INNOVATION IN THE NHS THROUGH BI-DIRECTIONAL LEARNING

A QUALITATIVE EXPLORATION OF THE FACILITATORS AND BARRIERS TO KNOWLEDGE DIFFUSION IN INTERNATIONAL HEALTH PARTNERSHIPS

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THET
PARTNERSHIPS FOR GLOBAL HEALTH

CONTENTS

LIST OF ABBREVIATIONS

IHP – International Health Partnership

THET – Tropical Health Education Trust

HEE – Health Education England

HIC – High-income country

LMIC – Low-and-middle-income country

NHS – National Health Service

APPG – All-party Parliamentary Group

IV - Intravenous

EXECUTIVE SUMMARY

BACKGROUND

The Tropical Health Education Trust (THET) and Health Education England (HEE) have prioritized an agenda of mutual benefit and bidirectional learning in their approach to International Health Partnerships (IHPs) between high-income countries (HICs) and low-and-middle-income countries (LMICs). Although bidirectional learning is an ambition, it may still not always be reflected in practice. To understand barriers to bidirectional technical learning in practice, we interviewed a group of 9 IHP participants. We determined that knowledge hierarchies can be inadvertently pre-established in the motivation and agenda setting of the IHP, and that this can lead to a mismatch between bidirectional learning "as imagined" and bidirectional learning "as done."

FINDINGS

In theory, most participants described bidirectional learning as something that involved both contributing knowledge and receiving learning in return. In practice, however, LMIC partners were still seen as recipients of knowledge, rather than as contributors. The type of learning that occurs in the partnerships is predominantly "cultural" in nature, pertaining to soft skills, such as leadership and communication skills. While cultural learning is undoubtedly important, a truly bidirectional partnership will also involve an exchange of "technical" knowledge, which centers around innovations and transformation of practice. The participants described the NHS as a complex system, which did not have clear avenues and pathways for introducing technical solutions and learning. They also perceived the differences between the LMIC and HIC context to be too different to allow for bidirectional technical learning. Future partnerships must create a space that allows bidirectional learning – an understanding that all contexts, though different, have something to teach and something to learn – to manifest. This will close the gap between bidirectional learning "as done" and bidirectional learning "as imagined." Full use of THET's Innovation Toolkit is recommended as a pre-requisite for health partnership activity.

IMPLICATIONS AND RECOMMENDATIONS

- **Tokenistic agenda setting that refers to bidirectional learning as a diffuse concept must be called into question:** Both partners participating in the exchange must have an understanding that although their respective contexts are different, they nonetheless each have something to learn and something to contribute.
- **Participants must demonstrate a meaningful desire to learn:** This could include a reframing of the participant's thinking ahead of the partnership to be able to see not the differences in the country contexts, but to focus instead on the similarities.
- **LMIC partners must play a role in the governance, administration, and agenda-setting of the partnership:** HIC partners, on the other hand, could practice humility in the sense that they do not hold all the answers and all the knowledge to solve the LMIC partners' problems, and that innovative solutions can be found anywhere.
- **When reciprocal visits do occur, care should be taken that the dynamics of the partnership are also inverted:** This would ensure that the physical exchanges do not still perpetuate the teaching and training dynamics that situate HICs as the producers of knowledge and LMICs as the consumers but would indeed see that dynamic be turned upside down.

BACKGROUND

As early as 2007, there was a push to place 'mutual benefit' at the core of how institutions should approach International Health Partnerships (IHPs) (1). The importance of this approach has been restated in Lord Nigel Crisp's recent book *Turning the World Upside Down Again: Global health in a time of pandemics, climate change and political turmoil* (2), and has become central to the Tropical Health Education Trust's (THET) work (3,4) as well as a more recent ambition of Health Education England (HEE) (5). This turn away from high-income country (HIC) volunteers travelling to a low-and-middle-income country (LMIC) to deliver their knowledge about how medicine is practiced in the West is because this more traditional dynamic may reinforce a unidirectional, not bidirectional, type of learning. Although many IHPs in the past have been predicated on this learning dynamic, questions are now being asked about how these ingrained systems might be effectively challenged in practice.

The THET Innovation Toolkit (6), produced in 2020 in partnership with Imperial College London, strived to provide IHPs with some levers and tools to identify and address knowledge hierarchies in IHPs, resulting in potentially more mutually beneficial arrangements. Located in what might be called "decolonization" of global health (7), it includes understanding and addressing ingrained systems of dominance and power, as well as a reflection on subconscious bias in the work to improve the health of populations, both at home and abroad (7). Alongside this, THET has begun to integrate a narrative of bidirectional learning in its interactions with IHPs.. Bidirectional learning, sometimes also known as "mutual learning," "reciprocal learning," or "twinning," among other monikers, is founded on the premise that all contexts, although different, have something to learn and something to teach. Not every aspect of the health system in the UK is working as it should. Equally, there are many innovative solutions to healthcare problems in LMICs that could be of benefit to the UK (8). These so-called frugal innovations can be highly effective at addressing the needs of everyone in the healthcare system, not just those who are able to afford it (9). They are often equally as effective as what is being used in HICs, and they do more with less for many (9). Bidirectional learning through IHPs could offer a potential avenue for identifying and implementing such frugal innovations in the National Health Service (NHS).

However, following a survey of THET IHPs in 2015, Kulasabanathan et al found very few examples of apparent translation of knowledge and innovation from LMIC visits back into the NHS (10). THET's Innovation Toolkit for Health Partnerships is a step in the right direction to support the flow of innovations, identified by HIC partners while on placement in an LMIC, back to the NHS. The toolkit focuses on how to create a learning environment that sees both sides of the partnership as equal knowledge brokers, in an effort to dismantle the previously described "us and them" knowledge hierarchy, or "West is best" attitudes, inherent in a traditional IHP approach (6). The toolkit offers considerations to be made prior to HIC partners' departure to the LMIC, which are meant to ensure that subconscious biases against LMICs are not preventing the identification of knowledge and learning while abroad. The toolkit also provides suggestions and guidance on how to capture learning after the partnership has concluded, and how that learning could be effectively shared upon return to the HIC. Overall, the toolkit outlines effective strategies to develop and maintain a more even playing field in healthcare innovation (6).

Although mutually beneficial partnerships and bidirectional learning is an ambition, it may still not be always reflected in practice, for various reasons. Previous reports have described how difficult it can be to quantify, measure and identify learning (11). Additionally, it has been previously recognized and acknowledged that when learning does occur, it predominantly reflects "transformational" or "life-changing" skills (11,12) rather than examples of direct service change arising in the NHS from learning acquired overseas. The All-Party Parliamentary Group (APPG) on Global Health published a report in 2013 distilling how overseas volunteering from the NHS benefits the UK. It concluded, among other things, that volunteers develop strong leadership skills and an increased understanding of how to enact change across professional cultures, and that being brought into contact with novel approaches to healthcare delivery increases the volunteers' confidence to challenge and change established practice in their Trusts (13). Yet, the "type" of learning that volunteers experience during international placements seems to be about themselves, about the country they visited and about how they have found these skills and this learning applicable to their own personal and professional development (12). This type of learning, consistent with the conclusions drawn by the APPG, has been coined as "cultural learning." It is about the country context, and other soft skills such as cultural competency (14).

On the other hand, "technical learning" which is about learning new ways of healthcare delivery, or about novel technologies that challenge established practice, remains rare (14). Only a small handful of frugal innovations from LMICs have made the jump to HIC

systems. For example, it has taken several decades for Kangaroo Mother Care to become established practice in the UK and even still it is not widely practiced to its fullest extent (15). The GE Mac 400 ECG machine, developed and scaled in India, has been adopted in the US but only because it is manufactured and commercialized by a US multinational (8). The Brazilian Community Health Worker role is being launched in several localities in the UK, but it has taken nearly two decades to achieve this shift, and it was not as a result of an IHP (16). Technical knowledge (hard skills, innovations and care practices) is only rarely introduced in the NHS through IHPs, and even more rarely successfully adopted (14). While soft skills can of course be valuable and beneficial, on a more fundamental level, distinguishing between these two types of knowledge illustrates a dichotomy between the respective contribution of HIC and LMIC partners in IHPs (14). A truly reciprocal partnership is one where there is bidirectional *technical* learning.

In this report, conducted in collaboration with THET and with funding provided by HEE, we present the findings from qualitative research with a small number of IHP participants that explores the facilitators and barriers to technical learning in IHPs. We identify several themes around the establishment of the IHP, and how it is managed, that conspire to drive learning towards either the cultural or the technical type. Knowledge hierarchies can be inadvertently pre-established in the motivation for agenda setting within, and goals of, the IHP. The complexity of organizational change in the NHS, and general resistance to learning from LMIC innovation, results in cultural learning as a path of least resistance for IHP volunteers. We find that although the narrative of technical learning through reciprocity and mutual benefit is central to the IHPs, the reality is of cultural learning. This leads to a mismatch, in organizational theory terms, of 'Work-as-imagined' i.e. what volunteers believe is occurring, and 'Work-as-done' i.e. what actually happens (17). The mismatch is not inert – it is experienced and risks undermining the well-intentioned mutual benefit approach to IHPs.

1. METHODS

1.1. DATA COLLECTION

THET contacted two dozen IHP coordinators for whom contact details are retained in compliance with GDPR, including grant holders and individuals from organization who have received grants from THET in the past. Volunteers were eligible to participate if they were currently or had previously been involved in a THET-sponsored IHP. Three emails were sent over the course of six weeks (November – December 2021). Four responses were received, and three individuals were able to recruit twelve potential participants who were subsequently sent a Participant Information Sheet. Of these, five were interviewed and one additional participant was recruited via snowballing. In January 2022, THET sent an additional email to virtual volunteers and a further three participants were recruited in this way.

Semi-structured interviews (n=9) were carried out between October 2021 and March 2022. Six volunteers had traveled abroad for their partnerships, and three had conducted their partnerships virtually. Interviewee role titles can be seen in **Table 1.** An interview guide was used to steer conversation towards pre-defined areas relevant to the research focus such as communication and agenda setting pre-partnership, the day-to-day activities during the partnership and debriefing of learning at the end of the partnership. Interviews lasted between 30 and 55 minutes and were conducted virtually. Participants were involved in direct partnerships between hospitals, as well as projects that consisted of collaborations with and data analysis for the local ministries of health.

Role	ID
Lead antimicrobial pharmacist	I-1
Project manager for Clinical Commissioning Group	I-2
Doctor in hospital medicine	I-3
Consultant in anaesthesia	I-4
Lead research midwife	I-5
Head of a charity at an NHS Trust	I-6
Teaching fellow in adult nursing	I-7
Laparoscopic upper GI surgeon	I-8
Antimicrobial pharmacist	I-9

Table 1. Interviewee role titles and IDs.

All participants were asked to review and sign a consent form prior to taking part in the study. To ensure respondents are not recognizable from their quotes, each participant was randomly assigned an ID number from I1 – I9. Interviews were audio visually recorded using MS Teams, and transcripts were generated automatically from the video recording. Transcripts were stored on a password-protected server hosted by Imperial College London in accordance with ethics guidelines. Ethical approval for the study was obtained through the Imperial College Research Ethics Committee (Reference Number 21IC6786) which was initially granted in April 2021. An amendment was granted in October 2021 to allow for deidentified interview data to be stored on the UK Data Service as part of THET's initiative to develop a Global Engagement Databank.

1.2. DATA ANALYSIS

Following recording, we checked transcripts for clarity and accuracy, and removed all personally identifiable information. We conducted thematic content analysis and inductively developed a preliminary coding structure based on three transcripts. This first stage led to development/identification of three main themes - definitions of bidirectional learning in theory and in practice, the nature of learning achieved during partnerships, and barriers and facilitators to implementing learning in the NHS. We subsequently iteratively refined the preliminary coding structure and themes as additional transcripts were reviewed. This process allowed for triangulation and thematic saturation to be reached. The following section summarizes and highlights the most frequently recurring and prominent themes, experiences, and perspectives.

2. RESULTS

2.1. DESCRIBING THE PARTNERSHIP

We asked all participants to describe the partnerships they had been involved in, including what had motivated them to join, how agendas were set and what the defined goals of the partnerships were. Six participants had taken part in a partnership that involved in-person volunteering and visits to a foreign country prior to the Covid-19 pandemic. Three participants had been involved in virtual partnerships that had taken place during the pandemic and were therefore not able to physically visit the country. The themes of partnerships ranged from strengthening antimicrobial stewardship, to introducing laparoscopic surgery, to virtually teaching emergency and trauma care in countries such as Kenya, Uganda, Somaliland, and Tanzania.

2.1.1. MOTIVATING FACTORS

Participants were asked to indicate what had motivated them to join or participate in the partnership they were currently or had previously been engaged with. Many were motivated to join by the possibility of some form of personal growth:

> *I think just the whole experience has really opened my eyes and made me more rounded as a person …it's been great to reflect on actually what a difference it has made to me as a person and my career.* (I-1)

> *I think it's something for myself and for the future.* (I-2)

Others indicated that they felt that they had been motivated by something of a moral imperative, noting that they were compelled to join by wanting to help those less fortunate:

> *I see my future…in some kind of global health care project, or certainly working with vulnerable people in different settings who don't have access to the same healthcare we do… I was just very aware that whereas the situation [during Covid-19] was bad in the UK, things were only going to be that much worse overseas.* (I-3)

> *You want to do something useful with your time and try to do something about the inequities in the world...* (I-4)

Finally, as offered by one participant, motivation was rooted in a desire to learn about, not from, other health systems:

> *I wanted to understand how other healthcare systems were working, especially in developing countries.* (I-2)

2.1.2. AGENDA SETTING

Whether agendas were set by HIC partners *for* LMIC partners, *with* LMIC partners or *by* LMIC partners *for* HIC partners could potentially determine the future relationship between the partners, and whether partnerships would be more amenable to bidirectional learning. With the exception of one participant, who did not feel as though an agenda was very clearly set from the start, all other respondents indicated that the LMIC partners were instrumental in determining what areas the partnerships should focus on, and what they wanted HIC partners to contribute:

> *Midwives in [the LMIC] identified priority areas that they were looking to develop…they had flagged the need to [strengthen] professional development among midwives.* (I-5)

> *The aims and goals of the partnership are to work with our hospital partners in order to develop healthcare services according to their needs and their priorities…the directors of [the hospital in the LMIC] will let us know where there is a need…and we would develop or bring together training teams to help that happen.* (I-6)

> *…[we were] trying to look at anti-microbial stewardship, how it was done out there, what their priorities were, and developing a training program to see how we could improve things.* (I-1) Listening to the self-identified needs of the LMIC partners and giving them a voice to articulate the type of assistance they wish to receive was felt to be important by most participants. The inverse, and its limited benefits, were described by one participant:

…sending something [to an LMIC] with not actually knowing who you are sending it to and letting them know how it works…is just moving rubbish from one part of the world to another… if there isn't somebody on the other end to receive it, and to say they want to use it, don't send it. (I-8)

In other words, the HIC partner determining what they feel would be helpful and useful to an LMIC, without familiarizing themselves with the local context and the problems that exist there was found to be unhelpful and would likely not lead to a successful partnership. However, despite agendas primarily being set by the LMIC partner, and despite a recognition of the issues of more traditional partnerships, the dynamic still established HIC partners as contributors of knowledge, expertise, know-how and sometimes even equipment, and reinforced a uni-directional flow of learning and resources. The partnership goals, discussed in the next section, further add to this dynamic.

2.1.3. PARTNERSHIP GOALS

The participants were asked to explain what the stated aims and goals of their respective partnerships were. One participant indicated that the precise aims and goals were not entirely clear following an introductory meeting, but that these became more evident over time. For all others, the aims had been clearly set out at the start:

Over the time that I've been involved, we have taught a number of already qualified nurses, [we have been] elevating their knowledge of – for me it was specifically emergency trauma and nursing – so that we are enriching their knowledge and experience. The real focus was to get nurses to a higher level of understanding so that they would then teach their juniors. (I-7)

The aim of the partnership was to introduce laparoscopic [surgery] safely and sustainably to [hospital in LMIC], and we have definitely done that. (I-8)

The project I am currently involved in looks at improving data analysis to inform policy and decision making. (I-2)

I went to [LMIC] to teach antimicrobial stewardship principles to two of the local hospitals…the aims were, we wanted to deliver a "Train the Trainer" [program]. (I-9)

The focus on sustainability, as indicated by the fact that they wish to train local participants to ultimately deliver the training to their peers at some stage was seen as an important step to avoid long-term dependence on the HIC partner. However, as evidenced by these quotes, in most cases the goals revolved around teaching and delivering knowledge. This is also expressed below:

I was offered the opportunity to go along as a trainer to help develop some of the teaching materials [to teach antimicrobial stewardship principles] and deliver a training over two weeks, which I thought was a very unique opportunity. (I-9)

Here, we see the participant referring to themselves as a "trainer," rather than perhaps using slightly more neutral terminology, such as "facilitator." This dynamic places the LMIC partner as recipient of knowledge and may prevent the HIC partner from viewing them as valid providers of information or expertise. The language used around the stated goals ("elevating" or "enriching" the knowledge base in LMICs) further strengthens the notion that the knowledge held by the LMIC partner is basic or elementary and is therefore not of any value to the HIC partner. Though the difference between referring to oneself as a "facilitator" rather than a "trainer" may seem semantic, how the goals of the partnerships are framed, but also how HIC participants frame themselves could impede or facilitate the potential for bidirectional technical learning. It is tempting to find a deeper meaning in the semantics of these comments, when in fact there may be none. Indeed, the aim of the partnership could very well have been to "enrich" the knowledge base in a context where the understanding and treatment of emergency medicine and trauma cases is rudimentary. This does not necessarily mean that the HIC partner felt that there was nothing to be learned from the LMIC partners. However, this type of language does paint a picture of a partnership, and the partners' respective positions, that makes the exploration of additional opportunities for bidirectional learning outside of that sphere very challenging due to an unconscious dynamic that has already "othered" the LMIC partner's knowledge and elevated that of the HIC partner. In addition to the semantic changes, a more in-depth reflection of the positionality of the instructors, and the respective roles of the facilitators and the students, and who contributes to the creation of teaching materials could be worth considering.

2.2. DEFINING BIDIRECTIONAL LEARNING

As part of the interviews, participants were asked to provide a definition or an explanation of the term "bidirectional learning" because determining how participants related to, or understood, this term might provide insights into barriers and facilitators to identifying new processes and ideas for the NHS. All participants had encountered the term before and were able to provide an explanation. Some described familiarity with similar terms, such as "Reciprocal Mentoring," or "Twinning." Explanations ranged widely, however, and what participants described in theory often differed from what they experienced or learned in practice.

2.2.1. IN THEORY

Two out of three participants who were involved in virtual partnerships explained that although bidirectionality had not been clearly articulated to them when they applied for their partnerships, their projects did not particularly lend themselves to bidirectional learning. Others did express that bidirectionality was emphasized in the early stages of their partnerships, which participants interpreted to mean both partners equally contributing to an exchange of knowledge:

> *I think I can gather what it means, it's a two-way road, isn't it?* (I-9)

> *I think it encapsulates both: Me giving something of my knowledge or experience to [the LMIC partner], but me very much also learning off them. So, it's a kind of mutual benefit learning relationship*. (I-3)

Others, though they in general had a good understanding of the term, were perhaps slightly more cynical and apprehensive about it:

> *I think it's slightly made up, isn't it? But anyway, I presume what you obviously mean is that we get something out of [the partnership] as well and we learn stuff as well. Isn't that right?* (I-9)

Though most were vague about *who* the learning would ultimately benefit, one participant did specify that the ultimate beneficiary should be the system which participants would return to:

> *Well, I think it's when you both teach and learn in a partnership, equally on both sides, and are able to probably transfer that learning back into your own system.* (I-4)

While individual learning and personal growth through bidirectional learning should not be discounted, it tends to be less tangible, less quantifiable, and less visible. Bidirectional learning may be occurring, therefore, but it may not be immediately evident. There are several reasons why participants may have felt that bidirectional learning would be more easily applied to themselves, rather than to the wider system.

2.2.2. IN PRACTICE

In practice, partnerships were mostly comprised of physical exchanges and visits between partner countries, except with virtual partnerships. Such physical exchanges were frequently cited as a hallmark of the bidirectionality of the partnership. However, participants did not speak to a shift in the learning dynamic as a result of these reciprocal visits. While HIC partners went abroad to teach LMIC partners, HIC partners continued to teach LMIC partners when they visited in HICs:

> *We felt in a partnership, it wasn't very bidirectional if we were just going there. So, we always found money within our grants or within our charity to host study visits for [LMIC partners] to come to visit us in our hospital.* (I-4)

> *There were links in [LMICs] of [LMIC] teachers who also had the opportunity to come over to London. We're saying to them, "Come over and see what we do and how you can integrate that into your teaching."* (I-7)

As such, the physical bidirectionality did little to invert the knowledge hierarchy: LMIC partners were still seen as recipients of knowledge, rather than as contributors.

2.3. THE NATURE OF LEARNING

As mentioned previously, participants tended to apply any learning that occurred during their partnerships to their own practice, rather than considering how it might apply to the broader system in the NHS. As such, for those participants who did speak to learning that occurred while on their partnerships, this learning tended be more around soft, intangible skills. Technical solutions to healthcare problems in the UK, as well as potential quality improvement process were mentioned too, but only after repeated inquiry, and they were widely not seen to be applicable in the NHS.

2.3.1. SOFT SKILLS

The types of soft skills that were identified by participants ranged from adaptability and cultural competence to communication and leadership skills:

> *I would have been very fortunate to go over to [LMIC] and actually see how they adapt because we all need to be adaptable in some sense.* (I-7)

> *I'd say what I was expecting to get out of it was not so much knowledge but actually just experience working with writing guidelines in a cultural context…the written communication, …the kind of leadership responsibilities, the time management and efficiency.* (I-3)

Although these are intangible skills that are difficult to quantify, they are nonetheless valuable:

> *I think one of the big barriers is communication and the ability to get that quick message out. In the hospital in LMIC, you've got one smaller pharmacy that everybody is coming to… and everybody knows each other. And [when] you want to tell them something, word of mouth is how you get that across…[in the NHS], when you're trying to communicate one message to 20,000 staff it's a real issue. It's something we really struggle with]… We have probably 300 pharmacists, but each pharmacy team has huddles. So, today I'm going to three huddles to communicate some messages, rather than sending an email, that people probably won't read.* (I-1)

And, as pointed out by one individual, crucial factors for career progression:

> *…those looking at the [trainees'] portfolio basically opened at the [IHP experience] page every single time and said, "Right, tell me about this." …It was seen as an extremely positive thing for the trainees in terms of their career progression.* (I-8)

Participants described learning in its broader sense, such as around mindsets and capabilities, rather than about a tangible or technical solution per se:

> *Q: Did you feel like there were specific opportunities [for bidirectional learning] that presented themselves as you were there, where you thought, "oh, this seems like a great solution to this problem." Were there specific opportunities that you noticed?*
>
> *A: Not specifically, I think it was the thinking as a team, thinking together and how we can think differently about doing something.*
>
> *Q: So, [the learning that occurs is] a change in mentality in terms of how things are done, as opposed to maybe a specific way of doing something?*
>
> *A: Yeah.* (I-1)

Yet, another participant speaks to both "attitudes," but also about "workarounds":

> *…we did learn a lot from them in terms of their attitude toward learning, and some of the pragmatic ways of working that they had to develop… There are workarounds, and I think it's about that problem solving and about that ability to just deal with the unexpected*. (I-9)

2.3.2. TECHNICAL SOLUTIONS

Technical solutions were mentioned less frequently and were often only brought up or discussed following direct probing. These solutions took the form of new techniques, new technologies, or new learning on how to transform practice. In many cases, the solutions were frugal in nature, meaning that they were less costly and more affordable and derived from the pressure to innovate under resource constraints. One example, the use of affordable commercial carbon dioxide rather than expensive medical-grade carbon dioxide for laparoscopic surgery, was provided by this respondent:

> *We use carbon dioxide for laparoscopic surgery, and we had to import medical-grade carbon dioxide that was quite expensive. [One day] we were sitting in the in the canteen drinking Coca Cola. And I was just watching the bubbles going up and I thought, "Now hang on a second, that's carbon dioxide, isn't it?" So, we said where's the nearest Coca Cola carbon dioxide plant? And that was literally in a town nearby. And, since then, we've been using carbon dioxide that's used by Coca Cola. And it's something like 98.5% pure, where the medical grade is 99.5% pure. But we agreed that we should use it because obviously it costs a fraction of the price, you know? Why don't we use just simpler carbon dioxide [in the UK], for example, and the rest of the world?* (I-8)

Another participant mentioned a similarly frugal solution, using local materials to develop a cost-effective solution for treating burns:

> *We worked with them on different kinds of dressings to make it affordable to them. We worked with them to do Vaseline gauze as a non-stick dressing [for burns]. But they've also got honey of a very, very high anti-bacterial strain which could be made into medical grade dressings.* (I-6)

Two participants suggested different processes that had proven to be effective in an LMIC. In one instance, removing gall bladders and sending patients home the same day:

> *We finally ended up doing laparoscopic cholecystectomy as day cases. So, in other words, in and out in one day, and there's lots of places in the UK, for example, that still don't do that.* (I-8)

In this example, though treating gall bladder removals as day cases is common practice in the UK, it is not as widespread as it perhaps could be. Earlier on in the interview, the participant had commented on the ease with which this change in practice had taken place in the LMIC. As such, in reflecting on how the clinical practice of performing these surgeries was transformed in the LMIC, rather than the laparoscopic surgery per se, the participant can query what is impeding more widespread adoption of the same practice in the UK. Finally, one participant suggested that during their visit to the LMIC, they had to adapt when intravenous (IV) antibiotics were not available. This was often done by suggesting which oral antibiotics could be used instead. They were asked whether a similar approach, or similar problems might occur in the UK as well:

> *Q: What if there is a small hospital somewhere in the UK that's out of IV antibiotics? Why wouldn't they be able to use oral antibiotics?*
>
> *A: So, literally this morning, just before we met, I had an email saying, "We don't have this IV antibiotic." So - it does happen… We do have other antibiotics and it's around communicating with people properly. Problem is, it kind of goes against our use guidelines. So, we don't want everybody to come up with their own little idea of how they will deal with that. From a larger scale, we can kind of have a more flexible and adaptable process to dealing with those issues* (I-1)

Like the above example with the gall bladder removals, the example around pivoting to oral antibiotics when IV antibiotics are not available points to learning around how processes can be transformed. Nimbleness or flexibility around guidelines in the LMIC allows for these processes to be introduced more quickly. This flexibility around experimentation is also often what enables frugal innovations to arise in LMICs in the first place (9). NHS guidelines are of course important and necessary, yet they may hamper flexibility or impede the possibility for improvisation, which a lack of guidelines in the LMIC seem to facilitate. As the participant above suggests, there may be a middle ground, where processes can be more adaptable. The technical solutions listed above that were offered up by participants are examples of techniques and technologies, but also ways of transforming processes that could be valuable if introduced in the UK. Yet, when asked why this had not been done, respondents provided telling insights, covered in the next section.

2.4. BARRIERS TO THE TRANSFER OF LEARNING TO THE NHS

Respondents described several barriers to transferring technical solutions to the NHS. These were divided into broad themes, including practical considerations such as the perceived relevance for the NHS as a complex system, and more cognitive barriers, such as around the origin of knowledge. These are discussed in turn below.

2.4.1. PERCEIVED RELEVANCE FOR A COMPLEX SYSTEM

Some individuals described an inability to apply the work they had done during their partnerships to their daily work in the NHS, in part because of the complex nature of the NHS as a system. Some feel powerless in their positions, and they feel the NHS is not equipped to listen when people suggest changes:

> *It's difficult to make a change as a minion on the ground in the NHS. And that's because people don't have the time to listen, and we don't have that facility.* (I-1)

One participant mentioned that the burden for enacting this change is placed on the individual, who is often left with additional work and not enough support:

> *There's a lot of great ideas out there and beginnings but following change through and having the vision and support and the strategic skills to know how to do the steps, it's a lot of work.* (I-5)

Another participant conveyed a sense of exasperation when explaining how they might go about speaking to somebody about taking a look at a promising innovation:

> *There's no way in. There's no way I can talk to anybody who will make a difference or want to make a difference. You'd have to go to the flipping Minister for Health [in the UK] almost to say, you know, "Can we look at this?"…I wouldn't have a clue who to contact, and I'd probably spend weeks trying to work out who to contact and I still wouldn't get it right, so that's a big, big problem. There is no way in.* (I-8)

Still others mentioned competing interests in the NHS that is a challenging environment for the introduction of frugal solutions, as they would undercut the market for more expensive devices and treatments:

> *I think companies have a grip on the NHS and will call foul over standards and safety to such an extent that I could not see that frugal innovation ever happening.* (I-4)

Taken together, these system issues create a challenging environment for individuals to translate even promising technical solutions into the NHS. Participants described it being somewhat simpler and easier to relate learning to themselves and to their practice, where applicable, rather than to the wider healthcare system. As described by the participants above, the NHS does not appear to be a system that provides support to those who have identified learning from overseas and who wish to try to implement it on a broader scale in the UK. These are challenging practical barriers, but other, more subconscious issues about the origin of the knowledge also exist, which leads to cognitive barriers in recognizing and introducing learning from IHPs.

2.4.2. COGNITIVE BARRIERS: THE ORIGIN OF KNOWLEDGE

Two participants mentioned that they did not feel that technical solutions from their partnerships would be applicable to the UK, based on perceived differences in country contexts:

> *Whatever finding that there is in [LMIC] is not really transferable here.* (I-2)

> *You would never be put in that position in the UK.* (I-9)

Another participant described a clear knowledge hierarchy in the IHP:

> *I think we come from…quite a privileged sense of what health care is. We're very advanced in our research, and then to go somewhere where, perhaps, they're not there yet is an eye opener.* (I-7)

Although there are differences between HICs and LMICs in terms of resourcing for scientific endeavors, the general discounting of the knowledge and experience of partners in LMICs and describing LMIC partners as "not there yet" implicitly suggests that LMICs must achieve parity with HICs before the evidence that originates from there can be taken seriously. Another respondent was involved in a teaching partnership, which already has a firm, pre-established dynamic around the transfer of knowledge:

> *If [the LMIC partner] said something specifically medical that I was like, "I have never heard of that," I would be shocked. So, it's not just based on the fact that it's [in an LMIC] …if students over here told me something, that – I don't mean that in a rude way – but that I didn't know about emergency medicine, and the student was telling me it, I'd be a bit like, "Hm."* (I-7)

A unidirectional flow of knowledge will result from a teacher/student relationship. As such, particularly when the aim of the partnership is to educate or train staff in LMICs, opportunities for bidirectional technical learning will be rare and LMIC partners will be viewed as contributors of cultural knowledge, because they lack technical skills:

> *The LMIC partner wanted us to teach them about laparoscopic surgery." And I said, "yeah, yeah, sure, sure," but actually I was thinking, "well, that's ridiculous." There's no way that can happen because laparoscopic surgery is quite technically challenging.* (I-8)

Some respondents seemed to perceive LMIC partners as not skilled technically, but able to educate HIC partners around workplace culture, leadership and communication. Even if promising, technical innovations are recognized, the contexts are perceived to be too different (and the NHS too bureaucratic) for the innovations to be of use in HICs. However, there are some facilitators to technical learning dealt with in next section.

2.5. FACILITATORS TO LEARNING

One solution that was mentioned to counteract the fragmented and complicated nature of the NHS was employing an innovation practitioner as part of an innovation pathway, who could provide the necessary expertise and guidance on intellectual property management and channels to implementing an innovation. Other suggestions discussed in more detail included capturing learning through debriefs and giving LMIC partners a seat at the table when discussing the terms and expectations of the partnership.

2.5.1. CAPTURING LEARNING

One frequent way that participants mentioned that technical learning could occur was through facilitated debriefs. Some mentioned that the debrief had not occurred yet, but that it was something they had been told was planned in the near future:

> *I can't remember exactly when we had it, but I remember the coordinator mentioning something around a debrief and also capturing the learnings. Yeah, I think it's all in the pipeline.* (I-2)

For others, debriefs had been a fixture of the partnership. It was deemed a necessary and important step, and a way to link an articulated wish for bidirectional learning at the start of the partnership to a structured and formal attempt to gather it at the end of the exchange:

> *Q: Is bidirectional learning something that you emphasize to the people that are going to go [on the partnership]? You say, "we want you to go there and think about what you can bring back from there in terms of learning?"*
>
> *A: Yes, it is. And it has been for the past 10 years something that we have focused on, that they bring back and have a post-visit report, in order to download their brain about what they've gained from the experience.* (I-6)

Some partnerships involved debriefs at the end of the visits to LMICs, which involved discussions with the partners to evaluate the exchanges:

> *We always have a debrief with the [LMIC partner] when we're there at the end, to say, "What went well? What went less well? What should we do differently next time?"* (I-4)

Though most debriefs were done once the volunteers had returned home, the comment above indicates that they could also be done in collaboration with the LMIC partner. Hearing their feedback and evaluation on the progress, successes and failures of the partnership could go a long way in showing and proving that their voices and their input are crucial to the partnership, rather than simply stating this to be the case. One participant illustrated how the relationship between the partners could be taken a step further, and how parity between partners could be achieved.

2.5.2. INTEGRATION

Although this process was recounted only by one participant, it is insightful around how potential stereotypes and cognitive barriers about who holds knowledge and where learning comes from could be subverted. In the partnership described by this participant, it begins with reflection and introspection, and perhaps checking one's ego at the door, and understanding that although one may have been afforded the privilege of gaining education and expertise in a well-resourced HIC, this should not affect how one interacts with the LMIC partners:

> *I was very willing to step down just to be an equal among the team, so, to demonstrate, really, that we're all learners here.* (I-4)

Their conceptualization of bidirectional learning was conducive to an equal exchange of knowledge, but also to implementation of that learning on a system-wide level in the NHS, rather than just on the individual level:

> *I think it's when you both teach and learn in a partnership, equally on both sides and are able to probably transfer that learning back into your own system.* (I-4)

Once this dynamic has been established, that all are learners, the language and conversation around the relationship between partners can be used to encourage the LMIC partners to contribute what they know, to validate their learning and their knowledge, and to be treated as equals:

> *And I think some of the best things we've done, not doing it in a patronizing way, was just to say how bloody good they were at their jobs and how much we admired their jobs. That's been something that we've done sort of quite intentionally.* (I-4)

More specifically:

> *I think one of the things that I realized was that we weren't just bringing knowledge… There was only one surgeon there, and he's a very, very good guy…I don't think we had anything to teach him about surgery. He was a very good surgeon.* (I-4)

The realization on the part of the HIC partner that there was nothing left to teach this particular surgeon can lead to a shift in the mindset of the HIC partner: If there is nothing left to *teach*, then what can we *learn?* Recognizing this can be crucial in dismantling any

perceived or real knowledge hierarchies and can open the door to bidirectional learning. A final, important step is recognizing LMIC partners as equals, which the participant describes as follows:

> *Our appreciation of [our LMIC] colleagues has grown and grown, so we now have a, [LMIC] trustee in the charity who we find is invaluable, and she's probably our guide now really. And in all our teams that our work streams that we work with, we have [LMIC] equal members… I think before, we were sort of willing in principle, but we had not yet quite learned it was utterly essential and how much they would bring to us, and actually how pointless what we do is without them being there*. (I-4)

As such, providing a seat at the table and to have a trustee from the LMIC country has ultimately leveled the playing field with the LMIC partner seen as an equal member and partner in the exchange. What began with a change in mindset and a recognition that both HIC and LMIC partners can stand to learn from the relationship manifested in integration of the LMIC partners into the decision-making and agenda setting. The LMIC partner now provides a powerful and valued voice in the exchange, and their contributions are recognized rather than ignored.

3. DISCUSSION

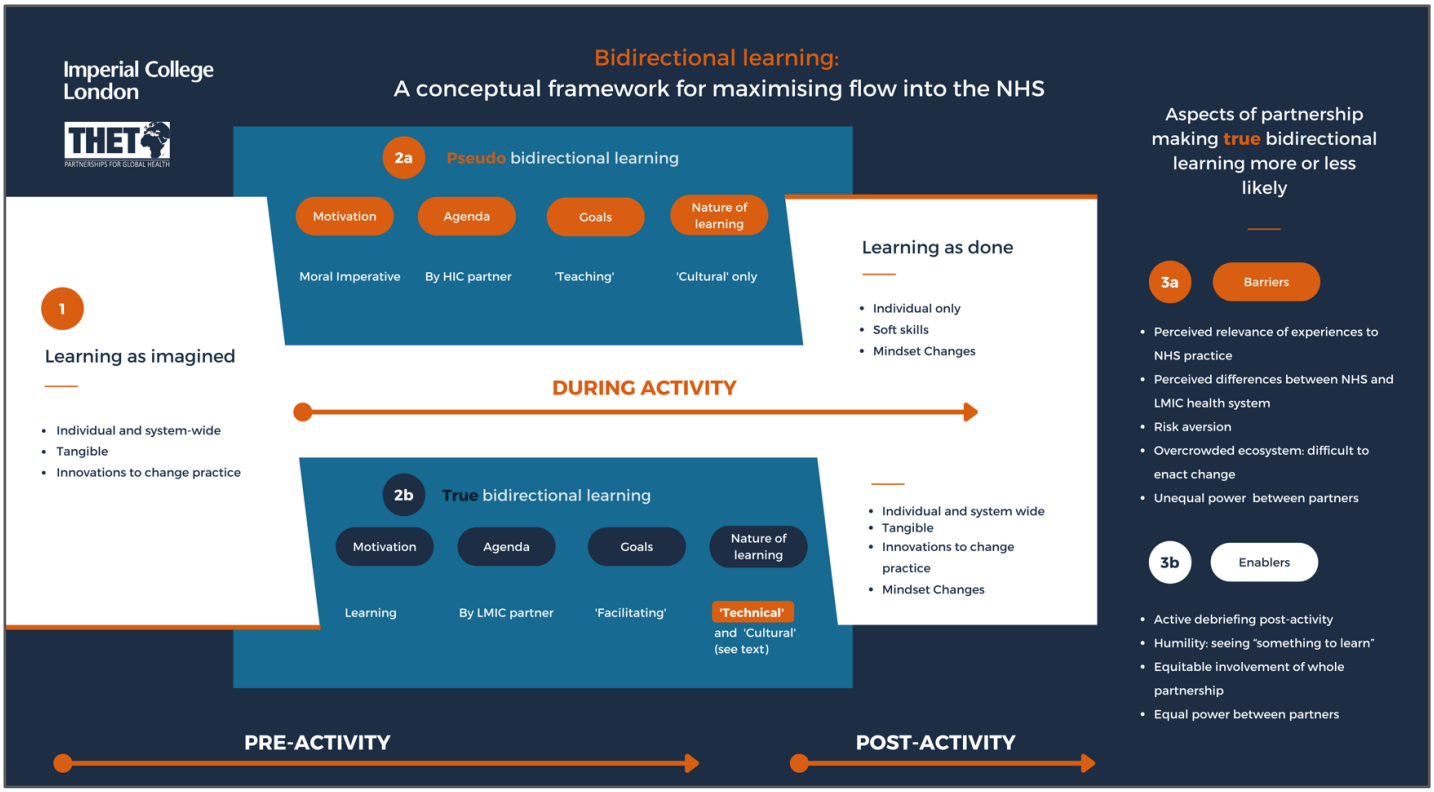
The links between colonialism and international (later "global") health are rooted in the study of tropical diseases that threatened high-yielding crops and trade opportunities in the colonies (18). However, it is increasingly understood that one of the effects of colonial rule was also the systematic marginalization of most forms of indigenous knowledge and therapeutics in favor of medical teachings originating from the "civilized" western world (19). Perceived superiority of western thought and knowledge persist to this day in global health more broadly. Indeed, empirical evidence suggests that English clinicians rate research that is presented as originating from an LMIC worse compared to identical research presented as originating from an HIC (20). Unconscious bias against LMICs is prevalent (20), and LMICs are often relegated to role of consumers of knowledge, while HICs are positioned as the producers of knowledge (21). Changing this dynamic, by accepting that HIC knowledge is not universal, and recognizing that knowledge from LMICs is worthy of recognition and inclusion could be crucial to leveling the playing field between partners in IHPs and is a central ambition of THET's work.

However, this research identified some key issues. Firstly, IHPs that place LMIC partners on an equal footing in terms of the mission, agenda setting and motivation for the partnership will be more likely to achieve the ambition of bidirectional cultural *and* technical learning. Secondly, the complexity of the NHS requires purposeful active debriefing and change management support, so that volunteers are empowered to share technical learning into their NHS contexts. Finally, there is a tension, a mismatch, between the narrative of bidirectional learning, which presumes mutual benefit through technical learning, but that is not borne out in practice.

3.1. CONCEPTUAL FRAMEWORK

The following Conceptual Framework illustrates the discrepancies between bidirectional learning "as imagined" and bidirectional learning "as done," as well as the factors that may lead to them before and during an IHP. Individual participants' motivations may set them on a path that either facilitates or impedes technical learning "as done." Motivation predominantly focused on *helping* others, agendas which are set *by* HIC partners *for* LMIC partners, or volunteers who are going to "teach" will lead to cultural learning "as done." In certain scenarios, LMICs partners may ask for HIC partners to deliver teaching, which may result from a need for specialties or techniques for which trainers do not exist locally. That said, however, the HIC partners should still be mindful of the power dynamic, and how this might influence their openness to learning from the LMIC partner. Cultural learning will be reinforced by the perceived lack of relevance of the partnership to one's work in the NHS, a risk averse and crowded ecosystem into which the learning is to be translated, and perceived differences in the country contexts. Conversely, somebody who is motivated not only by having something to give but also something to learn, is participating in a partnership with an agenda set as much by the LMIC itself, and is going to "facilitate" learning, rather than to "teach" may be more open to learning from the LMIC partner and lead to "technical learning." Technical learning can be promoted by active debriefs, humility on the part of the participant and equitable involvement and integration of LMIC partners. Technical learning "as done," not only "as imagined" might then result in a genuinely reciprocal and mutually beneficial bidirectional learning, with system-wide learning of tangible innovations that can change practice, in both contexts.

If attention is not paid to how the IHPs are established and managed, then the phrase “bidirectional learning” is at risk of becoming a novel euphemism for traditional development assistance. Implicitly, it will continue to mean that LMIC partners will learn how to do things better from the HIC partners, and the HIC partners will learn a lot about themselves in the process. While these soft skills will continue to be valuable to the NHS and its workforce, this dynamic will perpetuate a knowledge hierarchy that no longer has a place in global health and development and risks missing opportunities for the NHS to benefit from expertise in LMICs. Genuine bidirectional learning that is mutually beneficial is when both contexts can demonstrate positive changes in practice in their own settings that can be directly attributable to that partnership. Until then, claims of reciprocity, bidirectionality, mutual learning, and others, are at risk of being viewed as contemporary tokenisms.



1. **Bidirectional learning as imagined.** The term “bidirectional learning” is conceptualized as a mutually beneficial learning relationship at the beginning of a partnership. Reports indicate that they will be contributing knowledge, but also receiving knowledge during the partnership.
2. **Bidirectional learning in practice.** These steps can set the tone to result in a divergence from bidirectional learning “as imagined”.
    a. **Pseudo bidirectional learning:** When participants indicate they are joining out of a sense of a moral imperative, agendas are set by HIC partners or goals involve a top-down teaching approach, this can reinforce hierarchies of knowledge and prevent the participants from seeing the LMIC partner as producers of knowledge. The resulting learning is purely “cultural”, focused on the individual, and consists of soft skills and mindset changes.
    b. **True bidirectional learning:** Conversely, when agendas are set by the LMIC partners and when goals of the partnership involve the ability and opportunity to learn *from* the LMIC partners, this levels the playing field and frames both partners as equal knowledge brokers. Learning is both cultural *and* technical, and can have impacts on a system-wide level, through innovations that can transform practice.
3. **Aspects of partnership influencing bidirectional learning.**
    a. **Barriers:** A perceived difference in the contexts (NHS vs LMIC), along with an overcrowded system that is generally seen to be risk averse, encourages participants to focus primarily on “cultural” learning. This results in a mismatch between bidirectional learning as imagined and as done, and contributes to unequal knowledge between partners.
    b. **Enablers:** Active debriefs, cultivating a sense of humility and recognizing that everyone has something to learn and something to contribute, regardless of context, can facilitate “technical” learning of techniques, technologies and transformation of processes. Knowledge includes “cultural” *and* bidirectional learning as imagined.

4. IMPLICATIONS FOR PRACTICE

The above outlined interview themes and the accompanying schematic illustrates that there are discrepancies that exist between the narrative and imagined concept of bidirectional learning and the real-world practice of bidirectional learning. In this section, we outline some possible implications of these discrepancies for the practice of identifying innovation in the NHS through bidirectional learning.

Primarily, tokenistic goals and agenda setting that refer to bidirectional learning as a diffuse concept or discursive idea must be called into question. Both partners participating in the exchange must have an understanding that although their respective contexts are different, they nonetheless each have something to learn and something to contribute. Conceptualizing technical learning as a meaningful activity and practice, rather than a tick-box exercise must be part of the early stages of every partnership.

Similarly, participants must demonstrate a meaningful desire to learn. This may require a deeper reflection on the challenges inherent in their own clinical practice and day-to-day activities, as well as some anticipatory exploration of the areas of practice where LMICs may be performing better and may be able to provide direction. It could require a reframing of the participant's thinking ahead of the partnership to be able to see not the differences in the country contexts, but to focus instead on the similarities.

Further, the LMIC partners must play a role in the governance, administration and agenda-setting of their partnership. They will be most familiar with their own contexts, and will be knowledgeable about what learning is needed, and what innovative solutions might be available to be shared. They must assert themselves as equal partners and demand to be involved in agenda setting at the start and debriefs at the end of the partnerships. HIC partners, could practice humility in the sense that they do not hold all the answers and all the knowledge to solve the LMIC partners' problems, and that innovative solutions can be found anywhere. Additionally, HIC partners must be accepting of LMIC partners' desires to be involved in the mapping out of the partnership, and must value the contributions that LMIC partners make, rather than being dismissive of them.

Active debriefing, a step already mentioned in the Innovation Toolkit for Health Partnerships (6), should be carried out after each visit or partnership, and should involve the senior management of the NHS Trust to ensure that the experience is taken seriously. Additionally, individuals with expertise and knowledge about how to adapt and implement learning (cultural, but especially technical) should also be in attendance, to provide clear pathways and opportunities that can lead to changes in practice.

Finally, when physical exchanges and reciprocal visits between HIC and LMIC partners do occur, care should be taken that the dynamics of the partnership are also inverted. So, if an HIC partner visits an LMIC to facilitate learning in a certain area of clinical practice, when the LMIC partner visits the HIC, the LMIC partner should similarly be given the chance to contribute their knowledge and expertise. This would ensure that the physical exchanges do not still perpetuate the teaching and training dynamics that situate HICs as the producers of knowledge and LMICs as the consumers but would indeed see that dynamic be turned upside down.

5. NEXT STEPS AND FUTURE DIRECTIONS

Following this report, we have devised some possible next steps and future directions to improve the opportunities for innovation in the NHS through bidirectional learning.

We would advise to make more active utilization of the Innovation Toolkit for Health Partnerships. All nine interview participants were emailed following the interview to ask whether they were familiar with it. Of the seven who responded, only one indicated that they had heard of the toolkit. The toolkit provides several useful and practical examples to facilitate discussion and reflection around subconscious biases and latent knowledge hierarchies that could impede truly bidirectional partnerships. Promoting, and perhaps indeed requiring the use and application of this toolkit before, during and after the partnership could be invaluable. To that end, THET should begin to understand how much the toolkit is being used, by whom and what its effect has been so far, to better understand how it can be applied and promoted throughout the partnerships that THET supports.

We would suggest that this report be shared with Health Partnership leads, along with a reflective note from the Chief Executives of THET and HEE, in order to consolidate and further strengthen its messages. This could serve to reinforce the importance and dedication

to the cause of bidirectional learning and identifying innovations for use in the NHS following IHPs. It could also alert partnership coordinators to some of the perils and pitfalls of bidirectional learning 'as imagined' versus bidirectional learning 'as done.'

Finally, future partnerships could be funded based on the extent to which they actively engage with THET's bidirectional learning agenda. As stated above, this must be more than simply a tick-box exercise and a tokenistic mention of bidirectional learning in the funding application but should be linked perhaps to specific needs of the applicants' respective NHS Trusts, and a stated desire to identify and find solutions during the IHP. Future grants could be contingent on applicants providing a report on how they approached identifying solutions to their problems while abroad, what learning occurred and how it is being implemented in their Trusts (or why not, if they have been unable to do so). Likewise, LMIC partners must be given an equitable and meaningful role in the governance and administration of the partnership. This could be done, for example, by giving LMIC partners equal representation on the boards of the partnerships, which could likewise be a requirement for future funding.

6. LIMITATIONS

This research suffers from the usual problems with qualitative research in that participants were self-selecting individuals and themes may not be generalizable or shared amongst the wider partnership community. The stated aims of the project were to understand what has enabled successful bidirectional learning in the NHS following THET-supported partnerships. However, due to recruitment delays and changes to our ethics approval required, it resulted in a smaller sample size than anticipated. We broadened the scope of our interview participants to those that simply had had experience in IHPs and widened the remit of the interviews to focus on more general areas, such as participants' perception, understanding, and experience of partnerships as they pertain to the predefined concept of bidirectionality. Yet, even then, the sample size remained small. Although some of this had already been reported on in previous work (10), we felt that there was a significant opportunity to still explore these themes with respondents, given recent developments around decolonization of medicine and global health, and a greater awareness of the opportunity and benefits of frugal innovation through the Innovation Toolkit. Ultimately, the interviews provided insights into factors that influenced bidirectional learning 'as imagined' and 'as done' for participants on THET-sponsored IHPs.

7. CONCLUSION

There continues to be a disconnect between bidirectional learning "as imagined" and bidirectional learning "as done" because the benefits of IHPs predominantly result in cultural, but not technical learning. While many IHPs may place an emphasis on the importance of bidirectional learning, this often appears loosely defined, and narratives of bidirectional learning are at risk of appearing tokenistic. Even though agendas are frequently set by LMIC partners, the goals of the partnership (teaching specific skills) and the motivation of some participants to join (a moral imperative to help those in need) reinforce a dynamic in which HIC partners hold the power and the knowledge, and that LMICs have nothing to contribute.

The result of this is that the type of learning that occurs in the partnerships is predominantly "cultural" in nature, meaning it pertains to soft skills, such as leadership and communication skills. While cultural learning is important in its own right, a truly bidirectional partnership will also involve an exchange of "technical" knowledge, which centers around innovations and changes to practice are largely disregarded. Greater emphasis can be placed on sensitizing IHP participants to the practice of bidirectional learning using THET's Innovation Toolkit for Health Partnerships. This could prime and encourage participants to identify issues that need solving within their own Trusts, and to look for solutions to their own problems while abroad. Finally, future partnerships must create a space that allows bidirectional learning – that all contexts, though different, have something to teach and something to learn – to manifest. This will close the gap between bidirectional learning 'as done' and bidirectional learning 'as imagined.'

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9. DECLARATIONS

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DISCLAIMER

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CONFLICT OF INTEREST

None declared.

ETHICS STATEMENT

Ethical approval for the study was obtained through the Imperial College Research Ethics Committee (Reference Number 21IC6786).

DATA ACCESS

De-identified interview data can be accessed via the UK Data Service.

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