Workshop

Understanding why immunization programs work: approaches to evaluation and measurement Anne LaFond, JSI Cath Jackson, Valid Research

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Immunization coverage with 1st dose of measles containing vaccines in infants, 2014



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Ghana

Penta3 Coverage for All Districts (2008 and 2010)



Look beneath the surface

- Understand why uptake is low in some areas and high in others?
- Understand what interventions are effective in increasing uptake and how they work?
- Use appropriate methods to understand the interplay between supply and demand.
 Use mixed methods to understand effectiveness

Workshop

Objectives

- Map the pathways to immunization uptake
- Outline key research/evaluation questions related to immunization uptake
- Consider different approaches and tools for designing and evaluating immunization programs
- Discuss process and outcome measures related to immunization uptake

Immunizatio n Program

 A single or comprehensive set of interventions or activities focused on improving or sustaining immunization coverage levels at national or subnational level

Workshop steps

- Two approaches to researching/evaluating immunization programs and understanding drivers of performance, including uptake (20 minutes)
- Small group discussion (30 minutes)
- Large group present and discuss (30 minutes)
- Report to plenary (after lunch)

Process evaluations of complex interventions Outcome evaluations can identify (in)effective interventions but leave unanswered questions....

 If effective in one context, will it produce the same outcomes in new contexts?

 If ineffective, is this due to the intervention itself or poor implementation? Might it benefit some? What is a process evaluation?

 A study which aims to understand the functioning of an intervention, by examining implementation, mechanisms of impact and contextual factors

 Is complementary to, not a substitute for, high quality outcomes evaluations

Key functions of process evaluation and relations among them



Graham F Moore et al. BMJ 2015;350:bmj.h1258



Fig 2 Logic model for the INCLUSIVE intervention to reduce violence and aggression in schools24.

INCLUSIVE intervention inputs	Intervention processes and actions	Changes to school practices ("boundaries" and "framing")	Changes to school ethos (instructional and regulatory orders)	Student intermediate impacts	Student health outcomes
Funding of £4000 for admininstrative costs, staff cover, and specific	Action group decides priorities, oversees actions	Improved communication and relationships between: Students	"Instructional order"* more engaging and combines academic and emotional learning	More students engage in learning with high aspirations	Reduced bullying and aggression (primary outcome)
actions per schools	Primary restorative practices: School policies and rules reviewed and revised Personal, social, and health education curriculums reviewed and new social/ emotional curriculum delivered Secondary restorative practices: Peer mediation reviewed and revised Staff trained in restorative practice	Staff and students		More students connect to school community and avoid anti-school groups and risk behaviours	Improved quality of life and emotional and mental health
Survey needs of year 8 students and audit of		More student centred, responsive framing of: Learning and teaching Discipline Social support Management and organisation	"Regulatory order"† more responsive, inclusive, and cooperative Fostering positive relationships Conflict viewed as opportunity for learning		
existing policies and practices to identify priorities Facilitation of action group meetings comprising staff and students Staff training in restorative practices (intro, intermediate, and advanced)					Reduced substance use and sexual risk
				More students develop "life skills" (that is managing emotions and communication)	
					Reduced truancy and school exclusions
			All staff and students responsible for safer, more supportive, respectful, and engaging school ethos	More students form	·
				trusting, empathetic, and warm relationships	
				More students make	
New social and emotional skills curriculum and learning materials				incutiner accisions	
	Tertiary restorative practices: "Circle time" Conferencing			* Learning and teachi † Discipline, social st	ng in school upport, and sense of community

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Commonly used data collection and analysis methods for process evaluation



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When should you do a process evaluation?



https://www.ioe.ac.uk/MRC_PHSRN_Process_evaluation_guidance_final(2).pdf

Online MMR decision aid

Implementation

- <u>How</u> intervention delivery is achieved - record costs of developing/hosting DA
- <u>What</u> is delivered track how parents use the DA
- Fidelity of intervention delivery – not in this project

Online MMR decision aid

Mechanisms of impact

- Experiences, (dis)benefits
- All parents complete a short acceptability questionnaire, semi-structured interviews with purposively selected parents (high/low decisional conflict)
- Quantitative data on decisional conflict, attitudes, social norms explored as mediator

Online MMR decision aid

Context

- How primary care environment and other factors seen as influencing implementation and outcomes of DA
- All GPs, nurses complete short questionnaire
- Semi-structured interviews
 with purposively selected GPs, nurses (enthusiastic/not enthusiastic centres)

Mixed method, case studies (Assetsbased)

 Drivers of immunization coverage improvement at district level in Sub-saharan Africa

Literature review

- Focuses mostly on barriers, gaps and obstacles.
- We generally do not ask "what works?" rather we focus on "what does not work?"
- New way to think about investment – "what works and why in what context?"
- Need: in-depth, contextbased investigation

Objectives

 Conduct in-depth case studies in three countries (Ethiopia, Cameroon, and Ghana) to explore and describe the underlying factors of immunization performance improvement in Africa.

 Define the pathways by which specific performance drivers improved routine immunization system performance (DPT3/Penta3 coverage) by investigating the experience of 12 districts



Methods

- Mixed-method case studies
- Unit of analysis: health service district as defined in Ethiopia, Cameroon and Cameroon
- Primary data collection mainly qualitative: immersion in the district. Driver identification and exploration using open ended and semi-structured interviews, group discussion, and observation
- Quantitative and qualitative data collection to understand immunization system capacity (RI situation analysis) and performance
- Iterative: focus broadened, narrowed, shifted as saturation and convergence reached, and as new relationships and factors emerged.
- Systematic review of data for structured analysis on country level and for synthesis of country findings

Districts



Four Direct Performance Drivers



Cadre of Community-centered Health Workers



Small group work

- Choose a facilitator, note taker and rapporteur
- Discuss key drivers of immunization uptake (based on presentations at this symposium)
- Define key questions related to immunization uptake that could be addressed using each research/evaluation approach
- Consider how each approach could be used to answer these questions?
- Discuss the pros and cons of each research/evaluation approach for improving our understanding of immunization uptake
- Provide guidance for program designers and evaluators for improving understanding of immunization uptake including process and outcome measures: 3 messages.
- Prepare short summary of your discussion

THANK YOU!

anne_lafond@jsi.com

cath@validresearch.co.uk





Extra slides

Techniques for Data Collection and Analysis

Validity and generalizability through specific data collection and analysis processes that reduce interviewer bias and subjective interpretations

- Interviewing technique and note taking
- Verifying using more than one source source or method
- Confirming the chronology of events to be consistent with causality
- Ensuring the logical plausibility of relationships
- Using a steady district as a control

Multiple means of testing for drivers

Reliability	Driver mentioned frequently and considered important
Internal validity	Opinions about drivers and their cause and effect are consistent
Triangulation	Driver emerged through different data methods and sources
Chronology	Driver emerged prior to changes in performance or outcomes
External validity	Stakeholders and subject experts consider the drivers' effect to be plausible
Internal validity	Driver present in improving districts and absent or weak in steady district