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Cultures of evidence across policy sectors: systematic review of qualitative evidence

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Background: It is important to understand the decision-making process, and the role of research evidence within it, across sectors other than health, as interventions delivered within these sectors may have substantial impacts on public health and health inequalities. **Methods:** Systematic review of qualitative evidence. Twenty-eight databases covering a range of sectors were searched. Studies were eligible if they included local decision-makers in a policy field relevant to the social determinants of health (including housing, transport, urban planning and regeneration, crime, licensing or trading standards), were conducted in a high-income country, and reported primary qualitative data on perceptions of research evidence. Study quality was assessed and a thematic synthesis undertaken. **Results:** Sixteen studies were included, most using interview designs, and most focusing on planning or transport policy. Several factors are seen to influence decision-makers' views of evidence, including practical factors such as resources or organizational support; the credibility of the evidence; its relevance or applicability to practice; considerations of political support or feasibility; and legislative constraints. There are limited data on how evidence is used: it is sometimes used to not only support decision-making, but also to lend legitimacy to decisions that have already been made. **Conclusion:** Although cultures of evidence in non-health sectors are similar to those in health in some ways, there are some key differences, particularly as regards the political context of decision-making. Intersectoral public health research could benefit from taking into account non-health decision makers' needs and preferences, particularly around relevance and political feasibility.

Introduction

Because many major determinants of public health and health inequalities are social and environmental in nature, a broad range of public policies and services, not only healthcare or public health, can have an impact on health.[1,2] The need for intersectoral working to understand the health impacts of policy has been widely discussed in recent years,[3] for example with reference to the Health in All Policies model.[4] In many countries in Europe and globally, local government is the most important tier in controlling policy sectors that impact on the social and environmental determinants of health. In the UK, the Health and Social Care Act moved public health departments from the National Health Service to local government in April 2013. In other European countries, public health decision-

Table 1 Databases searched for the review ($N = 28$)

Applied Social Sciences Index and Abstracts (ASSIA)
Campbell Library
Cochrane Central Register of Controlled Trials (CENTRAL)
Cochrane Database of Systematic Reviews (CDSR)
Cochrane Methodology Register (CMR)
Conference Proceedings Citation Index- Science (CPCI-S)
Conference Proceedings Citation Index- Social Science and Humanities (CPCI-SSH)
COPAC
Criminal Justice Abstracts
Database of Abstracts of Reviews of Effects (DARE)
EconLit
Enviroline
Health Technology Assessment (HTA) database
MEDLINE
MEDLINE In-Process and Other Non-Indexed Citations
National Criminal Justice Reference Service (NCJRS)
NHS Economic Evaluation Database (NHS EED)
OAISTER
OpenGrey
PAIS International
PsycINFO
Science Citation Index (SCI)
Social Care Online
Social Policy and Practice
Social Science Citation Index (SSCI)
Social Services Abstracts
TRID (Transportation Research Information Services (TRIS) database and International Transport Research Documentation (ITRD) database)
Zetoc

makers have long worked in, or in close collaboration with, local authorities or municipalities.[5]

Intersectoral government working presents a number of challenges, relating particularly to the role of research evidence in decision-making across sectors, or the 'cultures of evidence' among decision-makers in different fields. The hypothesis motivating this review is that policy-makers from different sectors may use and understand evidence differently, and that the relation between evidence and decision-making processes is likely to vary between sectors. The use and uptake of research evidence by policy-makers and practitioners is currently an active field of research.[6,7] However, most research has focused on healthcare and public health policy. The cultures of evidence in other sectors influencing population health are less well understood. Evidence may inform policy differently outside the health sector, and similar evidence may be understood differently by public health practitioners compared with people working in other sectors, potentially leading to miscommunication and missed opportunities for intersectoral action. These differences may arise for a number of reasons, such as the nature of the decisions made (e.g. the different constraints on decisions about the physical built environment, as opposed to social policy), decision-makers' own training or backgrounds, organizational cultures and histories[8] and, in some cases, differences in the corresponding academic disciplines. Hence, there is a need to explore the cultures of evidence in policy sectors outside health to develop a more accurate picture of how research evidence may impact on policy.

The aim of this review was to synthesize data from qualitative research studies about local decision-makers in policy sectors broadly related to the built environment, relating to their use or perceptions of research evidence (see further under 'inclusion criteria' below). The built environment was chosen as it is an important locus of upstream determinants of health, and is the target of a fairly well-defined subset of policy sectors. We focused on qualitative data to gain a more nuanced picture of cultures of evidence in their practical context.

Methods

The review protocol is available from the School for Public Health Research@LSHTM website, http://sphr.lshtm.ac.uk.

Searching

In October 2012, twenty-eight databases (table 1) were searched using a strategy combining terms for decision-makers, terms for views, attitudes or qualitative research, and terms for evidence. An example search strategy is presented in Supplementary data Appendix A. We also hand-searched the following four key journals for the past five years:

- *Evidence and Policy*
- *Journal of Housing and the Built Environment.*
- *Police Practice and Research*
- *Transportation Research Part A: Policy and Practice*

Finally, we screened all references cited by studies included in the review and studies that cited the included studies. The searches were not limited by date or language of publication.

Inclusion criteria

All titles and abstracts identified by the search strategy were screened against the following inclusion criteria:

(i) Does the study concern one of the following health-relevant policy fields: housing, transport, urban planning and regeneration, crime and disorder, alcohol and food licensing, or trading standards?
(ii) Does the study report primary qualitative data (e.g. interviews, ethnography)?
(iii) Was the study conducted in a high-income country (current OECD member)?
(iv) Does the study population include local policy-makers, practitioners or anyone with a local-level decision-making role?
(v) Does the study report data concerning perceptions of research evidence? (Inclusion was restricted to perceptions of research conducted by academic researchers; studies of other types of information or data, such as GIS or transport modelling, were excluded unless data were generated by academics.)

Regarding the last criterion, we initially included any type of explicit knowledge or information. However, these data proved to be too conceptually heterogeneous to produce a meaningful synthesis, because of the wide variation in the types of information discussed in the studies. (It also became clear that, while drawing the line at research evidence is arbitrary, drawing it at explicit information is no less arbitrary, given the importance of tacit knowledge in decision-making.)

A randomly selected sample of 10% of abstracts was independently double-screened by two reviewers, and differences were resolved by discussion. Subsequent references were screened by one reviewer. Full-text references were independently double-screened by two reviewers. EPPI-Reviewer 4 software was used to manage data.

Quality appraisal, data extraction and synthesis

The quality of each included study was appraised using the quality appraisal tool produced by the Centre for Public Health Excellence at the UK National Institute for Health and Care Excellence (NICE).[9] Each study was quality-assessed by two reviewers independently, and differences were reconciled by discussion. The tool assesses the appropriateness of qualitative approach to the research question, methodological rigour and relevance, and adequacy of the findings. Each study was then awarded a cumulative quality category: low, medium or high quality.

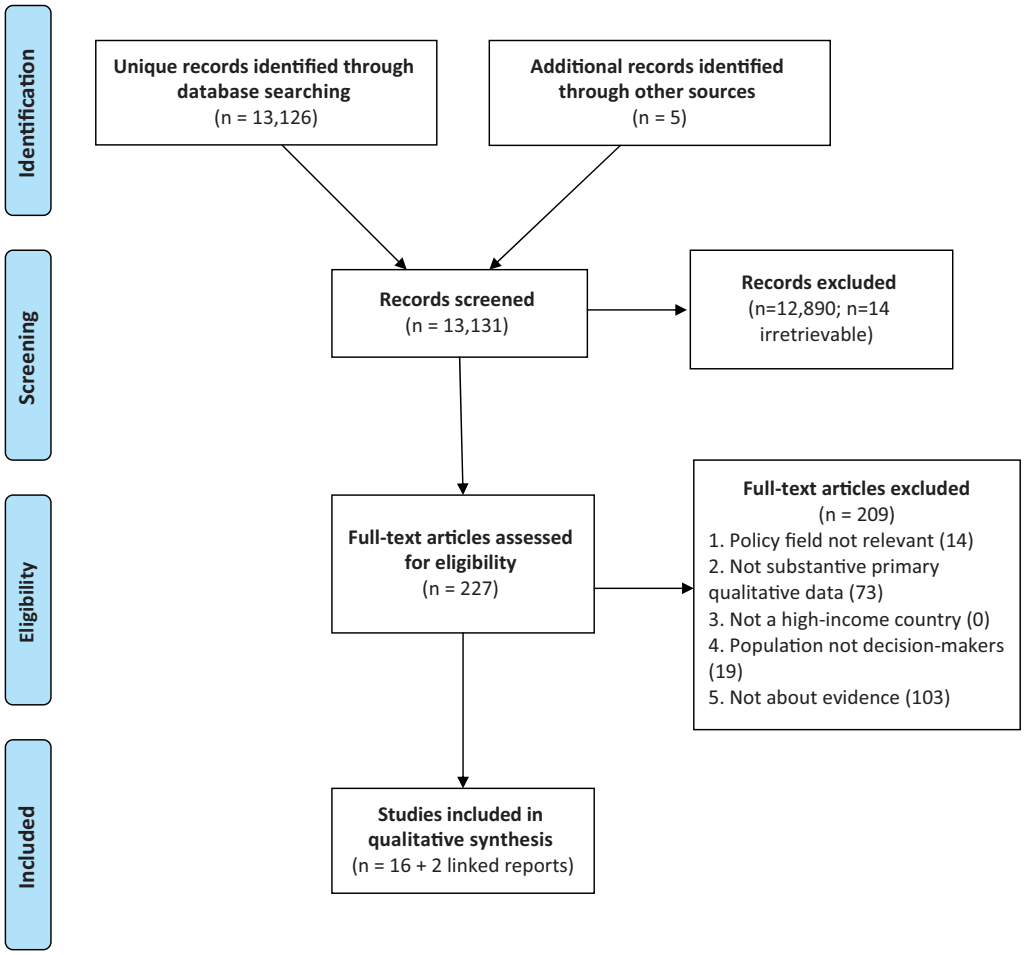

Figure 1 Flow of literature through the review.

Data extraction was conducted independently by two reviewers. Data were extracted from each study on the policy field, research parameters, data collection methods, population and sample selection, outcomes, analysis methods, limitations and funding source. Data were coded line-by-line, using an open code set, and synthesized thematically using a constant comparison technique.

Findings

Sixteen studies were included in the synthesis. Figure 1 shows the flow of literature through the review. Table 2 provides an overview of the context, methods and research question of each included study, and the quality assessment ratings. All but one study used interview or focus group methodologies, with six also incorporating case study methods. Eight studies concern planning or environment policy, seven transport, one urban regeneration and one community safety (with one covering both planning and transport). The findings are presented under three broad thematic questions:

(i) What is considered to be evidence by non-health decision-makers?
(ii) What factors affect decision-makers' use of research evidence?
(iii) How do decision-makers use research evidence?

What is considered to be evidence?

A range of types of evidence are mentioned by participants, including outcome evaluations such as trials,[12,20] literature reviews,[13,22] needs assessments,[11] surveys of public views or preferences or more informal types of public consultation,[11,19,20,22] examples or case studies of what other decision-makers are doing elsewhere,[12,13] expert opinion[13] and various types of routine data and statistics.[20]

There is thus considerable latitude in what these non-health policymakers define as 'evidence'. Even though this review adopted a narrow definition of 'research evidence', it is clear that academic research is only one among many potential sources of information. Several studies from transport and planning conclude that academic research evidence is less used than other types of information.[12,22,25] Decision-makers in planning and transport are seen to value data that illuminate local contexts[24] or help to predict the public's responses to policy decisions.[20] One study of built environment decision-makers finds that cost–benefit or other economic analyses are particularly convincing.[13]

One study of the New Deal for Communities evaluation[12] finds that local practitioners often see their own informal practice-based expertise as more valuable than academic research. For example, one participant argues: 'You don't learn by sitting people in front of screens and giving them information. It's more about dialogue. You need to discuss it and test it out in different scenarios.'[12] Participants in this study also link practitioner expertise to lay knowledge, and identify a potential tension between evidence use and local empowerment, pointing out that local people may not make 'evidence-based' decisions.

What factors affect decision-makers' use of research evidence?

The studies identify a wide range of factors that may impact on decision-makers' use of evidence. Several participants from

Table 2 Overview of the included studies ($N = 16$)

First author and references	Country/ies	Data collection methods	Policy sector	Focus/RQ	Quality rating
Allender[10]	UK	Focus groups	Planning; transport	Town planning and transport professionals' views about NICE public health guidance	++
Allison[11]	USA	Interviews	Community safety	Barriers and facilitators of community youth violence prevention programmes	–
Coote[12]	UK (and some USA data)	Interviews and case studies	Urban regeneration and social policy	Role of evidence and evaluation in social policy; policy-makers' and practitioners' views and experiences of evaluation (particularly New Deal for Communities)	+
Freeman[13]	Australia	Interviews	Built environment and health	Policy development in healthy built environments; research-policy partnerships	+
Garcia[14]	USA	Interviews and case studies	Environmental health; planning	Process evaluation of community-based environmental justice advocacy project	+
Gonzalez[15]	USA	Interviews and case studies	Environmental health; planning	Process evaluation of community-based environmental justice advocacy project	+
Gudmundsson[16]	Sweden	Interviews and case studies	Transport	Use of decision support in transport planning and policy	–
Harrison[17]	UK	Interviews	Planning; nature conservation	Practitioners' views and practices about nature conservation in brownfield sites	–
Hatzopoulou[18]	Canada	Interviews	Transport	Use of modelling tools in decision-making	+
Hewson[19]	UK	Survey feedback	Transport (road injury reduction)	Description of course on evidence-based practice for practitioners	–
Hinchcliff[20,21]	Australia (and some USA data)	Interviews	Transport (graduated licensing, road safety)	Policy-makers' views of evidence; evidence–policy relation more generally	++
Marsden[22]	France, UK, Germany, Sweden, Denmark, USA, Canada	Interviews	Transport	Policy transfer in sustainable urban transport	–
Minkler[23]	USA	Interviews and case studies	Environmental health; planning	Process evaluation of community-based environmental justice advocacy project	+
Petersen[24]	USA	Interviews and case studies	Environmental health; planning	Process evaluation of community-based environmental justice advocacy project	+
Sandström[25]	Sweden	Interviews	Planning	Urban planners' views about green space	–
Timms[26]	France, UK, Italy, Poland, Sweden, Austria, Norway	Interviews	Transport	Policy transfer and policy-makers' information needs	–

transport and planning mention practical barriers, including lack of time or research skills,[12,19,20,25,26] or lack of institutional support to keep up with research.[12,25] Participants in several studies of the built environment and transport sectors mention contact or collaboration between researchers and decision-makers as a facilitator of research use,[20,26] but it is rarely described as a major factor.

A number of characteristics of the evidence itself are also mentioned. Some issues relate to the presentation of evidence rather than the nature of the evidence: for example, reports that are over-long[20,22] or difficult to read[12,20] are less likely to influence practice. Research in planning and transport may sometimes be lacking altogether[10,12,13] and is often of poor quality,[19,20] although, as discussed below, many participants do not clearly distinguish between high-quality and poor-quality evidence.[12,19]

Perhaps the most frequently mentioned facilitator of evidence uptake is its 'credibility', a complex notion that refers less to the methodological or substantive characteristics of the research itself than to the personal authority of the individuals putting it forward, particularly senior academics. Academic researchers are seen as neutral and disinterested, and hence able to intervene more credibly in politically loaded decisions, particularly in transport.[16,22] More broadly, research conducted by academics is seen to grant 'legitimacy'.[24] As one transport policy-maker states: 'certain academics have a national standing and [policy] boards value their perspective'.[22] Coote et al.[12] report the perception that the credibility of research suffered when it was led by more junior researchers rather than the senior academics who led bids for research funding.

Another prominent set of themes concerns the relevance of research. Participants in one study see academic researchers in transport as self-absorbed and pre-occupied with developing sophisticated theories rather than usable solutions;[18] in other studies, academics are seen to focus on over-simplified problems that do not reflect the complexity of practice.[12,19] Research reports are perceived as not drawing clear and well-informed implications for practice.[12,22] Where they do attempt to inform practitioners, Coote et al.[12] argue that they focus excessively on 'stories of ''good practice'' rather than insights into processes or outcomes that might help them to improve delivery' (quote from report authors), and fail to illuminate causal links.[13] Practitioners are often uncertain about how to apply evidence generated in other

countries or contexts.[12] The issue of relevance helps to explain why many participants, across sectors including planning, transport and urban regeneration, feel overwhelmed by the volume of evidence,[10,12,19,22] even though little of it is usable for practice.

Several participants also question how much research evidence really adds to existing practitioner expertise. Research findings and evidence-based guidelines are often seen as 'common sense' generalities that do not add to what is already known.[10,12] As discussed further below, several participants question the value of building an ever greater evidence base that has limited applicability to practice. One participant argues: 'You can run the research until the cows come home, I actually think a lot of it's simply [about] that implementation'.[13]

A range of more macro-level variables also affect evidence use. Theoretically possible options may not be politically acceptable.[12,20,21] Research findings thus need to be balanced against what is politically achievable and realistic. This is highlighted in Hinchcliff et al.'s[20] study of transport. One participant summarizes: 'It boils down to what the research evidence is telling you, what the practicality of your system allows you to do, and what we interpret from the community as being initiatives they think are workable'. However, acceptability may in its turn be affected by other factors. The media, for example, influence decision-makers' agendas, but can themselves be influenced by researchers.[21]

Finally, in some sectors, decision-makers' options are narrowly constrained by legislation or guidance. In planning, several participants point out that legal regulations, where they apply, take precedence over evidence-based decisions, and that evidence has a much greater chance of being used if it takes this context into account.[10] One planning practitioner argues: 'Is this [guidance] going to be a stand alone thing or is it going to be integrated into PPG 17 etc? Otherwise it's almost a throwaway guidance whereas if it's through PPG 17 it actually has the authority and people take much greater due regard to that when they're making planning decisions'.[10]

How do decision-makers use research evidence?

A number of participants in transport and community safety describe using research evidence to make informed decisions,[11,12,16,18,20] although other participants report not using research at all.[11,19,25] Where research is used, it is generally not the main determining factor in what decisions are made, and it is often unclear from the studies how research is used or what difference it makes (the main exception being Hinchcliff et al.'s[20] study of driver licensing). In line with the issues of political feasibility and legislation, some participants report that evidence is only useful once local policy objectives are already set.[12,20] In contrast, one participant suggests research may help to expand the possibilities considered by decision-makers: 'it questions what we all accept as good practice, when in fact this might be flawed. But at least it makes us think there is better practice'.[19] Research, particularly local evaluation, may also help local decision-makers demonstrate that they are meeting targets or conforming to performance management standards.[12]

Other studies suggest that research evidence is often used to justify or defend decisions that have already been made, and to manage relations with national policy-makers or others in positions of power. Coote et al.[12] conclude that local decision-makers largely use evidence 'to justify prior decisions and to help them make the case for political and financial support' (quote from report authors). Other participants talk of a feeling of 'confidence' from having decisions backed up by evidence.[12] As already described, the 'credibility' of research evidence associated with prestigious senior academics helps to bestow legitimacy on decisions that are aligned with it.[23,24] Institutional credibility from organizations like NICE also helps to grant legitimacy to decisions in other sectors such as planning or transport.[10]

Many participants are aware of the tension between the rhetoric of evidence-based policy and how research is actually used in practice. Participants in Coote et al.'s[12] study express frustration that the policies they implement, led by national government agencies, are not themselves evidence based, 'yet we're expected to find evidence to support the implementation—I think that's contradictory'. Participants in two studies perceive policy formation at national government level to be frequently driven by political factors rather than by evidence.[12,20] Research may be commissioned to provide a pretext for delaying unpopular decisions or diverting attention from certain issues,[20] and national policy-makers may reject negative research findings or distort them in the service of political agendas.[12]

Discussion

Comparison of our findings with the literature on decision-makers' views of evidence in health-related fields reveals some congruent findings, for example, the emphasis on relevance, or the finding that evidence is often used 'tactically', in Weiss' sense,[27] as a means of obtaining support for decisions that have already been made. However, this review suggests some important differences between the findings reported in the health literature[6,7,28] and our findings from other policy sectors. Three are particularly striking. First, direct collaboration between researchers and policy-makers or practitioners is much more rarely mentioned in our data. Second, 'credibility' is an important perceived facilitator of evidence use, and appears to have as much to do with the personal status of academic researchers as with the robustness of the evidence. Third, many decisions in non-health sectors are limited much more by political or legal constraints than those in public health or clinical practice; as these factors must generally be prioritized over the use of evidence, the scope for the latter to make informed decisions is often limited. These differences, we argue, are striking enough to license speaking of distinct 'cultures' of evidence, at least in the minimal (e.g. structural–functionalist) sense of coherent patterns of norms and orientations governing how knowledge is understood and used.

This review has some limitations, particularly the narrow focus on academic research evidence. Our findings indicate that decision-makers use a wide range of other sources of information, both formal tools for decision support or information management and more informal types of expertise. Future research could usefully focus on situating evidence use and other information sources within the actual decision-making process in specific fields. This restriction of scope also means that fairly few studies met our criteria, and of those, several made only a limited contribution to the synthesis.

It is also important to note that many of these studies were conducted before the current economic recession. There may now be even greater financial constraints on the production of new evidence and evaluation, and on its application. Evidence-based decision-making may now have more of a focus on 'what doesn't work' rather than on 'what works': one recent report notes how English local authorities are 'using evidence . . . [by] applying lean thinking to drive out unproductive activities'.[29] Our focus on local-level decision-makers is also a potential limitation; however, many of our findings are likely to be generalizable to other levels, and in any case there is value in focused attention on local government, where most policies in the sectors concerned are implemented.

Our findings suggest a number of implications for public health researchers and practitioners. The finding that evidence is not perceived as relevant or practically usable suggests that a key task for public health researchers working with practitioners in other sectors sector is a translational one, which can help to draw out the value of the existing research for practice. Because practitioners already feel overwhelmed with evidence, little of which is useable, an exclusive focus on the need for more evidence is likely to meet with skepticism. On the side of public health practitioners, the findings suggest that effective intersectoral working may involve translating

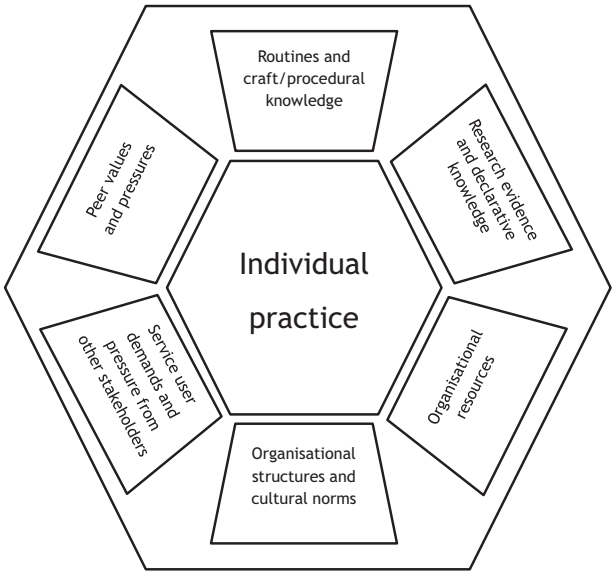

Figure 2 Categories of influence on practice (reproduced with permission from Davies and Nutley[31])

between different cultures of evidence. In particular, the information resources and standards of reliability used by practitioners in non-health sectors may be different.

Furthermore, decision-makers have clear views about the limitations of the existing evidence base, and report a number of good reasons why research findings are not put into practice. They also report that evidence is often used in a 'tactical', post hoc way. These findings suggest that the value of research is likely to be maximized if researchers work with decision-makers to explore their research needs, and to understand the shape of the decision-making process, rather than trying to promote the uptake or impact of evidence for its own sake.

However, the decision-making process in local government is complex and contingent, and it is likely that other factors, particularly political factors, will often play a greater role than research evidence. One Director of Public Health in the UK recently noted that political judgement permeates every decision: 'There may be a political angle to a mental health campaign or a social marketing campaign to reach seldom heard groups. You need to be aware of how it plays politically'.[30] Nutley and Davies[31] (p. 337 figure 2) set out the main categories of influence on individual practice, among which are 'organisational structures and cultural norms'. We conclude from our review that in local government this has a particularly strong influence, which is not yet well understood; and the structures, cultures and norms that researchers most need to understand if they are to have an impact on decision-making are, firstly, political structures, and secondly, evidence cultures. More broadly, discussion of evidence and policy would gain from more focused attention to the institutional and socio-political contexts through which knowledge passes, and to the cultural differences that may impact on the generation and use of evidence.

Supplementary data

Supplementary data are available at *EURPUB* online.

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Key points

- Because of the importance of intersectoral working and policy-level interventions in promoting health, we need to understand non-health decision-makers' practices and views, particularly about the use of research evidence.
- Decision-makers in non-health sectors value evidence that is credible and relevant to practice, and feel that much existing research evidence does not meet these needs.
- In some sectors, laws and regulations may limit the extent to which evidence can be used to make informed decisions.
- Evidence may often be used tactically to justify and legitimize decisions *post hoc*. Hence, increasing the uptake of research evidence may make limited difference to the quality of decisions.
- Public health policy-makers and practitioners should be aware that other sectors may have different cultures of evidence.

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Public health in the 21st century: working differently means leading and learning differently

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Background: Public health needs to adapt to the complex context of 21st century Europe. Unquestionably, leaders for health require new skills to face a myriad of wicked problems and challenges that are at a critical juncture for potential improvements. Public health curricula are traditionally oriented around core educational disciplines, and there is little room for developing students' leadership capabilities within the context of public health. The aim is to present the meaning of contemporary public health leadership based on qualitative research and propose a curriculum model for contemporary public health leadership. **Methods:** A series of in-depth semi-structured interviews were carried out with six European public health leaders from a variety of countries and professional backgrounds. The interviews recorded and transcribed. A thematic content analysis was undertaken to identify themes within the data. **Results:** Five common themes that help to inform future leadership capacity arose from the interviews: the inner path of leadership, the essence of leadership, new types of leadership, future leaders' imperatives functioning within a complex and uncertain European public health context. **Conclusion:** The leadership thematic model makes an important contribution to defining public health leadership in Europe and can help to guide the content development of public health leadership curricula. The authors assert that a new 'integrative inquiry-based learning model', with leadership as a central component, will allow schools and departments of public health across Europe to be able to ensure that tomorrow's public health leaders are adequately trained and prepared for the challenges they will face.