

Chapter 7

Knowledge Translation: Key Concepts, Terms and Activities



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7.1 About This Chapter

This chapter examines the key concepts and terms used in the knowledge translation literature and provides some useful definitions. The dominant metaphors that underpin knowledge translation theory and the assumptions on which these are built are

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critically explored. The chapter goes on to give some examples of the main activities and approaches used to share knowledge and provides some practical examples of each. Overall, it will be argued that there is a strong link between the type of evidence being shared, with whom it is shared, for what purpose, and the actual methods for knowledge translation that are adopted.

7.2 Setting the Scene

There can be considerable delay between the production of monitoring data and research evidence on ‘what works’ to improve health and wellbeing and its uptake into policy and practice. In clinical practice this time-lag is estimated to be around 17 years (Institute of Medicine 2001; Morris et al. 2011). In public health, using research evidence to influence policy may be even trickier. For example, considering the link between smoking and lung cancer, the first evidence of health damage appeared in epidemiological data prior to the 1930s, when the parallel rise of cigarette consumption and lung cancer was noticed (Proctor 2012). Then despite monitoring data and research evidence from population studies, animal experiments and cellular biology (against rebuttals from the tobacco industry), it has taken around eight decades to introduce legislation to address this. For example, in the UK, it was not until 2006/2007 that a ban on smoking in public places was introduced through various pieces of legislation across the devolved nations.

Efforts to reduce this time-lag, accelerate the pace of change, and close the ‘knowledge-to-action gap’ are broadly known as ‘knowledge translation’ or ‘translational research’. The idea of knowledge translation was introduced by the Canadian Institutes for Health Research (CIHR) in 2000 to cover a wide variety of activities including knowledge dissemination, communication, technology transfer, ethical considerations, knowledge management, knowledge utilisation, two-way exchange process between researchers and knowledge users, technology assessment, synthesis of findings and development of agreed guidelines for practice. The CIHR ideas were modified by the World Health Organization (WHO) in their definition of 2005 (WHO 2015a):

Knowledge translation is defined as the synthesis, exchange, and application of knowledge by relevant stakeholders to accelerate the benefits of global and local innovation in strengthening health systems and improving people’s health.

Clearly, the range of activities referred to under the term ‘translational research’ is broad and varies between definitions. Exactly what activities are needed to reduce the knowledge-to-action gap largely depends on what knowledge is being translated, for whom and for what purpose. It also depends on how one understands the process of knowledge use, how it happens and what helps or hinders it. In short, whatever people believe causes the 17-year+ time-lag determines what solutions they offer to solve it.

The literature on knowledge translation is vast and cuts across various policy areas. What might be useful when applying research knowledge to address childhood obesity, might be different in influencing urban and environmental planning, but equally there may be lessons to be learned from each of these areas. If there are transferable messages about what will help in producing useful messages for policy creation across policy areas, then perhaps the ultimate aim of knowledge translation should be to identify these. Given the strong influence of contextual factors, these are unlikely to be a set of hard-and-fast rules (or a toolkit) but possibly a set of principles for action that are ‘contextually coloured-in’. Some of these bigger messages are already well-known: engage stakeholders and listen to their expertise; be sensitive to local context; create policy solutions that fit with the way people live their lives; aim to create sustainable change as health gains may take some time to manifest, build systems that are flexible and can continuously learn and adapt to new knowledge as it emerges.

This chapter discusses perspectives on how the ‘knowledge-to-action gap’ can be conceptualised and what is being done to close the gap. Key concepts and terms are explained, and then the main activities and approaches used are introduced using some practical examples of each. To begin to conceptually close this gap (or space), it is important to consider why action to close the ‘knowledge-to-action gap’ is important.

7.3 Key Concepts

7.3.1 *Why Address the Evidence-to-Action Gap?*

Across Europe, health and wellbeing outcomes for citizens vary. For example, there is an 11-year difference in average life expectancy between some European countries. Infant deaths also vary, between two and twenty-two per thousand live births (WHO 2015b). Using good evidence correctly is likely to be one way to reduce health inequalities, as Marmot says (WHO 2017a):

To address inequalities in health in Europe, our first step must be to address the inequalities in health information. All too commonly where health is poorest, health information tends to be poorest.

No country has endless resources (time, money, human effort), and we should try to work in ways that make the most of the resources we have. Delivering services and making policies that are suboptimal are a waste of all resources and a missed opportunity to improve the lives of citizens.

The next sections look, in turn, at who is taking part in knowledge translation, what knowledge is shared and how, when, and where activity in the ‘knowledge-to-action gap’ is taking place.

7.3.2 *Who Is Involved?*

Traditionally, a common assumption is that the ‘knowledge-to-action gap’ exists because there are two main sets of actors involved and that these two groups do not properly understand each other’s work. This is the so-called ‘two communities’ view (Caplan 1979). It claims that there are evidence producers (e.g. health information analysts, university researchers, national and regional public health institutes) and evidence users (typically practitioners or policy-makers). These two communities use different terms and methods, have different specialist education and backgrounds, work to different timescales and different priorities and do not always understand each other. Evidence producers are often seen as the experts and practitioners and policy-makers, typically, as the passive receivers whose role is to adopt and implement the evidence. The gap and the time-lag to adoption are thought to be caused because decision-makers do not know what the evidence is, or do not understand its messages, but may also be caused by professional resistance to change. Solutions may include training and capacity building, simplifying the terminology and messages (hence the name translational research), targeting specific users, providing incentives for adoption and penalties for not using research evidence. These ideas are developed below.

7.3.3 *What Is Being Shared?*

It is crucial to consider what is being shared. Sometimes it is a piece of technology (or drug) being shared that is easy to use, makes people’s lives better and will work anywhere. In these cases, it makes sense to implement the innovation as thoroughly, and as fast as possible. ‘Implementation science’ is a branch of translational research dedicated to standardising practice around a well-established and beneficial evidence base in order to reduce variation. The aim is to ensure that practitioners can easily deliver optimal care and treatment to every person, at all times. Implementation science has its own methods for securing evidence-based practice and these are common in clinical areas. It focuses on the reliable delivery of evidence-based care that can be typically measured at the point where care and treatment are delivered to a patient. There is a whole body of literature relating to this work dating from the 1980s onward – the evidence-based medicine movement. See, for example, the work of the Evidence-Based Medicine Working Group (Evidence-Based Medicine Working Group 1992).

However, in public health the evidence base may not exist or it may be contested. Epidemiological data may be questioned because of the way phenomena have been classified, grouped and counted. Even if the knowledge is created through a rigorous scientific process, it can sometimes be difficult to see how any recommendations would fit into new settings if the culture, traditions and service provision are very different. This can make policy-making very difficult. Health outcomes can be heavily influenced by context, so that what works in one context may not work in the same way in a different setting.

One way to understand this issue is to think about *what* is being shared. In public health the knowledge may not be a definite product or a clear recipe for action, but rather a *set of ideas* about trends and patterns in a nation's health or about what has worked to address these issues in other places. When these ideas are shared, they provide possibilities and options for consideration in the new setting. They raise awareness and get people thinking in new ways. Here the priority is not to get practice and policy standardised around a proven evidence base but rather to prompt consideration and debate. This is referred to as *evidence-informed* policy-making and practice, rather than *evidence-based*.

Evidence-informed policy-making is an approach to policy decisions that is intended to ensure that decision-making is well-informed by the best available evidence (Oxman et al. 2009). Evidence-informed policy-making is characterised by its systematic and transparent access and appraisal of evidence as an input into policy-making. The ideas are likely to be less prescriptive, but more consultative with iterative decision-making. Knowledge-users are likely to get the chance to consider the usefulness, acceptability and feasibility of any approach in their setting, consider the implications, plan for action and perhaps work alongside key stakeholders as they take important decisions. This work was pioneered by Lavis and Graham in Canada. Figure 7.1 outlines the knowledge-to-action framework (Graham et al. 2006). Noteworthy in this approach is that it is both vital that knowledge producers are willing to share and debate their work and also that practice and policy partners are open to their ideas.

As decision-making moves from an evidence-based to evidence-informed approach, different types of knowledge are brought into play. Knowledge is no longer limited to the findings emerging from rigorous population data analysis or via a research process, but may also include professional knowledge and expertise, tacit knowledge, situated knowledge and collective and organisational memory (Nutley et al. 2007; Van de Ven 2007). Each of these ways of knowing and understanding the world brings new information into the decision-making process and can shape the policy-making process. In this way, it is clear that it is not simply academic researchers and analysts that are the experts, but evidence users play a full and active role. This approach, which allows different types of knowledge to be shared and blended, is known as knowledge exchange. The assumption here is that any action that is informed by these different types of knowledge, will be better (more effective, acceptable, sustainable, etc.) than action that is unilaterally taken by any one group of stakeholders alone.

7.3.4 *How Is Evidence Shared?*

Having learned about some of the players involved, and what is being shared, the next step is to consider *how* the knowledge is shared, and this will also lead to briefly think about when. *How* is all about the *process* of knowledge-to-action. CIHR was foremost in establishing the notions of the *push, pull and exchange* of evidence (CIHR 2004). The overarching metaphor is about 'flow' and the supply and demand of knowledge.

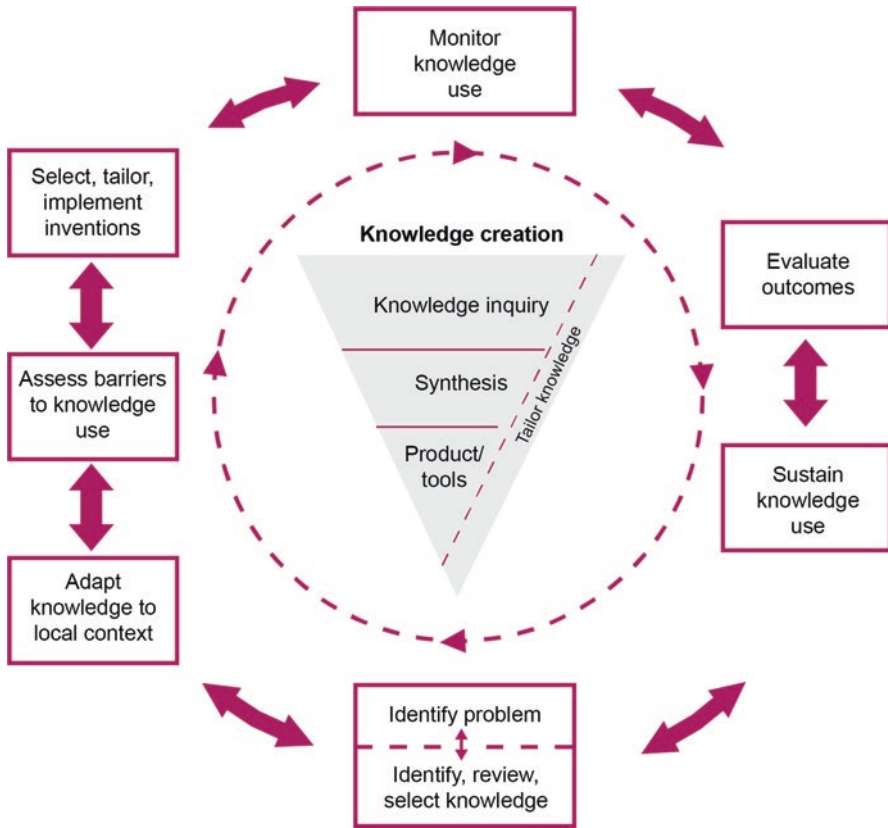


Fig. 7.1 The knowledge-to-action framework. (Reproduced with permission of Wolters Kluwer Health, Inc. from Graham et al. 2006. https://journals.lww.com/jcehp/Abstract/2006/26010/Lost_in_knowledge_translation__Time_for_a_map_3.aspx; Copyright © 2015 Wolters Kluwer. All rights reserved.)

Knowledge-Push and Demand-Pull Models

Knowledge producers often *push* out knowledge to users, for example, through research papers, evidence syntheses, health status reports, toolkits and policy briefings. *Push* invariably occurs at the end of a research process, when findings are disseminated. The majority of translational research efforts over the last two decades have focused on the packaging, phrasing and targeting of timely research findings to evidence users and to the training and development of evidence users, so they are able to understand the messages pushed at them. It has been claimed that the knowledge pushed at policy and practice partners has often been driven by the interests of the researchers or by gaps highlighted in previous research, rather than the actual needs of policy and practice partners (Crilly et al. 2010). However, it is clear that there is both a supply and demand process at work. Evidence users may also *pull* knowledge into their decision-making by gathering evidence syntheses, local monitoring data and statistics, stakeholder views from consultation exercises, etc. Logically, it is possible that research agendas could be shaped by the actual needs of knowledge users (see Walshe and Davies 2013).

Two Communities and Interaction Models

Sometimes members of the ‘two communities’ come together to interact and share knowledge. *Knowledge exchange* is where there is two-way communication, ideas are discussed, and questions are asked to encourage all participants to consider what their knowledge tells them about current issues. It is also an opportunity to prompt reflection on the implication of current knowledge for everyone involved. Interaction is key here. If knowledge exchange is undertaken *when existing evidence is shared*, approaches may include discussion forums, workshops, sandpit exercises, etc.

Bringing different knowledge types together *as the evidence is created* can include participatory action research and co-production research designs. Supporters of knowledge exchange approaches claim that it is easier to get evidence used if key stakeholders are consulted and allowed to have an input rather than having solutions imposed on them. They claim that evidence that is co-produced is probably more realistic, acceptable and likely to produce more lasting change.

The concepts of push, pull, exchange and integrated efforts (see Box 7.1 (Lavis et al. 2006)) are used by the WHO, putting a particular emphasis on the institutionalisation of knowledge translation processes and structures through the establishment of so-called knowledge translation platforms at country level. The latter plan implement and evaluate activities promoting the systematic and transparent use of the best available evidence and embed these processes as a routine activity in national decision-making.

Box 7.1 WHO Definitions of Push, Pull, Exchange and Integration (Lavis et al. 2006)

- Push efforts tailor and target the key messages arising from research evidence to policy-makers by making it more accessible and easier to use. Examples include the preparation and targeted distribution of user-friendly summaries of policy-relevant systematic reviews.
- User-pull efforts concentrate on how policy-makers are supported through processes and structures to demand evidence from the research community. These efforts are facilitated through the establishment of one-stop shops, which make it easier for policy-makers to efficiently access high-quality research evidence. An example of this is online repositories of high quality, policy-relevant, systematic reviews.
- Exchange efforts encourage researchers and policy-makers to develop partnerships, collaborative research projects or shared understandings, which enable them to jointly ask and answer relevant policy questions. Examples include convening deliberative policy dialogues.
- Integrated efforts bring together various different components of push, user-pull and exchange and are embodied in a knowledge translation platform. This approach acknowledges that activities falling within each of the other categories are not mutually exclusive or meant to be considered in isolation.

7.3.5 *Where Is Evidence Used?*

This last section considers the role of context and how it shapes the ways that knowledge is used. This opens a discussion on complexity. So far the knowledge-to-action gap has been discussed as if it were an empty space that needs to be crossed. An early metaphor pictured a train that collected and carried knowledge from the knowledge producers (one community) across the divide to evidence users (the other community) on the other side. Another metaphor that is used imagines a bridge straddling the worlds of evidence producers and users. Each metaphor offers insight into the nature of the gap.

Picturing a train crossing a void has helped us to understand that evidence is often created in places which are separate from where it will be used and the people who will use it. Some argue that it is this process of separating-off population data analysis and research that has created the knowledge-to-action gap (Walshe and Davies 2013) because findings are then seen as *imposed and not home grown*. In response to this, approaches that bring knowledge creation back together with knowledge users are gaining in popularity, e.g. co-production, participatory action research. The metaphor of a bridge helps us to see that there can be an in-between space, where both sides can meet, roles can be shared, discussion takes place and knowledge can be brokered and mobilised into action. The use of knowledge brokers, as people who cross the bridge, speak both ‘languages’, link different partners and facilitate the use of research evidence, is also popular.

In practice it may be more complicated than either of these early metaphors suggest. The most powerful analogy here is one of complexity and complex systems. The gap is not an empty space, nor a chasm to be crossed, and the creation of evidence and its use do not exist in a vacuum. Everything is occurring as part of a complex system (Vickers 1968), where all components are interconnected. A change in one area may affect other parts of the system in unpredictable ways. The implications of this are that although change happens all the time, controlling the change process, and what happens as a result, is much more difficult than we once thought.

The gap can now be understood as an evidence ecosystem, living, interacting and evolving, with intersecting and overlapping boundaries and roles (Shepherd 2014). Aside from knowledge producers (who are not limited to analysts and researchers), there are many other players as well. There are organisations that synthesise evidence for use, for example, the Cochrane and Campbell Collaboratives and the Joanna Briggs Institute. Other organisations, which also synthesise evidence, use it to create professional advice, e.g. the governing professional bodies for medicine, nursing, allied health practitioners and public health practitioners, and then target this advice to their members. In a similar way in the UK, the National Institute for Health and Care Excellence (NICE), synthesises and assesses best evidence to create national guidelines. Another important set of stakeholders within the system are the ‘intermediaries’. These may be organisations linking people and groups together to facilitate the use of evidence to improve health and wellbeing, e.g. the WHO. Alternatively, intermediaries may be individuals, such as knowledge brokers, who facilitate the use of evidence.

Other active players in the ecosystem are the research funders, because without their finance, much of the production of knowledge would not be possible. Additional parts of the system provide the means by which knowledge can be shared, stored and consulted, e.g. academic journals, libraries, online repositories, etc. The knowledge users themselves are a mixed group. They may include national and local government, professional groups, service users, citizens, educators and the media. Each of these sets of players have their own interests and view of what might work. It is likely that these perspectives do not always agree. Against this backdrop epidemiological health reports and research knowledge are only two things that may be considered and not the most important (Dopson and Fitzgerald 2005). This is not a politically neutral place. The various players will have different levels of power, which they can use to influence outcomes. Pressures within the ecosystem can include *any* competing demands, for example, performance targets, national priorities, financial constraints, politics, entrenched services configurations, traditions, natural disasters, social upheaval, etc. Each may either reduce or facilitate the use of certain knowledge regardless of how well-presented and effectively shared that knowledge is. A list of possible factors to consider when thinking about how research and epidemiological evidence may influence policy-makers (or not) can be found in Box 7.2 (Hunter 2016). Such factors present considerable challenges. What may have seemed like a rational process of sharing knowledge on what works in a straightforward way between equals across sectors in order to reach a logical outcome may need to take on the qualities of negotiating, persuading and lobbying to bring about evidence-informed policy-making.

Box 7.2 Some Issues in the Political Complexities of Using Evidence in Policy-Making (Hunter 2016)

- The complexity of the evidence and arcane disputes over its methodological basis and rigour
- The intricacies of the policy process and attempts to balance competing interests and perhaps reconcile the irreconcilable
- The influence of political priorities when a government asserts that it has a mandate from the electorate to drive through certain changes
- Ideological acceptability even from a government that proclaims it is ideology-free
- The multiple, and possibly contradictory, goals of policy-makers and managers
- Tacit knowledge valued over and above research evidence, where research evidence is perceived as irrelevant, out-of-date or inapplicable to local circumstances – a case of ‘she who does knows’
- Lack of consensus about the evidence: whose opinions count – the expert’s or the public’s?
- The curse of the temporal challenge, whereby the time required to generate evidence exceeds the time policy-makers and managers are willing to wait before taking action
- The reality of pressure group politics, whereby some issues rise up the political agenda and others slip down, or off it altogether

It is perhaps more useful not to think of the knowledge-to-action gap as a *gap* but as a *space* occupied by multiple stakeholders and activities. Complex systems help us to understand the unpredictability of any intervention as multiple forces act upon it in ways that cannot always be foreseen. It also explains what is called the ‘non-linearity of change’, where big efforts (time, money and effort) can result in very little sustainable change and yet, sometimes, small changes supported by very little effort can ‘go viral’ and result in widespread change, although it is not understood why.

7.4 Activities and Approaches

The previous section outlined a number of key ideas and concepts related to linking knowledge and action. The aim was to highlight the range of different views and perspectives on this tricky problem. The following section introduces some of the more common activities and approaches used to navigate that complex space, show how they link to the key concepts outlined in the previous section and provide some real-world examples used in public health.

7.4.1 Evidence Provision Approaches

One of the most frequently reported barriers to the use of research and other knowledge in public health and other decision-making is the difficulty of accessing high-quality, relevant and timely knowledge (Oliver et al. 2014). This has resulted in the development of a number of approaches designed to address this problem and provide decision-makers with the evidence they need.

Evidence Synthesis

The longest-standing approach is ‘evidence synthesis’ which involves systematically collecting, appraising and analysing a body of evidence in relation to a particular topic. The validity of both the evidence being synthesised and the synthesis process itself is of utmost importance, meaning that the emphasis is primarily on uncontested evidence. At the same time, there is increasing recognition of the value of a range of different methods for synthesising evidence, including narrative, realist and rapid reviews (Tetzlaff et al. 2009), with these and other approaches increasingly being seen as a way of dealing with some of the diverse types of knowledge, which are necessary and relevant for public health decision-making. This topic is covered in more detail in Chap. 5.

Evidence Briefings

‘Evidence briefings’ take the evidence synthesis approach one step further. These often come in the form of short, easy-to-read summaries, which include further details to help the reader understand and make use of the knowledge being presented. These could include the implications of the knowledge for different policy

or practice audiences, commentaries on related policy or practice contexts and advice about how the evidence could be implemented locally (Chambers and Wilson 2012). Evidence briefings have also been used to communicate and contextualise the results of single research studies (see the Economic and Social Research Council website on Policy Briefings (ESRC 2017)). Whether they are being used to communicate a body of research or a single study, evidence briefings enable the passive sharing (push) of relatively uncontested knowledge in a useful and understandable format. Chap. 6 covers these issues in more depth.

Evidence Repositories

Online ‘evidence repositories’ are another passive approach to supplying evidence to decision-makers. The evidence housed in a repository could take the form of systematic reviews (see the Health Evidence website (Health Evidence 2017)), evidence briefings, guidelines or best practice advice. These repositories provide a storage facility into which knowledge is placed (pushed) and then can be accessed (pulled-down) by knowledge users as needed. However, whilst they may have a place as a way of enabling decision-makers to access relevant knowledge, these passive knowledge translation strategies are less likely to be effective as a way of moving knowledge into practical action (LaRocca et al. 2012). These issues are covered in more depth in Chap. 6.

Evidence Request Services

A more interactive approach for supplying knowledge to decision-makers is via an ‘evidence request service’. This approach attempts to address the difficulties reported by decision-makers in accessing relevant knowledge in a timely manner and focuses on responding to requests for knowledge from decision-makers as, and when, they arise. The nature of these services means that there is a high degree of interaction and negotiation between those who are requesting the evidence and those who are supplying it, to ensure that the knowledge is being sourced and communicated in a relevant way. These services are necessarily rapid, responsive and flexible, with some focus not only on the provision of pre-existing evidence but on developing new evidence to meet decision-makers’ needs. One example is the Evidence for Policy and Practice Information and Co-ordinating Centre (EPPI-Centre) (UCL Institute of Education 2016).

A similar facility focused exclusively on requests for public health knowledge is AskFuse (see Fuse (2017)). AskFuse is a rapid responsive research facility and provides a way for policy and practice partners (PPPs) to contact academic public health researchers across the five universities in the north-east of England that make up Fuse. Inquiries can include questions about the existing evidence base or commissions to carry out new research. Figure 7.2 (the AskFuse postcard) explains what the AskFuse facility offers to PPPs. Figure 7.3 explains what happens to inquiries as they enter AskFuse (reproduced with permission from Fuse).

Asking PPPs what their research needs are and then organising researchers to respond to these needs sounds both easy and appealing, but in practice is challenging to achieve. There are multiple systemic barriers. For example, to highlight one barrier, AskFuse inquiries tend to be small, locally focused, short-term and funded by local government or charities. However, universities generally tend to reward

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Fig. 7.2 The AskFuse postcard. (Reproduced with permission of Fuse; released under a Creative Commons Attribution 3.0 IGO License [CC BY 3.0 IGO])

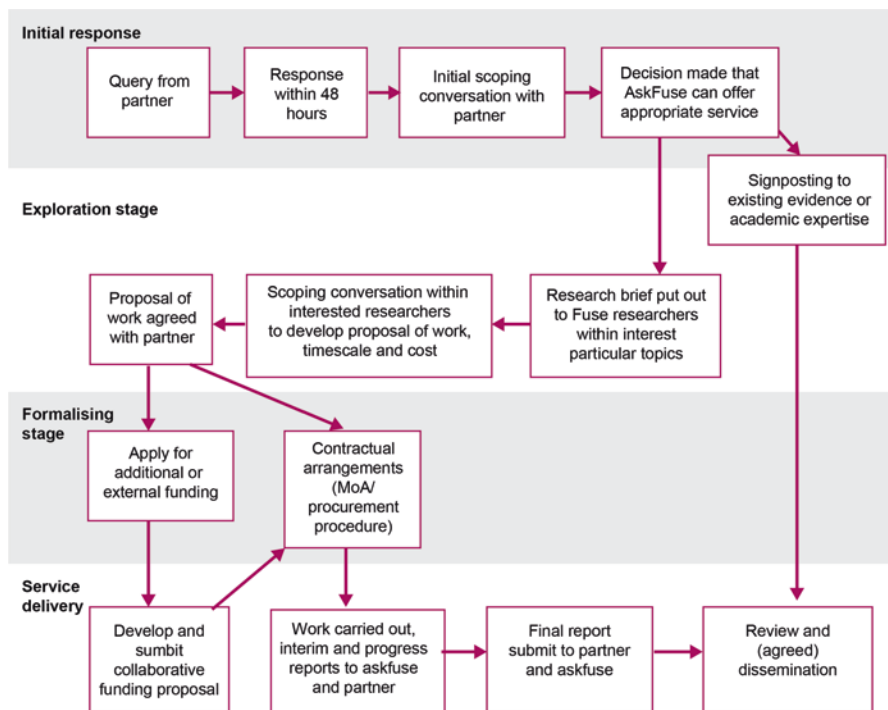


Fig. 7.3 The process that an inquiry to AskFuse typically follows. (Reproduced with permission of Fuse; released under a Creative Commons Attribution 3.0 IGO License [CC BY 3.0 IGO])

academics for securing funding for large-scale, long-term projects funded by national funders and publications in international renowned journals (which rapid, responsive projects do not easily lend themselves to). In short, despite the utility of responsive research to practice and policy partners, currently, what helps academics secure permanent positions or promotion is a different set of activities (see Rushmer et al. 2016).

7.4.2 Interactive Learning Approaches

The evidence provision approaches outlined above largely focus on the relatively passive provision of well-defined evidence, much of which comes from research or epidemiological data analysis. Evidence-informed decision-making, however, incorporates a broad range of evidence including community and political preferences, local priorities and needs and previous practice and experiences. See, for example, the factsheet *A Model for Evidence-Informed Decision-Making in Public Health* (National Collaborating Centre for Methods and Tools 2012). It is well-recognised that the last of these is particularly difficult to capture, share and make use of and often remains embedded in the minds and practices of public health professionals (Kothari et al. 2012). This has led to the development of a range of approaches aimed at encouraging interactive learning and dialogue as a way of enabling this type of tacit knowledge to be shared.

Communities of Practice and Learning Sets

Communities of practice were originally conceived in relation to a social theory of learning which draws on theories of practice, situated experience, identity and social structure (Wenger 1998). This social theory of learning emphasises the importance of relationships and interaction as a mechanism for groups of people to share, exchange and apply knowledge. Whilst the theory was originally developed and used analytically (i.e. to analyse the relationships and practices of groups of people with shared concerns, problems or passions), it has also been used instrumentally (i.e. to deliberately cultivate and construct groups of people working together on a shared enterprise). As Kislov et al. discuss, these deliberately constructed communities of practice have been advocated as a way of sharing tacit knowledge and have been shown to be effective in enhancing professional education, adoption of innovation and problem-solving (Kislov et al. 2012). There are also examples of communities of practice, which have been constructed to include individuals with specialist research knowledge or who can access and bring other forms of explicit knowledge to the group (Anderson et al. 2013).

Deliberative Dialogue

Deliberative dialogue is increasingly used to facilitate transformative discussion and introduce research evidence to those discussions. It has been the focus of the recent health policy and systems research (Boyko et al. 2012, 2014) as a way of addressing two of the challenges identified in Sect. 7.1, i.e. that research evidence is

not always relevant in terms of the issues decision-makers face and that research evidence is not always easy to access, use or translate into action (Dobbins et al. 2004; Lavis et al. 2015). Deliberative dialogues are structured, face-to-face discussions in which groups of people with a shared interest exchange and deliberate ideas and opinions about a particular issue. The approach aims to bring together the tacit knowledge and real-world experiences of the people involved in the discussion. In the context of health system decision and policy-making, it has been used as a way of creating an opportunity for decision-makers to discuss, contextualise and interpret research and other evidence in the light of their knowledge and experiences. When used in this way, the process has several steps, including preparatory consultation to frame the policy challenge, the preparation of an evidence brief containing relevant research evidence and a dialogue involving policy-makers, stakeholders and researchers. See Fig. 7.4. (Boyko et al. 2012).

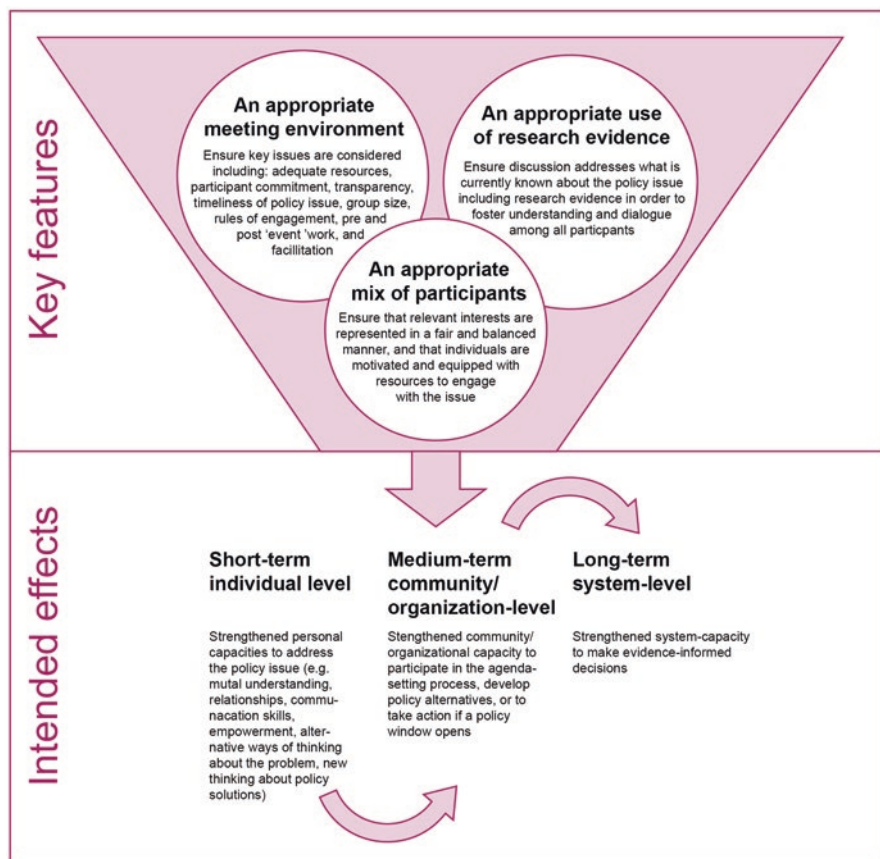


Fig. 7.4 The features and effects of deliberative dialogue. (Reprinted from Boyko et al. 2012, with permission from Elsevier. Copyright © 2012 Elsevier Ltd. All rights reserved)

A review of the approach uncovered three broad sets of intended effects. In the short-term, they are designed to increase the capacity of individuals to address the policy issue by developing mutual understanding, relationships, communication skills, alternative ways of thinking about the problem and new thinking about potential solutions. In the medium-term, they are designed to strengthen organisational capacity to participate in agenda-setting and develop policy alternatives. In the long-term, they are designed to lead to increased system-level capacity to make evidence-informed decisions (Boyko et al. 2014). It is unclear whether deliberative dialogues achieve all of these effects, but there is some evidence that individual participants use what they learn during the dialogue process.

Policy Games

A recent development in knowledge brokering and stimulating interactions between stakeholders is the policy game. This takes a real public health issue and simulates the conditions under which a decision will be taken about that issue. Players are drawn from the organisations (and sectors) responsible for making these decisions, and they take on a role similar to their real-world role. The game (simulation) may run for several days. Knowledge brokers will interject with existing knowledge. Periodically play stops so that reflection can take place and feedback can be given, and then play resumes. The game is said to provide a safe place to ‘practice’ interactions and decision-making in order to learn how different choices in how the decisions are made (with whom, and with what information and knowledge, etc.) affect the decisions made. See the REPOPA project, which looked at policy-making for physical activity in the Netherlands, Romania and Denmark (Aro et al. 2016).

Knowledge Brokers

Knowledge brokers are commonly thought of as the ‘human force’ behind knowledge translation. Although their role can include finding, assessing and interpreting evidence, knowledge brokers more frequently focus on facilitating interactions and learning between evidence producers and users and building knowledge translation capacity amongst those with whom they work (Ward et al. 2009). The Health Evidence team, based in Canada, for instance, includes a number of knowledge brokers who work directly with public health organisations wishing to increase their capacity for evidence-informed decision-making (see Health Evidence 2017). The range of activities that these and other knowledge brokers typically undertake requires them to have a large and varied skill set. These include knowledge retrieval and synthesis skills, communication and mediation skills and teaching and mentoring skills, as well as a range of personal attributes such as agility, perseverance and enthusiasm (Phipps and Morton 2013). There are questions, however, about the extent to which individuals can embody all of the skills and attributes associated with successful knowledge brokering, shifting some recent discussions towards the importance of developing teams of knowledge brokers who are able to share aspects of the work between themselves according to their skillset, rather than acting as lone agents in the space between research and practice (Kislov et al. 2017).

7.4.3 *Partnership and Network Approaches*

Many of the approaches outlined above target individuals and organisations as the primary users of knowledge. However, as outlined in the opening section, public health is perhaps best thought of as a system-level phenomenon, making it more appropriate to think of knowledge-to-action spaces, which are occupied by multiple stakeholders and actors. With this in mind, over the past decade significant funds were allocated to developing large-scale partnerships bringing together knowledge producers and users from across the public health landscape. The emphasis with such partnerships is on the co-production of knowledge, rather than the translation of pre-existing bodies of knowledge. A range of mechanisms have been used to secure collaboration between those involved in a partnership, including the co-location of researchers, policy-makers and practitioners, shared governance arrangements and requirements for matched funding. Partnerships have shown promise as a way of breaking down the traditional barriers between research producers and users and increasing understanding of each other's roles in the production of knowledge (Walter et al. 2003).

An example of the use of such a partnership approach is the Dutch government's funding of 11 Academic Collaborative Centres in 2005. These centres were designed to build regional capacity for the creation of knowledge across public health policy, practice and academies in response to practice and policy needs and to share the knowledge created across the Netherlands as a networked partnership. Two requirements are reported as crucial for the successful development of these centres: (i) the supply of sufficient resources to permit joint activity and a focus on activities that meet practice needs (useful and useable evidence) and (ii) the academic requirements (excellent research, grant income and publications) (Wehrens et al. 2012). These same two requirements apply in other collaborative centres, e.g. AskFuse (Rushmer et al. 2016).

EVIPNet

A significant and well-established large-scale approach to evidence-sharing is the Evidence-Informed Policy Network (WHO 2017b), which is a knowledge translation capacity network supported by WHO throughout the world. It works to create sustainable partnerships between policy-makers, researchers and the civil society at country level to implement a set of activities illustrated in the EVIPNet action cycle in Box 7.3 (WHO 2015a).

EVIPNet Europe operates under the umbrella of the European Health Information Initiative (EHII). The EHII is a multi-partner network providing coordination and guidance for health information activities in the WHO European Region. Through the Initiative, access to important country data sources is being improved, and interfaces between EVIPNet Europe and other EHII country networks focusing on the generation and dissemination of health information are being strengthened (WHO 2017a).

Box 7.3 The EVIPNet Action Cycle (WHO 2015a)**Step 1. Setting Priorities for Policy Issues to Be Addressed**

The KTP periodically organises priority-setting processes to identify and frame public health policy and/or health system priority issues that they anticipate facing in the next 6–18 months and over longer time scales. These issues will be converted into topics for evidence briefs for policy, systematic reviews and/or new primary research.

Step 2. Seeking Evidence

Once a health priority issue is identified, the KTP develops a searchable research question and a search strategy. Next, it finds, retrieves and maps relevant evidence and appraises its quality. Finally, it examines the findings in terms of local applicability (assesses stakeholders' values and beliefs, power dynamics amongst actors, institutional constraints and donor funding flows) whilst taking related benefits, damage, costs and equity into consideration.

Step 3. Summarising Evidence

In this step, the KTP summarises and packages the relevant information in a user-friendly format (e.g. an evidence brief) to frame the priority policy issue; outline the governance, delivery and financial considerations for viable policy options; and set out potential implementation issues.

Step 4. Convening a Deliberative Dialogue

A deliberative dialogue convenes key national stakeholders concerned with the priority policy issue addressed in the evidence brief to discuss factors that influence decision-making about the issue; capture the tacit knowledge, views and experiences of stakeholders; and identify key next steps for different constituencies.

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From Box 7.3 it is clear that several knowledge sharing approaches are combined to form the EVIPNet action cycle; as such it is a hybrid approach. The evidence brief for policy presents a specific, user-friendly evidence synthesis format. It combines the best available global and local evidence to identify possible policy scenarios, which address a high-priority health issue, and related implementation considerations. Based on the evidence brief, a planned process of deliberative dialogue is convened. Policy-makers and other key stakeholders attending the deliberative dialogue jointly develop ways how to translate the evidence into policy and action. In the longer-term, EVIPNet aims to support countries in establishing organisational structures and processes informing national health policy-making in a continuous manner by providing reliable and policy-relevant evidence. This process of institutionalisation is explored more fully below. See Fig. 7.5 and the EVIPNet website (WHO 2017b) for an overview of the range of activities and support provided by EVIPNet to the member countries.

Institutionalisation

Integrating push, pull and exchange efforts in a sustainable manner is key to ensuring long-lasting societal changes within complex health systems. Institutionalising these approaches would ensure that health information and evidence is routinely used in formulating sound health policies (Lavis et al. 2006). EVIPNet's mandate aims to put its member countries into the driving seat to promote such integrated efforts. This occurs through official training programmes organised by WHO and hands-on learning as well as mentoring and peer support from other more advanced network members. Country champions are skilled-up to lead context-specific national knowledge translation activities, from planning to implementation through to monitoring and evaluation. Increasingly policy-makers, researchers and other stakeholders' skills and knowledge in accessing, appraising, synthesising, reporting and using research evidence are a cornerstone of EVIPNet's support activities. Beyond the individual level, EVIPNet strengthens the capacity at organisational and system level to sustain country knowledge translation activities (WHO 2015a).

Countries within the WHO European Region start by carrying out a situation analysis. This allows 'country champions' to understand their evidence-informed policy context and identify country-specific knowledge translation needs and possibilities to institutionalise the research-to-policy interfaces (WHO 2017c). Multi-stakeholder partnerships, so-called knowledge translation platforms (KTPs), are being established to serve as catalytic bridges between researchers and policy-makers. The KTPs influence the national knowledge translation agenda; systematise and promote the routine use of the best available, contextualised research evidence and data in policy-making, tailored in a form relevant to users; and serve as focal points for both researchers and policy-makers, bringing these two communities together at regular intervals to share their goals, professional cultures and influence each other's work (Berman et al. 2015). The KTPs' institutional homes vary depending on the national context of its member countries. They can operate as a stand-alone, independent organisation (e.g. forum, think tank), within an existing organisation (e.g. at a policy-making entity, university, national research

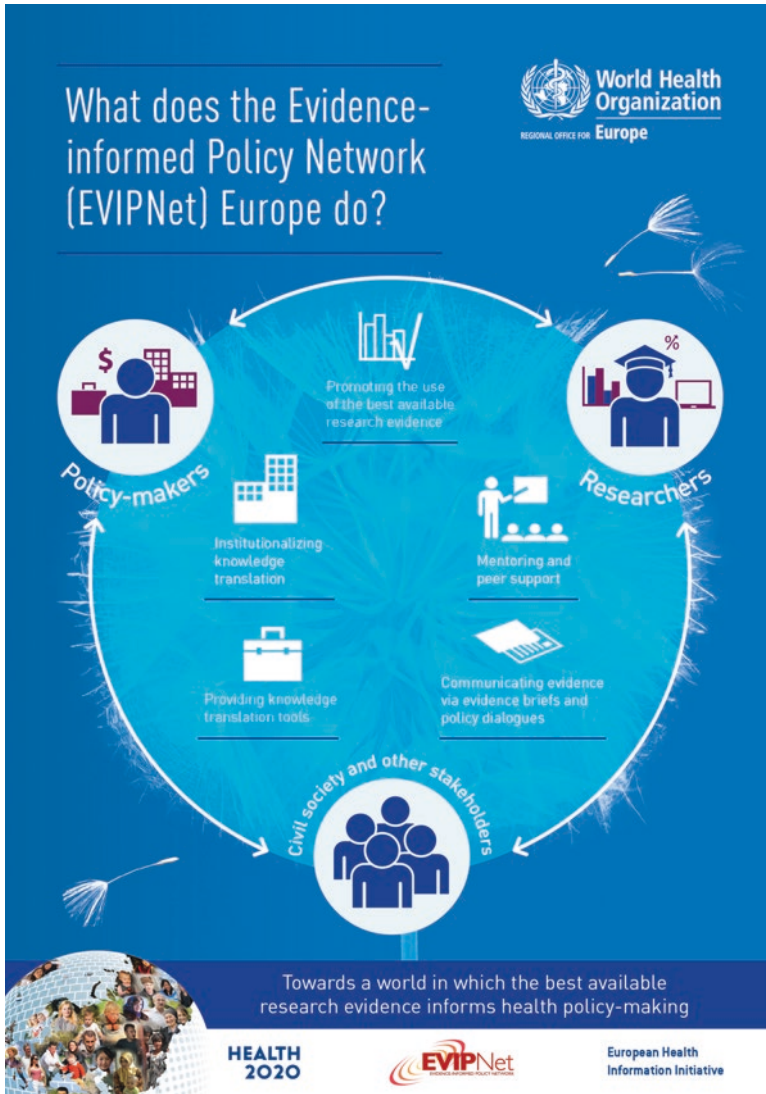


Fig. 7.5 What does the Evidence-Informed Policy Network (EVIPNet) Europe do? (Reproduced with permission of WHO Regional Office for Europe; released under a Creative Commons Attribution 3.0 IGO License [CC BY 3.0 IGO])

organisation, parastatal organisation, etc.), or as a network of existing organisations involved in evidence-informed policy-making. KTPs are seen as key to the EVIPNet approach, as no matter their form, without institutionalising integrated knowledge translation efforts that embrace push, pull and exchange efforts, the use of evidence would remain an ad hoc, political or instrumental process (WHO 2017c, d).

7.5 Current and Future Developments

Deliberative Dialogue: Modified Approaches and Addressing Complexity

One of the great advantages of getting all stakeholders together is to begin to build trusting relationships and create a forum in which multiple stakeholders can shape decisions that affect them. This increases participation in the democratic process and can empower citizens to be part of their own solutions (in contrast to imposed initiatives). These approaches are broadly termed ‘citizen-consultative’ approaches. Deliberative dialogues are increasingly being used in this way to provide the ‘translational’ link between global policies on economic, social and environmental issues with action at a national level (localising and tailoring key messages). Examples of the United Nations and the World Bank adopting similar approaches can be found at World Bank Group (2014) and Bedsted et al. (2015). EVIPNet makes interesting use of deliberative dialogue in their knowledge translation platforms (above), but the approach is also used in Sandpit meetings (EPSRC 2017). A Sandpit is typically where stakeholders withdraw from their normal jobs to gather at a conference venue (or similar), usually for 3 days, and immerse themselves in an in-depth and informed debate aiming to leave the Sandpit with a clear list of recommendations or agreed plan of action.

In addition, with multiple perspectives on the same problem, the dialogue may offer some insight into unplanned influences that may cause even the best plans to falter. In this way richer, more diverse solutions may be generated, which may have more flexibility in rapidly changing contexts.

Statistical Modelling and Agent-Based Modelling

Increasingly, statistical modelling techniques are trying to identify the main contextual factors that influence health and wellbeing outcomes and how these factors combine to influence change, for example, employing statistical and agent-based modelling on large datasets – so-called big data. Statisticians might compare adverse weather patterns or epidemics with hospital admissions, outcomes, staffing levels and resource allocations and geographical distributions of community services and link these patterns to the decisions the public make (to stay at home, seek treatment, get family support). Some of these techniques, for example, in agent-based modelling, build in a human element where judgements are made, alternative paths may be taken and people (the agents) may make different choices. Statistical models try to take these elements into account and typically produce a range of possible scenarios. Whether the full complexity of human life and societies can be mapped and predicted in reliable ways is an interesting discussion point.

Embedded Researchers and Participatory Action Research (PAR)

Most of the issues discussed above relate to how best to share existing research and monitoring evidence, so that it is usable and used. Some authors argue that many of the problems discussed in this chapter have largely arisen because research now takes place in settings different from where practice or policy takes place (Walshe and Davies 2013). Research, practice and policy have been split and largely isolated. Research findings are created and then have to be introduced back into the

settings where they will be used, and this can be seen as imposed change and initiatives can be resisted. Re-connecting the production of knowledge with the end-users or beneficiaries is viewed as one way to address these issues. Participatory action research (PAR) where beneficiaries of the research take part in the research process (formation of research questions, data collection, analysis and interpretation and putting findings into practice) is said to create findings that are more realistic, timely, contextually informed and acceptable to stakeholders. Regular feedback allows the research to adjust to changeable contexts and remain relevant to changing priorities.

A recent variation of knowledge brokerage is embedded research or researcher-in-residence approaches (Vindrola-Padros et al. 2017). There are many variations of these approaches, but a crucial component is that the researcher is part of the practice or policy team, is co-located and works alongside them. The researcher brings knowledge of the extant evidence base to inform decision-making and research skills to gather data and supplement current knowledge in a timely way to support 'live' decision-making (Lewis and Russell 2011).

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