Getting Started In Global Surgery Research

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Disclosures

• The authors have no financial disclosures to report
Outline

• Global Burden of Disease
• Current Research Needs
• Contract Negotiation
• Types of Global Surgery Research
• Training and Resources
Global Burden of Disease
4.8 billion people or 67% world’s population lack access to safe, affordable or timely surgical care
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
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
Academic Model Providing Access to Healthcare

• Care
  – Comprehensive & preventative
  – Sustainable health system

• Training
  – Educate medical students, residents, community health workers

• Research
“The secret to success lies in the ability of the two partners to learn from each other, and maintain an equilibrium so that one partner is not dominating the scheme, which has a lot to do with respect and trust. If that can be achieved, both partners have the ability to go beyond their usual boundaries.”

Fran Quigley “Walking Together, Walking Far”
Power of the Academic Health Center

“I can see quite clearly the value of the research, the training, and the care. Each on enriches the other.”

Global Surgery Research

- Research aimed at improving access to affordable, safe, timely, effective, and quality surgical care
• Crucial for measuring the progress toward improving surgical care worldwide
• Aid in measuring where we have come from
• Identify new ways to improve care
• You can’t improve what you don’t measure!
Global Surgery Research

- Measures disease burden
- Evaluates effective resource allocation
- Ensures contextual relevance
- Identifies new approaches to improve surgical care
Growth in Global Surgery Research

Sgro et al WJS 2019
Contract Negotiation
Contract Negotiation

• Assess the Needs of the Department
  – Academic Global Surgery is an emerging area of expertise

• Know Your Priorities & Goals

• **Ask or You Shall Not Receive**
  – Know Your Value
  – Time
  – Financial Support
  – Research/Administration Needs

Perrier N and Foster C. 2017
McGill J, et al. 2017
Types of Global Surgery Research

Alessandro Sgroï · Ibrahim S. Al-Busaidi · Cameron I. Wells · Dominique Vervoort · Sara Venturini · Valeria Farina · Federica Figà · Francesc Azkarate · Ewen M. Harrison · Francesco Pata

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Table 1 Characteristics of included articles (n = 1623)

<table>
<thead>
<tr>
<th>Variable</th>
<th>No. (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open access studies</td>
<td>736 (45.3%)</td>
</tr>
<tr>
<td>Funded studies</td>
<td>291 (17.9%)</td>
</tr>
<tr>
<td>Total no. of citations</td>
<td>17,985</td>
</tr>
<tr>
<td>Median no. of citations per article</td>
<td>5 (IQR: 1–13)</td>
</tr>
<tr>
<td>Median IF per article</td>
<td>0.65 (IQR: 0.00–1.90)</td>
</tr>
<tr>
<td>Study design</td>
<td></td>
</tr>
<tr>
<td>Observational</td>
<td>1440 (88.7%)</td>
</tr>
<tr>
<td>Experimental randomised controlled</td>
<td>71 (4.4%)</td>
</tr>
<tr>
<td>Experimental non-randomised controlled</td>
<td>72 (4.4%)</td>
</tr>
<tr>
<td>Economic evaluations</td>
<td>40 (2.5%)</td>
</tr>
</tbody>
</table>
Epidemiological Studies

• Burden of disease
• Measure disparities

• Defining the needs
  – What is needed where and what is available
Health Services Research

- Access
- Quality
- Cost
- Outcomes

Figure 2. Distribution of the perioperative mortality rate (POMR) literature in low-income and middle-income countries. The number of papers presenting POMR data for each country.
Surgical Education

Training surgeons in LMICs

• How?
• What works
• Best practices
Cost Effectiveness

• Myth – surgery is expensive

Cost-Effectiveness of Cervical-Cancer Screening in Five Developing Countries

Sue J. Goldie, M.D., M.P.H., Lynne Gaffkin, Dr.P.H., Jeremy D. Goldhaber-Fiebert, A.B., Amparo Gordillo-Tobar, M.D., Ph.D., Carol Levin, Ph.D., Cédric Mahé, Ph.D., and Thomas C. Wright, M.D. for the Alliance for Cervical Cancer Prevention Cost Working Group®

BACKGROUND Cervical-cancer screening strategies that involve the use of conventional cytology and require multiple visits have been impractical in developing countries.
Innovation

- **mHealth**
- **Low cost technology**
- **AI**
Generation of political priority for global surgery:
a qualitative policy analysis

Yusra Ribhi Shawar, Jeremy Schiffman, David A Spiegel

Summary
Background. Despite the high burden of surgical conditions, the provision of surgical services has been a low global health priority. We examined factors that have shaped priority for global surgical care.

Methods. We undertook semi-structured interviews by telephone with members of global surgical networks and ministries of health to explore the challenges and opportunities surgeons, anaesthesiologists, and other proponents face in increasing global priority for surgery. We did a literature review and collected information from reports from organisations involved in surgery. We used a policy framework consisting of four categories—actor power, ideas, political contexts, and characteristics of the issue itself—to analyse factors that have shaped global political priority for surgery. We did a thematic analysis on the collected information.

Findings. Several factors hinder the acquisition of attention and resources for global surgery. With respect to actor power, the global surgery community is fragmented, does not have unifying leadership, and is missing guiding institutions. Regarding ideas, community members disagree on how to address and publicly position the problem. With respect to political contexts, the community has made insufficient efforts to capitalise on political opportunities such as the Millennium Development Goals. Regarding issue characteristics, data on the burden of surgical diseases are limited and public misperceptions surrounding the cost and complexity of surgery are widespread. However, the community has several strengths that portend well for the acquisition of political support. These include the existence of networks deeply committed to the cause, the potential to link with global health priorities, and emerging research on the cost-effectiveness of some procedures.

Interpretation. To improve global priority for surgery, proponents will need to create an effective advocacy structure.
Types

- Epidemiology
- Health Services and Clinical Outcomes
- Surgical Education
- Surgical Innovation
- Policy and Advocacy
- Basic and Translational Research
- Implementation

Krishnaswami S et al. Surgery 2017
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.,
Alphonsus Matovu, M.D., Edward Galiwango, M.A.,
and Andreas Wladis, M.D., Ph.D.
Training and Resources
Finding Opportunities

Step 1: Soul Search
- Identify broad area of specialty
- Is there a type of research you are most interested in?
- Is there a geographical area you want to work in?

Step 2: Find a mentor
- Explore your department
- Explore your institution/university
- Reach outside your institution
- Consider a research fellowship

Step 3: Show up and do the work
- Continue training yourself
- Be creative, responsible, and persistent
- Stick to the excellent research and ethical standards
### Do I need a degree?

<table>
<thead>
<tr>
<th>Pro-argument</th>
<th>Con-argument</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>Time</td>
</tr>
<tr>
<td>Prestige (feel good)</td>
<td>Money</td>
</tr>
<tr>
<td>Network</td>
<td>Fluff courses (wastage)</td>
</tr>
<tr>
<td>Leverage</td>
<td></td>
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</table>

Should definitely pursue training - Does not have to be a degree course. Focus on skill building.
Fellowship Opportunities

- Paul Farmer Global Surgery Research Fellowship
- Paul Farmer Global Surgery Clinical Fellowship
- Rutgers New Jersey Medical School Global Surgery Fellowship
- International Surgical Oncology Global Cancer Disparities Fellowship – MSKCC
- Northwestern Trauma & Surgical Initiative
- VECD Global health Fellowship - Fogarty
- Global Surgery Research Fellowship- University of Utah
- UCSF center for global surgical studies
- Global surgery research program – Brigham and Women’s Hospital

- Many more research and fellowships opportunities…...
Organizations

- WHO- GIEESC
- ACS-OGB
- RAS- Global Surgery workgroup
- GlobalSurg
- ASAP
- CUGH
- ISS
- Specialty specific organizations
Thank you

Questions?

@NabeelZafarMD   @AllieMcDowMD
• This is the main content slide
• You may add graphs, change the layout, etc.
• Please do not change the font style or color scheme
• If you copy and paste a prior presentation into this file, the colors should automatically apply.
• If you want to use accent colors for your text, please use the colors specified on the color palette (the RGB codes are given). The codes are
Here is What A Graph Looks Like
Color Palette

Pantone 7435
R-134 G-18 B-78

Pantone 7455
R-18 G-104 B-179

Pantone 640
R-0 G-136 B-164

Pantone 2607
R-81 G-43 B-139

Pantone 2746
R-26 G-59 B-142

Pantone 7527
R-226 G-221 B-203

Pantone 5523
R-196 G-223 B-226

Pantone 650
R-199 G-217 B-234

Pantone 428
R-197 G-203 B-209
Types

In LMICs research on

• The improvement of surgical care
• The reduction of death and disability from surgically treatable conditions
• The estimation of the burden of surgical disorders
• Investigation of the state of surgical care in LMICs according to one or more: A) Access to timely essential surgery. B) specialist surgical workforce density. C) surgical volume. D) perioperative mortality rate E) access to affordable surgical and anesthesia care
• The identification of health disparities/inequalities in the provision of surgical care
• The identification of best strategies for instituting/delivering surgical services in settings of limited resources

Sgro et al WJS 2019