Webinar on the Use of Health Service Research for Clinical Practice: a summary report

SEPTEMBER 5, 2022

Contents

List of Abbreviations

ADP	Access and Delivery Partnership
AI	Artificial Intelligence
HITAP	Health Intervention and Technology Assessment Program
HSR	Health Service Research
LMICs	Low- and Middle- Income Countries
NUS	National University of Singapore
UHC	Universal Health Coverage

Acknowledgments

This report summarises the public webinar held on Monday, 5th September 2022 to discuss the use of health service research (HSR) for clinical practice particularly in the Singaporean healthcare context by Prof. Nicholas Graves who is the Deputy Director of the Programme in Health Services & Systems Research at Duke-NUS and the SingHealth Duke-NUS Health Services Research Institute. This webinar was supported by the Access and Delivery Partnership (ADP)and the Health Intervention and Technology Assessment Program (HITAP). We thank Dr. Somsak Chunharas, President of the National Health Foundation, Thailand, for sharing his reflections during the webinar. The report was prepared by Ella Nanda Sari with inputs from Raina Wadhwa, Saudamini Dabak and Madison Silzle. The meeting was organised by colleagues from HITAP, Ella Nanda Sari, Saudamini Dabak, Madison Silzle, Dian Faradiba, and Chittawan Poonsiri. The findings, interpretations, and conclusions expressed in this report do not necessarily reflect the views of the funding or participating agencies.

Background

Health services research (HSR) is a multidisciplinary field of inquiry, both basic and applied, that examines access to, and the use, costs, quality, delivery, organisation, financing, and outcomes of health care services to produce new knowledge about the structure, processes, and effects of health services for individuals and populations[1]. It has changed the way healthcare is delivered to patients and the quality of services provided. In recent decades, research has generated results that, when translated into policy and clinical practice, has improved health outcomes, and provided better patient care and treatment[2].

However, the translation of evidence into policy remains a challenge given factors such as rising population, development of new technologies, and limited resources, siloed efforts at national, state, and healthcare system levels. Furthermore, lack of coherent planning and decision-making at all levels makes it challenging to transfer knowledge from HSR into practice[34].

The adoption of evidence should integrate the organisational context such as culture, leadership, and social or attitudinal factors such as health workers' opinions. Evidence implementation must be locally evaluated and made actionable to produce desirable outcomes. This approach will ensure that clinical leaders and patients can understand and participate in good clinical practices. This process can take time and sustaining the gains can be a challenge[34]. One response to these challenges is to improve the performance of health services and to increase the value and health benefits from the available resources[2].

To produce high-quality yet usable evidence, communication among researchers, policymakers, and health leaders is needed to execute research planning and oversee the decision-management process. Components that support such coordination include technical capacity building, technical knowledge, and grant options. Further, experience-sharing from other settings is equally important for enriching the understanding of different stakeholders.

Against this backdrop, the Health Intervention and Technology Assessment Program (HITAP), a semi-autonomous research unit in the Ministry of Public Health Thailand, hosted a webinar, “Use of Health Service Research for Clinical Practice”, led by Prof. Nicholas Graves, Deputy Director of the Programme in Health Services & Systems Research at Duke-NUS and the SingHealth Duke-NUS Health Services Research Institute, to explore the potential of HSR and provide lessons for Thailand with Dr. Somsak Chunharas, President of the National Health Foundation, Thailand, sharing his reflections.

[1] Thaul S, L. K., Tranquada RE, editors. (1994). Health Services Research: Opportunities for an Expanding Field of Inquiry: An Interim Statement., Institute of Medicine (US) Committee on Health Services Research: Training and Work Force Issues.
[2] Duke-NUS, S. (2021). "About HSRI." https://www.singhealthdukenus.com.sg/research/hsri/Pages/About-HSRI.aspx.
[3] Brook, Robert H. 2011. “Health Services Research and Clinical Practice” 305: 1589–90.
[4] Kristensen, Nanna, Camilla Nymann, and Hanne Konradsen. 2016. “Implementing Research Results in Clinical Practice- the Experiences of Healthcare Professionals.” BMC Health Services Research 16 (1): 48.

Talk by Prof. Nicholas Graves

The session began with Prof. Nicholas Graves sharing his reasons for embarking on his journey into HSR which was followed by providing an overview of how HSR is integrated into health services planning, capacity building for HSR in Singapore, and finally, recommendations for low-and-middle-income countries (LMICs) on how to conduct and improve HSR.

Prof. Graves recalled the reality of limited resources and ever-increasing demand for healthcare and therefore, the rational response to this issue is to improve the performance of existing health services. One such approach is to reallocate resources to care that provides high value to patients and health systems and reduce or disinvest from those which do not. According to the Institute of Health, high-value care is defined as "the best care for the patient, with the optimal result for the circumstances, delivered at the right price." Prof. Graves provided an example from the United States that showed that approximately one-third of its health services do not improve patient care.

The number of clinical practitioners who conduct research is on the rise. This group of experts who understand the nuances of clinical practice and research, leverage HSR to generate evidence and translate knowledge to key decision-makers, both at the hospital and the government levels. However, this dual duty can be time-consuming and often involves trade-offs as to where time and resources are spent. Hence, for HSR to continue to sustainably translate into policy, a better environment is necessary to support such experts to contribute to health policy through research.

Funding can play an important role in creating a conducive environment for HSR to flourish. In addition to freeing clinicians' time to contribute to research through increased hires, necessary training can be undertaken either to conduct or to interpret research results. This increased time and technical capacity allows for collaborative research studies to be undertaken to identify and potentially exit practices that are "low value" to health systems and trial those which generate higher value. Prof. Graves identified Singapore as an example where funding for research and capacity building initiatives are available including education programmes for clinicians, project grants, method support for clinicians, and workforce for HSR.

One notable initiative is the HEARTS project which is a collaboration among clinicians and researchers from Duke-NUS which aims to improve performance in health services. The priority areas for this project include identifying "low-hanging fruit" research which can attract a high number of practitioners who have a clear path to research and can create an impact. This grant has increased the number of clinicians involved in HSR. Some of the projects include low-cost interventions for cardiology and the identification of value in post-stroke survivors and families. There is an increasing number of clinicians involved in HSR through this grant and there is engagement in developing necessary modules for an online course on HSR. The project also provides clinicians with an opportunity for close consultation with other experts who can support their work.

In Singapore, to prevent the adoption of services that are associated with personal or political interests, units such as the Impact Assessment Unit at SingHealth Duke-NUS have been put in place. The primary function of this unit is to evaluate health projects before they are adopted and scaled up by the government. If the unit does not have enough evidence to make informed recommendations, they will seek partnerships and additional funding to support further research on the topic.

Remarks by Dr. Somsak Chunharas

Following the presentation, Dr. Somsak Chunharas shared his reflections on HSR in Thailand. In Thailand, there is a holistic concept of health systems which comprises health system, services, and other determinants of health. HSR does not have a clear definition in the context of Thailand but covers research on medical interventions, which is integrated into macro policy and system development, for example, the Universal Health Coverage (UHC) policy. HSR also may include non-health technology factors that affect the delivery of health services.

Dr. Somsak added that HSR must constitute a balance between relevance and excellence, which means it should be able to produce high-quality results that can be used by policymakers. The development of research capacity (production and utilisation) goes beyond training and supply-side factors. Capacity building through one-time workshops, for instance, is not enough and perhaps not cost-effective. It is a systems development approach that is needed and is not a one-time process. It also involves the utilisation of evidence to influence multiple stakeholders. The best way to improve the health system is by having motivated, passionate, and well-funded clinicians. Currently, funding HSR in Thailand is not part of the healthcare payer's mandate as they are not research funders. Hence, health service researchers should communicate their challenges to funding agencies. Taking lessons from Singapore, Thailand may dedicate additional resources to build a network of clinicians and researchers who can implement HSR. While HSR has not yet flourished in Thailand, it can leverage its experience of using HTA research and network to promote the use of HSR. As Thailand increasingly uses big data and adopts digital health to shape its healthcare, HSR will have a place in the long term in Thailand.

Discussion

There were several questions raised after the presentation by Prof. Nick Graves and remarks by Dr. Somsak Chunharas. One participant asked about what kind of incentives would help increase the uptake of innovations like capacity building and research by clinicians in a more systematic manner. To this, Prof. Nicholas Graves explained that it is possible only by empowering clinicians to conduct HSR; they are curious but often lack the time needed and skills to conduct and apply HSR in their work. To counter this issue, Singapore is trying to develop clinician-scientists with fellowships and grants to buy out clinicians' time off hospitals to conduct HSR, which is seen as a valuable investment. Dr. Somsak Chunharas added that clinicians can be motivated when they see the application and benefits of HSR in their field of work.

Another question related to whether there were examples of projects that had had an impact in Singapore. Prof. Nicholas Graves cited the example of using "Artificial Intelligence (AI) to identify diabetic retinopathy" whereby HSR has demonstrated that a deep learning system can correctly identify diabetic retinopathy with a sensitivity of 91% and a specificity of 90-92%, and for glaucoma, both, sensitivity and specificity are above 96%. This saves manpower and costs, avoiding repetitive time-consuming expensive interventions. Another example was patients with acute injuries which could be prevented by early detection at home or in the community, where risk factors may not be recognised. In response, Singapore is now developing AI-based screening interventions that studies the risk factors using smartphones and detect injuries at an early stage and prevents it from turning acute.

The question of transferability of results of HSR to different settings and contexts was raised. Dr. Somsak Chunharas explained that HSR, even on a macro scale, is context specific. The context determines the

success of a practice. Practices can be researched, and new ways of working can be introduced into existing systems, but ultimately it is the system that will dictate whether a practice will become effective in that context. Even when scaling-up an intervention in a country based on results from a pilot study from the same country, one needs to carefully examine its applicability, because context may vary from one setting to another. Hence, health service researchers must tailor their research questions to specific settings and question whether results can be generalised to others.

On publishing in high-impact factor journals, Prof. Nicholas Graves explained that the landscape of big publishing houses is changing with the push towards journals with open-access policies to improve research equity. These journals may not have an impact factor of 30 or 50, but they have impact factors of above 5. The Journal of the American Medical Association (JAMA) network has an impact factor of above 13 and is an open-access journal that will publish a high volume of papers. With increasing emphasis on following research ethics and standards rather than novelty alone, publishing in such journals have become attractive. However, the opportunity to publish in such journals comes with publishing costs which are often quite high and without funding, which can discourage researchers.

When asked about the experience and impact of building capacity of clinicians to conduct HSR in Singapore, Prof. Nicholas Graves said that it may be too early to evaluate but there is anecdotal feedback. Participants have enjoyed the training sessions, learned something new, and some clinicians have already started writing grants or conducting research. Providing methodological support has been one of the pieces of the puzzle in helping clinicians kickstart their HSR. The current model of training the clinicians costs less and is less time-consuming, and above all, having technical experts on their side allows them to conduct good quality research. Dr. Somsak Chunharas added about the importance of building a network of clinicians who conduct HSR and linking them with relevant groups. This will ensure long term sustainability where lessons, skills, and resources can be shared, and collaborative projects can be undertaken. The growth of such a network will incentivise and pave the path for future clinicians who will conduct HSR.

Conclusions

Implementing high-value care to produce the highest return on investment requires a supportive enabling environment, addressing issues of governance, funding, and capacity to conduct HSR. Given the challenges in LMICs to establish such an environment, HSR could target low-hanging fruits such as research on high and low-value care that is currently adopted by health systems. This can demonstrate the immediate impact of HSR and help improve the efficient use of resources. This effort can only be sustained by involving and building the capacity of clinical professionals or agents of change. A partnership between academics and clinicians can be very productive and ultimately make research valuable for decision-making.

Appendices

Appendix 1: Concept note

Concept Note of Meeting: The Use of Health Service Research for Clinical Practice

Background:

Health service research (HSR) has changed the way healthcare is delivered to patients and service quality. The research has continually generated results that, if translated into policy and clinical practices, can improve health outcomes, and provide better patient care and treatment. However, the translation of the evidence has rather been planned in a top-down manner without taking practice-level considerations into account. This condition has made it difficult for clinicians to utilise the new, decontextualised, and explicit knowledge in their daily work (Kristensen, Nymann, and Konradsen 2016; Brook 2011).

The adoption of evidence should also integrate the organisational context such as culture, leadership, and social or attitudinal factors such as health workers' opinions. Further, evidence implementation must be locally evaluated and made actionable to produce desirable outcomes. This approach will ensure that clinical leaders and patients have the opportunity to understand and participate in good clinical practices. This process can take time and sustaining the gains can be a challenge (NIHR UK 2022; Kristensen, Nymann, and Konradsen 2016).

To produce high-quality yet adaptable evidence, communication among researchers, policymakers, and health leaders is needed to execute research planning and oversee the decision-management process. Components that support such coordination include technical capacity building, technical knowledge, and grant options. More than that, experience-sharing from another healthcare setting is important to enrich the interplay of different stakeholders. In this context, the Health Intervention and Technology Assessment Program (HITAP), a semi-autonomous research unit in the Ministry of Public Health Thailand, is hosting a webinar and knowledge-sharing session with Prof. Nicholas Graves from Duke-National University of Singapore (NUS) to explore the potential of HSR and provide lessons for Thailand.

Objectives:

- To learn about the use of health service research (HSR) for clinical practice.
- To identify potential areas for collaboration in establishing research networks for clinical research to improve the performance of health services in Thailand.

Date: Monday, 5 September 2022
Time: Public Webinar - 10:00 am – 11:00 am Thailand time
Location: HITAP and online on Zoom

Agenda of Webinar

Time (Thailand)	Particular	Description	Speaker(s)
10:00 – 10:05 am	Welcome and opening remarks	Introduction of participants and objective of meeting	Ms. Ella Nanda Sari
10:05 – 10:25 am	Conversation with Prof. Nicholas Graves	• Reasons for conducting HSR. • Observations about how HSR is integrated into health services planning in other jurisdictions. • Capacity building for HSR in Singapore and examples of projects from Singapore. • Recommendations for low-and-middle income countries or to researchers in multi-country networks in improving their clinical research.	Prof. Nicholas Graves
10:25 – 10:40 am	Reflection on the situation in Thailand	• Reflection on the situation in Thailand situation • Potential application for Thailand	Dr. Somsak Chunharas
10:40 – 10:55 am	Open discussion with participants	• Q&A	All
10:55 – 11:00 am	Closing remarks	• Summary of key points	Ms. Ella Nanda Sari

The meeting was recorded for writing this summary report. The meeting was conducted in English. Simultaneous translation in Thai was provided.

Speakers:

1. Prof. Nicholas Graves, Deputy Director of the Programme in Health Services & Systems Research at Duke-NUS and the SingHealth Duke-NUS Health Services Research Institute, Duke-NUS Medical School, National University of Singapore (NUS)
2. Dr. Somsak Chunharas, the President of Thai National Health Foundation as well as former Deputy Minister for Public Health, Thailand.

Moderator: Ella Nanda Sari, Health Intervention and Technology Assessment Program (HITAP)

Participants:

Clinicians, policymakers, academia, researchers, and organisations involved in health services research and clinical practice.

Expected outcome:

1. Improved understanding and application of HSR.
2. Meeting summary report (current document)

Speaker Biography:

Prof Graves is the Deputy Director of the Programme in Health Services & Systems Research at Duke-NUS and the SingHealth Duke-NUS Health Services Research Institute. His areas of knowledge include health economics, health services research, decision making and cost-effectiveness. He is interested in projects that show high and low-value care, as well as the processes around implementing new policies.

His major focus is on showing how health services can be improved at low cost, or even improved with cost savings. He enjoys collaborating with clinicians who wish to improve the performance of health services. Prof Graves has made contributions of international significance, publishing over 250 articles in top-ranking peer-reviewed journals such as JAMA, BMJ, AIDS, Health Economics, Clinical Infectious Diseases, Lancet Infectious Diseases, The Journal of Infectious Diseases and Emerging Infectious Diseases. *Source: https://www.duke-nus.edu.sg/directory/detail/nicgraves*

Dr. Somsak Chunharas formerly served as Deputy Minister of Health for Thailand and is currently President of the National Health Foundation in Thailand, an NGO promoting and coordinating evidence-based health policy and system development.

Throughout his career in the Ministry of Health, Dr. Chunharas directed several offices of the Ministry of Public Health, focusing on international health, health policy and system development, and led various international collaborations. He also pioneered a team which led to various health reforms in Thailand such as the development of the Thai Universal health care system and health promotion fund. *Source: https://thainhf.org/en/about-thainhf/message-president/*

Appendix 2: Event poster

Appendix 3: Participants list

Participants	Organisation, Country
Pattareeya Kaveepansakol	Department of Health, Thailand
Ugyen Tashi	Ministry of Health, Bhutan
Yot Teerawattananon	HITAP, Thailand
Lam Phung	University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam
Gia Hân Lý	University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam
Prapatsorn Kraijarus	University of Cattolica, Italy
Quynh Vũ	University of Medicine and Pharmacy at Ho Chi Minh City, Vietnam
Angela Devine	Menzies School of Health Service, Australia
Alissa	Thammasat University, Thailand
Najmee Adulyarat	School of Pharmacy Walailak University, Thailand
Thanawat Maka	Chiang Mai University, Thailand
Dian Faradiba	HITAP, Thailand
Chittawan Poonsiri	HITAP, Thailand
Nyi Nyi Zayar	HITAP, Thailand
Madison Silzle	HITAP, Thailand
Tram Luu	Hue University of Medicine and Pharmacy, Vietnam
Nick Graves	Duke-NUS, Singapore
Somsak Chunharas	Thailand National Health Foundation, Thailand
Saudamini Dabak	HITAP, Thailand
Dimple Butani	HITAP, Thailand
Manit Sittimart	HITAP, Thailand
Picharee Karunayawong	HITAP, Thailand
Praewa Kulatnam	HITAP, Thailand
Ella Nanda Sari	HITAP, Thailand
Sarin KC	HITAP, Thailand