In what ways do cultural contexts influence the knowledge translation process for health decision-making and what are the implications for policy and practice?
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Health Evidence Network synthesis report 76

In what ways do cultural contexts influence the knowledge translation process for health decision-making and what are the implications for policy and practice?

Eivind Engebretsen | Priya Umachandran | John Ødemark | Trisha Greenhalgh
Abstract

This report explores how knowledge translation (KT) and cultural contexts are conceptualized and utilized, with a focus on health policy-making theory and practice. KT takes place within cultural contexts that can powerfully frame what policy problems are and what type of research is accepted by policy-makers. This is illustrated with studies from the COVID-19 pandemic regarding the use of face masks across cultures and of the influence of cultural contexts on KT and evidence-informed decision-making arising from the Black Lives Matter movement. Many Indigenous cultures conceptualize physical health in a holistic manner that encompasses both social and ecological aspects, which are often not considered in the biomedical understanding of health. Effective KT within local cultural contexts requires going beyond general categories (such as Indigenous culture) and assumptions about particular types of culture. Some KT models and frameworks include local context as a factor in translation, identifying community-, culture- and language-focused strategies to improve cultural competency for health-care interventions. Policy considerations are suggested that support the adoption of complex understandings of cultures in knowledge production, communication, translation and use.

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<td>Black Lives Matter (movement)</td>
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<td>COVID-19</td>
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<td>EVIPNet</td>
<td>Evidence-informed Policy Network</td>
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<td>KT</td>
<td>knowledge translation</td>
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<td>RCT</td>
<td>randomized controlled trial</td>
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<td>SARS</td>
<td>severe acute respiratory syndrome</td>
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SUMMARY

The issue

The importance of cultural contexts in knowledge translation (KT) has been acknowledged in public health and health policy. Policies from governments and international actors need to be localized based on specific local and cultural contexts. There are currently few syntheses of published research that identify and analyse the various ways that KT and cultural contexts have been conceptualized and utilized in health policy-making, or demonstrate how understanding cultures and translation from areas such as linguistics and anthropology can inform KT and health policy.

The synthesis question

This report examines cultural contexts and KT within health policy-making and is guided by the following synthesis question: “In what ways do cultural contexts influence the knowledge translation process for health decision-making and what are the implications for policy and practice?”

Types of evidence

A wide range of evidence was synthesized in this report, covering not just the relatively narrow range of formal KT processes and materials such as toolkits but also wider processes and phenomena such as changing conceptualizations and understandings of health. Evidence was drawn from scientific, social science and humanities disciplines and grey literature in English and Russian. The search of peer-reviewed literature identified 102 relevant documents published from 2005 to 2020. Many of the identified studies only mentioned culture and/or KT in passing while considering a different topic. Equally, many relevant and seminal papers were not identified using the formal search strategy. Consequently, the formal search was augmented by a hermeneutic review, which can achieve better understanding of a field through the close reading of key texts. This interpretative approach to the literature allowed examination of a wide range of academic disciplines, processes and phenomena that might have been missed using a more standard search strategy and identified a further substantial set of documents.

Results

Much of the research identified in the peer-reviewed literature showed that processes to integrate elements of cultural contexts into KT did not capture the
sophistication, complexity or dynamic nature of culture. Some KT models and frameworks did include local context as a factor in translation, but culture was rarely explicitly discussed with nuance or complexity. However, some studies did acknowledge the complexity of KT processes and, in particular, the complex ways that cultural contexts and KT are intertwined. These studies acknowledged the importance of various cultural factors in designing, communicating, translating and applying research evidence, but this has had only a limited effect on how KT is conceptualized in general as a complex cultural and epistemic process encompassing the research process itself and policy-making. By comparison, some literature identified within the social sciences, humanities and history of science fields considered translation as fundamentally cultural and complex and, hence, always part of various cultural contexts.

Several multidimensional frameworks identified community-, culture- and language-focused strategies to improve cultural competency in the local adaptation of health-care interventions. Aesthetic aspects of culture have been used to facilitate communication and awareness among both health-care providers and the end users of care. An anthropological notion of culture, understood as systems of behaviour and beliefs, can be seen in the KT literature. However, this was typically only associated with specific groups such as ethnic minorities, Indigenous groups or local settings and meaning systems. As elaborated in the findings, systems of behaviour and beliefs that impact individual and collective decision-making are also influenced by trust in the sources of information. In contexts where there is a history of oppression or discrimination of people practising their traditions and cultural practices, this history is difficult to disentangle from the cultural context and from KT occurring within that context. Three specific areas were identified as illustrating aspects of cultural contexts and KT in public health knowledge production, translation and communication. Two were specifically highlighted by the coronavirus (COVID-19) pandemic, a current complex global health policy challenge caused by the spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

First, the public willingness to use face masks to prevent spread of infection varied across cultures and also in terms of how mask-wearing was promoted. There were wide variations in receptivity of mask-wearing as a preventive measure across regions, with acceptance more likely in regions where there was already a cultural and historical tradition of masking. Regions with a political and ideological rebuttal of face coverings were more likely to have anti-masking movements. The pandemic highlighted a divergence in cultures of how knowledge and evidence was applied
to the COVID-19 response. Evidence-informed medicine and pragmatic empirical public health provided radically different perspectives on how to respond rapidly to an evolving health issue and on the translation of science through social relations and networks.

Secondly, the co-occurrence of the Black Lives Matter (BLM) movement and the COVID-19 pandemic has illustrated how KT takes place within cultural contexts that powerfully frame what the policy problems are and what kinds of research policy-makers accept. Issues of why some population groups were more severely affected by the pandemic and a linkage to racial inequalities have implications and relevance for considering discrimination within cultures and how this relates to KT and public health policy.

The third area identified considered Indigenous and traditional cultures. Although Indigenous cultures are regularly viewed in popular culture as well as in the peer-reviewed literature identified for this report as autonomous worlds with autochthonous medical systems, there has tended to be an assumption that biomedical interventions must be adapted to fit these other cultures, or that other cultures are expected to fit the biomedical interventions. Intertwined in this othering are power imbalance, racism and oppression. Instead of embracing Indigenous knowledge systems or considering how the balance of perspectives present in Indigenous views of health could benefit public health policy-making, governments have suppressed them in the false assumption that Eurocentric knowledge systems are superior. The literature identified ways of valuing Indigenous KT models and applying local, ethnographic contexts, languages and practices as holistic approaches to address the needs of different communities and contexts.

The results outlined in this report demonstrate how assumptions found in the KT literature about culture and cultural mechanisms are reductive and unproductive, particularly in contexts of uneven and discriminatory power balances. Some research has problematized linear and fragmented KT approaches to culture and context, arguing for a more complex and nuanced understanding of the ways that cultural contexts relate to knowledge production, translation and communication.
Policy considerations

Based on the findings of this review, the main considerations to support researchers and decision-makers in Member States to include and account for cultural contexts in KT processes and public health decision-making are to:

- distinguish between different concepts and aspects of culture, and support the adoption of complex understandings of culture in knowledge production, communication, translation and use;

- draw on evidence from diverse fields and sources, such as anthropology and target communities, when implementing KT processes for health policy and public health decision-making in order to improve the understanding of human behaviours and implications for policy interventions within their cultural contexts;

- expand the understanding and definitions of KT to account for translation between different types of belief systems, world views and ways of knowing, including by considering how KT is conceptualized beyond the English language and the Eurocentric world views;

- account for the ways in which knowledge and policy are actively changed in different cultures, rather than being passively translated, when localizing evidence and policies to different contexts;

- support postcolonial rebuilding of Indigenous knowledge systems by ensuring that KT relating to Indigenous health decision-making is led by the communities and centred on the knowledge and experiences of Indigenous knowledge keepers and scholars;

- implement local art, narratives and knowledge culture to translate evidence, policies and practices between disciplines and engage different cultural groups;

- adapt KT models to place culture at the forefront of health promotion;

- consider how cultural contexts relate to the production of knowledge and what constitutes high-quality evidence;
• learn from cultural movements that highlight inequities and inequalities in order to improve the understanding of how discrimination and power structures within KT may contribute to adverse outcomes for certain groups; and

• support opportunities to collect and share examples of good practice of nuanced and culturally sensitive KT, including those from WHO and other organizations.
1. INTRODUCTION

1.1 Background

In January 2015 Member States in the WHO European Region acknowledged the highly diverse cultural nature of the Region and the impact that this can have on the effective implementation of health policy. As a result, the WHO Regional Office for Europe convened an expert group to consider how better to incorporate cultural contexts into its work (1). Subsequent publications examined various aspects of interlinking cultural considerations into policy-making. These links were also considered in the development of outputs designed to inform health decision-making, such as policy dialogues and evidence briefs for policy produced by the Evidence-informed Policy Network (EVIPNet) for Europe (2–4). Initiatives considering local and cultural contexts in KT were developed in response to an increasing awareness that public health research lacked systematic attention to the role of culture in translating research evidence into policy. Effective KT should consider the complexity of health systems, political systems and contexts and the role of culture (practices and behaviours defined by customs, habits, language and geography) (5). Aspects of health and well-being and of health-care provision need to be understood in ways that encompass culture and cultural responses.

This report examines the process of KT, the pathway from knowledge to action (know–do) (6) and the entanglements of culture and knowledge in every stage of KT from knowledge production to its utilization. KT has been defined by WHO (7) as:

[t]he exchange, synthesis, and effective communication of reliable and relevant research results. The focus is on promoting interaction among the producers and users of research, removing the barriers to research use, and tailoring information to different target audiences so that effective interventions are used more widely.

This definition reflects a cyclical knowledge-to-action process integrating the roles of knowledge creation and knowledge application (8).
1.1.1 Concepts and theories of KT

1.1.1.1 Use of the term translation in medicine

The metaphor of translation has been frequently used in medicine and health sciences, but terms such as co-creation or transformation might better describe the desired effects of health communications and health interventions (9). Historically, KT must be seen in the broader context of translational medicine that emerged as a new medical paradigm in the early 2000s (10). Translational medicine was explicitly presented as a solution to the slow and insufficient uptake of research discoveries in everyday clinical practice and the apparent disconnection between the promise of basic science and the delivery of better health. A variety of terms were used to describe the process (e.g. research utilization, knowledge transfer and knowledge exchange) before the concept of KT was established (11). KT extended the notion of knowledge transfer by encompassing co-creation by researchers, users and policy-makers as an important mechanism for promoting the use of evidence in policy (12). Yet the process of production, testing, dissemination and utilization of knowledge is still often seen as a linear pathway, with knowledge production and KT as two separate phases, even if they are mutually influencing (Fig. 1) (13,14).

Conventional views of KT tend to consider only the two last steps of this translational chain: translating findings into practice and policy (T3) and then to the system level (T4) in order to deliver best practice in global and local contexts. KT can be seen as having an explicit focus on influencing behaviour change and patient outcomes (15) and on the ways that informal and cultural processes influence the uptake of research evidence by practitioners (16). To be effective, KT requires a more nuanced approach than a simple linear set of unique steps. It can be considered as:

- using diverse forms of evidence, for example, including community consultation in addition to epidemiological and survey data and scientific research results (17);
- having multiple, multidirectional and interactive steps;
- having diverse end users; and
- being impact oriented.
Fig. 1. The concept of translational medicine

- **Basic science research**
  - Preclinical studies
  - Animal studies
  - **T1**
  - Translation to humans

- **Human clinical research**
  - Controlled observational studies (especially first in humans)
  - Phases 1, 2 and early 3 clinical trials
  - **T2**
  - Translation to patients

- **Health services research**
  - e.g. late phase 3 and phase 4 clinical trials, observational cohort studies, big data studies
  - **T2**
  - Translation to patients

- **Secondary research**
  - e.g. systematic reviews, meta-analyses, guideline development
  - **T3**
  - Translation to practice and policy

- **Clinical or public health practice**
  - Delivering the best care to the patient; making the best policy decisions for communities and populations
  - **T4**
  - Translation to system

- **Health organizations and systems**
  - Designed to support delivery of best practice in global and local contexts
1.1.1.2 The cyclical nature of KT

Various models of KT in policy-making depict a cyclical process in which the phases of evidence/knowledge generation and decision-making based on this knowledge may occur sequentially or simultaneously, with the phases influencing one another (8,18–21).

Even cyclic KT models that emphasize continuous feedback loops and regular interactions between research producers and knowledge users tend to distinguish between knowledge production and translation as temporally different activities in which the second leans on and follows the first, relying on a linear logic or sequence in two important ways. First, the act of generating knowledge is frequently analytically separated from the act of translation through which the knowledge is applied or transferred. Secondly, the trustworthiness of the translated knowledge is based on the assumption that the steps are taken in the right order. Usually, guidelines are only considered reliable if they are backed by a sufficient number of high-quality studies. The randomized controlled trial (RCT) is seen as providing the most objective and highest quality of evidence, despite its limitations when applied to public health and health policy contexts, such as ethical considerations around who should receive an intervention and how to determine intervention and control groups. In addition, many evidence syntheses, including Health Evidence Network (HEN) synthesis reports, will assess the quality of evidence being used (22). However, some situations have fundamentally challenged this linear and sequential logic of knowledge production and related hierarchies of evidence; for example, in the COVID-19 pandemic, rapidly identifying and implementing policy interventions in the absence of high-quality evidence became a scientific and moral imperative (23). In such circumstances, decisions may need to be taken without what is traditionally assumed to constitute evidence. When there is uncertainty about effective policy options, for example in cases of limited or low-quality evidence, options will need to be evaluated against their potential impact in a particular context. Knowledge production is from the outset a translational act through which various sources of knowledge, experience and expertise are contextualized, renegotiated and applied (14).

Models of KT still rely on a number of hidden assumptions (24):

- knowledge is generally depicted as equating with objective research findings that are separable from the people who develop or use them;
• knowledge and clinical public health or policy decision-making are, in general, separate and separable (as reflected in phrases such as the know–do gap or bench-to-bedside step); and

• decision-making consists of rational decisions based on scientific research findings.

Although some of the linear mechanisms to integrate cultural contexts and awareness into KT have been challenged, there is evidence within KT practice and literature that context, including social and cultural differences, is an important determinant of evidence use (13). A number of studies have described translation as a material and cultural practice conducted in complex contexts, and not just a discursive process (25). This approach to KT as a kind of cultural translation is based on a complex whole definition of culture as informing all kinds of knowledge. Concepts of translation in a cultural and material sense see translation as not only communicating knowledge but also creating knowledge. The implication of such a broad understanding of translation is that the distinction between science and its translation (inherent in many KT models, for example concepts such as the know–do gap) is impossible and unproductive to maintain. This needs to be taken into consideration, and tools and mechanisms are required that can guide policy-makers and Member States in this undertaking.

1.1.2 Cultural concepts

It is well recognized that localizing policies from governments and international actors requires knowledge of specific local cultural contexts for successful implementation (4). Understanding that culture is integral to effective KT can inform the implementation of health policy and maximize the impact on population health and well-being through ways that collaborate with local communities. Conversely, when evidence-informed interventions (which may come with targets and success metrics set by people who may lack local knowledge) come into conflict with local conceptualizations, values and realities, this can lead to mistranslation and implementation failure. In order to illuminate the mechanisms through which culture and KT interact, it is necessary to give an overview of how the concept of culture has been developed and applied in the humanities: what exactly is meant by references to cultural contexts?
The two main concepts are:

- aesthetic and intellectual culture, which considers cultural tools such as art and narratives as communicative means; and
- anthropological culture, which is understood as shared systems of behaviour, meanings and beliefs.

Both of these concepts have also been considered in the health sciences.

1.1.2.1 Aesthetic and intellectual notion of culture

While the term culture is in everyday use, it is often used to refer to the liberal arts and works of individual intellectual achievements. Within the health sciences, art and narratives are often considered as cultural tools for communication with practitioners, patients and the public:

- for patients, aesthetic works (poetry, art, music, etc.) have been recommended as promoting health and well-being and preventing ill health and for the management and treatment of illness across the lifespan (26);
- for health-care professionals, works of art (such as films and paintings) can enhance understanding of the complexity of ill health and can improve clinical skills, personal skills and communication (26); and
- from a health literacy perspective, people with limited stocks of aesthetic–intellectual culture (e.g. less likely to go to university or become high earners) might experience worse health outcomes as they would be less able to develop their health literacy and interact with their health professional (27).

1.1.2.2 Anthropological culture

A more comprehensive concept of culture has been developed in sociology and anthropology; this emphasizes the collective and socially shared aspect of thought and action. Mostly, when health researchers talk about cultural contexts, they are inclined to refer to cultural otherness, such as migrant or Indigenous cultures. Intertwined in this othering can be aspects of power imbalance, racism and oppression. This is illustrated in more detail in section 2.2.3.

1.1.3 Evidence-informed policy-making

Evidence-informed policy-making can be viewed variously as an outcome of KT or a site for KT and policy-makers as key actors in KT (28). In recent years,
policy-making bodies have developed a variety of organizational forms, including specific centres or networks to promote and support KT in a range of global contexts (Box 1)

**Box 1. Centres for evidence-informed policy-making**
- Belgian Health Care Knowledge Centre (KCE) (29)
- European Observatory on Health Systems and Policies (30)
- EVIPNet Europe (3)
- Knowledge to Policy Center (K2P) in Lebanon (31)
- McMaster Health Forum in Canada (32)
- Norwegian Knowledge Centre for the Health Services (33)

The creation of evidence and evidence-informed policies is from the outset a cultural enterprise with culture embedded in every stage: from the formulation of research questions through to methodology; ways of handling data; theory, analysis and dissemination of results; and utilization of results to support policy-making. Objectively obtained facts are both theory and value laden, and this has important implications for the usage of scientific information.

**1.1.4 Objectives of this report**

The premise of this HEN report is that science, biomedicine and policy-making are themselves cultural enterprises and, hence, will always involve some kind of cultural translation: active efforts to translate words, phrases, diagrams and other visual artifacts from one meaning system to a different one. Both the production and the reception of scientific knowledge and evidence will be characterized by diverse cultural contexts and, in order to become global and (purportedly) universal, scientific knowledge and approaches need various kinds of replication and translation to make an impact on practice and policy (34). While some empirical work has developed KT approaches that take account of the local cultural contexts in which scientific facts are received, there has been less recognition of the cultural contexts in which these facts were generated (35). Often, concern with cultural contexts is focused exclusively on barriers and
facilitators to the implementation of scientific findings in policy-making, while the knowledge itself and the KT process are seen as non-cultural. In other words, culture is seen as external both to the production of science and the scientific product and as a problem to be addressed or a barrier to be overcome, and is often associated with cultural otherness or care supplementing medical treatment (14,36).

This report aims to build on previous academic and policy documents that emphasize the importance of culture in the KT process (2–4,37–39). It identifies areas where current KT processes insufficiently account for culture and will outline opportunities for decision-makers to better incorporate cultural contexts into decision-making for health. The report is based on the synthesis question: “In what ways do cultural contexts influence the knowledge translation process for health decision-making and what are the implications for policy and practice?”

1.2 Methodology

Sources in the peer-reviewed literature from 2005 onwards in English and in Russian were identified in two separate searches from major scientific and social science databases (Annex 1).

In the English search, a total of 1368 documents were found after removal of duplicates and this was reduced to 175 for full-text screening using inclusion and exclusion criteria to identify papers on KT and culture in a health context. A final group of 101 documents was included in the qualitative synthesis. In 79 of the included papers, culture was framed in terms of otherness, in particular:

- 38 considered minorities (40–77)
- 28 considered Indigenous culture (78–105)
- 14 considered a local setting (57,106–118).

A group of 24 documents also took a more comprehensive perspective, recognizing that culture was multifaceted and influenced KT in complex ways (45,98–101,119–137). Only eight engaged directly in any depth with policy-making or policy-makers regarding KT and culture (42,114,120,136,138–140).

The search of the Russian databases found only marginal reference to culture in the literature about KT processes (Annex 1), although some publications discussed how
cultural factors influenced health care more broadly. Only one paper specifically referred to KT (141). KT does not have an equivalent in Russian and is commonly replaced with expressions such as “transmission of knowledge” or “knowledge transfer”. Accordingly, theoretical discussions about the content and use of translation (compared with transfer) also seem to be missing from the Russian literature.

The search strategy of the English databases identified two important issues. First, many of the identified studies only mentioned culture and/or KT in passing and had a different main topic. Secondly, many relevant and seminal papers on the topic were not identified by the formal search. Consequently, a hermeneutic review was used to identify and include additional texts. The aim of a hermeneutic review is to achieve better understanding of a field through close reading of key texts (142). Searching and interpretation follow an iterative and complementary strategy. Based on the interpretation of known sources, searching seeks to identify new information about the issue and more relevant sources of information, which, in turn, form the basis of new interpretations and subsequent searches (143). Using this approach, a substantial set of additional papers was included.
2. RESULTS

The results are mostly based on the hermeneutic review and examine mechanisms to integrate cultural contexts into KT (so not all references from the search of peer-reviewed literature are cited in the Results). First, issues of cultural complexity and KT processes in general are examined. This is followed by consideration of three areas within public health where the tension between KT as a technical task and KT as a context-dependent cultural–political process in public health is illustrated.

2.1 Cultural complexity and KT processes

As discussed in the Introduction, translational pathways and KT processes are not simple linear processes but have complexities resulting from cultural factors at all stages from knowledge production to knowledge utilization in policy-making. Three levels of the KT process can be identified where cultural complexity has been emphasized in the literature:

- most often, as a local setting or meaning system where evidence-informed interventions are interpreted, adopted and sometimes significantly altered (which assumes a scientific message can be decontextualized from the cultural contexts in which it will be implemented) (125,144);
- less commonly, the social, technical or communicative means deployed to implement and translate research findings (124,134); and
- rarely, as part of the scientific production of knowledge (120).

2.1.1 Cultural complexity as part of the local setting

Several multidimensional frameworks have been developed in order to support the local adaptation of health-care interventions. A scoping review differentiated three overarching strategies to improve cultural competency: community-focused strategies, culturally focused strategies and language-focused strategies (144). For example, Culturally Appropriate Health Promotion is a framework developed in 2008 by the Global Alliance and WHO (145) that encouraged “health programme planners and policy-makers to have a greater understanding and respect for communities and their sociocultural environment to improve health, a sense of
empowerment and collaboration”. A set of culturally appropriate health promotion principles were proposed:

- community involvement, consultation and empowerment
- socioculturally tailored health promotion techniques
- community evaluation and feedback in real time
- utilization of local communication techniques
- maximization of both the spoken word and the local language
- sustainable health development and community health autonomy
- holistic nature, addressing the needs of the whole person
- spirituality and social connectedness as health determinants.

Community involvement implies recognition of the value of existing community assets, including trusted community-level communication pathways, and working to build upon these sustainably (125). This should also be reflected in health promotion techniques such as recognizing and using traditional healers and their knowledge and holistic approach to inform health promotion strategies in Indigenous communities (125).

Yet, while this framework acknowledged the importance of adaptation and respect and applies a complex approach to culture, the principles were still framed by the discourse and logic of the research teams and the health promotion organizations. There appeared to be a lack of explicit self-reflective and critical perspectives on the cultural embeddedness of the approach itself.

Within so-called western medicine, which is rooted in modern science, health-care professionals treat symptoms and diseases using drugs, radiation, or surgery. Yet there are also within western medicine attempts to incorporate cultural contexts into health-care provision with an emphasis on health and well-being for all at all ages and an acknowledgement that a population will not be homogeneous with one clear set of disease-related issues. Case study 1 illustrates the incorporation of cultural aspects in the provision of nursing care.
Case study 1. Cultural aspects of provision of care by nurses

The First Nations Health Authority describes cultural safety as “an outcome based on respectful engagement that recognizes and strives to address power imbalances inherent in the healthcare system. It results in an environment free of racism and discrimination, where people feel safe when receiving health care” (146). The concept of cultural safety has been promoted in nursing practice as a way to shape professional understanding, practices and assumptions; build trust in the nurse–patient relationship; and ensure that patients and their families feel respected (121,122). This assumes that all relationships have a cultural dimension and that this dimension is essential to building a relationship of trust between a health practitioner and an individual (121). It is an attempt to counterbalance feelings of cultural risk, lack of safety or being in an unsafe environment that can lead people from one ethnocultural group to feel diminished or disempowered by the actions of people from another culture (122). This can impact both those receiving health and social care and those providing such care.

Recent competency standards developments by WHO have emphasized the need for critical self-reflection about the various and multidimensional cultural contexts and assumptions that influence and shape understanding and practices for health professionals (147).

2.1.2 Cultural complexity in the communication of research findings

A number of papers have focused on the use of various art forms as instruments for communication of medical knowledge across cultural divides (124,128,134). Common to all these papers is an aesthetic conception of culture that views art and narratives as instruments to facilitate translation and assist in educating medical specialists and policy-makers.

Art can be used to convey feelings about a health issue (e.g. distress, vulnerability or uncertainty) and to nurture empathy. Art can assist in reflection on the ways in which contextual and cultural factors shape clinical practice and changes in practice (124,128).
Story-telling also has a valuable place in cross-cultural communication as a medium for knowledge transfer, both in helping health professionals to understand a patient’s situation and in helping individuals to understand health-promoting activities (24,129,134,143). Greenhalgh (143) used story-telling as an educational medium in a self-management education programme among minority ethnic groups with diabetes. As one participant put it: “We learn the facts from you [health professionals] but we learn the meaning and how to do things from one another”. Mitchell and McTigue (129) emphasized that knowledge about rhetoric and argumentation can enable researchers to critically assess arguments used in research literature.

2.1.3 Cultural complexity as part of the research process

A number of the identified documents acknowledged the need for more participatory research methods to achieve KT by including end users in the research stages (135,148,149), in steering committees and advisory boards (150), or through partnerships with key community groups and stakeholders (151). This approach to KT using co-production of knowledge is reflected in a number of WHO initiatives, such as EVIPNet, as well as a new WHO-sponsored collection of papers in the British Medical Journal (9,152–156).

One aspect is the explicit aim to identify, explore and overcome researcher–end user power imbalances (157). The problem of translation cannot be solved through purely methodological means, such as through participation or action research approaches, but requires questioning the concept of knowledge itself and the philosophical assumptions guiding research (120). A mechanistic approach might focus on identifying the biological and behavioural mechanisms that underlie behaviours or disease. However, such an approach on its own might miss social and cultural determinants of health, including of Indigenous health, or fail to have the desired effects through lack of awareness of such determinants. Multiple factors affect health. The Health Impact Pyramid is a framework that describes the impact of different types of public health intervention to improve health (158). Interventions to address socioeconomic determinants of health are given at the base of the pyramid as having the greatest potential impact because they reach broader segments of society and require less individual effort. Multiple complementary strategies are needed that acknowledge structural inequalities and the role they may have on peoples’ priorities when making decisions that affect health (158).
2.1.4 Summary

Although three levels of cultural complexity in KT processes complexity can be identified from the literature, there has been limited effect on how KT is conceptualized and reconceptualized in general, and on how it is theorized and modelled as a complex cultural and epistemic process beginning with the research process itself.

2.2 Cultural contexts of KT in public health

The systematic and hermeneutic searches identified three areas in which issues of cultural context, particularly the wider anthropological definitions of culture, can be seen in KT for public health:

- culture in a local setting or meaning system, illustrated by the use and acceptance of face masks during the COVID-19 pandemic;
- minority culture such as the BLM movement and the effects of COVID-19 in Black and ethnic minorities; and
- specific issues of KT in Indigenous cultures.

The first two areas both involve the COVID-19 pandemic, a current complex global health policy challenge involving a vast range of cultural contexts; they demonstrate the timeliness and importance of the topic of this HEN report. Previous pandemic and emergency preparedness research tended to mirror the wider KT literature by including linear KT conceptualizations of knowledge production in high-quality studies that were subsequently translated into policy interventions, which, thus, lacked complexity regarding culture. For example, a workshop held by the European Centre for Disease Prevention and Control in late 2018 acknowledged the problems of lack of time, scientific uncertainties and political pressures for decision-making in rapidly developing public health emergencies but still assumed that decisions would be evidence based and that policy-making would depend upon scientific input from experts, who could frame evidence within the appropriate context (159). In the COVID-19 pandemic, policy interventions in the absence of high-quality evidence became a scientific and moral imperative (14,23).

The third area examines approaches to Indigenous cultures and how assumptions about various kinds of culture and about Indigenous people are integral to the
context of KT. All three illustrate findings from section 2.1 regarding complexity and the need to question the assumptions underlying knowledge and translation, particularly where contexts involve uneven and discriminatory power balances.

2.2.1 Culture in a local setting or meaning system: mask-wearing for community prevention of COVID-19

The question of whether and to what extent public mask-wearing contributes to reducing the spread of SARS-CoV-2 is controversial in some circles; this was particularly evident in the early days of the COVID-19 pandemic. However, in the period between the start of the pandemic and the publication of this report, the value of public health measures such as mask-wearing has remained contested despite the publication of numerous research studies. A recent narrative review of the evidence (160) and WHO policy (161) support the use of masks by the public in settings where there is community spread of the virus. This section considers two cultural aspects of the masking debate:

- differences between countries and regions
- differences between scientific approaches.

Striking differences can be identified between countries and regions in policies on the wearing of masks or face coverings by the public as a preventive measure and on compliance with such policies (162). These differences illustrate two aspects of culture relevant to the study of KT: how local cultural contexts affect receptivity to evidence and policy and how a clash of scientific cultures helps to explain why the evidence base became highly contested in some countries but not others. The discussion below should be interpreted in the context of the early months of the pandemic when there was a worldwide shortage of personal protective equipment and of medical interventions to reduce severity of disease, which may also have influenced policy choices.

2.2.1.1 Differences between countries and regions

Many Asian countries (such as China, Japan and Singapore) have a long tradition of wearing masks in public. This may reflect a more collectivist or conformist society (the individual’s rights and freedoms are downplayed relative to his or her duties to society) (163) or a tighter culture (with strict social norms and punishments for deviance) compared with western countries (164). However, this view has been challenged as a stereotypical and un-nuanced view of masking in Asian
countries (165). Reasons for mask-wearing in Asian countries are complex and include experience of earlier deadly epidemics (e.g. the severe acute respiratory syndrome (SARS) outbreak) and an established practice of using masks as protection against hay fever and atmospheric pollution (165,166). In some parts of Asia, as well as in Mediterranean countries and north Africa, it has long been the norm for both men and women to wear loose pieces of cloth over the head and lower face as a response to hot and dusty environments; such items have been repurposed as protection against COVID-19 (167).

The concept of a risk ritual, that is, a social practice that restores a sense of control when confronted by uncertainties, has been used to explain both an individual and a collective cultural meaning system regarding masks. Horii (165) depicted mask-wearing as a predominantly individualist behaviour that sets a boundary between a clean and pure inner self and a potentially polluted outside. In a more collective manner, it can reflect a concept of social solidarity, depicting both a personal obligation to protect the wider community and the expectation that others would do the same (168). This sense of shared peril was put forward in a sociological analysis of reactions to SARS in Hong Kong Special Administrative Region (168) and of British people’s acceptance of the use of masks in damp and dusty underground air-raid shelters during the Second World War (169). However, an interesting recent study of attitudes to face masks in Hong Kong Special Administrative Region suggested that the symbolic sense of solidarity did not last and that, by 2016, masking had taken on negative connotations because it had become associated with radical protest movements (170).

Whatever the origins of widespread mask-wearing in many Asian countries, social norms were such that even before SARS-CoV-2 emerged covering the face was viewed either neutrally (as something nobody cared whether you did or not) or positively (as something that was expected and viewed as a right and reasonable thing to do) (171). In such countries, public and policy-makers quickly adopted masks as a preventive measure – perhaps even before there was a robust evidence base in support of that measure. Indeed, as the first COVID-19 cases were diagnosed in Taiwan, China, the Government had to introduce an urgent rationing scheme to prevent panic-buying of masks in order to protect the supply chain for health-care workers (172).

Explanations for resistance to public masking in western countries include libertarian and individualist cultures; in the United States of America, for example, resistance to masking became linked to party politics and to anti-Asian prejudice through actions such as calling the virus the China virus (173). Some European countries, including Austria, Belgium, Bulgaria, Denmark, France and the Netherlands, had a
recent history of depicting covering the face as culturally unacceptable (174,175). However, suggested links between sentiments against the Muslim veil prior to the pandemic and anti-mask attitudes during it are speculative.

The lack of a historical tradition of masking along with political and ideological anti-masking movements, may have played a role in delaying and weakening public-masking policies in response to COVID-19 in western countries, whereas a tradition of mask-wearing initially (at least) strengthened the use of masks in Asian countries.

2.2.1.2 Differences between scientific approaches

Divisions could also be identified in the cultures of knowledge and evidence applied to the COVID-19 response. Here the focus is on the impact of two different approaches to support a policy of mask-wearing: evidence-based medicine and what might be called pragmatic public health.

Evidence-based medicine is based on the assumption of a singular truth that is ascertainable through empirical enquiry; there is a linear logic of causality in which interventions have particular effect sizes; rigour is defined primarily in methodological terms (via a hierarchy of preferred study designs and checklists for detecting bias); and a deconstructive approach is taken to problem-solving through answering focused questions (usually framed as a series of four: population–intervention–comparison–outcome) (176). Typically, evidence-based medicine argues from first principles, and events observed in the real world are assigned a lower value than findings from carefully controlled experiments, particularly RCTs (177). Recently, efforts have been made to incorporate a broader range of evidence, including qualitative studies, but the basic assumption is still that there is a single qualitative truth to be ascertained (178).

The prevailing scientific culture in pragmatic public health is less well delineated. It is based on the assumption that improving the health of a population requires complex interventions in complex systems (179). Such complex systems have multiple interacting components; they evolve dynamically and unpredictably (a fixed input to the system does not have a fixed output) and are self-organizing (the system responds adaptively to interventions). As a result, these systems have to be considered in their entirety (180). It follows from these assumptions that the preferred approach to evaluating interventions is to introduce something pragmatically and carefully measure its actual effect in a particular local and real-world setting, and then adapt it iteratively in response to emerging data (181). In selecting and developing public
health interventions, a wide range of evidence should be considered, including basic scientific principles, laboratory studies, historical data and case studies of similar programmes in other settings. Uncertainty is a feature of the system that cannot be resolved but must be acknowledged and pragmatically managed (182).

These two different approaches can be illustrated with the issue of the use and value of masks and face coverings in the COVID-19 pandemic. A Cochrane systematic review of 2011 on reducing the spread of respiratory viruses (183) was rapidly updated in 2020 (184). The review examined RCTs on the use of face masks by the public and health-care workers. It found only one RCT related to public use and that most of the RCTs were of poor quality; the authors concluded that the high risk of bias in the RCTs, variation in outcome measurement and relatively low compliance with the interventions prevented general conclusions to be reached regarding use of face masks in the COVID-19 pandemic (184).

Based on this Cochrane review, a rapid evidence review by Jefferson and Heneghan (185) concluded that masks should not be worn in the community for prevention of SARS-CoV-2 infection, not just because there was no definitive evidence to support their use but also because the harms of mask-wearing had not been fully assessed and could be substantial (e.g. more difficulty in breathing or panic if supply was limited). They also observed that individuals tend to change their behaviour in response to the perceived levels of risk and so measures that make people believe they are protected may increase their risk-taking behaviour. Consequently, this rapid evidence review juxtaposed the absence of definitive findings from high-quality evidence such as RCTs with speculation on what could be considered as harms related to mask-wearing in a more pragmatic public health manner. It acknowledged the difficulty of conducting RCTs in the midst of a pandemic and recommended the careful study of natural experiments around the world as different countries introduced different masking policies at different times. Measures such as hand-washing and social distancing were framed as safe alternatives to mask-wearing rather than as complementary to it. However, the editorial had not been updated at the time of writing this HEN report to take in other published studies. A review of studies of risk compensation (where a false sense of security engendered by mask-wearing can lead to neglecting other essential measures such as hand hygiene or physical distancing) found no evidence that wearing masks led to compromises in other healthy behaviours (186).

Scholars in the pragmatic public health tradition were quick to publish articles recommending the use of masks or face coverings before definitive evidence of their efficacy was available (23,187,188). This approach was justified on two main
grounds: (i) that there were common-sense arguments in favour of covering the mouth and nose when a deadly respiratory virus was spreading, and (ii) that harms of mask-wearing were unlikely to outweigh benefits. The pragmatic reasoning that masks would reduce spread of respiratory droplets was supported by a series of studies on the fluid dynamics of droplet transmission (189), the spread and survival of SARS-CoV-2 on surfaces and in air (190), mathematical modelling of the filtration efficacy of masks and compliance levels of the population (191–193), and detailed examination of real-world scenarios such as choirs, meat factory workers, cruise and military ship populations, and sports events (194). This is a clear example of where the pragmatic public health arguments were based on both narrative synthesis methods and evidence-based studies. A purely evidence-based approach would have drawn the conclusions of the Cochrane review – that there was not enough methodologically good-quality evidence to draw conclusions. Pragmatic public health scholars valued reviews that used narrative synthesis methods to build a rich and multifaceted picture of the problem and generate clarification and understanding, perhaps without resolving uncertainty (193–195). This epistemological difference of perspective in what counts as a high-quality review of evidence was at least as important as variations in how different kinds of primary evidence were valued (180).

The difference in the embedded epistemic culture of these two types of science also led to differences in the recommendations made for the use of masks and how they were made. The evidence-based approach attempted to translate evidence from mask-wearing in hospital settings to a community context (13). It framed masks as a medical intervention, and used the language and assumptions of infection control as evidence to encourage mask use in the same way as a new drug might be evaluated (183,185,196). By comparison, the pragmatic public health community viewed covering the face as having more benefits than risks as a social practice and was more concerned with exploring the cultural meaning of face coverings and finding ways of embedding the practice in community life (171). Mask-making and mask-wearing were promoted as a form of community solidarity through measures such as communities using local trees for mask exchange, mask-making collectives to generate income for low-paid people, and personalization of masks with slogans or cartoon characters (171).

In summary, the evidence-informed scientific approach framed masks in a culture of meaning systems and assumptions related to medical grading of masks and their effectiveness. By comparison, the pragmatic public health approach framed masks as a part of the culture of clothing or solidarity rather than a piece of medical equipment.
2.2.2 Cultural contexts shaping KT: BLM and health inequalities

Section 2.2.1 presented KT in public health as a cultural process. However, KT also takes place within cultural contexts that powerfully frame the nature of policy issues and what kinds of research and knowledge policy-makers accept. Through the example of the BLM protests, which took place at the same time as the COVID-19 pandemic, this section describes how cultural contexts can influence KT and evidence-informed decision-making. It illustrates that culture and cultural contexts are not merely in the background to be accounted for or managed but are political, active, complex and dynamic: BLM is an activist-led social justice movement, a social media hashtag and an organization, the BLM Global Network Foundation (197). BLM initially formed in 2013 after the murder of Trayvon Martin and BLM protests spread through many countries in 2020 after the murder of George Floyd in the United States. Although BLM focused on police brutality from its inception, wider structural issues have also been addressed. BLM is an example of activist-led involvement in KT, a cultural movement that has played a role in exposing many aspects of racial inequality, including in health. The implications of cultural contexts on three areas of KT are examined: knowledge production, clinical and policy translation, and communication.

The COVID-19 pandemic and the BLM movement contributed to exposing racial inequality globally (198) and in various high-income countries (such as the Nordic countries (199), the United Kingdom (200) and the United States (201,202)) and beyond, in countries such as Brazil (203) and India (204). Freeman (205) described structural racism together with the pandemic as a syndemic for the United States: “a set of linked health problems that interact synergistically to contribute to excess burden of disease in a population”.

In the context of COVID-19, race-related data were not consistently collected or acknowledged by public health decision-makers or used in clinical translation across different cultural contexts. For example, the Centers for Disease Control and Prevention in the United States was deemed to have been late in beginning to collect federal data on race and COVID-19 (206). COVID-19 statistics in aggregated form (i.e. with no racial or other subdivisions) may exacerbate inequalities in health by rendering invisible the dramatic differences by race, ethnicity or Indigeneity (199,207). A Lancet editorial in May 2020 argued that “detailed data on COVID-19 by age, sex, or ethnicity/race are scant but should be available routinely and automatically” (200). There was also a notable lack of information about clinical signs of COVID-19 on black and brown skin (208). The cultural context of BLM influenced KT processes by drawing greater attention to these issues and,
thus, influencing knowledge production regarding the effects of COVID-19 and other diseases on ethnic minorities and the related clinical translation of this knowledge (209). The BLM movement petitioned for the Centers for Disease Control and Prevention to collect, release and aggregate racial data on COVID-19 to inform the use of health resources and address the needs of Black people (197). The BLM cultural movement also contributed to community-led grassroots calls for greater race-based data collection in Canada (210). Relating to clinical translation, a handbook describing how different diseases present on black and brown skin (211) gained traction among medical communities upon its publication. This project was an example of KT expanding the visual examples of disease that are available for the public, clinicians and public health policy-makers. In interviews with news outlets, the authors attributed the impact of the handbook, in part, to the timing of the launch aligning with the cultural context of BLM (212).

The BLM movement drew attention to the role of systemic racism in perpetuating health inequalities in the context of COVID-19 (213). Airhihenbuwa et al. (201) argued that “science has a culture and one that has often ignored systemic racism”. Several studies across multiple geographical contexts where COVID-19 mortality data took race into account found that some racial and ethnic groups faced substantially increased risks from SARS-CoV-2 infection (214–217). For Black people in the United Kingdom, the risk of dying with COVID-19 was increased three- or fourfold (218). Race is widely accepted as a social construction rather than as biologically grounded. Ideas about race are formed, validated and reinforced through social, cultural and political structures, practices and beliefs and are then played out in discourse, knowledge, research and social interactions. Therefore, it is not surprising that research into COVID-19 mortality disparities has shown that biology cannot explain differences between racial groups in COVID-19 mortality in high-income countries. However, social determinants of health, including racial, social and economic inequalities, could explain such differences. For example, a higher risk of mortality from COVID-19 in Black communities was in part because these groups were overrepresented in high-risk occupations (such as health and care workers, hospital cleaners, bus drivers and transport workers), and – in the United States at least – they were less likely to have access to testing (219), less likely to be admitted to hospital for a given level of illness severity (202) and less likely to receive compassionate end-of-life care (220). They were also more likely to be severely affected economically from job losses or lack of access to welfare (221,222). Additionally, being discriminated against has been shown to lead both directly and indirectly to physical and mental changes that increase vulnerability to disease (77). Studies that controlled for the confounding variables
tended to demonstrate smaller differences between racial and ethnic groups – and in some cases eradicated them altogether (220,223). Fig. 2 shows a model of how structural inequalities may contribute to COVID-19 susceptibilities.

This complex model of causality, which would have major implications for design of policy interventions, was not universally accepted by policy-makers. Public health and policy responses to addressing COVID-19 tended to prioritize approaches that individualized vulnerability, illustrating a key message in this report: that knowledge is changed and contested in translation. For example, an early multilevel risk communication and community engagement response strategy published by WHO (225) emphasized individual risks and behaviours.

Fig. 2. Relationship between structural inequalities and COVID-19

Source: Bentley, 2020 (reproduced under Creative Commons Licence and with the author’s permission) (224).
over structural factors (e.g. reasons for overcrowding that makes physical distancing impossible), community engagement and cultural context (201). WHO subsequently published recommendations for a more community-oriented and culturally centred approach to COVID-19 policy-making (226). In the United Kingdom, a report from Public Health England described the racial and ethnic disparities in COVID-19 deaths (227) but made recommendations that were criticized as lacking in detail and accountability (228).

In the context of BLM activism and advocacy, several community-led initiatives were implemented that aimed to address structural causes of inequalities. Examples include The Ubele Initiative, a third-sector network that seeks to strengthen African diaspora communities in the United Kingdom (229), and the work of BLM with specific communities to address discrimination, economic hardship and poor access to health care. In this context, leading public health researchers also emphasized the importance of addressing structural causes of health inequalities. A New England Journal of Medicine editorial demanded root-and-branch changes to address structural racism, including raising awareness among health professionals; breaking down silos and creating cross-sector partnerships; developing schemes to promote economic empowerment; building healthy and supportive neighbourhoods; and designing interventions to reduce structural risk factors (230).

BLM’s advocacy, such as for race-based data collection, and activism through community-led initiatives to address inequalities and social determinants of health brought structural racism to the fore in the COVID-19 pandemic response. By doing so, it highlighted a need for effective KT by ensuring culturally competent communication of public health messages to different groups and communities. In the pandemic, as with many public health issues, culture is central to effective community-engaged public health communications to reduce collective risks. Messages that may be the same globally (such as physical/social distancing) can differ across cultures and communities. A nuanced and holistic way for policy-makers to consider culture in communicating public health messages is encompassed by the PEN-3 model, which has three primary components, each with three domains: cultural identity (person, extended family and neighbourhood), relationships and expectations (perceptions, enablers and nurturers) and cultural empowerment (positive, existential and negative) (231). Together these domains and factors have been applied to understand cultures of health behaviour at both the individual and structural levels and to inform health services and policy in areas such as cancer, diabetes, HIV/AIDS and smoking (231). The PEN-3 model offers a cultural framework for a community-engaged global communication response to the COVID-19 pandemic (201).
2.2.3 Assumptions about culture in the KT literature on Indigenous people

As observed in the Introduction, culture is often a marker of otherness in KT and is seen as a barrier that the scientific and medical message has to cross while remaining intact (13). Yet KT always involves cultural translation in the sense that it involves translations between different meaning systems. This section examines KT in relation to Indigenous cultures by setting out how different concepts of culture impact KT processes. It draws mostly on English language literature from Australia, Canada and the United States to examine:

- how assumptions about types of culture often come into play in the KT literature; and
- how identifying local mechanisms for KT requires moving from general assumptions about cultures into a concrete ethnographic context.

First, it is important to highlight a limitation of this report: it focused on how cultural contexts influence KT processes for health decision-making and so examined KT in Indigenous contexts with a cultural lens but did not reflect the historical experiences of Indigenous people and, in particular, the detrimental effects of colonization. The history of colonialism and genocide are intertwined with cultural responses. These experiences have created power imbalances and stripped Indigenous people of their rights to practise their culture, thereby creating hierarchical processes in knowledge exchange, for example by assuming that in discussions between Indigenous actors and governments, the Indigenous people will be the ones to forego their first language. Throughout history, government, programme and research efforts have caused great harm to Indigenous people and communities, resulting in loss of trust (232). Understanding and accounting for these contexts is critical to effective KT. However, further elaboration of the topic is outside the scope of this report.

Literature about Indigenous cultures and western scientific medicine makes multiple generalizations. The first is the assumption that Indigenous people are a homogeneous group. However, within Canada alone, the term Indigenous refers to First Nations, Inuit and Métis populations; although they share a common history of colonization, racial oppression and genocide, they have their own unique cultural, political and linguistic histories (84,233). Assumptions based in racist or colonial roots associate traditional cultures, such as Indigenous cultures, with otherness and dissemination of disease. For example, an outbreak of cholera in Venezuela was attributed to the (perceived) culinary habit of eating crabs
among the Warao people (234). This became a rhetorical anchor for attempts to link cholera to the customs and culture of the Indigenous people (234).

In the literature reviewed for this report, Indigenous cultures are construed by non-Indigenous academics as a cultural other to which it is difficult to apply evidence-based knowledge. Intertwined in this othering are power imbalance, racism and oppression. Instead of embracing Indigenous knowledge systems, colonial governments have oppressed them in the false assumption that Eurocentric knowledge systems are superior. The superior value of evidence-based knowledge, and of biomedically derived KT processes, are rarely questioned in the literature. Smylie, examining KT in Indigenous communities (235), stated:

> The epistemological assumptions of modern-day biomedicine and epidemiology, combined with an emphasis on evidence-based clinical practice and health care decision-making, contribute to a hierarchy of health knowledge in which Indigenous knowledge is devalued and marginalized.

This view fails to recognize that KT has been taking place in Indigenous knowledge systems for a long time through various mechanisms, such as story-telling, experiential demonstration and empirical enquiry in real-life situations (235). However, colonization has systematically disrupted Indigenous knowledge systems and imposed outside, usually European, knowledge and knowledge systems that are assumed to be superior in their place. An analysis of knowledge-exchange strategies designed to increase the use of research evidence and cultural knowledge in Indigenous communities (232) sets out the following principles for successful community-based research and knowledge exchange: “cultural appropriateness, inclusion of Elders, awareness of historical antecedents, empowerment, respect of indigenous knowledge, cross-cultural communication, and long-term commitment”. Rikhy et al. highlighted the relevance of these principles for KT for the benefit of any community, not just Indigenous communities (232).

When considering KT in Indigenous cultures, it is important to consider the direction of KT, as conceptualized by Cree scholar Willie Ermine (235,236). He articulated the concept of ethical space to illustrate how two world views can coexist for the mutual benefit of each culture (236). Two-Eyed Seeing, as coined by Mi’kmaw Elder Albert Marshall, is an ethical principle that aims to respect both western science and Indigenous way of knowing (237). Ideally, KT (including knowledge development, synthesis and application) can take place within the Indigenous sphere of knowledge, thereby supporting a postcolonial reclamation and rebuilding
of Indigenous health knowledge (235) – this type of KT can be understood as “Indigenously led sharing of culturally relevant and useful health information, and practices to improve Indigenous health status, policy, services, and programs”. Alternatively, KT can continue unchanged.

- KT can take place solely within the western sphere of knowledge, with Indigenous knowledge perceived as being of lesser value.

- Western knowledge can cross into Indigenous communities, potentially displacing Indigenous knowledge that has not been supported by biomedical systems.

- Indigenous knowledge can cross into the western system, risking the appropriation, distortion or exploitation of Indigenous knowledge by researchers with limited cultural knowledge and, hence, ability to understand it. For example, Indigenous knowledge about plants has been utilized and patented for the pharmaceutical industry without consent or compensation (238,239).

In public health and policy-making, cultural concepts in programme design and interventions have been appropriated and their Indigenous elements or origins have subsequently been erased. For example, Māori cultural concepts of mediation informed the development of the Family Group Conference Model as an innovative community and family-centred restorative practice. This model has been applied internationally without reference to the Indigenous philosophies, rational and practices behind it (240).

Mechanisms that attempt to translate western knowledge to Indigenous communities often fail to address the need for cultural translation. In fact, the approach to KT is more social than cultural, using people with a social role, such as elders or Indigenous health-care workers, to transfer the medical message to the target community while keeping its medical meaning intact, rather than translating between different knowledge cultures (85,86,101).

Attempts to translate western knowledge to Indigenous cultural contexts also fail to recognize cultural differences between the way knowledge is construed within Indigenous KT models and biomedical KT models. In Indigenous knowledge systems, knowledge and action are interconnected and, thus, risks of a know–do gap are smaller than in the dominant KT models applied in health science and public health contexts (84,93,100). For example, diagnosing and hypothesis testing in Indigenous settings has been described as almost always specific to a local socioecological context, whereas biomedical hypothesis testing relies on context-independent knowledge (241).
Within Indigenous cultures, the very idea of physical health can also be conceptualized in a systemic and holistic manner that encompasses both social and ecological aspects (100). Physical health is interlinked with mental, emotional and spiritual health, along with family, community, land and the local ecosystem (241). Key elements of this conceptualization are missing in biomedical understandings of health, even when taking into account the broad WHO definition that “health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (242).

Awareness of cultural differences such as these is needed to ensure effective KT. Case study 2 outlines a cultural practice in an Indigenous setting that was utilized in translating knowledge about measures to reduce the spread of SARS-CoV-2 into an Indigenous community. It illustrates how KT must go beyond general assumptions about a category of cultures and use real local traits to identify ways to support KT.

**Case study 2. A cultural practice that can support COVID-19 pandemic measures**

In the Tripura Indigenous community in Bangladesh, constructing bamboo fences over the entrances and exits of the village to restrict mobility to deal with epidemics is called *Para Khernai*. This was used in the context of the COVID-19 pandemic to follow social and public health safety guidelines. Indigenous workers who lost employment in the city also underwent a period of 14 days of quarantine in small isolation houses constructed by the villagers in the nearby forests. There is a special ceremony called *Kher Puja* to mark the beginning of such a period of restricted mobility. This is an example of how local concepts and practices can be integrated into KT processes to implement public health measures (243).

Research based on the concept of the social determinants of health may or may not explore the interconnectedness of social, environmental and biological factors; in contrast, tribal ecological knowledge frameworks do allow for this (244). Hence, various holistic approaches and concepts recently developed in (western) science to supplement the biocentrism of medicine are used to map tribal ecological knowledge. The notions in question function as bridgeheads or instruments of translation that makes different epistemic orders and medical systems comparable.
Mechanisms for effective KT within local cultural contexts requires going beyond general categories (such as Indigenous culture) with only a relational reference (the non-Indigenous) and general assumptions about particular types of culture. Instead, mechanisms should examine local ethnographic contexts, languages and practices, such as the translation of lockdown into local concepts and practices among the Tripura in Bangladesh (Case study 2). It is important for KT relating to Indigenous health decision-making to embrace the principles of the United Nations Declaration on the Rights of Indigenous Peoples (245), which establishes a universal framework of minimum standards for their survival, dignity and well-being worldwide. Doing so requires that KT for Indigenous health decision-making is led by the respective communities and centred on the knowledge and experiences of Indigenous knowledge keepers and scholars.
3. DISCUSSION

3.1 Strengths and limitations of the review

This report has a number of strengths. First, the flexible review methodology, combining a formal search with a hermeneutic approach, enabled identification of the best available evidence about KT and cultural contexts. The report’s structure was also conducive to providing both an overview of evidence about the ways that cultural contexts influence the KT process for health decision-making, and a deeper exploration of the particular examples of masking practices during COVID-19, health inequalities and the BLM movement, and assumptions about culture in the KT literature about Indigenous people. Recent events (notably the COVID-19 pandemic and the BLM movement) fully demonstrated the urgent need to relate health issues to local cultural contexts worldwide. This review, therefore, filled a gap in the evidence about cultural contexts of KT.

The main limitations of this review are twofold. First, a structured literature search was not effective in the context of this particular review because papers about culture and KT, or pertinent to scholarship on the intersection of these themes, are not necessarily coded with a terminology that is easily retrievable. Moreover, studies that are coded as cultural tend to have an essentialist approach to culture as a kind of otherness (foreign culture) and did not take into account the cultural and contextual factors inherent in all knowledge production. Consequently, the formal search seemed to miss many complexity-oriented papers. These were identified more easily using the hermeneutic search strategy. A second limitation is that the HEN reports have traditionally been short and accessible formats rather than academic discourses. Consequently, discussion of theory and empirical examples, the kind of detailed description of local ethnographic contexts that is a prerequisite for identifying cultural contexts and mechanisms to enhance KT, was not possible.

3.2 The influence of culture on KT

This report examined issues of integrating cultural contexts into KT at all stages and identified areas where culture had a clear impact on either how one stage of the KT cycle occurred or how the knowledge was translated into policy or acceptance of policies. KT in medicine is mostly understood as non-cultural, whereas in the social sciences and humanities the various mechanisms of translation are
considered as fundamentally cultural and, hence, essential components of various cultural contexts. The report has drawn on a diverse literature, including social sciences and the humanities, to inform an understanding of how cultural contexts have been integrated within KT in health decision-making. Recent studies have pointed to the potential benefit of drawing on how translation is used and understood in other disciplines, notably cultural translation.

Although several models and frameworks attempt to conceptualize the challenge of KT in policy-making (reviewed by Esmail et al. (18)), and some also incorporate cultural factors, most are characterized by the same hidden assumptions (24): equating knowledge with objective research findings in isolation from the people who develop or use the knowledge; considering knowledge and public health or policy decisions as separate entities; and considering decision-making as based solely on scientific research findings.

Two main concepts of culture have been developed: an aesthetic–intellectual notion of culture that considers cultural tools such as art and narratives as communicative means for interactions with health-care practitioners and end users of care, and an anthropological notion of culture that encompasses systems of behaviour and beliefs. In the KT literature, the latter is typically associated with specific groups, such as Indigenous groups, or with local settings and meaning systems. Few studies draw attention to cultural complexities in KT processes or acknowledge the importance of various cultural factors in designing, communicating and applying research evidence. There has been limited impact on how KT is generally conceptualized in health or on how it is theorized and modelled as a complex cultural and epistemic process, beginning with the research process itself and reaching beyond into policy-making. This report examined the integration and impact of cultural contexts at all stages of the KT cycle. The Results outlined three different ways in which cultural contexts can be seen to interact with KT processes.

- Recent debates about face coverings clearly demonstrate the close connection between cultural contexts and the acceptance of medical knowledge. Political and ideological anti-masking movements and the lack of a historical tradition of masking played roles in delaying and weakening public-masking policies in response to the COVID-19 pandemic in many countries. Public health decision-making is a cultural process: a difference in culture between evidence-informed medicine and pragmatic public health produced different perspectives on how to respond rapidly to COVID-19 and how to translate science through social relations and networks, although both approaches promoted the same measures.
The co-occurrence of the BLM movement and the COVID-19 pandemic also demonstrated how cultural contexts influence KT processes of knowledge production, policy communication and clinical translation. In the context of BLM, attention was drawn to systemic discrimination in the kinds of knowledge that are generated and how they are considered by decision-makers. For example, BLM drew greater attention to the lack of race-based data about the effects of COVID-19 and contributed to changes in knowledge production to address these gaps. In the context of BLM, structural racism was brought to the fore in the pandemic response, thereby creating an enabling environment for the uptake of public health measures and programming addressing race-related social determinants of health.

Section 2.2.3 highlighted cultural differences in the ways in which knowledge is construed within Indigenous KT models and within western biomedical KT models. Researchers in this area have highlighted that KT and Indigenous health literature has generally not prioritized Indigenous peoples or their ways of knowledge sharing, and KT definitions and language are “at odds with Indigenous ways of knowing, being and doing” (246). KT processes in Indigenous cultures demonstrate the importance of both locally developed systems and culturally relevant knowledge in ensuring effective KT (246).

Mechanisms for effective KT within local cultural contexts requires going beyond general categories and beyond general assumptions about particular types of culture. Instead, mechanisms should consider contexts, languages and practices across cultures from that of the researchers creating information through to that of the policy-makers and that of the multiple different communities of end users. The COVID-19 pandemic has exemplified many of the issues involved in effective KT.

### 3.3 Policy considerations

Based on the findings of this review, the main considerations to support researchers and decision-makers in Member States to include and account for cultural contexts in KT processes and public health decision-making are to:

- distinguish between different concepts and aspects of culture, and support the adoption of complex understandings of culture in knowledge production, communication, translation and use;
• draw on evidence from diverse fields and sources, such as anthropology and target communities, when implementing KT processes for health policy and public health decision-making in order to improve the understanding of human behaviours and implications for policy interventions within their cultural contexts;

• expand the understanding and definitions of KT to account for translation between different types of belief systems, world views and ways of knowing, including by considering how KT is conceptualized beyond the English language and the Eurocentric world views;

• account for the ways in which knowledge and policy are actively changed in different cultures, rather than being passively translated, when localizing evidence and policies to different contexts;

• support postcolonial rebuilding of Indigenous knowledge systems by ensuring that KT relating to Indigenous health decision-making is led by the communities and centred on the knowledge and experiences of Indigenous knowledge keepers and scholars;

• implement local art, narratives and knowledge culture to translate evidence, policies and practices between disciplines and engage different cultural groups;

• adapt KT models to place culture at the forefront of health promotion;

• consider how cultural contexts relate to the production of knowledge and what constitutes high-quality evidence;

• learn from cultural movements that highlight inequities and inequalities in order to improve the understanding of how discrimination and power structures within KT may contribute to adverse outcomes for certain groups; and

• support opportunities to collect and share examples of good practice of nuanced and culturally sensitive KT, including those from WHO and other organizations.
4. CONCLUSIONS

This report examined the ways in which cultural contexts relate to the KT process for health decision-making and the implications for policy and practice. Although some KT models and frameworks do include local context as a factor in translation, culture is rarely explicitly discussed in a nuanced way and is not considered an integral part of KT. Some research has identified linear and fragmented approaches to culture and context, arguing for a more complex understanding of the ways in which the cultural context relates to knowledge production, translation and communication. This report identified both a relatively narrow range of formal processes and activities linking cultural contexts and KT and a wider range of processes and phenomena, such as changing conceptualizations and understandings of health with time, place and space, within and across communities. The report found an important shift in the way that relations between cultural contexts and KT in health policy are conceptualized. A broader and more nuanced understanding of culture, and of how various cultural factors relate to KT processes, can facilitate culturally sensitive ways for knowledge to shape health policy and health care. The identified literature showed that culture is not a barrier separate from research and policy that needs to be overcome; rather, culture is inherently part of research and policy-making and is embedded within knowledge production, translation and communication in complex ways.
REFERENCES


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1. All references were accessed between February and August 2022.


IN WHAT WAYS DO CULTURAL CONTEXTS INFLUENCE THE KNOWLEDGE TRANSFORMATION PROCESS FOR HEALTH DECISION-MAKING AND WHAT ARE THE IMPLICATIONS FOR POLICY AND PRACTICE?


IN WHAT WAYS DO CULTURAL CONTEXTS INFLUENCE THE KNOWLEDGE TRANSLATION PROCESS FOR HEALTH DECISION-MAKING AND WHAT ARE THE IMPLICATIONS FOR POLICY AND PRACTICE?


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HEALTH EVIDENCE NETWORK SYNTHESIS REPORT


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HEALTH EVIDENCE NETWORK SYNTHESIS REPORT


Kim SR, Vann M, Bronna L, Manthey G. Which cities have the biggest racial gaps in COVID-19 testing access? Five Thirty Eight. 22 July 2020 (https://fivethirtyeight.com/features/white-neighborhoods-have-more-access-to-covid-19-testing-sites/?ex_cid=story-twitter&cid=social_twitter_abcn).


ANNEX 1. SEARCH STRATEGY

Peer-reviewed literature from 2005 onwards was identified by searches of major scientific and social science databases in English and Russian. The identified literature included peer-reviewed journals and books (from a variety of fields such as policy studies, health policy, anthropology and public health), policy documents and reports from governments and other policy entities such as think tanks, conference presentations and guidelines.

English language searches

Searches in English were carried out on 29 April 2020 of the Cumulative Index to Nursing and Allied Health Literature (EBSCO), Embase (Ovid), Global Health (Ovid), Google Scholar, International Bibliography of the Social Sciences (ProQuest), McMaster Health Evidence (ProQuest), MEDLINE (Ovid), PsycINFO (Ovid), Scopus, Sociological Abstracts (ProQuest) and Web of Science.

Search terms

The terms “co-creation”, “coproduction” and “transformation” were considered for inclusion. However, these were not directly linked to the synthesis question. The original remit was to look at downstream KT processes; after the search was completed, this was expanded to knowledge production. There was not capacity to return to add to the search at that stage. However, exploring these areas alongside KT and cultural contexts could be a fruitful avenue for future research.

Key concepts were:

- cultural contexts of health
- cultural contexts of policy-making
- KT
- KT capacity-building
- health policy-making
- tools
- frameworks
- models.

Searches of the academic databases identified a total of 2131 documents.
### Embase, Global Health, MEDLINE and PsycINFO (Ovid)\(^a\)

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\(^a\) Final number of hits for each database: Embase, 423; PsycINFO, 140; Medline, 130; and Global Health, 13.

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Web of Science

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Cumulative Index to Nursing and Allied Health Literature

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McMaster Health Evidence

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IN WHAT WAYS DO CULTURAL CONTEXTS INFLUENCE THE KNOWLEDGE TRANSLATION PROCESS FOR HEALTH DECISION-MAKING AND WHAT ARE THE IMPLICATIONS FOR POLICY AND PRACTICE?

Sociological Abstracts

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Data extraction

After removal of duplicates, 1368 documents were identified and this was reduced to 175 for full-text screening using inclusion and exclusion criteria to identify papers on KT and culture in a health context.

Inclusion criteria were:

- published from 2005 onwards
- published in English
- no geographical limitations in selecting relevant studies.

Exclusion criteria were:

- not health related, except theoretical papers with generic relevance to health;
- solely concerned with translations or validations of questionnaires;
- solely concerned with literal translation (from one language to another);
• where culture had only a marginal role (exclusion added later); or
• where organizational or professional culture was the focus (exclusion added later).

Titles and abstracts were screened independently one author (EE) and a research consultant (Gina Fraas Henrichsen).

**Russian language search**

The Russian literature search adapted the English language search terms and approach by operationalizing the concept of cultural contexts of health care through various keywords such as cultural norms in health care, social and cultural aspects of health care, social and economic factors of health care, cultural conditioning of health policy and similar. The databases searched were Bielefeld Academic search engine, CyberLeninka, Database of scientific publications, Eastview, eLibrary and the Scientific Archive of the Russian Federation. A total of 261 potentially relevant articles were identified; of these, only one was relevant to knowledge translation and considered for inclusion in the qualitative synthesis.

**Qualitative synthesis**

The 176 documents identified by the search of peer-reviewed literature in English (175) and Russian (one) were reduced to a final group of 102 documents for the qualitative synthesis by one author (EE). In addition, 30% of the dataset was evaluated by two other authors (TG and JØ), with differences resolved by discussion. The criteria were progressively focused to exclude sources where culture had only a marginal role: 61 in which culture was not a significant focus and 12 that looked at organizational or professional culture, which was outside the scope of the brief. Using these criteria, the dataset was reduced to 102 articles in English and one in Russian, which were included in the qualitative synthesis (Fig. A1.1).

**Grey literature**

Grey literature was identified from the European Observatory on Health Systems and Policies, Google Scholar and OpenSIGLE (System for Information on Grey Literature).
Fig. A1.1. Selection of studies

- Identification: Records identified through English database search ($n = 2131$), Russian search ($n = 1$)
- Screening: Records after duplicates removed ($n = 1368$)
- Eligibility: Full-text articles assessed for eligibility ($n = 175$)
- Included: Studies included in qualitative synthesis ($n = 102$)

Records excluded ($n = 1193$)
- Reasons:
  - not health related, except for theoretical papers with generic relevance
  - translations/validations of questionnaires
  - literal translation (from one language to another), also when health related

Records excluded ($n = 73$)
- Reasons:
  - criteria as above
  - culture has only a nominal/marginal role ($n = 61$)
  - looked at professional or organizational culture ($n = 12$)
Hermeneutic search

A hermeneutic review was used to identify and include additional texts. Searching and interpretation followed an iterative and complementary strategy in which the known sources were interpreted to identify new information about the issue and more relevant sources of information. Using this approach, a number of additional papers were included. There is no date range for the hermeneutic search.