Global Surgery Research & Why It’s Important!

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Disclosures

• None
Outline

• Global Burden of Surgical Disease
• What is Academic Global Surgery?
• Why are research endeavors important?
• Types of AGS research
Burden of Surgical Disease

**Figure 2.3** Burden Associated with a Group of Conditions That Can Be Treated with Basic Surgical Care in Low- and Middle-Income Countries

Source: Data from tables 2.3 and 2.4.
Note: GBD = global burden of disease. The group includes four gastrointestinal diseases, four maternal-neonatal conditions, and injuries that can be managed with simple interventions. Results are expressed as the percentage of the total superregion global burden of disease.

Bickler SW et al. 2015
Jensen S et al. 2015
Alkire BC, et al. 2015
4.8 billion people or 67% world’s population lack access to safe, affordable or timely surgical care
Historical Perspective

• Great momentum towards improving surgical care worldwide

• Need cannot solely be met through provision of direct surgical care during short-term volunteer humanitarian efforts
YOU CAN'T IMPROVE WHAT YOU DON'T MEASURE.
Research Justifies Our Efforts!

- Academic Global Surgery is an emerging area of expertise
- Global Surgical Efforts are scaling up
- Commitment from high-level organizations

DCP³ | Disease Control Priorities

World Health Organization

economic evaluation for health

THE LANCET Commission on Global Surgery
Types of AGS Research

• Health services and clinical outcomes
• Surgical education
• Surgical innovation
• Policy and advocacy
• Basic and translational research

Krishnaswami S et al. Surgery 2017
Global surgery research

- Measures disease burden
- Evaluates effective resource allocation
- Ensures contextual relevance
- Identifies new approaches to improve surgical care
Can Surgery be a Public Health Initiative?

Fig 4. Potentially operatively treatable household deaths.

### Table: Burden of Surgical Conditions

<table>
<thead>
<tr>
<th>Surgical conditions</th>
<th>Preventable deaths (millions)</th>
<th>Avertable</th>
<th>Non-avertable</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>DALYs per year (millions)</td>
<td>Fraction of LMIC total GBD</td>
</tr>
<tr>
<td>Treatable by basic surgical care delivered at first-level hospitals</td>
<td>1.4</td>
<td>77.2</td>
<td>3.5%</td>
</tr>
<tr>
<td>Treatable by advanced surgical care delivered in specialized clinics</td>
<td>0.4</td>
<td>38.9</td>
<td>1.7%</td>
</tr>
<tr>
<td>TOTALS</td>
<td>1.8</td>
<td>116.1</td>
<td>5.2%</td>
</tr>
</tbody>
</table>

1.8 MILLION DEATHS/YEAR = 1 DEATH EVERY 18 SECONDS!
Table 1. Estimated Cost-Effectiveness of Health Interventions

<table>
<thead>
<tr>
<th>Intervention</th>
<th>Cost-Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Measles vaccination</td>
<td>US$5/DALY averted [6]</td>
</tr>
<tr>
<td>Basic surgical services</td>
<td>US$11–US$33/DALY averted [5,7]</td>
</tr>
</tbody>
</table>

doi:10.1371/journal.pmed.0050121.t001
A Randomized Trial of Low-Cost Mesh in Groin Hernia Repair

Jenny Löfgren, M.D., Ph.D., Pär Nordin, M.D., Ph.D., Charles Ibingira, M.D., Alphansus Matovu, M.D., Edward Galiwango, M.A., and Andreas Wladis, M.D., Ph.D.
Research Has Rules....

• Academically rigorous

• Partnered with LMIC colleagues

Guide to research in academic global surgery: A statement of the Society of University Surgeons Global Academic Surgery Committee

Saurabh Saluja a,b,*, Benedict Nwomeh c, Samuel R. G. Finlayson d, AiXuan L. Holterman e, Randeep S. Jawa f, Sudha Jayaraman g, Catherine Juillard h, Sanjay Krishnaswami i, Swagoto Mukhopadhyay b,j, Jennifer Rickard k, Thomas G. Weiser l, George P. Yang l, and Mark G. Shrimed b on behalf of the Society of University Surgeons Global Academic Surgery Committee
Research Improves Quality
What does Quality mean?

“Doing the right thing for the patient, at the right time, in the right way (appropriateness), to achieve the best possible results (safety and outcomes).”
SUCCESS

WHAT PEOPLE THINK IT LOOKS LIKE

SUCCESS

WHAT IT REALLY LOOKS LIKE
Thank you