Pathfinder Studies:
A Practical Approach to Overcoming Challenges in Health Research Through Collaboration and Innovation

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Pathfinder Studies are an add-on approach to document research challenges, track key metrics, and identify solutions. Examples from Brazil demonstrate how this method maps processes and enhances research efficiency, safety, and ethics.

BACKGROUND

Common challenges faced by teams conducting primary research studies are well documented, however, whilst there are accessible solutions, tools, and training available, research teams often remain unaware and alone in designing, planning, operating, and reporting their studies. There is merit in documenting common challenges, solutions, and tools encountered by health researchers, particularly in low-resource settings, for the purpose of sharing best practices and facilitating further data-driven health research.

METHODS

The Global Health Network (TGHN) and HDR UK, in 2022/2023, have designed a highly practical approach for an add-on study, based on the "study within a trial" concept. These add-on studies "Pathfinder Studies" aims to: identify and record the component steps required for the host study, track key metrics (time taken and resources required) for each component to generate a process map, support in identifying barriers and solutions, and capture and share the tools/methods/technology or governance processes of each challenge. Figure 1 illustrates the iterative learning-by-doing process that the Pathfinder method aims to enable.
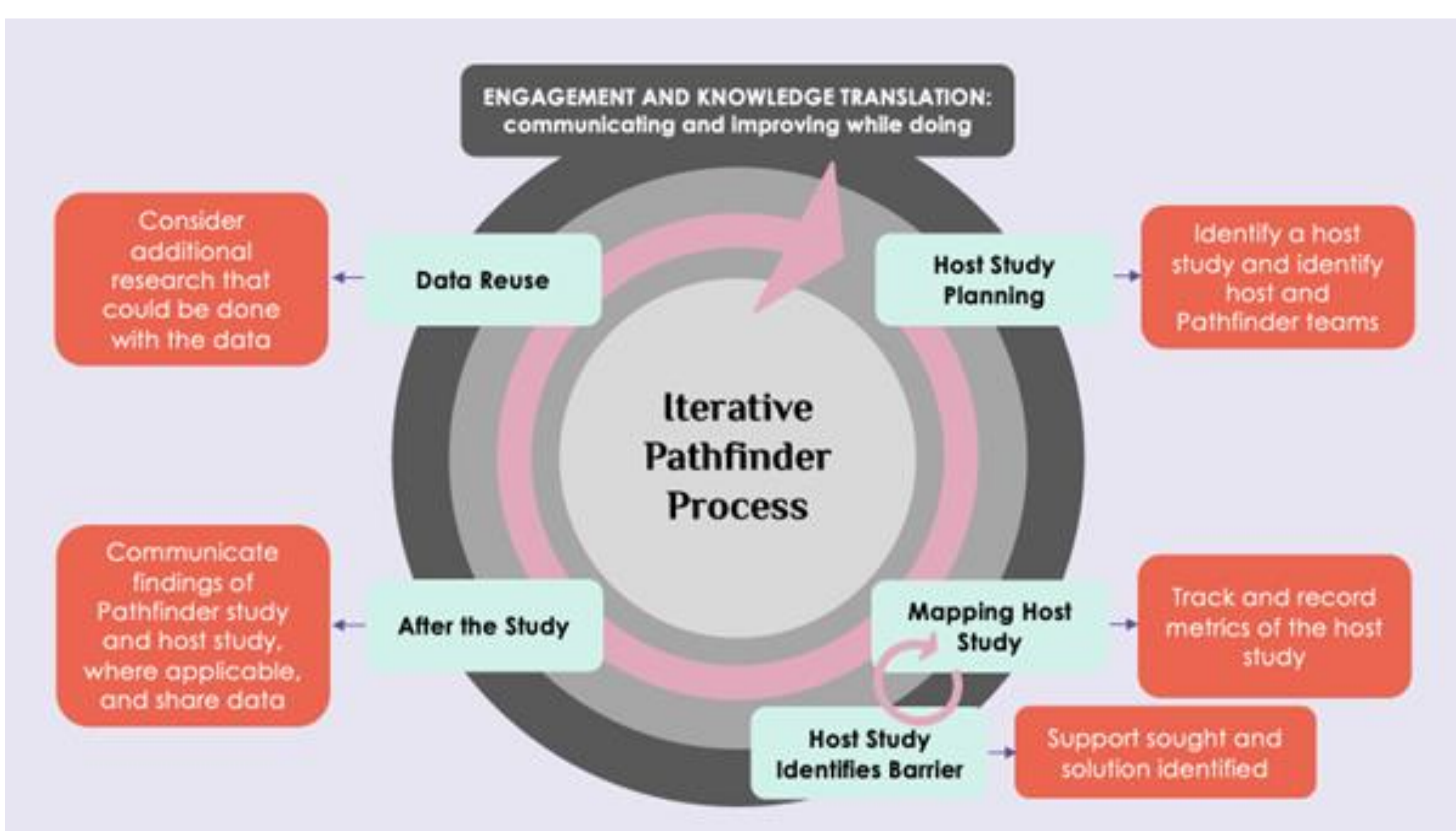

Figure 1. Iterative Pathfinder Process.

RESULTS

Examples of Pathfinders, in Brazil, are mapping data-driven processes, like undertaking regulatory vaccine trials in a centre with limited previous research experience - **Vacina Maré Research** - and analyzing data from a national survey on fetal losses, deliveries and births - **Birth in Brazil II**. These two host studies were mapped using a tracking tool with data from the triangulation of qualitative methodologies, such as document analysis, roundtable discussions and interviews.

As a result of mapping these host study, the identified challenges, solutions and lessons learned were shared throughout different resources, such as a **brief report**; a **workshop** focused on tools for fostering community engagement and mobilisation in public health, with researchers from Asia and India; a **webinar** on the use of REDCap beyond surveys and typical databases for research efficiency (+3,000 registers); a Network and Stakeholder **Dashboard**, aiming to map stakeholders, enhance engagement capabilities, and provide a toolkit; a **Dashboard** on Monitoring data collection, designed to guide other researchers in developing their own; and **toolkits** as in how to make science with peripheral territories. Also, boosted **data reuse** with a paper from the Vacina Maré, focusing on the impact of the first year of the COVID-19.

CONCLUSIONS

Pathfinder Studies are set to deliver a vast bank of open-access methods and tools that others can use in their studies to help generate safe, accurate and ethical health research.

ADDITIONAL KEY INFORMATION