Knowledge Translation and Actor-Network Theory: a case study in Brazil

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Abstract. To better understand the knowledge translation process and its impact on practice we propose a protocol to analyse the interactions between knowledge producers and knowledge users in the Program of Development and Technological Innovation in Public Health Network (PDTSP-Teias Network) in Rio de Janeiro, Brazil. Developing the interface between research and action has not been, until now, a common practice in developed and developing countries, including Brazil. Therefore, the aims of this study protocol are: (1) to perform a post hoc systematization of the process of knowledge translation and exchange in the PDTSP-Teias Network in the period comprising 2009 to 2012; (2) to verify, using the PDTSP-Teias Network process and outcomes, how participation in the PDTSP-Teias Network facilitated knowledge translation and exchange between knowledge producers and knowledge users; and (3) to analyse how the PDTSP-Teias Network influenced the translation of evidence into practice.

Keywords: Knowledge Translation; Actor-Network Theory; Knowledge Transfer; Case Study

1 Introduction

There is a vast literature on the importance of transferring knowledge (i.e.: what we know about a problem) into action (i.e.: what we do to solve the problem). However, there is little practical information of what worked, where and with whom. Also, there are very few case studies on this topic. In other words, we usually know a lot about a specific issue and we may know, at least in theory, about how the issue may be solved and the importance in solving it. What we do not know is how we can effect change, in a practical manner. What should we do, step by step, to achieve what we know from theory. This is knowledge-to-action, in a nutshell.

In order to understand the dynamic and complexity of the process of knowledge translation the Critical Event Card (CEC) proposed by Figueiró and colleagues (2016) will be the major theoretical background for this study. The CEC is an analytical tool which aims to assess and characterize critical events that mark the evolution of complex interventions (Figueiro et al., 2016).

This study protocol regards knowledge translation in a public health setting. It will investigate the interactions between knowledge producers (professors, researchers, scientists) and knowledge users (health practitioners, community) within a network in the community of Manguinhos, one of the poorest neighbourhoods of Rio de Janeiro, Brazil. With this study, we intend to: (1) verify, using the Program of Development and Technological Innovation in Public Health (PDTSP-Teias Network) process and outcomes, how participation in the PDTSP-Teias Network facilitated knowledge translation and exchange between knowledge producers and knowledge users; and (2) analyse how the PDTSP-Teias Network influenced the translation of evidence into practice.
2 Methods

2.1. Study Population, Sampling, and Recruitment

The PDTSP-Teias Network was composed of 14 research teams. These teams remained on the Network until its formal closure in December 2012 (Santos et al., 2016). For the purpose of this study, we will first pre-define three research teams to systematize the process of knowledge translation. The inclusion criteria were based on: a) the projects should have had regular meetings and collaboration between knowledge producers and knowledge users within the team; and b) the projects should have had regular participation of the teams within the PDTSP-Teias Network. These criteria are based on Patton’s classification of purposeful sampling methods in which we selected “exemplar cases to maximise information” (Patton, 2015). To decide which projects to choose, we met with the two coordinators the PDTSP-Teias Network. At this point, three projects are pre-selected (see detailed description below). Once a final decision is made on participating projects; we will recruit knowledge producers and knowledge users in the pre-defined projects. Recruitment will be done by phone and email. We stipulate a minimum of three participants, including at least one knowledge producer and one knowledge user in each project agreeing to participate. If this criterium is not met, replacement projects will be selected. In sum, the study population will be composed by knowledge producers and knowledge users who participated at the socio-technical PDTSP-Teias Network in Manguinhos between 2009 and 2012.

2.2 Participants in the Study

Participants will consist of members of the three pre-selected projects. In the semi-structural face-to-face interviews, we will invite three participants of each project, as well as the former coordinators of the PDTSP-Teias Network (N=14). In the focus groups, we will invite 5-10 members of the pre-selected projects to participate. The recruitment and access to the participants will be facilitated by the coordinators of the PDTSP-Teias Network. A free and informed consent form will be provided by email one week before the interview and will be explained by the Ph.D. candidate before the beginning of the interview.

This proposal was approved by the Ethics Committee for Health Research (CERES) at the Université de Montréal, Canada and by the Comitê de Ética em Pesquisa da Escola Nacional de Saúde Pública Sérgio Arouca, Rio de Janeiro, Brazil.

2.3 Strategy of inquiry: Nested Case Study

This study will apply a retrospective qualitative nested case study design. A qualitative case study is an approach to research that facilitates the analysis of a complex social phenomenon in context using different data sources (Baxter, Pamela & Jack, Susan, 2010; Willis, Jerry, 2007). In this case, the phenomenon under study is the process of knowledge translation and exchange within the PDTSP-Teias Network. The period under review will be from 2009 to 2012. Hence, this project will be a unique case study with nested levels of analysis: the PDTSP-Teias Network as a case study (14 projects) with levels of analysis of the projects (three projects) of knowledge producers and knowledge users.
3 Description of the Dimensions that will be Observed

To understand the knowledge translation process and its impact on practice we will analyse the interactions between knowledge producers and knowledge users in the PDTSP-Teias Network. Our goal is to recognise how the process of knowledge translation was conducted within the PDTSP-Teias Network and then observe how the PDTSP-Teias Network facilitates knowledge translation. To understand the dynamic and complexity of the process of knowledge translation, we will use the conceptualization of the knowledge translation process as proposed by Lamire et al. (2009) (Figure 1).

This model will guide us to understand how participation in the PDTSP-Teias Network facilitates knowledge translation.

For this study, three projects were pre-selected to be analysed. The pre-selection was based on Patton’s classification of purposeful sampling methods. Projects that had only knowledge producers and projects that had no regular participation of the teams within the PDTSP-Teias Network were excluded. In our understanding, three projects will be representative of the PDTSP-Teias Network in relation to knowledge translation. These projects will be used to provide valuable insights of the Network, and not merely a comparison between projects.

4 PDTSP-Network Pre-Selected Projects

(i) Model of pharmaceutical services to patients with Diabetes mellitus: dispensing and pharmacotherapeutic monitoring: The main purpose of this project was to identify guidelines for a better organization of pharmaceutical services in the Manguinhos Territory. It was a collaboration among pharmacists, users of primary care and a multidisciplinary team providing a range of opportunities to improve the health conditions of the population in the territory where they operated (Luiza, Chaves, Mendes & Sobral, 2016).

(ii) Contributions to a social and environmental diagnosis in Manguinhos: The main purpose of this project was to analyse the work processes related to the preparation and development of the research project entitled "Environmental Diagnosis of Manguinhos" (Bruno, Oliveira, Carvalho, Santos & Silva, 2016). It was a qualitative and quantitative exploratory research. The bibliographic and documentary research used for the description of the study area addressed: (i) the historical formation of Manguinhos; (ii) the geographical features (location, geology, hydrology and hydrography); (iii)
socioeconomic and demographic status; (iv) health status; and (v) information about the location of research (land use and occupation, local environmental pollution processes) (Bruno, Paulo et al., 2016). The quantitative method was used to analyse soil samples, to assess the presence of contaminants and to estimate its spatial distribution (Bruno, Paulo et al., 2016).

(iii) Emancipatory health promotion trails in dialogue with the primary care: The initial objective of this project was to develop a comprehensive understanding of health problems in the Manguinhos Territory. It was developed by the Territorial Laboratory of Manguinhos (LTM), and the "Briefcase of work: Recognizing Manguinhos" was one of the results of the experiences of production, circulation and appropriation of knowledge on health and environment. Another result of this project was the production of an educational game-book about tuberculosis addressed to young people.

5 Object of Study

5.1 Operationalization

Data will be gathered based on multiple sources and followed by the development of comprehensive tools, strategies, and how-to guides. Data collection techniques will include: document analysis, critical event analysis, semi-structural face-to-face interviews, and focus group.

This study will adopt a deductive-inductive reasoning: we will use the Actor-Network Theory (Latour, 1986; 1987; 2005; Law, 2017) as a theoretical framework to analyse data deductively; inductive codes, that are not part of the deductive codes, will emerge from the data. All data from document analysis, interviews and focus group will be recorded and transcript verbatim to NVivo (a qualitative data analysis computer software) for further codification and analysis. At the beginning of the analysis, codes will be inductively developed, which is more open-ended and exploratory. Deductive coding will also be included in the subsequent analysis. To evaluate the reliability of this study, a second researcher will reassess the coding at least one of the transcripts.

5.2 Document Analysis and Systematization

In the document analysis, we will perform a post hoc systematization of the process of knowledge translation and exchange in the PDTSP-Teias Network in the period comprising 2009 to 2012. In this case, we will list data and information for critical learning. First, a chronological framework of the documents will be created. Second, a timeline of events related to knowledge translation will be built. This timeline will then be submitted to the research team for review and the elaboration of the final version of the interview guide. Then, we will conduct a literature review of the texts produced by the program coordination, official and unofficial, including books, minutes and meeting reports, management reports, promotional material, legislation, institutional documents, and scientific papers published in peer-reviewed journals. By conducting the systematization of the documents, we will identify how the process of knowledge translation took place in the PDTSP-Teias Network.

Data gathered in this systematization will be used to adjust and consolidate representation of the initially proposed events, and to identify events that are considered critical (Figueiró, Hartz, Samico, & Cesse, 2012). As proposed by Figueiró and colleagues, once the critical events have been identified and validated we will create the Critical Event Card for each identified critical event (CEC) (Figueiro et al., 2016). Data from the critical events will be coded and analyzed by two researchers using Actor-Network Theory’s categories previously identified as potential critical event descriptors (Figueiro et al., 2016). According to Figueiró and colleagues, there are eleven analytical categories of the CEC descriptors: 1) Title (a descriptive/analytical title of the actions that took place to form the event); 2) Narrative description (brief summary of facts); 3) Actants (human and non-human entities who share
a common situation or problem); 4) Actor’s interests; 5) Interactions (relations and connections established among actors); 6) Mediation; 7) Actions; 8) Consequences (outcomes that express changes in the intervention as a consequence of the critical event); 9) Inscriptions; 10) Location (settings wherein actions involved in a critical event take place); and 11) Time (may be from the emergence of an event through to its development and stabilization) (Figueiro et al., 2016).

The systematization of the process of knowledge translation and exchange in the PDTSP-Teias Network will be conducted with the purpose of improving the practice of the program based on a critical reflection and interpretation of lessons learned from the program (Nunes, 1992). This procedure will include identification, documentation and transfer of experiences and key lessons extracted from the PDTSP-Teias Network with the aim of advocacy, learning and replication (Holliday, Oscar Jara, 2012).

5.3 Interviews

In the interviews we will verify, using the PDTSP-Teias Network process and outcomes, how participation in the PDTSP-Teias Network facilitated knowledge translation and exchange between knowledge producers and knowledge users. Lamire, Souffez, & Laurendeau’s model will operationalize this measure. In this case, an interview framework will be elaborated on the basis of the systematization of the knowledge translation process in the PDTSP-Teias Network and preliminary data merged from the CEC. We will be measuring: 1) how knowledge users and knowledge producers feel about the PDTSP-Teias Network as a facilitator of knowledge translation; 2) how do knowledge users and knowledge producers think that the PDTSP-Teias Network facilitated knowledge translation, and 3) how do they understand knowledge translation in the PDTSP-Teias Network. Interviews will be recorded and transcribed verbatim into NVivo. For further content analysis, data will be grouped and coded in themes and other emerging categories This approach was chosen because: i) it is an approach “that enables data sources to be analyzed in terms of the principal concepts or themes” (Fox, 2004; p. 1); and ii) the research team has great expertise applying this approach in other studies.

5.4 Focus group

In the focus group, we will analyse how the PDTSP-Teias Network influenced the translation of evidence into practice. In this case, focus group questions and observation form will be elaborated based on the interviews, document analyses, and CEC outcomes. The focus group moderator will attempt “to generate a maximum number of different ideas and opinions from as many different people in the time allotted” (Eliot & Associates, 2005). An observer will be invited to register any further information necessary. In the end of the focus group, moderator and observer will meet to compile information. We will be measuring: 1) how knowledge users feel about the PDTSP-Teias Network as a facilitator of knowledge translation; 2) how do knowledge users think that the PDTSP-Teias Network facilitated knowledge translation; 3) how do they understand knowledge translation in the PDTSP-Teias Network; and 4) how does participation in the PDTSP-Teias Network change the practice of knowledge user.

6 Data Analysis and Interpretation

6.1 Content analysis

For this study, we chose the technique of content analysis, a classical method to analyse textual material from many different backgrounds. According to Bardin (1977), content analysis is a set of
communication analysis techniques to obtain, through systematic procedures and description of goals of message content, indicators that allow the inference of knowledge concerning the conditions of production / reception of these messages. Content analysis seeks to know what is behind the words, seeking other realities through the messages (Bardin, 1977).

For the document analysis, we will analyse texts produced by the program coordination, official and non-official, including meeting minutes and reports, management reports and promotional material, legislation, and institutional documents of Fiocruz. The data will be analysed using the content analysis technique, with the completion of successive readings in order to identify themes foreseen in the categories of analysis.

7 Conclusion

This study will link researchers, doctoral students, managers and health professionals, involved in local projects and united around the same concerns about the management and results of community strategies to reduce health inequalities in Manguinhos, Brazil. We will expand collaborations in a network of community-university partnership projects, beginning with projects to be conducted at the School of Public Health of the University of Montreal (ESPUM) in Canada and at the School of public Health Sergio Arouca (ENSP) in Brazil. This study will serve as a model for the use of knowledge translation and the Actor-Network Theory in qualitative public health projects between developed and developing countries.

References


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