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Thinking differently: lessons learned by international public health specialists while supporting the Integrated Disease Surveillance and Response system in Pakistan

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ABSTRACT

Internationally supported activities to build public health capacity and improve compliance with International Health Regulations (2005) so that countries are better able to '*prevent, protect against, control and provide a public health response to the international spread of disease*' have had a positive impact in recent years. However, despite the proliferation of technical guidance, tools and roadmaps, as the recent COVID-19 emergency demonstrates, a significant challenge still remains. The unique and complex environment within countries is increasingly being recognised as a factor which needs greater consideration if system strengthening activities are to be successful.

This paper reflects on the learning from and charts out the journey of the authors' in their efforts to support the Pakistan government to improve compliance with International Health Regulations, specifically through strengthening its Integrated Disease Surveillance and Response (IDSR) system.

To effect change, public health technical specialists bring their grounded technical and scientific expertise along with their softer public health skills of, among other things, relationship building and multisector working. In the authors' experience, the importance of taking time throughout to build and maintain strong trusted relationships and peer-to-peer support has been the key to the successes experienced. The nature of this relationship and ongoing reflexive dialogue enabled the co-construction of the reality of the background environment, which, in turn, led to more realistic visioning of the desired system for IDSR, and therefore more appropriate bespoke technical support to be given, leading to the design and initial implementation of a country owned system developed with sustainability in mind.

Summary box

- A certain type of enhanced relationship building was an essential prerequisite on which the international partner and government colleagues could co-construct a shared reality and system vision, enabling targeted technical support in the initial development of an Integrated Disease Surveillance and Response model for Pakistan. In this way, greater country ownership was achieved, leading to increased potential for sustainability.
- Identification of a technical need alone does not mean that the system is 'ready' to address that need. Co-construction of reality takes time and enables this readiness to be assessed, thereby ensuring that technical solutions are appropriately tailored to the country.
- Establishing a system vision through an ongoing visioning process provided a shared context in which softer elements of public health around systems change could be identified and explained, and a basis on which certain courses of action could then be advocated for.
- Technical skills are necessary, but not sufficient, to support sustainable and impactful public health system strengthening. Softer public health skills and competencies, the 'art of public health', should not be underplayed.

INTRODUCTION

International Health Regulations (2005) place specific obligations on governments to '*prevent, protect against, control and provide a public health response to the international spread of disease*',[1] protecting both the country's own and global populations. The COVID-19 pandemic has brought into stark focus once again the importance of compliance with International Health Regulations and highlighted the need for robust public health surveillance systems in every country if we are to meet the challenges of such a virus.

Public Health England (PHE), the national public health institution for England, supports public health system strengthening in complex settings globally.[2] As part of PHE's International Health Regulations System Strengthening project, in October 2015, PHE

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was requested by the government of Pakistan to provide technical support to its efforts to improve compliance with International Health Regulations, specifically through strengthening its Integrated Disease Surveillance and Response (IDSR) system. IDSR has primarily developed in Africa and is a comprehensive, evidence-based strategy for strengthening national public health surveillance and response systems at the community, health facility, district and national levels.[3] Since 2016, PHE has been working in Pakistan with the Federal and Provincial governments, initially funded by the UK Department for International Development (3 years) and latterly by the UK Department of Health and Social Care (2 years) through UK Official Development Assistance funding.

It is recognised that International Health Regulations capacity in some countries has increased[4]; however, despite a proliferation of technical guidance, tools, roadmaps and internationally supported activities,[5–7] compliance remains a significant challenge.[8 9] The unique and complex environment within countries is increasingly being recognised as a factor which needs greater consideration if strengthening activities[10 11] are to be successful.

Personal reflection is a core component of professional public health practice[12] and is an important tool in recognising the role of the softer 'art' elements of public health practice which we too often underplay. The art of public health includes '*dealing with complexity and uncertainty, and an evidence base which may not be complete… it is concerned with change in the environment, in communities and in individual behaviour*'.[13] Developing an IDSR system in a low-income to middle-income country with fragile health systems presents one such complex, uncertain environment.

This paper reflects on and charts the journey of the authors' intended approach to public health system strengthening in Pakistan. It describes how our assumptions were challenged, the subsequent solutions and revised 'enhanced approach' adopted, and finally, the lessons learnt. It is framed through a broad lens of public health management, leadership and development theories and concepts such as co-construction of reality. It presents experiences and identifies lessons of relevance to other countries and international partners (IPs).

We have deliberately adopted alternative terminology (box 1) to articulate our experience and learning, to challenge commonly used language and aid reflexivity among readers. The paper presents our personal reflections on the Pakistan project as a whole. Individual reports of impact and specific technical strengthening are reported elsewhere.

Box 1 Alternative terminology

Wider background environment

Activities do not take place in a controlled or fixed setting but are set within a wider background environment which is constantly evolving, challenging simple cause and effect assumptions. It is shaped by many tangible and intangible components including (but not limited to) history, geography, society, culture, religion, economics, infrastructure, resources and education. Recognising the wider background environment is reflective of complex adaptive systems thinking.[16] The term wider background environment is used in place of similar terms such as context or conditions to highlight the breadth, depth and dynamic nature in which health system strengthening occurs.

Co-production

Co-production is defined as where "*professionals [PHE public health and technical specialists] and those traditionally on the receiving end of their 'expertise' [Pakistani government] collaborate with the goal of achieving outcomes [increased compliance with International Health Regulations 2005] that arguably cannot be achieved otherwise. It engage[s] the talents and experience of all involved and support[s] the egalitarian relations and conditions needed to make the most of them*".[17]

Co-construction of reality

The concept of co-construction of reality "*relates to the joint creation of a form, interpretation, stance, action, activity, identity, institution, skill, ideology, emotion, or other culturally meaningful reality*".[18] Given the proliferation[19] and ensuing confusion on the use of 'co' words in the literature, the authors use the term co-construction of reality to mean that each participant in the dialogue brings their understanding of the subject matter and through the process, jointly creates a new, revised and shared understanding of the reality. This use of the term places more focus on the relationship between parties and supports the suggestion that "*what is true and real is context- and language-specific that is negotiated and arrived at through social interactions*".[20] This approach broadly embodies some of the softer public health skills and competencies within the 'art of public health'. The term conveys the specific process and action within a wider act of co-production.

Ongoing reflexive dialogue

Ongoing reflexive dialogue[21] is based around listening carefully and using what we hear (from 'our hosts') in order to reflect rather than focusing on defending any pre-existing assumptions we might have. Learning from 'our hosts', using inquiring, coaching and mentoring techniques and open questions to develop, check and explore understanding is foundational. Both parties share experiences by illustrating with case studies, contributing to the development of a shared understanding, bringing to light and challenging assumptions.

INTENDED APPROACH AND CHALLENGED ASSUMPTIONS

Intended approach

Since 2016, PHE has maintained a presence in Pakistan of UK senior technical public health advisors (initially including AW from 2016 to 2018, with monthly visits in 2019). UK staff based in Pakistan have been supported throughout (2016 - present) by a small number of local technical and support staff (PHE's in-country staff). UK-based technical specialists (including CC from 2019) have predominately provided input virtually supported by some country visits. The approach we intended to adopt at the outset to support IDSR system strengthening will likely be familiar to other IPs (figure 1).

Briefly, on invitation of the host government (step 1), we intended to, jointly with the government, establish a high-level understanding of needs through a review of existing assessments, strategic plans and roadmaps,

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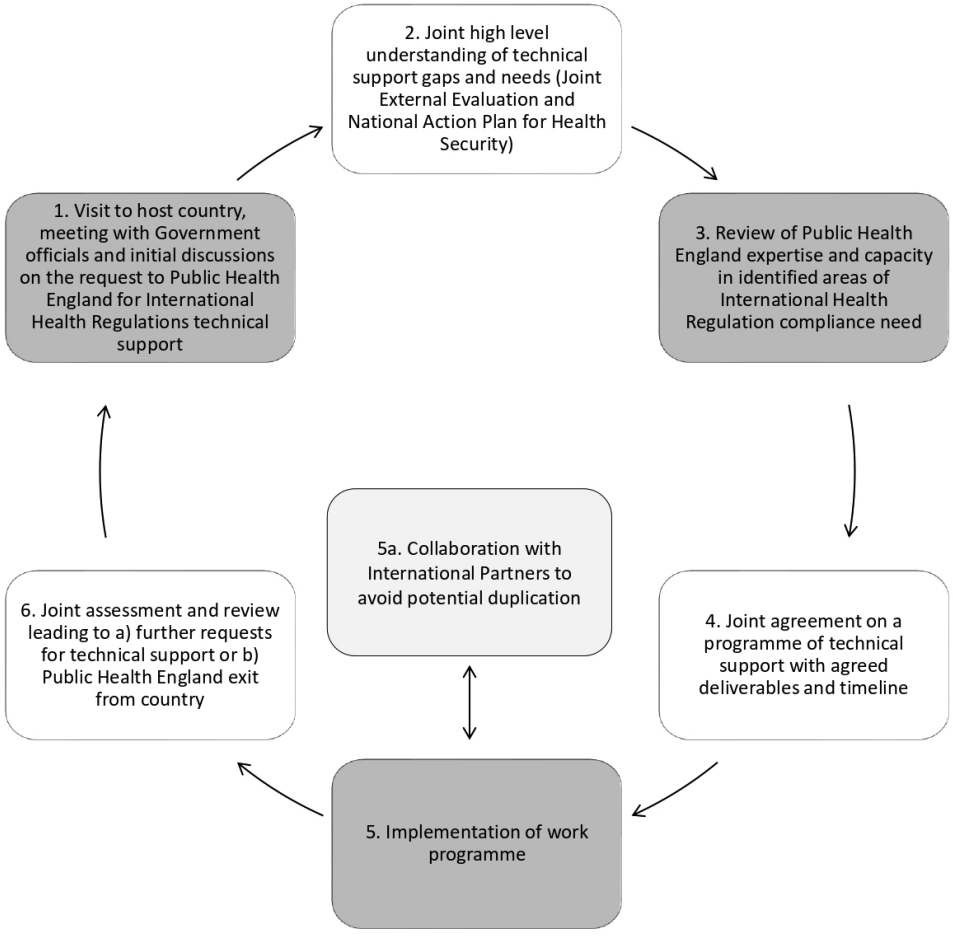


Figure 1 Intended approach to public health system strengthening.

including the Joint External Evaluation and National Action Plan for Health Security (step 2). These high-level findings would then be matched with PHE's available technical capacities and capabilities (step 3). A programme of potential technical strengthening activities would then be proposed, discussed, refined and agreed with the host government, including deliverables and timelines (step 4). We would oversee and coordinate the implementation of the programme with the host government (step 5), bringing in technical specialists for focused visits to deliver additional technical capacity building. We would collaborate with other IPs to avoid duplication of technical support (step 5a). At the end of programme delivery, we and the host government would review the experience of strengthening and impact of activities, identifying how best to ensure that key learning was not lost and that a sustainable way forward was mutually agreed, should no further funding be available (step 6).

This intended approach was underpinned by a theory of change based on the belief that provision of technical training would lead to development of technical capacity and consequently, strengthen the IDSR system. Like all approaches, assumptions are defined explicitly and are inherent, that is, present but unseen. On arrival in the country, it became clear that some explicit assumptions were not valid, and some inherent assumptions became visible and open to challenge. Three specific challenges came to the fore.

Misaligned expectations

There was an expectation from the government, based on past experience with IPs, that PHE would put IDSR in place and/or provide financing for an IDSR system, including physical infrastructure, that PHE would in effect 'do IDSR for' the government. As a technical rather than donor partner, our approach has always been to 'do with' rather than 'do for'. Initially, we envisaged 'doing with' would be providing technical support mainly through training and capacity building. Additionally, as PHE was new to the country, we lacked the necessary experience and understanding of the wider background environment and in-country relationships essential to develop a contextually appropriate 'IDSR system'.

Varied conceptualisation of an Integrated Disease Surveillance and Response system

Awareness of individual IDSR tools, guidance and training materials existed. However, 'strengthening' discussions were often focused on specific aspects, such as how to get good IT software for IDSR, how to proceed with development of specific training programmes or development of

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surveillance guidance and tools. There was no regard for how the 'wider' system would function.

While shared language was used, such as 'system' and 'multisector coordination', it became apparent, as trusting working relationships developed, that shared understanding of meaning was not held by PHE and local officials and staff. Understanding was shaped by different public health system backgrounds. This created challenges in the interpretation and application of tools and guidance available from different IPs which often contained assumptions about interpretation and understandings that were not valid.

Consensus was lacking as to what IDSR was as a holistic concept, and given the fragmentation of their system, there was an inability by Pakistani colleagues to articulate what an integrated Pakistan wide system for surveillance might look like. The vision for the Pakistan IDSR system, its overall aim, the internal and external interactions, connections and dependencies of individual components could not be described. For example, IDSR was seen by some as something distinct and independent of International Health Regulations. There was a risk that if PHE continued to only support specific technical elements, then the existence of vertical silos would be perpetuated and currently limited intra and inter multisector coordination arrangements, essential in IDSR systems, would not be developed and strengthened.

Limited capacity and capability to implement

While many historic IDSR policy documents and plans existed in the country and the importance of IDSR was recognised, implementation progress had been limited. Barriers to strengthening were often described in terms of lack of available people and financial resources, despite the presence of talented and capable professionals such as surveillance staff. There had been a focus on developing technical capacity, with less emphasis and focus on the softer public health skills, essential in creating an 'enabling implementation environment'. Knowledge and experience of working across and within the existing system to implement IDSR was limited. Consequently, the basis of our intended approach was itself challenged and we began to question our ability to deliver meaningful and sustainable capacity building and strengthening of IDSR.

ADDRESSING CHALLENGES AND AN ENHANCED APPROACH

Challenges needed to be addressed and our intended approach revised, informed by the learning and understanding from the initial months of engagement in the country.

Managing expectations: developing a new working relationship

An immediate need to manage expectations about what PHE could do and how we could work collectively to deliver sustainable strengthening of IDSR was critical. Our key message was that we could not 'strengthen IDSR for' the government as (1) the approach was unlikely to be sustainable; (2) we lacked sufficient understanding of the wider background environment and relationships in sectors beyond health; and (3) there was insufficient funding for such an approach. Instead, our offer was to 'work with' the government to strengthen IDSR, and in so doing, co-produce sustainable solutions.

This co-production was dependent on our collective ability to work together to 'co-construct reality' requiring ongoing reflexive discussion and dialogue rather than simple one-off conversations. A shared frame of reference was thereby created enabling targeted support needs to be understood. Ongoing reflexive dialogue took place and was maintained between many different individuals over many months, evolving as relationships were built and strengthened. Engagement was underpinned by a core principle of recognising the government and ourselves as peers and equals. Development of strong and effective working relationships was critical to negotiating and facilitating adoption of this proposed approach. It took time to build a critical mass of understanding and acceptance, identifying and working with change agents and champions, while under pressure from the country and other IPs to demonstrate progress and put IDSR in place.

Conceptualising and establishing a vision

An essential first step was supporting the development of a holistic IDSR system vision for Pakistan. This was necessary to shape, inform and prioritise the subsequent programme of strengthening. We reviewed the IDSR literature, worked iteratively with stakeholders, holding meetings and workshops, to gain consensus and in this way the three pillars concept of IDSR (figure 2) came into being.[14] This evolved into a blueprint for the system, outlining the system architecture, components, roles and interfaces, described in a proof of concept document, that was co-produced over several months by PHE and the government.[15] The blueprint addressed challenges of silo working, emphasising the need for coordination across sectors in both system development and operation.

Challenges remained however in embedding understanding of the vision. Non-health sectors were engaged on a one to one basis, developing relationships and understanding essential to the development of multisector outbreak control plans. A field visit to the UK of key Pakistani colleagues, including agents of change, provided experiential learning opportunities through interaction and observation with PHE's surveillance and laboratory staff. These experiences provided a real-world, experiential, illustration of a multisectoral public health system, cementing ideas and concepts which had been developed through the two-way learning and visioning. Participants acknowledged the visit as key in developing their understanding of the IDSR system vision for Pakistan.

Supporting implementation through co-construction of reality

There was an ongoing need to re-emphasise and reinforce underpinning concepts of the IDSR system vision,

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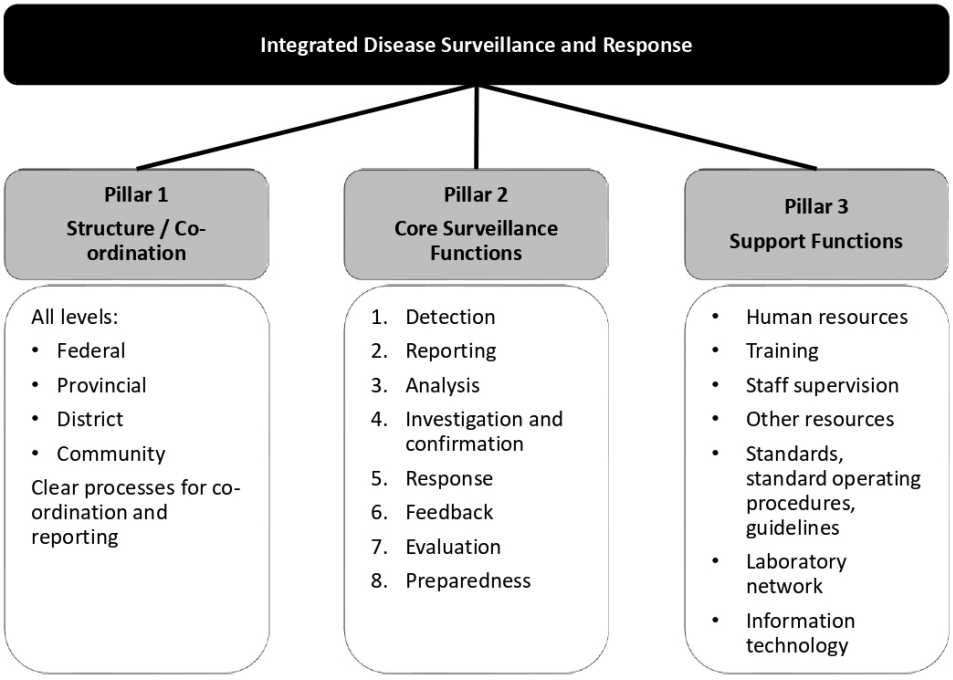


Figure 2 The three pillars of Integrated Disease Surveillance and Response[22] adapted from McNabb *et al*[23] and Adokiya *et al*.[15]

moving beyond the document, to collective understanding and ownership of the vision, within and across sectors. Addressing the implementation gap was essential to support a move from 'what' needed strengthening to developing the softer public health skills of 'how' to strengthen. Bringing technical specialists from the UK to deliver blocks of training would not on its own address this need.

Relationships matured through longer term ongoing reflexive dialogue and co-construction of reality. Each party brought different frames of reference, skills and understanding (figure 3). Together, fusion of these different experiences and expertise occurred, leading to the co-production of sustainable solutions such as connecting public health laboratories to each other and multisector response planning, tailored to Pakistan. The time required varied according to the elements of the three pillars being developed.

Further characteristics of the enhanced approach

In essence, figure 4 describes our enhanced approach to public health system strengthening in Pakistan, our responses to the challenges identified and the criticalities of the additional steps adopted.

While continuing to meet with our host government (step 1), in steps 2 and 3 we now included a greater emphasis on ongoing reflexive dialogue (underpinned by guiding principles) to better understand the need in its context and create an environment which would facilitate sustainability, with the country fully owning the solution. This emphasis on ongoing reflexive dialogue (3a), relationship building (3b) and co-construction of reality (3c) became the essential foundations for establishing a vision for the IDSR system. PHE in-country staff and our technical specialists sat alongside Pakistani colleagues, both physically and virtually, exploring and testing ideas, through fusion of technical, in-country and implementation expertise to identify potential solutions tailored to the wider background environment. Collectively, a more appropriate joint programme was developed, agreed (step 4) and delivered (step 5). Steps 3 to 5 were repeated as various parts of the programme were developed and implemented. For example, once the multisector outbreak plan had been developed, step 3 began again to co-produce and deliver a training programme for outbreak plan implementation. Throughout, country staff were also encouraged and supported to coordinate PHE and other IPs to facilitate collaboration to deliver IDSR system strengthening (step 5a). At the end of the programme, a joint review will occur in line with that detailed in the intended approach (step 6).

In summary, this enhanced approach tailors the nature and shape of the technical support more effectively to the reality of the wider background environment in Pakistan, while also building capacity of 'softer' public health skills needed for longer term strengthening of the system.

LESSONS IDENTIFIED

Time and skill is needed to build a certain type of relationship

Public health specialists bring strong technical expertise but must also bring softer public health skills, including the ability to build effective relationships. While technical expertise has a strong role in public health system strengthening, our experience in Pakistan has shown that, along with the technical expertise, effective relationship

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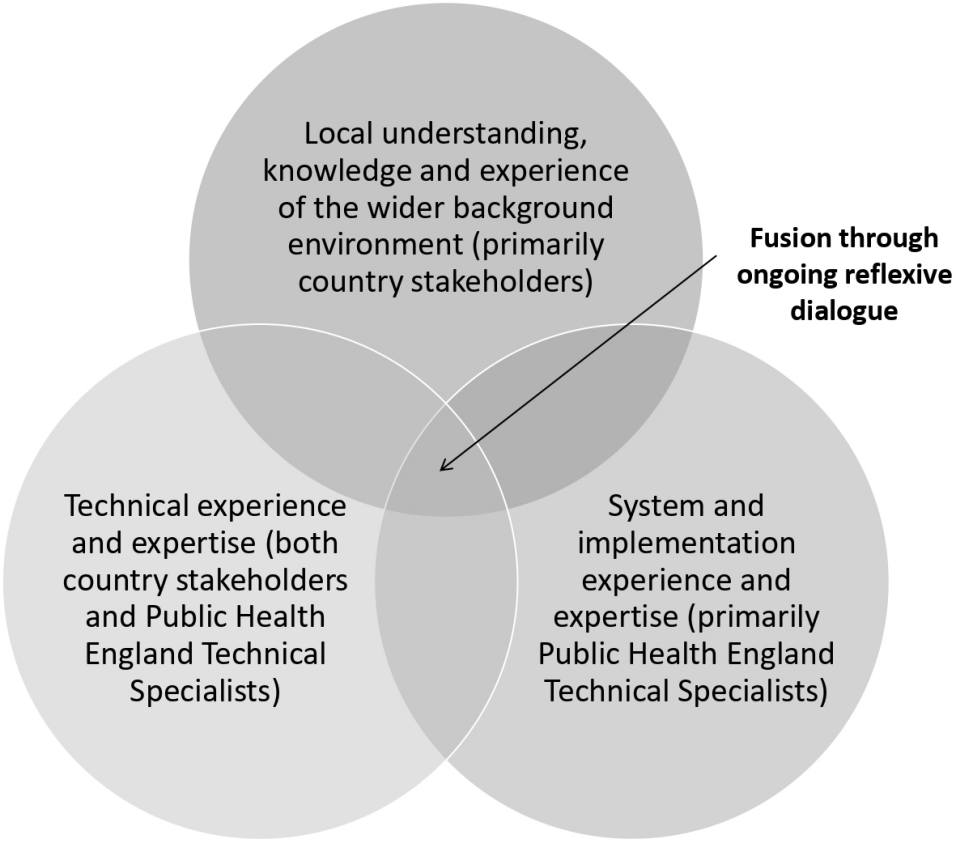


Figure 3 Co-production through co-construction of reality.

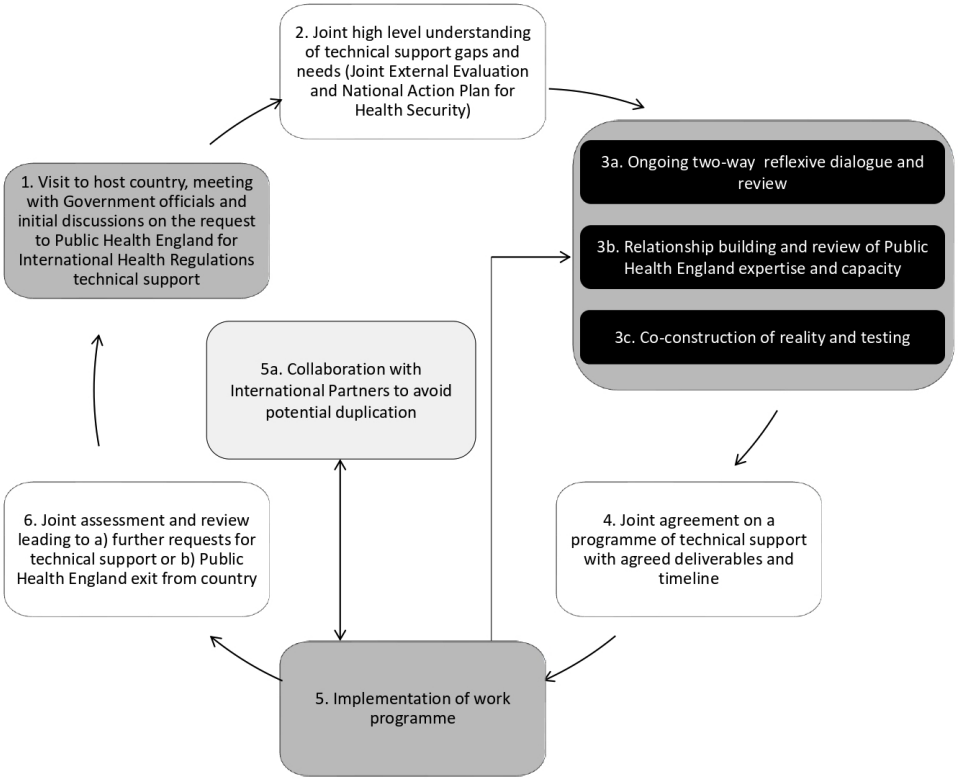


Figure 4 Enhanced approach to public health system strengthening.

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building skills are an essential component and a necessary competence required of our UK origin staff. Staff with technical expertise who were also able to build longer term high-quality peer-to-peer relationships with characteristics including trustworthiness, mutual respect, symbiosis, synergy, resilience and open communication, established the foundation on which a fuller understanding of the context, through co-construction of reality, could be developed. This led to more effective and appropriate technical support. Relationships were built over time, through face-to-face contact and remotely, built on the principle of peers sitting alongside each other.

Relationships were also built by our PHE local team, (embedded in the public health system), and staff whom we identified as champions and 'agents of change', employed by the public health system. Both groups of individuals were boundary spanners with whom reality could be co-constructed, and solutions co-produced. While the PHE approach of employing local staff has been valuable in gaining an understanding and a presence within a new operating environment, it is just one of many possible approaches. The type of relationship that we advocate is not dependent on such a team, as evidenced by our engagement with champions and agents of change within the existing government system.

Balancing power dynamics in relationships is important for building trust

Power dynamics exist in all relationships and in and of themselves, they are not inherently negative. The bigger issue is how the power dynamics are balanced in any situation given that they influence our behaviours, decisions and choices. In 2016, when PHE initially arrived in country, it was not fully appreciated by our host partners that PHE, unlike some other IPs, did not have donor funds. PHE was coming as a pure technical partner whose support offer was to bring public health specialists to live in country initially for 1–2 years to sit alongside Pakistan colleagues and work collaboratively to improve compliance with International Health Regulations. As such, the traditional donor–recipient power imbalances, often a feature of international aid, were not in play and from the outset PHE ceded decision-making power to our hosts. This manifested beyond setting the primary agenda to our hosts having greater input than initially anticipated over the logistics and activities of the programme. For example, PHE did not unilaterally design and deliver events. Instead, events had to be conceived of and owned by our hosts, which introduced additional steps of joint design and approval, including high level sign-off.

In our enhanced approach, time taken to demonstrate professional competence and willingness to cede power in this way meant that a new trust relationship emerged. This relationship of trust has led to more appropriately targeted technical support and reciprocity in learning, with increased potential for richer and sustainable outcomes.

A vision provides a shared frame of reference

Our experience was that effective relationships were the foundations for visioning, which, in turn, provided a basis for identifying and explaining softer elements of public health around effective systems change. This enabled certain courses of action to be advocated for. Identification of a technical need did not mean that the system was 'ready' to address that need. The vision provided a basis on which to assess existing assets and characteristics of the system, the relationships and interactions between individual technical components both within and beyond the health sector, and 'readiness' for change. Strengthening activities associated with visioning were again associated with co-construction of reality, for example, through a site visit by key staff from Pakistan to the UK. Visioning also enabled a shift in perspectives of resources needed for strengthening, which subsequently shaped the governments' business cases for IDSR in Pakistan. Conversations shifted from insufficient financial and people resources to acknowledgement of existing assets in the system and how changes in ways of working could contribute to system strengthening.

Technical input is necessary but not sufficient

Simply providing tools and accompanying training on applying them is necessary but not sufficient for sustained impact and country ownership. Tailored support is needed regarding 'HOW' to apply these tools, having regard for (1) the wider background environment; (2) existing assets such as resources and ways of working; (3) placement within the country's own system vision; and (4) readiness to address the technical need. To be contextually relevant and therefore effective, is to engage differently, moving beyond tailoring input to language or specific diseases associated with the country. We found co-construction of reality, by sitting alongside colleagues to better understand the context and the vision for the system, an essential element for co-producing solutions and ways of working tailored to the wider background environment. Instead of responding immediately to identified needs from within the Joint External Evaluation and National Action Plan for Health Security through delivery of technical training, co-construction of reality enabled a more deliberative approach to be taken to the prioritisation and bespoke nature of the technical support given. The same financial resource, identified in the initial approach to deliver blocks of technical training, has been refocused on areas where both need and readiness align.

Combining a certain type of relationship, system visioning and co-construction of reality has facilitated the successful development of data flows within the surveillance system, multisector arrangements for outbreak management and control, and connected public health laboratories which will enable a public health laboratory network to develop and grow sustainably. While they represent progress and sustainable foundations on which future developments and enhancements can

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be made, they remain works in progress, reflecting the long journey that strengthening and development of the public health system is.

CONCLUSION

The potential value and impact of our intended approach to supporting the development and strengthening of IDSR in Pakistan was quickly called into question as several of our underpinning assumptions were challenged. In reflecting on our enhanced approach, we believe there are wider lessons of relevance to ourselves and other IPs undertaking similar strengthening work. Committing to sitting alongside and co-constructing the reality of the system (challenges and all) is a more appropriate way of ensuring that the support we bring as IPs is maximally effective and that longer-term sustainability is achieved. This requires the development of a 'certain type' of relationship and 'visioning' of the desired public health system. Co-construction of reality takes time but is essential to ensure that technical solutions are appropriately tailored to the country. In seeking ways to support sustainable and impactful public health system strengthening, softer public health skills and competencies, the 'art of public health', should not be underplayed at the expense of the technical skills, which are necessary, but not sufficient.

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Contributors AW and CC conceived, drafted and finalised the paper with equal input.

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