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Towards improving the measurement of unsafe abortion:
substantive estimates and methodological insights from

Zambia

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Declaration by candidate

I, Onikepe Oluwadamilola Owolabi confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm this has been indicated in the thesis.

Signed:

Date: 5th January 2016
Abstract

Background: Measuring unsafe abortion is essential to understand the magnitude of the problem and monitor progress in women’s reproductive health. However, legal and societal constraints in high-burden contexts foster underreporting of induced abortions which makes obtaining accurate estimates challenging. My PhD examines the methodological challenges around defining and measuring unsafe abortions using Zambia as my country context.

Methods: First, I conducted interrupted time series analysis on admissions for abortion-related complications and deaths from 2007-2015 at University Teaching Hospital (UTH), Lusaka to assess the impact of key contextual changes. Second, I collected data from women hospitalized for abortion-related complications in three provinces to estimate the incidence of abortion-related near-miss in 2014. Third, I compared estimates of the incidence of induced abortion in the three provinces using data from 3 methodological approaches.

Results: The prevalence of unsafe and induced abortion is high in Zambia. Following the release of clinical guidelines in May 2009, there was an immediate decline in the absolute number of abortion complications by 86 cases (p=0.003). The abortion-related near-miss incidence rate was 72 per 100,000 women, and it was feasible to apply the adapted WHO near-miss criteria in Zambia. Estimates of the incidence of induced abortion per 1000 women ranged from 30 to 80. There was variation in the proportion of women estimated to seek facility care for abortion-related complications in each approach.

Conclusion: The burden of unsafe abortion is high in Zambia despite its liberal law. Although there is no gold standard method to measure the burden of unsafe abortion, my findings suggest there is scope to improve use of available data to describe the burden of the most unsafe abortions and evaluate the impact of interventions on abortion-related indicators in restrictive contexts.
Acknowledgements

At the end of this journey, I am unbelievably grateful for the help I have received and the people I have met. I have been blessed with more time, support and love than I could have requested, and there are not enough words to express my gratitude to every single person who helped me along the way.

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In loving memory of my mum Mary Omoyosola Owolabi. Your deep unwavering faith in God, your passion for every patient’s health and your ability to chase a dream continues to inspire me and give me a reason to think I can change the world.
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### Acronyms and Abbreviations

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<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AICM</td>
<td>Abortion Incidence Complications Method</td>
</tr>
<tr>
<td>ATPR</td>
<td>Anonymous Third Party Reporting Method</td>
</tr>
<tr>
<td>CAC</td>
<td>Comprehensive Abortion Care</td>
</tr>
<tr>
<td>DHS</td>
<td>Demographic and Health Surveys</td>
</tr>
<tr>
<td>EVA-PMDUP</td>
<td>Evaluation of the Prevention of Maternal Death from Unwanted Pregnancy program</td>
</tr>
<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>HFS</td>
<td>Health Facility Survey</td>
</tr>
<tr>
<td>HPS</td>
<td>Health Professional Survey</td>
</tr>
<tr>
<td>MA</td>
<td>Medical abortion</td>
</tr>
<tr>
<td>MVA</td>
<td>Manual vacuum aspiration</td>
</tr>
<tr>
<td>PAC</td>
<td>Post abortion care</td>
</tr>
<tr>
<td>PMDUP</td>
<td>Prevention of Maternal Death from Unwanted Pregnancy</td>
</tr>
<tr>
<td>PMM</td>
<td>Prospective Morbidity Survey</td>
</tr>
<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
</tr>
<tr>
<td>TOP</td>
<td>Termination of pregnancy</td>
</tr>
<tr>
<td>UTH</td>
<td>University Teaching Hospital</td>
</tr>
<tr>
<td>WRA</td>
<td>Women of reproductive age</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ZDHS</td>
<td>Zambia demographic and health survey</td>
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