Evidence-based decision making for improving access to health care technology in the developing world

Robert Malkin’s Developing World Healthcare Technology Lab
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The need for intervention: What is the scope of the problem?

1. How much medical equipment is not functioning?
   • 30 to 70% not functional\(^1,2,3\)

2. How much is being invested in medical equipment?
   • From 1997 to 2001 the World Bank invested $1.5 billion on medical equipment\(^3\)

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Training hospital technicians

- Study assessed 23 of Rwanda's 38 public district hospitals. 13 had technicians from EWH training.
- Training included evidence based BTA curriculum\(^5\), Health Technology Management, professional development, equipment specific training, anatomy and physiology, and mathematics.

Results of training in Rwanda

% Out of Service

- No Training: 17.8%
- Trained: 10.2%

42.9% decrease
$X^2 = 9.59, p<0.01$
Shifts in Barriers to Equipment Repair in Rwanda & Honduras, n=701

- Authority: 18.29% (No), 15.38% (Yes)
- Communication: 12.57% (No), 13.68% (Yes)
- Component: p<0.05, 56.70% (No), 47.71% (Yes)
- Not needed: 2.86% (No), 5.70% (Yes)
- Technician Limitation: 18.57% (No), 8.55% (Yes)

Trained technician? No Yes

Technician obstacle to repair
Future Directions

- Look for publications in Journal of Health Technology & Management and Journal of Clinical Engineering
- Continue to create an evidence base for effectiveness of technician training (Cambodia & Ghana)
- Greater attention to intervening on ecological factors (communication in hospital, spare parts and supply chains, and user training) that influence access to medical equipment
A question for continued discussion

What evidence and to what audience do we need to make recommendations in order to shift the practices and debate about increasing access to health technology?

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