

Tools for Healthcare Workers to measure Health Research Capacity Development at an individual level

Bilardi D.^{1, 2}, Rapa E.³, Bernays S.⁴, & Lang T.¹

¹The Global Health Network, University of Oxford, Centre for Tropical Medicine and Global Health, Oxford, United Kingdom; ²Fondazione PENTA, Padua, Italy; ³University of Oxford, Department of Psychiatry, Oxford, United Kingdom; ⁴London School of Hygiene and Tropical Medicine, Centre for Research on Drugs and Health Behaviour, London, United Kingdom.

Introduction

Despite health research capacity development (HRCD) in low and middle-income countries (LMICs) being recognised as a critical element to overcoming global health challenges, insufficient actions have been taken to tackle major barriers to HRCD. A key barrier in supporting HRCD is the lack of empirical measurement of competencies to assess skills and identify gaps in research activities. An effective tool to measure HRCD would help drive more capable teams to undertake more locally-led research.

Aims

Primary aim: Systematically search the existing literature to investigate the nature, the scope and the extensiveness of existing tools created to measure HRCD at personal level in healthcare workers (HCW) working in LMICs.

Secondary aims: identify a tool using a global evidence-based competency framework suitable for a comparable, standardised and consistent analyses of long term research competency acquisition in HCW in LMICs.

Methodology

Eleven databases were searched from inception to 16 January 2020. The first 10 pages of results from Google Scholar were also considered. The search was limited to English language publications. Two authors independently screened and reviewed studies using Covidence, extracted data and performed quality assessments using the extraction log validated against the CASP qualitative checklist. The content method was used to define a meta-narrative analysis.

Results

A total of 7,474 unique records were screened by title and abstract, of which full texts of 178 were reviewed. Seven quantitative studies, one qualitative study and five mixed-method studies were included, giving a total of 16 selected papers. A range of tools with different levels of accuracy in measuring HRCD in Healthcare Workers (HCW) at the individual level were described in the selected papers. The Research Capacity and Culture Tool and the “Research Spider” tool were the most commonly used and defined. Other tools designed for ad hoc interventions or contexts with good generalizability potential were identified. Three papers described the creation of health research core competency frameworks. All tools measured HRCD in HCW at an individual level and the majority also added a measurement at the team and organisational level, or collected data about perceived barriers and motivators for conducting health research.

Discussion

The most common tool identified in this review was the Research Capacity and Culture Tool (RCC). The RCC consists of 52 questions that examine participants’ self-reported success or skill in a range of areas related to research capacity or culture across three domains including the organization (18 questions), team (19 questions), and individual (15 questions). The RCC tool includes questions on perceived barriers and motivators for undertaking research. The respondents of the RCC are asked to rate a series of statements relevant to these three domains on a scale of 1–10, with one being lowest skill or success level and ten being the highest possible skill or success level. It represents a good example of a comprehensive tool. As confirmed by the review findings, a potential limitation derives from its application mainly in the Australian context and almost exclusively to measure HRCD in AHPs. The generalizability of the tool should thus be confirmed. Nevertheless, the RCC represents a strong example of how having a tool refined around a context, and a specific health profession can be an incentive in measuring HRCD.

Another tool highlighted by this review was the “Research Spider” tool. This tool collects information on individual research experience and interest in research skill development in ten core areas. These include “writing a research protocol”, “using quantitative research methods”, “publishing research”, “finding relevant literature”, and “applying for research funding”. In each area, the level of experience is measured on a five-point Likert scale, from 1 (no experience) to 5 (high experience). The primary nature of the “Research Spider” is to be a flexible tool. This flexibility is confirmed in two studies which used the “Research Spider”, with one using it as the main measurement, and the other as a quantitative base for qualitative semi-structured interviews. The advantage of the “Research Spider” tool is that it provides a visual overview of personal research competences. However, the limited number of areas (n = 10) considered in the measurement makes the tool a good initial evaluation instrument but does not offer a specification of the sub-skills of each area.

A critical mention should be reserved for two papers which described the creation of a comprehensive research core competency framework. Despite no specific tool being described and the competencies score being visualised by using a spider diagram, these studies present the most accurate overview of the skills required in running research related to health.

Conclusions

It is common to identify capacity building with pre-post intervention evaluations without using a specific or specialised tool. This finding highlights the need for a clear distinction between simply measuring the outcomes of training activities in a team or organisation and effective actions which promote HRCD. This review shows that there is a lack of comprehensive tools which are globally applicable tool and able to provide comparable, standardised and consistent measurements of research competencies.

Contacts: davide.bilardi@gtc.ox.ac.uk; elizabeth.rapa@psych.ox.ac.uk

