Outline

- Need for Operational Research (OR)
- What is Operational Research? Objectives? Examples of OR
- Operational Research Landscape – Where are we? What needs to be done?
**Need for Operational Research**

- 51 million patients cured, 1995-2011
- 20 million lives saved since 1995
- 2015 MDG target on track: global TB incidence rate peaked in early 2000s and declining

**But, TB incidence declining too slowly**
- 1.4 million people still dying
- 8.7 million cases every year; only 2/3 reported
- TB/HIV epidemic still rampant in Africa
- MDR-TB response slow
- Un-engaged private sector
- Gaps in financing

**New Tools**
- Diagnostics
- Drugs
- Vaccines

**Are they enough?**

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**“What” is operational research (OR)?**

Research into *interventions, strategies, tools or knowledge,* that can enhance the performance (quality, coverage, effectiveness, efficiency) of the program (and improve health outcomes)

*Lancet ID 2009, 9:711-717*


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**Objectives of Operational Research**

- **Assess feasibility** of new strategies or interventions in specific settings or populations
- **Advocate for policy change**
- **Improve programme outcomes** in relation to medical care or prevention
Improving program outcomes: Voluntary counselling, HIV testing and adjunctive cotrimoxazole reduces mortality in TB patients in Thyolo, Malawi

In both districts, the package was associated with a reduction in case fatality from 30% to 25%

Country-wide, expansion of HIV testing and cotrimoxazole for TB patients

HIV Testing and CPT in TB patients in Malawi

<table>
<thead>
<tr>
<th>MALAWI</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>TB patients</td>
<td>26,836</td>
<td>26,136</td>
<td>26,019</td>
<td>26,659</td>
<td>25,767</td>
<td>25,688</td>
</tr>
<tr>
<td>HIV tested</td>
<td>15%</td>
<td>26%</td>
<td>47%</td>
<td>66%</td>
<td>83%</td>
<td>84%</td>
</tr>
<tr>
<td>HIV positive</td>
<td>69%</td>
<td>72%</td>
<td>69%</td>
<td>66%</td>
<td>69%</td>
<td>63%</td>
</tr>
<tr>
<td>Started CPT</td>
<td>87%</td>
<td>97%</td>
<td>92%</td>
<td>98%</td>
<td>97%</td>
<td>96%</td>
</tr>
</tbody>
</table>

Harries et al. BMC Public health 2011, 11:593

National TB treatment outcomes in new smear-positive PTB

<table>
<thead>
<tr>
<th>Year</th>
<th>Treatment Success</th>
<th>Death</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>71%</td>
<td>19%</td>
<td>10%</td>
</tr>
<tr>
<td>2003</td>
<td>70%</td>
<td>19%</td>
<td>11%</td>
</tr>
<tr>
<td>2004</td>
<td>71%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>2005</td>
<td>74%</td>
<td>15%</td>
<td>11%</td>
</tr>
<tr>
<td>2006</td>
<td>79%</td>
<td>13%</td>
<td>8%</td>
</tr>
<tr>
<td>2007</td>
<td>83%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>2008</td>
<td>86%</td>
<td>7.5%</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

Harries et al. BMC Public health 2011, 11:593
Assessing Feasibility

Is it feasible to implement TB-DM bidirectional screening in routine programme settings?

- **ESTABLISH MECHANISMS FOR COLLABORATION**
  - Set up a means of coordinating diabetes and TB activities
  - Conduct surveillance of TB disease prevalence among people with diabetes in medium and high-TB burden settings
  - Conduct surveillance of diabetes prevalence in TB patients in all countries

- **DETECT AND MANAGE TB IN PATIENTS WITH DIABETES**
  - Intensified detection of TB among people with diabetes
  - Ensure TB infection control in healthcare settings where diabetes is managed

- **DETECT AND MANAGE DIABETES IN PATIENTS WITH TB**
  - Screen TB patients for diabetes
  - Ensure high-quality diabetes management among TB patients

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Screening of patients with diabetes mellitus for tuberculosis in India

**National Policy Decision in India to screen all TB patients for DM**

Screening of patients with tuberculosis for diabetes mellitus in China

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Operational research landscape: Where are we today?

1. **Pursue high-quality DOTS expansion**
2. **Address TB-HIV, MDR-TB, and needs of the poor and vulnerable**
3. **Contribute to health system strengthening**
4. **Engage all care providers**
5. **Empower people with TB and communities**
6. **Enable and promote research**

- Ample political recognition
  - Component of WHO’s Global STOP TB strategy
  - GFATM allows 10% of each grant to OR, though rarely used!
  - Emphasized by many technical implementing/donor agencies

Still, very little OR from LICs and MICs where the disease burden in greatest
Barriers to Operational Research

- Lack of an enabling environment
  - Lack of priority: NTP manager too busy in service delivery and thinks OR is not his/her job
  - Lack of strategic prioritized OR agenda
  - No collaboration with academia, NGOs
  - Donor driven research with lack of ownership by NTP
  - Lack of priority for publishing OR by journals
- Lack of Resources (Infrastructure, Trained Manpower, Dedicated Time, Funds)
- Lack of capacity and structured mentorship
- Lack of monitoring of impact of OR

Creating a Supportive Environment

- Every NTP should have its own list of OR priorities
- WHO Guidance available
- Partnership Model
- Ownership of Research
- Dedicated OR focal point
- Integrating OR into routine programme activities and budgets
- Advocating with scientific journals the value of OR and need to publish it

Capacity Building

- Shift from ‘theoretical’ training models to practical skills oriented mentorship programs
- The Union-MSF and US CDC Models of capacity building
- SORT-IT (Structured Operational Research and Training Initiative)
Monitoring the impact of OR

Is operational research delivering the goods? The journey to success in low-income countries

Operational research in low-income countries has a key role to fill the gap between what we know from research and what we do with that knowledge—so-called know-do gap or implementation gap. Planned research that does not impact on policy and practice is inefficient and wasteful, especially in settings where resources are scarce and disease burden is high. Clear parameters are urgently needed to measure and judge the success of operational research. We define operational research as its relative with policy and practice. Without the operational research might fail to affect policy and practice, and offer potential solutions to address these shortcomings. We also propose measures of success for operational research. Aligned and use of these measures will help to ensure that operational research better informs policy and practice and improves patient care delivery and disease programmes.

• Effective Dissemination  • Policy and Practice change
• Publication  • Health Outcomes

CONCLUSION

• Operational research has a key role to play in:
  – Meeting health needs by filling the ”know-do” or ”implementation gaps”
  – Improving health outcomes

• Measuring and reporting its success is essential

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