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

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Thesis submitted in accordance with the requirements for the degree of Doctor of Philosophy of the University of London

JULY 2016

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Funded by the Economic and Social Research Council (ESRC)

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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: [Signature]

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.

This work would not have been possible without the help of my wonderful supervisors. I am deeply grateful to Veronique Filippi, who gave me the opportunity to learn from her and explore my research ideas, provided outstanding pastoral care during the most trying time of my PhD and has given me many amazing opportunities for professional growth. Jenny Cresswell has been an excellent co-supervisor, giving untold amount of time to the minutest details of my work, helping me with many statistical queries and providing advice on many practical issues along the way. I am extremely grateful to David Osrin for being a wonderful mentor and member of my advisory panel and providing timely feedback on every document I have asked him to read. I am particularly grateful to Ann Moore, Akin Bankole and Tamara Fetters for their help with acquiring the data collection tools, and facilitating the training I needed to estimate abortion incidence in my PhD, and to Bellington Vwalika for his assistance with accessing hospital data in Zambia. I am also very grateful to Schadrac Agbla and Jonathan Bartlett for their statistical advice.

I am extremely grateful to every member of the EVAPMDUP team at LSHTM, Population Council Zambia and the Guttmacher Institute for providing feedback on my work many times over the past few years and for giving me a sense of belonging at the school. I feel incredibly privileged to have found mentors and friends who have become family and have gone above and beyond to make my time at the school an unforgettable experience. I would like to thank Oona Campbell, Lenka Benova, Lori Miller and Francesca Cavallaro for all the academic support/feedback, taking care of me during an extremely difficult pregnancy, opening their homes to me, helping me babysit, and comforting me when I cried. To my best friends Kasman, Mardieh, Ngozi and Tosin thank you being there every step of the way, for countless conversations, for listening to my ideas and for making this a great journey.
To the love of my life Kayode, there are no words to say how grateful I am for your love, support and the many sacrifices you have made for us to finish this PhD. This work is as much yours as it is mine. Oluwatiere, you are the best thing that happened to me during this PhD, thank you for being such a good baby and for allowing me to work when I needed to. To my father and sisters, thank you for always being there, and for believing in me even when I did not believe in myself.

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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<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AICM</td>
<td>Abortion Incidence Complications Method</td>
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<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>
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<tr>
<td>FP</td>
<td>Family Planning</td>
</tr>
<tr>
<td>HFS</td>
<td>Health Facility Survey</td>
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<tr>
<td>HPS</td>
<td>Health Professional Survey</td>
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<tr>
<td>MA</td>
<td>Medical abortion</td>
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<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>
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<tr>
<td>PMM</td>
<td>Prospective Morbidity Survey</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>TOP</td>
<td>Termination of pregnancy</td>
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<tr>
<td>UTH</td>
<td>University Teaching Hospital</td>
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<tr>
<td>WRA</td>
<td>Women of reproductive age</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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<tr>
<td>ZDHS</td>
<td>Zambia demographic and health survey</td>
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