Thank you for reviewing our proposal for new indicators within the Demographic and Household Survey (DHS) regarding emergency and essential surgical care. The collection of these indicators is a critical step towards the delivery of safe, affordable, equitable access to surgical services as a component of universal health coverage and we consider the DHS as the best forum to derive these data points.

The questions we propose are a product of the Lancet Commission on Global Surgery (LCoGS), a body of work spanning three years involving 25 commissioners and a diverse group of academic, governmental and civil society collaborators from 110 countries. Of the six indicators proposed by the LCoGS, four were published in the World Development Indicators by the World Bank and all six are included in the World Health Organization's Global Reference List of 100 Core Health Indicators. Nevertheless, there currently are no mechanisms in place to collect the data required for these indicators, creating a critical gap in knowledge for surgical care strengthening.

The new indicators in this proposal span four existing DHS modules. For clarity, they are listed in the table below. Of particular interest are the questions on out-of-pocket expenditure and household expenditure to enable the calculation of financial risk protection for all medical interventions captured by the DHS (both surgical and medical), a core component of Sustainable Development Goal 3.8. The remaining questions were taken from a successful pilot DHS survey in Zambia. In the development of this application, we have been fortunate to count on a number of international partners to provide expert review and the indicators proposed are a culmination of these consensus building discussions. Please refer to Appendix A for a full list of international stakeholders who support this application.

Proposed Indicators:
1. Peri-Operative Mortality Rate
2. Mortality following cesarean section

Data Utility:
1. WHO: 100 Core Health indicators

File Attachments
1) DHS-8-PGSSC-Maternal_Mortality_and_POMR-template.pdf, downloaded 225 times
2) DHS-8-PGSSC-Maternal_Mortality_and_POMR-Excel.xlsx, downloaded 266 times
Data on in hospital mortality is currently very difficult to obtain, making it impossible to truly understand the quality of surgical care in low and middle income countries. Many existing datasets focus on a few hospitals, often under or overestimating the true POMR rate for the developing world. Without a better understanding of POMR, national plans for expanding surgical care will be done blindly. With these added questions, future research can focus on addressing causes of poor POMR. I highly recommend including these questions.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Scott Corlew on Fri, 15 Mar 2019 14:33:33 GMT

The issue of peri-operative mortality (POM) is key to gaining a better understanding of the overall capacity of a health care system. In a more resource-limited system, POM gives information about access to health care facilities, referral systems, and transportation as well as in-hospital factors such as infrastructure, anesthesia capacity, infection control, surgical workforce, and quality of care. In a more highly developed system, POM gives more information about the nature of surgical procedures done in the hospital and quality of care. At its essence, POM is a key indicator for surgical care within the context of UHC. Adding overall POM to mortality following Caesarian section in the DHS would be of great benefit to health care implementation and evaluation.
The suggested questions here warrant inclusion in the DHS.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Cstrader1 on Fri, 15 Mar 2019 15:21:36 GMT

Guys, outstanding job on this. I wish I had more to add, but this is an important topic that I think you captured eloquently and thoroughly.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by vsanthirapala on Fri, 15 Mar 2019 17:44:46 GMT

As a UK trained physician and public health researcher, this module is of great importance. Poor quality surgical care is a social injustice, where mothers are unable to trust the care they receive during the most critical times of need. This has just re-entered the UK public news domain through the ASOS trial, which reports African mothers suffer x50 higher risk of dying post c-section than UK mothers. Link: https://www.telegraph.co.uk/news/2019/03/14/maternal-deaths-c-sections-50-times-higher-africa-uk/
Surgical systems are vital for achieving UHC and intersect with major public health foci such as cancer care, injuries and maternal & child health and so we are undoubtedly facing an increase of surgical care delivered. With just 3 additional questions, the DHS can begin to monitor and thus change the surgical quality inequity seen in LMICs.

File Attachments
1) Maternal deaths from C-sections 50 times higher in Africa than UK.pdf, downloaded 213 times

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by djumbam on Fri, 15 Mar 2019 18:07:52 GMT
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The value of collecting post operative mortality data especially in low and middle income countries cannot be overstated. Several global studies including the Lancet Commission on Global Surgery and the African Surgical Outcomes Studies have demonstrated that surgical care is not only lacking but for the few who do have access, the quality of care they receive is often compromised. It is therefore important that DHS survey incorporate these important indicators into its surveys so that surgical mortality data can be tracked on a routine basis. I commend the group on their work in putting this proposal together.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by JohnMeara on Fri, 15 Mar 2019 18:34:39 GMT
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I full support both of these indicators - POMR and death after c-section

File Attachments
1) PIIS0140673618331398-2.pdf, downloaded 167 times
2) 1-s2.0-S2214109X19300361-main.pdf, downloaded 244 times

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Aboatin on Fri, 15 Mar 2019 18:38:17 GMT
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I am fully in support of the proposed additions to the DHS. There are several recent prominent publications demonstrating the impact of quality of care on mortality in low and middle income countries and the ASOS study published today further emphasizes the importance of understanding more about facility-based mortality for maternal health and cesarean section. As rates continue to rise in low and middle income countries having a standardized and comprehensive way to assess cesarean related mortality and contextual findings is paramount.
The DHS presents the best way to provide this platform. This proposal is forward thinking and absolutely should be included in DHS 8.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by ptruche on Fri, 15 Mar 2019 18:52:35 GMT
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perioperative and maternal surgical mortality would provide a new unique marker of surgical capacity and quality of care. Understanding the differences in operative mortality in different countries provides more insight than just surgical capacity, but also can be an indicator of infrastructure, healthcare access, and healthcare quality. This would be an important step in addressing the burden of noncommunicable disease which is costly for low and middle income countries from both an economic and health outcomes standpoint. There are no currently useful surrogates to obtain this data, so addition to the DHS survey would provide invaluable support towards global health research and a better understanding of noncommunicable diseases.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Cstrader1 on Fri, 15 Mar 2019 18:55:50 GMT
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This will provide invaluable tracking data for mortality rates that will be vital for any future analysis pre- or poat-interventions, funding and resource allocation.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Jordan Pyda on Fri, 15 Mar 2019 18:57:07 GMT
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I would like to record my support of the inclusion of these indicators. Mortality is an outcome measure on almost all clinical research studies for obvious reasons. Our understanding of the characteristics of surgical care is so limited, that we don’t currently even know this most basic outcome. Full support of these outcome measures as a first step: Peri-Operative Mortality Rate. Mortality following cesarean section. Thank you, Jordan Pyda MD, MPH jpyda@bidmc.harvard.edu

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by AlexPetersMD on Fri, 15 Mar 2019 18:57:39 GMT
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As a general surgeon and public health research, I fully support these efforts to collect more robust data on maternal mortality and peri-operative mortality rates. We need to better understand the true burden of maternal mortality facing LMICs, and we need data to improve our understanding of the quality of surgical care delivery around the world. Peri-operative mortality is an essential metric by which any surgical system can benchmark itself and its essential that it be included in the DHS surveys. Thank you for these efforts.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by FadySoliman on Fri, 15 Mar 2019 19:08:15 GMT
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I fully support the inclusion of those indicators. I believe that the wealth of data that will be collected as result of this, will be very valuable for public health research and national surgical planning.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by anm156 on Fri, 15 Mar 2019 19:15:12 GMT
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Peri-operative mortality rate and Mortality following caesarian section are important data points to obtain in order to assess overall surgical system quality and surgical system delivery. A systematic, widespread effort to collect this data will help countries to assess their surgical systems and will provide researchers, Ministries of health, and other stakeholders with potential directions to direct funds and investment for surgical system strengthening.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Vicente Gracias on Fri, 15 Mar 2019 19:21:18 GMT
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Very much support this endeavor. it is time for systems to accept that zero preventable death should be our primary goal for improving patient care.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by dnepogodiev on Fri, 15 Mar 2019 19:26:59 GMT
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Thank you for leading this important initiative.
POMR has been included in the WHO 100 Core Health Indicators, yet very few countries produce high quality POMR data (Holmer H, Bekele A, Hagander L et al. Evaluating the collection, comparability and findings of six global surgery indicators. Br J Surg. 2019 Jan;106(2):e138-e150).

An estimated 4.2 million people die within 30 days of surgery each year (Nepogodiev D, Martin J, Biccard B, Makupe A, Bhangu A, on behalf of the NIHR Global Health Research Unit on Global Surgery. Deaths within 30 days of surgery in low-, middle-, and high-income countries. Lancet. 2019 Feb 2;393(10170):401), but there is little contextual data for who these people are or why they died.

Integrating POMR/ c-section mortality in to DHS will support high level health outcome surveillance via the WHO 100 Core Health Indicators, whilst also unlock a huge wealth of contextual data to better inform strategies aimed at improving patients' peri-operative care around the world.

I strongly support inclusion of both indicators in future DHS surveys.

Dmitri Nepogodiev
Research Fellow in Public Health & Surgery
University of Birmingham, UK

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by RPatterson on Fri, 15 Mar 2019 19:58:37 GMT
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Much like the maternal mortality ratio, POMR provides a baseline understanding of the quality of surgical care provision and accessibility for individual countries and regions. The paucity of POMR data severely limits our understanding of how surgery and surgical systems are providing care for patients. As surgery is inherently a horizontal intervention because it ties in multiple aspects of the health system, collection of POMR data will also provide context for the functioning of adjacent hospital systems.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by shehnaz Alidina on Fri, 15 Mar 2019 20:01:13 GMT
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I fully support these indicators: POMR and death after C-Sections.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
These are urgently needed data to improve the quality of surgical care delivery. As access to surgery expands, reliable data with regard to the outcomes surgical patients experience are essential.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by dominiquevervoort on Fri, 15 Mar 2019 20:04:14 GMT

Millions of lives can be prevented through access to safe surgical (including obstetric and anesthesia) care. People should not die from preventable causes through low quality of surgical care/post-operative complications, both patients undergoing surgical care and mothers undergoing caesarean sections to save their child's life. Measuring the magnitude and diving into the underlying causes of perioperative mortality rates and post-caesarean maternal mortality rates will prove vital to reduce numbers in these areas.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by rachelne on Fri, 15 Mar 2019 20:07:07 GMT

This is urgently needed and will help to better understand care and limitations around the world.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Adelina Mazhiqi on Fri, 15 Mar 2019 20:15:42 GMT

Despite POMR serving as a key safety indicator and disproportionally affecting LMICs, nationally representative data is sparse. Therefore, I fully support the inclusion of these indicators in the DHS tool.

Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by kgarringer on Fri, 15 Mar 2019 20:20:40 GMT

POMR and maternal mortality following C-section are both critical pieces of data that provide insight to the quality of surgical care. Robust data for these proposed indicators is needed to
improve care worldwide. Using DHS surveys to collect this data is a much-needed and innovative effort.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by SebastianShu on Fri, 15 Mar 2019 20:21:15 GMT
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I would like to express my absolute support to the proposed indicators: Post Operative Mortality Rate and Mortality following cesarean section. Both, will provide crucial information to close surgical gaps that have been undeserved, specially in low and middle income countries.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by shrime on Fri, 15 Mar 2019 20:22:40 GMT
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30% of the world’s disease burden is surgical and recent science in the Lancet predicted that perioperative mortality is the third-most-common cause of death worldwide. Knowing whether deaths were preceded by a surgical operation is crucial for stemming the tide of this mortality.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by ocahearn on Fri, 15 Mar 2019 20:23:32 GMT
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Surgical mortality data will provide invaluable information on the quality of surgical care worldwide and must be captured in the DHS survey. I fully support collecting these indicators.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by cjuillard on Fri, 15 Mar 2019 20:27:14 GMT
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These questions are essential information to better understand maternal mortality and the surgical context of these deaths. Without these data, we will be very challenged to improve the global disparity in maternal mortality and access to surgical care.
Dying while giving birth or having an operation is a catastrophic event, and happens far too often. As a community, the least we can do is measure how often this happens. Measurement is the first step towards change.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Haitham.Shoman on Fri, 15 Mar 2019 20:29:10 GMT

Collecting primary data for peri-operative mortality calculations would just help us understand the gaps and identify the rates to advice on the scale and magnitude of measures to be adopted in place. Thank you for adding these indicators.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by CLReddy on Fri, 15 Mar 2019 20:39:21 GMT

I strongly support the inclusion of these proposed indicators indicators and survey questions into DHS 8. The bottom line is that we are not measuring post-operative mortality. The recent ASOS study showed that patients that receive surgery in Africa are two times more likely to die from the surgery than anyone else in the world. How can this be? The first step to fixing this critical global health imperative, is to measure POMR.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by SBari on Fri, 15 Mar 2019 20:50:25 GMT

These are important indicators and are necessary to collect regularly, systematically, and globally. DHS is a great fit.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by ljromanzi@gmail.com on Fri, 15 Mar 2019 20:52:51 GMT

The Fistula Care Plus project fully supports PGSSC's suggestions related to measuring obstetric surgical intervention mortality. We also believe that key sentinel event, preventable morbidities are
worthy of DHS consideration; eg iatrogenic fistula.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Ulrick Sidney on Fri, 15 Mar 2019 21:04:49 GMT

A recent study on 7-day post operative mortality post C-section by African Surgical Outcomes Study revealed that African women are 50 times more likely to die following c-section as their counterparts from High Income Countries. That is sad, unacceptable and unfair. This proposal can help us understand those who are most affected, why they are and how we can prevent this from happening.

Subject: Re: DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by Dr. Ernest Barthélemy on Fri, 15 Mar 2019 21:11:00 GMT

These two indicators- Peri-Operative Mortality Rate and Mortality following cesarean section, are vitally important measures of high quality surgical care. Moreover, tracking them will empower all nations committed to universal health coverage to measure their progress towards authentically responsive, equitable, and effective healthcare systems. I fully support the inclusion of these indicators in the DHS, and the underlying effort to strengthen a long neglected aspect of global public health in this manner.

PGSSC wrote on Tue, 12 March 2019 18:54

Thank you for reviewing our proposal for new indicators within the Demographic and Household Survey (DHS) regarding emergency and essential surgical care. The collection of these indicators is a critical step towards the delivery of safe, affordable, equitable access to surgical services as a component of universal health coverage and we consider the DHS as the best forum to derive these data points.

The questions we propose are a product of the Lancet Commission on Global Surgery (LCoGS), a body of work spanning three years involving 25 commissioners and a diverse group of academic, governmental and civil society collaborators from 110 countries. Of the six indicators proposed by the LCoGS, four were published in the World Development Indicators by the World Bank and all six are included in the World Health Organization's Global Reference List of 100 Core Health Indicators. Nevertheless, there currently are no mechanisms in place to collect the data required for these indicators, creating a critical gap in knowledge for surgical care strengthening.

The new indicators in this proposal span four existing DHS modules. For clarity, they are listed in the table below. Of particular interest are the questions on out-of-pocket expenditure and household expenditure to enable the calculation of financial risk protection for all medical interventions captured by the DHS (both surgical and medical), a core component of Sustainable Development Goal 3.8. The remaining questions were taken from a successful pilot DHS survey in Zambia. In the development of this application, we have been fortunate to count on a number of
international partners to provide expert review and the indicators proposed are a culmination of these consensus building discussions. Please refer to Appendix A for a full list of international stakeholders who support this application.

Proposed Indicators:
1. Peri-Operative Mortality Rate
2. Mortality following cesarean section

Data Utility:
1. WHO: 100 Core Health indicators

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Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by PGSSC on Fri, 15 Mar 2019 21:32:34 GMT
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We would like to thank everyone who have been supporting our submission. We have read all your replies and we are delighted to see such support and commitment from the Global Surgery and Global Health community.

Attached is a list of signatories who also have provided their support towards our submission:

1. Professor Chris Lavy - University of Oxford
2. Mr. Andrew Leather - Kings College London
3. Dr. Lars Hagander - Lund University
4. Dr. Hampus Holmer - Lund University
5. Dr. Martin Veller - University of Witwatersrand
6. Dr. Emmanuel Ameh - Abuja National Hospital
7. Dr. Margaret Kruk - Harvard TH Chan School of Public Health

The Program in Global Surgery and Social Change (PGSSC)
Harvard Medical School

File Attachments
1) Signatories supporting PGSSC modules submission to DHS 8.pdf, downloaded 147 times

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Subject: Re:
DHS-8-PGSSC-Maternal_Mortality-Template_and_POMR-REVISED_Template
Posted by EAAMEH on Fri, 15 Mar 2019 21:36:30 GMT
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I strongly support and recommend.
Tracking Post-Operative Mortality would be incredibly meaningful in helping neurosurgical providers around the world better understand gaps in quality in the delivery of neurosurgical care and help develop strategies to improve quality. The mortality after C-section, a much more widespread procedure, would be a good way to measure quality in the surgical subsystem and therefore the health systems.

The need for robust POMR data is profoundly important, but currently lower and middle income country health systems simply don’t have the capacity to follow up with patients outside of the hospital. As a result, if POMR is reported, it tends to be in-hospital mortality which certainly fails to capture the full burden of POMR. It’s this issue that makes the DHS POMR collection solution so well suited. Adding these survey questions will begin to give us a more thorough look at POMR. I fully endorse inclusion.

Global variation in mortality after surgery is a key public health issue and has been highlighted by several high quality prospective studies including those from the GlobalSurg, ISOS and ASOS collaborative groups. Better understanding of adult and maternal mortality after surgery is critical in supporting national and international public health interventions to improve quality of surgical care delivery.

A recent modelling study in The Lancet demonstrated that surgery was the third most common factor associated with death worldwide after IHD and CVA - but the global research community does not currently measure or monitor this key parameter.

Inclusion of postoperative death in the DHS represents an essential step in improving health outcomes worldwide - great to see this thread, and fully support this initiative.
As access to cesarean increase around the world and as cesarean rates also increase it is imperative to track peri operative mortality of this very common procedure. This will serve as a marker of care of quality of maternal health and will help better understand maternal mortality. Highly recommend it is included in next DHS iteration.

The global burden of surgical diseases is very significant. It is of utmost importance for the international community that have credible data in postoperative mortality in order to understand the causes and make a significant impact. This can only be accomplished by governments, academic institutions and professional organizations working together in a collaborative effort.

I fully support the inclusion of the proposed indicators to the DHS. Tracking surgical mortality data will help determine surgical capacity and quality of care. Furthermore, it will be helpful in pre-/post-intervention analysis as well as resource allocation.

POMR is an important safety metric. The estimation that postoperative mortality is around 7.7% of global mortality is probably double. Percentage global mortality or ratio does not take into account lives saved by surgery and thus premature deaths averted. Only 9 countries is untrue - the Pacific Region published POMR from 13 countries. POMR is not a benchmark unless risk stratified for urgency, age, ASA, procedure/condition. All hospitals and health systems should know whether patients operated on live or die - the ability to report this is. It step one of a safe system.
We need quality metrics for surgical care delivery. POMR is fairly crude, but we must start somewhere. I fully support.

The LCoGS is a landmark work in the field of global surgery and has forever changed the vernacular and metrics of the discipline. It is imperative that high level data collection such as this include nomenclature and data that is compatible with the current literature. I strongly support the use of these POMR and Maternal mortality indicators.

As powerful as modeling studies are, the only way to progress past the realm of the theoretical, and anchor ourselves in the realm of the real is to collect robust data. When surgery playing a role in nearly 1/3rd of all human disease, I can think of no better area to invest in better data collection. This will help evaluate ongoing projects, as well as steer new ones. Thank you for expanding into this important sphere.
POMR is one of the strongest indicators needed to assess surgical care in LMICs. In addition, tracking POMR will enable us to design targeted interventions and track progress.

As a part of collecting quality data on maternal mortality it is essential DHS incorporate the collection of these indicators!