

Implementation Research Training Framework 2.0:

Making the whole
greater than the parts

A report for WHO-TDR

prepared by United Nations University International Institute for Global Health



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List of acronyms

UNU-IIGH: United Nations University International Institute for Global Health

IR: Implementation Research

MEL: Monitoring, Evaluation and Learning

MOOC: Massive Open Online Course

NGO: Non-governmental organisation

TDR: Special Programme for Research and Training in Tropical Diseases

WHO: World Health Organisation

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Executive Summary

Clinical innovations alone do not generate public health impact. Implementation research (IR) is a powerful tool for identifying the bottlenecks impeding scale up efforts and helping to turn scientifically tested solutions into routine practice.

To enhance the ability of investigators in low- and middle-income countries (LMICs) to design, conduct and interpret IR, several actors, such as the Special Programme for Research and Training in Tropical Diseases (TDR), have sought to strengthen researchers' capacity to design and undertake IR.

This report outlines the development of a new framework for IR training in LMICs to inspire thinking and discussion on how training approaches can best serve learners' needs. We drew on lessons from the academic and grey literature and insights gathered through expert interviews and discussions in developing the framework.

Our study considered three modalities of IR training: 1) IR courses, workshops, seminars delivered as part of academic curricula, 2) project-embedded approaches where the goal is to train a team to conduct IR to support an unfolding health intervention and 3) short face-to-face workshops and online short courses for health professionals.

The resulting framework demonstrates how IR training efforts can be substantively improved by realigning and forming stronger links between existing resources rather than through a fundamental shift in current strategies. At the same time, it invites us to rethink some of the assumptions behind existing approaches.

Framework 2.0 for IR training

The framework is organised around seven challenges and corresponding opportunities for improving existing training practices. Four of these barriers concern pedagogical approaches to training, and three relate to broader institutional barriers to integrating IR within organisations.

Pedagogical considerations

1. Develop tools and resources that fit the needs and circumstances of diverse groups of learners

IR learners differ substantially in terms of their epistemic backgrounds, interests, and experience in health research. They also participate in training at different points in the careers and professional trajectories. IR teaching and training must accommodate and take advantage of this diversity. It is essential because IR relies on multidisciplinary collaboration.

Re-organising existing curricula and materials to support more personalised pathways to learning, clarifying the audience for different courses are proposed solutions to address this issue.

2. Bring consistency to the teaching of IR concepts, methods, and skills

Different curricula prioritise different concepts, frameworks, and skills. More attention is typically given to cultivating scientific inquiry capacity rather than skills needed for stakeholder engagement, team communication and adopting IR findings.

Standardising core competencies in ways that acknowledge the diversity of IR learners and the different roles individuals assume when working as part of an IR team, investing in 'softer' aspects of IR

such as those needed to communicate and apply research findings, are some potential options for addressing this gap in current practice.

3. Identify opportunities to combine individual training and team-based learning

The majority of IR training modalities prioritise individual-level learning. There are usually few opportunities for IR trainees to learn how to function as part of a research team, which is central to how IR works in practice.

Organisations that prioritise individual-level learning can explore how best to incorporate team-based learning by taking advantage of existing arrangements and investments. For example, combining a small research grant with current training programmes can provide teams with an opportunity to carry out an IR project in combination with a didactic training programme.

4. Create spaces for learning-by-doing and reflection

Many trainees do not have the opportunity to practise what they learn. Learning-by-doing is essential for deepening one's understanding and discovering how to navigate complex situations.

Although funding for supporting learning-by-doing is essential (point 3), it is also critical that these arrangements also include reflection and professional support opportunities. Different types of mentorships, peer-to-peer support, individual and group reflection exercises can further this process.

Institutional considerations

5. Raise awareness and buy-in for IR

IR has yet to become widely adopted in many institutions operating in LMICs. As a result, few dedicated IR positions are generally available. In cases where IR capacity exists, IR projects are not usually readily supported at the institutional level. Higher-level managers and decision-makers are generally unaware of what IR can contribute and how it may complement other research approaches.

There is a significant gap in our understanding of individuals' profiles, needs, and concerns with decision-making power over research agendas and budgets. As a result, we know very little about the practices and strategies that would have the greatest success in convincing decision-makers of the value of IR without creating unrealistic expectations about what it can and cannot achieve.

6. Invest in organisational IR capacity building and take advantage of existing Monitoring, Evaluation, Learning systems

Existing IR training modalities are designed with individuals and project-based teams in mind. If IR is to become a desirable proposition for implementing organisations, current approaches to support capacity building at the organisational level must be reconfigured.

Efforts to increase the uptake of IR within organisations are likely to be more successful if they provide guidance on how IR can benefit from and supplement existing systems and capacities, such as those supporting routine monitoring, evaluation and learning frameworks.

7. Connect regional resources and foster communities of practice

Our findings indicate that available resources for IR and IR training are disconnected. For example, many organisations requiring IR support are unaware of the local institutions with IR expertise.

The character of these disconnects will differ across different regions. Institutional gaps could be bridged through regional and national hubs for IR mandated to provide leadership and connect resources and communities of practice.

Introduction

Health professionals have an ever-growing suite of successful solutions at their disposal to save lives and improve the quality of life of the communities they serve. However, many of these solutions, be it policies, pharmaceuticals, vaccines or diagnostic technologies, fail to have the expected real-world impact when introduced at scale. Implementation research seeks to address the disconnect between a proven solution and its on-the-ground delivery by providing the evidence and insights needed to adapt life-saving interventions to the demands and characteristics of diverse health systems and socio-cultural settings.¹

Implementation challenges are often most notable in low- and middle-income countries (LMICs), where decision-makers, healthcare professionals, and health systems lack the skills and resources to formulate context-appropriate implementation strategies. Building capacity locally to identify the relevant bottlenecks and adapt strategies to overcome them is critical in making life-saving and life-changing solutions work in LMICs. The principle that researchers and practitioners working in LMICs are in the best position to produce locally generated evidence to ensure the optimal implementation of interventions that remain relevant and achieve sustainability guides the training approach of the Special Programme for Research and Training in Tropical Diseases (TDR).²

TDR has created a suite of training tools for learners in LMICs, including its flagship massive open online course (MOOC), an open-access implementation research (IR) toolkit, a course on IR principles, a guide for publishing IR results, and a module on IR ethics. The IR materials developed by TDR remain some of the only freely accessible IR training material for learners in LMICs.

This report outlines a framework for 'Version 2.0 for IR training'. The framework draws on empirical evidence, expert opinions and discussions held with a range of experts in the IR training space. We have outlined a set of principles and priorities to inform TDR's strategies on its next round of investments on capacity strengthening in IR. We believe the framework can also be useful for various stakeholders beyond TDR, including health programme funders and administrators, researchers and educators.

The framework represents a maturing of strategies developed over the past 20 years to guide efforts to build IR capacity in LMICs. Many approaches aimed at capacity strengthening have evolved organically due to a growing realisation of the IR benefits. However, based on our expert interview findings, it appears that IR educators rarely have the opportunity to reflect on what works and does not and for whom. This report is an initial effort to address this gap.

The framework highlights critical pedagogical and institutional challenges encountered by IR training stakeholders and presents opportunities to overcome these challenges. Our exploration of pedagogical issues reveals gaps in IR training related to the content taught and how training is delivered. In our discussion of institutional issues, we explore some weaknesses in policies and

¹ IR draws heavily on theories and methods from the literature on the diffusion of innovations, knowledge utilisation and technology science. For more on the subject see Bauer et al., 2015; Bauer & Kirchner, 2020; Dearing & Kee, 2012.

² Co-sponsored by UNICEF, the United Nations Development Program, the World Bank and the World Health Organisation.

practices related to strengthening IR capacity, such as a general lack of awareness around IR. Underlining the framework is our interest in making IR training work for diverse learners at different stages in their careers. Each element of the framework seeks to relate the empirical findings it draws on to learner needs, profiles, and motivations while considering the constraints present in many LMICs.

TDR began to implement many of the recommendations that emerged from the previous stages of this study. The recommendations included developing geographically specific IR case examples, creating a mini-MOOC targeting programme implementors and piloting a remote mentorship programme for novice IR investigators. We hope that this report will stimulate discussions amongst IR stakeholders about designing future training programmes and spur collaborative efforts to tackle the more challenging issues that have emerged from this work.

The framework

Defining types of IR training & methodology

Some organisations prefer to link IR training to the implementation of health interventions in the field. Other organisations support IR capacity development by incorporating IR content into the curricula of existing educational programmes, dedicated online courses and face-to-face workshops. Taken together, these efforts, and many others, have created a rich and ever-growing repository of resources and experience.

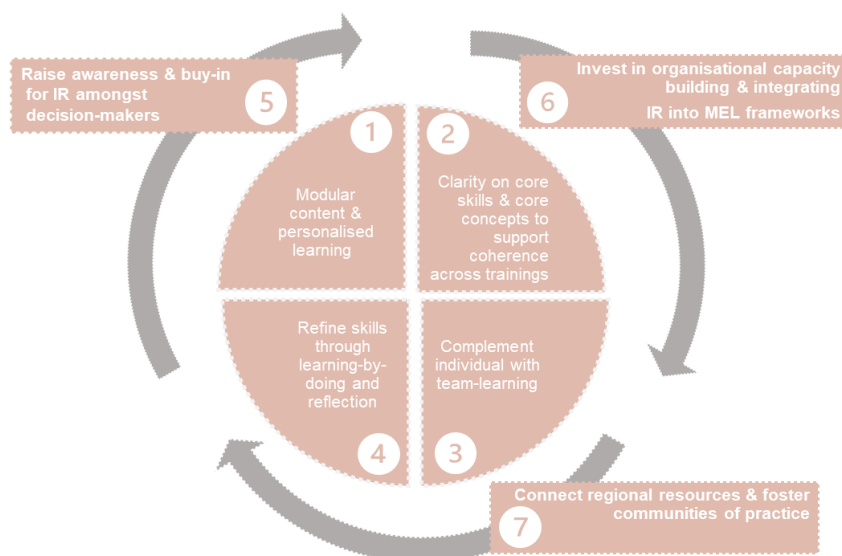
When using the term 'IR training', we refer primarily to the following three modalities:

1. Academic courses delivered as a component of postgraduate educational curricula, e.g., Master of Public Health (MPH).
2. Project-embedded approaches seeking to improve the outcomes of a specific health initiative and involving training a local team in IR.
3. Online courses, such as the IR MOOC or face-to-face professional workshops executed in a span of a few days to several weeks.³

The findings, insights, and recommendations that underlie the proposed framework draw on:

- a review of the relevant academic and grey literature that mapped ongoing IR training efforts
- eleven semi-structured, individual interviews with experts involved in the design and delivery of IR training in LMICs.

Four online workshops were held to examine the current state and future of IR training for investigators in LMICs. The workshops took place in September 2020 and brought together 66 IR researchers, educators and learners from 18 countries.



³ These three modalities are not exhaustive of the full arrangements used for building IR capacity. However, according to our review they are the most prevalent modalities engaged in by learners in LMICs. Additional modalities include mentorship schemes, field research training for graduate students, and webinars. Davis and D’Lima’s (2020) review of the academic literature on IR capacity building, is, in general, inline with our typology. Their study, which covers primarily practices in developed countries, reveals that a common modality, which we did not explore in-depth, concerns blended online and offline approaches to capacity strengthening. We believe that this blended approach can work well in the context of modular teaching designs (see p.10).

Conceptual building blocks

The following framework is organised around two key areas. The first relates to pedagogical challenges and opportunities for improving content and how to increase the relevance, appeal and practicality of IR teaching curricula for different groups of professionals. The second area concerns broader institutional challenges and opportunities, which are generally less straightforward to address than the pedagogical issues. Amongst the reported higher-level barriers to strengthening IR capacity are the low demand for IR skills in many organisations or, where these skills exist, the lack of resources to carry out IR. Figure 1 illustrates these two key areas and the challenges and opportunities that our research identified. The following two sections explore the areas and challenges in detail.

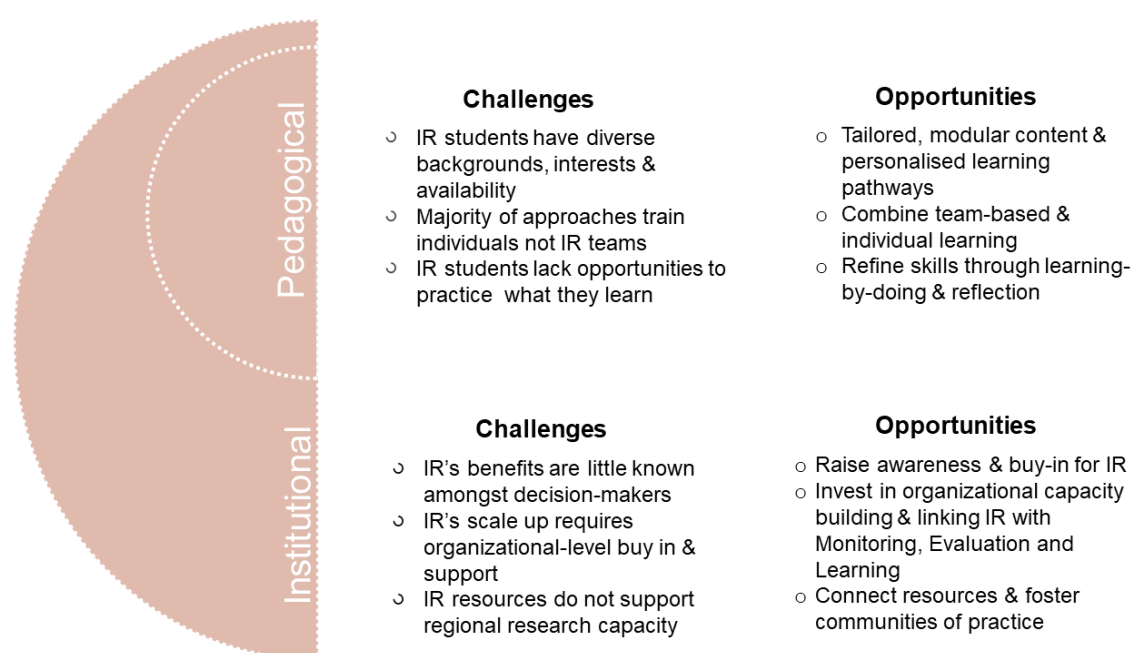


Figure 1: IR Framework 2.0 building blocks

Although it is useful to keep these pedagogical and institutional considerations distinct, it is also essential to recognise that they overlap and are interlinked. The networks of knowledge and experience IR learners can draw on, the opportunities they have to practise their newly gained knowledge, their ability to access many of the available resources are all influenced by the institutions they are a part of and interact with. Therefore, a common thread across the framework is IR learners: their diverse characteristics, profiles and needs, and the desire to create opportunities to apply and refine their training. However, essential to remember is that IR learners differ substantively in their professional experience, epistemic grounding, and professional and personal circumstances. Amongst the learners engaged in IR courses are health professionals with a clinical background and very little exposure to social science methods and concepts. Others may be seasoned health researchers who wish to add IR to their repertoire of skills.

A significant insight from the expert workshops on IR training was the importance of revising and refining the Theory of Change (ToC) that underlies approaches to IR training. A ToC is a way to

formalise and examine a programme's logic by showing how its activities can support the desired outcomes (Funnell & Rogers, 2011). Although we did not adopt a formal ToC approach in the analysis, the concept has allowed us to surface some frequently unacknowledged assumptions that underlie many of the examined IR training modalities. One such belief is that once a critical mass of individuals familiar with IR is reached, IR will be applied more widely and consistently, leading to improved health outcomes.

The proposed framework also relies on several empirically grounded, yet mostly untested, ideas about how the IR community can begin to address the issues presented in this report. The ideas, highlighted in each section under the heading 'Opportunities', emerged from extensive discussions amongst the team.

A central assumption underlying our ideas is that realigning and linking the high-quality materials currently available will significantly improve existing IR training approaches and modalities rather than through a fundamental shift in strategies. This idea of connecting the dots, in investing in approaches that help make the sum greater than its parts, can be applied at different levels. It can inform investments on IR training by a single organisation, such as TDR, inspire action within specific countries or regions and provide the basis for coordinating donors' efforts regionally and globally. The virtual workshops' discussions deepened the team's understanding of some of the trade-offs and dilemmas involved when making choices. Throughout the report, we emphasise the need for flexibility and adapt possible solutions to the needs of regions, countries, and organisations.

Pedagogical challenges & opportunities

Develop tools and resources that fit the needs and circumstances of diverse groups of learners

IR learners differ widely in terms of interests, epistemic background, experience in health research and the social sciences, and what they wish to get out of the training. For example:

IR students have diverse backgrounds, interests & availability

1

Modular content & personalised learning

- University students and early career professionals unfamiliar with the challenges associated with delivering efficacious health interventions in the 'real world' may not readily appreciate the difference IR can make in alleviating such difficulties. This group can make a real difference in pushing IR forward. Still, they require early exposure to the realities of the challenges health systems face and the pros and cons of different research approaches and the practical challenges of carrying out IR.
- Many training programmes do not offer experiential learning opportunities that expose inexperienced learners to the on-the-ground realities of health interventions and health systems.
- Learners with little or no background in social science research, especially qualitative research, may find it challenging to understand the concepts and methods underpinning IR and inhibit their ability to determine which approach best answers the questions they want to ask.
- Additionally, the findings from the expert interviews and discussions from the online workshop suggest that many training programmes attempt to cover too much material in too short of a time. These training programmes make it difficult for less experienced participants to assimilate the key concepts of IR properly and the subtle detail needed to understand IR's complex intricacies.
- With some distinct exceptions, many training approaches do not support the different roles that members of an IR team may assume. The typical composition of a successful IR team is IR researchers, programme implementors and decision-makers. Implementors, for example, are essential in bringing on-the-ground knowledge of the health system landscape and connections to other stakeholders involved in the intervention. Implementors and decision-makers may not

need to understand every aspect of data collection and analysis. Still, they should share a core understanding of IR to help guide the research process and obtain actionable insights.⁴

- Lastly, there is a large appetite for materials that feature a comprehensive array of examples to illustrate IR's value and explore different facets of its process. These can include case studies relevant to the needs and priorities of varied regions, including the prominence of certain diseases, and examples that showcase the methods and concepts applicable when IR is used to support policy change.

OPPORTUNITIES

1. BETTER FRAMING: Clarify the audience and explain the nature, purpose, strengths and limitations of IR.

- Specify the prior knowledge and skills required to follow a specific course and the learner the course/resource designers had in mind.
- Illustrate IR's strengths and limitations by comparing IR to other research traditions, such as health services research, and identify the types of questions IR is best suited to answer.

2. MODULARISING & PERSONALISING LEARNING: Re-organise content into smaller units and suggest how to combine as part of an individualised learning pathway.

- The IR MOOC modules and other face-to-face courses can be broken down into smaller units to allow learners to fit training into demanding schedules more easily. Completing specific modules can be made into a requirement for progressing on the pathway.
- Existing IR training resources can be supplemented by external, high-quality materials and courses, depending on the needs and interests of learners. For instance, a learning pathway for a clinician with no prior knowledge of IR but with a solid working knowledge of statistics may include external modules on the fundamentals of social science research, the specificities of IR and the process of developing empirical research questions, and a module on ethnographic methods in health systems and policy research. This approach will allow learners to chart their course for learning, building their knowledge and skills incrementally.
- Other modules that can enhance existing materials and the curricula could include:
 - A module on the application of IR findings. The module could cover the transformation of the findings into actionable, practical solutions that are

⁴ A recent article by Albers, Metz and Burke (2020) makes the case for the need for a new type of IR professional, the support implementation practitioner, to act as a facilitator between implementation researchers and users of implementation research and help translate evidence into practice. There is, therefore, scope for existing curricula to support established and emerging roles in the IR process to maximise its effectiveness.

communicated to decision-makers and implementors to improve existing strategies and policies.

- A module on the modification of proposed IR solutions based on the results of initial implementation.
- A module on the impact of gender and other social determinants of health on health programme implementation. UNU-IIGH is currently developing this nascent aspect of IR in collaboration with TDR.

3. EXPANDING THE REPERTOIRE: Include a variety of methods to deliver case studies in training programmes

- TDR is developing video case studies to showcase IR's values and illustrate different aspects of the research process to support learners in different regions. The resulting video case studies can be made available in a format that facilitates their incorporation into multiple curricula. To expedite case study development and feature the research of early-career professionals, Master's and PhD students can contribute to the effort by developing examples as part of their degree.

4. BETTER SUPPORT FOR ESTABLISHED AND EMERGENT ROLES: Create curricula that help cultivate the spectrum of skills and know-how needed for all stages of the IR cycle.

- To move the field forward, training programme developers need to refine our understanding of the different roles required to support IR by closely examining existing practices and curricula to acknowledge and support these various roles.

Bring coherence to the teaching of IR core concepts, methods and required skills

CHALLENGES

As a relatively young form of research, the core competencies to inform curricula and guide educators are solidifying. Our findings suggest that:

- On the whole, efforts to develop core competencies could benefit from more significant consideration of the varying epistemic, professional backgrounds and goals of IR learners.
- In practice, short professional courses and embedded approaches often do not have detailed content covering the later stages of the IR's lifecycle, such as the communication, dissemination and the application of IR findings. In general, softer skills, such as community engagement, stakeholder participation and team collaboration, receive less attention than more technical topics.
- There is inconsistency in the teaching of core concepts. The most widely-used framework, also adopted in TDR's MOOC, is the Implementation Outcomes Framework (Proctor et al., 2011). Several frameworks emphasise the evaluative aspects of IR; others seek to understand better the factors that influence implementation outcomes. Less attention is given to the process of selecting the correct framework or the art of translating research into practice. These gaps in many curricula indicate that the later stages of IR (i.e. those beyond data collection and analysis) are not often or adequately covered. Trainers and learners lack opportunities to reflect on these more conceptual aspects of IR and their implications for research design and the application of results. Equally, there is a dearth of examples and materials covering the use of IR in more complex settings, such as in fragile and conflict states.⁵



An important body of work has emerged around defining the core competencies for IR researchers. The most notable recent contribution on the subject from the perspective of this work is the study by Alonge et al. (2019) *Developing a framework of core competencies in implementation research for low/middle-income countries*. This present report explores the links with the Alonge et al. study in the section on 'Conclusions & Next Steps'.

⁵ These insights and the gaps in the competencies that they reveal echo the findings from a recent study on the way that IR has been applied in LMICS. According to Alonge et al (2019, p. 1). "Most IR studies have been conducted under conditions where the researchers have considerable influence over implementation and with extra resources, rather than in 'real world' conditions. IR researchers tend to focus on research questions that test a proof of concept, such as whether a new intervention is feasible or can improve implementation. They also tend to use traditional fixed research designs, yet the usual conditions for managing programmes demand continuous learning and change."

OPPORTUNITIES

1. **STANDARDISE** competencies for researchers, implementers, and policy-makers, building on existing work (Alonge et al., 2019). Clarify the core competencies needed to commission, design, conduct, and guide IR and use IR findings to bring cohesion to existing curricula and support the professionalisation of IR. The standardised competencies need to reflect IR's interdisciplinary and team-based nature, including the different roles stakeholders can assume as part of the research process.
2. **INVEST** in soft skills, including those supporting the communication, advocacy and implementation of IR findings. Impactful research involves negotiating complex dynamics and relationships within and outside the research team, in the communities where research occurs and amongst stakeholders with diverging agendas. A possible reason why such skills have received less attention in existing modalities is that a classroom setting does not easily foster these skills. Mentorship schemes, team-based work, and reflective learning-by-doing will be discussed in the following subsection, offering the possibility to address this. Training materials and workshops on communication and community engagement can also aid this process.⁶
3. **CLARIFY** core concepts. IR learners need to be familiar with the fundamental principles and concepts of IR. Although it is unreasonable to expect learners to be familiar with each conceptual framework that guides IR, their training should impart the knowledge that these frameworks exist and ensure that they are familiar with the core concepts of the framework(s) favoured within a curriculum. More importantly, IR learners need the skills to decide which framework to use and how to reasonably adapt it, given the specific challenge they want to address. These core concepts can also serve as the common language of team members with different epistemic backgrounds and roles (i.e., researchers, implementors, decision-makers).

⁶ Two areas of expertise that can provide insights on the types of skills and sensitivities that are useful to nurture to help IR learners develop these soft skills are participatory research and team science (Aarons et al., 2019; Chambers, 2008).

Identify opportunities to combine individual training and team-based learning

CHALLENGES

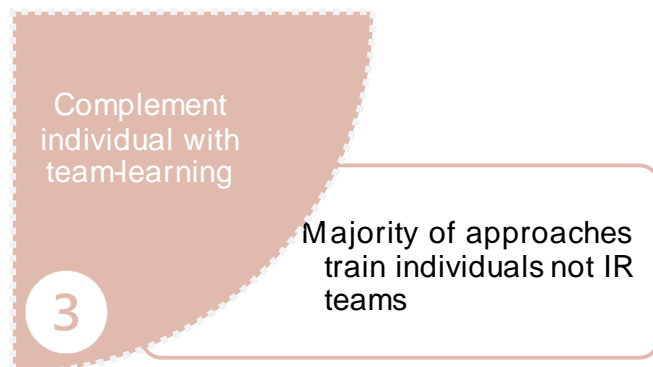
Except for approaches that embed IR in the context of existing health programmes, current teaching modalities prioritise individual-level learning. Some face-to-face short professional courses attempt to approximate working as part of a team to varying degrees of success. In our expert interviews, the organisers of these courses explained that they tried

to organise teams based on participants interests and profiles. However, this was not always possible. Online courses are perhaps the least successful in this regard. Although they often mention the importance of working as part of a team, their learners do not generally have the opportunity to experience what this means in practical terms.

Like health research traditions that seek to understand the lived experience of stakeholders and research participants, IR is fundamentally collaborative. Newly minted researchers come to realise this during the first days of fieldwork when their meticulously crafted research plans fall apart, and access to sites and critical stakeholders is proven too complicated.

The interviews and expert insights from the workshop indicated that:

- Both individual and team learning are essential. IR can be compromised when teams are assembled hastily without being given a chance to form personal and professional relationships, develop a common vocabulary of concepts and tools for IR and check understandings and assumptions about the problem they are addressing.
- 'Collaboration' and 'team building' involve a host of different skills, many of which are not amenable to teaching in a classroom or workshop setting (either virtual or physical). For example, in the context of an IR study, hard-won life skills include:
 - identifying and recruiting the people with the necessary experience and expertise
 - troubleshooting the tensions arising from unavoidable miscommunication and the difficulties of the tasks at hand, and
 - navigating tricky cultural and professional dynamics whilst helping team members to remain focused and motivated.



OPPORTUNITIES

Potential solutions to strengthen team building and team collaboration skills in IR training vary depending on the starting point. Organisations that favour an embedded approach where team-based learning and team building are prioritised from the beginning may need to provide opportunities for individual learning and space for individual and collective reflection to maximise learning. Organisations whose approach revolves around individual learning must incorporate downstream training on team building and working as a group. Capacity building at an organisational level affords other opportunities for blending these forms of learning. Below are some ideas that can inform thinking on this aspect of IR training:

1. **SUPPORT** learners to develop a shared language of IR terms and concepts. Regardless of whether the starting point for a training modality is the individual, the team or the organisation, participants will benefit more from the training if they share an understanding of what IR is, is not, and of its most fundamental concepts and tools. As mentioned previously, a significant issue with most IR training modalities is that learners have to absorb too much information in too short a time. Participants organised in teams in a three- or five-day face-to-face workshop have to become quickly acquainted with the fundamentals of IR, understand what team members can bring to the research process and then develop a research project for an important issue.
2. **IDENTIFY** and sequence opportunities for individual and joint learning. How can approaches that place the team at its core support individual learning? How can organisations that have invested in resources geared towards the individual support team-based learning? Potential team members could be required to complete portions of the IR training package before the planned joint workshops. Here too, modularisation can be useful as workshop organisers can suggest appropriate training modules depending on the background and role of the team members. Traditional didactic face-to-face workshops could adopt a similar approach. Trainers could receive additional resources to place participants in teams and prepare materials to set the parameters for the implementation challenge the learners will address together during the training session. For online courses, team-building skills can be developed by preparing joint research protocols, developing data collection tools, and considering results translation.

Create spaces for learning-by-doing and reflection

CHALLENGES

A major finding that emerged consistently throughout the study, including in the workshop discussions, was the need to pair learning with practise. Prior training participants who were interviewed and took part in virtual workshops emphasised the importance of having opportunities to practise their skills. On the whole, our research indicates that:

IR students lack opportunities to practice what they learn

Refine skills through learning-by-doing and reflection

4

- The expectation that learners will have the opportunity to practise their IR skills through conducting an IR project is a gap in the theory of change of most organisations that invest in IR capacity building in LMICs. A lack of dedicated funding to carry out a project linked to the training and the low demand for IR practitioners within organisations were the two main reasons that precluded applying IR skills post-training.
- For learners who did have the chance to use the newly acquired IR skills, quality assurance, support and advice were essential yet lacking. Knowing which IR methods are appropriate for different research questions while navigating individuals' varying agendas and priorities demands a level of understanding and know-how that novice investigators often do not possess.
- Support and advice are also critical in helping researchers, especially early career researchers, understand and navigate issues of power and privilege in different contexts.
- Follow-up for research projects undertaken by IR learners is also essential in ensuring that the research yields useful, actionable insights without jeopardising relationships and setting negative precedents for future research.
- Although funding and follow-up are essential, they are not enough to maximise the benefits of practise. The literature on learning through practise and experiential learning highlight the importance of reflection. There are many opportunities to incorporate structured reflection in expert or peer mentorship arrangements outlined in the Opportunities subsection below.

OPPORTUNITIES

- 1. CREATE** spaces for individual and collective reflection. Experiential approaches to learning, such as the one favoured by BRAC (Building Resources Across Communities) University's MPH, complement coursework with the relevant field exposure and opportunities to consolidate and reflect on this learning. Many professionals who hurriedly move from one project to the next know that practise alone does not support meaningful learning. Students' learning is enhanced by promoting critical consideration of what they learnt, which of their initial expectations and assumptions were incorrect and what further questions have emerged from their experience.
- 2. CONNECT** the dots between training and funding. Although some organisations provide funding for small scale IR studies, these schemes are generally disconnected from IR training. Donors investing in IR capacity building can explore how to best join training and funding schemes within and across their institutions. For example, a limited number of top graduates from TDR's MOOC could receive a small grant to carry out the research proposal submitted as part of their requirements for the course.
- 3. EXPLORE** different forms of support, including peer and expert mentorship. Experts can mentor the best students and teams from workshops and courses. PhD students at the later stages of their degree can also support less experienced IR researchers. In the context of face-to-face and online workshops, participant researchers with experience in the social sciences can be placed in teams with individuals with clinical, policy and on-the-ground expertise.
- 4. STRENGTHEN** links between learners and local institutions by providing information on which institutions and experts in different regions carry out IR and IR training or other health policy and health systems research. Creating or connecting to an existing mailing list or newsletter on health research could also be of value.

Figure 2 brings together the four pedagogical challenges and opportunities explored in this chapter.

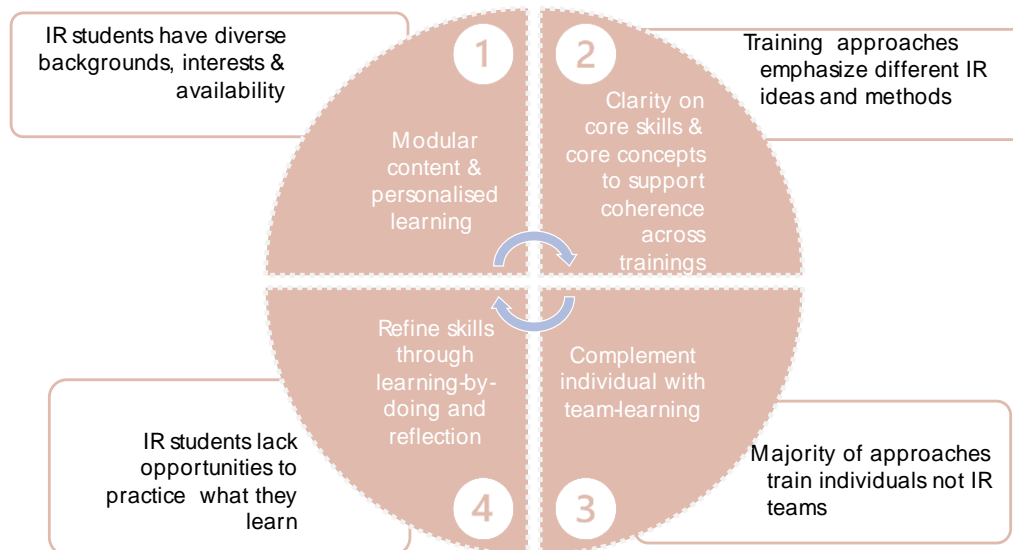


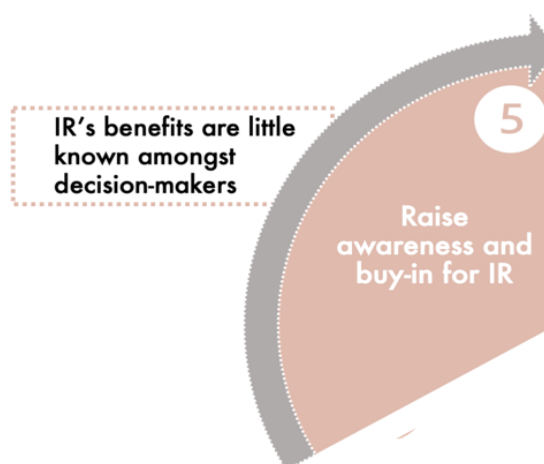
Figure 2: Pedagogical challenges and opportunities

Institutional challenges & opportunities

Raise awareness and buy-in for IR

CHALLENGES

IR has gained momentum within research communities. However, its uptake within implementing agencies and donor organisations in LMICs has lagged. The few dedicated IR jobs available and the lack of earmarked funding for IR in research budgets indicate the limited uptake by donor organisations and implementing agencies. Expert interviewees and workshop participants regarded the need to raise awareness on the benefits of IR and to convince key stakeholders on its value as necessary requirements to overcoming these barriers and scale up the use of IR.



Study participants thought that the main reason for the slow uptake of IR is that higher-level managers and decision-makers lack conceptual understanding of IR or not aware of how IR can complement other research approaches, including Monitoring, Evaluation and Learning (MEL) approaches. More broadly, workshop discussions revealed how little decision-makers are understood and how misleading a catch-all term such as 'decision-makers' can be. This finding echoes the difficulties IR learners often have when it comes to situating IR in the spectrum of available research strategies and reflects the challenges IR practitioners have in convincing their line managers or administrators to invest in IR.

Workshop discussions further nuanced the expert interview findings and pushed for new solutions regarding the best way to further support employing IR. Workshop participants agreed that there are considerable opportunities to improve the interface between research, capacity building, policy and practice.

OPPORTUNITIES

IR's scale up can be served best by awareness efforts which:

1. **UNDERSTAND** the profile, needs and concerns of the people with decision-making power over research (and potentially MEL) budgets and clarify how they can support IR, IR training and IR practitioners.
2. **IDENTIFY** creative, context-specific solutions on how to engage and ensure buy-in from high-level stakeholders based on this improved understanding. A workshop participant observed that one successful strategy that they adopted is to prepare talking points for professionals who are convinced about the value of IR but who feel less confident in communicating it to their line managers.

Higher-level management may be apprehensive to invest in a new set of research tools and processes, such as IR, especially if they have already expended resources in building capacity in other types of research, such as those used for routine MEL. Clearly describing how IR can work with and leverage existing systems for routine reporting and learning may help alleviate such concerns and, in the process, highlight IR's strengths. Indicative research budgets for IR projects of different scales can also be valuable tools.

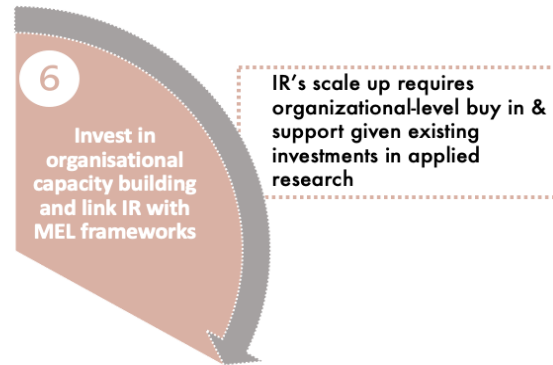
3. **COMPREHEND** the needs, concerns and agendas of institutional gatekeepers that IR practitioners need to engage to carry out IR and successfully apply research findings. Aspects of this understanding can be cultivated in IR training curricula by teaching participants how to map the policy-making processes and the interests and agendas of the key actors behind the interventions they seek to improve. Expanding the critical mass of IR researchers can facilitate this process.
4. **COMMUNICATE** the potential benefits of IR without creating unrealistic expectations about what IR can and cannot achieve.

Invest in organisational capacity building and linking IR with MEL frameworks

CHALLENGES

Making IR a realistic and desirable proposition for implementing organisations involves capacity building at the organisational level and practical suggestions on how IR can complement existing MEL processes.

Individual-centred learning supplemented with capacity-building at the organisational level resonated with the interviewed IR training experts and in discussions during the virtual workshops.



Capacity building at the level of organisations addresses a significant weakness in the ToC of many IR training modalities; freshly trained IR researchers will be able to secure buy-in for IR in their workplace. This weakness is often challenging as IR also requires support from higher-level management and a non-trivial redirection of resources, such as staff time developing proposals and constructing an IR team.

Our findings indicate that supporting training within organisations opens up several possibilities for facilitating the uptake of IR by fostering nascent IR teams and groups of individuals who can support each other to identify and cultivate opportunities to use IR within existing programmes and studies. Equally important, organisational-level training may also increase the demand for IR researchers.

Our analysis indicates that the uptake of IR within organisations can be strengthened by demonstrating how IR can leverage existing MEL systems and processes. Most implementing organisations use tools and processes for routine and accountability reporting; this is a standard donor requirement. Logframe matrices, quarterly reports outlining progress against set goals, outcomes and activities, needs assessments, baseline surveys, and impact studies are common tools used for this purpose. These examples indicate MEL approaches for supporting summative evaluations, which involve the "systematic process of collecting data on the impacts, outputs, products, or outcomes hypothesised in a study. Resulting data provide information on the degree of success, effectiveness, or goal achievement of an implementation program." (Stetler et al., 2006: S1)

Expert interviewees and workshop participants agreed that efforts to increase the uptake of IR have a greater chance of success if they also involve practical solutions on how this new approach can work alongside existing systems and capacities. Information flows set up for routine monitoring or insights generated from an early needs' assessment can help shape the questions and focus for IR. Insights from IR can suggest improvements for the next cycle of implementation and help refine ToC and their associated indicators and logframes.

OPPORTUNITIES

Making IR a viable and desirable research approach for organisations involves:

- 1. ADAPTING** existing IR resources for team learning within organisations. Several organisations host face-to-face workshops for staff from the same organisation interested in learning more about IR. Such experiences can form the basis of a more systematic approach to organisational capacity building. For example, IR trainers may require participants to complete one or more online modules individually before coming together as a team. Trainers could also adapt the content and focus of the workshops to address specific organisational needs and priorities. For example, trainers may help the staff to prepare to use IR for an existing programme. In this case, training can be delivered in phases. For example, one workshop may focus on key aspects of IR and how it can leverage MEL systems. Another workshop series may assist staff in developing an IR proposal for funding.
- 2. IDENTIFYING** opportunities for offering training for organisations. Identifying organisations that can benefit from IR capacity building is a non-trivial task. Agencies like TDR, with their extensive regional networks of partners, are well-positioned to identify and reach out to organisations where demand for IR training exists. These could be implementing agencies that can readily integrate IR into their operations with minimal support or critical organisations that may require longer-term support to develop research capacity. A short orientation with senior managers followed by training of mid-level implementers is an example of a strategy that could raise awareness and develop IR skills within an organisation.
- 3. DEVELOPING** conceptual and methodological frameworks that combine IR with MEL. Most MEL frameworks are designed to capture the intermediate and final products, outputs, and outcomes of an intervention. Alternatively, IR focuses on better understanding the critical problems that prevent an intervention from being delivered as planned, more akin to formative or process evaluation. There is considerable scope for innovation by synchronising IR and MEL frameworks to combine insights and lessons from summative and formative evaluations of health interventions.
- 4. PROPOSING** practical solutions for leveraging MEL capacity and resources to catalyse the uptake of IR within organisations. Accompanying the development of a conceptual and methodological framework to couple MEL and IR should be practical examples; scenarios on how organisations can gradually begin to link MEL resources to establish IR projects for new and ongoing interventions.
- 5. EMBEDDING** IR into public health programmes. Funders and governments can require IR to be an integral component of public health programmes, alongside regular MEL frameworks to strengthen health outcomes and support learning across the sector that may provide the evidence for system-level changes.

Connect regional resources & foster communities of practice

CHALLENGES

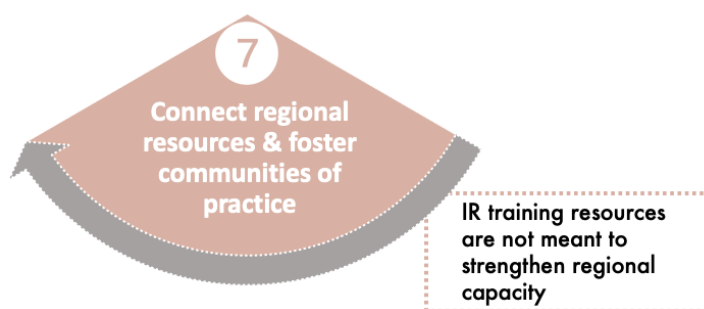
Despite the progress made in promoting IR and IR training, our literature review, expert interviews and workshop discussions indicate that available

resources, including human resources, remain largely disconnected. Many aspects of IR, including the nature of the bottlenecks to be addressed, are context-dependent. Finding creative ways to make the most out of existing investments is critical for IR to become sustainable and capacity strengthened at the individual, organisational and regional levels.

Our analysis indicates that three significant disconnects hinder efforts to scale up the use of IR and that prevent IR training resources from becoming sustainable in the long run:

- **The disconnect between organisations requiring IR support and institutions with IR expertise.** An expert interviewee working for an organisation that delivers IR training to strengthen on-the-ground interventions remarked that until recently, they were unaware of the IR expertise of a TDR regional partner located in the country where they worked. A workshop participant with long experience in IR remarked that many implementing agencies, including government agencies, often turn to international research outfits for support in IR as they often erroneously assume that such capacity does not exist in their country or region.
- **The lack of opportunities for individuals taking part in online and offline IR training to remain connected.** Participants who complete online training, workshops and other IR programmes lack a formal mechanism to seek advice and peer support.
- **The disconnect between specific capacity-building efforts and the strengthening of regional research capacity as a whole.** Whilst the two previous disconnects are practical, this gap is more conceptual and relates to the fundamental assumptions which underlie IR capacity-building efforts. The issue here is the extent to which various capacity-building efforts contribute to building the research capacity of a region as a whole and not solely in IR. Addressing this challenge would require greater coordination amongst donors. Hubs for IR training and research, such as TDR's regional training centres, can play an essential role in this effort.

When discussing how best to connect resources, several workshop participants remarked that some regions are likely to have few dedicated IR resources available compared to others. In low-resource settings, adding to the pool of IR materials and human capacity or adapting global level resources to the needs and requirements of countries in that area is as important as connecting them.



OPPORTUNITIES

The challenges above can be addressed by:

1. **IDENTIFYING** regional and national hubs for IR that can provide leadership and help coordinate efforts to scale up IR and connect resources across countries and regions. These can include dedicated IR centres and centres with broader expertise, such as health policy and systems research. These centres can help identify partners, connect organisations interested in conducting IR with local researchers, and collect and update resources needed to maintain regional and global communities of practice.
2. **DEVELOPING** dedicated regional webpages by building on resources such as TDR Global, with listings of organisations and individuals with IR expertise. These webpages, maintained by the regional or national IR hubs, can provide information on the types of IR training and funding available for different countries within the region, links to relevant professional associations, meetups and communities of practice. These webpages can be advertised regularly in existing global and regional health research mailing lists and newsletters to sensitise the overarching research community to the pool of IR resources available.
3. **CREATING** a dedicated mailing list for IR training and research to better connect IR practitioners. Additionally, IR learners could be encouraged to sign up to pertinent research mailing lists that welcome novice IR researchers' queries. These mailing lists can be a channel for drawing attention to training and funding opportunities.

Figure 3 sets out the three sets of institutional-level challenges and opportunities explored in this chapter.

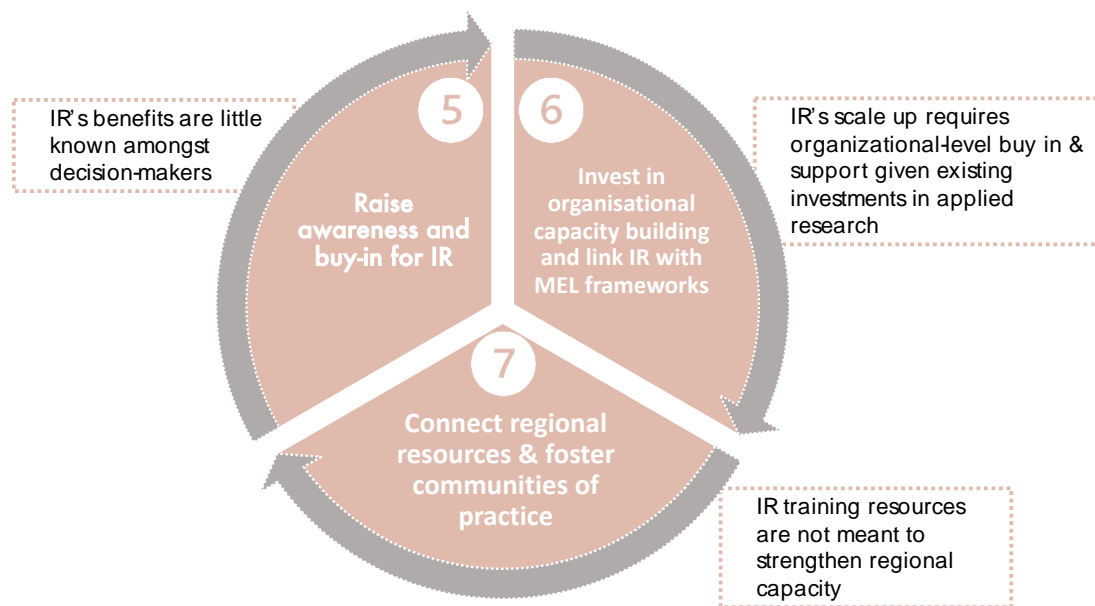


Figure 3: Institutional challenges and opportunities

Conclusions & next steps

We identified four gaps and corresponding opportunities to improve existing offerings on IR capacity building in LMICs. We also presented three general issues impeding scaling up IR in LMICs. Together these challenges and opportunities present points of action to improve IR training strategies for learners in LMICs. Figure 4 summarises the opportunities uncovered through our study.

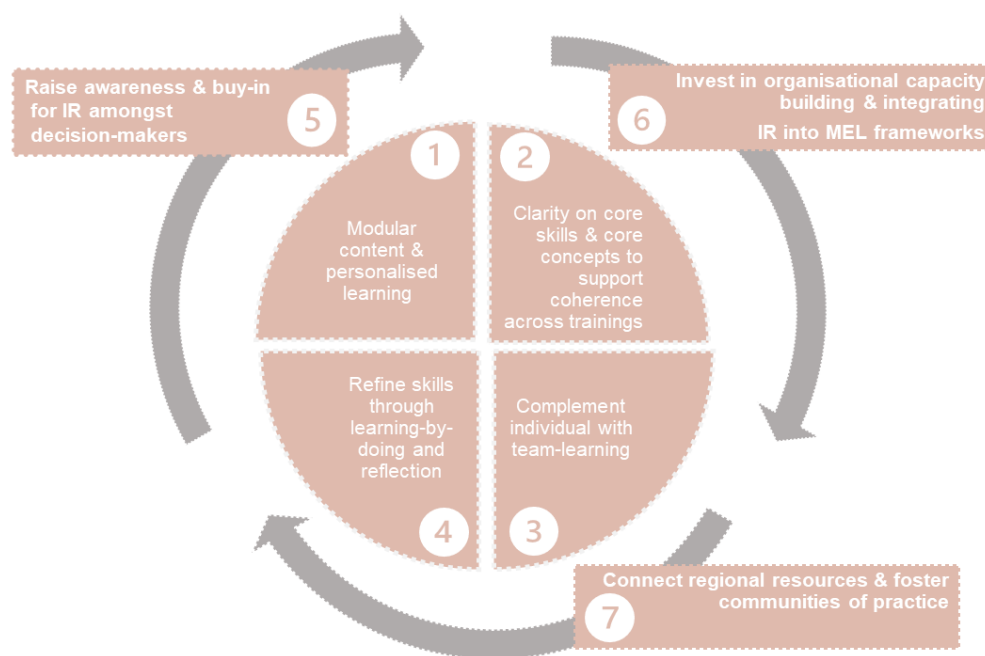


Figure 4: Pedagogical & institutional opportunities for IR training

It is important to reiterate that the nature of the gaps and the opportunities outlined in Figure 4 will vary for different regions, countries and organisations. The order to address the gaps and opportunities to best support capacity building and high-quality IR projects is also context-dependent. In this sense, the framework serves as a guideline to support thinking, discussion, planning and action rather than a strategy applicable to all.

Figure 5 illustrates the contours of a plan of action developed using the proposed framework for a specific organisation, in this case, TDR. As the figure shows, this would involve placing the IR team at the heart of the organisation's strategy whilst supporting individual learning pathways for different team members. In this scenario, TDR could leverage existing investments and resources, such as the knowledge and know-how of its regional training centres and universities taking part in its postgraduate training scheme. The TDR small grants award scheme would support the learning-by-doing aspects of the training, involving mentorship opportunities and spaces for reflection.

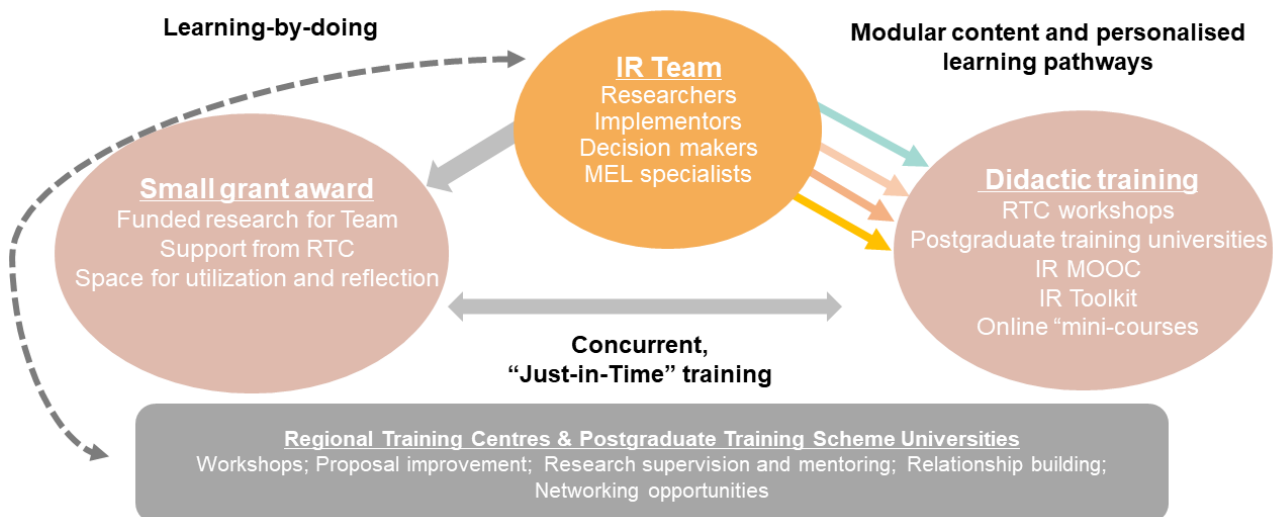


Figure 5: Operationalising the framework

The current approaches of key providers of IR training and our evolving understanding of how best to translate them into practice inform our conceptualisation of the issues presented in this report. Our evolving understanding considers the varied profiles and circumstances of IR learners and contributes to building institutions and regions' capacity.

The insights presented in this document complement existing contributions on IR training, including studies on core competencies, by highlighting the disconnects between the competencies that IR researchers should have and what they taught. For example, although Alonge et al. (2019) recognise the importance of communicating IR findings and stakeholder engagement, these topics rarely receive the attention they deserve in existing curricula. Equally importantly, these competencies need to be thought of from the teams perspective rather than individuals, considering the roles that different people play throughout the research process and team members' varied epistemic profiles.

We attempted to highlight opportunities for quick gains that build on existing practices and resources. Some of the more challenging issues necessitate revisiting key assumptions that underlie current approaches given emerging evidence. This rethinking can be done at the level of training institutions by having them refine their ToC. It can also promote better coordination between the organisations that are investing in building IR capacity in LMICs.

There is power in connecting the dots and revisiting key assumptions, not just at the level of a single institution but also between different donors working towards the same goal. In the same way that individual organisations can increase their impact by investing in areas that allow them to make the best use of existing resources, the donor community can work towards better coordination to make the best out of existing funding, experience and expertise.

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