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The Implementation Research on Tropical Diseases in Asia: Lessons learnt and way forward

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LOCALLY ROOTED, GLOBALLY RESPECTED

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Outlines

- Implementation research (IR) in brief
- IR in the context of tropical diseases in Asia
- Capacity building of IR: the experience of Universitas Gadjah Mada



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What is implementation research?



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Implementation Research...

“Implementation research is that subset of Health Systems Research that focuses on how to promote the uptake and successful implementation of evidence-based interventions and policies...”

Sanders D, Haines a. Implementation research is needed to achieve international health goals. PLoS Medicine 2006: 3(6):e186



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Implementation Research...

".....scientific inquiry into questions concerning implementation - the act of fulfilling or carrying out an intention into effect, which in health research can be policies, programmes, or individual practices (collectively called interventions)."

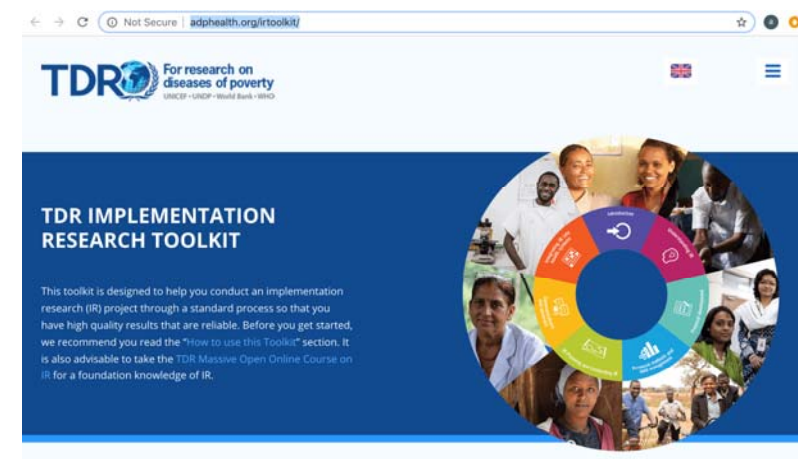
Peters DH, Adam T, Alonge O, Agyepong IA, Tran Nhan. Implementation research: what it is and how to do it. BMJ 2013; 347: f6753 doi: 10.1136/bmj.f6753



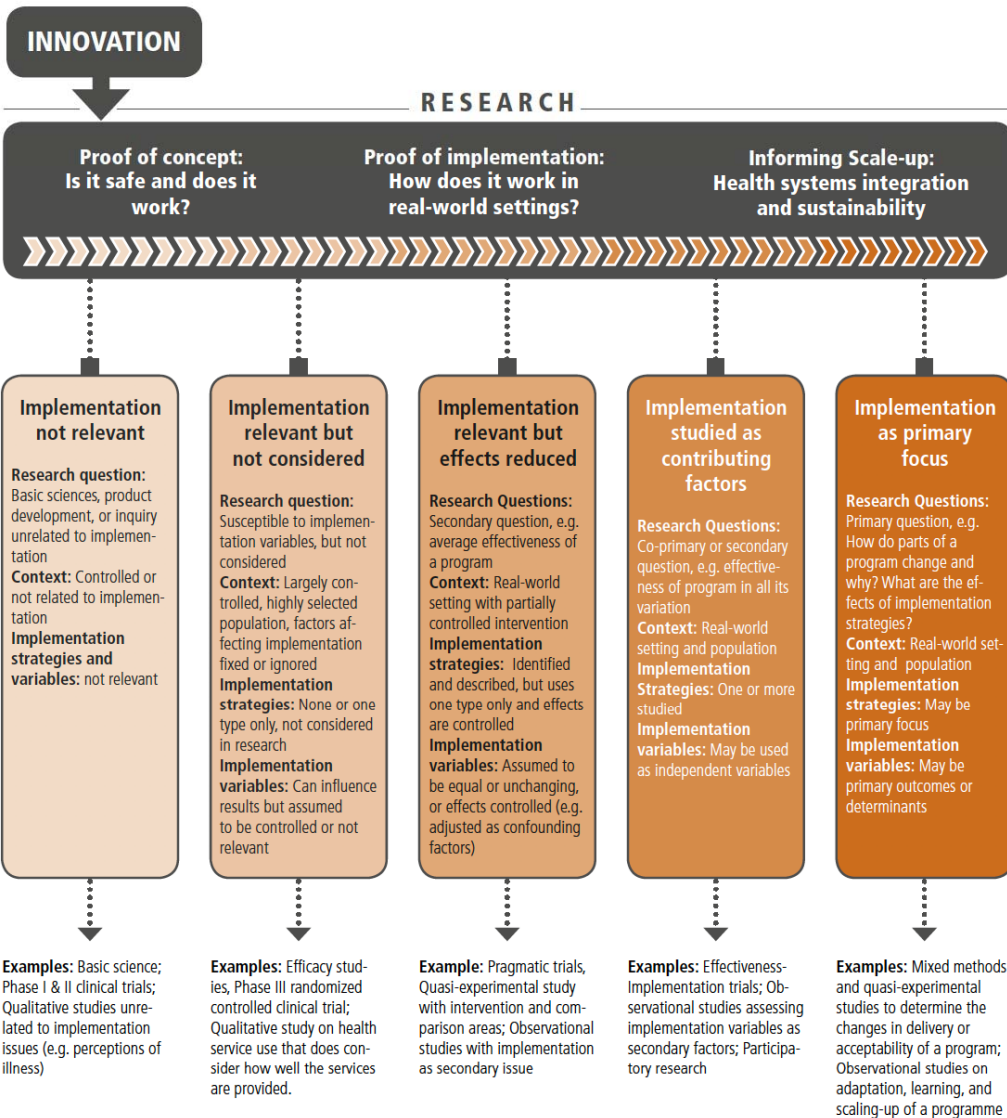
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Implementation Research...

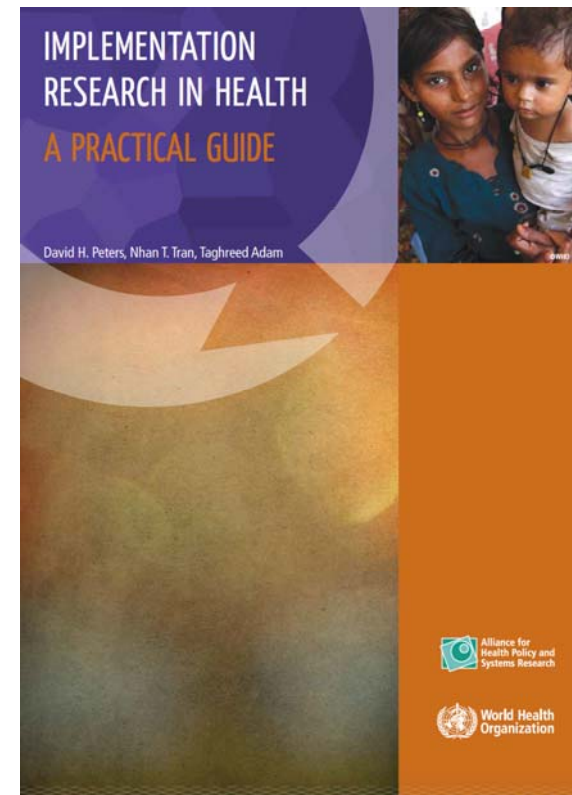
- Addresses implementation bottlenecks,
- Identifies optimal approaches for a particular setting,
- Promotes the uptake of research findings
- Leads to improved health care and its delivery.



<http://adphealth.org/irtoolkit/>



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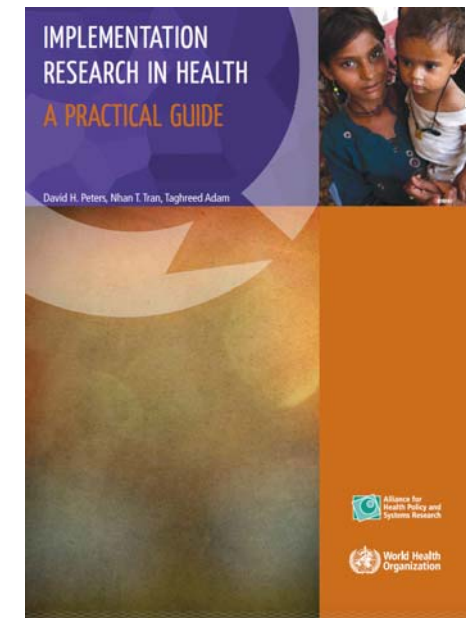
Characteristics of IR

Systematic

Multidisciplinary

Contextual

Complex



The examples of variables in IR



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Implementation
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Implementation outcome	Working definition*	Related terms†
Acceptability	The perception among stakeholders (for example, consumers, providers, managers, policy makers) that an intervention is agreeable	Factors related to acceptability (for example, comfort, relative advantage, credibility)
Adoption	The intention, initial decision, or action to try to employ a new intervention	Uptake, utilisation, intention to try
Appropriateness	The perceived fit or relevance of the intervention in a particular setting or for a particular target audience (for example, provider or consumer) or problem	Relevance, perceived fit, compatibility, perceived usefulness or suitability
Feasibility	The extent to which an intervention can be carried out in a particular setting or organisation	Practicality, actual fit, utility, trialability
Fidelity	The degree to which an intervention was implemented as it was designed in an original protocol, plan, or policy	Adherence, delivery as intended, integrity, quality of programme delivery, intensity or dosage of delivery
Implementation cost	The incremental cost of the implementation strategy (for example, how the services are delivered in a particular setting). The total cost of implementation would also include the cost of the intervention itself	Marginal cost, total cost‡
Coverage	The degree to which the population that is eligible to benefit from an intervention actually receives it.	Reach, access, service spread or effective coverage (focusing on those who need an intervention and its delivery at sufficient quality, thus combining coverage and fidelity), penetration (focusing on the degree to which an intervention is integrated in a service setting)
Sustainability	The extent to which an intervention is maintained or institutionalised in a given setting	Maintenance, continuation, durability, institutionalisation, routinisation, integration, incorporation



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Why should implementation research be promoted?

RESEARCH

Open Access



Operational and implementation research within Global Fund to Fight AIDS, Tuberculosis and Malaria grants: a situation analysis in six countries

Sabine Kiefer^{1,2}, Astrid M. Knoblauch^{1,2}, Peter Steinmann^{1,2}, Tanja Barth-Jaeggi^{1,2}, Mahnaz Vahedi³, Dermot Maher³, Jürg Utzinger^{1,2} and Kaspar Wyss^{1,2*}



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“A number of proven standard interventions for controlling priority diseases in low- and middle-income countries (LMICs) exist, for example the large-scale distribution of insecticide-treated bed nets and ambulatory treatment of tuberculosis (TB) patients. At the same time, the effective implementation of these interventions requires **adaptation to specific contexts**, highlighting the importance of **operational and implementation research**.”

A Research Agenda for Helminth Diseases of Humans: Towards Control and Elimination

Boakye A. Boatin^{1,2†}, María-Gloria Basáñez^{3*†}, Roger K. Prichard², Kwablah Awadzi⁴, Rashida M. Barakat⁵, Héctor H. García⁶, Andrea Gazzinelli⁷, Warwick N. Grant⁸, James S. McCarthy⁹, Eliézer K. N'Goran¹⁰, Mike Y. Osei-Atweneboana¹¹, Banchob Sripa¹², Guo-Jing Yang¹³, Sara Lustigman¹⁴



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“1st Research Priority: Optimise existing intervention tools to maximise **impact** (taking into account polyparasitism) **and sustainability**. The tools include pharmaceuticals, vaccines, vector control, and eco-health approaches (access to clean water and sanitation, improved nutrition, education). Sustainability depends on minimising selection for drug resistance and maintaining community support for adequate coverage and compliance.”



COLLECTION REVIEW

malERA: An updated research agenda for health systems and policy research in malaria elimination and eradication

The malERA Refresh Consultative Panel on Health Systems and Policy Research^{1*}

“2nd Priority: What is the best way to optimize malaria elimination **delivery strategies** to meet the changing dynamics of needs of individuals, environments, and malaria programme successes?”



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Capacity Building in Implementation Research



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UGM's experience in IR capacity building...

- Implementation research course;
- Graduate Program on Public Health-Special Program of Implementation Research on Tropical Diseases since December 2015 (<https://graduate.fk.ugm.ac.id/>)

Students and Alumni



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- Batch 1: 16 students, 11 countries
- Batch 2: 10 students, 6 countries
- Batch 3: 10 students, 5 countries (ongoing)

Curriculum



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1 st Semester	2 nd Semester
Theory and Practice of Public Health	Zoonosis and Vector Control
Social Science and Health Behavior	Drugs and Vaccine for Tropical Diseases*
Health Policy and Management	Research Methodology
Epidemiology	Implementation Research*
Health Economics	Infection Control*
Biostatistics I	Environmental Health
Epidemiology, Control and Management of Tropical Diseases	Global Health
	Public Health Advocacy
3 rd Semester	4 th Semester
Academic Writing	Research Project (Thesis)
Elective Course	
Research Project (Thesis)	

* accredited courses by TropEd (2018)



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Publications from the Students



RESEARCH ARTICLE

The implementation of Xpert MTB/RIF assay for diagnosis of tuberculosis in Nepal: A mixed-methods analysis

Basant Joshi^{1*}, Trisasi Lestari², Stephen Michael Graham^{3,4}, Sushil Chandra Baral⁵, Sharat Chandra Verma⁶, Gokarna Ghimire⁶, Bandana Bhatta⁷, Shyam Prakash Dumre⁸, Adi Utarini^{2*}

1 Graduate Program in Implementation Research, Public Health, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia, **2** Department of Health Policy and Management, Faculty of Medicine, Public Health and Nursing, Universitas Gadjah Mada, Yogyakarta, Indonesia, **3** University of Melbourne Department of Paediatrics and Murdoch Children's Research Institute, Royal Children's Hospital, Melbourne, Australia, **4** International Union Against Tuberculosis and Lung Disease, Paris, France, **5** Health Research and Social Development Forum (HERD), Kathmandu, Nepal, **6** National Tuberculosis Centre, Ministry of Health, Bhaktapur, Nepal, **7** Save the Children International, Dhangadhi, Nepal, **8** Institute of Tropical Medicine, Nagasaki University, Nagasaki, Japan

* Current address: Health Research and Social Development Forum (HERD), Kathmandu, Nepal



Valido et al. *BMC Res Notes* (2018) 11:561
<https://doi.org/10.1186/s13104-018-3766-y>

BMC Research Notes

RESEARCH NOTE

Open Access



Acceptability of the dengue vaccination among parents in urban poor communities of Quezon City, Philippines before and after vaccine suspension

Ezra M. Valido^{1*}, Ida Safitri Laksanawati^{2,3} and Adi Utarini¹



RESEARCH ARTICLE

Feasibility of school-based health education intervention to improve the compliance to mass drug administration for lymphatic Filariasis in Lalitpur district, Nepal: A mixed methods among students, teachers and health program manager

Prativa Karki^{1*}, Yayi Suryo Prabandari¹, Ari Probandari^{2,3}, Megha Raj Banjara^{4*}

1 Department of Public Health, Universitas Gadjah Mada, Yogyakarta, Indonesia, **2** Department of Public Health, Faculty of Medicine, Universitas Sebelas Maret, Indonesia, **3** Center for Tropical Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia, **4** Central Department of Microbiology, Tribhuvan University, Kathmandu, Nepal



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JIPH-944: No. of Pages 8

ARTICLE IN PRESS

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Journal of Infection and Public Health

journal homepage: <http://www.elsevier.com/locate/jiph>



Barriers and gaps in utilization and coverage of mass drug administration program against soil-transmitted helminth infection in Bangladesh: An implementation research

Tilak C. Nath^{a,c,*}, Retna S. Padmawati^b, Elsa H. Murhandarwati^b

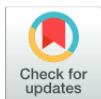


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1 Department of Public Health, Universitas Gadjah Mada, Yogyakarta, Indonesia, **2** Department of Public Health, Faculty of Medicine, Universitas Sebelas Maret, Indonesia, **3** Center for Tropical Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia, **4** Central Department of Microbiology, Tribhuvan University, Kathmandu, Nepal



What have we learned?

- **Implementation problem:** the compliance to mass drug administration (MDA) for lymphatic filariasis (LF) was low in Lalitpur district Nepal.
- **Research questions:** How feasible is the school based health education to assist an LF MDA intervention and increase its coverage and facilitate an impact on the knowledge and behavior change for LF MDA among children?
- **Implementation strategies:** school based health education
- **Implementation outcomes:** feasibility (perception, implementation barrier, supportive operational environment, knowledge, adherence)
- **Implication:** School based health education is applicable for LF MDA among children

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What have we learned?

- **Implementation problem:** no evaluation of the implementation of Xpert MTB/RIF assay in Nepal.
- **Research questions:** What are the barriers and enablers for effective implementation and future scale up.
- **Implementation outcomes:** Performance (error, positivity rate, % indeterminate test, number of tests per module, reliability), facilitators/challenges for implementation and scale up of Xpert MTB/RIF
- **Implication:** To optimize the future scale up, the challenges of Xpert implementation should be addressed.

RESEARCH NOTE

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What have we learned?

- **Implementation problem:** The initial dengue vaccine coverage was low with low parental consent. The dengue vaccine program was suspended in December 2017, due to a controversy
- **Research questions:** how the urban poor community accept the dengue vaccine before and after the vaccine program suspension?
- **Findings:** acceptability was less after the dengue vaccine program suspension, related to: mistrust to vaccination program, lack communication strategy
- **Implication:** tailor-fitted and targeted communication strategy should be developed to increase trust of community to Dengue vaccine.



JITMM2018

JOINT INTERNATIONAL TROPICAL MEDICINE MEETING 2018
12-14 December 2018, Bangkok, Thailand
Amari Watergate Bangkok



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Innovation, Translation, and **Impact** in Tropical Medicine



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Lessons Learnt and Way Forward

- While IR is perceived needed as a strategy to control/eliminate the tropical diseases, however, it still lacks particularly in Asia;
- Capacity building on IR in each country in Asia region should be promoted;
- Universitas Gadjah Mada would like to work together with all countries in Asia in promoting IR for supporting the tropical disease control/elimination.



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Acknowledgement

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