METHODOLOGY

Knowledge translation and ethics in public and population health from a knowledge management perspective

L'application des connaissances et l’éthique en santé publique et vers les populations dans une perspective de gestion des connaissances

S. Acadia

R. W. Steen Library, Stephen F. Austin State University, 1936 North Street, 76962 Nacogdoches, TX, USA

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Summary Theoretical and empirical applications of knowledge translation (KT) are growing in the public and population health literature. However, not much existing literature has addressed ethical considerations of KT in this context. The current paper briefly reviews what is meant by the terms 'knowledge translation', 'knowledge management', 'public health', and 'population health', then discusses these areas with ethical considerations in mind. Two specific examples—communities of practice and populomics—are used. The paper aims to begin filling two gaps in the extant KT literature in health by, first, drawing attention to the need for increased consideration of ethics in knowledge translation activities and, second, suggesting that ethical KT in communities of practice and populomics is needed, especially pertaining to the communication of human health determinants in research and decision-making processes. © 2016 Elsevier Masson SAS. All rights reserved.

E-mail address: AcadiaS1@gmail.com

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Knowledge translation and ethics in public and population health

Introduction

Although the awareness and use of knowledge translation (KT) theory and application in public and population health is burgeoning, very little has focused on ethical considerations of KT in health contexts. Drawing upon the larger scope of knowledge management (KM), the current paper aims to address this KT literature gap in public and population health by:

• drawing attention to the need for increased consideration of ethics in knowledge translation activities;

• and suggesting that ethical knowledge management in communities of practice and populomics is needed, especially as they pertain to the communication of human health determinants in research and decision-making processes.

KT is a point of focus because ‘one of the most consistent findings from clinical and health services research is the failure to translate research into practice and policy’ [1]. Knowledge translation opens the door for connecting clinical and health services knowledge to practice and policy action.

The majority of KM and KT literature discusses theories, case studies, systematic reviews, processes, methods, etc., but ignores ethics as central component of KM and KT practice. KM and KT are social in nature, yet extant literature has paid little to no attention to how ethics might play a role in KM and KT activities [2—4], especially in public and population health. Yet, ethics and ethical considerations have been identified as an important emerging trend in KT [5].

Via the classic KM concept of ‘communities of practice’ and the new concept ‘populomics’ from the healthcare literature, the current paper explores KT and ethics as they might pertain to both public and population health. Before reviewing the literature on KM, KT, ethics, and health, a brief review of the terms ‘knowledge translation’, ‘knowledge management’, ‘public health’, and ‘population health’ will be useful.

Knowledge translation (KT) and knowledge management (KM)

‘Knowledge translation’, a term made popular by the Canadian Institutes of Health Research (CIHR), is defined as ‘a dynamic and iterative process that includes synthesis, dissemination, exchange, and ethically-sound application of knowledge to improve [health], provide more effective health services and products, and strengthen the health care system’ [6] [italics mine]. Notable is that ethics is included in this definition, yet the published KT literature has largely failed to engage in any serious conversation about ethics in knowledge translation.

The World Health Organization [7,8] has defined KT as ‘the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health’. Stakeholders include researchers, scientists, government officials, policy makers, medical practitioners, healthcare organizations, patients, communities, and any other entity involved in the health environment. More simply, KT can be defined as ‘the methods for closing the gaps from knowledge to practice’ [9] or the bridge across ‘the gap between what is known and what gets done’ [10,11]. At its most basic, KT is about creating bilateral pathways of knowledge flows among and between stakeholders. In the health literature, these pathways often are between researchers who create knowledge and practitioners (e.g., physicians, government officials, social workers, etc.) who use knowledge.

Although the need for the term ‘knowledge translation’ has been questioned and scrutinized [12,13], the term is useful for understanding that just because knowledge is created does not mean it will be effectively translated to be used or be used at all [1,9]. Knowledge, if it is to be used, should be translated from researcher mode to user mode and visa-versa in a way that promotes effective action. Consistently, the knowledge translation literature has emphasized KT’s concentrated effort for actively utilizing knowledge; that is, putting knowledge to use in applied, practical, real-life, real-time environments [14].
However, what constitutes 'knowledge management' is not as easily defined. Indeed, since the 1980s, researchers and practitioners—mostly in the business, technology, and information disciplines—have been debating about what KM is and is not [15–17]. In health fields specifically, KM definitions have included "a broad collection of practices related to generating, disseminating, and promoting knowledge sharing", "the process of identifying, capturing, and transferring information and knowledge people can use to create, compete, and improve", and "a range of practices used by organizations to identify, create, represent, distribute, and enable adoption of what it knows and how it knows it" [18–20]. Regardless of definition, recent research and global initiatives have recognized KM as a theoretical and applied necessity toward organizing, supporting, and delivering effective health services [21–24].

In sum, KT can be viewed as many methodologies and processes that seek to pull together knowledge and action, whereas KM serves as the larger umbrella under which KT belongs. In this way, KM provides an overarching paradigm of the theories and methods through which knowledge is developed, organized, and distributed by the KT process. Researchers and practitioners in public and population health have noted that the integration of their fields with KM/KT is promising, favorable, and deserving of vigorous attention [25–27].

Public health vs. population health

The current paper takes the controversial position that 'public health' and 'population health' are two distinct terms. Such a distinction is important because the principles of KM/KT have the potential to be more evident and robust in a population health framework versus a public health one. Population health may be defined as "the health outcomes and their distribution in a population [where] outcomes are achieved by patterns of health determinants...over the life course produced by policies and interventions at the individual and population levels" [28]. This definition is very different than that of public health, which engages in "protecting and improving the health of [people] through promotion of healthy lifestyles, research for disease and injury prevention, and detection and control of infectious diseases" [29]. Whereas public health is focused on intervention such as health promotion (e.g., smoking cessation, healthy dieting, etc.) and illness prevention, detection, and control (e.g., vaccination, sanitation, etc.), population health puts on center stage the micro-, meso-, and macro-level health determinants (e.g., socioeconomic status, individual behavior, genetics, etc.) across a population’s lifespan as a way to explain and address the myriad forces behind health outcomes as they are distributed. Population health, then, is an effective conceptual device pulling together a holistic view to explain the outcomes and mitigate unfavorable determining factors of a population’s health.

An extension of population health is 'populomics', a term coined by Gibbons [30,31] to recognize the confluence of population health, medicine, and informatics. Knowledge occurs where these three fields intersect, and it is within the purview of KM to connect, organize, and manage the people, processes, and technologies involved [32]. Populomics is a useful term because it underscores the many roles health determinants play in medicine and accounts for the ways in which knowledge, information, and technology facilitates this relationship. Knowledge translation lies at the crossroads of populomics because KT explicitly seeks to traverse the distance between knowledge and action. KT, then, can be an effective strategy to create and transmit knowledge about human health determinants in public and population health studies.

KM, KT, ethics, and health

What is meant by use of the term 'ethics' in KM and KT? Certainly, ethics is a topic of interest to philosophy, but the approach taken in this paper views ethics through a lens that is less theoretical and, instead, more applied. That is, the point here is not to wax ontologically or epistemologically about ethics, but rather to situate ethics as acceptable codes of conduct in applied KT health situations. Because these situations occur in varied organizational settings, geographic areas, and cultural milieus, what is considered ethical in one locale or context, may not be considered so in another [33].

Ethical topics on KM "refer to the underlying motives for the introduction of KM systems, the way they are actually used, and the impact of their use on individuals, the organization, and society" [3]. While most literature champions potential and realized KM successes, failures, ethical pitfalls, and checks-and-balances processes are largely ignored. Much KM literature has "focused too strongly on maximizing knowledge and knowledge access and sharing with insufficient focus on what knowledge to select, apply, and institutionalize in organizations" [33]. The lack of the inclusion of ethics in KM is serious because "many issues in KM...are rendered incomplete if we do not incorporate ethical considerations in KM research and practice" [2].

Citing real examples in private and civil sectors, researchers have warned that "knowledge can be...omitted, withheld, suppressed...exaggerated, diminished, or distorted...such activities may arise by accident or mishap, but often the manipulation is instrumental" [3]. Ethical issues such as discrimination, domination, accountability, and transparency are rarely considered in general KM practice. Others [2,33] have identified a number of specific concepts and processes that demand ethical concern in KM, including: freedom of information, knowledge application, knowledge creation, knowledge storage and retrieval, knowledge transfer, privacy of data, and protection of intellectual property.

The lack of ethics in KT can be addressed by "identifying potential ethical pitfalls at each stage from knowledge creation, dissemination, and implementation into healthcare practice" [4]. If KT is to be ethically-sound as its definition claims, the following three points must be understood by those who engage in KT activity:

- "KT is grounded in the ethical principles of beneficence and non-maleficence";
- "KT interventions must...comply with legal and regulatory frameworks that prevail in the given context";
- and "cost-benefit tradeoffs must be analyzed before engaging in a KT process" [4].
Additionally, key questions such as how, what, to whom, and by whom, research should be transferred and translated between stakeholders has been put forth [1]. Accordingly, "ethically-sound application of knowledge" should be paramount in the consideration of "what knowledge should be translated—and to which audience—keeping in mind how knowledge could be used" [6,34]. In the health fields especially, it may be unethical to distribute some knowledge and information to parties without consent; just because knowledge can be shared does not mean it should be in every case. In addition, the effectiveness of KT activities [5,35] requires ethical discernment so that unproductive activities are recognized and improved upon rather than continued deployment with little, no, or adverse effect. The idea here is that ethical delineations between knowledge available and knowledge shared must be well-thought-out in the KT process; ethical decisions must be made so that appropriate and effective knowledge is translated across appropriate stakeholder groups for safe, non-coercive, and optimal results.

KT in the health context for developing and non-Western countries has been mentioned in the extant literature [36], but is deficient in discussing ethical considerations. For instance, local communities in developing and underdeveloped countries may require unique collaborative approaches to best address health needs between stakeholders in those geographic areas due to possible variances in socioeconomic, culture, government, and ecology. Stakeholders, then, have an ethical responsibility to take these factors into account when engaging in KT activities. Ethically, too, stakeholders must remember that the KT process, particularly as local communities and governments are involved, should be bidirectional; bottom-up knowledge flow is as important if not more so than top-down. Indeed, "local understandings, framings, and agendas are shaped and impacted by wider economic and political forces which, in turn, affect KT processes" [36]. Research with Canadian indigenous populations, for example, suggests that if KT is to be utilized effectively, the process must be interactive with local communities and groups so that culturally appropriate frameworks and activities can be implemented to best meet localized needs [4].

Unfortunately for producers, users, and beneficiaries of health knowledge, most applied KT literature never mentions ethics or ethical practices as a point of interest; these studies seem to make the assumption that translating knowledge is always for the benefit of the intended population or cause. The current paper does not seek to question the success of KT in health and healthcare, but rather aims to draw attention to the noticeable fact that extant literature on the subject rarely references any explicit attention to the potential role and impact of ethics on KT practice.

The following discussion includes consideration of ethical KT activity within communities of practice and populomics. These two have been chosen because they are ripe for further investigation regarding ethics and KT.

Ethics example: KT and communities of practice (CoP)

As a term, communities of practice developed from the theoretical and conceptual work of Lave and Wenger [37] and Wenger [38,39]. Wenger [39] wrote that "communities of practice are the basic building blocks of a social learning system ... [they] grow out of a convergent interplay of competence and experience that involves mutual engagement [and] remain important social units of learning even in the context of much larger systems". For Wenger, humans have always formed these types of learning communities and it is only through this social interaction that we come to know things. In a UK study involving varied healthcare settings, CoP was defined as "a group of people who may not normally work together but who are working and learning together in order to achieve a common task whilst acquiring and negotiating appropriate knowledge" [40]. Communities of practice can emerge at local, regional, national, and international levels [10], can form from virtual and online communications [41], and have shown to be useful in global health initiatives [42]. Though reports of CoP ambiguity, criticism, and failure have been published [43–45], the majority of existing literature supports largely a favorable view of CoPs.

Recent public and population health studies have recognized the utility and need of collaboration through communities of practice. For example, Connections, a CoP formed at the Public Health Informatics Institute (PHII) in Atlanta, Georgia, USA was charged with promoting the immunization of children, including integrated child health information systems, across the United States [46]. Pan-INFORM, a Canadian CoP, was concerned with the nationwide evaluation of the global H1N1 influenza outbreak of 2009–2010 [47]. These are examples of two recent CoPs that have been met with success, though challenges were common. Other studies [23,48–50] have consistently recognized the need for extending and formalizing collaborative approaches and social networks for research teams, practice-based teams, policy teams, and local study communities to ensure better knowledge creation and flow between producers and users of knowledge, between knowledge and action.

Mental health, broadly defined, is one area in which communities of practice may be a useful KT activity. Globally, such stigma, denial, and ambivalence is attached to mental health conditions regardless of their severity. As such, individuals and groups suffering from some mental health issues may not be taken seriously and not receive the adequate care, resources, and protections they need; this, alone, is unethical. Researchers and scientists in the mental, public, and population health fields would be wise to take advantage of creating communities of practice with all relevant stakeholders to foster creative dialogues for allaying mental health burdens. In so doing, careful consideration of ethics must be implemented to protect the individuals and groups affected by mental conditions. Ethical safeguards need to be in place as research data, patient information, and proposed policies—both private and public—are transferred across stakeholders via CoPs.

Using a population health example, mental health conditions such as depression and addictive behaviors are prevalent in indigenous Arctic populations. One suggested way to aid in mitigating unfavorable mental health outcomes is to strengthen localized social networks [51]. If social networks are strengthened among members of native groups in geographically isolated areas such as the Arctic, social
solidarity and sense of community and communal support can be reinforced. As CoPs are developed, stakeholders should work with indigenous groups to ensure high ethical standards are in place that incorporate local languages, belief systems, and lifeways.

The importance of communities of practice cannot be overemphasized as CoPs “facilitate the symbiosis that should occur between researchers and users of research” [52] and are “important components of a comprehensive approach to KT” [26]. Kitson et al. [50] noted that “KT … could be conceptualized as something that produces content (the knowledge) and that describes a process (the way knowledge is adopted and applied in practice or policy)” [italics mine]. The KM concept of communities of practice is a great example of this something because it is through CoPs that new knowledge may be produced and introduced for adoption and application in public and population health initiatives.

Communities of practice are useful only to the extent that they facilitate and support knowledge translation [18]. Also, the productivity of CoPs can be stifled by overmanagement, lack of trust, and unclear practices of knowledge transfer [46]. Thus, CoPs may be viewed as the something that builds bridges across the gap that separates knowledge production from knowledge utilization, but this something must be fostered in an environment of well-balanced management, trust, and well-defined strategies and protocols for knowledge flow. Moreover, CoPs—in the strictest sense of Wenger’s [38,39] meaning—occur spontaneously as members of organizations elect to work together toward some objective; CoPs cannot be created, but only facilitated, by management [45]. Thus, the creativity and effectiveness of CoPs or semblances thereof that are forced, top-down or not adequately nurtured may be muffled by managerial directives [43].

CoPs do not occur in vacuums without influence from their members’ organizations. Indeed, research has shown that an organization’s ethical climate impacts if and how KM activities are performed. Research [33,53] supports the idea that the values, norms, and ethos embedded in an organizational culture, impacts members’ social identities and behaviors that in turn leads to ethical or unethical KM engagement within their CoP and organization at large. CoPs also can provide an ethical outlet for mitigating unbalanced power structures between stakeholders [54]. While communities of practice are not exempt from struggles of power among internal group members and with external stakeholders, the nature of CoPs make them ideal environments for intra- and inter-organizational knowledge creation, sharing, and translation.

Ethics example: KT and populomics

Research also has concluded that much KT health literature and practice overlooks the social, political, cultural, and economic conditions that determine health [36,54]. Thus, while the disciplines of public and population health have begun to implement KT in their scholarship and practice toward uniting researchers, practitioners, government, and other stakeholders, communicating the determinants of health—social and otherwise—via KT has largely gone unnoticed. Much published health literature where KT has been of interest has been rooted in two main areas:

• applied, implementation studies where KT activity itself is the unit of measurement in some way or primary point of concern;
• and abstract, non-implementation studies dealing with frameworks and theories of the KT process [55].

What is missing from these strands is a consistent, longitudinal representation of how KT can be used to create pathways of knowledge for the inclusion of health determinants data (e.g., socioeconomic status, individual behavior, genetics, etc.) in public and population health information processes between stakeholders. Through populomics, KT is poised to serve as the connecting element where information and data on health determinants can be integrated into implementation and non-implementation research.

For example, KT implementation research in the health literature involving the Zika arbovirus might look at the ways in which clinical research units communicate with government agencies about the virus, as well as the practical outcomes of such communication. KT non-implementation research, on the other hand, might propose a particular research method, theory, or framework that could work to unify virologists and medical practitioners. In neither Zika example is there any implication that determinants such as socioeconomic status, individual behavior, or genetics have been or should have been considered. Ethically speaking, however, the oversight of health determinants as key variables in the KT process is problematic. Copious research in public health, population health, medical sociology, medical anthropology, and health psychology has shown that individual and group health is influenced by social, psychological, environmental, and biophysiological factors. Therefore, to engage in ethical knowledge creation and decision-making regarding the Zika virus, the presence or absence of these factors and related effects need to be expressly considered. To that end, KT is the conduit through which information and data on health determinants and Zika, in this example, can be transmitted bidirectionally between and across stakeholders.

Another practical example of using KT ethically is by addressing health issues surrounding the recent influx of refugees into Europe. Refugees from Northern Africa and the Middle East entering and settling in Europe presents a bevy of public and population health challenges for local, national, and European organizations. Populomics is a concept that can be used to develop a better understanding of the humanistic aspects of the mass arrival of immigrants. With populomics in mind, European stakeholders are well-equipped to recognize the social, political, cultural, and economic realities of groups fleeing geographic areas that are rife with political unrest, poverty, socioeconomic inequality, lack of adequate health care, and other determinants of health. National-level health organizations could consider KT strategies in a populomics framework to ethically address, first, the sociocultural gaps between European and non-European health services for immigrants and, second, functional ways for implementing quickly yet efficiently a health agenda for refugees based on solid medical research coupled with social and culturally-sensitive methods for those populations.
One way to build a bridge between stakeholders to maximize the flow of health determinants data is to leverage communities of practice. Detailed efforts, however, need to be placed not solely on the mechanics of CoPs as vehicles through which KT occurs, but also on the content of health determinants data—including its analysis and interpretation—that is created and used by CoPs. Again, populomics is important here for two reasons. First, it is at the intersection of population health, medicine, and informatics that multidisciplinary CoPs come together with common interests to work toward common goals (mechanics). Second, the very nature of populomics as an interdisciplinary field positions it well to meld together the knowledge created by CoPs on the varied determinants of human health (content).

Conclusion

Researchers have stated that “for public health organizations… the capability to acquire, create, share, and apply knowledge represents the most significant capability in terms of solving public health problems” [10]. Moreover, “the objective of KT is to increase the understanding and effectiveness of knowledge utilization processes in health” [11]. Toward these ends, the current paper has sought to add to the KT literature in public and population health by calling for increased attention to ethics in the knowledge environment, something that all too often remains unconsidered. Recognizing this concern, all stakeholders involved in KT activity should pay attention to “the ethical challenges raised by the conceptual, theoretical, and methodological aspects” of knowledge translation [4].

The paper also has intended to propose communities of practice and populomics as two examples where ethical KT activity is needed and can be executed. All stakeholders in public and population health initiatives ought to think of the ethical considerations of their work as it pertains to knowledge creation and the transmission of it across KT channels.

Disclosure of interest

The authors declare that they have no competing interest.

References

Further reading


U.S. Centers for Disease Control. Public health information network communities of practice. 2016 [Internet; Available from: http://www.cdc.gov/phcommunities/].