# Keeping knowledgeable: how NHS chief executive officers mobilise knowledge and information in their daily work

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**NHS**
*National Institute for Health Research*

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## This report

# Abstract

## Keeping knowledgeable: how NHS chief executive officers mobilise knowledge and information in their daily work

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**Background:** Evidence-based practice has permeated professional life as a normative ideal. The resulting movement of 'evidence-based management' is premised on assumed positive consequences of managers making organisational decisions informed by research, rather than by personal experience alone. However, we know little about how health-care managers engage with information and knowledge in practice, especially at the highest level.

**Objectives:** The study aimed to investigate how chief executive officers (CEOs) of NHS trusts make decisions and mobilise particular knowledge and 'evidence' in the course of their day-to-day activities.

**Design:** The study was conducted between March 2011 and May 2013. We employed a qualitative naturalistic approach, combining in-depth observation with interviews and documentary analysis. Seven CEOs of acute and mental health NHS trusts in England were shadowed for an average of 5 weeks each. This sample included four women and three men. To protect the anonymity of our informants, and following customary academic practice in the social sciences, in this report *we refer to all our participants using the female pronoun*. We aimed to maximise sample diversity regarding professional background, career stage and organisational characteristics. Analysis was a reiterative process, led by two empirical researchers, who continuously examined emergent data and undertook cross-case comparative analysis. This was informed by team meetings, discussions with an expert advisory panel, and feedback from research participants and other senior NHS managers.

**Results:** CEOs seek information and use knowledge all the time, for three main purposes: making decisions; accounting for decisions already made; and making sense. The last of these is by far the most common, with significant effort aimed at 'connecting the dots' and constructing ('weaving') a sense of the present and future for their own and others' consumption. This is most often accomplished conversationally, including via an inner conversational circle of trusted colleagues. CEOs very rarely mobilise knowledge in the canonical way described in many of the existing models – though this does not make them poorly informed or irrational decision-makers. In particular, they rarely search, retrieve, consult and quote scientific and other forms of formalised evidence in person. Instead, they systematically ask others to do so and put in place the necessary mechanisms that allow them to progress from intuition to facts. Their knowledge and information work is therefore not so much about decision-making as about knowledgeability – understood as a personal and organisational capability: *knowledge-ability*. How CEOs' *knowledgeability* is accomplished, why and in relation to what objects differs on the basis of a number of contextual factors, including the specific issue at hand, their personal style and the nature of everyday work. We define such an arrangement as the *(personal) knowledgeability infrastructure* of CEOs.

**Conclusions:** By challenging prevailing models of evidence-based practice, our findings could inform the initiatives supporting the work of NHS CEOs and help them become more effective. There are a number of skills that new CEOs may need to learn, and a number of skills, behaviours and attitudes that may need to change over time according to changing circumstances, for a CEO, to conduct her job successfully. Our findings suggest a framework for critically examining how, and how effectively, NHS managers may make themselves knowledgeable given the demands of their jobs.

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| | | | | |
|---|---|---|---|---|
| AUKUH | Association of UK University Hospitals | | *HSJ* | *Health Service Journal* |
| CEO | chief executive officer | | IoD | Institute of Directors |
| COO | chief operating officer | | IT | information technology |
| CQUIN | Commissioning for Quality and Innovation | | MD | medical director |
| DN | director of nursing | | NED | non-executive director |
| DH | Department of Health | | PA | personal assistant |
| EBP | evidence-based practice | | PCT | primary care trust |
| FD | finance director | | PI | principal investigator |
| FT | foundation trust | | R&D | research and development |
| FTN | Foundation Trust Network | | RA | research assistant |
| *HBR* | *Harvard Business Review* | | RAG | red amber green |
| HI | head of informatics | | SDO | Service Delivery and Organisation |
| HR | human resources | | SHA | Strategic Health Authority |
| HS&DR | Health Services and Delivery Research | | TMT | top management team |

# Plain English summary

We studied the day-to-day work of seven chief executive officers (CEOs) of NHS acute and mental health trusts to understand how they used various sources of information and knowledge. Each of these CEOs was 'shadowed' for several weeks. We observed and documented their everyday activities, including their interaction with other staff, as well as the relevant documents in their organisation.

We found that NHS CEOs seek information and use knowledge all the time in their everyday work. They do this for three main purposes: making decisions; accounting for decisions already made; and making sense. Making sense was the most common activity, where CEOs would 'connect the dots' between many sources of information available to them. Often this information would be obtained in unplanned ways, especially through conversation. To gather this information, CEOs relied on a highly customised combination of people, ways of doing, and technologies. These were arranged according to their idea of what type of managers they wished to be, but also reflected the specific demands of their job (including their organisational and wider context) at the time. Whether and how well CEOs were able to be appropriately informed depended on this arrangement, and how well it suited the particular demands of their job. We suggest that the work CEOs carry out to collect intelligence and 'connect dots' is therefore more about being knowledgeable as a personal and organisational capability: *knowledge-ability.* By shedding light on what such ability might consist of, our findings will help people understand what skills might be required for NHS CEOs to work more effectively, and how they can best be supported to do this.

# Scientific summary

## Background

Evidence-based decision-making and evidence-based practice, which were originally the domain of clinical staff, now permeate professional life in different sectors beyond medicine, establishing themselves as powerful norms and sets of expectations. The phenomenon has come to have particular purchase in the context of the UK NHS, where it has become an imperative not only for clinicians, but increasingly also for managers, to pursue the goal of operating in an evidence-based or evidence-informed way. The resulting movement of 'evidence-based management' is premised on the presumed positive consequences of ensuring that practising managers develop into experts who make organisational decisions informed by research, rather than by personal experience alone. Yet, while the normative argument for evidence-based management has been repeatedly made in an increasingly prominent way, the practical realities of everyday knowledge- and 'evidence'-work by managers still remain, to a significant extent, an empirical black box. This is particularly true in health care, and especially in relation to managers at the very top of NHS organisations, whose work remains severely understudied and underreported. This is in spite of their critical role in pointing the direction and setting the culture of large parts of the NHS 'front line'. We know very little about the information behaviour of top decision-makers, specifically what knowledge they mobilise in which circumstances and, perhaps more importantly, how this is done. As a consequence, we remain relatively unsure of the extent to which 'evidence-based management' is being practised at the top of the NHS leadership structures, and with what effect.

## Objectives

The study aimed to investigate how chief executive officers (CEOs) of NHS trusts make decisions and mobilise particular knowledge and 'evidence' in the course of their day-to-day activities. The objectives of our research were to address the following research questions:

- How is knowledge mobilisation understood, performed and enacted in the everyday working practice of NHS CEOs?
- What are the material practices and organisational arrangements through which NHS trust CEOs source and use existing knowledge and 'evidence'?
- How are different types of 'evidence' used (or brought to bear) in their daily activities?
- Do the source, the content, and the format in which such 'evidence' (but also information and knowledge more widely conceived) is presented make a practical difference in terms of patterns of mobilisation?
- Are there specific organisational arrangements that support or hinder the process of knowledge mobilisation by top managers (i.e. what is the practical influence of context on this process)?

## Methods

The study was conducted between March 2011 and May 2013. The research was exploratory in nature and was designed to build (rather than test) theory. Our theoretical approach was to view knowledge mobilisation as inextricably linked with other aspects of the CEOs' activities. In order to address our research questions, we employed a qualitative methodological approach, combining in-depth observation with interviewing and documentary analysis.

Our sample was composed of seven CEOs of acute and mental health NHS trusts in England. The sample included an almost even ratio of men to women (3 : 4), and was intended to maximise analytical diversity among cases. We thus recruited CEOs with diverse professional backgrounds (NHS management, private sector, nursing and medical), who were at different junctures in their careers, in terms of both tenure in the present post and overall experience at CEO level. The sample also included CEOs from different types of organisations (foundation and non-foundation trusts), and organisations with different performance levels according to Monitor indicators (i.e. those used by Monitor, the national regulator of Foundation Trusts, to indicate performance against its set criteria, e.g. financially sound or financially struggling). To protect the anonymity of our informants, and following customary academic practice in the social sciences, in this report *we refer to all our participants using the female pronoun*.

The data were collected using a combination of shadowing, interviews and documentary analysis. The key method used was shadowing, which involved closely following each CEO as she went about her working day, and observing as much of it as possible. This enabled us to understand the various nuances of the daily practice of knowledge mobilisation *as it actually happened.* All executives were observed for 5 or more weeks (apart from one case, where observations lasted 3.5 weeks). Access was extremely favourable and we were able to document all aspects of CEOs' work, save for occasional one-to-one supervisory meetings with more junior colleagues, human resources-related meetings concerning individuals, and private meetings with patients. When evening or day events of a particularly sensitive nature occurred, post-hoc accounts were collected through short ethnographic interviews. The same method was used to collect information about the work the CEOs did at home or when commuting. In two cases, we were also given access to their e-mail correspondence.

We also conducted formal semistructured interviews with five CEOs and certain members of their staff at the end of the observation periods, as well as a number of ethnographic interviews during our on-site observations. All formal interviews, which lasted between 38 and 65 minutes, were recorded and transcribed verbatim. Finally, we consulted a variety of documents such as annual trust reports, news articles and regulator documents.

The analysis was carried out as a reiterative continuous process that proceeded in parallel with the study. Each of the two empirical researchers regularly read and reflected on their field notes, including before each return to the field, and wrote analytical notes as part of the research diary. These were eventually prepared into extended analytical memos, which synthesised the analysis of emerging insights from each case, and enabled cross-case comparative analysis. In line with the open-ended, exploratory research tradition, no set analytical categories were identified prior to entry into the field. The list of emerging first- and second-order analytical categories was discussed and refined through regular team meetings between all three team members, and regular meetings with the advisory panel, whose feedback significantly informed the analysis. Members' validation was also pursued by feeding back the provisional results of the study to the participant CEOs during sessions designed to work as a two-part development opportunity. Finally, further insights were also collected at three CEO networking events organised in collaboration with the NHS Confederation. The validity and analytical generalisability of the findings was thus increased by variation between the cases studied, and by the collaborative approach to data analysis.

## Research findings

Our in-depth, observation-based study provided previously unavailable empirical data on how knowledge and information enter the daily activities of CEOs, how such knowledge and information are sourced, for what purposes, and how they are put to work, and revealed the 'social life' of such knowledge and information. The key findings can be summarised as follows:

1. NHS trust CEOs deal with information and knowledge all the time and this constitutes one aspect of their daily activity, perhaps the most important. However, CEOs very rarely mobilise knowledge in the

canonical way described in many of the existing models available in the literature – although this does not make them poorly informed or irrational decision-makers. Rather, NHS CEOs are highly skilled workers who are mostly engaged in a variety of tasks and activities that allow them to stay on top of things in their own organisation. The ideal endpoint of this knowledge and information work is therefore not decision-making, but rather knowledgeability understood as a personal and organisational capability: *knowledge-ability*. The first and major finding of our study is thus the need to abandon the image of the CEO instrumentally using discrete elements of information and knowledge as resources that are brought to bear for the purpose of specific decisions. This is because this image simply does not reflect what CEOs actually do. Instead, we should substitute the image of the CEO as making different forms of more or less formalised information work all the time, and ask through which practices CEOs make themselves appropriately knowledgeable at particular times and in relation to particular issues, in particular contexts, relating to particular sources of insight.

2. The CEOs we observed utilised three overlapping orders of monitoring to make themselves knowledgeable for all the practical purposes of their jobs: mundane monitoring, occasioned monitoring and intentional information-seeking. However, our data suggest that there is no such thing as 'one best way' to make oneself knowledgeable: how a CEO's knowledgeability is accomplished, why and in relation to what objects differs on the basis of a number of contingent or contextual factors, such as the specific issue at hand, the personal style of the individual CEO and the nature of her everyday work. Individual CEOs thus relied upon a particular mix or arrangement of people, objects, routines and sources, which help them to become appropriately knowledgeable in relation to the different issues and demands of their work. We define such an arrangement as the *(personal) knowledgeability infrastructure* of CEOs. Our observations suggest that each CEO creates, maintains and continually adapts a specific and very personal configuration of tools of the knowledge and information 'trade' that she uses to make herself knowledgeable. The knowledgeability infrastructure is thus itself context-dependent, based on personal choices and continuously evolving.

3. CEOs sought information and used knowledge for three main purposes: (1) making decisions, (2) accounting for decisions already made and (3) making sense, this last being by far the most prevalent one. A great part of the CEOs' effort is aimed at 'connecting the dots' and constructing a sense of the present and future for their own and other people's consumption. Sense-making (and sense-giving) are thus central to the work of CEOs and key to understanding their knowledge and information work. Sense-making and sense-giving for the consumption of others are often achieved by 'weaving' insights and knowledge into narratives that emerge over time, possibly around images or metaphors. These are refined through further intelligence and information, and are continuously and context-appropriately shared with others. This is why CEOs rarely search, retrieve, consult and quote scientific and other forms of evidence in person (though we observed them ensuring in interactions that these have been considered elsewhere, in relation to a task or discussion at hand). What matters is not simply that CEOs search or use information themselves. Instead, it emerged as important that they systematically ask others to do so. Our observations thus suggest that the knowledge and information work carried out by NHS CEOs as part of the top management team (TMT) may be ostensibly different from that of other members. In this sense our findings may not apply to other managers at director level, whose practices of knowledge mobilisation could be different. This in turn suggests that a stepwise change may be required in the practices of knowledge mobilisation when progressing from director to CEO level. More research on this subject is needed, as the nature of our study did not allow us to draw empirical conclusions regarding this particular point.

4. The research found that sense-making and sense-giving are mostly accomplished dialogically, that is through 'serious' conversations with others, and carried out in a variety of forums and opportunities. These conversations constitute one of the central types of work carried out by the CEOs, and are accomplished through diverse media (mainly face-to-face conversations, e-mail and telephone). In particular, the CEOs in our sample heavily relied on an *inner conversational circle* (usually composed of selected members of the executive team), with whom they had the most intense level of interactions. The composition of, relationships with and trust in this social circle affected the capacity of CEOs to become and remain knowledgeable, their ability to fulfil their sense-making function and their opportunity to operate as reflective managers.

## Implications

Given the current drive to make the work of all NHS staff more evidence-based or evidence-informed, our research findings have a number of implications.

First, our empirical findings have a practical implication for all those who plan and design initiatives, tools and actions to support the work of NHS trust CEOs and to help them to become more effective. Our findings will allow them to operate with a different and, we would argue, richer and more nuanced view of what these executives actually do, so that such initiative and tools are conceived with a more realistic understanding of their end users.

Second, the research offers a framework to examine critically both how, and how effectively, NHS executive managers make themselves knowledgeable in view of the demands of their specific jobs. The framework is envisaged as a self-reflection exercise and is predicated on the CEOs asking first 'what kind of a manager/CEO do I need, but also wish, to be?' and 'what is the nature of my context, both organisational and institutional, as I understand it?' Only at this point is it possible to examine whether the executives have the contextually and temporally appropriate infrastructures in place (including people, relationships, technologies and practices) to allow them to become the kind of manager they wish to be, or whether some changes/improvements are necessary. The findings and framework developed in this study could thus become the basis for a diagnostic framework regarding the fitness for purpose of the personal knowledgeability infrastructure of CEOs and other managers in the sector.

Third, our findings identify specific capabilities, information sources, decision styles and strategies, and attitudes towards knowledge and evidence that may set apart the work of the CEO from that of other members of the executive team. The information is relevant for recruiters, trainers/consultants and prospective CEOs, as it points at a number of specific skills that new CEOs may have to learn to fit the requirements of the new position.

The results of the research also open a number of opportunities for future research. These include exploring the dynamics of TMT knowledgeability practices from the perspective of individual directors (as opposed to the CEO), extending the study to other countries and CEOs from other industries, as well as investigating the possible correlations between the type of personal infrastructure of knowledgeability, its distinct elements along the lines elaborated here, the personality of the CEOs (for example in terms of Myers–Briggs types indicators), the practices of knowledge mobilisation and other outcome measures, such as performance.

## Funding details

# Chapter 1 Introduction

Evidence-based decision-making and evidence-based practice (EBP) have permeated professional life, establishing themselves as powerful norms. The phenomenon has come to have particular purchase in the context of the UK NHS, where it has become an imperative not only for clinicians, but increasingly also for managers.[1,2] As Rousseau[3] explained, the resulting movement of 'evidence-based management' is premised on the presumed positive consequences of ensuring that 'practicing managers develop into experts who make organisational decisions informed by social science and organisational research', as a counterweight to the negative status quo of 'continu[ing] to rely largely on personal experience'. Yet, while the normative argument for evidence-based management has been repeatedly, and increasingly prominently made,[3,4] the practical realities of everyday knowledge- and 'evidence'-work by managers more generally, and health-care managers in particular, still remain to a significant extent an empirical black box. In other words, we remain relatively unsure of the extent to which 'evidence-based management' is being done at all and, perhaps more importantly, how it is done. That being said, there is considerable scholarly research suggesting that organisational realities seldom unproblematically map onto their idealised 'evidence-based' representations.[5,6] As Gabbay and Le May[7] noted with some concern, there is a 'persistent mismatch between the rational, linear, scientist approach that the EBP movement demands and the pragmatic, workable approach demanded by the messy world of practice'. Equally, the very concept of 'evidence' itself remains ripe for empirical unpicking in this context:[8] what do we mean by evidence, what does evidence mean in practice, what practically counts or does not count as evidence, when might evidence be needed (and when might it not)? Seeking answers to these questions about EBP and evidence in health-care management is important, as the decisions of senior NHS managers in the UK have a direct impact on the quality, finances and delivery of patient services as a crucial public good.

Such questions are also intimately tied to the related issue of knowledge mobilisation, which we define here as the general effort of 'moving knowledge into active service for the broadest possible common good'.[9] In the context of the present research, knowledge mobilisation refers to the process whereby relevant knowledge is sourced, evaluated and utilised by decision-makers, in this case NHS trust chief executive officers (CEOs), in their processes of decision-making. Traditionally, the issue of knowledge mobilisation was conceived as a largely utilitarian problem of efficient assimilation and use of 'best information', underpinned by the same assumptions of rationality and linearity bemoaned by Gabbay and Le May.[7] This traditional, *linear approach* to knowledge mobilisation was gradually replaced by what we will call the *social approach*, which highlights the relational ways in which knowledge is made sense of and acted upon in a given context. Dopson and her co-authors,[10] for instance, argued that:

> *Utilising and adopting knowledge depends on a set of social processes which would include: sensing and interpreting new evidence; integrating it with existing evidence, including tacit evidence; its reinforcement or marginalisation by professional networks and communities of practice; relating the new evidence to the needs of the local context; discussing the evidence with local stakeholders; taking joint decisions about its enactment and finally changing practice.*

As Swan and colleagues[8] noted, the term 'knowledge mobilisation' in its 'social' conceptualisation implies a closer attention to the processes of transfer and transformation (instead of simply translation) of knowledge, as well as a question of the extent to which knowledge is in demand in particular settings, for particular audiences. Crucially however, as we outline in the literature section, this social view has been meaningfully extended in recent decades via *the practice view* of knowing (and of knowledge mobilisation), informed by the practice-based community of organisational scholars.[11–14] Complimentary to the social approach, the practice view encourages empirical engagements that recognise knowledge mobilisation as an ongoing relational accomplishment, which is emergent, embodied, embedded and material.[15] Taking such an approach would therefore imply attending to the everyday interactions, objects and people through and with which NHS CEOs make sense of information and knowledge, agree on its appropriateness and bring it to bear in given situational contexts.

In this report, we outline the findings of a 2-year National Institute for Health Research (NIHR) Health Services and Delivery Research (HS&DR)-funded project into the routine information, knowledge and 'evidence' work of seven NHS acute and mental health trust CEOs. In particular, by conducting an in-depth, shadowing and observation-based study of everyday CEO doings over a period of approximately 5 weeks each, we sought to answer the following key research questions:

- How is knowledge mobilisation understood, performed, and enacted in the everyday working practice of NHS CEOs?
- What are the material practices and organisational arrangements through which NHS trust CEOs source and use existing knowledge and 'evidence'?
- How are different types of 'evidence' used (or brought to bear) in their daily activities?
- Do the source, the content and the format in which such 'evidence' (but also information and knowledge more widely conceived) is presented make a practical difference in terms of patterns of mobilisation?
- Are there specific organisational arrangements that support or hinder the process of knowledge mobilisation by top managers (i.e. what is the practical influence of context on this process)?

Building on our comprehensive analysis across the seven empirical cases, and informed by the emerging practice view briefly outlined above, we argue that, in order to understand how CEOs make decisions and mobilise particular knowledge and 'evidence' towards that goal (but also others), we must take a comprehensive approach to understanding their *everyday knowledge work in/as mundane practice*. In other words, paying attention solely to the 'usual suspects' of knowledge mobilisation, such as externally produced and research-underpinned 'hard'-information-as-objects and 'best evidence', such as evidence-based guidelines, and the question of how these are mobilised towards particular instrumental goals, would have as its inevitable result an impoverished picture of the multiple, messy, non-linear everyday practices making up *CEO knowledge work*. Consequently, in this report we suggest that the question of how CEOs acquire, process and act on certain information and knowledge is better served by empirically attending to the matter of CEO *knowledgeability*, that is to the wider question of how CEOs build, maintain and enact their own practices of being knowledgeable as part of their daily work in situ (this echoes Gabbay and Le May's[7] characterisation of professional knowledge as 'knowledge-in-practice-in-context').

In particular, we consider the many ways in which CEO knowledgeability manifests itself in practice, how CEOs go about continually maintaining their *knowledge infrastructures* for the different tasks at hand, and how knowledge circulates in what we refer to as the *local ecology of knowing*, that is the specific contexts of knowledge work CEOs find themselves in, in relation to certain mundane objects and events, such as conversations, meetings and documents. We suggest that CEO knowledge mobilisation-in-practice can be *mundane*, *occasioned* or *intentional*, and that its nature as accomplished stands at the intersection of *context*, *personal style* and the CEO's *nature of work*. Furthermore, we argue that CEO knowledgeability or everyday knowledge mobilisation-as-practice can be understood as a situated, continually evolving *configuration of certain 'tools of the trade'*, that is objects, such as information technology (IT) systems but also publications, and trusted individuals, that they bring to bear in maintaining their practised knowledgeability. These subsequently represent their knowledge infrastructures mentioned above. Finally, we introduce the metaphor of *CEOs as weavers*, continually weaving together insights, information, experiential knowledge, emergent evidence and contextual needs in the effort of building narratives and 'connecting the dots', as a key part of not just what being knowledgeable, but also what being a CEO means in practice. Throughout, we highlight what Gabbay and Le May[7] referred to as the 'social life' of knowledge, that is 'the intricate, convoluted and confusing pathways by which people in an organisation negotiate, adapt and transform new knowledge that is often far from factual'.

We do not negate the value of 'evidence' as research-informed 'best practice' directed at enabling the making of optimal decisions, be they clinical or managerial, or deny that it is used and brought to bear in CEO work as we observed (albeit in specific and relatively rare instances). Instead, what we wish to suggest is that, based on our observations and the work of others,[6,7] 'evidence' as traditionally conceived makes up *one part*, not the whole, of what the everyday practice of CEO knowledge mobilisation is about. As we shall see, CEOs themselves, as well as their organisations, are not passive adopters of externally produced 'evidence'. Instead, we witnessed both systematic and informal 'construction work' by CEOs in their effort to create equally legitimate forms of evidential information, which they then brought to bear in their practices of decision-making. These had to do both with creating structures of 'their' evidence, but also with relational, negotiation-based creation of certain insights as equally valid forms of 'evidence that counts' in the context of *particular* decisions. Rousseau[3] refers to this distinction as the difference between 'Big E evidence', or generalisable, cause–effect knowledge, and 'little e evidence', or situated, organisationally specific knowledge gathered systematically for the purposes of informing local decisions. As we shall see, however, this distinction still retains the presumption of linearity and formality to the process, which is in conflict with the emergent, often messy and largely informal processes of everyday practice that we observed.

Furthermore, it suggests that the latter have little legitimacy, which, if we take actual observed practice, rather than idealised depictions of it, as our analytical and scholarly guides, makes little pragmatic sense. As Rousseau[3] herself acknowledged, the very nature of managerial work (e.g. contradictory pressures; a great many interactions, making the pin-pointing of an actual decision difficult; an absence of a common professional body of knowledge), means that managers often, and quite necessarily, rely on other sources, such as experience, when making decisions. Indeed, in her own words, 'evidence-based practice is not one-size-fits-all; it's the best current evidence coupled with informed expert judgement'.

This report begins with a comprehensive overview of the existing literature relevant to the question of knowledge mobilisation of managers and senior executives. In particular, we address in detail two distinct literatures, one on knowledge utilisation and the other on information behaviour, which, though they evolved largely independently of each other, nevertheless had a similar arc of development, from the *linear* to the *social* to the *practice* approach. Next we address the methods and research design, and introduce the sample of the seven trust CEOs and their organisational settings as the key arenas for our empirical research. We then turn to the section on how CEO knowledgeability manifests itself in practice, attending to the main CEO tasks and concerns as observed, and how CEOs make themselves knowledgeable in relation to those. This is followed by a section on *information work*, which covers the question of how relevant sources that feed CEO knowledgeability are accessed, how knowledge is created and processed in everyday interactions, and how these processes differ across different CEOs observed. This section is followed by a discussion of how CEOs create, use and maintain their knowledge infrastructures as particular mixes of 'tools of the trade' in practice, and how knowledge circulates in the local ecology of knowing in relation to certain objects, conversations, and structures. This part of the report is brought to a close with a detailed introduction of the metaphor of CEOs as weavers, via an overview of the work of evidence-in-practice in relation to specific observed CEO decisions and tasks. We then turn to the discussion, where we outline the emerging insights from the research, and in particular introduce the contingent approach to understanding knowledge mobilisation as mundane practice. We conclude with a discussion of emerging implications for research and practice.

# Chapter 2　Literature review

This chapter reviews the literature on how managers mobilise knowledge in their effort to ensure the smooth running of the organisations they direct. We were particularly interested in identifying concepts and categories that could help us understand how knowledge (understood as a wide category that includes, but is not limited to, scientifically validated evidence) can be mobilised in, has an impact on and becomes relevant for the practice of executive-level managers.

Our review is specifically focussed on managerial work, which constitutes the topic of the present research. Accordingly, we refrained from an in-depth analysis of the vast corpus of research on the supply and take-up of clinical evidence by front-line clinical staff.[1,2,16–21] While we do not ignore this body of work, we limit ourselves to considering studies and concepts that can be fruitfully translated from the study of clinicians to that of managers.[7] In our review, we also intentionally pay limited attention to the evidence-based management literature.[3,4] This is for two main reasons. First, the debate on evidence-based management has been conducted mainly at a general level, and there is a dearth of in-depth studies of the processes through which managers integrate individual expertise with the best available external evidence from systematic management research.[22] Accordingly, the evidence-based management literature is of scarce use if one is to go and study this phenomenon empirically. Second, the topic has been recently discussed in depth in other work commissioned by the NIHR.[23] Instead, we focus on two bodies of literature that are potentially highly relevant for the topic under consideration, although they mainly lie outside the specific domain of health-care studies. These are the literature on knowledge utilisation and how policy-makers utilise evidence; and the literature on information-seeking behaviour and practices. The latter offers valuable insights on the processes whereby managers seek and utilise information and knowledge, although it is little known in health care or among health-care management scholars.

Given the scarcity of studies of executive managers of health-care organisations in general, and the almost total absence of studies of their knowledge and information practices, our narrative review was conducted using the snowball sampling exploratory method used by Contandriopoulos et al.[24] Accordingly, we relied on a non-keyword search strategy aimed at identifying papers that made a core conceptual or empirical contribution on the topic of managerial knowledge mobilisation and information behaviour. After establishing a few key references in the field, we used the ISI Web of Knowledge Science Citation Index to map the existing literature both retrospectively (i.e. targeting key references in seminal papers, as well as other references cited in later articles) and prospectively (i.e. targeting papers published after the selected seminal paper, using forward citation searching). Articles were clustered according to common underlying assumptions, and adherence to the same broad paradigm and/or the same intellectual tradition. The review, which was conducted at the beginning of the data collection phase and updated after the data analysis, was intentionally theoretically sensitive, rather than comprehensive in character. Our aim was to identify a set of sensitising concepts that could guide us in the conduct of our empirical work and analysis, rather than attempting to provide a systematic overview of all previous work.

## Knowledge utilisation and mobilisation by managers and policy-makers

Most of the research on the issue of knowledge mobilisation by policy-makers, managers and decision-makers in general has been conducted under the heading of knowledge utilisation, which includes subfields such as research utilisation and EBP. Knowledge utilisation examines the use of knowledge generated through research for policy and practice decisions.[25] According to Backer,[26]

'knowledge utilisation includes research, scholarly and programmatic intervention activities aimed at increasing the use of knowledge to solve human problems'. Questions typical of this field of interest include:

- To what specific uses is information put in decision-making?
- What types of information enter into the decision-making process? Are there some types which are selectively passed over or ignored?
- Do research findings advance the decision-making process?
- To what extent do decision-makers take research into account in their work?
- To what extent do research findings confirm or legitimate decisions which are already taken or about to be taken?[25]

The analysis of knowledge utilisation has been traditionally framed as an attempt to close the research–practice gap, and closing the 'great divide'[27] between the culture of science and the culture of government. Until recently, most studies adopted a *product* or *process* view of knowledge utilisation.

The product view tries to associate specific knowledge products with particular decisions that 'would not have been made otherwise'.[28,29] Three forms of utilisation are usually considered. Instrumental utilisation captures instances when there is a clear correspondence between an identifiable piece from the corpus of research and specific decisions/interventions. Conceptual utilisation refers to 'where knowledge of a single study provides new ideas, new theories, and new hypotheses leading to new interpretations about the issues and the facts surrounding the decision-making contexts without inducing changes in decisions'.[28] Symbolic utilisation involves the use of research as a persuasive or political tool to legitimise a position or practice.[30]

Weiss[31] suggested that knowledge utilisation can be conceptualised according to several different models:

1. The *knowledge-driven (or science push) model*, which suggests that researchers are producers of knowledge, which needs to be transferred and consumed by practitioners.
2. The *problem-solving (or demand pull) model*, which explains utilisation on the basis of need. According to this model, when practitioners lack critical information/evidence, they commission appropriate research and information, which is then transferred from researchers to the policy arenas. The relationship between the researcher and policy-maker is conceptualised in terms of producer–consumer.
3. The *interactive model,* which assumes that research evidence interacts with other sources of information and hence it constitutes only one kind of information to be utilised by practitioners. According to this model, the utilisation process is not linear, but a disorderly set of interconnections and back-and-forthness that defies neat diagrams. Diverse groups of people become involved in a decision-making process and bring their own talents, beliefs and understandings in an effort to make sense of problems.
4. The *political model*, which suggests that research is often used as political ammunition to support a pre-established position.
5. The *tactical model*. According to this model, research evidence is used for purposes that have little relation to the substance of the research. What is invoked is the sheer fact that research is being done. Research thus becomes a way to deflect any criticism.
6. The *Enlightenment model*, according to which social science research is utilised in the sense that it transforms the way people think about social matters, as a backdrop of ideas and orientations.
7. Research as part of the *intellectual enterprise of society*; that is, research is not utilised per se, rather it responds to the currents of thought and fads of a historical period.

While these models vary in the way they explain the reasons for putting knowledge to work, they all subscribe to an input–output model. The basic idea behind almost all the models listed above is that knowledge utilisation can be conceptualised as an input in the decision-making process. According to Rich[25,32] and Rich and Oh[33] however, this approach is necessarily limited in that:

- It builds on a rationalist, simplified and linear view of decision-making, whereby information is first transmitted, then picked up and processed, and finally applied.[25] While the model is not false, it is an abstract description that captures only partly how decision-making unfolds in practice.
- It ignores the fact that 'decisions generally do not represent a single event [and they] must be viewed longitudinally'.[25] Accordingly, it is almost impossible to predict when and where a specific knowledge input is likely to have an effect on a particular policy or decision. The same piece of knowledge can also have multiple effects.
- It underestimates that utilisation is not always tied to a particular action.
- It does not consider that information is collected for a variety of reasons and not necessarily for purposes of use.[32]
- It ignores that the utilisation of knowledge can have negative and unintended consequences, and that it may be fully rational to ignore available information or actively reject it.[33]

Rich[32] suggests that, in order to make progress in the study of research utilisation, we need to abandon some of the assumptions of the input–output model and adopt the following wider view. First, knowledge utilisation needs to be reconceptualised as a process that 'may or may not lead to a specific action by a particular actor at a given point in time'.[32] Second, more types of knowledge need to be taken into consideration and treated differently. For example, mundane types of information must be considered, as they are part of the spectrum of sources available to decision-makers. Third, the information needs of the user need to be taken into consideration. Fourth, types and levels of utilisation can vary over time. Fifth, utilisation is affected by the area in which information is applied, as well as its source. Legitimacy is therefore a fundamental factor. In summary, the rational linear input–output model should be abandoned, or at least its 'steps' (transmission, pick-up, processing and application) considered only as loosely coupled, and to be examined each in their own right.

### *From knowledge utilisation to knowledge mobilisation*

A different way to summarise Rich's[32] criticism is to note that most of the study of knowledge mobilisation conducted in the 1980s and early 1990s is underpinned by a very specific view of knowledge (and information), which Cook and Brown[34] described as the epistemology of possession. This view tends to conceive knowledge as a type of substance, resource or asset that can be accumulated, transmitted, diffused and utilised. The approach privileges explicit over tacit knowledge, and knowledge possessed by individuals over that possessed by groups. In so doing, it offers a view of knowledge that is severely undersocialised. This is in spite of the fact the knowledge utilisation research has consistently found that the most common facilitator of research use is personal contact between researcher and policy-maker.[35]

The increasing attention to the role of social factors in influencing the use of scientific research by policy-makers is captured in the introduction of the concept of 'knowledge mobilisation'. Knowledge mobilisation was defined by the Canadian Social Sciences and Humanities Research Council (SSHRC)[9] as:

> *moving knowledge into active service for the broadest possible common good. Here knowledge is understood to mean any or all of (1) findings from specific social sciences and humanities research, (2) the accumulated knowledge and experience of social sciences and humanities researchers, and (3) the accumulated knowledge and experience of stakeholders concerned with social, cultural, economic and related issues.*

The use of the word 'mobilisation' underscores the interactive, social and interpretive nature of the process, whereby individuals and teams acquire knowledge, absorb it and put it to work. According to Levin,[36] mobilisation is preferred to utilisation because it emphasises the multi-dimensional, longer-term

and often political nature of the work in comparison to earlier terms that seem to imply a 'one directional and linear move from research to practice'. In contrast to the engineering, linear or 'pipeline' models described above as input–output, a socio-organisational view of knowledge mobilisation suggests that:

- Knowledge is socially constructed and its use takes multiple forms that can be more or less direct and more or less rapid, with slower and less direct impacts being more common. Given this broad view, there is much more use of research and evidence in practice than is generally thought.
- Knowledge takes shape and has effect in a wide variety of ways, but is always mediated through various social and political processes.
- Knowledge by itself is not enough to change practice, since practices are social and therefore reinforced by many elements such as norms, cultures and habits. Simply telling people about evidence and urging them to change what they do is clearly ineffective.[36]
- The relationship between knowledge and use runs in both directions; practice affects research, just as research affects practice. Rather than knowledge transfer or mobilisation, we should conceive the process in terms of knowledge interaction.[37]
- Personal contact and interaction remains the most powerful vehicle for moving evidence into practice.
- Third party organisations of all kinds – sometimes called mediators or brokers – play a critical role in the spread and impact of research.[36]

In sum, the knowledge mobilisation approach suggests that the circulation and take-up of knowledge is heavily dependent on existing social relations and processes, and that these need to be brought to the centre of attention. A typically and often quoted example of this approach in health care is the work of Gabbay and Le May.[5] The scholars conducted an observational study of knowledge utilisation in primary care. Contrary to the precepts of knowledge utilisation, they found that explicit evidence was rarely used by doctors in their daily clinical decision-making. Rather clinicians used tacit 'mind-lines', which they defined as 'collectively reinforced, internalised tacit guidelines'.[5] While mind-lines built on the doctor's early training and experience, and while they were at times informed by short readings, they largely resulted from interactions with other clinicians and stakeholders (opinion leaders, patients, pharmaceutical representatives and other sources). The clinicians, in general, would 'refine their mind-lines by acquiring tacit knowledge from trusted sources, mainly their colleagues, in ways that were mediated by the organisational features of the practice'.[5] The notion of mind-lines resonates with other concepts, such as 'community of practice'[38] and 'network of practice',[39] which equally reject linear models of explicit knowledge take-up in favour of interactive models that put social relations and collective sense-making at centre stage. These theories are not discussed here, as they have been the subject of a recent extensive review of the literature funded by the NIHR.[21]

What is notable here is that the adoption of a social understanding of knowledge mobilisation shifts the focus of empirical research towards an appreciation that:

- Knowledge is social in character: it resides in communities of practice, networks of practice and other types of collectives that sustain it, legitimise it and preside over its transmission to the next generation of practitioners via socialisation.
- Social networks, both informal and formal (e.g. professional associations), constitute at the same time the carriers and the conduits of knowledge and innovation. The nature and structure of networks matter to the circulation and take-up of knowledge. Brokers and boundary spanners acquire fundamental importance.
- Political considerations, peer pressure, social emulation and interests play a central role in knowledge mobilisation. The social position and social capital of the source and recipient constitute major factors in determining the diffusion and use of research for decision-making.
- Knowledge does not travel untouched through social interactions, but is necessarily modified in the process. Knowledge mobilisation is therefore necessarily a process of translation. The process allows for the same content to be utilised in different social and cultural contexts.

### What is this knowledge that we seek to mobilise? Knowing as practice

As noted by Nicolini,[14] while the social approach undermines naive instrumental views of knowledge in organisations, it is still ambivalent in terms of the meaning and status of the knowledge that needs to be mobilised. The social approach is in fact still compatible with the idea that knowledge is a substance that circulates through social 'plumbing', and that, once delivered at the right time and place, it can be used as a resource for action. For Greenhalgh and Wieringa,[40] claiming that knowledge is created through social interaction and travels through social channels is not enough, as this view still assumes that knowledge equates to impersonal research findings; that knowledge and practice can be cleanly separated both empirically and analytically; and that practice consists of a series of rational decisions.

What is needed instead is recognition that knowing is always manifested in practice and through practice. Knowing is always knowledge-in-action, a form of social expertise and collective knowledgeability situated in the historical, social and cultural context from which it arises. While ways of knowing can be mediated through discourse, narratives, disciplined bodies, symbols and artefacts, knowing is always a practical accomplishment, and practice is where knowledgeability manifests itself and agency becomes possible. Practice, understood as the mediated performance of an activity where such performance has a history and a constituency, constitutes the figure of discourse that enables reconnecting knowing with working, and is the empirical grounds where such a relationship can be investigated.[14,40]

Adopting a practice-based view thus completes the shifts initiated by the proponents of the social and contextual understanding of knowledge utilisation or knowledge mobilisation. It does so by indicating that to understand these phenomena one has to start by observing the practice itself, and asking what are the conditions and processes that underpin the individual and collective knowledgeability that enable the local accomplishment of the activity. The knowledge utilised in a decision-making process is in fact often personal, narrative and dialogical in nature.[40] In management, just as in clinical work or policy decision-making, knowledge is necessarily 'knowledge-in-practice in context'.[7] Researchers should thus avoid approaching knowledge processes as if they were separate activities. Rather, their effort should be that of becoming sensitive to the knowledge dimension of mundane day-to-day work. This includes becoming sensitive to the local criteria of plausibility (what counts as rational, see Greenhalgh and Wieringa[40]); understanding the nature of the job and the rules of the game that govern it; observing the sociomaterial arrangements within which actors operate; and attending to the contextual constraints and power relations that are performed and sustained by different types of knowing (see, for example, Stevens[41] for discussion of the role of power in the use of evidence in policy decision-making in the UK).

As we shall see in the next section, similar conclusions have been arrived at in the discussion of information-seeking behaviour. This research tradition, which stems from library and information studies, has traditionally investigated how people search for and utilise information. Here too there is an emerging sense that, to understand how individuals interact with information systems of all kinds, one has to focus on the mundane everyday activities of actors, asking how they deal with information as part of the conduct of their life and work tasks.

## Information behaviour: how managers seek, utilise and interact with information

A number of useful insights on the practice of knowledge mobilisation by top managers can be derived from the field of 'information behaviour'. The term describes a broad field of study that focuses on the many ways in which human beings interact with information in general, and the ways in which people seek and utilise information in particular.

According to Bates,[42] this area of study emerged at the intersection of several disciplinary fields, from library and information science to social informatics and management, in response to a variety of practical and theoretical questions:

> Librarians wanted to understand library users better, government agencies wanted to understand how scientists and engineers used technical information in order to promote more rapid uptake of new research results, and social scientists generally were interested in the social uses of information in a variety of senses.
>
> *Bates MJ[42]*

For the last several decades, this area of study has generated a number of models and categories to study and analyse the ways in which people seek and utilise information for work-related purposes and in their everyday lives. Many of these models and categories are relevant to our investigation and will be summarised in the next section. The review will adopt a historical perspective. This is because a number of authors[42–46] have described a clear paradigm shift in the field that mirrors the debate in the contiguous area of knowledge mobilisation. This evolutionary shift entailed an initial system/resource approach, focused on the sources of information themselves, which was substituted by a cognitive orientation that was more user-centred and focused on the needs and motivations of information-seekers. The approach was further enriched in the 1990s, when attention to contextual and social factors became predominant. In recent times, scholars within the social approach, which has run in parallel with the cognitive and individualistic orientation that remains active, started to converge towards the idea that information-seeking cannot be conceived as a separate activity. This led to the suggestion that *information behaviour* should be understood and analysed as a type of work that people carry out as part of their everyday or mundane activities. *Information work* should thus be studied as a form of practice, using naturalistic methods, as we do here.

### What counts as information in information behaviour studies

The shift in theoretical sensibilities guiding the research into human information-seeking and use was mirrored in the change and expansion of the core object of its study: 'information' itself. Summarising a complex debate that unfolded over several decades,[42,47] we can note that information has been academically considered in an increasingly comprehensive way. Initially defined as what is transmitted between a source and a receiver, information is now more broadly understood as 'a difference that makes a difference'.[48] In particular, the term is assumed 'to cover all instances where people interact with their environment in any such way that leaves some impression on them – that is, adds or changes their knowledge store'.[42] Impressions can be emotional (as when we react to a piece of news), and the encounter with information can be negative or have no effect, as information can be ignored, denied or rejected. The shift is relevant, as it marks a move away from the idea that information constitutes a substance (the 'message'), towards a more dynamic view that conceives of information as a process.

This development is, for example, visible in the work of Michael Buckland,[49] who developed a widely cited typology that suggested that information can be understood in three different ways. The first is information-as-process. This view refers to the act of informing, or communication of information, and how a person's state of knowledge is changed. The second takes information to be synonymous with (or similar to) knowledge. This usage denotes the content of what is transmitted or shared or processed (i.e. the knowledge communicated). Finally, information can also be considered as a thing; in this case, the reference is to information objects or products, such as data and documents. These are referred to as 'information' because they are regarded as being informative.[42,44] This and other similar typologies, for example McCreadie and Rice's[50] distinction between information as a *resource*, information as *data in the environment* (including sounds, smells and objects), information as a *representation of knowledge* and information as *meanings* that are created as people go about their lives and try to make sense of their world, are important for at least three reasons.

First, they suggest that a broad and inclusive understanding of information is critical if we want to cast our net widely enough to capture the different aspects of this complex phenomenon. Case,[44] for example, suggests that any conceptualisation of information needs to be broad enough so that it:

1. allows for common-sense notions of information used in everyday discourse
2. allows for unintentional origins of information (e.g. observations of the natural world), as well as for purposeful communication among people
3. allows for internally generated information (e.g. memories, constructions), as well as externally generated information (e.g. reading a text)
4. allows for types of information beyond that needed for 'solving a problem' or 'making a decision'
5. admits the importance of informal sources (e.g. friends), as well as formal sources (e.g. data or documents)
6. involves the human mind in the creation, perception or interpretation of information; to leave out such a requirement is to effectively declare that anything is information, which would leave us with no focus in our investigations.[44]

Second, the above-listed, inclusive categorisations of information underline the need to examine information behaviour as a process and an activity, rather than a substance. Finally, they indicate that information and knowledge (and data) need to be kept provisionally (and analytically) separated. That is to say, whether the three are overlapping or different is an empirical, not a theoretical question: while sometimes information and knowledge coincide, at other times a variety of social and cognitive processes are necessary so that information can become knowledge.

### Information user studies as the departure point: the system-oriented view

The systematic investigation of information-seeking and information retrieval dates back several decades. Until the 1970s, however, the interest of the analysts was limited to the study of the sources, artefacts and venues of information-seeking, and of their use in the context of information retrieval activities. The questions investigated in these studies, which Vakkari[51] described as 'system oriented', were centred around information needs of a distinct segment of the population, and the capacity of formal systems (universities, libraries, professional conferences, media, schools, etc.) to satisfy them. In short, the main question asked in these studies was 'how often is a system used and by whom?'

For example, in 1948 Urquhart[52] suggested that the study of information-seeking was:

> an effort to discover, by means of a questionnaire addressed to readers of publications borrowed from the Science Museum Library, some information on such questions as how references to publications are obtained, what the expected information is required for, and whether, in fact, the publications contain the desired information.

Library studies were accompanied by surveys of specific groups (for example scientists), in the effort to map what their reading habits were, where they got their information from and how they used catalogues. The main strategy for determining what information had actually been used was citation analysis; user satisfaction analysis was utilised, but was relatively rare. The results were often a list of sources, rankings of preferences and maps of resources. These were often used to produce recommendations on how to develop information systems and services. Indeed, many of these studies were promoted or sponsored by the administrators of academic and public institutions.

### From information-seeking to information behaviour

Starting in the 1970s, a number of scholars started to recognise the limitations of the 'system orientation'. This was because the system-oriented studies ignored the attributes of the individuals, and omitted to consider 'how an individual will apply his or her model or view of the world to the process of needing, seeking, giving, and using information'.[43]

The move towards a person-oriented approach to the study of information retrieval and use was initiated more or less independently by researchers such as Belkin,[53] Dervin[55–57] and Wilson.[54,58] Their work introduced a strong personal and cognitive dimension to the study of information-seeking, suggesting the need to explore both the cognitive state of information users (considered a variable dependent upon the context of the situation of information-seeking) and their cognitive style and individual personal characteristics. According to Belkin,[59] 'the essence of the cognitive viewpoint is that it explicitly considers that the states of knowledge, beliefs and so on of human beings (or information-processing devices) mediate (or interact with) that which they receive/perceive or produce'.[59] This means that for the study of information behaviour one needs to take into consideration 'the phenomena and situations of relevance in terms of representations (usually mental) of knowledge, intentions, beliefs, texts and so on'.[59] The attention thus shifts from the institutional and 'systemic' conditions to the information, in order to identify the conditions, characteristics and recurrent patterns in information-seeking and retrieval. As the attention moves from externally observable behaviours to personal, cognitive and affective processes, this also requires the adoption of qualitative methods of inquiry, which represents a clear departure from the predominantly quantitative system approach. The differences between the system-oriented and the person-oriented/cognitive approach are summarised in *Figure 1*.[44]

The person-oriented/cognitive approach thus shifts the focus from the nature, availability and usability of information sources to the nature and determinants of the behaviour of information-seekers. The approach rotates around three conceptual poles:

- needs/motivations of the information-seeker
- personal knowledge structures
- actions.

Contrasting examples of information behavior research questions

|  | Person oriented | System oriented |
|---|---|---|
| Task-oriented studies | • How do lawyers make sense of their tasks and environment? | • What kinds of documents do engineers need for their work, and how might the corporate information center supply them? |
|  | • How does a manager learn about job-related information *outside of* formal organisational channels? | • How satisfied and successful are student searches of a university library's web-based catalog? |
|  | • What happens when a voter has too much information about a candidate or an issue? | • How much use do medical doctors make of medical databases? |
| Non-task-oriented studies | • How do the elderly learn about and cope with problems or opportunities that come up in their daily lives? | • How does the public use a library for personal pleasure and growth: what they ask for, borrow and read? |
|  | • Why do TV viewers choose one program over another, and what satisfactions do they achieve in doing so? | • How do we persuade teenagers to act in healthy and responsible ways? What messages about drug abuse do they attend to, in which medium, and why? |
|  | • Why do people browse in stores when they have no explicit need in or intention to buy? | • Why do people ignore safety warnings on packages and advertisements? |

**FIGURE 1** Examples of differences between the system- and the person-oriented/cognitive approaches to information-seeking. Reproduced with permission from Case DO. *Looking for Information: A Survey of Research on Information Seeking, Needs and Behaviour.* 2nd edn. London: Academic Press; 2007.[44]

Overall, the information behaviour approach thus proposes that information-seeking and other types of information behaviour constitute the response to a perceived state of need, or more generally an imbalance in the knowledge structures of individuals. This incompleteness, gap or deficiency, which can be experienced in either cognitive or affective terms, activates repair strategies conditioned by a combination of personal preferences and contextual factors.

Wilson,[58] for example, argues that information behaviour arises as a consequence of:

> *A need perceived by an information user, who, in order to satisfy that need, makes demands upon formal or informal information sources or services, which result in success or failure to find relevant information. If successful, the individual then makes use of the information found and may either fully or partially satisfy the perceived need – or, indeed, fail to satisfy the need and have to reiterate the search process.*

In his updated 1999 model of information behaviour,[60] summarised in *Figure 2*, Wilson suggests that other people may be involved in the process. They can act both as sources (information can be exchanged among humans) and as recipients (information perceived as useful may be passed to other people).

As suggested by *Figure 2*, information needs and motivations are at the core of this approach. For example, Taylor[61] suggests that information-seeking starts with an uneasiness or sense of dissatisfaction or curiosity that is often perceived in a very visceral way. In order for information behaviour to be activated, this uneasiness has to go through a number of steps, which aids the need in becoming first conscious and then rational (in the sense of being articulated and qualified). Only at this point does the individual take action in view of the constraints that the contextual conditions impose upon him or her. The final stage of the information-seeking process is thus necessarily a compromise between the information needs and the material opportunities offered by the environment – the implication being that the process may follow a satisficing, rather than completeness model (we stop when we are satisfied, rather than when we fulfil all our needs or obtain all the possible information; see Prabha *et al.*[62] for a discussion).
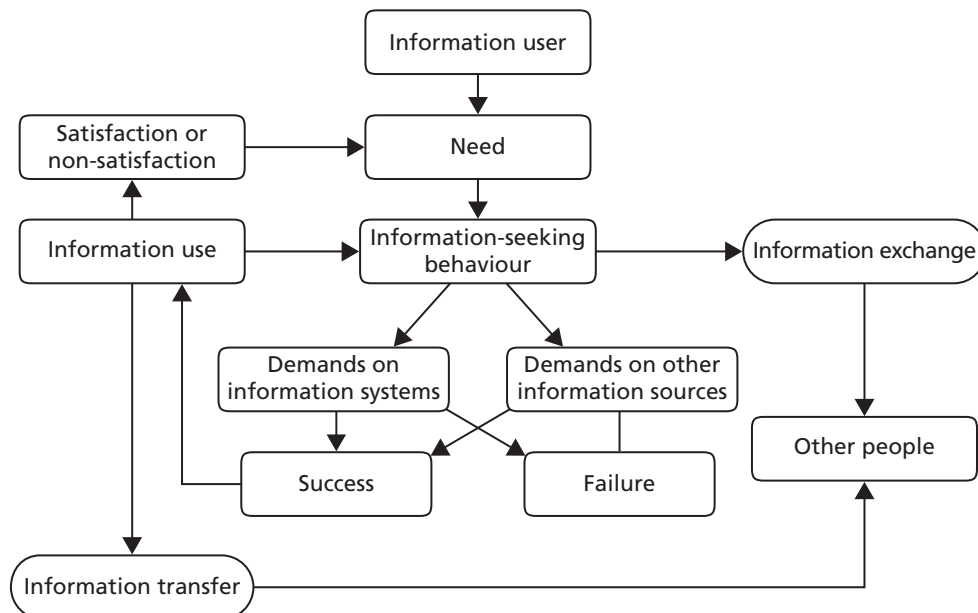


**FIGURE 2** Wilson's 1999 model of information behaviour. Reproduced with permission from Wilson TD. Models in information behaviour research. *J Doc* 1999;**55**:251.[60]

Kuhlthau[63] found that the stages of the information search process followed by individuals are associated with specific feelings, so that information-seeking has to do with thoughts, actions and affect. The fundamental proposition is that:

> the feelings of uncertainty associated with the need to search for information give rise to feelings of doubt, confusion and frustration and that, as the search process proceeds and is increasingly successful, those feelings change: as relevant material is collected confidence increases and is associated with feelings of relief, satisfaction and a sense of direction.
>
> *Wilson TD[60]*

For example, the initiation of the search is associated with uncertainty; the selection of potentially relevant items with optimism; the exploration for further material with confusion, frustration and doubt; the formulation of a clear strategy with clarity; the collection of further material with sense of direction and confidence. Finally, the presentation of the results is associated with satisfaction or disappointment.[44,60,62]

In partial disagreement with the previous authors, Dervin[56,64] suggests that what triggers different types of information behaviour is not so much the immediate need to re-equilibrate our cognitive structures, but rather a more general tension to maintain and restore sense-making. The author consequently focused her attention on people as actors who strive to make sense of their daily world: 'the individual, in her time and place, needs to make sense . . . She needs to inform herself constantly. Her head is filled with questions. These questions can be seen as her "information needs" '.[64] The aim of information behaviour scholars is thus to explore the ways in which people face problematic situations and try to make sense of them by posing questions and seeking answers from various sources. Dervin's approach, which builds on Dewey's notion of inquiry, has the historical merit of questioning the idea that information is a substance that can be freely transferred without compromise. Information is, rather, created in specific circumstances by one or more humans. The implication is that, to understand information behaviour, one has to employ naturalistic methods, which can help us appreciate the contextual condition within which humans deal with information and turn information into meaning.

According to Dervin,[56] such sense-making involves four constituent elements:[63]

- a situation in time and space (which defines the context in which information problems arise)
- a gap (which identifies the difference between the contextual situation and the desired situation, e.g. uncertainty)
- an outcome (that is the consequences of the sense-making process)
- a bridge (that is some means of closing the gap between situation and outcome).

Making sense thus implies filling a gap: 'what is suggested is a gap that can be filled by something that the needing person calls "information" '.[64] However, as noted by Case,[44] for Dervin, 'looking for "information" is only one response to a "gap" '. Other responses could include 'seeking reassurance, expressing feelings, connecting with another human being, and so forth'.[64] In addition, Dervin conceives situation, gap/bridge and outcome as mutually related (in some of her writings, she depicts them as corners of a triangle).[64]

While the idea that information-seeking is triggered by a need to know or to reduce uncertainty and anxiety is appealing and largely intuitive, it presents several theoretical and empirical issues. First, needs are not observable. Therefore, whether needs 'cause' the search for information is debatable. Although, when asked, people may suggest that needs provide the reason for searching for information, the causal link is impossible to establish empirically.[58] Second, the idea that people seek information only when they need something flies in the face of the evidence that we very often obtain information unintentionally. Information behaviour is thus necessarily a more comprehensive category than information-seeking. Third, to bridge the determination of need and the initiation of action to satisfy the need, there must be

an activating mechanism, such as those suggested by risk/reward theory[65] or the concept of self-efficacy. Finally, what counts as 'satisfaction' of needs varies according to social and historical conditions.

Wilson[60,66] tried to address these issues by broadening the idea of information behaviour to incorporate a variety of situations and elements. The author therefore conceived of information behaviour largely as a process of problem-solving that unfolds in stepwise fashion through four stages: problem recognition, problem definition, resolution, and resolution statement.[66] He proposed that information behaviour follows his 1996 model summarised in *Figure 3*. The model suggests that the needs for problem-specific information arise from the situations in which seekers find themselves; that is, any need for help or information is situationally based and dependent on a particular context. People also tend to look for the information that is most accessible, which is sometimes referred to as the principle of the least effort. Several barriers can prevent people from obtaining the necessary information so that the need can remain unsatisfied. The model also suggests, among other points, that information-searching and information-seeking are two (nested) categories of a broader class of (information) behaviours.

In Wilson's own words:[66]

> information behaviour *is the totality of human behaviour in relation to sources and channels of information, including both active and passive information seeking, and information use. Thus, it includes face-to-face communication with others, as well as the passive reception of information, such as, for example, watching TV advertisements, without any intention to act on the information given.* Information seeking behaviour *is the purposive seeking for information as a consequence of a need to satisfy some goal.* Information searching behaviour *is the 'micro-level' of behaviour employed by the searcher in interacting with information systems of all kinds. It consists of all the interactions with the system, whether at the level of human–computer interaction (for example, use of the computer mouse and clicking on links), or at the intellectual level (for example, adopting a Boolean search strategy or determining the criteria for deciding which of two books selected from adjacent places on a library shelf is most useful), which will also involve mental acts, such as judging the relevance of data or*
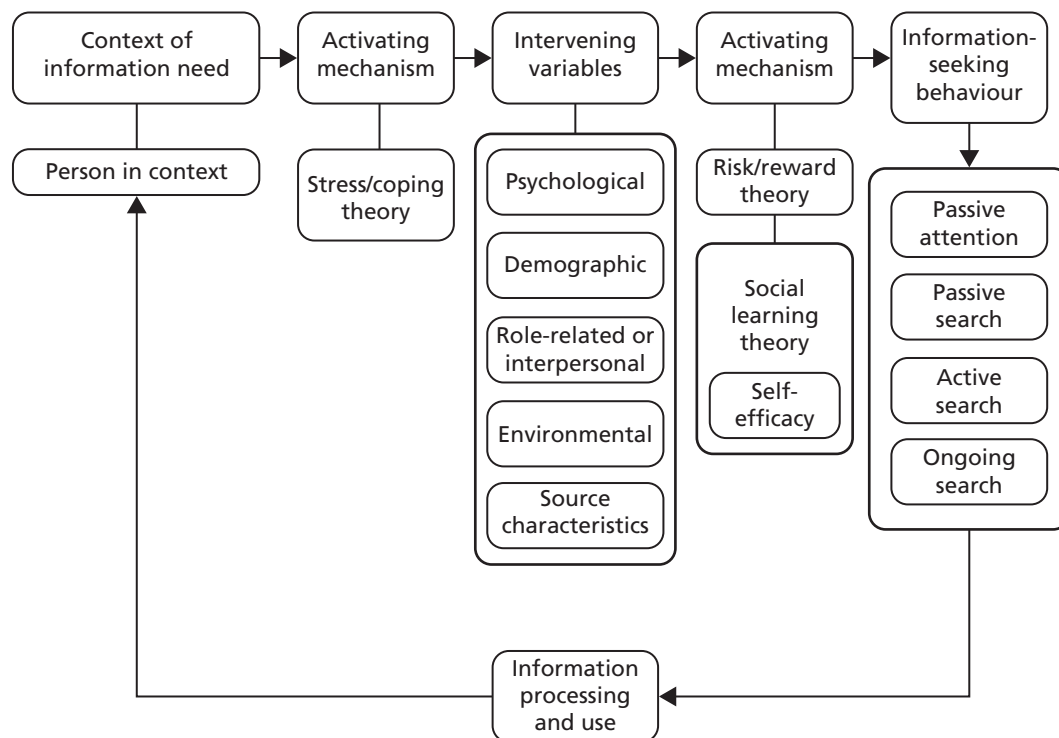


**FIGURE 3** Wilson's model of information behaviour. Reproduced with permission from Wilson TD. Models in information behaviour research. *J Doc* 1999;**55**:257.[60] © Emerald Group Publishing Limited all rights reserved.

*information retrieved.* Information use behaviour *consists of the physical and mental acts involved in incorporating the information found into the person's existing knowledge base. It may involve, therefore, physical acts, such as marking sections in a text to note their importance or significance, as well as mental acts that involve, for example, comparison of new information with existing knowledge.*

## The social perspective on information behaviour

While Wilson's integrative model discussed at the end of the previous section goes some way towards recognising that information behaviour can be unintentional and context-dependent, it remains necessarily anchored to the principle that, to understand information behaviour and knowledge mobilisation, one has to focus 'on the individual and on understanding the ways in which each person thinks or behaves in response to information needs'.[43]

This assumption was questioned, however, in the 1990s by a group of scholars, who suggested that one of the main deficiencies of the cognitive approach is that it ignores the fact that dealing with knowledge is fundamentally a social process. As Cornelius put it:[67]

> *My claim is that information is properly seen not as an objective independent entity as part of a 'real world', but that it is a human artefact, constructed and reconstructed within social situations. As in law, every bit of information is only information when understood within its own cultural packaging which allows us to interpret it.*

Accordingly, a number of scholars started to utilise social science theory to understand 'the impact of interpersonal relationships and dynamics of the information flow and on how information sharing is part of human communication'.[43] This resulted in a number of concepts that tried to respond in social terms to some of the critical questions posed by information behaviour scholars: What prompts the search for information? Why do some needs prompt information-seeking more than others? Why are some sources of information used more than others? Why may, or may not, people pursue a goal successfully? What prevents them? And what is the role of social processes and interaction in all of this?

A first way to redefine the issue of information behaviour in social terms is to acknowledge that the social context within which this activity takes place strongly influences both our preferences and choice criteria, and the way we go about mobilising and dealing with information and knowledge. Moreover, the nature of sociomaterial context presides not only over the modes of transmission and circulation of information, but also over how such information will be assimilated and interpreted. Contexts are thus conceived interpretively and holistically as both carriers of relevance and 'carriers of meaning'.[43]

Studying the circulation of information among workers, Chatman[68,69] suggested that the way in which people seek, use and communicate information is strongly influenced and largely organised according to the *small worlds* people inhabit. Small worlds are defined as 'the social environments where individuals live and work, bonded together by shared interests, expectations and information behaviour and often economic status and geographic proximity as well'.[70] Small worlds are thus settings of everyday life where 'people have little contact with people outside their immediate social milieu and are only interested in the information that is perceived as useful, that which has a footing in everyday reality, and responds to some practical concern'.[68] According to Savolainen[71] small worlds stand for local and often small-scale communities in which activities are routine and fairly predictable. Because small worlds are underpinned by a specific world view and regulated by a shared system of typification (i.e. the roles individuals play are a function of the ways in which they are typed by other members), everyday information-seeking and -sharing is oriented by generally recognised norms, based on beliefs shared by community members. From this, it follows that information behaviour cannot be studied in isolation from the social conditions in which it takes place: in social settings such as small worlds, information behaviour takes a wide range of forms beyond the standardised, stepwise process described by traditional cognitive-oriented information behaviour research. This ranges 'from the informal exchange of information among friends, to the posting of fliers, to the active avoidance of information that is for some reason deemed inappropriate or dangerous'.[72]

The idea of small worlds is strictly related to the notion of information poverty put forward by the same author. According to Chatman,[68] some people live in informationally impoverished small worlds, where individuals know that they could and should access useful information but high social costs associated with acquiring this information prevent them from doing so. In order to give others (and themselves) the impression of coping well with their situation, these individuals engage in self-protective conducts (i.e. they find suitable excuses), which seal the boundaries of their small impoverished world, contributing to its perpetuation. In other words, *information poverty* is a self-perpetuating mechanism. Importantly, the avoidance of information may or may not have anything to do with the actual value or potential usefulness of the information itself. For example:

> *In a given community, information about different cooking techniques may be actively and enthusiastically passed from person to person, while information about avoiding sexually transmitted diseases may be rejected outright or distributed only with great care, because it is considered to be socially unacceptable.*
>
> Chatman EA[68]

The idea that the way in which people access, exchange and interpret information is strictly related to the social conditions in which this takes place resonates with the results of the study of information-seeking from a social network analysis perspective. For instance, using social network analysis, Borgatti and Cross[73] found that the probability of seeking information from another person is a function of knowing what that person knows, valuing what that person knows and being able to gain timely access to that person's thinking. What the information system behaviour literature adds to the tenets of social network analysis, however, is the identification of specific forms of networking, which helps to explain not only the transfer of information, but also its interpretation and use.

A focus on the social dimension of information-seeking behaviour also underlines that the process whereby information is given meaning and put to work is itself social and discursive in nature. Consequently, information-seeking should be examined as a dialogical and discursive achievement; something that *people do together, in communication with each other*. The use of information is therefore seen as part of the communicative actions of *an individual in context*.[74]

## Information practices and information work

The increased scholarly attention to the role that contextual factors play in orienting people's information-seeking (as distinct from the individualist approaches characteristic of the assumptions underpinning 'information behaviour') has led several authors to reconceptualise *information behaviours in terms of practice*. The turn to practice makes the argument that traditional studies, developed from an individualistic, cognitive and decontextualised viewpoint, miss the social and collaborative aspects of information acquisition and use. The traditional viewpoint also downplays the fact that information practices are and should be conceived as mundane activities that are implicated in constituting the context of members' daily work. Information practices are thus always embedded in practical projects, either task-oriented (as in work situations), or as part of broader ways of life.[75]

Talja and Hansen,[76] for example, emphasise this embeddedness of information practices in work and other social practices, as well as their drawing on the social practice of a community of practitioners, a sociotechnical infrastructure and a common language. According to these authors:

> *information seeking and retrieval are dimensions of social practices and that they are instances and dimensions of our participation in the social world in diverse roles, and in diverse communities of sharing. Receiving, interpreting, and indexing information . . . are part of the routine accomplishment of work tasks and everyday life.*
>
> Talja S and Hansen P[76]

The social practice approach thus focuses on the joint accomplishment of work through the organisation of social interaction, and the use of supporting technologies and artefacts as an integral part of this interactive process. The approach mandates empirical research efforts that concentrate on actual organisational environments, and on routine and everyday ways of performing situated interactions with and through social and technical resources needed for their accomplishment.[77] Such studies would first seek to form a grassroots-level understanding of epistemic communities and work practices, and then work to base information-seeking and knowledge-sharing processes upon those understandings.

For example, Pettigrew[78] studied social settings in which people share everyday information while attending to a focal activity. She suggested that certain social situations and spaces, such as doctors' offices, hair salons and cafes (or water coolers), can become *information grounds*, defined as 'synergistic environment(s) temporarily created when people come together for a singular purpose but from whose behaviour emerges a social atmosphere that fosters the spontaneous and serendipitous sharing of information'.[78] Information grounds are thus socially constructed on the combined perception of place, people and information. Certain locales become information grounds only thanks to the existence of shared projects and goals that descend from the condition of being involved in the same activity (going to the doctor, dealing with your hair or doing the same job).

The approach also allows us to redefine the notion of information literacy in terms of a combination of practices, rather than an individual's single skills. Information literacy thus emerges as the result of information work, information-sharing and coupling, or 'the capacity to bring together the explicit knowledge with experiential and relationally based knowledge to produce a way of knowing within the site that is intersubjectively understood'.[79] Information literacy is therefore enacted within a social site and 'reflects the social, historical, political and economic ways of knowing the shape and characteristics of a specific site'.[79]

Practices can also be mobilised to explain the preference for (and relevance of) certain sources of information and how such preferences become habitualised and are incorporated in the practices of the information-seekers. Savolainen[80] investigated the information horizon of environmental activists, asking what kind of information sources they included in their information source horizons, in the context of seeking problem-specific information; according to what criteria they chose information sources in the above context; and what kind of information pathways they used? He found that human and internet sources were at the top of the list, with people often starting out by searching information on the internet, only to contact a relevant human person soon after. Most importantly, his study suggested that the individuals he interviewed operated within a set *information source horizon*, which both specifies what individuals consider to be the accessible sources of information and establishes a set of preferences. This is critical, as research suggests that individuals tend to select their sources of information on the basis of their accessibility and perceived reliability or, in case of the humans, social capital.[43] Information source horizons are thus important, as they explain both source preference and relevance.

Information source horizons are in turn created within the broader context of a *perceived information environment*, defined as 'a set of information sources of which the actor is aware and of which he or she may have obtained use experiences over years'.[80] When construing an information source horizon, the actor judges the relevance of information sources available in the information environment and selects a set of sources, for example to clarify a problematic issue at hand. A graphic representation of a pathway is provided in *Figure 4*.

Perceived information environments are deeply rooted in an individual's habits and tend to change quite slowly. Individuals thus develop *information pathways*, a notion that describes the sequences in which people use, intend to use or have actually used information sources placed in the information source horizon. Information pathways silently structure the perceived information horizon according to differential orders of relevance, so that certain sources (both human and non-human) are consistently considered
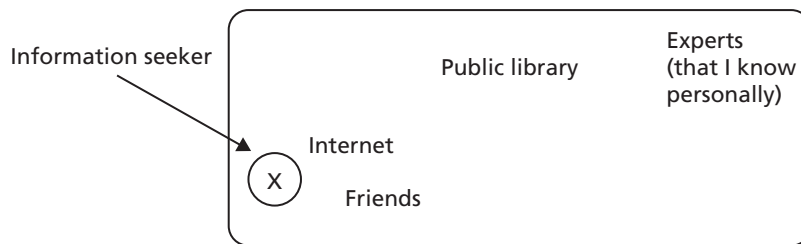
**FIGURE 4** Graphical representation of the information horizon. Reproduced from Savolainen R. Source preferences in the context of seeking problem-specific information. *Inf Process Manag* 2008;**44**:274–93[80] with permission from Elsevier.

as central or marginal. Information pathways and information horizons thus both structure and select (i.e. limit) our information horizon, creating intrinsic and invisible pragmatic biases in our ways of dealing with information.

Overall, the practice approach is underpinned by an increased attention to *information work*. Information work is firmly contextualised in mundane activities and is a necessary component of 'the work of living'.[81] It is conceptualised as 'something essential, dynamic, on-going and social that intermixes with, complements, supports and is supported by other kinds of work' or 'everyday life work'.[81] Studying information behaviour as information work therefore requires a focus on the 'actual labour – the time, effort, resources and outcomes necessary in finding and using information'.[81] One critical implication is that information work is carried out together with, and as part of, other forms of work, and it should not be conceptualised as a separate activity.

What traditional studies have called information-seeking behaviour can thus be respecified in terms of 'orders of monitoring'.[82] The idea suggests that information sources are monitored daily as a matter of habit; however, which sources are monitored is tightly bound to the routines of day-to-day life. The idea also suggests that information-seeking should be thought of as a stratified affair, progressing from the less to the more intentional. Quoting Erdelez,[83] McKenzie[84] consequently observed that the label 'information-seeking behaviour' 'is a misnomer because passive and opportunistic information acquisition such as some types of browsing, environmental scanning or information encountering more resembles "gathering" than "hunting", the active pursuit suggested in the term seeking'. In fact, empirically observed information practices include activities as different as identification of helpful sources, serendipitous encounters, being given information without active seeking, and planned encounters with sources (which can succeed or fail).[84] The author thus suggests that information practices should be ordered along a continuum from the more to the less intentional:

- active seeking
- active scanning
- non-directed monitoring
- by proxy.

This in turn implies that when addressing content (which together with availability and accessibility is the best predictor of the source of information preferred by seekers; see Savolainen[80]) we should distinguish between orienting and pragmatic information. While orienting information concerns current events and feeds our need for making sense of the world, pragmatic information derives from actively seeking practical information, which serves as the solution to specific problems. The two coexist, but are very different in nature. The former is fundamentally episodic and often results from some form of inquiry. The latter is regulated by both habit and chance. On the one hand, we all develop practices that feed our existential 'infoscape' [e.g. we read the newspaper, check Twitter (Twitter Inc., San Francisco, CA, USA) or chat to get the latest office gossip]; on the other hand, we may derive orienting information from encounters that were not intended for this purpose and are partially fortuitous. In this sense, information-seeking is less an active conduct and more an openness to information.

In sum, in the practice approach the emphasis is thus placed on 'social practices, the concrete and situated activities of interacting people, reproduced in routine social contexts across time and space'.[45] In this sense, the recent developments of the study of information behaviour converge with the debate on knowledge mobilisation discussed in the previous section. Both research traditions suggest in fact that much is to be gained if we focus on everyday practices, as the context within and process through which knowledge is mobilised and information is acquired and dealt with. Mundane activities, knowledgeability and information work should thus be conceived as sides of the same coin (assuming a metaphorical three-sided coin exists). In this sense, while the concept of information practice and information work have been mainly applied to the study of information activities in everyday life, as opposed to professionally connoted situations, it is our tenet that their central assumptions can be meaningfully extended to the study of managerial practices, to shed light on the knowledge mobilisation activities of NHS CEOs.

## Information behaviour and managerial practice at chief executive level

The information practice and information behaviour of managers in general, and top managers in particular, have been seldom studied in the literature. As we saw, most of the work on information behaviour has been in fact historically conducted in the field of library and information studies, scientific work and, more recently, in the context of everyday life (for example the information behaviour associated with health-care issues or the pursuit of a serious hobby; see Savolainen[45]). Notably, information work is widely recognised as a critical aspect in bringing together different managerial roles. Mintzberg,[85] for example, suggests that 'it is the informational roles that tie all managerial work together'. Because of the unique access to external information, and an all-embracing access to internal information, managers, and especially top managers, function as an 'information-processing system' that receives information, directs its flow and takes action based on information assimilated. However, the topic has also received scarce attention in the managerial literature. For instance, over 20 years ago, Auster and Choo[86] lamented that, in spite of the unequivocal importance of information in managerial work, there is a dearth of knowledge in the literature on information science about how managers acquire and use information in their work. Two decades later, the situation is only marginally improved. More importantly, many of the available studies fail to take into account the most recent development in the field of information behaviour, which we discussed above.

Early studies of managerial information behaviour were conducted by authors such as Aguilar,[87] Keegan,[88] Fahey *et al.*[89] and Daft *et al.*[90] Most of these found that very little systematic scanning was done, and that the focus was often on internal rather than external matters. Things, however, started to change after the radical changes in industry in the 1980s. Daft *et al.*,[90] for example, found that sectors differed widely in the amount of strategic uncertainty created for CEOs and that 'customer, economic and competition sectors had greater strategic uncertainty than technological, regulatory and sociocultural sectors'. Chief executives used multiple sources to make sense of their environments, complementing information derived from personal interactions with written sources (so that, when one weak signal was detected using one type of source, other sources were used to expand and clarify its meaning – the study was conducted before the wide diffusion of the internet). Importantly, Daft and his colleagues also found that 'chief executive scanning in higher-performing firms was characterized by more frequent scanning and by careful tailoring of scanning to perceived strategic uncertainty compared to chief executives in lower-performing firms'.[90] Chief executive officers defined as high-performing thus scanned more often, and cast their net wider than their less well-performing peers.

Auster and Choo[86,91,92] replicated the Daft *et al.* study in Canada. Like Daft *et al.* they found that the level of scanning increased with perceived uncertainty, and that Canadian CEOs combined internal and external, human and non-human sources to satisfy their information needs. Unlike previous studies in other sectors, they found that *source quality* (rather than accessibility) was the most important factor in explaining source use in scanning. Their explanation was that, given the inherent difficulty and high level of uncertainty in

which modern managers operate, the effort is focused on operating with the best possible available data on the environment; thus quality is more important than accessibility (although things may have changed with the advent of the internet).

Garg, Walters and Priem[93] probed further into the scanning emphases of CEOs, and the trade-offs with regards to which data to attend to and whether to focus on the external or internal environment (this echoes Sutcliffe's[94] organisational scanning and performance monitoring). The underlying assumption behind this and other similar studies is that 'CEOs must invest their "scarce executive time" in effective scanning activities that will "pay off" '.[93] Garg and associates found that, in successful companies, the scanning emphasis of the CEOs was aligned with the dominant logic of the top team and the nature of the competitive environment.[93] Accordingly, successful CEOs in innovation-oriented firms operating in dynamic environments focused especially on scanning external opportunities and keeping an eye on the internal aspects that were directly related to successful innovations; conversely, successful CEOs in firms operating in more stable environments tended to balance emphasis on the internal functions dealing with efficiency with external attention to general trends in their environment. Their findings were aligned with the study of Auster and Choo,[91] who also found that environmental scanning was often associated with the 'entrepreneurial' function of executives.

An interesting addition to these findings was provided by Abebe and colleagues.[95] The scholars investigated the effect of network ties (in terms of board appointments) on environmental scanning emphasis. They found that CEOs who had extensive network ties displayed a wider outlook and focused more on broader sectors of the environment, such as the economic, political/legal, sociocultural and technological factors that could affect their firm's operation. Conversely, CEOs who had extensive within-industry networks attended less to the broader environment, and instead tended to focus their attention on similar strategic issues and areas considered crucial by their peers. The study is important, as it highlights the importance of the board, both as a source of information, but also as a factor that orients the attention of the CEO and her executive team.

While many of these studies focused on the nature of the task and the environment at hand, or the number and type of relationships by the CEOs, the actual individual preferences of the managers were often ignored. According to Anderson,[96] who builds on what we called above the person-centred approach to information-seeking, this is a critical omission. As we have seen, motivation and information needs are a central element, given that 'an actor's network of social ties creates opportunities for social capital transactions, but the mere fact of a tie implies little about the likelihood that social capital effects will materialize'.[96] Accordingly, Anderson examines the correlation between the nature of the social network, the main personality traits, the time managers spent searching for information, the amount of information they found and the diversity of that information. Network size also proved to be a strong predictor of both the time managers spent searching for information and the amount of relevant information they found, 'but only for managers with a high need for cognition'.[96] Motivation thus constituted an important intervening variable that conditioned the benefits derived from social networking.

## Summary: how to study knowledge mobilisation at top manager level in the NHS

In sum, research on managerial information behaviour and practices was, and still is, to a notable extent conducted from a 'system' perspective, with a view to establishing where managers source their information from, and whether there is a correlation between the focus of the scanning efforts and the success of the firm. Socially oriented studies are rare and mostly informed by structural approaches, such as social network analysis. Furthermore, investigations that take into consideration the information needs of managers are scarce, while studies that investigate how CEOs deal with information are almost non-existent (with the exception of Choo's work[86,91,92]).

As a result, practical and policy-relevant questions regarding how we can support the information needs of CEOs or what skills and capabilities CEOs need in order to deal with the information overload of the 21st century, which are crucial in a complex system such as the NHS, are impossible to answer, as we lack even the basic understanding of the practices whereby CEOs feed their information needs, how they become and remain informationally literate and how they deal with information in the context of their day-to-day work. In order to address these issues and the highlighted research gap, the literature above thus suggests we need to consider the following:

- To understand knowledge mobilisation at top manager level in the NHS, one has to focus on the actual work of senior managers, asking what (knowledge and information) conditions and processes underpin local accomplishments of their activities.
- Attention should be paid to the local and broader social and contextual factors that impinge on the daily activities, as these indirectly affect the informational, knowledge and sense-making needs of CEOs.
- The research will have to be sensitive to sociomaterial arrangements within which managers operate. Consideration will have to be given to the capacity of these arrangements to be self-perpetuating.
- The research will need to be practice-based and case-centred; it will require adopting a suitable methodology sensitive to this particular level of phenomena.

# Chapter 3 Methodology and research design

In order to address our research questions, we employed a qualitative approach, combining observations, interviewing and documentary analysis in order to get closer to everyday CEO practices of mobilisation. A similar qualitative approach was taken successfully by previous NIHR HS&DR programme projects (e.g. Swan et al.,[8] Schneider et al.,[97] Pope et al.[98]) and is an accepted mode of study across the social sciences. In this section, we introduce our approach, reflecting on the different stages, the access and sampling strategy, data collection, analysis, and anonymity and confidentiality as a particularly critical aspect.

## Research stages

The study consisted of five consecutive stages that informed each other, as depicted in *Figure 5*. Notably, as is common with fieldwork-based studies, the stages themselves changed slightly from the original plan we envisaged at the start of the project. The stages also often overlapped in practice, which is again common in qualitative studies. For instance, because the study featured seven CEOs, who were studied consecutively, this meant that access and ethical approval were spread out over stages 0 and 1, given that access could be secured only approximately 2 months in advance, and that local research and development (R&D) approval had to be obtained. Analysis was also done throughout; not only in stages 2 and 3, but during periods of shadowing (stage 1).

**Stage 0** was spent setting up the groundwork for study. This involved obtaining ethical approval from the local Research Ethics Committee, revisiting relevant literature (particularly on shadowing and executive work) and putting our access and sampling strategies in motion. In addition, we agreed that, as shadowing was not a method the research assistant (RA) and the principal investigator (PI) had previously employed, we would seek to do a week-long pilot study. Part of stage 0 was therefore spent seeking access to suitable local public sector executives, whom we might engage for this pilot. Finally, we worked to identify members of our scientific advisory panel, as a key support mechanism.

Having secured ethical clearance in March 2011 and broadly identified our next steps regarding access, we began **stage 1** by firstly securing access to a university head of department and an NHS trust director, for the RA and the PI to shadow for several days, in order to gain familiarity with the method. These pilots were completed in early June 2011 and led to a revision and refinement of the methodology as discussed below. In addition, at the start of stage 1 we identified a member of the advisory panel whom the RA had previously engaged to secure access to public sector organisations, and asked him for assistance. This proved to be a very successful strategy, as we outline below, which meant we were able to commence our research stays with CEO1 (shadowed by PI) and CEO2 (shadowed by RA) in June 2011. Encouraged by our success in recruiting the first two CEO participants, during this stage we consulted with the members of the advisory panel with regard to whether to continue to focus on NHS CEOs, as opposed to 'executive directors' (a broader category) as our sample, which we had originally conceived in our project proposal. Given that this represented a rare opportunity to study in depth a very important group of NHS managers, the advisory panel agreed with this proposed change.

Following the completion of the first two case studies in autumn 2011, we began an initial round of in-depth analysis in preparation for our first advisory panel meeting on 22 September 2011. The aim was to share early empirical reflections and receive feedback, but also guidance on how we should progress with the next round of access and fieldwork. During the advisory panel meeting, we discussed at length the issue of sampling, and confirmed our decision to focus exclusively on NHS CEOs, as from our initial literature review it appeared that a clear gap in the literature existed on the topic. Feedback on the emerging findings was also received following a presentation to a group of CEOs at two Service Delivery and Organisation (SDO) Network CEO Forum meetings in January and February 2012. The remaining
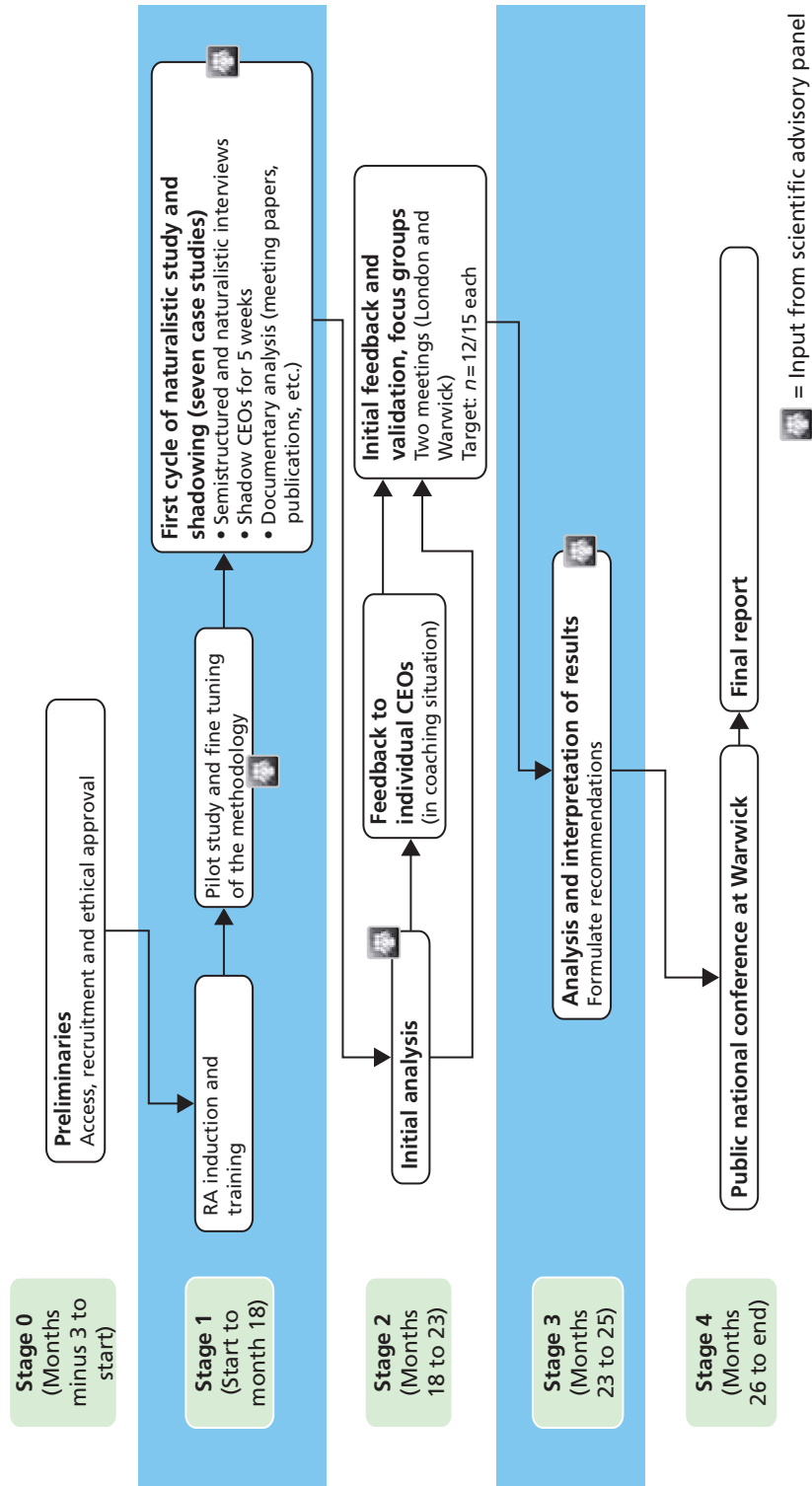
**FIGURE 5** Research stages for the KMobilis project.

five case studies were conducted by the RA (four) and PI (one) in the following 12 months, following successful recruitment. This was an iterative process of access and fieldwork, whereby access and R&D clearance for one site were completed during fieldwork at another.

In summer 2012, we entered a dedicated stage of analysis (an early start to **stage 2**), in preparation for our second advisory panel meeting in November 2012. At this meeting, we presented emerging analytical categories across seven cases, as well as detailed examples. We received valuable feedback that helped us to refine the key analytical conclusions, and the structure for the upcoming individual CEO feedback sessions. Following the advisory panel meeting, we turned to setting up the feedback sessions, which because of the busy diaries of the CEOs and their coaches, whom we sought to have present where possible, took some months. In the meantime, we continued our analysis of the great amount of data gathered. The feedback from the advisory panel and the CEO sessions in turn subsequently informed our 'focus group' presentations, which were organised in conjunction with the Health Services Research Network CEO Forum, and were approached as a further feedback, engagement and practitioner validation exercise. The two very successful meetings took place on 9 April 2013 in London and 24 April 2013 in Manchester, with a number of NHS CEOs in attendance.

As we continued our analysis, **stage 2** and **stage 3** effectively overlapped, although, following the two focus group events, we continued to refine our emerging findings and possible implications in preparation for our final event as the pinnacle of **stage 4**. The half-day research seminar took place on May 24 2013, with some 40 practitioners, academics and policy-makers in attendance. The feedback was very positive, with notable interest in the possible practical implications from organisations such as the NHS Leadership Academy. These different strands of engagement and feedback all in turn informed this final report.

## How the methodology and research design evolved during the study

Like other qualitative studies, ours developed from the original proposal. This was because of the changes taking place in the NHS at the time, the results of the pilot study conducted early on in the process, and the opportunities that emerged while the project unfolded. In particular:

- As the major reorganisation of the NHS was occurring at the time we were seeking access, which included most notably the abolition of primary care trusts (PCTs), it was decided (in conjunction with our scientific advisory panel) to replace PCTs originally identified as part of our sample with mental health trusts. It was also decided that the sample should aim (as much as possible) to reflect the ratio between the total number of acute and mental health trusts in England. In the end, our sample was five acute trusts and two mental health trusts.
- Early in the study we decided, in conjunction with our scientific advisory panel, that a longer period of shadowing was necessary, as this would allow observation of knowledge mobilisation in practice over time and thus provide additional empirical nuance largely missing in the existing literature. In addition, the literature revealed that managers were almost never studied longitudinally (i.e. longer than 1 week per manager). Therefore 5 weeks was agreed as the target time period of fieldwork on each site. As this represented a more considerable empirical engagement, and following the practical preferences of the CEOs who preferred observations to be conducted as close together in time as possible, this meant there was no second cycle of shadowing following 'initial feedback and validation' (i.e. stage 3 of the original proposal). Instead, all the shadowing was completed prior to stage 3.
- Following the results of our pilot study, and in view of the increased intensity of observations in situ (e.g. 5 weeks per CEO), we also decided against using some of the methods we had originally planned to. Specifically, the pilot study suggested that some of the methods mentioned in the proposal would not add sufficient value, and at the same time could also potentially jeopardise our recruitment and access efforts. Many of the executives we approached told us that they would give us access provided the study would not add to their existing heavy workload – or that of their top management team (TMT).

In particular, the pilot study clearly demonstrated that diaries and logs would certainly represent an additional time strain on the subjects, and probably only duplicate information collected via shadowing, as well as provide an impoverished version of the CEOs' work. Accordingly, we decide not to use these methods, and instead gained this type of information via informal consultation with personal assistants (PAs) and the CEOs' informal reflections. Moreover, all CEOs gave us access to their weekly diaries for the months prior to our stays, so that we were able to collect the same data using less intrusive sources. We also decided not to use 'interview to the double'. Interview to the double is a projective technique which requires interviewees to imagine that they have a double who will stand in for them at work on the next day. The interviewee-instructor is then asked to provide the necessary detailed instructions which will ensure that the interviewer-double is not unmasked. The approach helps practitioners to 'observe' and describe their own practice. This decision was made largely because, at the beginning of the project, we recorded a strongly negative reaction against it by one of the pilot study informants. The informant saw it as odd that she was being asked in the 'interview to the double' to describe the very practices we had just observed as if we had not. This method was therefore excluded. Finally, we did not formally and systematically interview the CEOs' executive teams, again in order to avoid overburdening the already time-invested CEOs and their organisations. Based on the results of the study, we believe that our choices were justified, as any loss in data derived from not using these additional methods was largely offset by the unique nature of our sample, and the duration and depth of our shadowing-based observations.

- As briefly noted above, after the first round of recruitment, and given our success in enrolling CEOs in the study, in consultation with the advisory panel we shifted the analytical focus from executive-level NHS managers to NHS trust CEOs. Firstly, our focus in the original proposal on 'NHS directors' rather than on CEOs was partially because of the perceived risk related to recruitment. This concern was echoed, for instance, by one of the reviewers at the outline stage of the proposal in February 2010, who noted:

  > my main concern is the potential difficulties likely to be encountered in recruiting the senior management participants given the investment in time and energy during a period when pressures within healthcare organisations are set to rise considerably in the economic context . . .

  The early success in recruiting CEO participants suggested that this risk could be effectively addressed in practice. Moreover, our review confirmed that the existing literature was almost totally silent on the work of NHS CEOs and their practices of knowledge mobilisation. By refocusing the study, we could therefore provide valuable insights into a largely unexplored topic and social group, built on a data set as robust as, if not more so than, many of the existing studies which followed the semistructured observation-based work of Mintzberg.[88]

- Finally, accessing NHS CEOs over a longer time period proved to be particularly challenging and in fact, as a result of circumstances beyond our control, our final CEO had to withdraw from the study only days before the start of fieldwork. This had a knock-on effect on the duration of the fieldwork (stage 1), which in turn required a 3-month extension of the project as a whole.

## Access and sampling strategy

### Sampling strategy

The choice of cases was based on a theoretical (rather than statistical) sampling strategy. Our aim was to maximise diversity in the sample for analytical purposes (statistical relevance was impossible given the low number of cases). Our original sampling strategy, following a shift in analytical focus, aimed at including six to eight CEOs across mental health, acute and primary care sectors. However, as noted above, early in the project we made a decision with the advisory panel that we would focus on acute and mental health trusts only, as PCTs were being disbanded and subsequent organisational structures were in flux. In order to ensure diversity in the sample, we aimed to engage trusts that varied in size, physical location, the relevant Strategic Health Authority (SHA), financial health (as determined via relevant regulator performance ratings) and organisational type [i.e. a foundation trust (FT) or a non-foundation trust]. We also considered the

personal characteristics of the CEOs, for instance gender, professional background, time in post and if this was their first CEO role.

### Access to participants

Access was obtained through a combination of personal contacts and direct requests to CEOs who were deemed potentially interested, for example because they had previously participated in developmental events, such as the SDO Network CEO meetings. The collaboration of the NHS Confederation and the support of one member of the advisory panel were critical, especially in the early stages of recruitment. A letter detailing the research questions, possible contribution and distinct 'benefits' for the CEOs from the study was initially sent to five acute CEOs, who the panel member felt might be interested. We subsequently set up meetings with four of them and were successful in gaining access to two, who became the first two CEOs in our sample. The possibility of comparative feedback, but also the opportunity to discuss the findings in a coaching session at the end of the project appeared a key factor in the CEOs' favourable decisions. We used the same process, facilitated by the members of the advisory panel, to recruit the rest of the cases.

### Study participants

Our final sample for the study was seven NHS trust CEOs. The sample size reflected time constraints of the study, and our strategy regarding diversity in the sample. A summary of key characteristics of our sample can be seen in *Figure 6*.

The sample includes an almost even ratio of men to women as intended in our sampling strategy. Equally, we were successful in meeting other key aspects of it, such as diverse professional backgrounds: management (two from the NHS; one from the private sector), nursing (two) and medical (one). In addition, the sample included CEOs who managed both successful and less successful trusts (one financially struggling acute non-FT; two financially struggling acute FTs; two successful acute FTs; two successful mental health FT). These assessments were based on external validations of financial and operational success by relevant regulator bodies, such as Monitor performance indicators. They are also reported broadly enough so that anonymity is not compromised. Finally, the CEOs were at different junctures in their posts and careers. For instance, two CEOs were shadowed within a year of starting their current post, while three had been in their present post for longer than 5 years. Similarly, we observed those with previous experience at CEO level ($n = 4$), and those for whom the present post was their first CEO appointment ($n = 3$, though all had been in post more than 2 years when studied, including one CEO whose current post followed a merger).
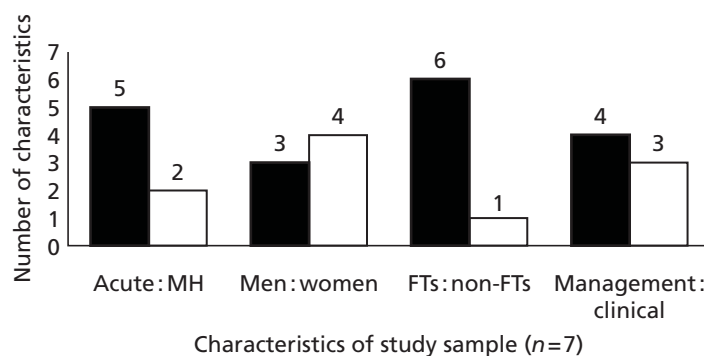


**FIGURE 6** Key characteristics of the study sample. MH, mental health.

## Data collection

After securing access to the seven sites, and completing the necessary R&D approval for each, we employed three distinct methods in order to complete our investigations, which are all recognised parts of a naturalistic approach to research.

### Observations and shadowing

The key method we used was shadowing, which involved closely following each CEO as she went about her working day, and observing as much of it as possible. This enabled us to understand the various nuances of CEOs' practice *as it actually happened*. Practically, this meant we would normally speak to the PA a week before, to go over that week's diary and highlight any meetings that were not appropriate to observe. Generally speaking, we had great success in terms of access, in that there were very few parts of the CEO's day, particularly on site, that we could not observe. These were limited to some one-to-one supervisory meetings with more junior colleagues, human resources (HR)-related meetings concerning individuals, and private meetings (for instance with their pension advisors). We also mostly did not observe evening or day events of a particularly sensitive nature, or those that required extensive travel, as well as more informal chats the CEOs had with individuals, when it was made clear to us that this would not be appropriate. Finally, we could not observe the work the CEOs did at home, which was one of the notable limitations of shadowing as a method. This shortcoming was addressed by asking the CEOs to recount the work they did at home the following day, and accessing their e-mail correspondence wherever possible.

An average day of shadowing began with our arrival at the start of that CEO's working day. We usually had a designated seat at each site while the CEO was in her office, normally behind or near the CEO's desk, so that we could observe as she worked on her computer. We used an iPad, which allowed us to take immediate electronic field notes on the go, but also to look up any information online to understand better what or who was being discussed, which improved their quality. As the CEO went to her meetings, we followed along, chatting informally or staying quiet as appropriate. In all instances, the executive teams and closest collaborators were aware of the study prior to the start of fieldwork. As we entered each meeting, the CEOs would briefly introduce us and ask us to give a short overview, and then carry on with her task. We normally found a seat out of the line of sight, away from the table, and observed quietly. Normally, CEOs and their teams got used to our presence after a couple of days, so we were generally not introduced during later meetings. Similarly, if a patient or staff member stopped to chat with the CEO in the corridor, we either stayed while they finished, or left the CEO and returned to the office, if deemed more appropriate.

For practical reasons, we often spent 1–2 weeks with one CEO, then moved to another, then switched back. This allowed us to track issues over a longer period, and indeed observe how work changed over time. It was also a practical solution, as we found that CEOs found a stay longer than 2 weeks very demanding. This also avoided the researchers becoming too accustomed to the site to the extent that they no longer had a 'fresh pair of eyes' on it.

In total, we completed the following periods of intense shadowing (in consecutive order from when we first entered the organisation):

- CEO1: completed in December 2011 (total 6.5 weeks)
- CEO2: completed in November 2011 (total 5 weeks)
- CEO3: completed in February 2012 (total 5 weeks)
- CEO4: completed in June 2012 (total 5 weeks)
- CEO5: completed in May 2012 (total 5 weeks)
- CEO6: completed in June 2012 (total 4.5 weeks)
- CEO7: completed in September 2012 (total 3.5 weeks).

Notably, we mostly met our very challenging target of 5 weeks of shadowing per CEO, making this one of the most longitudinal, in-depth studies of senior executives ever completed. The exception was the final CEO, where because of pressing time restrictions of our project only 3.5 weeks of shadowing could be done. This was nevertheless an empirically rich period, and sufficiently long that we could observe some issues over time, thus meeting our analytical requirements.

### Interviews

In addition to shadowing, we used formal interviews in some cases to supplement our observations. They allowed the CEOs to reflect in a structured way on their knowledge mobilisation and working practices, and to offer reflections on why we might have observed what we did. These were very useful to us in terms of clarifying or refining existing insights.

In particular, we conducted five formal, semistructured interviews during the study (see *Appendix 1* for the interview schedule). These were conducted in the final week of observations, or some time following shadowing, depending on the CEO's diary. They lasted between 38 and 65 minutes, and were recorded and transcribed verbatim. The two remaining CEOs were interviewed informally, as part of daily observations. In their case, the decision was made that formal interviews would not be appropriate, given that both CEOs shared their reflections extensively during on-site visits, and their diaries made scheduling a formal interview exceedingly difficult. These ethnographic interviews were also transcribed verbatim and used in the analysis. In addition, we conducted two formal interviews with two different PAs, which were recorded and lasted approximately half an hour each. Such interviews were not conducted in other settings because it was decided that, owing to pressing work commitments, these would be very difficult to arrange. Instead, as was the case also with the two PAs formally interviewed, the other PAs were frequently engaged informally, via ethnographic interviewing in situ.

### Documents

A final key source of data were documents obtained during periods of observation, including meeting papers, articles referenced by the CEOs, and copies of publications consulted. Given the nature of each CEO's work, particularly the number of large formal meetings attended, but also the level of comfort by each CEO with regard to sharing internal documents, the number of documents gathered for each site varied greatly, from thousands of pages to approximately 100. Such internal documents were supplemented by externally available information. This included, for instance, annual trust reports, news articles and regulator documents. We accessed these prior to our stay and throughout the study. This allowed us to gain a greater familiarity with the trust and the CEO before starting, but also to keep abreast of any major changes since our departure.

## Analysis

The analysis was carried out as a reiterative continuous process which proceeded in parallel to the study from the start of stage 1 onwards. Each of the two empirical researchers regularly read and reflected on the individual sets of field notes, including before each return to the field, and wrote analytical notes as part of the research diary for each CEO. These were eventually prepared into extended analytical memos, which synthesised the analysis of emerging insights from each case, and enabled cross-case comparative analysis. In addition, the researchers spoke regularly while in the field, sharing notable impressions as they happened. The process was facilitated formally by regular team meetings between all three team members, presentations in academic and practitioner fora (see *Appendix 2*), and regular meetings with the advisory panel. Given the sheer amount of field data collected, the feedback and suggestions from the advisory panel were particularly important in helping us to identify what analytical insights appeared most compelling or should be explored further. Following the discussion with the advisory panel, we continued

to refine our list of emerging first- and second-order analytical categories, by continually rereading the field diaries and comparing emerging insights as we perceived them. These were similarly informed by our continued reading of the broader knowledge mobilisation and information work literatures, as well as that on managerial work.

Importantly, we also continued to be in touch with the CEOs studied following each research stay, sharing regular updates to keep them abreast of the study's development. These conversations also allowed us to gain insights into how specific issues had progressed or the CEO's focus of work changed since our departure. For some CEOs, it was also an opportunity to share their thoughts on the emerging findings, how we could best engage their colleagues, and what would be the most useful research outputs.

### Feedback

A critical component of our research design was the individual feedback session with each CEO. These were envisaged as an opportunity to share in-depth comparative insights, and receive CEO feedback on its accuracy and helpfulness as part of a targeted validation exercise. The sessions were a great success, in that the CEOs overwhelmingly found it useful, and an accurate depiction of their work. Their detailed feedback in terms of clarifying certain points, or reflecting on how they and the trust had progressed since, provided further richness and accuracy to our material. In addition, the sessions were designed to work as a two-part development opportunity, where we would present emerging findings, and then a personal coach would work with the CEO to draw out relevant implications for their practice. Though we could not accomplish this in every instance, as some CEOs preferred to receive feedback without the coach, in three cases it was a very valuable and positive process, with seemingly great potential as a mode of facilitated learning and personal development for executives. We took careful notes of the three cases and will be reflecting on them with a view to developing a model for research engagement, for testing in future studies.

### Anonymity and confidentiality

The highly sensitive work of the CEOs, the practicalities of shadowing as a method, and our assurances as part of the access agreement all meant that issues of anonymity and confidentiality were particularly acute. We met these challenges via several research strategies. For example, we took great care to protect the anonymity of the CEOs themselves, by never discussing our observations outside the project team, by writing fully anonymised notes, and by making a professional judgement regarding what was private and what was public. In particular, although we occasionally observed the CEOs during acutely sensitive conversations, we made sure not to take written notes, unless this was seen as absolutely necessary in giving an accurate depiction of the CEO's working realities.

While in the field we employed standard principles of ethnographic (observation-based) practice to strike a practical compromise between retaining the anonymity of our CEOs as the chief participants and the ethical requirements which necessitated making every individual that we encountered informed. This was addressed chiefly by obtaining written consent prior to an observed encounter. When this was not possible or not appropriate, we made sure not to take any notes relating to that individual directly, but recorded afterwards that an encounter with an anonymised individual took place, and the CEO's role in this engagement if appropriate. Importantly, the CEOs themselves occasionally asked us not to introduce ourselves before a meeting, as this might affect the tone of the meeting in question. Where such a request was made, we abided by it, as our method depended to a large extent on being as unobtrusive to the CEOs as possible. In general, explanations about our study were kept to a minimum and employed only when necessary. Again, this was essential in the light of our small sample, which meant that, if an individual knew we were studying the CEO on site, they could more easily deduce which of the CEOs we described in this report was the one they knew, thus effectively breaking confidentiality.

To retain anonymity in our public feedback (e.g. final event) and in this report, *we decided to refer to all CEOs by the feminine pronoun*. This was done for easier reading, instead of the more cumbersome 's/he', but also as a seemingly appropriate compromise given our promises of anonymity and our analytical focus

on the *practices* of NHS CEOs, not their genders. Equally, our promises of confidentiality, but also analytical interest in *the practices* (as opposed to the organisations) of the CEOs, meant that we had to strike a compromise with regard to the contextual information we could publicly share regarding the trusts that the CEOs ran and their immediate institutional environments. In particular, though there are over 200 acute and mental health trusts in the NHS in England, this is nevertheless a relatively small community of peers, each with considerable insight into other trusts, as we occasionally found during our research stays as well. However, as the particular context in which the CEO worked emerged as a critical component to understanding their knowledgeability in practice, we had to provide sufficient insight into organisational structures, wider institutional drivers and particular objectives each CEO was working towards for the reader to understand at least some of the differences between the research settings, and how these may have contributed to the emergence of a particular knowledge infrastructure. A summary of pertinent contextual information relating to all seven trusts can be found in *Table 1*.

### Patient and public involvement

The particularities of this study meant that involvement of patients and the public remained limited to the final phase of communicating the results. This aspect of the research was discussed and agreed with members of the University/User Teaching and Research Action Partnership (UNTRAP), based at the University of Warwick. In particular, as the study's practical relevance was for the leadership community of the NHS, as opposed to the broader public or patients, to ensure that the study was appropriately informed by views of NHS practitioners, we included notable figures from the NHS community in our advisory panel. In addition, confidentiality concerns prevented us from involving the public directly, as it was important to minimise the number of individuals aware of the identities of our participants. It is our intention to meet the obligations of publicly funded research by post-project dissemination via other media than academic publishing, allowing us to share central insights from our study with a broader audience who may be interested.

## Limitations of the study

The nature of the study and the methodological choices made prior and during the project determined not only the strength and validity of the results, but also necessarily some of its limitations. These notably include the following:

- While the use of shadowing allowed us to gain in-depth insight into the information and knowledge work of NHS CEOs, our focus on CEOs meant that knowledge mobilisation practices were observed only from their individual perspectives. Accordingly, although we often observed and noted the interplay between CEOs and their senior teams as part of CEOs' knowledge mobilisation as an inherently social and interactive process, and documented the unique type of knowledge and information work that CEOs carry out, we could not observe how individual directors actually accessed 'evidence', gained informal insights and prepared the documents that we saw deployed in their encounters with the CEOs. Accordingly, and also reflecting our original project objectives, this study is necessarily silent on the knowledge mobilisation dynamics of a TMT as a complex whole. We suggest that this topic would strongly benefit from further empirical investigation.
- The use of shadowing as a method, in combination with the theoretical orientation towards knowledge as a form of practical mastery, tends to produce accounts that are necessarily non-judgemental, thus appearing as potentially 'empathetic' in character. Namely, the non-judgemental nature of the accounts derives from an analytical focus on describing and documenting the practical methods through which individuals accomplish work; in this case, through which CEOs make themselves knowledgeable. In this sense, the method necessarily produces agnostic accounts that focus on practical situated capabilities, rather than shortcomings in relation to a particular normative ideal. While the methodology allowed us to identify context-specific difficulties, challenges, and internal or external contradictions (e.g. practices that did not seem to reflect the demands of the environment as presented in the daily work of that CEO), it did not allow us to correlate such activities with any general criteria of success or failure.

**TABLE 1** Contextual information on the trusts examined in the study

| Contextual characteristics (at time of study) | Acute FT CEO1 | Acute CEO2 | Acute FT CEO3 | Acute FT CEO4 | Acute FT CEO5 | MH FT CEO1 | MH FT CEO2 |
|---|---|---|---|---|---|---|---|
| Type of trust | Teaching | District general hospital | Teaching | District general hospital | Teaching | n/a | n/a |
| Size of trust (annual budget/income in pounds) | >400M | >400M | >400M | <200M | >400M | <200M | <200M |
| Finance/performance | Struggling | Struggling | Sound | Struggling | Sound | Sound | Sound |
| Prominent CEO work preoccupations or tasks (NB: this list is indicative, not exhaustive. Issues are *not* listed by priority) | Performance and savings; regulation; leadership; complaints; governors and board; strategic direction; getting to know the organisation; local partnerships | FT application; performance and savings; major change programmes; regional competition; new hospital; staff issues; complaints | Senior team performance; balancing external and trust obligations; growth; national policy on key strategic issues | Finance and performance; accountability to stakeholders; operational structures and systems; regulation; staff issues; getting to know the organisation | Performance and savings; staff issues; service delivery; regulation; communication; trust identity and structure; regional work | Service delivery; top management team; growth; personal development; regional leadership; changing role as CEO | Board and chairperson; strategic direction; growth; team development; changing role as CEO |

MH, mental health; n/a not applicable.

In other words, the methodology predisposed us to capture what it made sense for informants to apparently do, without asking whether this was right or wrong, or could be done better. Although some of these aspects emerged from comparison between cases, and in fact were noted in feedback sessions with the subjects, the project was also not designed to pass judgement on the conduct of individuals. The absence of normative assessment based on certain external criteria was in fact a crucial factor in the negotiation of access. It should be added that the nature of the study also limited in part the possibility of deriving and sharing specific 'lessons learnt' emerging from the systematic comparison of cases. This is because a detailed description of the methods (and conditions of work) used by the CEOs would breach the guarantees of anonymity given to all participants. Finally, one may suggest that shadowing generates a natural empathy with the subject under study (and at times a sincere marvel at the competences of the informants), which may lead to a lack of critique. This reflects the method's tendency to cast the researcher in the role of a quasi-apprentice, a position that requires an acceptance of the validity of the practice being learned. In such a situation, an apprentice who disputes the practice of the master cannot in fact learn, as critical capacity emerges later as an effect of the comparison of different forms of practice and personal experience. Following standard ethnographic practice, both researchers employed reflexivity as part of accounting for one's role and perceptions on the observations made and conclusions being drawn. Though we believe we were largely successful in mitigating the effects of a 'shadow's proximity', it is likely that residual effects of a 'beginner's marvel' still transpire in some of our accounts. That being said, such familiarity would, we believe, be more problematic if our project explicitly set out to offer a normative critique or assessment of the practices under study. As we recounted in detail above, this was neither the intention nor the possibility of our study as originally conceived.

- Finally, the lack of statistical generalisability of our results is a natural, though nevertheless important, limitation. Namely, while we have generated a number of new and, we believe, useful conceptual categories that can be explored beyond the seven cases reported here, we can say little about the nature of information work by the larger population of NHS CEOs in England. This reflects the nature of our study, aimed as previously noted at theoretical rather than statistical generalisation.[99] The limitation does not weaken our conclusions, however. On the contrary, the careful sampling strategy, sustained period of observation and comprehensive process of member validation make our results robust. This limitation, however, prevents us from construing our results in terms of generalised statements such as 'NHS CEOs in England do this'. This is also one of the reasons why we cannot establish correlations between observed practices and performance outcomes.

# Chapter 4 Feeding the ecology of chief executive officer knowledgeability

## Acquisition in practice: sources, spaces, preferences

The practices of acquisition of knowledge and information are central to what the literature calls 'information work': behaviours tied to sourcing, translation, negotiation, and performance of information and 'evidence' towards certain tasks. This section considers how such knowledge work is accomplished, in particular in relation to sourcing. By sourcing we mean specific external and other sources and their preferred natures; whom or what are they sourced via; and how this is achieved. To demonstrate findings effectively and avoid too much repetition by presenting case by case, we draw on a cross-case mix of interview- and shadowing-based insights organised around analytical categories to give a broad overview of emerging findings, and follow this with in-depth case examples to demonstrate nuances of specific observed practice. In order to maintain anonymity of participants, *we use the feminine pronoun throughout*.

### Chief executive officers' sources of information: from the formal to the many and complex

The first aspect of acquisition or sourcing work that must be addressed is *what* are the sources of information or 'evidence' that are accessed and brought to bear by observed NHS trust CEOs in order to accomplish their everyday work. Specifically, we asked CEOs 'what external sources of information do you find (more) relevant to your job and therefore consult?' As is the convention with regard to qualitative semistructured interviews, CEOs were normally asked a conversational approximation of this question, i.e. it was not read out verbatim, though all the major components of the question, including its tone, remained. In addition, in the case of two CEOs, this discussion took place during daily observational periods, rather than in a structured interview environment, due to restraints of fieldwork on those sites. *Table 2* summarises the major reported sources of external information in particular, and the reasons why each was seen as more or less pertinent by the CEO.

A crucial observation from *Table 2* is the diversity of external sources, despite a few common ones. Of the latter, the *Health Service Journal* (*HSJ*) is perhaps unsurprising, though almost none of the CEOs found its more research-based pieces helpful or reported consulting them often. Instead, it was apparently seen as a medium through which CEOs could gauge the 'feel' of the sector and policy. Indeed, some CEOs were openly dismissive of it as 'just tabloid journalism', whereas others, such as the CEO of a large acute FT, normally flicked through the publication when the trust was referenced, or before a trust board, as she found that non-executive directors (NEDs) often asked questions referencing the latest stories. In other words, though the publication was consumed by the CEOs, albeit often hastily, its major research-based pieces seemed to have little traction in their daily work.

Interestingly, the *HSJ* appeared as the only unifying source of external information across the CEOs we observed; either it was referenced in the interview or we observed it during shadowing. Some other sources were commonly referenced, such as the regulator websites (e.g. Monitor, the Care Quality Commission), SHA comparative information pieces, publications from sector bodies such as the Foundation Trust Network (FTN), the NHS Confederation, and the Association of UK University Hospitals (AUKUH), and summary e-mails from the DH (e.g. *The Week* and *The Month*). One CEO identified accessing regulator websites and information pieces as 'maintenance stuff', which allowed her simply to 'keep up to date'. Another commented that the Department of Health (DH) publications help her 'make sense of the world out there'. Some CEOs also actively sourced information from beyond health care, for instance the *Harvard Business Review* (*HBR*), which some found particularly helpful regarding their leadership tasks,

TABLE 2 External sources of information consulted by CEOs (via interviews, supplemented by observations; in no particular order)

| CEO of acute FT | CEO of medium-sized acute non-FT | CEO of acute FT | CEO of small acute FT | CEO of MH FT | CEO of MH FT | CEO of acute FT |
|---|---|---|---|---|---|---|
| *HBR* ('for leadership issues') | *HSJ* | | FTN pieces and summaries ('I'll always read those') | NHS Confederation pieces | Today programme, Radio 4 (every morning, 'consciously started the day reflecting on [...] the main headline story and then that's helping frame [...] the kind of wider system') | Local newspapers (PA marks health stories with Post-its) |
| The Week and The Month ('just to sort of make sure I've got a sense of the world out there') | SHA meetings (with fellow CEOs) | | Legal firms ('they do good summaries') | *HSJ* reports | Local CEO group ('incredibly valuable source of data' regarding policy and comparative standing) | Radio (on in the background in the mornings) |
| Health Service Confederation abstracts ('useful') | *HSJ* journalist (gains insights while correcting a trust-related story) | *HSJ* ('flick through once a week') | SHA event on quality ('normally good speakers') | FTN documents | 'People of integrity' (e.g. a chairperson of a networking group; 'gives me the flavour of what's the politics like in the system') | Books (e.g. NLP one on motivation) |
| AUKUH ('very useful source') | BBC News digest | FTN, NHS Confederation, AUKUH pieces ('I'll skim through it') | 'Maintenance stuff', [e.g. Monitor, FTN, CQC ('because you need to keep up to date')] | SHA correspondence | *HSJ* ('what it tells me is not the truth but what current powers that be in the NHS think and do [...] I don't necessarily think that's the real world') | HealthInvestor |
| *The Times* | Management consultants | The Week and The Month ('send it around my team and assume one of them will flash things up, don't read it') | 'Work specific stuff' (e.g. 'wanting to bone up on M&A') | Websites ('I tend not to look at a lot of websites unless I'm chasing something specific') | HealthInvestor; NHSmanagers.net ('it's challenging to any status quo') | Reports (e.g. annual report of the National Hip Fracture Database) |

**TABLE 2** External sources of information consulted by CEOs (via interviews, supplemented by observations; in no particular order) (*continued*)

| CEO of acute FT | CEO of medium-sized acute non-FT | CEO of acute FT | CEO of small acute FT | CEO of MH FT | CEO of MH FT | CEO of acute FT |
|---|---|---|---|---|---|---|
| Monitor and FTN ('less useful.... I need to know what they're up to but doesn't have so much resonance [...], doesn't help me in my world' | Books (e.g. Atul Gawande's The Checklist Manifesto) | Particular group of trust CEOs ('I'd get better information out of that') | HSJ ('just sort of a bit of a scandal rag and I actually didn't find the professional articles particularly enlightening') | Institute of Directors events and other talks, [e.g. CEO of Tesco ('I get some of my know-how through them')] | HBR ('prompts me to think about my management practice as a manager') | HSJ (via the website, frequently) |
| HSJ ('increasingly irritated ... just tabloid journalism for me') | Articles (e.g. by Kaplan on how to solve cost crisis in health care) | Slides from external sources (e.g. DH; 'wordy, unclear, so difficult to follow through') | | Books (e.g. Jack Welch autobiography) | Regulator websites ('I often scan Monitor, just to see and I do look at the benchmarking data and I'm very often on CQC') | Twitter (useful for keeping up to date) |
| **Additional sources:** NHS Confederation summaries, The King's Fund reports, SDO documents (part of 'train pile'); documents from NHS Confederation annual meeting; management consultants | **Additional sources:** NHS Institute documents (e.g. Helen Bevan slides on change); 1 : 1 telephone calls with network of peers; DH e-mail digest | **Additional sources:** e-mails; national meetings; telephone calls with colleagues; ward visits ('If you want to see what's happening on the ground...') | **Additional sources:** external meetings (e.g. with PCT cluster head, CCG); NHSE; management consultants; solicitor; telephone calls with regulator | **Additional sources:** HBR; HSJ; site visits; visits to other CEOs | **Additional sources:** other trust websites; The Guardian Society section; Management Focus; SHA data (anything benchmarking related 'quite useful'); events (e.g. NICE); 'quirky little meetings' at local council; CCG events; coach | **Additional sources:** e-mail; The Guardian Health Network section; LinkedIn discussion boards; FT Development Agency folder; informal Action Learning set; blogs; talks with chairperson |

CCG, Clinical Commissioning Group; CQC, Care Quality Commission; M&A, mergers and acquisitions; MH, mental health; NHSE, NHS Evidence; NICE, National Institute for Health and Care Excellence; NLP, National Leadership Programme.

and mainstream management books, such as autobiographies of prominent CEOs, but also wider public sector publications, including *The Guardian* Society section.

The CEOs did not only cite written documents or publications as a key source of relevant information, however. Events, such as Institute of Directors (IoD) seminars and meetings of groups of CEOs, but also people, such as management consultants and the informal network of 'people of integrity' used by a mental health CEO, were also highly pertinent. Indeed, what quickly became apparent, once we compared the interviews with our observations, is that CEOs consulted more different sources of insight than the EBP movement would suggest. These included some sector publications based on traditional conceptions of evidence, such as King's Fund reports, but also 'gossip' e-mails, 'quirky little meetings' with external organisations without immediate relevance, sessions with personal coaches, and informal telephone calls with a former Action Learning set, to name but a few referenced during our observations. As we shall see, these were equally important as those 'evidence-based' sources of formal information in enabling CEOs to be informed as part of their role.

Before we discuss the diverse sources of information accessed by CEOs in their daily work, and the subsequently necessary expansion of what constitutes sourcing 'good' information in practice, we should reflect on some notable absences with regard to CEOs' external sources of information. In particular, we recorded only one reference to NHS Evidence as the epitome of a gateway enabling EBP in health care. We also did not observe any CEOs consulting scholarly journals, with the exception of the *HBR*, which aims to simplify and filter scholarly work for easier consumption. Equally, with the exception of one particularly learning-oriented CEO, whose steady organisational context enabled dedicated time for exploratory sourcing, we observed few instances of CEOs accessing external guidelines and processing them themselves. More commonly, if these were accessed, they were distributed to other staff as part of an ongoing conversation, for them to mobilise further. Similarly, management scholarship was rarely referenced, with the exception of the same CEO, who mentioned in an informal discussion with a colleague a piece of research as 'good emerging evidence' regarding how medics and managers learn differently. Notably, this insight was also originally obtained via a conversation with a colleague, rather than her reading the actual study. This again brings into question EBP's reliance on external, written, research-based, directly accessed information as the sole 'evidence' appropriate for 'best practice' sourcing. As we found, everyday practices of NHS CEOs reveal a much more complex and multifaceted picture.

A key part of this more nuanced picture was the various criteria we observed being employed to judge a source or insight as more or less relevant. In particular, what struck us were the greatly differing bases for decision-making, which reflected both practical concerns at that moment given the task at hand, but also personal preferences for accessing information, and in what format. For instance:

> [Monitor and FTN are] less useful . . . I need to know what they're up to but it doesn't have so much resonance [. . .], it doesn't help me in my world.
>
> *Acute FT, CEO1*

> I tend not to look at a lot of websites unless I'm chasing something specific.
>
> *Mental health FT, CEO1*

Here, the acute CEO saw Monitor and the FTN as less pertinent because they 'don't help [her] in [her] world'. In other words, because there is little perceived temporal contextual relevance, the information itself was simply irrelevant. Similarly, the mental health CEO noted that she visited websites mostly as part of a specific search, depending on the task. In other words, the particular context and task at hand mattered greatly in determining whether a source is accessed or information considered as potentially

germane. For instance, a CEO commented when asked if there are specific times or settings that are more useful for knowledge acquisition:

> *I think it depends on what the task is. So for example if I was writing a paper, you know, something quite technical then I would rely on more formal sources of information, because you'd need to reference them. If it was something less formal, then I would gather information from probably more informal sources.*
>
> <div align="right">*Acute FT, CEO4*</div>

We thus observed that different sources of information were accessed at different times, for different purposes and to different ends. As the same CEO noted later on in the interview:

> *I mean, there's a maintenance job to be done, isn't there, making sure you're professionally up to date but then there might be a specific job of work to be done and for me it's, you know M&A, where I'll say okay, if there's something coming up, [I'll attend an event specifically on that issue].*
>
> <div align="right">*Acute FT, CEO4*</div>

Equally, experience played a significant role regarding what sources CEOs found useful and accessed regularly. We observed that CEOs learned over time what sources 'worked for them', and tended to rely on a 'trusted few' making up their particular *personal knowledge infrastructure*. Though CEOs did reflect on these and change or adjust them as they went along, as we will illustrate, we saw that certain sources appeared simply as 'theirs': always consulted, like a habit.

> *I think it's quite limited, my sources of information. [. . .] And I suppose I've honed it over the years.*
>
> <div align="right">*Mental health trust, CEO2*</div>

Importantly, along with limiting sources of insight, experience also acted to occasionally 'liberate' CEOs from needing to rely on definite information as key to a 'good' decision or deliberation. Some reported that with experience came the ability to 'say no' to information, particularly formal external information, and instead draw on other, less formal, but equally relevant and situationally legitimate insights.

> *I think I'm more confident now. And I think therefore going through the ins and outs and if anybody challenges you being able to prove that it's in paragraph 5, subsection 6. [. . .] I think I've gained a lot through not having to have that piece of paper behind me to have the confidence to be able to say it.*
>
> <div align="right">*Acute FT, CEO4*</div>

The twin matters of purpose and experience are important because a key suggestion of the EBP movement is that the take-up of 'evidence' is chiefly determined by the inherent qualities of the 'evidence' itself, most notably its scholarly credentials, format and perceived timeliness. Instead, we observed CEOs judging sources more or less relevant for many different reasons, all of which contributed toward a personal 'ranking' making up a CEO's own preferred consultative horizon. Furthermore, the CEOs also identified preferences regarding the kind of information they generally favoured. In particular, when we asked what kind of information they prefer to receive, we found that the CEOs had either a declared or an in-practice apparent preference for *verbal information*, reflecting our observation that much of their daily work was conversational. Unsurprisingly, therefore, a great deal of their sourcing was accomplished in conversation as well.

> *I think my preferred source of information is what people say and do with me, so whether it's in the office or in the environment. [. . .] So I think that's where I've got a particular orientation, as opposed to enjoying reading tables of figures or even reading lots of material [. . .] people think I read all these set papers and I don't at all. But I know which bits to read to be able to get a whole picture sort of thing.*
>
> <div align="right">*Mental health FT, CEO2*</div>

*The head of quality comes in a minute later and asks [the CEO] if they could have a private word about the issue she raised with [the CEO] on Monday. The CEO says yes of course, and notes she is happy for me to hear it (the head of quality checks beforehand). They go to the private meeting room and have a detailed discussion there about a grievance issue that has come up . . .*

*Excerpt from field diary, mental health FT, CEO2*

Here, the CEO confirmed her tendency to engage with information in a conversational manner, as visible in just one example from our observations. When she has to read papers, which here refers in particular to internal meeting papers, she reads them to get at the 'whole picture', as opposed to reading in depth. She also commented that although she does have a liking for 'gossip', namely informally obtained insights that allow her to compare her organisation with others, this is combined with an emphasis on formality of presentation regarding written information.

*I think when I say I like gossip, it's always within a business context and it's always bounded. So actually I think I'm probably [. . .] less informal than most chief execs. [. . .] I like professional presentation of information [. . .] where I like to gossip is a bit of my rivalry self.*

*Mental health FT, CEO2*

The other mental health CEO in our sample voiced a similar preference, referencing another crucial insight we observed, namely preference for concise written information:

*. . . verbal probably the preference and if it's in writing it's got to be succinct and brief. I particularly dislike long reports and I dislike reports particularly if I have to read to the end to find the [gist] [. . .] Having seen the headlines, the context and a bit of research stuff, the summaries and recommendations, then I do a lot of enquiry with people [. . .]; well, hang on, that's not telling me this [. . .] I don't need to read the whole report, you should tell me.*

*Mental health FT, CEO1*

Intriguingly, this CEO linked this to her ways of working, influenced by limitations of her memory. As she noted later, 'I don't take everything verbatim, I take the gist, and then run with the gist. I have a crap memory and that's how I work'. In other words, though the observed CEOs largely seemed to prefer receiving information in dialogue, as we shall see in more in-depth examples later, any written information had to be easy to consume: structured, brief, to the point. Indeed, there was a sense that a short document focused on a few key messages was perceived much more easily as a 'good' source of information than a longer one. We observed this preference even for more detail-oriented CEOs. The associated danger was that a document not fitting such criteria would simply not be read, or that it could more easily be dismissed and sent for further reworking, thus delaying a particular decision. We observed that the same consequence could also easily be relevant for externally produced 'evidence': longer documents risked being disregarded simply because they are longer, not because of the value of their contents.

*[A longer document] automatically probably would incline me either not to pay attention [. . .] so there is a risk that poor decisions are made on the back of it or I'll throw it out and get it reworked.*

*Mental health FT, CEO1*

*Some stuff I just don't want. We get a vast overload of information and the outside world is extremely lazy about their communication systems so they believe if they've sent everything to the chief exec they've done their duty. In actual fact, all that does is overload my inbox, so it is likely not to get any attention.*

*Acute FT, CEO3*

*Given the volume of stuff that comes through if there's not an executive summary I'm stuck, actually I won't actually go into something usually [. . .] The business knowledge stuff I skim read so I don't do detail unless I think I need to go back to do that. So I tend to read the executive summary and then I, if necessary I'll dive into the detail. And if something isn't structured like that then I find it quite inaccessible. As far as the sort of developmental knowledge [. . .] again I will usually read the abstract first and so I get a sense of what it's all about, then I can make a decision whether it's something that is going to be helpful to me or interesting and then I can go into it.*

*Acute FT, CEO1*

Similarly, sitting in front of their computer or reading at a desk was not the only setting where we observed CEOs accessing information. Based on our observations, valuable information crucial to each CEO's work was accessed in various settings and from various sources, ranging from impromptu encounters and formal external meetings to ward or site visits. Notably, we observed that such occasions often provided more than just one insight, and that a single instance, such as a meeting, could be useful to the CEO for more than one reason. One example of this was given by a mental health CEO in her interview, for whom a local CEO group meeting was a particularly valuable source, not just because it provided an occasion for gaining first-hand insight into latest policy, but because of the more informal aspect of engaging with her peers, who provided her with comparative insights. The latter was seen as more important than the formal policy information presented. This is because it was through that informal exchange of insight, which she referred to as 'just chatting', that she was able to get a 'real' sense of where her organisation stands; a critical task of concern to a trust CEO.

*I do rely, I do like gossip. [. . .] I don't do social dinners and I don't do socialising at work. But what I do is I attend meetings that I've been booked into [. . .] and I use that as another data source. But like the chief execs group, [. . .] I actually find that an incredibly valuable source of data because we usually have [. . .] people like director generals from the Department of Health [who give] us their take on policy. [. . .] But the really valuable bit for me is being in a room with peers and just chatting about what your current issue is, and then you get a real sense of where we sit, as kind of benchmarking data.*

*Mental health trust, CEO2*

The importance of comparative insight is evidenced further, for example, by the same CEO adding later that that she scans the regulator websites often 'just to see and I do look at the benchmarking data. There will be an issue I want to look at that provider [. . .] I also increasingly look at other trusts' websites, just to see what they're focusing on, how we compare.'

In summary, the traditional analytical focus on external, written sources of 'evidence' as the prima facie source of insight must necessarily be expanded once one observes the realities of everyday CEO practices. In particular, what became obvious from our observations and interviews was that, just as written evidence was not the only source of insight for the CEOs, neither did they solely rely on a structured, purposeful approach to sourcing. It is to this question of *how* sourcing is accomplished in practice that we turn next.

### Sourcing in practice: the 'how' question

Though separating the two analytically is exceedingly difficult, not least because the *what* informs the *how* and vice versa, the question of what sources CEOs find more or less useful must necessarily be supplemented and refined further via an in-depth discussion of how those different sources get accessed in practice. In particular, as we will demonstrate, this work is accomplished via particular structures set in place by the executive. Notably, these in turn depend on the circumstances of that acquisition and of what is being acquired. In other words, we observed the CEOs actively constructing and maintaining distinct

mixes of 'tools of the trade', which together came to what we call a *personal knowledgeability infrastucture*. Engaging elements of this infrastructure allowed CEOs to go about their work appropriately informed. We observed that each CEO also had a particular personal style, which represented a distinct manner in which such sourcing was usually accomplished. CEOs' infrastructures included a specific collection of distinct props (e.g. formal meetings, informal visits, long telephone calls, frequent coaching sessions), but also a particular way in which these were brought to bear on each emerging issue or task, as we demonstrate.

As mental health CEO2 told us, 'her approach these days is to process information as she goes along' (excerpt from field diary). What was notable for us was the implied distinction of 'these days', suggesting the influence of time and experience, but also the revelation that this is done 'as she goes along', as part and parcel of her everyday work. An acute CEO similarly reflected:

> *A lot of knowledge acquisition to me is a by-product of something else I'm doing. So when I'm out on the wards, it's not about that. I'm not there to look for things, I'm there for my visibility issues and to see staff and to sort of recognise the contribution they're making. But at the same time I'm soaking up this knowledge too.*
>
> *Acute FT, CEO1*

> *We meet two men at 11.05 and the CEO introduces me as shadowing her. They walk together and she asks them to start with the history of the unit, listens to replies. Asks about who the patients are, how many are there, etc. They discuss use of facilities and funding, CE[O] notes should be locally done so when funding runs out, it doesn't just stop. Everyone should be on board, rather than just one person. Discuss staffing, how they work, what their goals are, what the competitors are. CEO then meets several patients in the day unit, then goes to a meeting room where she meets staff informally. She is very engaged, asking each member what their biggest challenges are. They discuss new ideas, for instance introducing physicians' assistants from the US (she is urged to do something). She tells me afterwards that this is really helpful for her, but also nice for staff to know that she cares.*
>
> *Excerpt from field diary, acute FT, CEO1*

As this CEO explained, and this and other observations of CEOs in our sample confirmed, while distinct instances of purposeful or occasioned sourcing existed, these are relatively infrequent or at least limited in comparison. Instead, acquisition often appeared more like 'soaking up' insights as one went along, as a 'by-product' of a CEO's changing tasks. This acquisition of 'raw informational material' for CEOs' daily performances appeared to a notable extent an instinctive practice, honed over time, and rarely reflected on explicitly: a tacit process of *know-how* developed over time. We particularly observed this key influence of experience on how information is sourced and how different sources were given priority in practice. As this CEO commented, sourcing is about setting up a particular 'structure' by which information and insights can best be obtained, given the CEO's growing experience, and then applying that to the varied tasks at hand. The question of prioritisation subsequently becomes a habitual process of making choices as one goes along, informed by what has come before.

> Acute FT, CEO1: *It's sort of again just creating structure or using a structure that had worked for me in the past and that's about experience really. [. . .] When you're first chief executive all these things it's, it's really hard to work out what is the most important but after a while it just . . .*

> Researcher: *Becomes instinctive.*

> Acute FT, CEO1: *That's right, yeah.*

We found that, just as the CEOs were aware of the particular preferences they had regarding sources and formats they received, they were equally aware of those they did not prefer, or that required different approaches to processing. In response, we observed them making appropriate adjustments to how they acquired and 'consumed' information to address these.

> I suppose I'm just a natural speed reader [. . .], so I don't read in depth, and [. . .], I don't want to get absorbed by the technicality of what's being said. What I want to do is get what's the thrust of this, what's the message. And so that's kind of my approach to processing information really quickly. [. . .] I'm conscious [though] that numbers are not my natural processing information, so I'll spend time, and graphs, so that's why you'll see I often print out those to read them carefully.
>
> *Mental health trust, CEO2*

We also found that it was not only sources and formats that CEOs recognised as being less ideal, but also approaches to engaging with information. As one CEO of a smaller FT acute shared, she recognised in herself a tendency to jump to conclusions without 'hard' information as occasionally unhelpful 'hastiness'.

> I can leap to decisions, I know that from my insight. You know, usually if I'm talking to somebody, it doesn't take me too long to come to a conclusion, then I have to pull myself back to say was that the right conclusion. So I know I can be a bit hasty.
>
> *Acute FT, CEO4*

Again, we observed CEOs often recognising such tendencies, and putting in place structures that allowed them to effectively address possible resulting issues. For instance, the above-cited CEO told us (and we also observed) that she uses her deputy in particular as a sounding board before any big decision, for example concerning disciplining another executive. The deputy will then often act as a safety check, and will step in to encourage further reflection or caution if needed. We thus observed that a central role in CEOs' everyday information work was played by distinct individuals making up their referential environment. Importantly, each was often assigned a particular 'scope' of knowledge-ness, for which the CEO would consult him or her as appropriate, given the task. Sometimes this reflected a formal body of knowledge of that executive, for instance the medical director (MD) referenced here:

> There's different paths for different information. So [. . .] I know [an executive] connected into an external organisation and he's giving me lots of information. [The MD] is very well connected with the medical profession. So you know, when [the MD] gives you a snippet of information, I'm encouraged to pick it up. [Another executive] does a different role and I'm expecting him to give me some stuff outside the sector. So I am looking for people to start giving me more information and ultimately the challenge for each of them is if they're not bringing stuff back in from either their sectors or whatever, then what value are they adding other than doing their job.
>
> *Mental health FT, CEO1*

Similarly, we observed that, because certain issues were deemed more relevant in light of what the CEO was attending to at that moment, information relating to those will be prioritised, which occasionally meant shifting into a different mode of information work.

> If it's something that [comes via e-mail that] I think oh yes, I actually need to understand this, so before I pass it on I will try and prioritise reading it. And that means actually take it home and doing it at eleven o'clock at night because that's the only time I can actually sit and focus on it.
>
> *Acute FT, CEO1*

Our observations thus suggested that, while CEOs may have a personal style of informating (i.e. keeping knowledgeable) as part of their work, this style was not always the situationally appropriate approach, so it could and did change. In particular, we saw that it also depended on the task and context at hand, which changed constantly.

### The how of sourcing in practice: an example of an acute foundation trust chief executive officer

In order to best demonstrate the complex interaction between different sources, the personal style of the CEO, and her context and tasks at hand, in relation to the *practices of sourcing* in particular, we consider one case in depth, namely a CEO of a large FT acute trust.

> *In terms of hard knowledge, because as you know my diary is so congested, if something sort of weighty comes and I know I need to actually get to the bottom of it, I either put it to one side and wait until I'm on a train journey or something like when I can read it, or actually give it to the director as I know who's going to be actioning it and ask them to do a briefing. [. . .] But I do try and tend for the really important things that I need to understand, all the nuances, I like to read it myself. [. . .] Or if I'm interested in something or concerned about it I'll go looking for it on websites and whatever and pull it off. Now in terms of actually soft data as you know from your field work I spend quite a lot of time actually in ward areas and beginning to develop patterns that I then go and test out [. . .] And I also, I network a lot, so I spend quite a lot of time talking to others about how they think about things.*
>
> *Acute FT, CEO1*

For us, several key insights emerged from this example. Firstly, the CEO makes a distinction between 'hard knowledge' and 'soft data', with each category featuring a distinct approach to sourcing and processing. For instance, 'hard knowledge', which here implies a certain 'weightiness' and a need to address the task seriously in order to 'get to the bottom of it', is sourced as part of daily work via structures that match its nature. In this case, it is a 'train pile': a folder we observed being compiled by the PA, normally over a period of several weeks, and given to the CEO prior to a work trip. The underlying working logic of this 'tool of the trade' seemed to be that it provided focused time away ideal for in-depth reading, which a 'weighty' document demanded.

Another structure we recorded the CEO setting up for sourcing key insights from such 'hard knowledge' is a briefing produced by the director whose area the document addresses. What was important is that such a briefing did not solely perform the function of informing the CEO of key insights. As she commented following the feedback presentation we gave, asking a director for a briefing, or to come back with a short document that highlights key messages following a team discussion, also performed the task of assuring the CEO. More specifically, it allowed her to assure herself that this issue was being attended to, but also that the director in question understood what the issues were and could address them in an appropriate manner. In other words, it again seemed that information might be sourced to inform a particular decision or discussion, but it might also be sourced to ensure that there is a common understanding of issues, or that certain tasks are being attended to in a satisfactory manner as perceived.

The CEO also suggested that sourcing is not something done solely by herself, with the sole purpose of informing her own practice or tasks. Instead, sourcing was largely a *social*, and occasionally a directly other-people-facilitated process, which was at times directed towards the CEO's own practice, while at others it is put towards informing the work of others. At the same time, it mattered what was being sourced, as much as to what end. In particular, as the CEO explained, 'I do try and tend for the really important things that I need to understand, all the nuances, I like to read it myself'. In other words, here sourcing was done directly by the CEO wishing to 'stay on top of things' that are important. This can also be seen in the sentence that follows, when the CEO stresses that 'if I'm interested in something or concerned about it I'll go looking for it on websites and whatever and pull it off'. Again, the implication was that, if the issue was of particular concern, the CEO took a proactive stance toward obtaining any necessary insight to address it, rather than waiting for the information to come to her via other sources.

Importantly, the proactive stance towards sourcing apparently 'important' information also reflected the CEO's personal style of working. Namely, while we observed this CEO to be highly invested in the questions of strategy, direction and 'sharing the vision' for the organisation, her working style on a daily basis was closely focused on the detail underpinning and informing those tasks. In relation to sourcing,

this meant she would actively seek out individuals, such as her executives, to obtain additional insights, she 'drilled down' into minute detail when a particular issue was of concern, visited wards and departments, and picked up the telephone, e-mailed or accessed documents herself when needed. Even though she had an 'open door' policy in the office, with frequent visits by executives with the 'latest' information, more often than not she was 'out there' sourcing first hand, as this example demonstrates.

> At 12.30, the CEO asks the PA if she is ringing the Chair or the Chair is ringing her. Just then the [director of nursing (DN)] walks in and notes she just needs to see the CEO really quickly, walks into her office and closes the door. She is back out in five minutes. The CEO continues to read a document at her desk and write notes in margins. At 12.40 the PA checks in about the Chair call, the CE notes she will have to go see the FD [finance director] in a minute and will bring her mobile with her. Continues reading through the document and writing notes on it. She goes out at 12.43 with the paper, tells the PA she will give the Chair a ring when she returns.
>
> *Excerpt from field diary, acute FT, CEO1*

In particular, for this CEO, conversational engagement with individuals, such as visits to wards and conversations with directors, was a key mode for sourcing what she called 'soft data'. As she reflected:

> I spend quite a lot of time actually in ward areas and beginning to develop patterns that I then go and test out or just sort of see what happens and then get some new stuff to them to be tested out [. . .] I network a lot, so I spend quite a lot of time talking to others about how they think about things.
>
> *Acute FT, CEO1*

For the CEO, key to this kind of sourcing was simultaneously developing patterns, testing thinking, and talking about different ways that others 'think about things'. This suggested to us that this instinctive, tacit work of sourcing was really about (at the same time) piecing together of information and insights in order to *make sense*. It is to this process of sense-making as a precursor and complement to mobilisation, which we observed this and other CEOs highlight as being crucial, that we turn next.

## Creating knowledge in practice: the work of sense-making

A key related question that followed on from how different CEOs sourced particular information or 'evidence' was *how they 'process' or make sense* of it as part of their everyday work. Based on our observations, this was a *largely social process*, involving conversations, relationships, reflection and to a notable extent informal discussion. It was also seemingly intimately tied with the narrative process of telling stories: to each other, to others, to themselves.

'Making sense', that is making links, seeing why insights matter and understanding their particular relevance for the task, CEO and context at hand, was seen as a critical component of CEOs' work. For instance, as we noted in one of our field diaries, 'after our workforce meeting yesterday [the CEO] said that was interesting how she exchanged information with colleagues informally; she calls that sense-making'. Importantly, the CEOs implied not only that this work was largely informal, but also that it was a tacit, almost ephemeral process that had less to do with knowing, and more with 'feeling': this was not knowledge, but intelligence. As another CEO stressed in her interview:

> There are a number of mechanisms, and then there's the actual keeping in contact with people. And feeling, feeling, just, you know, just getting a sense of the vibe. But that's more about how are things rather than specifics.
>
> *Mental health FT, CEO1*

In other words, the task of 'getting a sense of the vibe' or understanding 'how things are' was seen as a crucial component of being informed or knowledgeable. We observed that the importance of this sense of

'how things are' was particularly acute for CEOs, as they often recognised informally that the various formal systems in place alone could not assure them that they knew the important things happening in their organisations, which was demanded of them as accountable officers. Instead, we observed the CEOs continuously maintaining what we named in our analysis *personal knowledge infrastructures*, which were combinations of various sources, both formal and informal, but also various people, by which they could ensure that they were appropriately knowledgeable to complete their tasks. Being aware of 'how things are' in their organisations, as part of sense-making, was thus stressed as critical.

> *Because you know you can sit on that 5th floor and believe all sorts of nonsense, so that's about the sort of going round and what's actually happening on the frontline and sort of making sure that we're, that's my personal assurance but making sure that we have systemic assurance around all of the organisation.*
>
> *Acute FT, CEO1*

Based on our observations, this process of 'sense-making' was more often than not accomplished by CEOs 'going out' into the organisation or into external settings, talking to people, testing thinking, getting additional insights and then 'connecting the dots' between them, as the acute FT CEO memorably said. In other words, formal, written sources were necessarily supplemented by multiple others, including informal interactions CEOs personally had, because they recognised that there was no one simple truth in their work, but multiple, often competing ones.

Equally, we seldom observed there being one simple solution to a particular issue; other possibilities often appeared open, and it was not always clear that one was more objectively appropriate than the others. This meant that in practice we observed the CEOs not only considering every piece of information in the light of the particular nuances of their own contexts, but also continually considering others alongside it. As an acute FT CEO said in one meeting, 'I think for me we moved away from "this is knowledge, you receive it" to a much more sense-making world now, where they need to make sense in local context'.

Interestingly, this CEO's outline of the approach she takes to resolving this issue is compelling with regard to understanding CEO work in the context of competing information. In particular, accomplishing consensus appeared as an operational requirement for most CEOs, as opposed to a search for the ultimate 'truth', in attempts to resolve such conflicting insights.

> *. . . then what I'd be looking for is a way forward. So that I recognise I've got competing sort of information so how do I actually create something that isn't competing anymore and what are the ways in which I create a consensus, and I see my job there as a consensus maker rather than imposing decisions because imposed decisions never work. But equally people need to understand that a decision will be imposed if they can't seek consensus. So it is . . . a sort of creating a sense of driving people to a consensus but saying we're not going to spend the next 2 years trying to achieve consensus.*
>
> *Acute FT, CEO1*

'Making sense' in the context of multiple insights and various truths was thus accomplished in practice via a combination of 'triangulation' of different sources, gut feeling or experience, and a particular personal style.

> *Graphs are obviously very helpful. I mean, graphs tell a multitude and you can see it. So that's important to me. [Also, s]omebody, depending on who they are, telling me something, giving a view, and then how that links with my own intuition, because usually I have a position on most things. And then, how is that . . . either that's validated or not. And where it's not validated, then it depends on the strength of that argument. But most of the exec team I would, you know, if they said to me 'I don't think that's the right thing to do', I'd listen carefully.*
>
> *Mental health FT, CEO1*

*[G]oing out and talking to people is quite useful. The information that we got around us, so if I think about the eighteen weeks stuff that gets sent through or the A&E performance or about complaints data, [. . .] so I think there's a number of sources. What [a CEO is] trying to do for me is trying to triangulate that information, again either a cross mix of formal and informal to actually say well, is that judgment right. [. . .] I think I come to conclusions quite quickly through gut and then I'm not always very good at then saying okay, if that's my gut feeling, [. . .] it's usually pretty accurate, but then trying to say well, does this information support, I'll just confirm this, [. . .] actually does that translate itself to hard data, is that classified?*

*Acute FT, CEO4*

Indeed, some told us that the need to triangulate data was one of the key things they wish they had been told when starting out as a CEO:

*if I was being negative I'd say triangulate information, don't take what people have said or what you're read at face value, because if you make a wrong decision because you haven't done that triangulation you'll kick yourself.*

*Acute FT, CEO4*

In other words, far from popular images of CEOs or managers who do not rely on 'evidence' or who make decisions simply on one (usually recent) piece of information, the CEOs appeared acutely aware of the importance of decisions they made every day, and of making sure that those decisions were made on the basis of the best possible information. What constituted 'best possible information' was in practice less about the quality of a single piece of 'evidence', for instance external guidelines, and more about the consideration of multiple and nuanced sources of insight available to them, which were considered by each CEO as being appropriate or not to a particular task. Crucially, we saw that 'not taking things at face value' was important not only operationally, but also because it was in certain cases closely aligned with who the CEOs perceived themselves to be as managers and leaders. For instance, for this mental health CEO, continuously verifying various pieces of information and being aware of their particular undertones was important because not to do so would be to act without 'integrity', which for her was unacceptable.

*. . . me saying I'm a bit more formal, I think, is I hate unvalidated opinion. So for example, you know that the report I was reading from the Medical Deanery [. . .] it's the first evidence I've had that it really goes on at the NHS, that where personal animosity is then dressed up as evidence, which becomes an abusive power. [. . .] I feel that I'm rigorous about not doing that and rigorous in my expectations that I won't collude with that either. So I suppose that's why I am using the word formal, that I tend to conduct myself in terms of connecting and information gathering, I'm always checking out am I doing this with integrity.*

*Mental health trust, CEO2*

### Sense-making in practice: an example of an acute foundation trust chief executive officer

As before, we felt the most comprehensive way to depict *sense-making in practice* is via an in-depth presentation of a single case, namely a CEO of a sizeable acute FT. Firstly, the CEO relied heavily on sourcing via informal conversations with her executives, who would frequently pop into her office with the latest news. These conversations were facilitated by an open door policy and the physical proximity of all the executives on the same floor. The CEO would also frequently seek out information as she needed it, by visiting the executives' own offices. As she told the researcher on site one day, 'I realised with you being here how much I get up and walk around' instead of picking up the telephone, adding she 'cannot work on anything that requires focus here because she is constantly interrupted by people and also goes out to seek people out too, which she thinks is the right way of going about things, as it would feel quite different if she kept her door closed' (excerpt from field diary). Such a preference for conversational sense-making was also reflected in the relative absence of written information, such as large sets of meeting documents or external guidelines or publications. Whereas the offices of some CEOs featured

desks overflowing with papers, and briefcases filled every evening with documents to read at home, we observed only a thin folder of documents prepared for this CEO every day. The CEO indeed actively worked on keeping her desk as clear of paper as possible. As she flippantly noted to the on-site researcher, 'you know I don't read anything' (though this was not entirely true in practice). However, the CEO practically 'made up' for such distancing from written, both internal and external, documents via a notable reliance on a highly formal internal IT system registering performance across the trust. As she repeatedly stressed during our research stay, she 'couldn't manage this organisation without the systems they have'. She accessed the system regularly first thing in the morning, which appeared to allow her to get a sense of where the organisation stood in terms of performance in a way that was tangible and that she trusted. However, this was never the 'be all and end all' of her practice of being informed as a CEO.

Instead, the information accessed via the IT system was supplemented with subsequent informal discussions with her executives, but also unprompted visits on Saturdays or early mornings to particular wards, in order to 'see for herself' and make sense of what the 'hard data' of the IT system was telling her, as she told the researcher in informal discussion. Equally, the various information gathered as part of her working day, from formal external meetings, e-mails, telephone calls or informal chance encounters, was never simply taken on board. Rather, we witnessed it occasioning a process of iterative sense-making, where the CEO would think through and make sense of it mostly by speaking informally to her executives as the key referential mode of engagement. Crucially, this often seemed to happen almost as a by-product or 'side act', in the sense that the CEO would be visited or would visit an executive to discuss an informal matter, or a specific issue, only to continue with a prolonged informal discussion of another, as this example demonstrates.

> [The CEO and MD finish a meeting with an internal representative of a new sub-specialty, who] leaves at 09.58. The MD stays and [he and the CEO] chat about what they have on today. She tells him about the afternoon visit, which is a business pitch. Also notes she cancelled the next meeting because she read the info again and just didn't think it should happen [MD nods]. Reports to him what happened yesterday dealing with the regulator situation, adds there were tears. Also discuss the mistake made re their risk rating, which the NEDs were very mad about, and that she spoke to the lead (corporate) regarding what he needed to do to acknowledge his mistake and he didn't do it. CEO tells him about the access to the system she had this morning, which happened then didn't again. Asks him if he saw an e-mail from a person, she thought 'oh here we go', shows him on her telephone, he laughs . . . MD leaves at 10.11 as he has another meeting.
>
> *Excerpt from field diary, acute FT, CEO3*

In other words, this CEO's sense-making was rarely an A → B proposition. Instead, for her, one conversation as a space of sense-making often moved between several different topics, informing a number of different issues, and engaged towards a number of different ends, some of which were not the ends originally conceived. In particular, the amount of time spent in such conversations, which included discussion not only of operational or strategic (that is 'work') issues, but also of broader, informal topics, suggested to us that these also had the purpose of contributing to a construction of a particular social 'tribe', a key aspect of which was a shared understanding of the 'world'. This acted as an effective filter by which the CEO could assure herself that the distributed components that effectively kept her knowledgeable were processed and presented in a manner that she would find appropriate.

The importance of her immediate team for this CEO as part of her sense-making was reflected also in the high degree of delegation and trust she placed in her executives as a source of information. For instance, following one meeting with an internal staff member who raised a complaint, she turned to her MD, and asked 'how much of that was a whinge and how much had substance?' She then carefully listened to the MD's reply in order to aid her in making sense of the complaint. However, when the chairperson commented regarding how she learns about what is going on inside the organisation being executives in the room, her response was 'you would be surprised'. Again, despite this trust and the great amount of time spent with them, she did not solely rely on them to make sense. Other sources, such as the

aforementioned ward visits and informal encounters, along with the IT system, also played an equal part. Equally, whereas the CEO frequently highlighted the value of the longevity and coherence of her team, and saw the shared vision they had as a tangible benefit, she was also aware of the shortcomings of too much sameness, which was why she brought in a particular executive, who she stressed had a very different approach to the rest of the team in terms of how she thought, and was therefore a good counterweight in discussions.

A final crucial component that appeared highly relevant in our analysis of this CEO and her practices of sense-making was the specific context of her organisation. In particular, because of the high degree of success, but also the size and prestige of the organisation, the trust and its executives saw themselves as a 'maverick organisation'. This implied a great faith in their own abilities and approach, with frequent informal dismissal of many of the other trusts and regulators as sources that the CEO and team can learn from and make sense with. For instance, during a meeting with external visitors, the CEO described their approach as:

> let's just do it. Let's not bother talking to anyone else, let's just do it. And when it is a fantastic success, publicise it. The MD then adds that this approach of getting on with it and not worrying about what the Department says is how they have been living for a decade (people around the table nod).
>
> *Excerpt from field diary, Acute FT, CEO3*

Such an organisational approach, in conjunction with other components of the context, such as a close-knit team that has been together for over 4 years, and an emphasis on 'doing the right thing' even when they are not rewarded via Commissioning for Quality and Innovation (CQUIN) (in the CEO's own words), meant that sense-making in practice often proceeded in deliberate ignorance or at least slight avoidance of certain external information. This included for instance some regulator pronouncements, previous SHA leadership and the local group of CEOs, all of which we observed the CEO dismiss in conversation. Instead, other trusted sources, such as a particular national group of CEOs, were used to think through issues as recognised peers and therefore viable 'partners' to the CEO's sense-making.

The nuanced interaction of these various elements in the CEO's process of sense-making can be seen in a further example from her daily work, namely an unplanned discussion with the FD concerning the emerging problems within the executive team in light of a misjudgement made by one director in her absence. Though the FD stopped by to discuss another matter, and the conversation subsequently addressed a number of other issues, it eventually turned to an impromptu reflection by the CEO on the fallout from a HR reorganisation that was initiated by one executive without consulting other executives or indeed the CEO, leading to significant unrest inside the organisation and within the team. Prior to this encounter, the CEO had a more formal discussion as part of her regular meetings with the chief operating officer (COO) in order to address the particular issue and set the scene for putting a stop to it. In this conversation, she moved from addressing the particular task at hand, i.e. taking corrective action to stabilise the organisation, to verbalising concerns in order to make sense of their wider implications, and of what the subsequent actions might need to be for the team itself.

> They discuss other CE[O]s, local trust issues, then the CEO notes 'at the moment I don't think this team is functioning very well. There is a lot of friction'. Notes individual tensions between directors, the FD didn't know it was that bad. CEO adds 'what I can't have now is a complete lack of trust' between different parts, she is seeing cracks appear and she can't have that. Notes need to work on bringing people back to keel, because it is not going to work without trust. FD notes this normal in evolution of team and may be time for some to leave. CE[O] notes yes, but they may not agree with her assessment of who. Notes may not come to that, but she is having to refocus them more and more. This was the first time they had a significant error in judgment that disrupted the organisation, which they shouldn't have. They needed to have systems in place, but were ignored, which means she needs to get more control over things. Notes this wouldn't have happened in early days, because

*people would have discussed more. Trying to understand why that was done is still hard for her, because it doesn't make sense. Notes quite a few people not feeling very good at the moment. 'Don't get me wrong, this team is still out-performing any other by a country mile', but she is aware of it.*

<div align="right">*Excerpt from field diary, acute FT, CEO3*</div>

What is important again is that such sense-making appeared as part of everyday, mundane work. This process of seeking understanding was often, as was here, *unplanned and conversational*: accomplished with other people, in informal discussions. Finally, such sense-making also prompted a reassessment of the issue ('how good is my team as it stands?'), but also what the solution might be ('she needs to get more control over things', i.e. adapt the existing structure to insert more formal systems, with greater consultation).

## Knowledgeability foregrounded: the continual maintenance of a chief executive officer's knowledgeability infrastructure

### Factors that determined the personal knowledgeability infrastructures for sourcing and sense-making

The examples in the sections above and our comprehensive analysis suggested that three factors in particular appeared relevant to how CEOs sourced and made sense of information in relation to what we analytically came to describe as personal knowledge infrastructures, namely *context*, *nature of work* and *personal style.* These were reflected in the relationships, structures and objects, which together made up a particularly knowledgeability infrastructure, reflecting the nuances and interactions of different components for each CEO. In order to present the empirical grounding for these in a structured, but sufficiently comprehensive, way, we discuss each factor in relation to one CEO observed, which also allows us to highlight how these overlapped and informed each other in practice.

### Context

Firstly, the CEOs' practices of keeping knowledgeable in order to accomplish their work appeared considerably influenced by their *context*. This included both their institutional context (e.g. regulatory presence, stability and financial probity of the local health economy), but also their organisational one (e.g. financial status, stage of organisational development, maturity and stability of the executive team). For instance, for a smaller acute trust CEO, whose context featured considerable financial and operational challenges, consistent regulatory attention, and an executive team in some flux, this, combined with the CEO's relative newness in post, meant that she often proactively sought information in a detailed way. Though this also reflected the CEO's personal style of liking closeness to operational detail, the CEO told us that doing otherwise given her context would be inappropriate. In her words, 'she cannot understand why people who deal with the detail are derided. To the CEO, if she did the kind of big skies thinking in this situation, people would think "you are having a laugh!" ' (excerpt from field diary, acute FT, CEO4).

However, the CEO also regularly received insights from her executives and others, who called by informally, especially when the news was bad, which it was fairly frequently. Indeed, though there were many formal meetings, the pace of work in light of the contextual challenges meant much information exchange and sense-making was done on the go, with the CEO rushing from one encounter or meeting to another. This reminded us of a constant whirl of acquisition, sharing and mobilising, and often left the CEO with little time for dedicated reflection. As she commented to the researcher following a day full of meetings and informal encounters, 'there just isn't enough time in between meetings to think things through, so today she only had the walk across to think about what to say to the governors' (excerpt from field diary, acute FT, CEO4).

The trust's struggles further supported this CEO's personal emphasis on transparency, which meant the CEO spent a lot of time personally engaging and consulting with many different sources in an effort to hear them out, but also to account effectively for what she and the trust were doing to address issues.

This was often evident to the researcher in the CEO's observed efforts to get to the 'real story' relating to a particular issue. For instance a poor service panel review meant consulting many different sources, both formally and informally, in order to 'unpick', clarify and make sense. Because of the context of the trust, with its many competing versions of the 'truth' against a regulatory backdrop that demanded clarity and order, such 'making sense' appeared as a highly important, though often difficult task of weighing insights against each other with little time for lengthy deliberation. Finally, because the context demanded that the CEO and the trust account for their own actions continually, and to various external subjects, not just regulators, the CEO often practically emphasised 'hard evidence' and 'things in writing'. This meant demanding that decisions be minuted as they went along (in case they were required as evidence in a later stage), but also making the point that informal insights regarding big issues (e.g. whether to dismiss an employee informally cited by an external service review lead as inadequate) were simply insufficient to act upon. In other words, in the case of this CEO, for insights to be mobilised given the context, they needed to be written down. As she noted in discussion with an executive regarding the fallout from the negative external service review:

> *She is fed up of getting honest and direct feedback in person and then 'too euphemistic' replies in the formal report which give them nothing to base their actions on. 'I need evidence in the final report that I am happy to work on'.*

> *Excerpt from field diary, acute FT, CEO4*

## Nature of work

Secondly, the *nature of work* of the CEO in a particular moment in time informed the combination of relationships, structures and technologies making up the CEO's personal knowledge infrastructure, and also how she remained knowledgeable every day. This can be seen in the case of a mental health CEO, whom we observed during our stay increasingly moving away from operational detail towards a greater emphasis on external, strategic engagements. This was facilitated by the arrival of the COO (a role the CEO told us she intentionally created), but also the CEO's personal decision to move in that direction given her changing understanding of what her role should be, as also communicated to us during shadowing. Importantly, context also informed the nature of work. In particular, though the trust was engaged in an extended strategic transformation programme, which continued to demand operational attention from the CEO, we witnessed the CEO increasingly seeing her role as leading the work on organisational growth in order to continue the organisation's success. This meant, for instance, external bids for new business, which required formal and informal engagements in support of those, but also creating structures of learning and sense-making that supported that.

As she reflected at the start of our stay, one of her key tasks at the time was 'stepping back to see who within the team fills the void'. In particular, because the CEO was strengthening her team and putting in place operational structures that would ensure that the organisation operated with minimal direct involvement from her in terms of making it happen, this meant that the nature of her work every day was less hectic. The CEO was thus able to dedicate more time to engagements outside the office, including structured learning opportunities. This included the CEO 'taking over the stakeholder map on behalf of the organisation and leading on that', attending frequent local leadership meetings (e.g. chairpersons and CEOs meeting, Local Education and Training Board), visiting many different offices and units to 'drive change' and 'paint the context of what we are operating in' and learning from different staff members to find out 'how does it feel?' (excerpts from field diary, mental health FT, CEO1). For example, the CEO often used even relatively mundane tasks, such as taking photos with internal leads for a trust newsletter item regarding a new service, as occasions for 'getting a feel' for things.

> *After photos, CEO asks questions about how many people will be there, will they be here at night, where will the professionals sit, who will they be, i.e. seeks insights to understand this new service and how it will work in practice.*

> *Excerpt from field diary, mental health FT, CEO1*

During our stay, the CEO also made time for frequent half-day visits to other acute and mental health CEOs, and to attend an IoD course, as well as related seminars, as opportunities to learn via interactive engagement, which the CEO called networking. As she noted in conversation with the researcher, 'this place is ok operationally, but she is working on what her role is now and what her approach is to being a leader, which is why she spent time with [an acute trust CEO in London] yesterday' (excerpt from field diary, mental health FT, CEO1). All of these in combination meant that much of her work was done outside the trust, attending to issues of strategy, growth and personal development, as opposed to mundane everyday operational challenges.

That being said, the fact that work was mostly outside-focused did not mean that the CEO did not engage with everyday operational detail. Such detail was attended to, but always with a view of clarifying so she understood what the challenges were, demanding accountability when appropriate and encouraging the executives to take responsibility for dealing with the challenges themselves. The CEO did this either via regular executive meetings or via constant pop-ins to check on a particular executive, to give them guidance, but also gain understanding more informally. Equally, because strategic concerns often took her away from the trust, this meant that work more generally, including maintaining the CEO's knowledgeability, was often accomplished on the go: 'if she has an afternoon meeting away she will then stay at that location and make some telephone calls or make calls in the car, then go home to be with her [young child], then work more in the evening' (excerpt from field diary, mental health FT, CEO1). As the PA also commented, 'she will often come in the morning and will see [CEO's] sent inbox and that she sent things off in the evening. That is the usual mode recently because she has been out more than she has been in' (excerpt from field diary, mental health FT, CEO1).

## Personal style

Finally, personal style, which is both about the usual approach to work a CEO takes, but also their key objectives or tasks, appeared to affect the situated practices of keeping knowledgeable. For example, the CEO of a successful acute organisation discussed in detail above placed continued emphasis on accountability as crucial to the identity of the organisation and herself as the CEO. In her words:

> She believes she needs to do what she needs to do and what is right (and her board agrees with her on this), and if she gets fired, she is ok with that. She goes on to comment on the 'infantilised culture' of executives in the NHS.
>
> *Excerpt from field diary, acute FT, CEO3*

This was reflected not only in the structures she put in place (e.g. root-cause analysis meetings with the entire team, clinical or administrative, following a performance issue, with key executives, including the CEO, in attendance), but also how she prioritised her work in practice. A crucial part of this was her emphasis on patients and on 'doing the right thing', linked to the organisational identity as 'mavericks' noted previously. For instance, in one meeting the CEO commented 'I don't want to have a pile of paper here that doesn't have anything to do with what is going on with patients' (excerpt from field diary, acute FT, CEO3). The IT system in place was driven by this goal, and the CEO used it to support the immediate elimination of any 'bad care' in the organisation. Again, as the CEO commented once, she 'couldn't manage this organisation without the systems they have. This means people cannot hide and they have to face up to the fact that things didn't go as they hoped they would' (excerpt from field diary, acute FT, CEO3).

Similarly, the MD, but occasionally other executives as well, entered the CEO's office several times with the latest news regarding developing cases of poor care in the organisation, which she immediately prioritised, usually by bringing in other executive team members into the discussion to agree on and commence a course of action. Such instances reflected both her emphasis on accountability and patient outcomes, which are intimately tied with this CEO's perception of self, but also her personal style or approach to work, namely a notable tendency to accomplish work in close informal interaction with a core team of executives, with a preference for immediate action and for being verbally informed. As she commented in an informal conversation with the researcher, 'she really doesn't like writing reports and thinks actually if

you do like that, and sitting in a room and talking to no one, you probably wouldn't be a good chief executive (implies talking to people is important)' (excerpt from field diary, acute FT, CEO3).

### Infrastructures as continually adapted

Finally, we observed that these infrastructures also changed over time, with the CEOs actively and continually adapting them on the go. For instance, for the previously discussed acute FT CEO, who faced a major HR issue that negatively affected the organisation, this prompted a re-evaluation of the infrastructure, which had thus far been based on the large degree of delegation and trust the CEO gave to the executives, with consequently few formal structures to ensure everyone was 'on the same page'. Though she saw these as appropriate before, the issue brought her present arrangements into question. As the CEO commented to an executive in a one-to-one discussion, 'she didn't see any of the reports or the letters or the action plan [relating to this action], which isn't right. She needs meetings where everyone goes through everything, which will be laborious, but is necessary' (excerpt from field diary, acute FT, CEO3). As a result, the CEO decided that the team had over time grown too complacent and forgotten to consult each other, which meant moving toward instituting formal structures of information-sharing such as team meetings, whereas one-to-one informal sharing of insights as the CEO and executives went along was previously the norm. In other words, along with how, what and why, we observed that *when* was another question that mattered when it came to how CEOs remained knowledgeable in practice.

### Summary

In summary, we observed that three factors influenced the personal knowledge infrastructures by which the observed CEOs remained knowledgeable in practice, namely their contexts, their current nature of work and their personal preferences. These mutually and continually informed each other, so that it was impossible not to consider all three in relation, or to separate them out as entirely distinct elements. What also appeared to matter were the particular ends to which CEOs oriented their work, and thus required keeping knowledgeable for.

Given this, a further relevant means by which we can depict the interactive, non-linear and occasionally messy nature of all these different elements working together in CEO practices is by introducing how insights and knowledge 'moved' in relation to various settings and tasks the CEO found herself in. Put differently, above we discussed how the distinct structures the CEOs put in place to keep knowledgeable ended up looking the way they did in practice. Next we address how the various elements making up these structures interacted with each other, and allowed the CEOs to take certain actions as a result.

## How knowledge circulates in the local ecology

As noted above, more often than not, we observed that an insight obtained by a CEO from one source informed and prompted an engagement with another, either via further sourcing, or via subsequent mobilisation or 'bringing the insight to bear' in a conversation or task. Consequently, a highly pertinent metaphor that emerged as we were analysing our data was that of the *CEO as the sun*: constantly beaming, receiving and 'processing' massive constellations of insight, information and intelligence; standing in the centre of an unbroken metaphorical whirlwind of acquisition, sense-making and mobilising. This whirlwind nature of CEO information work could be seen from this example, which represents one of a great many similar mundane interactions we observed.

> *The CEO receives a rare text and subsequently takes the opportunity to check Twitter. She sees something and proceeds to open* HSJ *online (the article is on 'Smaller FTs face viability review', which she reads from top to bottom). She copies the text, puts it in the e-mail and circulates it to the executive directors. She then goes to [one in particular], tells him about the article, then returns to her desk. The executive comes back some minutes later after reading the article. He says it is 'very interesting' that it confirmed some of the things said this morning. '[A trust] told us they were*

*increasingly under scrutiny', adding 'they cannot really close hospitals with big PFIs [Private Finance Initiatives]'. The CEO listens and nods.*

*Excerpt from field diary, acute FT, CEO5*

Tellingly, the CEO accessed the same article the following day after a particular meeting, and again distributed it via e-mail, this time to a different set of people. The CEO later commented that she sent it around because 'it would clarify what we were talking about this morning' at the meeting (excerpt from field diary, acute FT, CEO3). In other words, the article acted as another thread of insight for the CEO to enrich and clarify the particular discussion at hand.

Our observations also suggested that CEOs' practices of keeping knowledgeable were a complex matter, involving many different sources interacting in non-linear and nuanced ways over time, as the CEOs attempted to make sense of and engage with information, insights and knowledge in order to inform and direct different tasks. As one mental health CEO reflected, different elements each serve their own purpose, and inform each other at the same time.

*There are a number of different approaches. Obviously you've got the formal information system where there [are] exec papers, the more formal stuff. You've then got e-mails, which is a useful way of just keeping in tune. But I think my own style is particularly is brief conversation with people. Just catching up with them, seeing how they are, bumping into someone, I just spend 5 minutes with [an executive], just a couple of things I just want to test out and now we're going to follow through with that. She's also told me about a couple of things. People dropping in and talking to me. So the intuitive thing leads to then the more formal stuff.*

*Mental health FT, CEO1*

As we also highlighted earlier, it seemed that timing mattered, situation mattered and the task at hand mattered. Consequently, we felt the best way to understand how such components interacted in practice is to zoom in on several crucial sources or settings with which and in which we observed CEOs keeping themselves knowledgeable, and operationalising that knowledge toward certain actions (i.e. 'doing mobilisation'). In particular, we will reflect on the props and mediators (or the 'object and people' infrastructures), conversations, meetings, networking and decision-making, as the key constituent parts of this practice as we observed it. As before, we shall first discuss these on a cross-case analytical basis, for presentational clarity, and then follow up with an in-depth case. Although space limitations prevent us from giving an in-depth overview of all seven cases here, a summary of these as they relate to each CEO can be found in *Table 3*.

### *Props and mediators*

Two crucial components enabling CEOs to remain knowledgeable in relation to certain ends were what we analytically termed props and mediators, or the object- and people-based infrastructures. These were distinct mundane objects and specific individuals or relationships by which CEOs kept knowledgeable and acted on their emerging knowledge. As before, these differed between CEOs (see also *Table 2*).

We saw that a very simple, yet very important, prop for some CEOs was their notebook or diary. Though a few CEOs almost never wrote things down, others appeared highly dependent on it. Not only did we notice that they had the notebook with them at all times, they also relied on it heavily in terms of jotting down key insights from each interaction, particularly formal meetings. They then reflected on those at a later stage, and brought those subsequent insights forth in different conversations.

*I tend to write things down in my notebook because the day after I'll have forgotten them but if they're written down then they're there. [. . .] So for example if I'm going to a chief exec's meeting I will write notes and then something occurs to me about well, we've done this, you know, I'll asterisk it or whatever so that I make sure that at the next information exchange that is raised.*

*Acute FT, CEO1*

**TABLE 3** An overview of personal knowledge infrastructures of individual CEOs (at time of study)

| Components of personal knowledge infrastructure | Acute FT CEO1 | Acute CEO2 | Acute FT CEO3 | Acute FT CEO4 | Acute FT CEO5 | Mental health FT CEO1 | Mental health FT CEO2 |
|---|---|---|---|---|---|---|---|
| Practices | Many operational meetings; regular ward visits; local and regional meetings; national leadership events | Frequent formal operational meetings; local operational meetings | Few formal operational meetings; few regional meetings; national policy meetings; informal ward visits | Many formal internal meetings; regular ward visits; external accountability-driven meetings | Formal operational meetings; regional meetings; internal meetings of executives | Large formal operational meetings; formal executive meetings; informal networking events; regional meetings | Formal regional meetings; large operational meetings; formal regional meetings; open plan office |
| Relationships | 'One-to-ones' with executives; external links to support key strategic task; informal networks of peers | Focus on trust and local relationships; rare national engagements (except regulator) | Close knit executives; 'trusted others' in sector; policy-level relationships | Local interactions with commissioners and other trusts; regulator; intense executive interactions; informal networks of peers | Informal interactions with executives; regional CEO interactions; old 'learning set' | Informal interactions with executives; informal learning visits; external events | Key trusted executives to sound off ideas; close relationship with coach; external events |
| 'Tools of the trade' | Open door policy; paper-heavy; notebook; 'train pile' of readings; conferences | Operational forms (e.g. Red Amber Green tables); informal conversations with executives | Internal system; few printed documents; open door policy; mobile and e-mail; reading and writing at home | Direction-giving e-mails; 'things in writing'; reading/writing from home; ward visits; open door policy; '3 a.m. worry lists'; corridor chats | Social media; few documents and notes; informal conversations and meetings | iPad and online meetings; meeting papers; CEO blog; trust visits; external networking and learning; coaching; calls 'on the go' | Websites and blogs; coaching; non-sector learning events; commute telephone calls; diary |

A further example was of a mental health CEO, who recorded notes at the back of her diary as she went along, which helped her organise her thinking, but also direct appropriate information toward appropriate ends. For instance, we observed her linking the work she has been doing in recent weeks to 'things happening out there', by recounting the various meetings she attended in her monthly update to the Leadership Board of senior staff.

Another mundane, but highly important object by which we observed CEOs both receiving and directing or mobilising different insights was e-mail. Like meetings and other structures, e-mails were a source of many different insights, each with a different mode of engagement by the CEO.

> I have about 60 e-mails a day after [the PA has] sorted [the inbox]. So they'll range from information about the bed space and things like that, which I look at very quickly and if it's okay I just delete it. If I'm worried about it, I'll go into more detail and find out what's going on. Then there's just messages from people, [. . .] it's like conversation but electronic. Then there is the stuff coming in from outside that as I say I need to read this.
>
> *Acute FT, CEO1*

In particular, e-mails often prompted further action. The CEOs would thus often forward it on to the appropriate staff member with a short note explaining why it was deemed relevant for a particular piece of work.

> . . . tells me what she is doing now is addressing quite a few e-mails that came in with reports attached, and just filtering them out, so forwarding them on with a note to say which parts are particularly of note.
>
> *Excerpt from field diary, mental health FT, CEO1*

Equally however, we often observed CEOs receive an e-mail, forward it on and then follow up immediately with a brief visit to that executive's office. Though this appeared to be double work, it actually was part of a prompted sense-making occasion for the executive, where the e-mail acted not just as a piece of information, but as part of a larger insight of 'what does this mean for us'. The CEO discussed and made sense of this alongside the executive in the follow-up visit. Though occasionally such sense-making work was quite specific and targeted ('I think we should do this about it'), we saw that just as often it was an occasion for a larger discussion about key issues of concern to the CEO.

Third, other mundane objects also acted as key props allowing CEOs to continue being informed as part of their work. This included BlackBerrys® and laptops, which allowed them to continue to work and be 'in the know' from home and other locations. The CEOs would thus often have another 'working mode' in the evenings at home, attending to tasks such as clearing their inbox, writing reports or reading larger documents. How these were brought in often reflected the personal styles and approaches to work that the CEOs had, as we saw above.

Finally, a number of people played a mediating role in this constant whirl of information, insights and intelligence around the CEO. Of these, we have already highlighted the importance of the immediate executive team and 'trusted others' as a regular consultative network through which CEOs made sense. However, an individual equally key to CEOs' keeping knowledgeable, and not discussed so far, was the PA. In particular, we observed the PAs facilitating the process of information sourcing by limiting calls, marking news stories with Post-its® and preparing them for the CEO alongside other information (e.g. complaints, post, messages from individuals who visited while the CEO was away), and filtering and occasionally responding to e-mails. They also acted in a key supporting role in enacting the necessary boundary maintenance strategies to allow the CEO to do her work. For instance, though most CEOs had an 'open door' policy that meant they received a constant stream of visits and insights, they occasionally found that a particular task demanded their undivided attention, which necessitated breaking with that

norm. At such moments, PAs frequently acted to 'stop the flow' of information, and limit what could be known right then, so that CEOs could attend to the key task of the moment.

> *As the PA walks out, she asks 'do you want to be shut in?' The CEO replies 'a bit, not a lot'.*
>
> *Excerpt from field diary, acute FT, CEO3*

### Conversations

Conversations, which largely took place informally, outside the structured confines of a meeting, played a key part in terms of CEOs sourcing, making sense of and bringing into 'play' various insights as part of their daily work. Indeed, a great proportion of the CEO's work that could be characterised as 'knowledge mobilisation' happened in such conversations. These were frequent, highly nuanced and seemingly never-ending, in the sense that a conversation concerning a particular topic actually meant a great number of separate interactive engagements over a period of time. Put simply, we observed that a great proportion of a CEO's day was spent talking, with different people, about different things.

> *[A]s you've seen, the sort of variety of the job and the fact that all these instruments [of information] are incredibly different and one minute I might be talking to [the FD] about the financial plan, the next minute I'm talking to [the MD] about dealing with a difficult doctor, and the next minute I'm talking to [head of nursing] about patient experience issues.*
>
> *Acute FT, CEO1*

> *The CEO hears a person [who presented the architectural plans at last week's operational meeting] talking in the corridor, calls him in, then asks him about the units located nearby, would like to go and see them. She then asks if a particular location is where the learning development centre would be located, notes this would be preferable. The man leaves after a couple of minutes, the CEO tells me she wants to go see the units to see if they are sending the right messages i.e. if they are central and accessible, not whether they are operationally sound. This is of major concern to her.*
>
> *Excerpt from field diary, mental health FT, CEO1*

Importantly, these conversations ranged from the deeply mundane to the highly strategic. Indeed, we often saw a CEO switch from a humorous discussion of, for example, gifts received abroad, to a serious conversation about a problematic ward and what to do about it in the space of a minute. Thus, it appeared simply normal to move constantly between such different modes; it was the way NHS trust CEOs worked.

> *The CEO goes out, chats to the people waiting outside (five of them just got out of the interviews) for a minute, then the MD and [another executive] come in, she invites them to read her e-mail (re a trip abroad). They sit down and joke about the lead for the trip, who they don't seem to think is very good. The CEO jokes about sending the FD and another director, which went so well last time (sarcastic), adding they need to understand who is also attending this trip, i.e. are they going alone or as part of a delegation, and with what consequences. They laugh then about their last trip, teasing the executive, then about toasters in the news (CE[O] jokes about 'tired of never seeing deities in your breakfast?' toast), then the executive updates the CEO on the decision made to appoint just now . . .*
>
> *Excerpt from field diary, Acute FT, CEO3*

Significantly, therefore, we observed that what could easily seem at first glance to be 'chatting' was actually serious work, through which many important issues were discussed, sense was made and the ground was laid for further discussions and considerations elsewhere. Crucially though, this was not only because they raised important issues for the CEO to consider and address, but also because they enabled the emergence of a community with a shared world view, which was equally important, as we will see in the final section.

Not only did CEOs constantly have different conversations about different topics, they also frequently mobilised the same insights toward many different ends. As we will see in more detail in the next section, on CEOs as weavers, such directional 'placing' or mobilising of information in a repetitive way was often part of the task of creating narratives that convince (differently, based on different audiences). For instance, in the smaller acute trust, the researcher saw the CEO receive news during an informal site visit with a PCT cluster CEO that the local clinical commissioning groups would fund a particular stream of activity. The CEO subsequently employed this as part of a conversation to convince clinicians in her trust that they have to take responsibility for good trust performance as well ('we've got the money, now we have to deliver'), but also in a conversation with a local Member of Parliament, to convince him that positive things are indeed happening despite present challenges.

Similarly, the same informal conversation, in this case with the PCT cluster CEO, was the source of multiple relevant insights, which the CEO then appropriated and mobilised toward different audiences, depending on the context and the task at hand. In such mobilisation, this insight was then considered in an ecology of other available ones, for instance from other executives, and operationalised accordingly.

*The executives raise the issue of [a service], the CEO notes she met with the PCT cluster head, who was impressed with them on that score. She thinks the strategy should be to speak to him, and also the local commissioners' lead to say it's unproductive for them to ignore [a particular service] and not to spend their money there. She is told this decision was actually made by the cluster heads, but the CEO notes this isn't the information she is getting from the cluster CEO we met yesterday, and the Director of Finance supports her on that, given that he had a similar conversation with the cluster CEO last week.*

*Excerpt from field diary, acute FT, CEO4*

Occasionally the CEOs also used external intelligence gained in conversation to validate internal figures, as part of their everyday process of 'triangulation' or sense-making.

*[In conversation with a representative of a sector data organisation], they discuss a staff member not being trusted 'out there', the CEO asks him to tell her if there are rumours out there questioning their figures [which is of particular concern to the CEO at the moment]. Notes the NHS is really bad for gossip, she would appreciate knowing what is out there.*

*Excerpt from field diary, acute FT, CEO4*

It was not just external intelligence that acted as a prompt for certain action, but informal internal conversations too. This was especially the case as part of the CEO's role as the symbolic figurehead, who could add weight to a particular discussion or issue by becoming involved. Here, insight was normally shared as part of a situation where an executive or staff member found himself or herself unable to address a particular issue. In such a situation, we saw the CEO marry that intelligence with other appropriate 'tools of the trade', such as written documents, or additional insights from other sources, and direct those together toward addressing the issue. Based on our observations, the act of mobilising insights thus often occurred via written documents and structured e-mails, though the sourcing and sense-making that informed it were performed via informal conversations.

*[The CEO and an executive are having] a very frank conversation about a project and how it is going, with the executive reporting details of the existing relationship with the contractors. The CE[O] notes she wants to chair the next meeting between them. When the executive mentions how silly the RAG [Red Amber Green] document that the other side produced is, the CEO asks if she has an electronic copy and to send it to her. She will then e-mail the other CEO to say this is a joke. Suggests they involve the lawyers, then asks what another person's view on this is. The CEO asks the executive if she has a list of all these issues, adding she would like it written down, bullet point style, in a document that she can take with her when she goes to see the other CEO.*

*Excerpt from field diary, acute FT, CEO3*

In summary, as a smaller acute trust CEO reflected, CEOs found informal conversations such as the one with the PCT cluster CEO, in which intelligence was shared, highly valuable sources of insight to be considered alongside relevant others.

*She also tells me she finds it very valuable to have meetings like this [with the PCT cluster CEO], because really this isn't the kind of information that will come to her written down, but the information she receives will very much play a part in her decision making.*

*Excerpt from field diary, acute FT, CEO4*

### Meetings

Meetings were another crucial component of the CEOs' personal infrastructures, facilitating an engagement with information and insights in particular ways. A pertinent example is from an executive meeting in a successful mental health trust, where we witnessed the CEO looking at the RAG document and struggling to make sense of seemingly competing insights regarding where they stand performance-wise, in an effort to make sure they all share a common view.

*'It looks very red [referring to the RAG rating document] for us to be having a discussion that is so comfortable. Can I just ask: as a team, do we know how we are performing?', could they go out and talk about their performance, 'what is the story about our performance?' When the lead says it is one of continuous progress, the CEO adds 'do we all know that, do we share that, where is the drive for it?' She seems to be challenging her team. Stresses again she isn't sure they have a shared sense of their performance. Notes they need some time to properly consider the report, because she sees red and gets worried, but then hears the discussions and the nuance and it doesn't sound that bad.*

*Excerpt from field diary, mental health FT, CEO1*

Thus, internal meetings frequently acted as a highly useful setting for CEOs to make (joint) sense of their organisations in conversation, weigh different insights against each other and secure consensus on how to proceed next. However, such meetings were not solely about sense-making between the executive team. Indeed, though a meeting occasionally appeared to be about one thing, for instance finding out where the organisation is performance-wise, meetings often allowed the CEO to accomplish a number of different things, some of which were not obvious unless the CEOs were able to reflect afterwards.

*[K]nowledge acquisition is an important part of that but it's actually subjugated to the chairing of the meeting. But when I'm going to an external meeting then knowledge acquisition is an important part of it, and again what I tend to do is I try and take notes in a way that makes sense so that . . . Because I can then prepare to brief my team or whatever as I write my notes . . .*

*Acute FT, CEO1*

This was also the case for the following CEO, who outlined afterwards the multiple objectives she accomplished during a particular committee meeting:

*she adds that one of her tasks during that meeting was assessment of the meeting chair [who is a NED], as part of the trust Chair's process of annually assessing the NEDs. She also picked up the issue of vacancy and the staff survey in her notes from the meeting, which the head nurse and her will pick up later and discuss. In addition, she tells me she did a bit of leadership observation in terms of the two assistant directors and their personal performance as part of their development commentary for the annual review. Finally, she explains the context behind the discussion re vacancy [. . .], her instinct is to raise the issue and make it a cause for change.*

*Excerpt from field diary, mental health FT, CEO2*

Similarly, much like with conversations, CEOs made sense of insights gathered from meetings in the context of the task they are currently attending to and the ongoing issues, which they then brought to bear toward those in different settings as appropriate.

> [L]ast Friday she was at a mental health CEOs meeting and had various discussions there which she will then bring to different meetings. Today, for instance, the discussions on safety [will be brought] to the first Quality meeting and then the information on needing to think a lot more holistically about mental health to the afternoon one, which came from her discussions with the Scotland and Wales Medical Directors last week [at a different event].
>
> *Excerpt from field diary, mental health FT, CEO2*

### Networking

Though some CEOs found external networking a personally challenging task, creating and maintaining appropriate referential networks of peers was seen as operationally useful, not merely as an information source ('what is happening out there in the world?'), but also as an aide to sense-making ('what does that mean for me, my trust and the approach we are taking?'). Most of the CEOs in our sample spent considerable time networking during their working week, by attending conferences and giving talks in order to maintain the profile of the organisation, taking meetings with external executives potentially useful to the trust or joining local and national meetings of peers, such as the National Leadership Council or the local Chief Executives Forum. As part of these meetings, the CEOs gained formal insights, but also informal 'feelings' on particular issues via informal conversations with their colleagues.

Notably, this 'talking to others' in an external, networking-oriented way was a critical means by which CEOs made sense of their ecologies of information in practice, by sharing insights and testing their own thinking. They reported that this allowed them either to be more certain of their particular understanding, or to be challenged in considering another, potentially useful perspective.

> I network a lot, so I spend quite a lot of time talking to others about how they think about things. And I find that fascinating because I think there's a very clear line of sight on something and very often people will confirm that, but equally often they'll actually give me a different perspective.
>
> *Acute FT, CEO1*

However, networking was seemingly useful not just in the context of the CEO making sense. Occasionally, establishing those networks also had a direct operational consequence, in that other executives or individuals would contact the CEO with latest news of potential consequence, which would enable the CEO to action this insight further within the organisation to avoid any negative repercussions, or to steer existing work in another direction. Such sharing would also enable a shared worldview to emerge, as can be seen from this example we observed:

> The CEO takes a call from a chief exec of a local community organisation, who are in negotiations with the PCT about their CQUINs and wanted to check in whether they were also subject to this clause that said if anyone in the patch fails any of the CQUINs, none will be paid out. The CE[O] listens and says she will check with the FD. When they finish, she calls the FD quickly and explains the situation, asking whether he has committed their organisation to a similar commitment. Agree to speak in the office. She then tells me that if you get relationships right, people will call you before they do things, which is very helpful.
>
> *Excerpt from field diary, mental health FT, CEO2*

### Decision-making

Finally, decision-making was a particular setting where similarly we observed different sources being considered and made sense of together, including personal experience, informal insights and formal 'hard' evidence. We introduce one case of decision-making in practice as the most effective means of presenting the material, namely whether the CEO of a successful acute FT trust and her team should proceed with more in-depth discussions concerning possibly taking over a struggling trust.

In particular, the CEO received an e-mail from a company leading on this process to enquire if they would be interested. In order to address this question, the CEO convened an informal meeting of her executive team plus the head of informatics (HI), in order to discuss the issue and decide collectively. Before we introduce the meeting however, it is important to stress that such instances of focused decision-making (i.e. one decision made following one focused meeting whose sole purpose was to address this very question) were exceedingly rare in our observations. Instead, we observed that for the most part CEOs made decisions over time, interactively and in a piecemeal fashion.

> The CE[O] kicks off the discussion at 14.45, with the e-mail from the consultants on the screen. Notes she feels this was a particularly poor document, explains to the director of nursing (DN) what a super chain is. Reads what the other trust's current performance is from the document, the head of informatics (HI), with a wad of documents in his hand, adds it is actually not bad, though mortality is. DN notes yes, no money and bad mortality. The CE[O] then asks the head of informatics to say in more detail what the trust's performance is like. He speaks to print outs (maybe twenty five pages, with individual graphs displayed on single sheets) and tells them what it is re outliers, mortality, letters of complaint, in-patient activity, and A&E. CE[O] asks what their A&E numbers are, COO says. DN, who lives locally, gives more insights. HI goes through [two figures], FD notes they should be making quite a bit of money on that. HI notes second worst on a particular surgery nationally, shows on the chart/map where their patients come from. DN notes because of location it is likely that it is [particular] patients who will show up there. HI shows referral sources, execs discuss individual numbers. HI notes market share is flat, MD asks to clarify [. . . Another figure is] ok, but significant outliers in two areas (MD and COO note for one of the areas they don't have the clinical experts there, which probably explains it). [. . . They discuss capital, and the characteristics of the local population.] CEO sets up Google Maps [Google Inc., Mountain View, CA, USA] so they can see what the hospital looks like. [. . .] COO asks why struggling then, DN replies. [. . .] CEO says ok, they can now say no, or explore it further. Several executives say immediately they should explore further. The FD asks [where the request came from], MD notes [a local policy lead] would be supportive based on their conversation. CEO notes the first thing they should do is get a hold of this person who sent them the offer, the CEO met him but can't remember. Head of Corporate says he knows him, CEO asks if he is alright. The impression is he may be looking for a job with them. Head of Corporate notes another trust already tried, but failed. CEO notes should meet with the man next and asks who would like to come along. [They agree who will attend the next meeting and confirm that they should see first what the consultant says, before deciding anything further. The meeting is disbanded after approximately 25 minutes.]
>
> *Excerpt from field diary, acute FT, CEO3*

What was particularly notable for us regarding this case was not only how the discussion seamlessly went from information from their systems, to executives' less formal experiential insights, and back again. It was also the level of detail discussed, which supports our observations elsewhere that CEOs did not make decisions 'on the back of the envelope', that is hastily, without due consideration. As this example demonstrates, CEOs more often than not carefully considered different sources over time, seeking consensus and a proper basis of (situatedly appropriate) 'evidence' before proceeding with a particular course of action, even when it was a relatively low-risk matter such as continuing the conversation or not.

## Chief executive officers as weavers: the work of evidence in practice

Finally, our observations suggested that a key mode by which mobilisation was enacted in practice was via joining together different insights towards a shared worldview and an emergent strategic narrative. In other words, CEOs often acted as *weavers*, bringing together different insights and existing knowledge, interactively considering and piecing them jointly back together for meaning, and then repeating the emerging insight across different settings, either to different ends, or as part of a larger effort of building coherent narratives intended to convince. As one acute CEO reflected in her interview, 'a part of my job is to link all those [layers of the organisation] together [. . .] and find a language that will actually work at all different levels'. These narratives ranged from 'we are the best trust to run small hospitals' (large acute FT) and 'we need to do things differently and you are in charge of that' (large financially-challenged acute FT), to 'we are doing much better than you think' (struggling smaller acute FT) and 'we are in the best position ever as a trust' (successful mental health FT). Practically, they also involved at the same time in engaging and convincing internal, as well as external, audiences. As before, we have chosen to structure this section by first starting with a cross-case presentation of data that demonstrates the various key insights emerging from our shadowing, and then following with an in-depth illustration of how such weaving is done in practice by one CEO.

A key part of the observed CEOs' role as weavers was what one CEO referred to as 'connecting the dots': bringing separate insights together in order to refine or join existing efforts, and make 'bigger sense' of the insights and issues at hand. This was seen as a key task of a CEO.

> *The CE[O] tells me she is just writing an e-mail because she had a meeting yesterday morning with her COO about the management restructure, and then with the management consultants in the evening about the service line, and this morning had a thought that these should be brought together, so she is just writing to the COO to connect the dots (she would have spoken to her, but the COO is away).*
> *Excerpt from field diary, acute FT, CEO1*

In addition, such weaving frequently served the function of 'creating evidence', as the basis for support of a particular narrative and goal. We observed that formal 'evidence' as understood by the EBP movement occasionally played a part in this process, for instance when a smaller acute trust CEO sought to manage the fallout from a poor service review by inquiring whether external guidelines were followed in a particular case so that this could be used as part of the constructed, CEO-driven 'evidence' that the review's findings were not entirely accurate. However, such formal 'evidence' was in practice merely one component of the constellation of insights, experience and intelligence being considered and thought through.

We can see this also from a meeting we observed between an acute CEO and her head of nursing, in which partnership working, as a key strategic issue for the trust in terms of effectively addressing present and future financial challenges, was discussed and made sense of in light of different 'bits of evidence'.

> *In conversation with the Director of Nursing, the CE[O] asks 'how do you think that contract is working' [with a partner organisation they are about to meet]? She then mentions the discussion at the Information Exchange meeting [of the executive team] yesterday, where it was highlighted that they are in the small group of trusts not saying to their staff 'hit CIPs [Cost Improvement Programme targets] or get sacked'. They continue to discuss strategic alliances, then the CEO gets up and grabs a pamphlet that she picked up at the Confederation conference last week. She thought she would 'find some nuggets there, but . . .'. 'What would be really helpful now that we are 18 months into the joint venture is a report on how it's gone and lessons learned'. They discuss [a region] and the work happening there concerning the joint venture work ('that's the model I really want to look at'). CEO also notes she recognised a lot of the information the representatives from NHS Elect [who came to see them earlier] were saying from her California visit last year [as part of personal development],*

*where she learned about a company there doing work with diabetes discharge management. She then gets up and takes a report from the table ('Map of medicine') and shows the Director: 'that's us' regarding ambulances.*

<div align="right">*Excerpt from field diary, acute FT, CEO1*</div>

Such insights were subsequently 'operationalised' as part of an emerging narrative via repetition. Namely, as we briefly suggested earlier, another critical component of CEO weaving was the simple act of repeating a certain insight a great number of times in different settings. In particular, certain particularly compelling ideas were often in practice repeated until they became established as something akin to an unproblematic piece of 'evidence', brought up in clear support of certain courses of action. For instance, 'the work in [another NHS region]' was often casually mentioned in many disparate conversations, including the meeting recounted above, during our time with this CEO. This was so much so that at one point the researcher on site reflected that:

*in a meeting with management consultants following TMT, I just noticed [the CEO] mentioned again the 'work [a named man] did in [another region]'. I have no idea who [this] is, but it keeps being repeated and never with any more information than that, at least without me noticing.*

<div align="right">*Excerpt from field diary, acute FT, CEO1*</div>

Thus, we witnessed that CEOs did not merely consume or rely on external 'evidence'; they created and weaved their own as part of their everyday work until it became effectively taken for granted.

### *Weaving in practice: the case of a mental health chief executive officer*

A notable example of the many nuances of such weaving in practice toward the creation of strategic narratives was the case of public accountability, which the CEO of a successful mental health trust weaved over time into a strategic narrative of the membership organisation, as a viable vision of the future for the trust. Crucially, as part of this weaving, insights in support of the issue were also refined and repeated in conversation with notable individuals, as part of a conjoined effort to get everyone 'on the same page'.

Specifically, at the start of our research stay in the organisation, the CEO shared that one of her aims was 'to introduce public accountability in a much more meaningful way', which she repeatedly stressed in other fora, for instance at an internal meeting of staff, where she noted 'getting open and accountable will be a stronger drive for this year' (excerpt from field diary, mental health FT, CEO2). Her goal in particular was to make governors much more meaningfully involved.

However, one obstacle for this vision was the board chairperson, who had particular reservations about public meetings of the board as one means by which public accountability was being defined by the regulators. In order to address this, the CEO met with the chairperson, another NED supportive of greater public engagement and the head of corporate governance, who had detailed knowledge of the necessary legal requirements. During the meeting, the CEO first linked the strategic drive toward greater public accountability with her vision for the trust as a *membership organisation*, as a unique organisational identity by which they could effectively distinguish themselves from others.

*The CE[O] notes it is important to go with their values, which is what makes them unique. For her it is about how far they have gotten as a membership organisation, how can the technicalities of the public board meeting not compromise their work on involving, and public accountability to their members. Adds there is 'a massive opportunity to do this differently than other people', compares them to [another MH trust], which even though it is a leader still sees governors as something to deal with, not work with. It is a big strategic opportunity for them, but it is hard work [. . .]. Notes this would give her and the Chair a platform for some public work, which they haven't done in years.*

<div align="right">*Excerpt from field diary, mental health FT, CEO2*</div>

Thus the CEO here mobilised or weaved different sources in order to convince the chairperson that the particular operational task (e.g. holding board meetings in public) made sense as part of a greater narrative of who they wish to be as an organisation. Importantly, the conjoined process of winning over the chairperson and constructing a strategic narrative of the 'membership organisation' did not stop here. In particular, some days later, the CEO received an e-mail with information about the meeting of the new commissioning board, streamed online in real time, which she forwarded on to the chairperson and followed up with a call to explain why it is pertinent to their discussions. She also later accessed a PDF document from Monitor outlining arrangements for FT public board meetings, telling us this was 'a part of the dialogue she is having on that'. Similarly, a few days later, at a meeting of CEOs at the local SHA, after the SHA lead highlighted the need to listen to people out there and their staff as the key things that will emerge as critical from the Francis Report,[100] as will accountability, the CEO turned to her chairperson and quietly commented that this is what they were talking about at their earlier meeting.

Interestingly, the next day this insight was linked via repetition to internal concerns at a meeting of the executive team, when the CEO brought up the previous day's meeting, and noted that she wanted to highlight how important their work on being an engaged organisation was in the context of last night's emphasis. She then also linked this to the concerns from the DH regarding what will come out of the Mid Staffordshire NHS FT investigations, but also to her views on accountability and their work as an organisation on clinical leadership. Similarly, during a service event some days later, the staff members there told the CEO about the presentations that morning, which the CEO linked to the discussions with the chairperson about them as a trust moving beyond just their governors in terms of public engagement, and being a lot more local and community based about it. When the researcher later commented how interesting it was to observe the kind of links the CEO made to their 'big picture' work on public accountability, and the membership organisation, the CEO agreed, noting that was why 'those things are so useful' (excerpt from field diary). In other words, though the emerging narrative of the membership organisation was brought to bear towards the task of convincing the chairperson of the board of a particular course of action, it is also used to inform other narratives in that context, such as the importance of their work on clinical leadership, with the effect of extending and 'strengthening' it further.

# Chapter 5  Discussion of research findings

In this chapter, we summarise our findings and discuss how they inform our thinking on the process of knowledge mobilisation by trust chief executive officers in the English NHS. Our research has been informed by a view that, to understand managerial knowledge mobilisation, one has to abandon the traditional, narrow and utilitarian idea implicit in the concept of utilising knowledge, as well as the cognate view that information behaviour and knowledge mobilisation constitute well-identified activities that are carried out over and above the normal duties of managers. Instead, we have proceeded on the assumption that much is to be gained if we focus on everyday practices as the context within (and a process through which) knowledge is mobilised and information is acquired and dealt with. As a consequence of these core assumptions, which we derived both from our own previous research (see, for example, Nicolini et al.[11] and Nicolini[14]) and from the literature review, we focused on the concrete and mundane information practices carried out by NHS trust CEOs. Our aim was to observe and capture the knowledge and information work performed by these executives, or, more precisely, the informational and knowledge-related dimension of their everyday professional practices. In short, our practical strategy has been to examine the issue of knowledge mobilisation as one part of the work of NHS trust CEOs.

This research strategy has allowed us to produce a new and original vista on knowledge mobilisation by top executives. In particular:

(a) We have provided previously unavailable empirical data on how knowledge and information enter the daily activities of NHS CEOs, how such knowledge and information are sourced, for what purposes, how they are put to work and what is the 'social life' of such knowledge and information.
(b) We have shed light on the processes through which CEOs ensure that they have the necessary informational and knowledge resources to carry out their duties. Our findings suggest that such processes are notably social in nature and context-dependent.
(c) We have shown that the specific job requirements of top executives strongly influence their practices of knowledge mobilisation and the type of knowledge work they carried out. CEOs were rarely involved in information search or analysis for its own sake, and were rather focused on sense-making and sense-giving in relation to certain issues of the moment. They did so mainly through conversational activities and narrative strategies.
(d) We described knowledge mobilisation mainly as a personal and organisational capability, which we suggest can be learnt, developed and nurtured.

Overall, our findings suggest a radical rethink of the idea of knowledge mobilisation in the context of top management work in the NHS (and beyond). These findings also have potential far-reaching consequences for any future attempts to make top executives in the NHS more 'evidence-based'.

In the following paragraphs, we further elaborate these findings and propose a number of new concepts and categories. In the final section, we briefly examine how these findings may be relevant for policy-makers and practitioners, and what sort of implications they bear for future research. A succinct summary of our findings against the original research questions is provided in *Tables 4* and *5*.

As we have shown in *Chapter 4*, while NHS CEOs deal with information and knowledge all the time, they very rarely mobilise knowledge in the canonical way described in many of the existing models discussed in the literature on knowledge utilisation (see *Chapter 2*). The orderly, linear and stage-based models presented in the literature are not false: rather they constitute an abstract description that only partially captures how decision-making unfolds in practice, and how knowledge enters the life of CEOs. Most of the time, in fact, information-gathering unfolds in an informal, tacit and almost invisible way; decision-making, in turn, takes place in ways that are not captured by the traditional rationalist and simplified models. In our study, we have indeed encountered occasions when decision-making

**TABLE 4** Summary of responses to the primary research questions

| Question | Answer |
|---|---|
| What are the material practices and organisational arrangements through which NHS CEOs source and use existing knowledge and evidence? | The CEOs we observed put in place a personal knowledgeability infrastructure, which comprised a very personal set of practices, props and relationships, and was aimed at helping them to make sense of evolving events and staying on top of the things they considered as a priority. This very fluid infrastructure changed over time and was refined based on their experience, their tenure in a particular position and the nature (including perceived maturity) of their team and closer stakeholders. All the CEOs we observed gave priority (some openly, by highlighting it as their 'style', others more practically) to conversational and dialogical ways of sourcing and processing information. Thus, a great part of their knowledge as it relates to their job was derived through mundane and occasioned monitoring, rather than intentional information-seeking. They all relied on reporting systems to receive 'hard' data, but considered this in many cases a hygienic factor, rather than the main source of information that allowed them to carry out their job. Even the 'hardest' data needed in fact to be put into context by triangulating them with other 'soft' data collected in previous occasions more or less deliberately. Monitoring, weaving conversations, connecting the dots, triangulating, initiating the collection of further information and making sense were thus critical practices through which CEOs sourced and made use of existing knowledge. A critical role in the process was played by a small circle of trusted people who allowed CEOs to test their emerging sense-making, try out the strength of their conclusions and get a sense of whether the information they had gathered was adequate to arrive at the best possible decision |
| How are different types of evidence used (if at all) in their daily activities? | All CEOs consulted and used a large variety of knowledge resources over and beyond those traditionally considered as sources of evidence (we discuss the latter as part of our literature review). Information was converted into 'evidence' through double-checking, contextualising and triangulating efforts carried out mainly through social interactions |
| Do the source, the content, and the format in which such evidence is presented make a practical difference in terms of patterns of mobilisation? | Our study suggests that searching for intrinsic properties that may make evidence more or less useful or used can at best produce very generic answers. The quality, relevance and usefulness of evidence is in fact determined by a combination of purpose, personal experience and urgency for that executive at a particular time. Although the CEOs customarily preferred quick, clear and visual messages, they also read long and complex documents when these fitted their needs and interests. Similarly, the source and content of evidence did not seem to predict its use or relevance, as the CEOs were continuously surrounded by products issued by a variety of authoritative sources. While some external sources were seemingly accessed on an almost habit-like basis (e.g. *HSJ*, NHSManagers.net), it was equally true that a document issued by NICE or the DH was customarily delegated to members of the team where it did not fit the attention horizons of the CEO |
| Are there specific organisational arrangements that support or hinder the process of knowledge mobilisation by top managers? | Our research suggests that the question should be reframed as: is my personal knowledgeability infrastructure adequate to the demands of my job, the pressure and state of my environment, my style and preferences, and the type of manager I wish to be? Although the answer is necessarily contingent, based on our observations we suggest that a personal knowledgeability infrastructure can incur a number of shortcomings. These include:<br><br>• information inadequacy derived from insufficient monitoring, wrong mix of monitoring practices, wrong or insufficient social relationships, use of inadequate or insufficient props and information overload<br>• contradiction or lack of alignment between the knowledgeability infrastructure and the demands of the work<br>• contradiction or lack of alignment between the knowledgeability infrastructure and the demands of the environment<br>• contradiction or lack of alignment between the knowledgeability infrastructure and the personal view of what a good manager should do and how she should appear<br>• lack of a trusted inner conversational circle leading to poor/failed sense-making or superstitious learning (tunnel vision and group thinking)<br><br>Executives can discover these inadequacies only through (1) breakdowns and failures, (2) comparison with the practices of others and (3) reflection and self-diagnosis. Necessarily, however, in this conceptualisation, the answer will also only be contextual; that is, there may be no universally 'right' mix of monitoring practices or social relationships |

NICE, National Institute for Health and Care Excellence.

**TABLE 5** Summary of responses to the secondary research questions

| Question | Answer |
|---|---|
| Are NHS CEOs subject to the same fashions as other managers? Is scientific evidence effectively used at all? Is there a hierarchy of preferences with regard to the material form of such knowledge and evidence? | Although CEOs showed themselves to be conversant with a generic managerial jargon, their reference to the latest management fashion was limited, reflecting the tendency of the NHS to adopt fashions quite late. Overall, CEOs relatively rarely searched, retrieved, consulted and quoted scientific and other forms of formal evidence in person (though we noted notable exceptions when this was not the case). Instead, we observed much more frequent instances of them ensuring that these had been considered elsewhere as part of a trust- or team-level discussion. In most deliberations we observed, in fact, CEOs attended chiefly to the validity of the decisions ('is this decision right and will it stand up to public scrutiny?'), rather than the supporting evidence. As noted above however, the source and content of information constituted poor predictors of its use, relevance or acceptability as evidence in situ. Information in fact acquired evidential status through a dialogical process of checking, contextualising and triangulating, given the particular contextual needs and perceptions of the problem at that time |
| What type of technologies do NHS managers use (if any) to source their professional knowledge? What methods and tools for capturing and disseminating evidence ('knowledge products') are used by health-care managers at the highest level? | Conversations, dialogues and personal exposure during meetings and events constitute the main 'technologies' that CEOs use to source their knowledge in everyday practice. These are complemented mostly by written documents, external websites and e-mails. In general, verbal information appeared to be preferred over written. The internet was mostly used for monitoring purposes, and as a prop to triangulate information obtained in other ways. Besides face-to-face interaction, e-mails and telephone constituted preferred means of communication, while written letters were reserved for limited specific circumstances, such as responses to complaints. Social media were used sparingly and only one of the CEOs made a large use of such tools, both for monitoring her environment and for making herself visible to the rest of the staff |
| What is the influence of professional boundaries and backgrounds, and of belonging to different epistemic communities on these processes? Is there evidence of sharing or reuse of previous experience in the daily practice of deliberation? What are the occasions when sharing takes place? | Belonging to professional communities and previous background were only occasionally mentioned by the CEOs. This aspect did not seem to constitute a significant factor in their daily activities, other than when its particular nature was directly linked to a specific way in which they preferred to work, or to a layer of additional insight that allowed them to understand or approach an issue differently (e.g. nursing background and familiarity with a medical issue reported in relation to one of the patients). Although CEOs at times did make reference to their previous experience, this had to do mostly with the local knowledge of the NHS, and more rarely their professional background. At the same time, all CEOs cultivated a small network of colleagues that they contacted and consulted on a regular basis to gather information and intelligence or to obtain advice. Most of the members of these small circles however were current peers (CEOs or directors), rather than members of their original group. Some of these small support groups had derived from pervious formal initiatives (e.g. learning sets) in which the CEO had taken part |
| Are different types of evidence used strategically for different purposes? How does formal evidence manifest itself in meetings, conversations and public documents? | Formalised evidence was rarely used and mostly mobilised in official and highly ceremonial occasions where procedural accountability was considered a necessary requirement (e.g. trust board meetings). In most other situations formal evidence was used as a conjoiner to (and possibly for tactical purposes to justify) a decision arrived at through collegial, informal and dialogical processes |
| Do managers with a clinical background use practices that are observably different from those of managers without such a background? Is there such a thing as a hierarchy of evidence for what concerns managerial knowledge? Are clinical and non-clinical evidence sourced in the same way? Are there perceptible differences in the handling of clinical and non-clinical evidence? | Although our study carefully sampled participants to control for this aspect, no significant differences emerged between CEOs with a clinical, nursing or managerial background in the way they either utilised or mobilised different types of evidence. In particular, where differences in knowledgeability infrastructures were evident, it was less obvious that these reflected professional preferences as a nurse, for instance, rather than personal preferences towards a certain approach to maintaining knowledgeability. Most importantly, however, the distinction between clinical and non-clinical evidence did not seem to be relevant at the level of generality where problems were being addressed by CEOs. Adherence to protocols, evidence of effectiveness of treatment, and existence of contrasting clinical views were all customarily mentioned in discussions and decisions on investment, disinvestment and service changes, but were rarely thematised as such. This is mostly because they were considered operational issues that belonged to the jurisdiction of directors. The clinical or nursing directors were thus simply asked to state whether the adoption of a new and expensive pathway was justifiable and beneficial for patients or not, for instance. In other words, content decisions about 'clinical evidence' matters were delegated to relevant directors, in the same ways as financial and technical matters were to their colleagues |

and knowledge mobilisation did follow the prescriptions of models such as that described by Marr[101] and reproduced in *Figure 7*. However, these were rare and limited to very specific circumstances.

In particular, a typical example of such traditional encounters was trust board meetings. During these meetings we did observe the canonical process in action, with the chairperson usually setting up the scene and some member of the executive team presenting the background information and the supporting evidence collected prior to the meeting. This would be customarily followed by a discussion when the NEDs or other participants would ask probing questions (e.g. 'Can you please clarify this figure?') and test the validity of the argument (e.g. 'Are we sure that this estimate is robust? What is the risk? How did you arrive at it?'). Finally, the chairperson would test the consensus on the decision in view of the opinions expressed, and a decision would be arrived at. This would then be duly noted in the minutes. As previous research funded by the NIHR SDO programme has demonstrated,[8] this highly ceremonial way of proceeding has only partly to do with the quality of the decision, and is used to support its defensibility and accountability.

Occasions such as these, however, were relatively uncommon and limited mostly to deliberations in public settings or in settings where public accountability was at stake. In most other cases, the decisions taken by CEOs were instead arrived at incrementally, using a messy, unstructured and largely informal process that extended in time and involved a number of people. In this sense, if we utilised the traditional views and criteria, we would be led to the erroneous conclusion that NHS CEOs are not great consumers of knowledge; that they are not very good utilisers of evidence; that they are not the rational decision-makers one could wish them to be; and that they are scarcely reflective.

This, however, is not what our in-depth study suggests. Our data speak in fact of executives who are overall quite skilled at ensuring that they have the necessary information and intelligence to conduct their daily job. These are contextually careful and practically knowledgeable decision-makers who most of the time dealt with ambiguous, ill-formed and wicked problems. They also continuously reflected on their choices (albeit in a way that does not conform to the stereotype of the meditative manager).

We suggest that this discrepancy stems largely from the way in which the question has been traditionally framed (which influenced how we posed our research questions at the beginning of the project). To understand how NHS CEOs mobilise knowledge, we need in fact to abandon the image of the CEO instrumentally using discrete bits of information and knowledge as resources that are brought to bear for the purpose of specific decisions. This is because this image simply does not reflect what these CEOs actually did. Instead, we should ask through which practices the CEOs make themselves appropriately
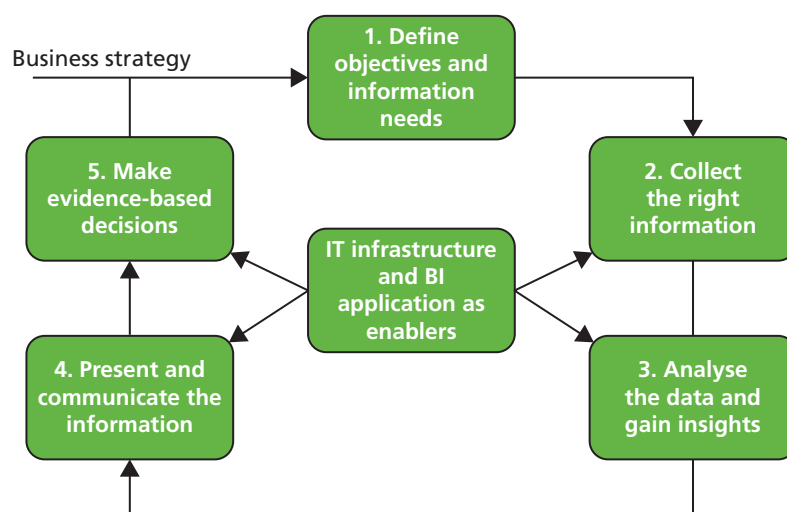


**FIGURE 7** The cycle of information use in decision-making. Adapted with permission from Marr B. *The Intelligent Company: Five Steps to Success with Evidence-Based Management.* New York, NY: John Wiley & Sons 2010.[101] BI, business intelligence.

*knowledgeable* at particular times, in relation to particular issues, in particular contexts, relating to particular sources of insight. In other words, we need to discard the traditional EBP view that casts CEOs as rational decision-making 'machines' (and asks how efficient they are in collecting, processing and utilising information). This view should be replaced with that of CEOs as creative workers engaged in 'professional artistry' of knowledge work.[102]

More specifically, our data suggests in fact that a large part of the working time of CEOs was spent making and giving sense to events and data, exercising judgement and ensuring that decisions are arrived at and issues are dealt with. However, most of this work, which implies skilfully dealing with knowledge and information, took place through mundane activities (such as writing e-mails and attending meetings), and often in conversation with others (not only 'the good and the great', but also secretaries, porters, patients, technicians, etc.). Seen from close by, the work of NHS CEOs is hence rather ordinary (although the issues they dealt with were not). This view contrasts with the popular image of the CEOs as the lonely, heroic decision-makers, a sort of Nelson on the deck of the *Victory* at Trafalgar, or Solomon on the throne. According to our observations, this image is both inaccurate and potentially misleading, and should be relegated to the tabloids and the self-celebratory airport lounge captains-of-industry 'autobiographies'.

In its place, we should substitute the image of the CEOs as highly skilled workers who are mostly engaged in a variety of tasks and activities that allow them to stay on top of things in their own organisations. The ideal end point of this knowledge and information work is not decision-making, but rather knowledgeability, understood as a personal and organisational capability: *knowledge-ability*.

The idea of 'staying on top of things' is crucial here because it reflects our observations that, while executives do not necessarily actively manage everything (this being in fact one of the informally mentioned 'capital sins' of executives), they strive, like or need to feel that they are constantly up to speed with what is going on in the organisation, so that they can intervene if necessary, and make themselves accountable for all practical purposes. The idea of staying on top of things also captures the notion that knowledgeability feeds not only on information, data and news (which are necessary to monitor the state of the organisation and its environment), but also on concepts and ideas (which allow CEOs to make and give sense to such information and data) and experience, both their own and that of others (which in turn allows them to refine their judgement). This is consistent with our observation that information and knowledge work rarely enter the focal awareness of CEOs, and are instead woven into the texture of everyday work. In simple terms, CEOs rarely actively seek information, consult documents or read books, at least without a specific reason to do so (e.g. a large task at hand, or a structured learning requirement). While they did this occasionally, and mostly during their personal time (evening, weekends, while travelling and commuting), their knowledgeability largely resulted from day-to-day and occasioned activities, including both planned and unplanned encounters, such as corridor discussions, or small signals picked up during a walkabout or a telephone call.

In this sense, dealing with information to 'stay on top of things' is what CEOs we observed do all the time, and their 'antennae' or 'radars' are constantly operating, even when they are ostensibly attending to other specific tasks (e.g. chairing a meeting, walking from a room to another, having lunch).

A different way of expressing this finding is to observe that the situated CEOs utilise three overlapping orders of monitoring in the effort to stay on top of what happens around them:

- *Routine monitoring*: This refers to the informal, everyday information and knowledge work that is part and parcel (and a 'by product') of other activities.
- *Occasioned monitoring:* This order of monitoring activities is prompted/conditioned by particular events, encounters or settings, such as team meetings, exchanges with NEDs, and formal and informal visits.
- *Intentional information-seeking*: This type of monitoring is carried out in pursuit of a particular known end, such as a single specific decision.

In addition, more than one level of monitoring operates at the same time. For instance, in one case we observed one of the CEOs searching for a particular piece of information regarding how to prepare the business case for a large investment that the trust was in the process of making. While scanning the web for such documents, she noted a document on decommissioning services that she said (loudly to the researcher) 'may be of interest for my strategy director'. Without interrupting the original search, she proceeded to download the document, and e-mailed it to the strategy director with a short note: 'I found this and thought it could be useful with regards to the conversation we had at the last meeting' (excerpt from field diary). She then resumed searching for the initial information to inform her own task at hand. Occasioned information–seeking thus never stopped, even during intentional knowledge-seeking activities.

## Knowledgeability is personal and situated, and depends on establishing and maintaining a personal knowledgeability infrastructure

One of the main findings of our research was that there is no such thing as a single best way of making oneself knowledgeable in order to stay on top of things. How CEOs' knowledgeability was accomplished, why and in relation to what objects differed based on a number of contingency factors. Our observations suggest that three factors were particularly relevant in explaining the type of information and knowledge work the CEOs customarily engage with: the context and specific issue at hand; the personal style of the individual CEO; and the nature of their everyday work.

- *The institutional, normative and (internal) organisational contexts* play an important role in orienting the information work carried out by the CEOs. First, the understanding of the state of the health economy at large (in terms of performance pressures, pressure from public interest groups, media attention, etc.) and the relative position of the organisation (in terms of financial and competitive situation and the relationship with the regulator, for instance) operated as strong organisers of the CEOs' 'rules' of attention. The fact that these issues tended to attract the attention of the CEOs implies not that they were completely absorbed by them, but only that the CEOs had to find ways to cope with the demands that they imposed. In fact, being able to stay on top of these issues without being completely engulfed by them could be perceived as one of the key balancing acts of a successful NHS leader. In our research, we heard more than one CEO lamenting that the financial situation was a 'necessary distraction' from what they saw as their main mission, for instance creating an organisation that the trust employees would strongly recommend to the members of their own families. Contextual factors thus presented knowledgeability demands (in terms of both what is going on and what the tasks at hand are), that in turn triggered some type of work necessary to respond to them.
- The specific organisational contextual conditions also affected how the CEOs made themselves knowledgeable. For one thing, the state of the organisation configures specific knowledgeability demands (for example, the need to comply with external requirements, the need to address problems and crises, and the need to outline the future shape of the organisation in a particular way). The characteristics of the organisation also informed the type of work the CEO needed to do to stay on top of things. For example, the strength and maturity of the executive team or the existence of an efficient IT system can all influence where, when and how the CEO will source the necessary 'know that' and 'know how' in order to accomplish the particular tasks at a given time.
- How CEOs make themselves knowledgeable for all practical purposes also depended heavily on *personal preferences and style*. These derive from the CEO's personal history and attitude towards the job, the stage in their careers and individual characteristics, such as propensity towards using technologies, or relying more heavily on either 'peopleware' or 'paperware'. For example, we reported one CEO telling us that she was occasionally 'hasty in coming to conclusions given experience and personal tendency' and that she was personally inclined to 'liking detail' (interview). Others clearly told us that their preference was for attending to the 'big picture', while leaving the detail to others. Similarly, some of the CEOs were heavy users of information technologies, while others preferred to rely mostly on in-person or telephone conversations. Finally, while some CEOs were keen to operate in

a paperless office, others insisted that things were printed for careful consumption. We may add that the rules of attention and focus of interest were strongly influenced not only by external pressures, but also by the desired and aspired identities of the CEOs and their ideal of what a good manager in the NHS should do (one typical example being the amount of time they personally devoted to governance issues and responding in person to complaints).

● Finally, in our sample, how knowledgeability was accomplished, why and in relation to what objects also depended on the *demands of the everyday job of CEOs.* This refers to the mundane and day-to-day going concerns that the managerial nature of their work presented to them. For example, CEOs had to carry out performance reviews, run induction sessions and deal with the career progression of the staff they directly supervised. Other demands were dictated by the institutional constraints of the job, and the temporal rhythm present in all institutions. For example, every month CEOs needed to prepare for executive or board meetings, and had to ensure that accounting and other deadlines were met. Importantly, such tasks, in a dialectic relationship with the context and the personal preferences of each CEO, in turn influenced the 'feel' of the work, for instance the pace of activity at which the CEOs worked, the ordering of the work on site and off (e.g. reading and writing off site, interactions in more or less structured ways on site), and the 'mode' by which their tasks were generally accomplished (e.g. in large, structured, detail-oriented meetings, or in informal conversations within a smaller group of executives).

### The personal knowledgeability infrastructure of chief executive officers

The observations discussed in previous parts of this report indicate that, in order to fulfil the information and knowledge demands and expectations derived from the combination of factors discussed above (i.e. context, personal style and demands of the job), CEOs usually relied upon a particular mix or arrangement of *people*, *objects*, *practices* and *sources.* Taken together, these 'tools of the trade' enabled CEOs to become appropriately knowledgeable in relation to the different issues and demands of their work.

We defined such an arrangement as the (personal) *knowledgeability infrastructure of CEOs.* Our observations suggest that each CEO creates, maintains and continually adapts a specific and very personal configuration of tools of the knowledge and information 'trade' that they use to make themselves knowledgeable. The knowledgeability infrastructure is itself context- and time-dependent, based on personal choices and continuously evolving. For example, our observations demonstrated that the personal knowledgeability infrastructure develops and changes as the going concerns of the work change. In one of the trusts we observed the need to 'find out the root cause of problems' in one particular instance escalate from the use of e-mails and performance indicators, through encounters and personal interactions aimed at 'really understanding what is going on' (excerpt from field diary), to the establishment of a small, fact-finding team that carried out an evaluation review of the division. Another example was a trust CEO whose organisation was commencing talks concerning a possible merger, which was something she had little direct experience of previously. This led her to actively expand her current infrastructure to 'fill the gap', by attending a number of specific external events where mergers and acquisitions, and knowledge related to them, were presented and discussed (excerpt from field diary). Via such an engagement, the organisation directing the event was enveloped into the 'fold' of that CEO's personal infrastructure going forward, while the issue itself continued to prompt further additions, by acting as an intentional sourcing guide directing further information work engagements (interview). In addition, we found that the personal knowledgeability infrastructure also changed depending on 'where the CEO is' in terms of personal trajectory and organisational conditions. For example, in our sample we observed different types of knowledgeability infrastructures (i.e. different combinations of tools, practices and sources) in relation to:

● the experience of the CEO (how long she has been doing this job)
● the tenure in the particular post
● the composition, 'maturity' and tenure of the executive team and board
● the legal and regulatory environment
● the type of pressures from the organisational and institutional environment
● the type of tools and technologies available and preferable.

Finally, personal considerations about 'what kind of manager would I like to or feel I should be' (e.g. the desire to act and be seen as a 'transparent manager') also contributed to shaping the personal knowledgeability infrastructure. For instance, for one CEO studied, personal accountability and ensuring the best for each patient meant a key role in her infrastructure was played by an IT system, which allowed her to understand at all times the relative performance across the trust. This was supplemented by regular informal updates by the executives, but also by her frequent unannounced visits to the wards to observe the work as it happened and talk to staff directly. All of this made it possible for this CEO to 'know what is happening in my hospital', so that she could be effectively accountable, but also ensure that good patient care was being provided at all times, even when her duties necessarily took her away from the trust (excerpt from field diary).

It should be added that each configuration of people, objects and 'tools of the trade' did not sit passive in the background, but had an active role in defining a certain way of doing 'being a trust CEO'. The CEOs were therefore partly 'at the mercy' of the arrangements they had set up (or not set up, or not modified as necessary). As a result, they always risked finding themselves locked within a specific perceived information environment, which might not be aligned with the current demands/needs of their job or their own expectations. In other words, the knowledge infrastructure that an executive operates can be (and in our study sometimes was) partially misaligned with other aspects of the work of that CEO. It can therefore become 'dysfunctional' in view of the local demands of the job, or in conflict with who the CEO seeks to be as a manager.

For example, if a CEO wants to take a strategic view, but her infrastructure draws the attention to and presents her with operational issues only, the CEO is likely to be sucked into a role different from what she wished. The idea of personal knowledge infrastructure thus alerts us to the fact that CEOs may find themselves locked in an (informational) iron cage of their own making. In particular, the personal knowledge infrastructure enacts in fact a specific *perceived information environment*, which reflects both the style and habits, but also the prejudices and blind spots, of the CEO. The personal knowledge infrastructure may therefore contribute to the fact that CEOs do not see what they do not see – they are not aware of the blind spots that their infrastructure creates for them. They realise this only when something happens that was not 'on their radar' ('how can this happen without me knowing' was one of the often-mentioned things that the observed CEOs tried to avoid at all cost).

Summarising from the above, our study suggests that much is to be gained if we respecify knowledge utilisation or mobilisation as a practical accomplishment (a doing) that emerges at the intersection of contextual demands, personal skills, experience, tools of the trade and organisational arrangements. *Figure 8* summarises our findings and the proposed shift in graphic form.

Specifically, the model suggests that knowledgeability always has an object (it is never in the abstract), as well as a time, so that there is no single best way of addressing the knowledgeability needs of CEOs, given that what counts as appropriate changes as the circumstances change. The model also suggests that how the knowledgeability demands will be interpreted (i.e. what is the necessary information, what type of information is appropriate, how it will be obtained, what are the preferred or more trusted sources, etc.) is highly contingent on the institutional and organisational conditions as perceived, as well as personal and job factors. Finally, the model suggests that CEO knowledgeability is accomplished through and by a personal knowledgeability infrastructure composed of people (relations), practices (routines, structures) and 'tools of the trade' (objects and technologies, trusted sources, recurrent tactics). The personal knowledgeability infrastructure will also be attuned to personal preferences and contextual conditions, and may of course change as problems change (according to the principle of 'horses for courses').

In order to observe the nuances underpinning this model in practice, *Appendix III* provides in-depth examples of the personal knowledgeability infrastructure from two CEOs observed. The examples show how they resolved their emerging and contingent knowledgeability demands via a particular personal knowledgeability infrastructure and a certain approach or posture towards maintaining knowledgeability.
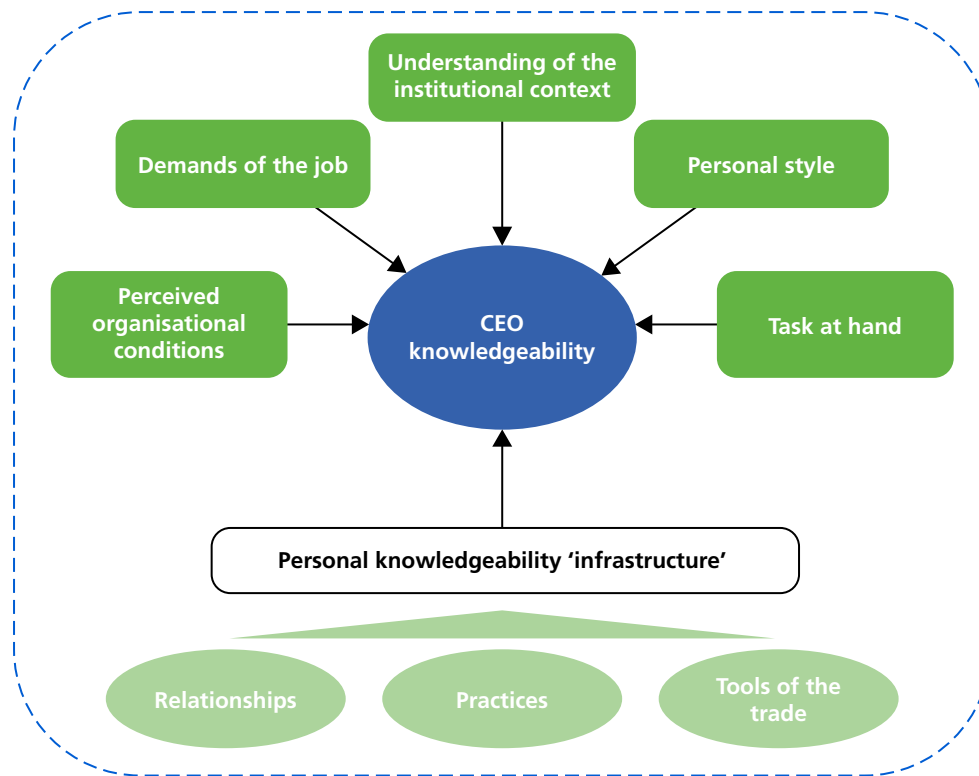
**FIGURE 8** How NHS CEOs stay knowledgeable for all practical purposes.

These examples also illustrate that, when it comes to understanding the practice of knowledge mobilisation and information work in general, context matters. In addition, they re-emphasise our point that there is no one best way to address the knowledgeability demands that the job presents to NHS CEOs, as a number of alternative configurations can all satisfy such demands (although some could be more effective than others, depending on the particular components of the combination of context, style and work at hand). As we discuss later, this potentially has significant practical implications, as it points to the coherence of the arrangement and its contextual and temporal 'fit', rather than the nature of its components, as the crux of the matter.

Finally, the examples reiterate how the knowledge work necessary to become and remain knowledgeable for all the practical purposes required by the job constitutes a dimension of what CEOs do already: a skill. In this sense, our findings resonate with authors who have shown that, when practitioners move from being novices to experts, their grasp of the problems and the available solutions just happens.[7,102,103] They also echo previous findings from Gabbay and Le May,[7] who repeatedly heard experts say 'it all depends', as the CEOs frequently told us as well as they answered our questions concerning their information and knowledge practices. The answer 'it depends' suggests that the process of knowledge work at this level is akin to a form of 'connoisseurship': it is work aimed at determining not just *what* the problem might be, but also *how* it might be dealt with *given the situation at hand*. Crucially, recognising what might 'work' where is a key feature of this expertise.

## Knowledgeability as the results of 'weaving' and 'connecting the dots'

While talking, listening, searching and reading are all critical elements of the work of CEOs, 'staying informed' is only one aspect of what we have called here the orientation towards knowledgeability. Like prior research (see *Chapter 2*), our study found in fact that executive managers seek information and use

knowledge for three main purposes: (1) making decisions; (2) accounting for decisions already made; and (3) making sense.

1. For information work in relation to making decisions, as we indicated above, the CEO rarely carries out the gathering of information in person. Her role is often that of initiating the information work of others. At the same time, only in rare examples did we observe CEOs explicitly making what could be described as authority-based decisions (i.e. the CEO stating she would use her authority to decide a certain course of action). Most of the time in fact, the CEOs' effort was directed towards facilitating the decision, or ensuring that a decision was arrived at and based on sufficient/best available evidence at the time. In this sense, our research corroborates recent findings by Swan and associates,[8] which suggest that evidence is customarily coconstructed in particular situations and material conditions, and that such a process involves multiple parties/experts, who jointly arrive at solutions, drawing from various sources of information. It also resonates with previous findings by Dopson and Fitzgerald,[6] who wrote that:

   > whereas researchers or the [DH] may like to think of some new piece of evidence as 'knowledge', [clinicians or managers] would define it merely as 'information' when it is first introduced into the clinical world. [. . .] It becomes 'knowledge' only when the practitioners have collectively and/or individually combined it with their own experience, skills, 'intuition', ideas, judgements, motivations and interpretations.

2. On other, even less common, occasions, we observed the CEOs promoting the information work necessary to provide support to a decision already made. In most cases, this was expressed in the verbal form 'we need to build a business case' or 'this is a good idea, can you build a business case so that I can go to the [commissioners] and make the argument'. In such instances too, the CEO was only very marginally involved in the collection, examination and evaluation of the data.

3. According to our observations, the most common reason to engage in the sort of information and knowledge work described in *Chapter 4* was not making or justifying decisions, but rather making and giving sense. Our observations suggest in fact that a great part of the CEOs' effort was aimed at 'connecting the dots' and constructing a sense of the present and future for their own and other people's consumption. This is often achieved by 'weaving' insights and knowledge into narratives that emerge over time, possibly around images or metaphors, are refined through further intelligence and information, and are continuously and context-appropriately shared with others.

In one case, for example, one of the CEOs, faced with what were then the first signs of the major A&E crisis that eventually unfolded in spring 2013, developed the narrative of the 'perfect storm'. The narrative, which is summarised in *Box 1*, was used by the CEO to make sense of what was going on, but also to communicate this sense to others – in effect, enrolling them in the same way of understanding current events.

In other words, the image of the CEO like the sun, constantly receiving, picking up and transmitting signals, knowledge and information should be completed with the metaphor of CEOs as *continuous weavers* of emerging and existing insights and knowledge towards disparate individual and organisational ends.

Sense-making (and sense-giving) are thus central to the work of CEOs and key to understanding their knowledge and information work. Foregrounding the centrality of these two activities, for example, helps to make sense of some of our potentially counterintuitive findings, such as the observation introduced earlier that CEOs rarely searched, retrieved, consulted and quoted scientific and other forms of formal evidence in person (though they might ensure that these have been considered elsewhere as part of a discussion). In most deliberations we observed, in fact, CEOs attended chiefly to the validity of the decisions ('is this decision right and will it stand up to public scrutiny?'), rather than the supporting evidence.

**BOX 1** Example of narrative: 'the perfect storm'

The narrative of the 'perfect storm' emerged after 2 days of back-to-back meetings with regulators, commissioning bodies and other CEOs. Upon returning to the office, the CEO started to use the image (and narrative) of the perfect storm with other executive directors, as a commentary when reporting the content of the meetings. The narrative, which was used to convey her sense of the increasingly unsustainable situation they all experienced, was framed as follows:

*Our income has been frozen below inflation . . . Decommissioning and the tendency of G[eneral] P[ractitioner]s to refer much less means loss of income . . . Some of the savings that can be achieved need substantial pump priming . . . We will end up in a crisis: either a collapse in quality or probably a financial crisis, or both.*

*Excerpt from field diary, acute CEO2*

The CEO first subsequently used this narrative in two corridor meetings. She liked it so much that she decided to write it on a flipchart in her room (possibly in part for the benefit of the researcher, who listened attentively in silence). The flipchart was shown to and discussed with several people who came into the room in the next 2 days. This was usually done before the start of the meeting for which they had come. During these discussions, the narrative was refined through the views and information of others (e.g. the list of factors grew from three to five) and crystallised (i.e. the CEO started to tell the same version to several people). The narrative was finally used during a private session of the trust board meeting a few days later, in response to the opening question from one of the NEDs about 'how are things going and how are we doing compared with others?'

Our argument is that, while evidence and knowledge from research enter only occasionally into activities of CEOs, this is not to say that they do not play an important part in CEOs' judgements. According to our observations, CEOs take advantage of 'knowledge products', but rarely source them personally, unless as part of personal development and learning activity, or a task new to them. This implies that what matters may not be that CEOs search or use information, but rather that they systematically ask others to do so. They make social and technological arrangements that allow them to escalate the search for evidence (which can corroborate or disprove some of their emerging intuitions), as well as behaviours, tools, times and informational resources that enable them to assemble and focus on the 'big picture'. In this sense, our project suggests that an important category to understanding how CEOs maintain their knowledgeability is that of intelligence. Reduced to its simplest terms, intelligence is defined as the knowledge and foreknowledge of the world around us that precludes decision and action. Intelligence, as we conceive it here, does not stop with gathering information, but also implies making sense of it. The notion of intelligence, which should be preferred to that of information in order to make sense of the work of NHS top executives as it happens, suggests that a critical aspect of the job of staying on top of things is not only detecting 'weak signals' of emerging opportunities or threats, but also making sense of them as one goes along.

At the same time, though our methodology prevented a comprehensive empirical investigation of the entire TMT, our observations would suggest that it may be that the knowledge and information work carried out by NHS CEOs as part of the TMT is ostensibly different from that of its other members. Given this, the findings of our research may not apply to other executive-level managers. As we will see, this can be seen as either one of the limitations of our research, or a valuable piece of information, as it points to a possible set of unique characteristic features of the work of NHS CEOs, which newcomers may find it necessary to engage with in order to operate effectively.

### *Narrative sense-making is at the core of the chief executive officers' way of dealing with knowledge, information, intelligence and evidence*

One of the key findings of our research is that the activities of sense-making and sense-giving are mostly conducted dialogically, that is through 'serious' conversations with others, carried out in a variety of forums and opportunities. These conversations constitute one of the central types of work carried out by the trust CEOs, and are accomplished through diverse media (mainly face-to-face conversations, e-mail and telephone). This emerges both from our empirical presentation in *Chapter 4* and from the above discussion on the extensive use of narrative as sense-making and sense-giving activities. A considerable part of the work of CEO knowledgeability thus involves roping in others and ensuring that *they know and act on an insight*, rather than the CEO herself. In this sense, the information and knowledge work of CEOs should be considered *a distributed practice* carried out with and through others. Two factors may be critical here. One is the attitude of the CEO and her propensity to encourage, foster and/or prompt others to engage in information-seeking and intelligence-gathering. The other is the nature and maturity of the top executive team.

The dialogical nature of the CEOs' work also means that the composition and nature of the relationship with their immediate social circle is a critical factor to their knowledgeability. Trust is fundamental in this sense. In fact, all the CEOs in our sample relied heavily on an *inner conversational circle* (usually composed of selected members of the executive team), with whom they had the most intense level of interactions. The flipside of this finding is of course that the inner conversational circle can hamper the effectiveness of CEOs and their capacity to make sense of events or make useful distinctions (e.g. because nobody provides alternative views or critical feedback). The nature and relationships with the conversational inner circle can also contribute to maintaining the (relative) information poverty of the CEO (e.g. by filtering too much). Importantly, many of the CEOs observed hedged this risk by intentionally creating for themselves redundant information environments that allowed them to receive alternative and potentially discordant pieces of information, or in certain cases consciously engaging executives who are 'different' (or at least 'different' from them in the way they think and perceive the world). A central figure here was often the chairperson of the board of directors, who constitutes (or can constitute) a critical node in the information horizon of the CEOs. Other specific sources were also made significant by CEOs on an individual basis, for instance personal coaches or trusted colleagues from former organisations.

Depicting CEOs as 'conversational beings' does not imply in any sense that they live moment to moment, or are not reflective or learning-oriented. In fact, the contrary is true. All the CEOs we observed were highly reflective, although they tended to reflect collaboratively and conversationally, rather than relying only on solitary introspection. They did the same when it came to constructing 'evidence' and 'facts' out of information and intelligence. Furthermore, all the CEOs we observed relied on a formal and informal personal reflection infrastructure (composed of, for instance, coaches, members of present or past action-learning sets, trusted peers), whom they used to reflect on what they do or what their plans are. CEOs, based on our observations, thus often think and reflect 'externally'. Similarly, CEOs continuously learn new things and expand their horizons through reading, browsing the web and proactive engagements of other kinds. However, this rarely constitutes their main source of information and inspiration. Instead, most of the novelty is derived from conversations and encounters.

# Chapter 6 Conclusions, implications of the study and directions for future research

In this study, we have sought to respond to a number of research questions related to how knowledge mobilisation is understood, performed and enacted in everyday working practice of NHS trust CEOs in England. We have asked in particular what are the material practices and organisational arrangements through which NHS trust CEOs make themselves knowledgeable, how different types of 'evidence' or information are brought to bear in their daily activities, and whether specific organisational arrangements support or hinder their processes of knowledge mobilisation (i.e. what is the practical influence of context on this process). In this chapter, we conclude by briefly foregrounding some of the study's implications for practice, and some of the directions for future research that stem from the project.

## Implications for practice

Our main aim in this study was to address the almost total lack of research evidence on what it means to mobilise knowledge when operating at the very top of English NHS organisations. We have done so by directly observing and reporting on the daily work of seven trust CEOs, with special attention to the practices whereby these executives made themselves knowledgeable for all practical purposes, as dictated by their specific job.

Accordingly, the first major practical contribution of the present research is that it provides much needed empirical data on the actual jobs of NHS trust CEOs, their mundane preoccupations, what they do most of the time and with what in mind. This information is important given that the only other comparable study dates back more than 30 years.[104] Recounting in depth the activities of CEOs will allow policy-makers, trainers, consultants and others to design initiatives, tools and actions based on what NHS CEOs actually do and where they are now in terms of their practice (rather than what they think they should be doing). For example, authors of policy documents could take note that that most of the time CEOs will not read them directly and are likely to pass them to one of their immediate collaborators. This will allow them to redesign their documents accordingly. Many others could derive similar implications from most of our findings. Our study thus responds to the call made by, among others, Gabbay and Le May,[7] who highlighted as problematic

> the glaring disparity between the policy makers' methods for trying to promote EBP and what social scientists, philosophers, psychologists – and just about anyone who studied such things – have long told us about the nature of knowledge and how it gets used in the real world.

In this sense, we believe that our research is especially timely in the aftermath of the Francis report,[100] which calls on NHS managers to become more open to scrutiny and challenge. If an inaccurate idea of what it means to be 'evidence-based' is adopted as a consequence of this (i.e. one that equates EBP with one of the normative models we criticised above), CEOs and other managers may be driven towards a largely ceremonial adoption of EBP. This may result in a focus on creating audit trails of 'evidence' before making decisions, rather than improving the practices through which they make themselves knowledgeable; and may result in excluding, rather than giving more prominence to, 'mundane' types of evidence, such as patients' experience. While this type of information could constitute a critical source of intelligence, the risk is that it is disregarded or not valued enough simply because it does not fit the traditional formal idea of what constitutes 'evidence'.

A second important implication of our study derives from our finding on the uniqueness of the knowledge and information work carried out by NHS CEOs as part of the TMT. Our findings point to a specific set of capabilities, information sources, decision styles and strategies, and attitudes towards knowledge and evidence that may set apart the work of the CEO from that of other members of the executive team.

Although analysing our data with a view to identifying and codifying these skills and behaviours goes beyond the remit of the current project, contacts have already been established with the appropriate institutions (including the NHS Leadership Academy and the Institute of Healthcare Management) to explore how this can be achieved collaboratively in the near future.

A third implication stems from our reframing of the issue of how to nurture and support the knowledgeability of CEOs in developmental, rather than instrumental, ways. Our findings suggest in fact that knowledge mobilisation, understood as a series of practices and tools that support, foster or hamper the continually evolving knowledgeability of a CEO, is a personal and organisational capability that can and needs to be learned and refined as one's perceived context and tasks change over time. Accordingly, our research suggests that we need to abandon the simplistic instrumental view that asks 'what knowledge products are more suited to CEOs?' or 'what technology should we give to CEOs to make them better decision-makers?' Instead, the issue of how to nurture and support the knowledgeability of CEOs may need to be addressed in terms of how such a capability could be taught, developed and improved through a reflective and continual monitoring of one's personal infrastructure of knowledgeability.

In this sense, although our research falls short of developing a fully formed diagnostic tool (given its exploratory nature), it clearly signposts the main dimensions of a framework for reflecting on the personal knowledgeability infrastructure of NHS executives. Such dimensions, which derive from our model summarised in *Figure 8* above, suggest that executives critically reflect on the following fundamental questions:

1. What kind of a manager/CEO do I wish to be, or need to be at the moment in my context?
2. What is the nature of my organisational and institutional context right now?
3. What is the nature of my work at present (e.g. pace, structures, people)?
4. What personal style do I tend to adopt (i.e. where does the CEO sit on the various continua concerning foci of work, e.g. internal/external, operational/strategic)?
5. Do I have the right infrastructure in place (both people and objects, e.g. trusted deputies, live IT performance system, informal ward visits) to allow me to be the kind of manager I wish or need to be? If not, what do I need to change?

The framework, which is graphically summarised in *Figure 9*, is premised on the notion that each choice of 'what works' is individual to the CEO working in situ, and involves certain advantages and drawbacks,
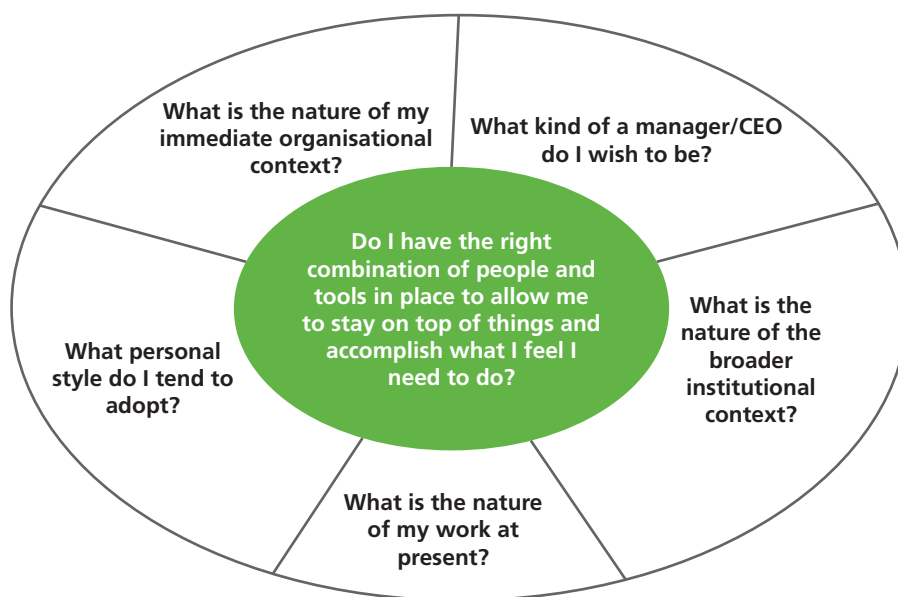


FIGURE 9 A signposting framework for reflecting on one's knowledgeability infrastructure.

which, if they are pragmatically known and continually reflected on and managed by the CEO, can facilitate crucial processes of capacity building over time. The framework also suggests that we should abandon the idea of a silver bullet or 'one best way' to address the issue of knowledge mobilisation and how to make managerial work more 'evidence-based'. The suggestion instead is to embrace more individual-centred and context-sensitive approaches and solutions.

Finally, our study provides indications to recruiters regarding a number of desirable and necessary skills that future CEOs may need to have or develop in order to carry out their jobs. Again, contacts have been established between the research team and a number of NHS bodies so that the findings of the present study can be incorporated in the existing and future capability-building frameworks.

## Implications for future research

Our study, being of an exploratory and interpretive nature, raises a number of opportunities for future research, both in terms of theory development and concept validation. More research will in fact be necessary to refine and further elaborate our novel findings.

First, while we have generated a number of new and we believe useful conceptual categories, given the in-depth sampling strategy focused on exploring the work of seven trust CEOs, very little can be said of the nature of information work of the larger population of NHS CEOs in England. Our study could thus be extended in search of statistical, rather than analytical, generalisability, as we have sought here.

Second, our study offers the opportunity to refine and validate the concepts and constructs that emerged from our inductive analysis. For example, the idea of a personal knowledgeability infrastructure will need further refinement and elaboration, in terms of both its component elements and its internal dynamics. One could also ask whether and to what extent it is possible to identify different ideal types of knowledgeable managers, so that a typology of managerial forms of knowledgeability can be constructed.

The model discussed in *Figure 9* could also be used to generate a number of hypotheses for further empirical testing using a broader sample and quantitative research methods. Questions could include the following:

- Is there a statistical correlation between the type of personal infrastructure of knowledgeability, its elements, and the personality of the CEO (e.g. in terms of Myers–Briggs indicators)?
- Is there a statistical correlation between practices of knowledge mobilisation and other outcome measures, such as financial performance, regulatory compliance or dimensions captured by the NHS Staff Survey?
- Is there a systematic correlation between the types of organisation and the information work carried out by top managers (i.e. are the distinctions we outlined in this report supported by further evidence)?

The study could also be extended in longitudinal and comparative ways. For example, here we have hypothesised that CEOs will adapt their styles and practices of knowledge mobilisation in relation to career development and experience. Further research could elaborate on this point, providing precious information to selection panels and training bodies. Further research could also take a historical perspective and ask if the work of top NHS executives has significantly changed in the last several decades, including a significant shift in skills and attitude (and if it should have occurred). Again, this would provide valuable information to those tasked with selecting or developing top managers in the NHS. Finally, comparative questions can also be asked with regard to differences between executives in the NHS and other health-care systems (e.g. Canada, New Zealand, the USA and Europe), as well as the NHS and other sectors.

Finally, as discussed in *Chapter 3*, *Limitations of the study*, further work is necessary to examine the practices of knowledge mobilisation and information work at the level of the executive management team, and from the particular perspectives of the individual directors, rather than the CEO alone, as we have done here. Further research can thus shed light on the dynamics of knowledge circulation, sharing and exchange among this particular group of individuals, asking what sort of infrastructure they need, both individually and as a group, to support the knowledgeability of the top team. Such research, which could and should examine the processes whereby information and data are turned into actionable 'evidence', could also extend to existing and new supporting structures, such as the Academic Health Science Networks, in order to consider their role in practice.

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## Contributions of authors

**Davide Nicolini** acted as the PI on the project and was responsible for the overall project co-ordination and management, project design and supervision of the research fellow and administrative/clerical staff; was involved in data collection as investigator on two out of the seven cases, as well as in the analysis, feedback and dissemination events; and led the final report-writing process.

**John Powell** was involved in the project design and ethical clearance processes, contributed to the interpretation of data and the continuous analysis, led the advisory panel engagements and contributed to the final report.

**Maja Korica** was the lead empirical researcher, leading on ethics approval, administrative project co-ordination, research design, data collection (as lead researcher for five out of seven cases) and analysis. She also jointly led on the dissemination, feedback events and workshop organisation with Davide Nicolini, as well as on the final report-writing.

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# Appendix 1 Schedule for semistructured interviews with chief executive officers

## KMobilis semistuctured interview schedule

### *Objectives*

- Getting a 'broader picture' insight into the CEOs style of informating and managing.
- Allowing the CEO to express in their own words their thought processes and decision-making as it relates to key aspects of their work.

Do you feel there is a particular style or approach you have when it comes to both searching for and processing information?

Is there a particular format in which you prefer to receive information from your colleagues or from external sources (e.g. concise vs. elaborate, informal vs. formal, etc.)? Does this differ between the two?

Are there particular settings (e.g. meetings, conferences, etc.) that you find particularly useful, or times that you dedicate to the task of information gathering?

What external sources of information do you find relevant to your job and therefore consult? How do you access these?

Who do you ask when you need information for decision-making? Is there a particular person you trust more?

How do you prioritise between these given time limitations?

What would you say is the role of e-mail in your work? In other words, how do you use e-mail and for what purpose(s)?

When making a decision, is there a particular grounds on the basis of which you decide a certain set of information is more pertinent or persuasive than another? In other words, what constitutes persuasive information or knowledge for you?

How would you describe your job if a stranger asked you what you did?

What are some of the key tasks of your job as you perceive them?

How do you prioritise those tasks in your everyday work? Is there a basic principle of some sort that you employ?

What would you say are the greatest challenges of your job?

Would you say you have a particular style when it comes to managing? If so, how would you describe it?

Would you say there is a difference between your work in this post and that in your previous job? If yes, how would you describe it?

How would you say your particular context influences your work (i.e., if you are a mental health CEO, is there something about managing a mental health trust that you can discern is different from managing an acute trust)?

What do you feel is the greatest misconception(s) people have regarding your job?

What for you is 'good management' (specifically when it comes to NHS CEOs)?

# Appendix 2  Summary of project outputs

| Date | Project output type | Publication location | Title | Authors |
|---|---|---|---|---|
| 1 April 2011 | Project announcement | NHS Confederation website | Research project on knowledge mobilisation and contemporary managerial work of top NHS managers | Davide Nicolini, John Powell and Maja Korica |
| 5 April 2011 | Conference poster | 'Health Research at Warwick Day', University of Warwick | The organisational practices of knowledge mobilisation at top manager level in the NHS | Davide Nicolini, John Powell and Maja Korica |
| 5 May 2011 | Presentation | NHS Confederation SDO Network CEO Forum, London | Organisational practices of knowledge mobilisation by top NHS managers | Davide Nicolini, John Powell and Maja Korica |
| 12 January 2012 | Presentation | NHS Confederation SDO Network CEO Forum, London | The organisational practices of knowledge mobilisation at top manager level in the NHS | Davide Nicolini and Maja Korica |
| 1 February 2012 | Presentation | NHS Confederation SDO Network Northern CEO Forum, Nottingham | The organisational practices of knowledge mobilisation at top manager level in the NHS | Davide Nicolini |
| 29 January 2013 | Presentation/ conference poster | 'Health Research at Warwick Day', University of Warwick | Organisational practices of knowledge mobilisation by top NHS managers: an overview | Davide Nicolini and Maja Korica |
| 9 April 2013 | Presentation | Social Science Research Forum, Queen Mary University of London | Knowledge mobilisation and evidence work of chief executives in healthcare: an account of emerging findings | Davide Nicolini and Maja Korica |
| 9 April 2013 | Presentation | Health Services Research Network CEO Southern Forum, London | Practices of knowledge mobilisation at top manager level in the NHS: emerging findings for discussion and reflection | Davide Nicolini and Maja Korica |
| 24 April 2013 | Presentation | Health Services Research Network CEO Northern Forum, Manchester | CEO practices of knowledge mobilisation: emerging findings | Davide Nicolini and Maja Korica |
| 24 May 2013 | Presentation | Final project event (half-day research seminar), University of Warwick | The organisational practices of knowledge mobilisation at top manager level in the NHS | Davide Nicolini, John Powell and Maja Korica |

# Appendix 3  The personal knowledgeability infrastructure: two examples

Our study suggests that knowledge mobilisation is a practical accomplishment (a doing) that emerges at the intersection of contextual demands, personal skills, experience, tools of the trade and organisational arrangements. *Figure 10* summarises our findings in graphic form. The model is discussed in depth in the main body of the report.

In order to clarify our model, we present here the cases of two CEOs and their different conditions of knowledgeability, that is the particular contexts, natures of work, and personal styles at hand. In particular, we can observe how the two CEOs resolved their emerging and contingent knowledgeability demands via a particular personal knowledgeability infrastructure and a certain approach or posture towards maintaining knowledgeability as part of their everyday work, by examining one particular task they acted to resolve.

## New chief executive officer of an acute foundation trust

First, in order to understand the particular personal knowledgeability infrastructure and approach to attaining knowledgeability developed and continuously maintained by a CEO, we suggested that understanding the particular context, nature of work and personal style is highly relevant. In particular, for a new CEO of a large acute trust, the particular *context* brought novel challenges of financial pressures, which were previously absent, not just in this organisation, but also in the CEO's previous organisation to this extent. Practically, the challenging financial pressures meant not only a great focus on operations and securing the necessary savings, but it also brought significant regulatory attention to the trust, which the CEO as the accountable officer had to manage. In addition, the CEO had been in post for less than 1 year
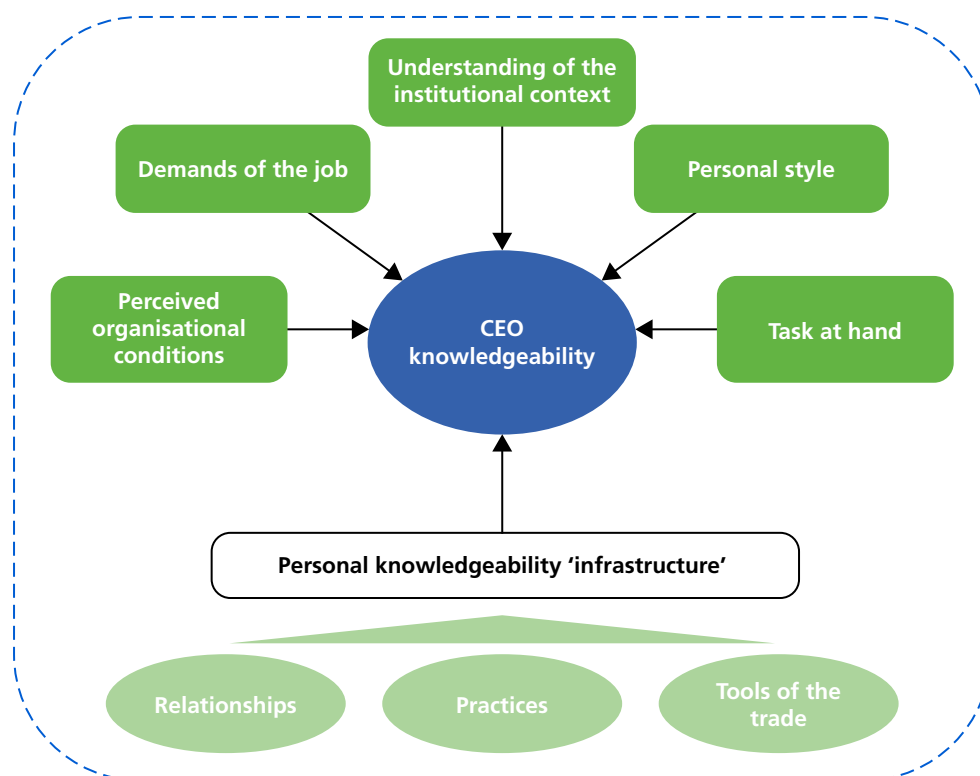


**FIGURE 10** How NHS CEOs stay knowledgeable for all practical purposes.

at the time of our observations, and this was also a larger organisation than the CEO's previous one, which brought particular challenges of 'scaling up' the executive's work to 'fit' the new environment.

In addition, the context contributed to a distinct *nature of work* for the CEO, which was characterised by a focus on leadership and 'sharing the vision', by spending significant time with staff in various parts of the organisation via ward visits and similar, but also organising staff events with a view to communicating the challenges, most notably financial ones, as part of a strategic narrative of 'where we are going as an organisation'. More practically speaking, the work of this CEO involved a busy and constantly changing diary with many internal and external meetings, but also long working hours on and off site, which featured both many informal conversations on site, particularly in the evenings, but also reading, writing and administrative tasks worked on at home, which could not be done on site because meetings and other engagements took precedence. Finally, the personal style of this CEO tended towards a collaborative approach to working as a team, an action orientation towards addressing issues immediately and seeking out information and solutions proactively, and a focus on the detail, though this was always done with a view towards the 'bigger picture' for the organisation. Indeed, *managing the detail to manage the big picture* is a shorthand that could be employed to describe the particular orientation of this CEO to her work, which as we shall see was also reflected in the CEO's particular approach to remaining knowledgeable in practice.

Notably, these three elements, namely context, nature of work and personal style, greatly informed the *personal knowledgeability infrastructure* of this CEO, which consisted of a particular configuration of relationships, practices and 'tools of the trade', as seen in *Figure 11* below. For example, the collaborative team approach reflected itself in many informal and formal interactions with the executives, whereas the sense of leadership and 'big picture' thinking informed the engagements with external colleagues and networks as sources of insight and aids to making sense. Similarly, 'sharing the vision' was reflected in frequent visits to wards, and large operational TMT meetings, which also provided the opportunity for the CEO to make it clear (as she reported in her feedback session) that there was a new executive in post, with a new style and direction. Finally, a certain combination of 'tools of the trade' was employed by this CEO to make herself knowledgeable, which included informal visits, reading external publications on train journeys, attending conferences, such as those organised by the NHS Confederation, and participating in local CEO meetings, among others. Importantly, these were just some of the 'tools' brought to bear in daily accomplishments of work by this CEO.

This infrastructure then contributed to and was mutually informed by the particular approach this CEO took to maintaining knowledgeability in practice, which is to acquire knowledge largely as she goes along. For example, a ward visit was seen as crucial for visibility and staff communication purposes, but the CEO stressed that during such events helpful insights were also being gathered in order to be made sense out

| Personal knowledgeability infrastructure New CEO of an acute FT | | |
|---|---|---|
| **Relationships** | **Structure** | **Tools of the trade** |
| • One-to-ones with executive team members (building team relations)<br>• External links to support key strategic tasks<br>• Informal 'networks'<br>• Management consultants as supporting cast | • Large, operationally focused weekly TMT meetings<br>• Working on wards<br>• Monthly informal meetings with PCT CEO<br>• Area CEO and SHA meetings | • Open-door policy, with constant pop-ins<br>• Walks to execs' offices<br>• Paper-heavy ('she feels naked not carrying them')<br>• Skimming<br>• Train pile<br>• Conferences<br>• Gossip e-mails<br>• Regular ward/unit visits |

**FIGURE 11** Example of a personal knowledgeability infrastructure (new CEO of an acute FT).

of, and current thinking was tested against what is happening on the 'front lines'. In other words, knowledgeability for this CEO was a continuous process of interaction in an in-depth manner with various sources, all of which were considered and reflected on via additional engagements and conversations, with a view towards building a 'big picture' account of the world and how such information helps to inform it.

This mutually constitutive dialectic between context, nature of work and personal style, personal knowledge infrastructure and an individual orientation to knowledgeability can be seen in action in the case of the annual savings programme as a particular task towards which knowledgeability was employed by this CEO. In particular, the task involved roping in a number of elements or sources, both formal and informal, over time, namely an informal meeting with the management consultants hired to help facilitate the process, which itself included obtaining comparative insights to how this issue was being dealt with by other trusts; a meeting with the NHS Elect to gain similar insights; a detailed discussion of current status and associated figures with the trust lead on improvement, as well as other executives on multiple occasions; and finally a meeting of the trust management team, in which the managers were questioned in great detail concerning the work done so far, and encouraged to work together in order to bring forth a viable solution. This reflected again the reliance on multiple sources of insight, including both formal and informal, as a key part of the CEO's personal infrastructure, but also the detail orientation and collaborative approach as key features of the CEO's approach to working and maintaining knowledgeability as part of that.

## Established chief executive officer of a mental health foundation trust

The second illustrative example, in turn, is that of an established CEO of a mental health FT. First, the particular *context* was that of a very successful financial year and a mature organisation, which the CEO was very familiar with after more than 5 years in post. This context was reflected in the *nature of work* during the time of our observations, which was characterised by the CEO as 'managing a steady ship': a steady pace of work, with a tightly scheduled diary, and only a few late evening events. This allowed the CEO sufficient time to engage in continuous informal reflection in conversation, which was a key component of her *personal style*, along with an emphasis on professionalism, and an orientation towards learning and evidence-informed practice. These three aspects subsequently informed, and were informed by, the personal knowledge infrastructure set up and maintained by the CEO, which consisted of a number of key relationships, structures and 'tools of the trade'. For instance, the reflective approach to work and knowledgeability was maintained via close relationships with a smaller number of executives, who were regularly consulted and engaged in conversation in order to make sense of current tasks or future work. The CEO's personal coach, who has been in a supportive role to the CEO for years, was similarly relied upon. In addition, external meetings were used purposefully to help make sense of emerging issues or strategic tasks, while large team meetings allowed the CEO to model her kind of professionalism to the rest of the organisation. Finally, the CEO had in place a number of 'tools of the trade', which she used in order to maintain the appropriate knowledgeability for everyday work in context. This included publications such as the *HBR*, for professional leadership practice, and NHSmanagers.net, for sector thinking, but also a long telephone call in the car each morning (and most evenings) with executives to discuss and reflect; frequent coaching, and added professional engagements, such as attendance at external conferences, not only in the health-care field.

These could be collectively described as 'managing in continuous reflection' as a descriptive way of characterising the CEO's posture or orientation towards work and thus also towards knowledgeability. As the CEO told the researcher, 'this is basically how she works, so a stream of consciousness to the execs' (excerpt from field diary). This can be seen in the example of a service manager appointment process, where the CEO found herself holding an opposite opinion to the rest of the panel about which candidate to hire, which prompted an extended process of information-sourcing, sense-making and reflection in order to arrive at a decision that was in line with the CEO's professional and evidence-informed approach to work. In particular, following the meeting of the panel, where it became apparent the CEO was an outlier in her assessment, the CEO returned to the office and had an informal chat with a trusted

| Personal knowledge infrastucture<br>Established CEO of a mental health FT | | |
|---|---|---|
| **Relationships** | **Structures** | **Tools of the trade** |
| • Key trusted executives used to think through issues, sound off ideas (role of geography)<br>• Close, long-standing relationship with coach<br><br>Tell me 'she actively avoids the Institute and being part of the 'in crowd', as part of her being different thing' | • External meetings for (comparative) intelligence-gathering, testing thinking, giving off information<br>• Large weekly team meetings (active chairing)<br>• Meetings followed by repeated, informal discussions | • Sources: *HBR*, NHS Managers.net, *HSJ*)<br>• Frequent coaching<br>• Commute telephone calls<br>• Open-plan space (and private meeting room)<br>• Diary (organising thinking)<br>• Skimming<br>• Role of repetition 'her mantra is people don't remember something unless they've heard it six times' |

**FIGURE 12** Example of a personal knowledge infrastructure (established CEO of a mental health FT).

executive, asking her what she thought about this situation, and stressing that the CEO could not understand the discrepancy. This was followed by more reflection, this time via a telephone conversation with another executive until 21.00 that evening, and an unprompted conversation several days later with another manager who offered her informal views on the candidate. Another component was a further meeting with a HR representative to review the scores from the day, which allowed the CEO to conclude that the original decision made was correct, as the scores of the different candidates across the panel members supported her assessment. Importantly, this reflected the evidence-informed approach by the CEO, where various sources were frequently taken into consideration during the iterative process of making sense, but 'hard' evidence was sought out where possible as a crucial component of the decision.