

Call for proposals

Health policy and systems research on the role of digital interventions in strengthening health systems in LMICs (focus: data solutions for PHC managers)

A joint call from the Alliance for Health Policy and Systems Research, WHO and the Department of Digital Health and Innovations, WHO

Deadline:

30 September 2022, 23:59 CEST



Call for proposals

Health policy and systems research on the role of digital interventions in strengthening health systems in LMICs (focus: data solutions for PHC managers)

Date issued: 17 August 2022

Deadline: 30 September 2022, 23:59 CEST

A joint call from the Alliance for Health Policy and Systems Research, WHO and the Department of Digital Health and Innovations, WHO.

Overview

This call for proposals is for interdisciplinary health policy and systems research (HPSR) studies examining how interventions on digital data solutions for PHC managers in LMICs have contributed to strengthening health systems in LMICs. Proposals will focus on existing interventions and will include a co-principal investigator who is directly engaged in implementing the intervention under study. Proposals will outline appropriate qualitative and quantitative methods to explore the intended and unintended consequences of the interventions on the broader health system.

Background

The global technological revolution has heralded rapid growth in the development of digital interventions (DIs)¹ on health in the past two decades, with technologies of increasing sophistication and wide functionalities being made available for use by clients, health care providers and health managers (1). Although recognition of health system challenges in low- and middle-income countries is not the primary impetus for this proliferation of DIs and solutions, there has been widespread recognition of their potential in addressing the challenges and solving problems experienced by these health systems (2). At the 71st World Health Assembly, WHO Member States endorsed a resolution on digital health that suggests that governments should recognize the importance of digital systems for facilitating health systems strengthening and achieving universal health coverage (8).

DIs aimed at clients and frontline care providers have found the most widespread application (3,4), however there is also a growing presence of DIs aimed at health managers. These have a range of functions ranging from the more effective management of human resources, finances, supplies and inventory, and health facilities, to tracking public health and demographic phenomena and coordinating responses. A range of data services interventions also now exist, that support cross-system activities related to data collection, management, use, and exchange, many of which are targeted at managers and policy-makers (3–5).

The problem

The unsystematic adoption and implementation of DIs that purport to strengthen health systems has been noted by several commentators (9, 10). Despite the wide applicability of digital health strategies and solutions, governments have found it challenging to assess, scale up and integrate such solutions effectively into health systems. There are several manifestations of this problem, including the multiplicity of pilot projects with no clear plan or process for scale (2,11) the lack of interconnectedness and interoperability between individual applications (12), inadequate integration with existing health information systems (13) and the absence of standards and tools for comparative assessment of digital solutions (8). This problem has several potential implications for health systems, including:

- Ineffectiveness of DIs due to lack of alignment with existing health system capacities and needs. These problems range from the absence of a strategic framework or relevant laws and regulations

¹ WHO's official classification defines *digital health interventions* as representing a discrete functionality of the digital technology to achieve health sector objectives.

to deficient infrastructure for the integration of DIs, to inadequate human capacity to implement and/ or benefit from DIs (14-17);

- Deleterious impacts on health systems performance and outcomes resulting from the diversion of resources and attention towards DIs and away from other pressing priorities (18, 19); and
- Ethical concerns ranging the exacerbation of inequities to hazards to data privacy and safety (10,20).

While there is a growing knowledge base on health outcomes achieved through DIs (21), their contribution in addressing specific health system challenges is poorly explored – especially when seen in the context of the widespread adoption of untested DIs (22). The evidence gap widens further when it comes to understanding what happens when DIs are introduced into complex health systems contexts, the consequent impacts on health systems performance and ethical considerations (10,23). Understanding the effects of DIs on complex health systems requires multifaceted and context-sensitive analysis, which can be achieved through health policy and systems research.

Focus on data solutions for PHC managers

This programme will have a specific focus: data use solutions for health managers in primary health care (PHC) contexts. Strengthening PHC systems is critical for the reduction of health inequities and the advancement of UHC, and the roles of PHC managers are crucial in helping advance these goals. Their cross-cutting roles mean that interventions aimed at health managers have systemwide effects with significance for larger proportions of the population (9).

Objectives

The objectives of this programme are to:

1. Support the generation of coherent health policy and systems research knowledge on the role of digital data solutions for PHC managers in complex health systems in LMICs;
2. Stimulate learning and action on the integration of DIs in health systems among policy and decisionmakers at local and country level; and
3. Disseminate the knowledge broadly to policy- and decision-makers with the purpose of informing strategies for the integration of DIs in health systems in different LMIC contexts.

Proposals are invited for interdisciplinary health policy and systems research proposals² linked to existing interventions on digital data solutions for PHC managers in LMICs.

Eligible interventions include, but are not limited to:

- Decision support solutions for PHC managers
- Data sharing solutions for PHC managers
- Solutions promoting greater data accessibility and/ or transparency in managing PHC systems
- Solutions promoting improved interoperability across different data/ information sources, in the management of PHC systems
- Digitalization of paper-based information for the management of PHC systems.

Proposals will explore both intended and unintended consequences of the intervention on the broader health system. Proposals will outline appropriate qualitative and quantitative methods to address a range of research questions, covering the first two of the following areas (mandatory), and at least one of the remaining areas:

1. **How has the digital solution contributed (or failed to contribute) towards addressing an existing health systems challenge or challenges (e.g., information, quality, efficiency, availability, acceptability, utilization, accountability, cost)? (mandatory)**
2. **How has the digital solution ensured (or not ensured) equitable access to its benefits? (mandatory)**
3. How has the digital solution taken account of the ecosystem in which it will be integrated, including existing digital infrastructure and technological support (network and electricity), synergies and interoperability with other existing DIs, human capacity to utilize and benefit from the solution, and strategic guidance and rules on data management and interoperability?
4. How has the digital solution taken account of other (non-digital) health system needs and priorities, and whether it is displacing them to the detriment of broader health system performance?
5. How have potential hazards around privacy and safety of data been addressed?

Once the proposals are selected and research teams identified, the Alliance will convene a framework harmonization workshop to develop collective agreement on the core themes and questions to be addressed in each of

² Interdisciplinary HPSR draws on methods and approaches from different research disciplines to draw a comprehensive picture of how health systems respond and adapt.

the research proposals. A framework will be developed in which common questions to be addressed across all research protocols will be identified, context specific questions that are unique to particular contexts will be enlisted, and standards for direct and analytic generalizability of findings will be established.

Once the research has been completed, a follow-up synthesis workshop will be conducted to share findings, aggregate or synthesize them where feasible, and arrive collectively at core messages emerging from the programme. A plan will be developed to disseminate the knowledge broadly to policy- and decision-makers, including within WHO, with the purpose of informing strategies for the integration of DIs in health systems in different LMIC contexts.

Eligibility

In order to apply, a research team must meet the following criteria:

- The Principal Investigator (PI) must be a researcher based in a research institution in a low- or middle-income country.
- Teams must be gender-balanced with women comprising at least 50% of the research team.
- Teams must have the ability to engage directly with and co-produce the research with national or subnational health system decision-makers. Research teams will include a Co-principal Investigator who is directly engaged in implementing the intervention under study.
- Teams must, in their proposals, be able to demonstrate their plans for engaging with health system decision-makers.
- The experience of researchers as reflected in the proposal as well as the CV of the PI should demonstrate capacity both in health systems and policy research as well as an interest and understanding of digital health.

Individuals not based in LMICs are not eligible to apply as principal investigators. However, organizations based in LMICs can collaborate with individuals and organizations based in high-income countries to submit a proposal based on the condition that not more than 15% of the total grant value goes to individuals or organizations based in high-income countries.

Work duration and budget

Individual research projects will be funded for up to a maximum of US\$ 70 000. The research projects are expected to run for a maximum of 15 months. By submitting a proposal, principal investigators commit to

attending a framework harmonization workshop, to be held in late 2022 and a synthesis workshop to be held in 2024.

Application process

Deadline: 30 September 2022, 23:59 CEST

Bids submitted after this deadline will not be considered.

Successful applicants can expect to be notified within eight weeks of the deadline. WHO may, at its own discretion, extend this closing date for the submission of bids by notifying all applicants thereof in writing.

Submissions of bids should be made at alliancehpsr@who.int. Please use the subject: WHO bid ref: Call on digital interventions and PHC systems.

Submissions of no more than six pages (standard font size 11, 1.15 line spacing, normal margins), not including team CVs should include the following and be submitted in one consolidated file:

- **Contact details:** Name of the bidding institution, including contact details and name of a key contact person.
- **Motivation for applying:** A description of how this work fits in with the bidder's expertise and aligns with current areas of work. This should be in the form of one-page document explaining how the bidder has expertise in health systems and digital health and will be able to access and engage appropriate stakeholders, with specific reference to engagement with policy-makers and civil society groups.
- Provide a **background on the health systems and digital health landscape in the country** as well as a summary of any existing literature in this setting.
- Provide a **problem statement** outlining some of the key challenges of the health systems and its implementation process in the setting proposed for the study.
- Provide **information of interdisciplinary approach** and mixed methods to be used, including demonstrating how these will contribute to addressing the problem statement.
- Outline specific **plans on how to engage and work closely with health system decision-makers**
- **Composition of the proposed team:** names, expertise, function in institution, gender, and role in team and experience relevant to the call.

- The team must provide **information about the gender breakdown of the core research team**, noting that to be eligible for funding 50% of the core research team must comprise female researchers.
- In addition to the proposal, **teams must submit CVs** (of not more than three pages each) of the members of the research team, as attachments in the same email (not included in the page limit for the proposal). In case a research team member has more than 20 publications, please list the most relevant and/or recent publications.
- **Project timeline:** Description of a maximum 15 months timeline that demonstrates how the bidders plan to carry out activities to respond to the overall aims and objectives of the project.
- **Itemized budget** based on the specific tasks outlined. Please also provide a **summary budget** of the total costs summarized by the following categories (not all may be applicable): personnel, supplies/facilities, equipment, communications, travel and per diem, and other (meetings, publications, etc.).
- Costs of peer reviewed research publications/ a special Issue will be supported by the Alliance Secretariat and should **not** be included in the budget.
- Institutional overheads should not exceed 13%.

Evaluation of research proposals

Research proposals will be judged by reviewers on the basis of set criteria that will include:

- The potential of the proposed research study to contribute to the overall aims of the research programme.
- Quality of the research proposal in terms of demonstrating an understanding of health systems strengthening and the role of digital interventions.
- Appropriate data sources and methods.
- Qualifications and experience of the research team in the areas of health systems strengthening and digital health.
- Demonstrated ability to partner with health system decision-makers and other key stakeholders .
- Feasibility of proposed study over a 15-month duration to implement the research (from the development of the final protocol to the submission of the final report).
- Value for money.

The selection of proposals across countries will also seek to maximize diversity in terms of geographical area, and the potential of the knowledge generated as a whole in advancing knowledge in this area.

Note for applicants

1. WHO may, at any time before the closing date, for any reason, whether on its own initiative or in response to a clarification requested by a (prospective) applicant, modify the bid by written amendment. Amendments could, inter alia, include modification of the project scope or requirements, the project timeline expectations and/or extension of the closing date for submission.
2. All prospective applicants that have submitted a bid will be notified in writing of all amendments to the bid and will, where applicable, be invited to amend their submission accordingly.
3. Applicants should note that WHO reserves the right to:
 - a. Award the contract to an applicant of its choice, even if its bid is not the lowest;
 - b. Accept or reject any bid, and to annul the solicitation process and reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected applicants and without any obligation to inform the affected applicants of the grounds for WHO's action;
 - c. Award the contract on the basis of the Organization's particular objectives to an applicant whose bid is considered to be the most responsive to the needs of the Organization and the activity concerned;
 - d. Not award any contract at all;
 - e. WHO has the right to eliminate bids for technical or other reasons throughout the evaluation/ selection process. WHO shall not in any way be obligated to reveal, or discuss with any applicant, how a bid was assessed, or to provide any other information relative to the evaluation/selection process or to state the reasons for elimination to any applicant.
4. WHO is acting in good faith by issuing this request for bids. However, this document does not obligate WHO to contract for the performance of any work, nor for the supply of any products or services.
5. WHO reserves the right to enter into negotiations with one or more applicants of its choice, including but not limited to negotiation of the terms of the bid(s), the price quoted in such bid(s) and/or the deletion of certain parts of the work, components or items called for under this bid.
6. Within 30 days of receipt of the contract, the successful applicant shall sign and date the contract and return it to WHO according to the instructions provided at that time. If the applicant does not accept the contract terms without changes, then WHO has the right not to proceed with the selected applicant and instead contract with another applicant of its choice.

References

1. Olu O, Muneene D, Bataringaya JE, Nahimana MR, Ba H, Turgeon Y, Karamagi HC, Dovlo D. How Can Digital Health Technologies Contribute to Sustainable Attainment of Universal Health Coverage in Africa? A Perspective. *Front Public Health*. 2019 Nov 15;7:341. Doi: 10.3389/fpubh.2019.00341.
2. Labrique AB, Wadhvani C, Williams KA, Lamptey P, Hesp C, Luk R, Aerts A. Best practices in scaling digital health in low and middle income countries. *Global Health*. 2018 Nov 3;14(1):103. Doi: 10.1186/s12992-018-0424-z.
3. World Health Organization. WHO guideline: recommendations on digital interventions for health system strengthening. World Health Organization; 2019.
4. Manyazewal T, Woldeamanuel Y, Blumberg HM, Fekadu A, Marconi VC. The potential use of digital health technologies in the African context: a systematic review of evidence from Ethiopia. *NPJ Digit Med*. 2021 Aug 17;4(1):125. Doi: 10.1038/s41746-021-00487-4.
5. Bhattacharyya, Dipika Shankar et al. Implementing a digital human resources management tool in the government health sector in Bangladesh: a policy content analysis. *BMC health services research* vol. 21,1 1346. 16 Dec. 2021, doi:10.1186/s12913-021-07304-4
6. Cahn A, Akirov A, Raz I. Digital health technology and diabetes management. *J Diabetes*. 2018 Jan;10(1):10-17. Doi: 10.1111/1753-0407.12606.
7. Mitchell M, Kan L. Digital Technology and the Future of Health Systems. *Health Syst Reform*. 2019;5(2):113-120. Doi: 10.1080/23288604.2019.
8. World Health Organization. WHA 71.1, Digital Health 21 May 2018. Available at: http://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_R7-en.pdf. Accessed: 16 February 2022.
9. Labrique A, Vasudevan L, Mehl G, Rosskam E, Hyder AA. Digital Health and Health Systems of the Future. *Glob Health Sci Pract*. 2018 Oct 10;6(Suppl 1):S1-S4. Doi: 10.9745/GHSP-D-18-00342.
10. George A, Lefevre A, Ved R. Taming the Wild West of Digital Health Innovation. Project Syndicate. 2019 June. Available at: <https://www.project-syndicate.org/commentary/global-health-digital-innovation-accountability-by-asha-george-et-al-2019-06?barrier=accesspaylog>. Accessed. 16 February 2022.
11. Assan A, Takian A, Aikins M, Akbarisari A. Challenges to achieving universal health coverage through community-based health planning and services delivery approach: a qualitative study in Ghana. *BMJ Open*. 2019 Feb 22;9(2):e024845. Doi: 10.1136/bmjopen-2018-024845.
12. Lehne M, Sass J, Essenwanger A, Schepers J, Thun S. Why digital medicine depends on interoperability. *NPJ Digit Med*. 2019 Aug 20;2:79. Doi: 10.1038/s41746-019-0158-1.

13. Mehl G, Labrique A. Prioritizing integrated mHealth strategies for universal health coverage. *Science*. 2014 Sep 12;345(6202):1284-7. Doi: 10.1126/science.1258926.
14. Wong BLH, Maafß L, Vodden A, van Kessel R, Sorbello S, Buttigieg S, Odone A; European Public Health Association (EUPHA) Digital Health Section. The dawn of digital public health in Europe: Implications for public health policy and practice. *Lancet Reg Health Eur*. 2022 Mar;14:100316. doi: 10.1016/j.lanepe.2022.100316.
15. van Kessel R, Wong BLH, Rubinić I, O'Nuallain E, Czabanowska K. Is Europe prepared to go digital? Making the case for developing digital capacity: an exploratory analysis of Eurostat survey data. *PLOS Digit Health*. 2022 doi: 10.1371/journal.pdig.0000013. published online Forthcoming.
16. World Health Organization & International Telecommunication Union. National eHealth strategy toolkit. International Telecommunication Union. 2012). Available at: <https://apps.who.int/iris/handle/10665/75211>. Accessed February 16, 2022
17. Tiffin N, George A, LeFevre AE. How to use relevant data for maximal benefit with minimal risk: digital health data governance to protect vulnerable populations in low-income and middle-income countries. *BMJ Glob Health*. 2019 Apr 11;4(2):e001395. Doi: 10.1136/bmjgh-2019-001395.
18. Karlsberg Schaffer S, Sussex J, Hughes D, Devlin N. Opportunity costs and local health service spending decisions: a qualitative study from Wales. *BMC Health Serv Res*. 2016 Mar 25;16:103. Doi: 10.1186/s12913-016-1354-1.
19. Rahimi K. Digital health and the elusive quest for cost savings. *Lancet Digit Health*. 2019 Jul;1(3):e108-e109. Doi: 10.1016/S2589-7500(19)30056-1.
20. Bhaskar S, Bradley S, Chattu VK, Adishes A, Nurtazina A, Kyrkybayeva S, Sakhamuri S, Yaya S, Sunil T, Thomas P, Mucci V, Moguilner S, Israel-Korn S, Alacapa J, Mishra A, Pandya S, Schroeder S, Atreja A, Banach M, Ray D. Telemedicine Across the Globe-Position Paper From the COVID-19 Pandemic Health System Resilience PROGRAM (REPROGRAM) International Consortium (Part 1). *Front Public Health*. 2020 Oct 16;8:556720. Doi: 10.3389/fpubh.2020.556720.
21. Gebremariam KT, Zelenko O, Hadush Z, Mulugeta A, Gallegos D. Could mobile phone text messages be used for infant feeding education in Ethiopia? A formative qualitative study. *Health Informatics J*. 2020 Dec;26(4):2614-2624. Doi: 10.1177/1460458220911779.
22. Montagni I, Tzourio C, Cousin T, Sagara JA, Bada-Alonzi J, Horgan A. Mental Health-Related Digital Use by University Students: A Systematic Review. *Telemed J E Health*. 2020 Feb;26(2):131-146. doi: 10.1089/tmj.2018.0316.
23. Ziebland S, Hyde E, Powell J. Power, paradox and pessimism: On the unintended consequences of digital health technologies in primary care. *Social Science & Medicine*. 2021 Nov 1;289:114419.