Tancred, Tara M; Schleiff, Meike; Peters, David H; Balabanova, Dina; (2016) Health policy and systems research training: global status and recommendations for action. Bulletin of the World Health Organization, 94 (7). pp. 491-500. ISSN 0042-9686 DOI: https://doi.org/10.2471/BLT.15.162818

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Health policy and systems research training: global status and recommendations for action
Tara M Tancred, Meike Schleiff, David H Peters & Dina Balabanova

Objective To investigate the characteristics of health policy and systems research training globally and to identify recommendations for improvement and expansion.

Methods We identified institutions offering health policy and systems research training worldwide. In 2014, we recruited participants from identified institutions for an online survey on the characteristics of the institutions and the courses given. Survey findings were explored during in-depth interviews with selected key informants.

Findings The study identified several important gaps in health policy and systems research training. There were few courses in central and eastern Europe, the Middle East, North Africa or Latin America. Most (116/152) courses were instructed in English. Institutional support for courses was often lacking and many institutions lacked the critical mass of trained individuals needed to support doctoral and postdoctoral students. There was little consistency between institutions in definitions of the competencies required for health policy and systems research. Collaboration across disciplines to provide the range of methodological perspectives the subject requires was insufficient. Moreover, the lack of alternatives to on-site teaching may preclude certain student audiences such as policy-makers.

Conclusion Training in health policy and systems research is important to improve local capacity to conduct quality research in this field. We provide six recommendations to improve the content, accessibility and reach of training. First, create a repository of information on courses. Second, establish networks to support training. Third, define competencies in health policy and systems research. Fourth, encourage multidisciplinary collaboration. Fifth, expand the geographical and language coverage of courses. Finally, consider alternative teaching formats.

Introduction
Health policy and systems research has a promising role to play in ensuring the effective implementation of health policy, in strengthening health systems and in improving health outcomes globally.\(^1\) Although several definitions have been proposed, we adopted the widely accepted definition that health policy and systems research:

“[Seeks] to understand and improve how societies organize themselves in achieving collective health goals, and how different actors interact in the policy and implementation processes to contribute to policy outcomes…[to create] a comprehensive picture of how health systems respond and adapt to health policies, and how health policies can shape – and be shaped by – health systems and the broader determinants of health.”\(^6\)

Health policy and systems research bridges the gap between the generation of knowledge and its application to decision-making in health care.\(^7\) Consequently, some understanding of the field is now seen as essential for health workforce planning because it equips health-care managers and providers with the skills needed to commission and design health systems research and to incorporate research findings into practice.\(^8\)

The central aim of organizations such as the Alliance for Health Policy and Systems Research and Health Systems Global – a professional society – is to promote health policy and systems research. Since 2010, the biennial Global Symposium in Health Systems Research has raised awareness of gaps in health policy and systems research training in low- and middle-income countries and has encouraged policy-makers to increase training capacity, which has led to the establishment of a thematic working group on teaching and learning health policy and systems research in Health Systems Global.

Health policy and systems research often involves applied research that addresses real-life problems and is intended to inform specific policies or programmes while also contributing to health and societal development.\(^9\)\(^,\)\(^10\) It is essential to ask the right questions and to choose the most appropriate methods for answering them – methods that may draw on disciplines such as anthropology, epidemiology, economics and systems science.\(^10\) In addition, conducting health policy and systems research requires considerable knowledge of the way policies are implemented and institutions function. Consequently, establishing the field of health policy and systems research has involved developing a common language and common methods, which has been challenging.\(^12\)

Given these challenges, efforts should be made to increase the ability of researchers and institutions to carry out health policy and systems research and to help them communicate their findings to decision-makers, who must themselves have the ability to request and apply such research.\(^2\)\(^,\)\(^6\)\(^,\)\(^13\)\(^,\)\(^17\) Moreover, globally relatively few people and organizations have the capacity to commission or advocate for, carry out and use the results of health policy and systems research, particularly in low- and middle-income countries.\(^18\)\(^,\)\(^21\) The training required by researchers and by those who commission and use health policy and systems research is often highly dependent on the context.

Although training in health policy and systems research is being carried out around the world, little is known about...
the location or nature of the training provided, which makes it difficult to learn from best practice and to address gaps in training. Moreover, it is not clear which competencies and skills should be developed in training programmes nor which methodological approaches, theoretical frameworks or multidisciplinary perspectives should be taught.9,21,22 The aim of this study was to describe current health policy and systems research training around the world that has a particular focus on low- and middle-income countries. The institutions delivering training, the purpose of training, key characteristics of the courses being taught, and the measures that could be taken to improve training were all examined.

Methods

We identified providers of health policy and systems research training that was explicitly relevant to low- and middle-income countries, obtained information on course curricula and teaching and learning modalities and explored gaps in training and their causes to make recommendations for improvement. Data were obtained using a mixed-methods study design that included an online survey and in-depth interviews with key informants, which were intended to add depth and help explain survey responses. The two-part survey was administered in English using the SurveyMonkey platform (SurveyMonkey, Palo Alto, United States of America) between July and September 2014. The first part asked respondents for details about the institutions they were associated with that offered training in health policy and systems research and the second, for details of relevant courses they were personally involved in. Box 1 summarizes the recruitment process for survey participants and Box 2 lists course inclusion criteria. Institutional characteristics included geographical location, the type of organization, the duration of training and the competencies that training aimed to develop among students. Characteristics of individual courses included their objectives, target audiences, course content and teaching modalities. Responses were disaggregated by geographical region, type of institution and national income (i.e. high-income countries and low- and middle-income countries). Open-ended responses were summarized and major themes were identified.

We selected 29 key informants across all regions of the world from among survey respondents who were willing to be interviewed. All had reported involvement in two or more courses relevant to health policy and systems research in their survey responses, had been recommended by two or more survey participants as key institutional contacts in the field and had a long track record of carrying out, publishing and teaching health policy and systems research. We used survey responses to identify issues that required further examination: we explored any unusual answers given by participants and obtained more information on themes mentioned frequently in responses to open-ended questions. Subsequently, interview transcripts were analysed thematically using NVivo 10 (QRS International, Melbourne, Australia). Finally, we selected representative quotations that illustrated themes on which there was a high degree of agreement between participants and which may, therefore, be transferable to a variety of settings.

The survey was exempted from the need for ethical approval by the ethics committee of the London School of Hygiene & Tropical Medicine and participants were informed that consent was implicit in their participation. The qualitative part of the study received ethical approval (No. 8485) and informed consent was sought from all participants. All transcripts were anonymized and treated as confidential.

Results

In total, 306 respondents completed the online survey, 191 of whom provided information on 169 different institutions they were associated with that offered health policy and systems research courses. Of the 191, 140 reported on one or more courses that met the inclusion criteria (Box 2). After removing incomplete entries, we analysed survey responses from 112 individuals, from different institutions, who provided information on 152 courses they were directly involved with (Fig. 1).
Geographical distribution

Institutions teaching health policy and systems research were found in every World Health Organization region (Fig. 2). The highest proportion of institutions was in the European Region (42%; 71), predominately in western Europe. In addition, 17% (29) of institutions were in the Region of the Americas, 16% (27) were in the African Region, 15% (25) were in the South-East Asia Region and 8% (14) were in the Western Pacific Region but only 2% (3) were in the Eastern Mediterranean Region. Few institutions offered relevant training in central and eastern Europe, the Middle East or Latin America and there were none in North Africa.

Instruction language

The primary language of instruction was English: 76% (116) of courses were offered only in English, 8% (12) were offered in both English and another language and 16% (24) were offered only in a language other than English.

Gaps in training

Institutional factors

Institutional support was found to be critical for developing health policy and systems research training. Many key informants said they felt isolated and were not fully integrated into their institution’s infrastructure. It was also difficult to obtain funding for the development of new courses and there were few individuals able to provide mentorship and support for doctoral and postdoctoral students. A key informant at a research institution in a low- or middle-income country said,

“It’s particularly difficult to get programmatic-type funding so that you can really build a set of people ... in terms of sustainable careers, health systems research is not part of the fabric of academic institutions here. So universities really don’t have those kinds of people yet. And they’re not likely to get them I would say for quite some time unless there are profitable ways to run master’s courses.”

It was also felt that existing institutional structures and processes did not encourage multidisciplinary collaboration on the curriculum and that courses related to health policy and systems research were often delivered with little integration between departments. A more fundamental issue was the perception that health policy and systems research is a new field that may lack legitimacy, both within academic institutions and among decision-makers. In addition, informants thought the motivation and demand for health policy and systems research teaching and training were different from those for other disciplines because health policy and systems research is used in decision-making. One respondent at a research institution in a low- or middle-income country commented, “I think one of the bits that is missing is recognition from government that these kinds of areas are important.”

Many institutions did not specifically formulate the core competencies required for health policy and systems research. From the survey, of 191 respondents from institutions offering training, only 110 (58%), from 92 different institutions, gave details of competencies that were specific to study programmes offering health policy and systems research training. Moreover, 13% (14) of the 110 were not able to specify distinct competencies and 11% (12) gave the same information when asked about programme competencies and specific learning objectives for courses. When distinct health policy and systems research competencies were described, they were very broad and often not articulated as competencies: for example, the capability to apply or use a set of related knowledge, skills and abilities to successfully perform in a defined work setting. Moreover, the most frequently reported competency – “to gain a general background in public health” – is not considered an educational competency. Other reported competencies were broadly related to applying health policy and systems research skills in a work setting: for example, the ability to apply or use a set of related knowledge, skills and abilities to successfully perform in a defined work setting.
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Fig. 2. Institutions offering health policy and systems research training, by World Health Organization region, 2014.
systems research courses were embedded in bachelor’s, master’s or doctoral degree programme or another diploma programme, and the largest target audience were master’s students (Fig. 3). However, key informants suggested that many of these master’s students were probably also health organization managers, policy-makers or similar professionals. Key informants felt strongly that certain potential students, such as staff working in health care, policy-makers or administrators, who could benefit from training were not being reached. More flexible teaching models could be helpful. A key informant from a university who worked for a nongovernmental organization in a low- or middle-income country said,

“If we can get more and more people who are in the policy-making processes and people who are really policy implementers, people from civil society groups … I think certainly we would make much more impact.”

Course content

Overall, 72% (109) of health policy and systems research courses taught at least one quantitative research method, 76% (116) taught at least one qualitative research method and 88% (134) taught at least one of either method. As shown in Fig. 4, the course content was highly varied, as was confirmed by key informants. However, it often lacked some fundamental elements. Thus, many respondents suggested that a basic understanding of health systems and systems thinking would be particularly beneficial for students – the teaching of frameworks was frequently mentioned. A respondent at a university in a high-income country said,

“Getting people to come to a common ground on a framework of concepts and definitions and approaches to health systems seems to be a real prerequisite,

![Fig. 3. Student audiences, health policy and systems research courses, worldwide, 2014](image)

Proportion of survey respondents reporting the type of student as their course’s primary audience (%)

| Type of student | Low-and middle-income countries | High-income countries |
|-----------------|---------------------------------|-----------------------|
| Master’s students | 80                              | 70                    |
| Doctoral students | 70                              | 60                    |
| Health organization managers | 60 | 50 |
| Policy-makers | 55                              | 45                    |
| Practising researchers | 40 | 30 |
| Physicians | 30                              | 20                    |
| Nongovernmental organization staff | 20 | 10 |

Note: Because survey respondents were permitted to name more than one primary student audience, the totals for the country groups exceeded 100%.

![Fig. 4. Most commonly taught subjects, health policy and systems research courses, worldwide, 2014](image)

No. of courses with the subject as the central component

| Subject                                  | No of courses |
|------------------------------------------|---------------|
| Health systems research methods          | 40            |
| Health systems organization and management | 35            |
| Policy analysis                          | 30            |
| Health systems research project          | 25            |
| Health systems (overview)                | 20            |
| Policy decision-making and health systems governance | 15 |
| Health financing                         | 10            |
| Measuring and evaluating health systems  | 5             |
| Epidemiology and biostatistics           | 5             |
| Global health                            | 5             |

Note: The total number of courses included in the survey was 152.
because then you can start using that as a way to reach into the system as a way to talk about it, understand it, appreciate the complexity and the interrelationships of the components.”

Health policy and systems research teaching appeared to depend on courses that focused on methods in general and that were not restricted to health policy and systems research applications, possibly because many organizations did not have the critical mass of teachers and students needed to provide specific courses in this field.

Teaching formats

Overall, 80% (122) of courses were provided only on-site at an institution, 12% (18) were offered only online and 8% (12) were offered both on-site and online. Most key informants were interested in offering more online and blended learning (i.e. teaching with both on-site and online components) because they felt that such courses might be more accessible. However, the lack of time and resources to develop online materials was a major barrier to offering flexible teaching formats. A respondent at a university in a low- and middle-income country commented,

“I think the question [is] how we discover a balanced approach where you deliver some content online and at the same time you allow for that interactive, participative process, because people learn from each other as well, particularly when you have students sitting in the same room.”

Fig. 5 shows the most common teaching formats reported. The majority of courses used traditional teaching methods in an academic setting but key informants emphasized the importance of drawing on real-life examples in teaching. Teaching approaches regarded as valuable by key informants included: (i) giving students practical experience in the field; (ii) enabling students to identify their own research questions or projects; (iii) enabling students to practise engaging with policy-makers, for example, through simulations or by role-playing; and (iv) helping students to understand how health policy and systems research can inform health policy and practice. A respondent at a university who worked for a nongovernmental organization in a low- or middle-income country said,

“Going to the field and actually seeing how a health system works is more important. Or doing some real health systems work. Understanding the drug market, how it is produced and distributed – those sorts of things are very useful. Or just going to a hospital or primary centre and seeing how it actually functions in real life and what are the constraints.”

Discussion

This global assessment of current health policy and systems research training identified several gaps in training capacity. First, disproportionately few institutions offered training in central and eastern Europe, the Middle East or Latin America, with none in North Africa. Second, English was the predominant primary language of course instruction. Third, there was often a lack of support for courses from parent institutions. Fourth, many institutions did not have the critical mass of trained individuals needed to support doctoral and postdoctoral students. Fifth, there was a lack of consistency between institutions in definitions of the competencies required for health policy and systems research. Sixth, there was insufficient collaboration across disciplines to provide the range of methodological perspectives required by health policy and systems research. Finally, there was a lack of alternatives to on-site teaching for degree programmes, which may preclude participation by specific student audiences, such as policy-makers and frontline health workers. The broad, question-driven nature of health policy and systems research makes it exceptionally valuable for understanding and evaluating complex health systems issues. However, there is a risk that the subject becomes amorphous and challenging to teach. Efforts should continue to define and develop the field and strengthen the training and mentorship capacity of global networks, institutions and individuals.

The main limitation of this study was that both recruitment emails and the survey were in English; moreover, key informants were selected from survey respondents. The reliance on circulating emails through networks...
that were largely English-speaking may have led to fewer courses being identified in regions where English is not the first language. In addition, we may have missed relevant training courses that could not be located online or that were not well known to the health systems research community. Finally, the gaps in training we identified were based on the instructors’ perspective – the student’s viewpoint was not represented.

Despite these limitations and the caution required in interpreting the study’s findings, several points of agreement emerged, which led to six recommendations for action. First, create a repository of information on health policy and systems research courses. Key informants expressed an interest in having access to an updated course repository that included learning objectives and an overview of content – such a repository can be accessed through the corresponding author on request. Sharing open-access learning materials, curricula and syllabi wherever possible would help individuals develop, update or adapt their own courses and enable them to learn from best practice in centres of excellence or in countries with similar problems. Second, expand networks that support health policy and systems research training and offer opportunities for mentorship and sharing knowledge. Identifying individuals and institutions with similar interests is an important first step in creating such networks, especially since the ability to interact with, and learn from, other instructors and their experience is critical for developing training. The lack of doctoral and postdoctoral students engaged in health policy and systems research in low- and middle-income countries has been noted elsewhere.

Expanding networks that can link students with potential mentors, both within and between institutions, would help support learners. Furthermore, networking across disciplines and institutions may help transcend barriers to training associated with weaknesses in particular institutions by capitalizing on the strengths of others. Third, define competencies in health policy and systems research and an approach to adapting them to diverse contexts and audiences. Defining competencies would help establish standards for the knowledge, skills and abilities needed in the field and adapting them will ensure that they are relevant. Moreover, it would help existing and emergent health policy and systems research communities engage in a dialogue about competencies and help refine them over time – this could also involve policy-makers and other individuals who request or use the information obtained through health policy and systems research. Fourth, encourage multidisciplinary collaboration. Health policy and systems research encompasses a diversity of skills and requires an ability to work across disciplines. Overcoming institutional and professional boundaries and expectations is central to promoting coherent training programmes. Fifth, expand the geographical and language coverage of courses. Although possibly an artefact of sampling, the observed apparent under-representation of health policy and systems research training in particular regions highlights the need to diversify predominantly Anglophone training. Courses and resources should be developed in languages other than English and those already available should be shared more widely. In under-represented regions, engagement with financial donors is essential for developing training capacity. Sixth, consider alternative teaching formats for courses. Providing health policy and systems research courses within dedicated university-based programmes offers clear benefits and should continue: such courses help develop well rounded researchers with a broad knowledge and a range of capabilities. However, since these courses may preclude some student audiences, other formats should be considered, such as blended learning, which includes both on-site and online components, and short and part-time courses. Given the increasing need for flexible training, it is also important to learn about innovation in teaching approaches and to identify features that are transferrable between settings.

In conclusion, health policy and systems research is an important field of research of increasing international interest. It has the potential to promote new and more rigorous research and greater use of research findings, which can strengthen health systems and improve population health. Consequently, high-quality, responsive training is an important vehicle to accelerate this process. Our six recommendations for action could help improve the content, accessibility and reach of training in the field.

Acknowledgements

We thank the Alliance for Health Policy and Systems Research, Maryam Bigdeli and Ben Palafox.

Funding: This work was funded by the Alliance for Health Policy and Systems Research.

Competing interests: None declared.
Research
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The need to train researchers in health policy and systems research. Again, focusing on policies and the systems, the methods are insufficient. And, to achieve this training, there are no alternatives to the field, which can exclude some of the specific policy makers.

Conclusions
Health policy and systems research training is crucial to improve the capacity of local research in this field. We provide six recommendations to improve the content, accessibility, and scope of these trainings. First, create a database of information on training programs. Second, create a support network for training. Third, define the skills required for health policy and systems research. Fourth, encourage multidisciplinary collaborations. Fifth, expand the geographical and linguistic coverage of the trainings. Finally, consider alternative teaching formats.

Résumé
Formation à la recherche sur les politiques et les systèmes de santé: état des lieux à l’échelle internationale et recommandations
Objectif Examinera les caractéristiques des formations à la recherche sur les politiques et les systèmes de santé dans le monde entier et proposer des recommandations en vue de les améliorer et de les étendre.
Méthodes Nous avons identifié des institutions qui proposent des formations à la recherche sur les politiques et les systèmes de santé dans le monde entier. En 2014, nous avons recruté des participants au sein des institutions identifiées pour mener une enquête en ligne sur les caractéristiques des institutions et sur les cours dispensés. Les résultats de cette enquête ont été étudiés lors d’entretiens approfondis avec des informateurs clés sélectionnés.
Résultats L’étude a révélé plusieurs lacunes importantes dans les formations à la recherche sur les politiques et les systèmes de santé. Peu de cours sont proposés en Afrique du Nord, en Amérique latine, en Europe centrale et orientale et au Moyen-Orient. La plupart des cours (116/152) n’étaient pas disponibles en anglais. Les soutiens institutionnels pour les cours sont rares, et de nombreuses institutions ne disposent pas de la masse critique d’individus suffisamment formés pour accompagner les étudiants pendant et après leur doctorat. La définition des compétences requises pour la recherche sur les politiques et les systèmes de santé manque d’homogénéité d’une institution à l’autre. Les collaborations entre disciplines, qui permettent d’offrir toutes les perspectives méthodologiques nécessaires pour traiter ce sujet, restent insuffisantes. Par ailleurs, le manque de solutions alternatives aux cours dispensés sur place peut exclure certains publics étudiants, comme les responsables de l’élabore des politiques.
Conclusion La formation à la recherche sur les politiques et les systèmes de santé est cruciale pour améliorer les capacités locales à réaliser des recherches de qualité en la matière. Nous proposons six recommandations pour améliorer le contenu, l’accessibilité et la portée de ces formations. Premièrement, créer une base de données de référence contenant toutes les informations sur les formations. Deuxièmement, créer des réseaux pour appuyer la formation. Troisièmement, définir les compétences requises pour la recherche sur les politiques et les systèmes de santé.
Resumen
Formación para la investigación en políticas y sistemas de salud: situación global y recomendaciones para la acción

Objetivo Investigar las características de la formación para la investigación en políticas y sistemas de salud a nivel global e identificar las recomendaciones para lograr mejoras y ampliaciones.

Métodos Se identificaron instituciones que ofrecían formación para la investigación en políticas y sistemas de salud en todo el mundo. En 2014, se inscribieron participantes de instituciones identificadas para una encuesta en línea sobre las características de las instituciones y los cursos impartidos. Se exploraron los resultados de la encuesta durante entrevistas exhaustivas con informadores clave seleccionados.

Resultados El estudio identificó numerosas deficiencias importantes con respecto a la formación para la investigación en políticas y sistemas de salud. Había pocos cursos en Europa Central y Oriental, Oriente Medio, el Norte de África y América Latina. La mayoría de los cursos (116/152) se impartían en inglés. El apoyo institucional para los cursos solía ser escaso y muchas instituciones carecían de la cantidad básica de individuos necesarios para dar apoyo a los estudiantes de doctorado y posdoctorado. Apenas había coherencia entre las instituciones en cuanto a la definición de las competencias necesarias para la formación en políticas y sistemas de salud. La colaboración entre las disciplinas para ofrecer la variedad de perspectivas metodológicas necesarias no fue suficiente. Asimismo, la falta de alternativas a la formación in situ puede imposibilitar la asistencia de determinado público estudiantil, como responsables políticos.

Conclusión La formación para la investigación en políticas y sistemas de salud es importante para mejorar la capacidad local para dirigir una investigación de calidad en este campo. Se ofrecen seis recomendaciones para mejorar el contenido, la accesibilidad y el alcance de la formación. Primero, crear un repositorio de información sobre los cursos. Segundo, establecer redes para dar apoyo a la formación. Tercero, definir las competencias con respecto a la investigación en políticas y sistemas de salud. Cuarto, fomentar la colaboración multidisciplinar. Quinto, ampliar la cobertura geográfica y lingüística de los cursos. Por último, considerar formatos de enseñanza alternativos.

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