Advocacy for Surgery within the Global Health Agenda

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27th September, 2012
The problem

Individual patient

7 billion people
Consequences

• **Pregnancy related complications**
  – 1600 deaths per day (529,000/year)
  – For every woman who dies in childbirth: ~ 20 more who suffer a complication (~ 10 mil/yr)
  – Obstetric fistula (2 million/yr)

• **Injuries**
  – Road traffic accidents
    • 1.2 million deaths
    • 50 million injured
  – 2000 childhood deaths/day

• **Congenital anomalies**
  – 200,000 children with club feet
Roadmap

1. Describe problem
2. Demonstrate a cost-effective solution
3. Define surgery amongst other global health priorities
4. Advocate for change
Describe problem
Describe problem

Examples

- Global volume of surgery
- Estimated need for pediatric surgical care in The Gambia
- Untreated surgical conditions in Sierra Leone
- Surgical definitions
Describe problem

Global volume of surgery

- Estimated number of major procedures done worldwide
- Based on demographic, health and economic data from 192 member states of WHO
- Created a model to estimate surgery for countries where data was not available

Describe problem

Global volume of surgery

<table>
<thead>
<tr>
<th>Expenditure</th>
<th>Mean estimated surgical rate per 100 000 population (SE)</th>
<th>Estimated volume of surgery in millions (%; 95% CI)</th>
<th>Share of global population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poor-expenditure countries (N=47)</td>
<td>295 (53)</td>
<td>8.1 (3.5%; 3.4–12.8)</td>
<td>34.8%</td>
</tr>
<tr>
<td>Low-expenditure countries (N=60)</td>
<td>2255 (342)</td>
<td>53.8 (23.0%; 9.8–97.4)</td>
<td>35.0%</td>
</tr>
<tr>
<td>Middle-expenditure countries (N=47)</td>
<td>4248 (524)</td>
<td>34.3 (14.6%; 23.6–43.3)</td>
<td>14.6%</td>
</tr>
<tr>
<td>High-expenditure countries (N=38)</td>
<td>11110 (1300)</td>
<td>138.0 (58.9%; 132.5–143.9)</td>
<td>15.6%</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>234.2 (187.2–281.2)</td>
<td>..</td>
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</table>

- 234 million major procedures done per year
- Twice the number of annual births
- 7 times the 33 million infected with HIV
Describe problem

Global volume of surgery

• Disparities in surgical care
  – 30% of world population receives 74% of surgical procedures
  – Poorest 3\textsuperscript{rd} receives only 3.5% of surgical procedures
• Enormous unmet need in poor countries
Describe problem

Estimated need for surgical care

- Large number of patients
- Long distances
- Limited facilities, equipment, human resources
- Shortage of qualified pediatric surgeons

Cummulative risk of requiring surgical care in a pediatric population living in Banjul, The Gambia

Bickler, et al, Tropical Doctor 2003
Untreated surgical conditions in Sierra Leone

- Cross-sectional country wide survey
  - SOS survey tool
  - 1875 households
- 25% of population reported a surgical condition that required a surgical consultation
- 1.5 million in Sierra Leone might benefit from surgical care
Describe problem

Definitions

Table 1 Terminology for analyzing surgical care from a public health perspective

- **Surgical condition**—disease state requiring the expertise of a surgically trained provider
- **Surgical sequelae**—abnormalities that result from a surgical condition or its treatment.
- **Surgical disability**—physical deficit associated with a surgical sequela
- **Surgical care**—any intervention directed at reducing the disability or premature death associated with a surgical condition
- **Surgical procedure**—the suturing, incision, excision, or manipulation of tissue; or other invasive procedure that usually, but not always, requires local, regional, or general anesthesia
- **Disability weight**—measure of the relative valuations of a health state on an interval scale
- **Value of surgical care**—measure of the relative ability to prevent or reverse a surgical disability

*From Bickler, et al. WJS 2010*
Demonstrate a cost-effective solution
Demonstrate a cost-effective solution

- Cost analysis of basic surgical interventions at district hospitals

- Similar to selected public health interventions

<table>
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<th>Intervention</th>
<th>Cost-Effectiveness</th>
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<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>
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</table>

From Ozgediz, 2008
Define surgery amongst other global health priorities
Surgery amongst other global health priorities

Global burden of disease study

- Comprehensive assessment of mortality & disability from disease and injuries (Murray & Lopez, 1990)
- Based on DALYs
- Surgical data incomplete
Disability adjusted life years

\[ \text{DALY} = \text{YLL} + \text{YLD} \]

Time is used as the common metric for mortality and health states

\textbf{YLL:}  \ Years of life lost due to mortality

\textbf{YLD:}  \ Equivalent years of healthy life lost due to disability

\textbf{Disability Wt:}  \ Health state valuation expressed on an interval scale between 0 and 1
Surgery amongst other global health priorities

Disease Control Priority Project

- Joint enterprise of Fogarty International Center, WHO, World Bank & Population Reference Bureau
  - World Bank: $20 billion in loans to LIC 2004
  - Surgical conditions account for 11% of the global burden of disease
- 3rd Edition in process
  - Estimates for more than 220 diseases/injuries from 21 regions of the world
Surgery amongst other global health priorities

Challenges

• Profound lack of data
  – Hospital data is of limited value
  – Comprehensive surgical databases do not exist
  – Prospective community based surveys

• Large number of diagnoses and procedures
  – ICD-10 coding system (68,064 diagnoses and 86,917 procedure codes)

• Disability weights have not yet been calculated for many surgical diseases
Advocate for change
Advocate for change

Pivotal role for WHO

- UN agency with 193 member states
- WHO is financed by contributions from member states and from donors
- WHO’s influence is through Ministries of Health in each country
- World Health Assembly is the supreme decision-making body—meets every May to set policy agenda
Advocate for change

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- World Health Assembly is the supreme decision-making body—meets every May to set policy agenda
- World Health Assembly amendment confirming importance of surgical care
Advocate for change

Why WHO is important

From Bickler, WJS 2010
Advocate for change

Pivotal role for WHO

New primary health care model

- Universal coverage
- Reforms in service delivery, public policy and leadership strategy

2008 World Health Report: Primary health care now more than ever
## Advocate for change

*From Shiffman, The Lancet 2007*

<table>
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<tr>
<th>Description</th>
<th>Factors shaping political priority</th>
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| **Actor power**                      | 1. Policy community cohesion: the degree of coalescence among the network of individuals and organisations that are centrally involved with the issue at the global level  
                                        | 2. Leadership: the presence of individuals capable of uniting the policy community and acknowledged as particularly strong champions for the cause  
                                        | 3. Guiding institutions: the effectiveness of organisations or coordinating mechanisms with a mandate to lead the initiative  
                                        | 4. Civil society mobilisation: the extent to which grassroots organisations have mobilised to press international and national political authorities to address the issue at the global level |
| **Ideas**                            | 5. Internal frame: the degree to which the policy community agrees on the definition of, causes of, and solutions to the problem  
                                        | 6. External frame: public portrayals of the issue in ways that resonate with external audiences, especially the political leaders who control resources |
| **Political contexts**               | 7. Policy windows: political moments when global conditions align favourably for an issue, presenting opportunities for advocates to influence decisionmakers  
                                        | 8. Global governance structure: the degree to which norms and institutions operating in a sector provide a platform for effective collective action |
| **Issue characteristics**            | 9. Credible indicators: clear measures that show the severity of the problem and that can be used to monitor progress  
                                        | 10. Severity: the size of the burden relative to other problems, as indicated by objective measures such as mortality levels  
                                        | 11. Effective interventions: the extent to which proposed means of addressing the problem are clearly explained, cost effective, backed by scientific evidence, simple to implement, and inexpensive |

*Table: The four categories for the framework on determinants of political priority for global initiatives*
## Advocate for change

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<td><strong>Actor power</strong>&lt;br&gt;The strength of the individuals and organisations concerned with the issue</td>
<td>1. Policy community cohesion: the degree of coalescence among the network of individuals and organisations that are centrally involved with the issue at the global level&lt;br&gt;2. Leadership: the presence of individuals capable of uniting the policy community and acknowledged as particularly strong champions for the cause&lt;br&gt;3. Guiding institutions: the effectiveness of organisations or coordinating mechanisms with a mandate to lead the initiative&lt;br&gt;4. Civil society mobilisation: the extent to which grassroots organisations have mobilised to press international and national political authorities to address the issue at the global level</td>
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<td><strong>Ideas</strong>&lt;br&gt;The ways in which those involved with the issue understand and portray it</td>
<td>5. Internal frame: the degree to which the policy community agrees on the definition of, causes of, and solutions to the problem&lt;br&gt;6. External frame: public portrayals of the issue in ways that resonate with external audiences, especially the political leaders who control resources</td>
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<td><strong>Political contexts</strong>&lt;br&gt;The environments in which actors operate</td>
<td>7. Policy windows: political moments when global conditions align favourably for an issue, presenting opportunities for advocates to influence decisionmakers&lt;br&gt;8. Global governance structure: the degree to which norms and institutions operating in a sector provide a platform for effective collective action</td>
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<td><strong>Issue characteristics</strong>&lt;br&gt;Features of the problem</td>
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*Table: The four categories for the framework on determinants of political priority for global initiatives*
Conclusions

- **Road map for advocacy of surgery within the global health agenda**
  - Describe the problem
  - Demonstrate a cost-effective solution
  - Define the problem amongst other global health priorities
  - Advocate for change

- **Pivotal role for WHO**
  - World Health Assembly amendment as a step toward instituting major change
“UNLESS someone like you cares a whole awful lot. Nothing is going to get better. Its not.”

The Lorax