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How Faulty Definitions of "Abortion," "Safe Abortion," and "Unsafe Abortion" in Reproductive Health Indicators for Global Monitoring Lead to Miscalculating the Causes of Maternal Mortality

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By establishing Millennium Development Goal 5 (MDG 5), world leaders agreed that reducing maternal mortality was essential to fulfilling their "collective responsibility to uphold the principles of human dignity, equality and equity at the global level."[1] The goal aims at improving maternal health by reducing by three quarters the maternal mortality ratio between 1990 and 2015. Now at the halfway point, the world lags far behind in achieving the goal, with questionable prospects for success. This paper demonstrates one important reason why.

Experts have emphasized the need to take into account the dangers of abortion to women's life and health. Yet surprisingly there is little reliable data by which to measure abortion's cost to women's lives. World Health Organization (WHO) reproductive health indicators (RHI) guide national health policy makers in measuring progress toward MDG 5, but as they stand now, they lead to confusion and may, if left uncorrected, lead to regression in global maternal health.[2] Specifically, there is an urgent need to address the underlying causes of faulty data inherent in the RHIs: the quasi-legal, rather than scientifically-based, definitions used to define maternal health; confusion in hospital admissions such as inclusion of miscarriage as abortion-related mortality while excluding voluntary induced abortions in data collection; and routine manipulation of data.

Policy makers depend on accurate information. Accurate, reliable information informs the best policy choices, allowing decision makers to assess correct policy for errors. Conversely, policy decisions made with inaccurate information result in adverse consequences, blocking policy makers from accurately assessing the impact of their decisions and causing harm to their people.

Sound information is especially important in reproductive health policy decisions. This is because, amidst the mounting pressures on national decision makers to intervene in reproductive matters, policy makers must be able to accurately assess the outcome of intervention at each step. Specifically, many United Nations (UN) agencies and non-governmental organizations pressure decision makers to liberalize abortion laws, promising everything from a decrease in maternal mortality to an increase in the well being of women if such laws are put into effect.

The World Health Organization is promoting various abortion techniques and liberalization of abortion laws in Ghana, Moldova, Mongolia, Romania, Vietnam, and other countries, according to its 2006 report "Sexual and Reproductive Health: Laying the Foundation for a More Just World through Research and Action."[3] The report details its extensive research and promotion of chemical or medical abortions in developing countries using mifepristone and misoprostol and manual vacuum aspirators, a technique used by some to perform abortions in countries where the practice is illegal under the auspices of "fertility regulation."

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But what is the real effect of such programs and changes to national policies on women and on societies and cultures? Without accurate data collection and analysis, the effects of such changes are often not perceived until years after damage has been done and may not be reversible at that late point.

An article by Harvard researcher Kenneth Hill in conjunction with WHO, World Bank and others, notes that in almost a fourth of global births the critical indicators by which national compliance with MDG 5 is to be measured cannot be empirically verified.[4] World Bank economist Abdo Yazbeck summarized the way that the current data collection procedures cannot lead to good results:

> We find ourselves in a situation in which a global effort, defined mainly by measuring outcomes and outputs (the MDGs), is unable to measure a crucial outcome and not likely to do so with any confidence at the national level for the foreseeable future. It is highly likely that, five years from now, the agencies that sponsored Hill and his colleagues' work will find themselves yet again reporting on maternal mortality at the global and country level by using tortuous statistical techniques and educated guessing.[5]

In order to improve data in the future, the World Bank researcher finds:

> A more difficult alternative, although much more time and resources would be needed, would be to intensify efforts to build national capacity for countries to develop reliable information systems that can at least measure crucial health outcomes, explain their causes, and track national responses.[6]

Thus, without an accurate ability to quantify maternal deaths and hospital admissions from various causalities, it will be impossible to accurately assess the impact of

policy changes such as introduction of medical abortion. At the same time, WHO is aggressively pursuing very specific medical interventions based upon this unreliable data.

In view of the severe adverse events resulting from introduction of mifepristone and misoprostol abortions in the United States, concerns about increasing maternal mortality from infections and hemorrhage especially in areas lacking immediate access to transfusion and surgical facilities warrant close monitoring of policy changes with regard to introduction of any abortion technique, but especially medical abortion.[7]

Sources of Error in Data Collection

According to the [WHO] article, any induced abortion...where abortion is "illegal" is deemed "unsafe." Similarly, any induced abortion performed in a country where abortion is legal, regardless of the subsequent morbidity and mortality which follows, is considered "safe."

There are two major sources of systematic error in data collection according to the World Health Organization RHI guidelines. First, there is the use of quasi-legal rather than scientific categorization, including such terms as "safe" and "unsafe" abortion. Second, there is confusion of data on hospital admissions regarding planned termination of pregnancy.

According to WHO, induced abortion is defined as "the voluntary termination of pregnancy."[8] WHO defines unsafe abortion as "a procedure for terminating an unwanted pregnancy either by persons lacking the necessary skills or in an environment lacking the minimal medical standards or both."[9] Subsequent WHO documents, such as a 2007 article co-sponsored by WHO, allow for a purely legal definition of unsafe abortion as "abortions in countries with restrictive abortion laws."[10]

According to the article, any induced abortion, even under the most medically pristine conditions, performed in a country where abortion is "illegal" is deemed "unsafe." Similarly, any induced abortion performed in a country where abortion is legal, regardless of the subsequent morbidity and mortality which follows, is considered "safe."

Critical analysis of this article illustrates that the term "abortion" is used with multiple and very different meanings. When medical personnel think of "safe" abortion, they immediately think of passage of fetus and products of conception under clean conditions, with proper attention to the subsequent risks of bleeding. This medical understanding would be true regardless of the "legality" or "illegality" of elective abortion.

A "spontaneous abortion" cannot be illegal. So the use of the terms "safe" or "unsafe" abortion according to these WHO definitions has more to do with the legal status of elective abortion and cannot mean its obvious medical meaning.

Just as the definition of the term "safe abortion" is transformed from a medical to a legal definition, the definition of the term "unsafe abortion" also is transformed in the article from a medical into a legal definition. Therefore any elective abortion, even under the most medically pristine conditions, performed in a country where abortion is "illegal" is deemed for the purposes of this article "unsafe."

This morphing of meaning has important implications for achieving MDG 5. At the 2007 UN-sponsored Women Deliver conference in London, which was dedicated to advancing achievement of the maternal health goal, medical professionals were troubled when discovering the way data is manipulated to achieve particular results.[11] Even abortion practitioners were disconcerted. During the presentation of a paper estimating the worldwide number of "unsafe" abortions, a Marie Stopes International representative from a clinic performing abortions in a country where it is illegal rose in indignation and said, "By your definitions, are you saying that all the abortions performed in my clinic are unsafe?" The presenters did not answer her question.

Statistical Manipulation of the Data

Statistical manipulation generates further inaccuracy in estimates of morbidity and mortality from elective abortion worldwide. An important example is the 2004 WHO report, *Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2000*.[12] The WHO document acknowledges:

> For the purpose of these calculations and to circumvent the problem of induced abortion being misreported as spontaneous abortion, it was considered more reliable to use the combined incidence of spontaneous and induced abortion, when available, and to correct for the incidence of spontaneous abortion.[13]

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Thus the data collector was free to "correct" without any published parameters for that "correction," leaving the result open to the bias of the individual researcher.

A striking example of this kind of statistical manipulation used in these "estimates" of morbidity and mortality in current medical research is found by examining the findings WHO researchers in maternal mortality delivered at the Women Deliver conference. At a session entitled "Monitoring MDG 5: Innovations in Measuring Maternal Mortality" on October 19, 2007, Johns Hopkins University's Dr. Cindy Stanton said, "To participate in interpretation of pregnancy related deaths requires that one be committed to 'adjust the data.'" Dr. Stanton, a WHO researcher, explained that adjusting data means "eyeballing it to see if it makes sense from what we expect." This adjusting is especially necessary with "pregnancy related deaths," she continued, and said, "We adjust the number of births or the number of deaths and we don't change the number of pregnancy related mortality." "In some areas," Stanton went on, "We make huge adjustments to make the numbers turn out right. More than fifty percent of some numbers are 'adjusted.'"

In response to a question about the discrepancy between census data and data from Paraguay, the WHO researcher responded that the team thought that pregnancy deaths were "over-reported" so they adjusted this away. A physician researcher from Benin then asked her, "In Benin, you doubled the number of deaths reported for the country of Benin. What justification did you have for doubling the number of deaths?" Dr.

Stanton responded, "Well, we have no validation of methods of 'adjusting.' But we did have twelve to fourteen people who worked on the criteria."

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What are the implications of this routine statistical manipulation combined with faulty definitions for data collection and hospital admission?

Implications

In the context of UN policy, the consequences of data collection error and data manipulation are enormous. This is because the need for accuracy in determining exactly the cause of morbidity and mortality in reproductive health outcomes is very important for planning national policy. If a country finds that a large percentage of maternal deaths happen from a lack of skilled birth attendants at delivery, and a very small number come from induced abortions, then it becomes clear that funding should be directed to skilled birth attendants.

If a country uses methodology which allows spontaneous abortions to be counted as induced abortions, on the other hand, and this takes place in a country where elective abortions are currently illegal, then a falsely high number of maternal deaths may be attributed to "unsafe abortions." The country will then be under international pressure to legalize abortion, which would then guarantee an immediate "lowering" of the "percentage of obstetric and gynecological admissions owing to abortion." Why?

The answer lies in the confusing way in which WHO has designed the data collection for this parameter. According to WHO, the "percentage of obstetric and gynecological admissions owing to abortion" is defined as the "Percentage of all cases admitted to service delivery points, providing in-patient obstetric and gynecological services, which are due to abortion (spontaneous and induced, *but excluding planned termination of pregnancy*)"[14]

This ambiguous definition could mean in practicality either, "Do not count the admissions brought into the hospital in order to perform an abortion." Alternatively it could mean, "Do not count any women who have had complications from 'planned termination of pregnancy'." The very wording precludes clear directions on what statistics to count and how they should be identified.

Using these indices, morbidity and mortality from legal induced abortion may not be counted in the percentage of obstetric and gynecological admissions owing to abortion and thus not appear as a cause of maternal mortality in government statistics.

Thus, there is a clear and immediate need to define terms for use by the UN and its member states. To make maternal mortality data understandable for policy purposes, a country must be able to clearly see the antecedent event which preceded the mortality.

And so, the wording of the third reproductive health indicator short listed for global

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monitoring must be clarified to include "all admissions and deaths which occur subsequent to an induced abortion."

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Policy Recommendations

Maternal mortality and morbidity data must be collected for all pregnancy outcomes. WHO and other agencies collecting data should include at least the following categories:

- Live birth
- Stillbirth
- Ectopic pregnancy
- Molar pregnancy
- Spontaneous abortion (*spontaneous* termination of pregnancy)
- Induced abortion (*induced* termination of pregnancy).

To provide reliable data, the category of "**induced abortion**" must further contain the following subcategories:

Subcategory 1: Medically necessary to save the life of the mother. These instances are rare in industrialized nations, limited to ectopic pregnancies, life threatening infections, and a few rare medical diagnoses. Furthermore, "psychological indications" are not considered a valid indication in saving the life of the mother due to the fact that the abortion itself is contributor to psychological consequences. This fact is bolstered by research from Australia, Europe, and the United States which shows significant increased risk of suicide, hospitalized depression and substance abuse for women who undergo induced abortion compared to women who carry to term.

Psychological effects must be distinguished from the "health" of the mother in the way the U.S. Supreme Court has previously defined the term "health" that is, to mean any physical, psychological, emotional, social or financial consideration that causes discomfort. The problem with this vague definition is that it essentially renders the term meaningless and therefore useless for research purposes.

Subcategory 2: Voluntary induced abortion performed in a hospital setting. These are induced abortions done in a setting of the medical standard of care for a region, regardless of the legal status of abortion. This provides information on the tracking of deaths and complications due to legal induced abortion in regions where abortion is not against the law.

Subcategory 3: Voluntary induced abortion in the outpatient setting. This category allows for data collection on abortions done outside of supervised medical

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facilities. This comprises data collection on abortions done without supervision by medical personnel and will allow for data collection on the consequences of RU-486 (mifepristone) and misoprostol abortions.

This subcategory is necessary to capture and accurately assign causality to those women who have undergone legal induced abortion, but who present complications to the health care facility. This subcategory is increasingly important with the growing prevalence of misoprostol abortions and mifepristone/misoprostol abortions, especially in light of the known increased risk of hemorrhage and fatal infections resulting from mifepristone and misoprostol abortions.[15] Given that WHO is putting significant emphasis on its programs promoting medical abortions in developing countries, this category is urgent and important.

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Conclusion

Addressing and ending the tragedy of maternal mortality has gained international consensus at the highest level. Ensuring accurate research and data collection to meet MDG 5, by striking contrast, has been virtually ignored. By requiring that maternal mortality data be collected and reported in an unequivocal fashion, the true consequences of various outcomes of pregnancy will become clearly apparent. Without this clear data, policy decisions will be founded on political assumptions, rather than scientific fact.

Notes:

[1] United Nations Millennium Declaration, A/55/L.2, September 18, 2000. Available at http://www.un.org/millennium/declaration/ares552e.pdf.

[2] World Health Organization, *Reproductive Health Indicators: Guidelines for Their Generation, Interpretation and Analysis for Global Monitoring* (Geneva, 2006). Available at http://who.int/reproductive-health/publications/rh_indicators/index.html.

[3] World Health Organization, Department of Reproductive Health and Research, "Sexual and Reproductive Health: Laying the Foundation for a More Just World through Research and Action, Biennial Report 2004-2005," 2006: 31.

[4] Kenneth Hill, Kevin Thomas, Carla Abou Zahr, Neff Walker, Lale Say, Mie Inoue, Emi Suzuki, on behalf of the Maternal Mortality Working Group, "Estimates of Maternal Mortality Worldwide Between 1990 and 2005: An Assessment of Available Data," Lancet, Vol. 370, No. 9595, October 13, 2007: 1311-1319.

[5] *Abdo S. Yazbeck*, "Challenges in Measuring Maternal Mortality," *Lancet*, Vol. 370 No.9595, October 13, 2007: 1291-2.

[6] Ibid.

[7] Margaret M. Gary and Donna J. Harrison, "*Analysis of Severe Adverse Events Related to the Use of Mifepristone as an Abortifacient," The Annals of Pharmacotherapy*, February 2006, *Volume 40*.

[8] Gilda Sedgh, Stanley Henshaw, and Susheela Singh (Guttmacher Institute) and Elizabeth Ahman and Iqbal H. Shah (WHO), "Induced Abortion: Estimated Rates and Trends Worldwide," Lancet, Vol. 370 No. 9595, October 13, 2007.

[9] World Health Organization, Department of Reproductive Health and Research, "Sexual and Reproductive Health: Laying the Foundation for a More Just World through Research and Action, Biennial Report 2004-2005," 2006: 31.

[10] Gilda Sedgh et al, "Induced Abortion: Estimated Rates and Trends Worldwide," Lancet, Vol. 370 No. 9595, October 13, 2007.

[11] Author interviews with medical professionals, Women Deliver Conference, October 2007.

[12] World Health Organization, *Unsafe Abortion: Global and Regional Estimates of the Incidence of Unsafe Abortion and Associated Mortality in 2000*, 4th ed., (Geneva, 2004) available at http://www.popline.org/docs/1534/279893.html.

[13] Ibid.:28

[14] World Health Organization, "Measuring Access to Reproductive Health Services," WHO/RHR/04.11, Report of WHO/UNFPA Technical Consultation December 2-3, 2003. Emphasis added.

[15] Margaret M. Gary and Donna J. Harrison, "Analysis of Severe Adverse Events Related to the Use of Mifepristone as an Abortifacient," *The Annals of Pharmacotherapy*, February 2006, *Volume 40*.