing deaths and improving maternal and child outcomes. Paradoxically the diminishing role of traditional birth attendants in the global 'Safe Motherhood' interventions

coincides with the increase in mainstreaming of home birth options and of the ideals of a return to ‘the natural birth’ for some women in more developed nations ([Boucher et al. 2009](#)). Thus, it could be argued that birth care options for the developing world were being reduced through global policy for those depending on public care, while being expanded for those with the possibility of personal choice. However, it also coincides with the increasing interest in the role of cultural preferences in birth care choice at biomedical institutions, which could yet still lead to better birthing options. The following section discusses findings from the review on the role of culture in birth care in relation to TBAs and beyond.

## 4.2 CULTURE IN BIRTH CARE

Early interventions in maternal mortality reduction relied heavily on the modernization of health care systems and the expansion of biomedical services. However, these initial actions were not as successful as expected in bridging the access gap and curbing the problems of maternal and infant mortality. In many countries the primary response of the biomedical community was to consider traditional health and birth care practices as the main barrier. In this sense many early interventions sought to change cultural beliefs that were seen as impeding the advance of modernization through education and training campaigns ([Shaw 2005](#)).

The underlying assumption for these Information, Education and Change (IEC) programs was that cultural preference stems from a basic lack of awareness of options and inaccurate perceptions of bodily functions and risk. As such the expectation was that communication about these facts would induce a rational change of behavior.

This endeavor also highlighted the importance of understanding behaviors to allow effective tailoring of communication messages. To this end a vast number of Knowledge, Attitudes and Practice (KAP) studies accompanied IEC. In the realm of birth care, KAPs studies were widespread, and IEC focused mostly on communicating with TBAs. Thus TBA training modules in the early years were geared towards explaining biomedical views of the birth process and related risks ([Davidson 1983](#); [Griffiths et al. 1991](#); [Jordan and Davis-Floyd](#)

1994). It was expected that once presented with ‘correct’ knowledge TBAs would change their attitudes towards birth care, identify biomedical risks with greater ease, and recommend biomedical care to some women and in doing so produce broader behavior change.

However, the continued failure of these strategies to change behaviors, even when biomedical knowledge had been communicated effectively, and the meager reductions in maternal health indicators led some to change the way culture was seen from the perspective of health care, from problem to solution (Santiago-Irizarry 1996). As a result, in the late 1990s there was a surge in cultural sensitivity and cultural competence training for health care and other service providers in many developed countries. This was especially true for those receiving large numbers of refugee or immigrant populations like the US, Sweden, Norway and Canada.

Cross-cultural training for birth care providers catering to non native populations in these countries faced a multiplicity of beliefs and preferences around birth care among the diverse immigrant and refugee groups. Therefore, rather than train personnel to become experts on one culture interventions in cross cultural training promoted awareness and respect for the patient and focused on six areas interest: communication, social organization, space and touch, concept and management of time, control of environment and biological variation (Ottani 2002).

One approach, for example, suggests using the acronym COST (communication, organization, space and time) to quickly remind health care providers of the importance of tailoring communication messages to the women and families in their care, to remember that different concepts of family may mean that many people accompany the birthing woman, to take into account that time may be conceptualized in different ways and that the idea of personal space, use of touch and gender differences may not correspond to health personnel’s personal and cultural ideal.

However, even the advent of greatly improved cultural awareness and provision of cross-cultural training was not necessarily a guarantee of improved experiences for birthing women.

In this regard, the case of Somali refugees in several developed countries is particularly enlightening. Much has been written on the problems of Somali women in western biomedical settings. This literature focuses specially on childbirth as Somali women practice the most extensive form of genital cutting called infibulation; this procedure covers the opening of the

vagina with scar tissue leaving only a small opening for the passing of menses and urine. As such it creates special circumstances for vaginal childbirth, such as need for surgical defibulation to allow for the passage of the fetus and may also result in an increase in the pain associated with that passage (McCleary 1994).

Clinical studies (Johnson et al. 2005; Vangen et al. 2002) have suggested that women of Somali origin are more likely to suffer from premature labor, failed induction, fetal distress and need for emergency cesarean section. In light of this information Scandinavian countries adopted a clear and proactive policy of training health care personnel for the particular situation of infibulated women, providing cultural sensitivity training and modifying some aspects of birth care protocol. However, this approach presented some unforeseen problems.

Johansen's (2006) study on birth care for infibulated women in Norway suggests that the problems go beyond mere cultural misunderstandings and provides a complex panorama in which lack of technical know-how, increased cultural sensitivity and diverse interpretations of gender, nature, health and gender equity interact and result in inadequate care. The author posits that the Norwegian birth philosophy that champions 'natural childbirth' does not provide an adequate framework for health care professionals to treat women whom they consider more 'natural' because they come from less developed areas but who in reality are less 'natural' because of infibulation. A key finding of Johansen's analysis is that many times well-meaning culturally sensitive health professionals stereotype their patients assuming, for example, that infibulation was done against the woman's will, that she is in a position of extreme subordination, and that she would rather not break the infibulation seal because of a subjugated gender position or fear of family repercussions.

Johansen points out that in many cases this leads to silence by health care professionals on the subject of infibulation; thus they do not learn from the women themselves the appropriate way to give birth under this circumstance. This may lead in turn to reticence to open the seal surgically, prolonged labor, increased pain during childbirth, fetal distress and unwanted cesarean sections. She argues that essentialization of Somali women, understood as the reduction of the diversity of female experience into one stereotype, has led progressive-minded, culturally aware personnel to distance themselves personally from the birthing mother, not considering her as a right-bearing individual, thus providing a substandard quality of care

([Johansen 2006](#)). Similarly, [Bradby \(1999\)](#) demonstrates that stereotyping and preconceived ideas by healthcare personnel about birthing women in Bolivia lead to problems in health care and relationships with the community. She argues that health policy and healthcare providers view women as either modern or indigenous, and as passive receptors of care. In this sense the policy and medical establishments fail to acknowledge that in their daily lives many migrant women use their cultural knowledge to negotiate traditional and modern systems of birth care and are proficient in the use of overt and covert strategies in their relationship with the official health care system. [Bradby \(1999\)](#) downplays the idea of women as victims and shows them as agents who develop passive and active cultural strategies that enable them to obtain what they want from the hospital birth experience.

The recent growth of political and government participation by indigenous majorities has brought a renewed focus on the importance of cultural preferences in healthcare. In turn policies have attempted to move beyond essentialization and stereotyping to a new view of mutual collaboration and interculturality.

Several countries in Latin America have incorporated traditional birth care practices in their health care systems. Chile, Peru, Ecuador and Bolivia have enacted intercultural policies for birth. In Chile these have focused specifically on the Mapuche population and have involved creating culture-specific services that, although important, some also view as somewhat reductionist and indicative of the diminished status of the Mapuches in contemporary Chilean society ([Alarcón et al. 2004](#)).

On the other side of the spectrum, initiatives in Ecuador and Bolivia build on the strength of the indigenous movements, and on many years of projects conducted by international aid and development organizations in alliance with indigenous organizations, traditional healers and others in maternal health ([Arnold et al. 2001](#); [Arnold and Yapita 2002](#); [Bradby and Murphy-Lawless 2002](#); [Fernandez Juarez 2004, 2006, 2010](#)). Although these attempts do not escape criticism ([Ramirez Hita 2010](#)), the interest and participation from the intended subject population in Ecuador and Bolivia are hopeful signs of continuing support for the intercultural agenda. Furthermore, the creation and implementation of intercultural birth care are seen as key to reducing maternal mortality. In 2011 health ministers from six countries (Peru, Ecuador, Colombia, Chile, Bolivia and Venezuela) met in Lima and issued

a declaration of support for the continued promotion of participatory intercultural processes to improve maternal health and reduce maternal mortality among indigenous populations in their jurisdictions (UNFPA 2011). This furthers the importance of analyzing and evaluating existing policies to inform possible future implementations. The following section explores intercultural birth and previous maternal death reduction initiatives furthered by the Safe Motherhood Initiative as they relate to the case of Peru.

### **4.3 BIRTH AND SAFE MOTHERHOOD IN PERU**

Peru has been part of international efforts to reduce maternal mortality and improve the health indicators of mothers and children for more than 50 years. However, the particulars of the country's political and social changes over these years have impacted both the type and scope of policies and their results.

#### **4.3.1 Evolution of Maternal Health Indicators**

Overall maternal health indicators in Peru have improved remarkably in the last 15 to 20 years. The national MMR has been reduced from approximately 318 deaths per 100 thousand live births in the 1980s to 93 deaths in 2010 as shown in Figure 1.

Nevertheless, rate of reductions have diminished over time. Furthermore, the existence of a large isolated, rural and poor population present continuing challenges to the country's ability to reduce the national MMR to the MDG goal of 66 by the year 2015<sup>2</sup>.

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<sup>2</sup>Data used is public domain with indication of source.

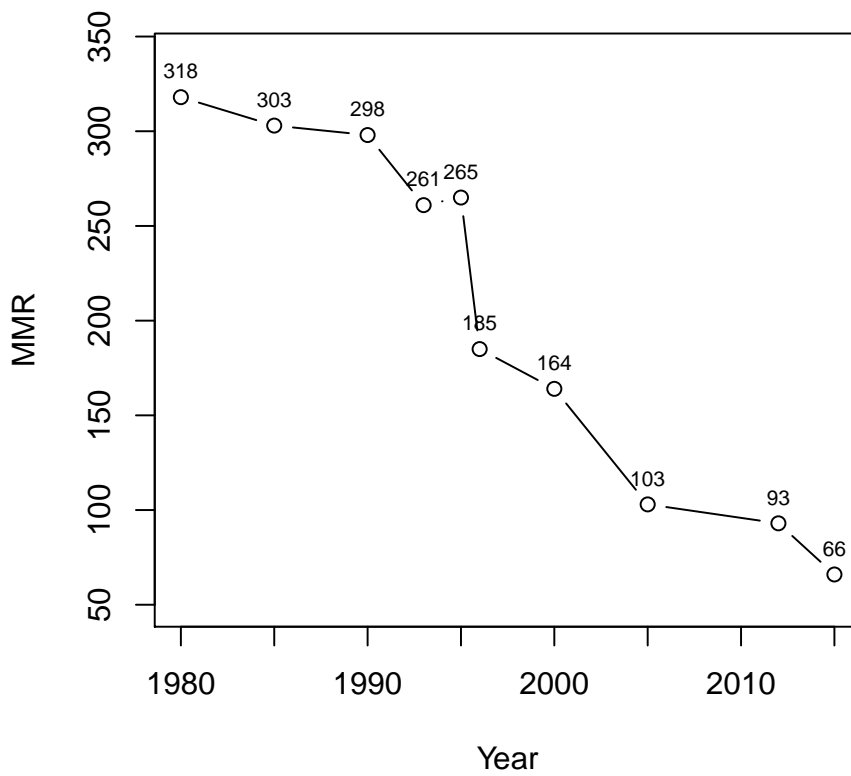


Figure 1: Peru-National Maternal Mortality Ratios 1980-2010

Source: MINSA-National MMR Reduction Plan 2009-2015



However, regional MMRs, last calculated by the National Statistics Institute (INEI) for the year 2007, show stark differences in the levels of maternal deaths. Figure 2 (on next page) shows the regional MMRs ranked from lowest to highest. It is a graphic representation of the distinct economic realities of the country. The mostly urban, coastal, and more industrialized regions, like Lima, Ica, and Tacna have levels below 90 deaths per 100 thousand live births, considerably lower than the national level of 173.5 for the year 2007 which is shown in black. On the other side of the spectrum the highland, more rural and largely agrarian and mining regions of Cusco, Pasco, Cajamarca, Huancavelica, Ayacucho and Puno have levels between 271 to 315 deaths per 100 thousand live births<sup>3</sup>.

Furthermore, Amazonian departments such as Loreto, Madre de Dios and Amazonas also show much higher levels of deaths than the national average ([Oficina General de Epidemiología- MINSA Peru 2003](#); [Centro de Investigación y Desarrollo-INEI 2009](#)).

Despite inequality in gains there does exist an overall reduction in the number of deaths, an indication that efforts to promote birth in the health services and use of family planning methods are making progress.

Nationally birth in healthcare facilities increased to 84.4% in 2010 from only 57.9% in the year 2000. Although the increase is impressive, differences between rural and urban areas are still very large, with only 63.7% of all rural births in the previous five years occurring in a health facility. Furthermore, although rural fertility has decreased in the past 10 years from a rate of 4.3 births per woman in 2000 to 3.5 2010, it is still much higher than the 2.2 urban fertility level ([INEI 2011](#)).

Many of these advances can be attributed directly to maternal mortality reduction policies, such as those recommended by the Safe Motherhood initiative. However, these indicators also support the notion that women in the rural areas are more at risk for maternal deaths than their urban counterparts. Successive Peruvian governments have sought to reduce this risk through various policy initiatives, designed to influence both the public health system and the population.

However, these policies operate in an already existing context of beliefs and customs regarding birth and birth care, and have been met with varying degrees of acceptance. The

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<sup>3</sup>Data used is public domain with indication of source.

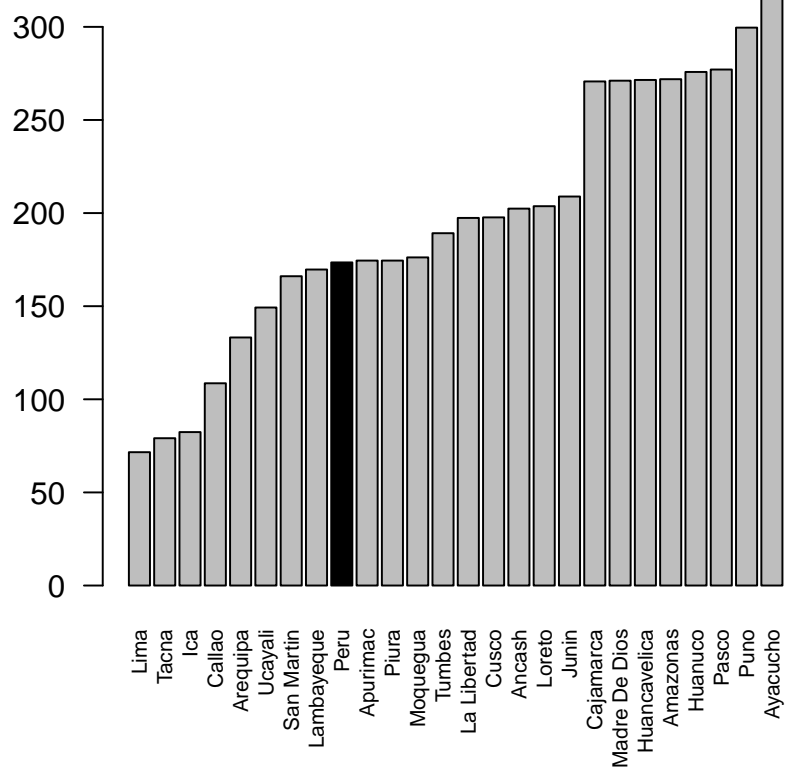


Figure 2: Peru-Regional Maternal Mortality Ratios 2010

Source: [Centro de Investigación y Desarrollo-INEI \(2009\)](#)

effects of the existing cultural practices have only recently been considered a helpful factor in policy making. The traditional policies and the rise of intercultural options for birthing are discussed in the following section.

### **4.3.2 Safe Motherhood and Interculturalidad in Peru**

The situation of motherhood in Peru was an early preoccupation of the sanitation efforts of the early twentieth century. The initial focus was on rearing practices rather than maternal health (Mannarelli 1999). The post-war realignment brought development aid to Latin America; and as part of this effort the relationship between population control, social development and economic improvement led to more interest in reproductive patterns and practices, including birthing.

**4.3.2.1 Community Health Agents** Post-war interventions focused on expanding and implementing health care access. This continued into the early 1980's under the framework of the Alma Ata (1978) declaration, which prioritized primary health care for all (MoH 2009). Traditional birth attendants and other community health workers (CHW) were trained to become liaisons with the health system and were given central roles in identifying high risk pregnancies and promoting family planning (Verderese and Turnbull 1975; Leedam 1985; Simons and Maglacas 1986). The specific scope of these efforts in Peru varied as different development agencies (e.g. UNICEF, CARE, USAID, Population Council) funded and sometimes directly undertook interventions in diverse geographical areas in coordination with the Ministry of Health (MoH). The results varied, and data were difficult to collect (Gomez 1988; Iguñiz and Palomino 2012). Public health facilities were scarce, and the existing ones were understaffed and under-equipped; and professionals at all levels of care were chronically under-trained for responding to obstetrical emergencies. These issues, connected to the international focus on population reduction (Stycos 1965; Verderese and Turnbull 1975), meant this early initiative focused more on family planning and child survival rather than on direct prevention of maternal deaths.

When the Safe Motherhood Initiative emerged from the Nairobi Conference (1987), Peru was in the midst of an internal armed conflict and a severe economic crisis that had undone much of the earlier policy efforts. All infrastructure of governance, including health care, was lost in many hard-hit rural areas and even in urban centers; and maintaining necessary health services and personnel became very difficult. This situation resulted in a near collapse of the health system. As such, the role of community health agents and TBAs grew. The gaps left vacant by the government were filled by non-profit and development agencies which largely enacted emergency food aid and primary health projects with lay agents ([Davison and Stein 1988](#)).

**4.3.2.2 Health Services and Community Health Workers** In 1993 the Safe Motherhood Initiative in Peru received a major boost with the beginning of Project 2000, a joint USAID and MoH endeavor whose main objective was to increase the utilization of priority maternal and child health interventions in the public health system ([USAID 1993](#)). Over the following ten years this project focused on improving the quality of medical attention for maternal and perinatal complications. It promoted standardization of birth care practice based on prenatal data and increased levels of prenatal care. Furthermore it aided the MoH in developing an ongoing training program in management of obstetric emergencies and in establishing a maternal death reporting system ([USAID 2003](#)).

Under the auspices of Project 2000, the MoH maintained the network of community health workers and increased their links with the expanding public health services. TBAs were officially named lay health workers and were incorporated into a referral and counter-referral system. TBAs in rural communities were essentially charged with the observation of all pregnant women in their community, with visiting them and identifying early signs of danger. Using the referral forms (most of which were pictorial), TBAs could then send women on to the health services for treatment. Once treated in the health service, women could continue their care with the TBA, who was also in charge of supervising medication and reporting any problems to health personnel ([Guerra Reyes 2001](#); [Benavides 2002](#)).

The community health agent model evolved in scope and remained important into the first years of the millennium. Community health agents included traditional midwives and

lay healers who were elected by their community to be liaisons with health care workers. As such they were trained in basic care of common illnesses and to recognize potential serious health issues which occurred at different times of the year. They functioned specifically as sentinels of disease, identifying and reporting the primary cases of seasonal diseases, and as agents for the dissemination of health promotion and health education messages.

TBA training under Project 2000 was intensive and focused more specifically on identification of danger signs and hygiene. The MoH provided certificates for those who completed training. This tacitly, and sometimes explicitly, allowed them to continue providing birth care for women in their communities and provided them with legitimacy. However, it also created a divide and competition between ‘certified’ and ‘uncertified’ midwives in the rural areas. Health personnel recognized only births by certified TBAs as legitimate and campaigned against those that were not. Certified TBAs received clean birth kits, with the necessary implements and basic medication for a hygienic home birth. In some cases they were also allowed to buy restricted medications like oxytocin which they sometimes used to treat post-partum hemorrhages ([Guerra Reyes 2001](#)). The training, important liaison role for TBAs and increasing links with the community were touted as some of the better results of the Project 2000 decade.

**4.3.2.3 TBA to SBA: Policy level changes** Once Project 2000 came to an end in 2003, the newly created National Sexual and Reproductive Health Strategy (SRHS) took a leadership role. This new policy body began working after a politically volatile period which was overcome with new general elections. However, the excesses and human rights violations ([Succar Rahme et al. 2002](#)) of the previous regime brought a broad revision of existing policy at all levels.

In the realm of birth care, one of the major changes, which was also a result of changing views at the global level, led to a reduction in the the participation of TBAs, and a promotion of birth in the care of an SBA. All TBA training activities were suspended. In general, the reliance on the extended network of community agents grew progressively unnecessary as the public health system extended. Stories of conflicts over area of expertise and health agents overstepping their allotted scope of action were frequent among rural health professionals.

This was especially true in the realm of birth care as the work with the TBAs from a policy perspective was seen as stopgap care which should cede space to the health system.

Furthermore, Project 2000's investment in training and improving standards of obstetrical care in the health services was not achieving the desired results as personnel were not able to access the population that would be the target of their acquired expertise. Policies that followed the creation of the Sexual and Reproductive Health Strategy focused mainly on improving the relationship of women to the health services. In practice this meant that women were discouraged from using the TBAs for birthcare, covertly by delaying certification of live births to home birthing women, and overtly by threatening both home birthing women and TBAs with prosecution ([Defensoría del Pueblo Peru 2008](#)).

The first National Plan to Reduce Maternal and Perinatal Deaths was produced by the SHRS strategy in 2004 ([MoH 2004](#)). The main policy initiatives of the following years were all present in this plan and continue with minor modifications. Officially the problem of maternal mortality was conceived under the explanatory framework of the four delay model ([Thaddeus and Maine 1994](#)), which postulates that delays in four areas should be addressed to reduce maternal deaths: 1) recognizing the seriousness of a pregnancy complication; 2) deciding to seek outside medical help; 3) transporting the woman to treatment center; and 4) providing the adequate treatment once there. This delay model was also complemented with the barriers of access to health care model, which postulates that economic, geographic and cultural barriers limit access to services, and which was popular at the time in other areas of health care service provision in the MoH. In this sense policies sought to overcome or ameliorate either a barrier or a delay.

More specifically policy strategies on the supply, or health service, side focused on the fourth delay, adequate treatment once in a health facility. They reinforced and expanded training in dealing with obstetrical emergencies ([Kayongo et al. 2006](#)), increased equipment in the health services and created an emergency response evaluation system that guides and limits the interventions that specific centers are able to treat ([MoH 2005, 2009](#)).

Increasing the level of prenatal visits, also referred to as prenatal controls, at the health services with the help of community surveillance groups that identify pregnant women and increased emphasis on the signs of complications during prenatal consultations were used

to counteract the first and second delays, recognizing and acting (MoH 2004; Del Carpio Ancaya 2011). Community groups of maternal mortality surveillance (*Comités locales de mortalidad materna*) were initially implemented to deal with the transportation delays and the geographic barriers. These community groups were eventually replaced in some areas with the implementation of the maternal waiting houses (MoH 2006). These houses were established in towns near health services and were used to house pregnant women from far away communities during their last month of pregnancy.

Further policy efforts on the demand side were focused on increasing use of contraceptive methods, especially the modern methods available at the public health facilities, this linked women in reproductive age more closely with the health services and also lowered the number of women at risk for birth related deaths (MoH 2004).

The issue of economic access to the health services was tackled by the Maternal and Child Insurance implemented by the MoH and Ministry of Finance, which was purportedly a way to allow low and lowest income groups to use medical care free of charge (MoH 2004).

Among these policies is the first mention of providing intercultural birth care in the health services. At this time providing culturally appropriate measures in birth care was part of growing trend in Latin America (Richardson and Birn 2011) and the notion that culture was a significant barrier to decrease maternal deaths became mainstream in the MoH.

**4.3.2.4 Intercultural Birthing** Although the promotion of Intercultural policies is not strictly part of the Safe Motherhood Initiative, it originated in pilot projects promoted by UN organizations in Latin America. The concept of ‘interculturalidad’, understood as an equal dialogue and partnership based on mutual cultural respect and understanding, came to health care through prior experience in rural education in Peru and much of Latin America. This marks a change in biomedical views of traditional birth practices, prior programs focused on changing community beliefs and habits regarding birth care, and also on implementing forms to attract or funnel women into the health services for birth. Instead, the 2005 Intercultural Birth Policy promoted changes in the health services themselves and more specifically in the biomedical birth care model. The broad policy strategy was introduced for the first time as intercultural adaptation of birth services in the first Maternal and Perinatal Death

Reduction Plan produced by the Sexual and Reproductive Health Strategy in 2004 ([MoH 2004](#)). This document specifically stated that it was important for women to be able to freely choose their preferred form of birthing in a climate of respect for their traditions and customs. As such, the 2004 document proposed conducting studies to identify the best way to implement this idea in the short term. At this time, pilot projects were already underway with MoH support and it was supposed that, depending on their results, one or more of their changes and recommendation would be incorporated into the final policy.

The final policy itself was based on regional projects undertaken by the UNICEF under the terms of its 2001-2005 cooperation agreement with the Peruvian government. The Peruvian chapter of this organization started working in the year 2000 on a program for ‘Safe Motherhood’ in areas of high maternal mortality, as part of its overall mission to promote maternal and child health ([UNICEF 2004](#)). An analysis of existing data from the Regional Health Directions of in Cajamarca, Cusco, Amazonas and Apurimac revealed a four fold increase in prenatal controls but no concurrent increase in births. The acceptability of prenatal care, and apparent rejection of birth in the health service led UNICEF to focus on pinpointing the undesirable aspects of biomedical birth.

The UNICEF project identified ten barriers to health service birth that were directly related to the birthing services and environment:

1. Fear of exposure to cold temperatures which among other things causes a coagulation of the blood commonly known as *sobrepardo* which can lead to death or lifelong weakness;
2. Discomfort with repeated exposure of the genital area as part of labor due to modesty or *pudor*;
3. Fear of high and narrow hospital stretchers;
4. Fear of soiling clean, white hospital sheets;
5. Discomfort with the lithotomic (flat on back) birthing position;
6. Mistreatment and discrimination by health service personnel;
7. Fear of cutting (episiotomy and C-section);
8. Fear of being alone because regulations prohibited companions during the birth;
9. Anxiety over the disposal of the placenta, which is perceived as connected to health of the mother and child after birth, causing sickness if not treated properly; and



10. Inability to understand health care personnel due to the use of technical language.

Taking these complaints one by one, the UNICEF (2004) project proposed changing the environment and the practice of birth care in the health services by:

1. Reducing discomfort with exposure by designing and using a warm and fully covering hospital gown and reducing the number of dilation checks;
2. Maintaining a warm environment by using small electric stoves to heat labor and delivery rooms;
3. Swapping the metal frame bed for low wooden ones and changing white bed sheets to preferred darker colors;
4. Allowing vertical birth positions for normal deliveries;
5. Giving permission for someone to accompany the laboring woman and participate in the birth process;
6. Allowing food and drink, including certain traditional labor-inducing herbs;
7. Giving the family the placenta for culturally appropriate disposal; and
8. Sensitizing health care personnel to the ‘cultural needs’ of patients in their care.

Pilot implementations in selected micro networks located in the areas of the initial investigation, Cajamarca, Apurimac, Amazonas and Cusco, demonstrated a significant increase in the number of births in the health service. In Cusco they increased to 57% in 2003 from 40% in 1999; in Apurimac and Cajamarca the number of women going to the micronetworks where the strategy was implemented for birth doubled; and in Amazonas it increased fivefold (UNICEF 2006). These favorable results led to the 2005 Intercultural Birthing Policy and to the multiplication of implementation sites in the rural Andes.

To date this policy of intercultural birthing constitutes one of the most important elements of Peruvian maternal and perinatal death reduction strategy into 2015 (MoH 2009). the areas where the policy has been implemented have increased by direct promotion from MoH officials, especially in rural and high mortality areas. Overall, birthing in the health services has increased in rural areas from 23.4% nationally in the year 2000 to 58.4% in 2010 (INEI and Measure DHS. 2011). Furthermore, in the regions where initial pilot projects

were located gains have been maintained. However, it is impossible to measure the direct impact of intercultural birth implementation at this macro level due to the lack of data.

Despite the positive results and the broader potential for positive change in birth care services, several challenges to the efficacy of intercultural birthing have surfaced over the years. On a policy level the internal divisions in the Ministry of Health, and the varied interpretations of the meaning and scope of interculturality in health, fail to present a unified discourse needed for implementation at the local level. Additionally, there has been strong resistance, primarily among medical doctors, to implementing changes in birth protocols in urban areas. This effectively restricts the policy to rural indigenous areas.

Furthermore, since implementation is voluntary, although recommended for high mortality areas, it depends largely on the understandings, skill and willingness of health providers, specifically nurse-midwives. As a group nurse-midwives seem to have welcomed the proposed policy changes. However, at rural facilities they are on the lower end of the institutional hierarchy and less likely to propose major changes. These elements and others related more closely to the structural and personal influences on policy implementation are currently the subject of research that will provide a more complex understanding of the relationship between policy and culture in Peru.

## 5.0 DISCUSSION

### 5.1 THE SAFE MOTHERHOOD INITIATIVE AND THE PERUVIAN CASE

The Safe Motherhood Initiative was born in a moment of historical change and interest in women's issues. Over the past 25 years it has set the pace for maternal mortality reduction policy development worldwide.

Maternal mortality reduction efforts have been characterized as a three-stage process ([Graham 2012](#)): awareness, between the mid 1980's and 2000; acknowledgement and inquiry, between 2000-2010; and commitment from 2010 onwards. From a data and measurement perspective these stages mark an ongoing effort to generate appropriate data and obtain commitments to concrete actions from world governments.

From the policy perspective, the same stages mark different areas of intervention as the focus of policy, going from mainly community-based direct interventions in the early years to multi-level interventions and policy endeavors with national and international commitments. Over the years policy and intervention changes responded to better data generation and understanding of the problem. In doing so they achieved remarkable reductions in maternal and infant deaths.

However, in their evolution, policy strategies have had an uneasy relationship with the cultural aspects surrounding childbirth care. The early policies worked closely with traditional birth attendants, because of their direct connection to the target population group and the reduced reach of the national medical systems.

Furthermore, under the idea of health care for all, TBAs became valuable assets, not only in understanding the problem of maternal mortality, but also in providing primary medical

care. In the realm of maternal mortality the early contributions of traditional practitioners proved important in promoting biomedical prenatal controls. However, the main causes of continuing maternal deaths were identified as unexpected problems of hemorrhage, placental retention and fetal positioning which are difficult to overcome even by adequately trained TBAs. This prompted a shift to medically trained attendants. Although TBAs remain officially close allies of biomedically trained personnel, their role in providing stand alone birth care services is officially discouraged. In retrospect, this has also meant that the overall link between respecting and providing for specific cultural birth preferences through safe motherhood policies was interrupted. Although a recent reevaluation of the role of TBAs as companions and support system suggests they are still valuable allies ([Wilson et al. 2011](#)), the shift to skilled birth attendants disconnected TBAs from the health service framework. In these cases the incorporation of an intercultural framework into birth care practice may prove pivotal in increasing and maintaining the relationship between skilled attendants and rural women.

The Peruvian implementation of international policy recommendations and strategies on the eve of the birth of the Safe Motherhood Initiative was initially adversely affected by a complicated social and political climate. However, the policies enacted with international aid from the mid 1990's onwards have achieved significant reductions in maternal deaths. Even so, internal differences in reductions achieved show that deaths are occurring mostly among rural, low income and indigenous women. Among these populations reductions have been significant but maternal death rates are still two to three times higher than in urban areas. Additionally, these populations show lower percentages of contraceptive use and a higher birth rate which places them in more risk situations than other groups.

Early causal evaluations of maternal deaths used the four delay and barriers to access to health care models to guide policy interventions. Although the policy strategies have remained mostly the same since 2004, the explanatory models have been re-imagined within the frameworks of health, gender equity and interculturality. Issues such as the right to health care, the impact of gender inequality on women's access to care and the need for respect of women's culture and traditions are now also considered part of maternal health policy.

The relationship of the official public health system and the pre-existing birth care system and traditional birth attendants has followed a rocky path. From initial disinterest, to tolerance and training of practitioners, to active incorporation into referral systems, to finally cooling connections and incorporating certain aspects of the traditional practice into some health service birth care. The changes of this relationship over time also correlate to the evolving perceptions of indigenous Andean birth culture and interculturality at the MoH. Paradoxically, a greater acceptance of and emphasis on the importance of respecting indigenous cultures have gone hand in hand with the break of any official links to the traditional practitioners and with a desire to stamp out their practice.

The Peruvian intercultural birth care policy became the first to openly mention the need for respect of and dialogue with other cultures, and to promote a tailoring of the birth care to accommodate non-biomedical needs. However, questions remain as to the applicability of this policy on the ground, specifically given the structural and personal restrictions faced by the nurse midwives formally charged with its implementation. Further research on implementation sites and effectiveness of intercultural framework in birth care policy is needed.

## 6.0 CONCLUSIONS

This essay has presented an overview of maternal mortality reduction policies and their application to the specific case of Peru over the past 25 years. During this time maternal mortality has become one of the central measures of development and equality by which countries are evaluated on an international stage. Non-profit organizations and specifically the WHO and other UN related groups have worked in concert to raise awareness and seek action on this issue. As a group the UN organisms have developed and promoted reduction policies and interventions all over the world.

The systematic review of articles related to these policies over time reveals three levels of intervention: community, organizational and policy level. The review also yielded interesting material related to the change from prevention and training work with traditional birth attendants to the focus on promoting birth only in the health services with skilled birth attendants.

An unexpected consequence of the change to promoting biomedically trained birth attendants over local birth practitioners at the local level in fact alienated health personnel from the community and from first hand experiences with traditional birth practices. The framework of interculturalidad in Latin America, sought to bridge that divide through the implementation of culturally appropriate health services. This approach to health care provides a renewed respect for culture within scope of biomedical services.

The Peruvian case of policy implementation demonstrates the various stages of development of the Safe Motherhood Initiative. The reduction of maternal deaths from the 1980's onwards is rightly attributed to the evolving policy and intervention initiatives of the UN Safe Motherhood group. The recent implementation of intercultural birthing in rural health services seems to be aiding the overall cause of maternal death reduction. However ques-

tions persist as to the limitations and applicability of the intercultural framework on the ground. Furthermore the separation of the traditional birth attendants from the scope of collaboration with the health services may have limited the applicability of intercultural birthing.

The review of previous maternal mortality reduction strategies from a public health perspective provides an intervention history which can be used as springboard for future programs. Recommendations from this review point to the importance of conceiving maternal health as part of an ecological model, thus requiring comprehensive interventions that focus broadly on understanding behaviors and their broader contextual interactions. As such intervening on more than one level proves to be more effective than centering on individual change.

Results from this review also call attention to the importance of considering cultural aspects as part of that complex context. In this sense research into policy implementation in the Peruvian case would allow a reevaluation of the way in which cultural preference and awareness can be useful tools in providing better health care for women.

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