Science Communication evaluation methods at MLW

The case of the Samala moyo project

Regina Makwinja, Malawi Liverpool Wellcome Trust Clinical Research Programme

Wellcome Trust workshop March 2017: Evaluating Community Engagement
Presentation outline

• Introduction to Samala Moyo exhibition
• Evaluation of original project 2015-16
• Plans for future evaluation 2017 onwards
Samala Moyo exhibitions: what it involves

**Permanent Exhibition**
- Stationary and movable objects
- Target: Schools & Communities
- Complemented by other interactive approaches

**Outreach Exhibition**
- Interactive
- Target: Schools & Communities
- Complemented by cultural interactive approaches e.g. drama and dance

Related activities: Internships
- 1 week internship at MLW for 12 students
Existing gaps

- Huge Disease Burden
- Lack of Access to Health Information
- Lack of Science Information
Original exhibition objectives

1. Public to understand health, health research and engagement with health researchers

2. Enable teaching and discussion through objects and interactive exhibits (LCA)

3. Promote science careers in Malawi
Key stakeholders

• Museum: facilitation, internships
• Health: ethics approval, content, discussions, community meetings
• Education: school curriculum, health clubs identifying of schools, internships
• Wellcome Trust: provision of funding, exhibits
Exhibition evaluation 2015-16: Methods used

Ongoing data collection during 2 year exhibition project (March 2015 – Sept 2016)

**Qualitative methods:**
- 4 Observational diaries with science club members in secondary schools
- 48 Focus group discussion with students and community members
- Video diaries with 12 interns

**Quantitative**
- Teacher evaluation forms- 48- responses coded on delivery
- Gave information on the number of students who visited
- Exhibition games with 1000 students. Helped us to know which theme had highest number of display/ was remembered most ( versus the other themes)
Findings

• Indication of new health knowledge through attending the exhibition – students reported things that had learnt, especially on malaria

• Students wanted additional content e.g. on family planning

• People liked the exhibits – helps in remembering information

• Teachers felt exhibition increased student interest and performance in science

• Internship encouraged interest in science/medical careers, and girls valued female role models

• Students, teachers and community members said more time was needed to view the exhibition

• Science clubs lacked confidence and information to organise activities
Strengths of past M&E

• Already existing networks with communities, schools
• Easy to use – parallel to programming
• Less costly
Challenges of past M&E

- High numbers of people during outreach exhibition affected delivery and exhibition games
- Time factor for the games - to end by noon
- Risk of respondent bias with FGDs/interviews conducted by MLW staff member
- Choice of students for FGDs determined by teachers
- Assessment of impact on students limited to focus group and teachers’ views – no wider or more objective assessment of the impact on education/career choices or understanding of MLW and research, or of variations in impact between children
- Time lag conducting FGDs meant recall issues for recounting experience (though benefit for assessing longer-term effect)
- No long-term follow up on students to understand their career choices.
- Internship undertaken after form fours had already made future education choices so limited potential for impact or to assess change
- Inability to respond to some of the M&E findings due to resource constraints
New M&E plan 2016 onwards: design – theory of change

Aim:
• Enable M&E that shows whether we are moving towards intended outcomes

Process:
• Clarify intended outcomes - ethical research practice as ultimate goal
• Clarify how activities are going to lead to outcomes - asking the so that question
Revised objectives

Broad understanding of ethical research practice:
• promoting informed participation and avoidance of harm, but also
• supporting research capacity within Malawi
• promoting relevant research with an impact on policy and practice

Exhibition objectives:
• Support increased numbers of Malawian researchers by promoting interest in science careers
• Support informed decisions on participation in research by enhancing understanding of both MLW and the nature of research among communities and the general public
• Support the impact of MLW research by sharing information about healthy behaviour and treatment options
ToC for Exhibition

**Spillover benefit**
- Increased Malawian research capacity
- Increased number of Malawian scientists
- Interest in pursuing science careers among students attending exhibition/ clubs & internships
- Students attending exhibitions & clubs or undertaking internships have increased interest in research and understanding of possibilities for science careers

**Primary focus**
- Access to science education of sufficient quality
- Opportunities for employment in science careers
- Students choose science subjects at university
- Students and community members attending the exhibitions share information about research & MLW with wider communities
- Researchers willing & able to attend exhibitions & spend time with interns
- Internship provides information about research & research careers through discussion with researchers & practical experience
- Increased community understanding of research & MLW
- Informed decisions on participation in research
- Research design allows informed participation
- Students and community members attending the exhibitions share information about research & MLW with wider communities

**Increased Malawian research capacity**

**Key:**
- Activities
- Priority outcomes

**School health clubs**
- School health clubs provide information about:
  - MLW & research
  - Disease prevention & control (as background to information about MLW and research – enables primary focus)

**Exhibition**
- Exhibition provides information about:
  - MLW & research
  - Disease prevention & control (as background to information about MLW and research) through boards and Q&A discussion with researchers /

**Internship**
- Internship provides information about research & research careers through discussion with researchers & practical experience
- "Spillover outcome" i.e. outcome that may result from the activity but that is not the main purpose
- Assumptions – conditions that depend on actions beyond MLW Science Comm.
Information needed by engagement team

Activity level:
• Attendance: which schools and students attend, barriers, gender and socioeconomic status
• Implementation: presence of researchers, time at exhibition, number of facilitators
• Exhibition and internship format/approach: enjoyment, interest and understanding among audience?

Outcome level:
• Do students gain more interest in science careers? Why/not? Variations?
• Do students gain more understanding of research and MLW? Why/not? Variations?
• Do students choose science subjects at school (MSCE level)? Why/not? Variations?
• Do students move to university science courses? Why/not? Variations?
• Do students move to science careers? (especially interns) Why/not? Variations?
• Any unexpected effects, positive or negative?
<table>
<thead>
<tr>
<th>Question</th>
<th>Methods</th>
<th>Timing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance</td>
<td>Attendance monitoring template</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Implementation:</td>
<td>Exhibition reports</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Researcher presence</td>
<td>Focus groups with students/communities</td>
<td>4-8 weeks after 1 year after</td>
</tr>
<tr>
<td>Time at exhibition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Facilitators</td>
<td>Game &amp; discussion at exhibition</td>
<td>At exhibition</td>
</tr>
<tr>
<td></td>
<td>Focus groups</td>
<td>4-8 weeks after 1 year after</td>
</tr>
<tr>
<td>Format and approach: enjoyment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>interest, satisfaction and understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outcomes:</td>
<td>Survey</td>
<td>One week before 4-8 weeks after 1 year after</td>
</tr>
<tr>
<td>Interest in science careers</td>
<td>Focus group</td>
<td>4-8 weeks after 1 year after</td>
</tr>
<tr>
<td>Understanding of research and MLW</td>
<td>Game &amp; discussion at exhibition</td>
<td>At exhibition</td>
</tr>
<tr>
<td></td>
<td>Video diaries and intern reports</td>
<td>At end of internship</td>
</tr>
<tr>
<td>Question</td>
<td>Methods</td>
<td>Timing</td>
</tr>
<tr>
<td>-----------------------------------------------</td>
<td>------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>Choose science subjects at school</td>
<td>Survey</td>
<td>One week before</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4-8 weeks after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year after</td>
</tr>
<tr>
<td></td>
<td>FGD</td>
<td>4-8 weeks after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year after</td>
</tr>
<tr>
<td></td>
<td>Interviews with students</td>
<td>1 year after</td>
</tr>
<tr>
<td></td>
<td>School records</td>
<td>Annual tracking</td>
</tr>
<tr>
<td>Move to university science courses</td>
<td>School records</td>
<td>Annual tracking</td>
</tr>
<tr>
<td></td>
<td>Interviews with school leavers</td>
<td>1 year after</td>
</tr>
<tr>
<td>Unexpected effects, positive or negative</td>
<td>Interviews with teachers</td>
<td>4-8 weeks after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year after</td>
</tr>
<tr>
<td></td>
<td>FGD</td>
<td>4-8 weeks after</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 year after</td>
</tr>
<tr>
<td></td>
<td>Interviews with school leavers</td>
<td>Selected sample annually</td>
</tr>
</tbody>
</table>
Summary of revised M&E methods

- **Survey**: career goals, knowledge of research and knowledge of MLW.
- **Informal assessment at the exhibition**: what they know about MLW, research
- Game and discussion at the end of the exhibition can indicate any learning and changes in knowledge or aspirations. During this game, students demonstrate facts they have learnt from their exhibition experience.
- **Focus groups**: 4 to 8 weeks after attendance
- **Video diaries** – before and after
- **School records**: For choices, admission into university
- **Interviews with students on choices, career aspiration**
Challenges in implementation and approach

• Resources to undertake M&E – too ambitious? (Time, material, financial, human resource)

• Response from the community to take part in the evaluation( fear, unavailability, bias)

• Impacts on careers take years – can we sustain long-term monitoring?

• Choice of subject at school/university does not necessarily indicate progress towards a science career - hard to identify intermediate outcomes.

• What count as a successful outcome – careers in health research, or research in other disciplines, or work in health beyond research, or more intangible outcomes e.g. confidence, or short-term enjoyment?
Next steps:
Finalize and popularize the M&E strategy
Develop indicators
Baseline for indicators to set benchmark?

Ongoing questions:
Feasibility of developing SMART objectives/indicators?
Too many methods- too ambitious?
Are objectives too narrow/unrealistic?
Link to informed consent as an impact – realistic?
Thanks very much

• Questions, comments