

## **The Public Health Cost of Unsafe Abortion in Kenya**

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### **SHORT ABSTRACT**

There is limited information on the public health cost of unsafe abortion in Kenya. Yet, accurate and up-to-date data on the cost of treating unsafe abortion complications are needed both for effective policy-making and resource allocation. The current study combines two datasets to estimate the public sector cost of treating complications of unsafe abortion in Kenya. These datasets were (1) Secondary data from the 2012 Kenya Incidence and Complications of Unsafe Abortion Study, and (2) Primary data collected, from a nationally-representative sample of health facilities in Kenya, on the personnel, supplies, medications and other resources ordinarily used to treat mild, moderate and severe unsafe abortion complications. Preliminary results show that the treatment of complications of unsafe abortion consumes a disproportionate amount of health systems resources in Kenya, with substantial scarce medical and other supplies as well as time of highly-qualified health providers spent on caring for post-abortion complications patients.

## BACKGROUND

According to the World Health Organization (WHO), an estimated 19 million unsafe abortions are performed annually and more than 5 million [WHO, 1999; Vlassoff et al (2009); Grimes et al (2006)] of these cases result in complications that require hospitalization and mobilization of the meager hospital personnel and financial resources at the disposal of the countries. In Africa alone, 4 million unsafe abortions occur yearly and 40% of these cases resulting in deaths from abortion complications.

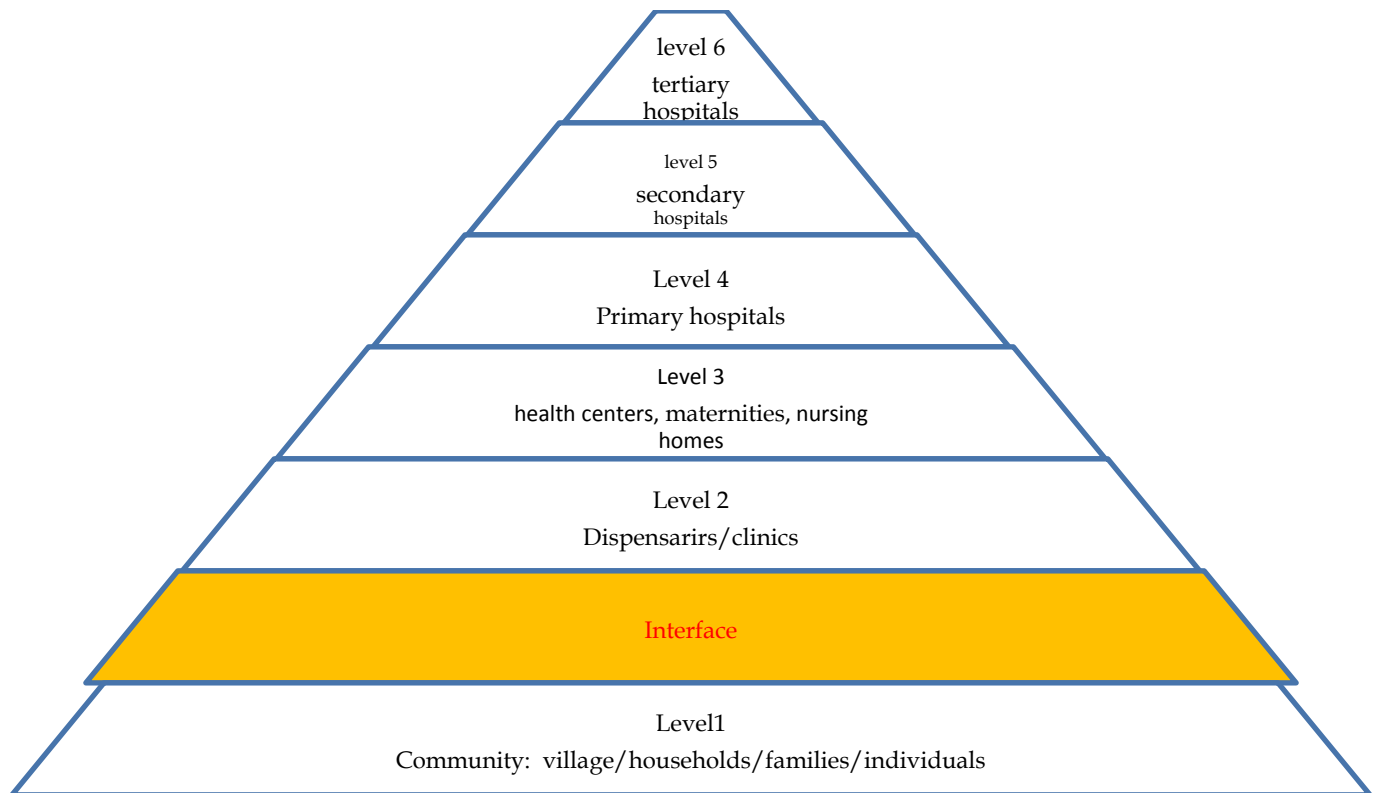
Although the new Kenyan constitution of 2010 provides the legal framework for women to access safe abortion, a nationally representative study of health facilities estimated that 465,000 unsafe abortions occurred in 2012 and a large proportion resulted in complications or deaths [APHRC, 2013]. The management and treatment of complications of unsafe abortion exerts a pressure on health systems in Kenya [Singh et al (2006)]. Currently however, there is no up-to-date information on the cost of Post Abortion Care (PAC) services, which has implications on the budgeting and resource allocation for these services. Given the magnitude of complications from unsafe abortion and the diverted resources required to perform each procedure, it is imperative to assess the cost of PAC to the public health system in Kenya. Previous studies on the public health cost of unsafe abortion in Africa have relied on smaller proportions of national public facilities to provide national estimates of public expenditure on the treatment of unsafe abortion complications (Benson, Okoh, KrennHrubec, Lazzarino, & Johnston, 2012; Henshaw et al., 2008; Johnson, Benson, Bradley, & Ordoñez, 1993; Kay, Katzenellenbogen, Fawcus, & Karim, 1997; Levin et al., 2009; Vlassoff, Fetters, Kumbi, & Singh, 2012; Vlassoff et al., 2014). The aim of this study is to use a nationally-representative sample of health facilities to estimate the cost of PAC in public health facilities across the eight regions of Kenya by classification of complications (mild, moderate, or severe) [see table 1]. This estimation is critical for policy engagement, providing a much-needed comparison between the current government cost of PAC and the cost of providing safe induced abortion care.

<b>Classification</b>	<b>Signs and symptoms</b>
Severe morbidity	<ul style="list-style-type: none"> <li>• body temperature of &gt;37.9° C</li> <li>• organ or system failure</li> <li>• generalized peritonitis</li> <li>• pulse &gt;119 beats/minute</li> <li>• evidence of foreign body or mechanical injury</li> <li>• sepsis</li> <li>• shock</li> <li>• tetanus</li> <li>• death</li> </ul>
Moderate morbidity	<ul style="list-style-type: none"> <li>• body temperature between 37.3-37.9°C</li> <li>• adnexal or abdominal tenderness</li> <li>• localized peritonitis</li> <li>• offensive products of conception</li> </ul>
Low morbidity	All other cases
*Cases were categorized into the extreme category of abortion complications, and required only one sign or symptom to be counted in that category. (Adopted from Jewkes, Fawcus et al. 1997 and Jewkes, Gumede et al. 2005)	

The study relied on data collected over the period of January 2014 to August 2014 from 9 panels of 188 experienced PAC providers from 128 levels 2 to 6 [see figure 1] public health facilities that provide maternity and abortion-related care [see table 2]. The panel of experts comprised midwives, nurses, clinical officers...from public health facilities of across all the regions of Kenya. Identification and selection of the panel of providers was done in consultation with the Ministry of Health on the basis of their experience in PAC, obstetrics and gynecology, current involvement in PAC service provision in the sampled facilities, and knowledge of clinical regimens and service delivery for treatment of abortion complications. Each member of the panel of PAC providers was presented with a standardized questionnaire comprising three scenarios of women presenting signs and symptoms suggestive of mild, moderate and severe abortion complications and location of clinical services offered – outpatient and in-patient. For each scenario, each panelist first individually described, from personal practice at their respective facilities, the usual treatment protocol and amount of clinical supplies and medications used, the cadres of personnel involved in direct care of PAC patients, and the time personnel ordinarily spend for each step taken during treatment of a typical case. Individual providers were later paired with providers from the same facility to jointly review their written estimates and reach a consensus on all three scenarios. Finally, the providers were grouped into teams based on the level of their facilities in their regions. Each group developed a unified estimate for each of the three scenarios,

which provided 12 final per-case estimates per region. The resulting data from these groups, combined with prices for supplies and medications and personnel cost from the Ministry of Health, were used to calculate regional and national cost estimates for treating complications of abortion.

**Figure 1: Description of levels of hospitals in Kenya**



**Source: DHS Program, Kenya Service Provision and Assessment Survey, 2010**

<b>Regions</b>	<b>Level VI</b>		<b>Level V</b>		<b>Level IV</b>		<b>Level III</b>		<b>Level II</b>		<b>Total</b>	
	Sam-ple d	Sur-veye d	Sam-pled	Sur-veye d	Sam-pled	Sur-veye d	Sam-pled	Sur-veye d	Sam-pled	Sur-veye d	Sam-pled	Sur-veye d
Central	0	0	2	3	7	6	5	5	5	4	19	18
Coast	0	0	1	1	8	8	3	2	4	4	16	15
Eastern	0	0	3	3	12	11	6	5	5	4	26	23
Nairobi	1	1	0	0	2	2	3	2	0	0	5	4
North Eastern	0	0	1	1	7	6	5	2	3	2	16	11
Nyanza	0	0	2	2	13	12	5	5	4	4	24	23
Rift Valley	1	1	1	1	8	8	5	4	7	5	22	19
Western	0	0	1	1	5	4	5	5	5	4	16	14
<b>Total</b>	<b>2</b>	<b>2</b>	<b>11</b>	<b>12</b>	<b>62</b>	<b>57</b>	<b>37</b>	<b>30</b>	<b>33</b>	<b>27</b>	<b>144</b>	<b>128</b>

## PRELIMINARY RESULTS

Preliminary findings indicate that post-abortion care (PAC) consumes significant time of highly skilled health care professionals; therefore, diverting scarce resources from other key services such as maternal and child health. An average of 5 different types of healthcare cadres manages moderate and mild cases of PAC. This number of cadres significantly increases with severe complications. In addition, significant quantities of much-needed life-saving supplies (such as whole blood and blood products) and costly drugs (such as misoprostol) are used during these procedures. Moreover, with the completion of the data collection, further analysis and more results are expected: (i) National mean per case cost of PAC treatment in public facilities; (ii) National mean per case cost of PAC treatment by complications severity and facility level; (iii) regional mean per case cost of PAC treatment; (iv) major contributors to cost differential; (v) overall national cost estimate of PAC treatment in public facilities in Kenya; (vi) savings associated with safe abortion in Kenya.

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