Surgical Care, Health Systems, and Health Systems Strengthening?

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“Flight of Ideas”

1) Define health system and health systems strengthening
2) Integrating surgical services within a health system
Health Systems

“all the activities whose primary purpose is to promote, restore and/or maintain health”

Programming/Inputs:
"Vertical, "Horizontal", "Diagonal" ?

Polio Eradication Initiative
Expanded Program on Immunization
Integrated Management of Childhood Illness
Comprehensive Primary Health Care

Vertical

Horizontal

## Health Systems Conceptual Frameworks

### Evans et al (1981)
Main actors in health care systems
- Population to be served
- Health care providers
- Third-party payers
- Government (regulation)

### Hurst et al (1991)
Fund flows and Payment Methods
- 7 Subsystems for financing and delivering services
  - Voluntary insurance schemes
    - Private reimbursement
    - Contract models
    - Integrated models
  - Compulsory insurance or tax funded models
    - Public reimbursement model
    - Contract models
    - Integrated models
  - Direct, Out of pocket expenditures

### Mills and Ranson (2006)
Capacity Framework: “Map” = interplay between 4 key functions and 4 key actors
- Key Functions
  - Regulation
  - Financing
  - Resource allocation
  - Service provision
- Key Actors or stakeholders
  - Government or professional regulatory bodies
  - Population (including patients)
  - Financing agents
  - Service providers

Reforms Framework
- Structural components and their interactions lead to goals or desired outcomes of system
- “Control knobs”
  - Financing
  - Macro-organization
  - Payment
  - Regulation
  - Education/persuasion

### World Health Organization (2000)
Performance Assessment Framework
- 4 Key functions to transfer inputs into outcomes
  - Resource generation
  - Financing
  - Service Provision
  - Stewardship

### World Health Organization (2007)
Building Blocks
- People (Supply side)
- System (Demand Side)
  - Governance, Service Delivery, Medicine and technologies, Human resources, Information, Financing

### World Health Organization (2008)
Primary Health Care
- Universal coverage
- People at center of service delivery
- Integrating health into public policy across sectors
- Inclusive leadership for health governance

### Atun (2006)
Systems Thinking framework
- Interaction of health system elements within local context (demographic, economic, political, legal and regulatory, epidemiologic, sociodemographic and technological (DEPLESET))
- Goals = health, financial risk protection, consumer satisfaction
- 4 Levers for policy makers
  - Stewardship and organizational arrangements
  - Financing
  - Resource allocation and provider payment systems
  - Service provision

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**Evolution in Conceptual Frameworks**
WHO Building Blocks Framework (2008)
Health Systems are Complex

- Nonlinear
- Feedback loops
- Cause and effect separated by time and space

Policy
Resistance
System dynamics approach to immunization healthcare issues in developing countries: a case study of Uganda

Agnes S. Rwashana, Ddembe W. Williams and Stella Neema
Health Systems Strengthening

- Lack consensus on definition, strategies
- Most vertical or GHI
- Long term iterative process
- Literature sparse

Monitoring HS Performance: Frameworks and Indicators

- No Consensus
- Contextual
- Where is surgery?
Each system is unique, context is critical. We need a practical, actionable model. Technical advisors.
Literature Review (Guidance?)

- **Search Terms**
  - Surgery, health system, health systems strengthening, developing country, financing, governance, health information system, integration

- **Databases**
  - Pubmed, SCOPUS, EMBASE, Cochrane, Health Systems Database (McMaster University)
• 3432 citations
• 171 abstracts reviewed
• 117 papers reviewed

None focus on surgical care
Integration

“extent, pattern, and rate of adoption and eventual assimilation of health interventions into each of the critical functions of a health system”

- Governance
- Financing
- Planning
- **Service Delivery**
- Monitoring and Evaluation
- Demand Generation

- Governance
- Financing
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- Monitoring and Evaluation
- Demand Generation

**Universal access?**

- Large public health burden
- Treatment highly successful
- Treatment is cost-effective

“an internationally agreed list of essential surgical procedures in support of primary healthcare that would help countries decide on their own list and related training and equipment.”

Mahler H. Surgery and Health for All. Address to the Biennial World Congress of Surgeons, Mexico City, Mexico, 1980. Available at (http://who.int/surgery/strategies/Mahler1980speech.pdf)
Patient Safety

Don’t forget the health workers

Courtesy of Dr. Omar Saleh, WHO Somalia
Human Resources

• Who?
• Where and How?
• Distribution and retention
• MOC
• Alternative providers?
• Governance
• Financing
• Planning
• Service Delivery
• Monitoring and Evaluation
• Demand Generation
- Governance
- Financing
- **Planning**
- Service Delivery
- Monitoring and Evaluation
- Demand Generation

- Resolution
- National health policy
- Regulatory function
  - Human Resources
- Management
- Governance
- Financing
- Planning
- Service Delivery
- Monitoring and Evaluation
- Demand Generation
- Governance
- Financing
- Planning
- Service Delivery
- **Monitoring and Evaluation**
- Demand Generation

1) Epidemiology/BOD
2) Service availability
3) Outcomes/Quality
Service Availability

Infrastructure

- Physical Resources
- Human Resources
- Interventions

**District, “Essential”**

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### Section At Infrastructure

**Country**

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<th>Name, Phone nos. of the person filling the form</th>
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**Limit:**

<table>
<thead>
<tr>
<th>Name and Phone number of Health Care Facility</th>
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**Type of Health Center**

- District
- Rural/Community
- Provincial
- General Hospital
- Private/Out-of-Hospital

**Population served by this Health facility** (e.g., 1,000-2,000 or 5,000-9,999)

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<table>
<thead>
<tr>
<th>No. of beds</th>
<th>No. of total admissions in the year</th>
<th>No. of beds functioning (operating rooms) per year</th>
<th>No. of patients at the facility requiring minor &amp; major surgery per year</th>
<th>No. of patients at the facility requiring major surgery (including Caesarean section) per year</th>
<th>No. of patients at the facility requiring minor surgery per year</th>
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• Deficiencies in availability documented
• Process measures?

Kingham et al. Arch Surg 2009;144:122. (Sierra Leone)
Taira et al. World J Surg 2010;34:428. (Sri Lanka)
Choo et al. Trop Med Int Health 2010;15:1109. (Ghana)
Natuzzi et al. World J Surg 2011;35:1183. (Soloman Islands)
Penoyer et al. BMJ Open 2012;2:e000369. (Tanzania)
Sherman et al. Arch Surg 2011;146:35. (Liberia)
Harvard Humanitarian Initiative Tool
• Greater depth, Birds eye view


Standardised metrics for global surgical surveillance

Thomas G Weiser, Martin A Makary, Alex B Haynes, Gerald Dziekan, William R Berry, Atul A Gawande, and the Safe Surgery Saves Lives Measurement and Study Groups*

Public health surveillance relies on standardised metrics to evaluate disease burden and health system performance. Such metrics have not been developed for surgical services despite increasing volume, substantial cost, and high rates of death and disability associated with surgery. The Safe Surgery Saves Lives initiative of WHO’s Patient Safety Programme has developed standardised public health metrics for surgical care that are applicable worldwide. We

• Availability
  - # OR’s
  - # Surgical procedures
  - # Accredited surgeons
  - Day of surgery death ratio
  - Postop in hospital death ratio
Where are we?

- Information needs vary
  - National
  - Manager at individual facility
- “Snapshot”... need Monitoring
Service Availability

Service Availability and Readiness Assessment (SARA)

A methodology for measuring health systems strengthening

World Health Organization
Figure 34. Percentage availability of tracer items for surgical care at hospitals (N=37)
Sierra Leone SARA, 2011

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage Availability</th>
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<tr>
<td>Staff and guidelines</td>
<td>74%</td>
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<tr>
<td>Surgeon</td>
<td>71%</td>
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<tr>
<td>Anesthetist</td>
<td>60%</td>
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<tr>
<td>Guidelines IMEESCG</td>
<td>58%</td>
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<tr>
<td>Spinal needle</td>
<td>85%</td>
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<tr>
<td>Suction apparatus</td>
<td>85%</td>
</tr>
<tr>
<td>Oxygen</td>
<td>70%</td>
</tr>
<tr>
<td>Anesthesia equipment</td>
<td>20%</td>
</tr>
<tr>
<td>Spinal anaesthesia</td>
<td>84%</td>
</tr>
<tr>
<td>General anaesthesia</td>
<td>70%</td>
</tr>
<tr>
<td>All items</td>
<td>13%</td>
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<tr>
<td>Comp. surgery readiness score</td>
<td>69%</td>
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</table>
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- Incentives
  - Conditional cash transfers
  - Insurance
  - Waiving user fees
- Education and health promotion
Take Home Messages

- Integration requires inputs at each block in the system
- Systems are “complex”
- Context!
Thank You!