**_Evidence-informed decision-making in healthcare management_**

C e n t r a l  t h e m e  g u i d a n c e

In 1964 the Surgeon General, the leading spokesperson for public health matters in the United States, published a report on the health effects of smoking. The first law in the U.S. requiring labelling of cigarette packages with health warnings was adopted within a year of that publication. Another report by the Surgeon General on the same issue which discussed the potential effects of second-hand smoking was published in 1972. It was followed by the introduction of clean-air policies over the following years (1).

This is how we would like decision-making to develop: as actions based on scientific evidence. Unfortunately, this is not always the case. For example in 1938 JA Glover found that there were considerable differences in the rate of children tonsillectomies in different areas in England (2). The finding was particularly interesting, because the difference in health status of the population in these areas did not seem to justify these differences. It appeared, in other words, that differences in beliefs and practices by different physicians were the main reason for the variation in tonsillectomy rates.

Today we expect clinicians to base their decisions about patient care on scientific knowledge as opposed to beliefs and established practices. We call such decisions “evidence based medicine”. Since the establishment of the term “evidence-based medicine” in the 1980s, the call for a more systematic use of evidence has spread to other areas, such as health policy-making and management. The terms usually used in these areas are “evidence-informed policy-making” and “evidence based management”, respectively[1].

Evidence Based Management »*means translating principles based on best evidence into organizational practice*« (3). To fully appreciate this definition, we need to clarify what is meant by “evidence” and by “principles”.

For the purposes of the HOPE exchange programme we are going to take the broadest possible understanding of the term »evidence«. Such an understanding includes findings from scientific publications, ranging from randomized control trials to case reports. It also includes local evidence, which is the contextual information necessary to take a decision. Examples of such contextual information are analysis of locally available data, gathering information from stakeholders and considering the cultural, political, administrative and other settings which may influence a decision.

It is important to recognize that merely copying what was successful in one setting may not lead to the same result in another (4). This is why the definition of Evidence Based Management refers to “principles *based* on best evidence”. The purpose of extrapolating a principle from the available evidence in to make sure that we have captured the elements of evidence, which can be applied in different contexts and over time. Rousseau (4) cites the example of a manager, who did not see progress following the introduction of performance monitoring in his organization. The manager applied the principle that the amount of information we are

[1] The terminology has evolved over the years, particularly with reference to health-care policy-making, but also in some cases in relation to clinical practice and management. The evolution consists in changing the term “evidence-based” to “evidence-informed”. The latter expression emphasises the importance of other factors, in addition to scientific evidence, in shaping a decision. Several of the articles cited in this document use the term “evidence based management” which seems to be the more established one. The content of these papers is non the less in line with what is intended by evidence-informed management. For this reason at times we use the term “evidence based management”, while at times we use the term “evidence informed decision-making in healthcare management”, which some researchers argued would be the more appropriate one. Irrespective of the term used, the reader in invited to be aware that evidence should play an important role in decision-making, but often cannot provide directly applicable solution in healthcare management situations.

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capable of processing at any one time is limited. He applied this principle by establishing a more succinct feedback report on performance monitoring. This had the desired effect of improving performance. The example is a clear reminder that adopting a solution (e.g. a list of performance indicators) is not the same as translating a principle into best practice. It is generally recognized, that the process of translating the evidence into principles and then into practice is a big challenge faced by decision-makers (4, 5).

Evidence-based management is not a rigid, one-size-fits-all solution, but rather a way of thinking about how to make decisions (Table 1). Taking advantage of such an approach is therefore relevant to top managers in healthcare organizations, but also to a number of other employees, who at various levels of management take decisions on organizational practice. Examples of decisions, where a careful look at the evidence may be helpful, include investment choices in new equipment, such as robots for assisted surgery or PET scanners. Also organizational practices, such as how to use performance measures to foster improvements, could often take advantage of a more careful consideration of the available evidence.

In addition to top and middle management of healthcare organizations, also decision-makers in government can take advantage of an evidence-based approach. For example shifting tasks from physicians to nurses and other healthcare professionals proved effective on several occasions and yet it seems underutilized in many healthcare settings. Another example is the difficulty in reducing the scattering of providers of operative procedures, despite evidence of better outcomes achieved by organizations providing high volumes for some of these procedures (6).

Table 1: What is Evidence-Based Management?

| **Evidence-based Management Is...** | **Evidence Based management is not...** |
| --- | --- |
| • Something managers and practitioners do | • Something management scholars do |
| • Something practitioners already do to some extent | • A brand-new way of making decisions |
| • About the practice of management | • About conducting particular types of academic research |
| • A family of related approaches to decision making | • A single decision-making method |
| • A way of thinking about how to make decisions | • A rigid, one-size-fits-all decision-making formula |
| • About using different types of information | • About privileging evidence from academic research |
| • About using a wide range of different kinds of research evidence depending on the problem | • About using only certain types of research evidence irrespective of the problem |
| • Practitioners using research evidence as just one of several sources of information | • Scholars or research evidence telling practitioners what they should do |
| • A means of getting existing management research out to practitioners | • About conducting research only about management practices |
| • Likely to help both the process and outcome of practitioner decision making | • The solution to all management problems |
| • About questioning ideas such as “best practice” | • About identifying and promoting “best practice” |

Source: Briner, Denyer & Rousseau, [11]

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The processes used in health technology assessment are an example of careful consideration of the evidence in order to take a decision. These processes also show how it is often necessary to involve different types of experts (clinicians, epidemiologists, economists etc.) and different stakeholders (healthcare managers, the healthcare industry, policy-makers etc.) to reach an evidence-informed conclusion. While health technology assessment might be considered only one application of evidence-based management, it shows how all the different stakeholders have a role to play in such decision-making.

There are many reasons why Evidence based management as a concept has not yet had the impact that evidence-based medicine had in its field. Walshe and Rundall (6) identified several of them.

- The culture of medicine is based on a common body of knowledge and controlled entry of its members. On the other hand, in healthcare management the body of knowledge at its basis is much less formal and there is a high degree of diversity in the background of managers.
- The importance of scientific knowledge and research is generally accepted in medicine, whereas in management personal experience is highly valued in the context of a very pragmatic attitude towards organizational practice. There is generally speaking a divide between practitioners and researchers in management that is not observed in medicine.
- Research in medicine is biomedical and empirical, whereas in health care management social science paradigms prevail.
- The research literature is very well organized and indexed in medicine but much more heterogeneous and spread across sources in the case of management.
- Decisions in medicine are most commonly taken by individual practitioners autonomously, whereas in management decisions are often the result of consultations and compromise.
- There is no tradition of using decision-support such as guidelines or protocols in healthcare management.
- The consequences of decisions are often evident in management over the long run, as opposed to medicine, where clinical decisions often have immediate consequences [5].

We now know that evidence could at least in theory be helpful in improving decision-making in the area of healthcare management (5). We are also aware of differences with other fields, such as medicine, which explain why the spread of the concept has not been as penetrating as the concept of evidence-based medicine. At the same time Arndt and Bigelow (5) point out that »*unless one assumes that health care managers as a group have not based decisions on available information and analysis, a close reading of the literature suggests that evidence-based management is not an entirely new way of making decisions…*«.

It is reasonable to assume, that evidence already is used in healthcare management. The key question (reformulated from Roshanghalb (7)) is:

**How do we apply evidence-based management to our daily managerial practice and decision-making?**

In order to answer this question, it is helpful to provide a framework which allows us to structure efforts and experiences in evidence-informed decision-making. To this end we take advantage of the »process« view of evidence-based management in healthcare developed by Roshanghalb et al(7), while taking some liberties in the interpretation of its building blocks (Figure 2).

This view of evidence-based management recognizes several building blocks, which are grouped into three categories: inputs, processes or outputs. The inputs of evidence-based management include the scientific literature. It would be interesting to learn within the HOPE Exchange programme about experiences of organizations in making use of scientific literature as the bases for healthcare management. How was the

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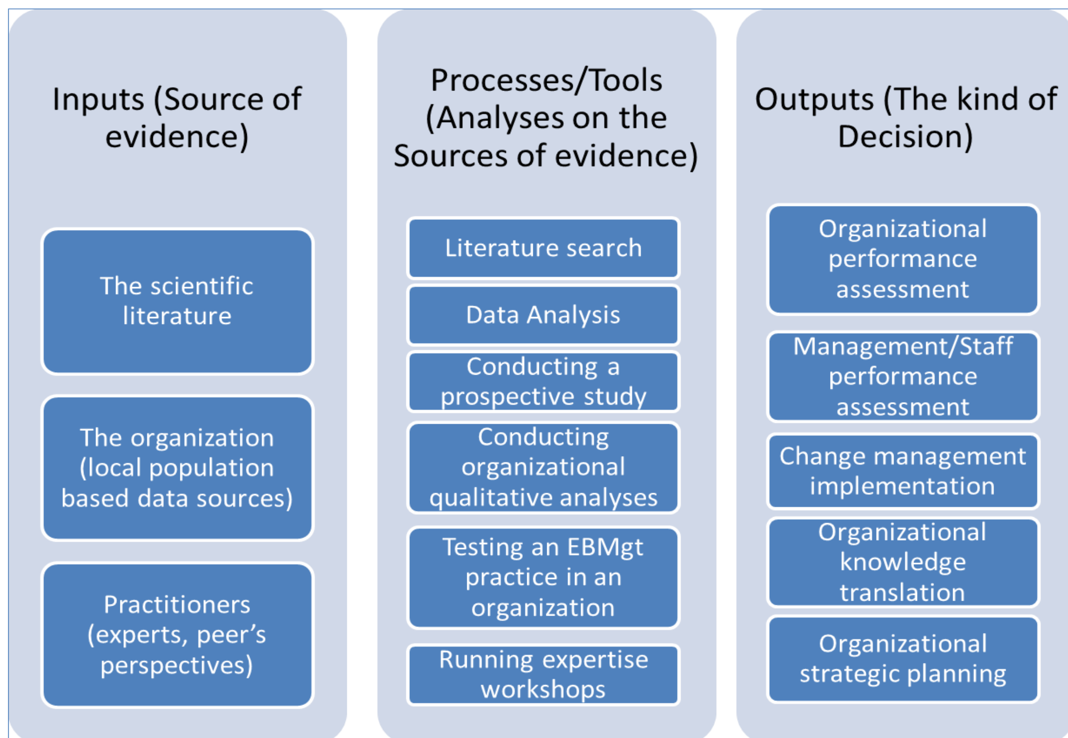
literature reviewed and by whom? Is it an established activity within the healthcare organization? How did the idea arise?

The second building block among the inputs refers to local population data sources. Does the healthcare organization make regular use of local data sources for decision-making? Which ones are used? Is it possible to define the population served by a healthcare organization? Are population data used regularly by the organization to support decision-making? Are electronic health-records regularly used for decision-making?

The third building block is titled »practitioners« but it could also be broadened to include other stakeholders. Questions then arise as to which stakeholders are regularly consulted for decision-making in healthcare management practice. Are patients regularly involved in decisions regarding the administration of a hospital? Is the local community or are local authorities consulted before decisions are taken? Is there any coordination or interaction between different healthcare providers, aimed at avoiding disruption of services to patients due to decisions taken by a single organization? Assuming that the way mass media report on changes may have an impact on the successful implementation of an innovation, are these aspects taken into account and, if so, how?

Figure 2: The "process" view of Evidence Based Management




Source: Adapted from Roshanghalb et al [10]

The second category in Figure 2 is the process of evidence-based management which has several building blocks. In addition to performing a literature search, already mentioned above, questions arise as to how data analysis is performed. Is there a system to perform regular analysis of data based on the various possible data sources? As digitalization in healthcare is making huge advances, are we able to take full advantage of the new information that is becoming available? Do organizations have experiences in participating in research on healthcare management? Were the research findings of such collaborations useful to the participating organization? Is there an established process to regularly pilot organizational innovations? Do healthcare

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organizations have experiences in conducting expert workshops to aid managerial decision-making? Are qualitative analysis performed to aid decision-making?

The third group of building blocks represents the output of evidence based management. One of the building blocks is organizational performance assessment. What do these assessments look like? By whom are they used and how? Do these assessments have any impact? Considering other building blocks, questions arise for example as to whether change management processes are explicitly planned and employed. Do these processes draw from the body of knowledge about change management? Is strategic planning of organizations informed by evidence? Even though it is not an explicitly recognized building block, even investment decisions in healthcare organizations may have a very interesting background. Through Health Technology Assessment a very rigorous process may be applied. Is it actually done to inform decisions at the healthcare organization level? Is it feasible to perform such studies at organizational level?

Experiences in the area of evidence-based healthcare management need to be shared. The exchange of experiences is a precious opportunity to identify and hence spread good practices. This is even more important in the area of evidence-based management, because so little is known about the actual effectiveness of making use of these approaches. Additionally, discussing the issue helps to create a shared body of knowledge. This is a precious element for the development of a discipline. Last but not least, rising awareness about the issue is an essential element for its future development.

Useful resources:

1) Pfeffer J, Sutton RI. Evidence-based management. Harvard business review. 2006 Jan 1;84(1):62., available at https://hbr.org/2006/01/evidence-based-management
2) Evidence informed policy-network Europe (EVIPNet), an initiative established by the World Health Organization; more information available at http://www.euro.who.int/en/data-and-evidence/evidence-informed-policy-making/evidence-informed-policy-network-evipnet
3) The SURE guides for Preparing and Using Evidence-Based Policy Briefs, available at http://global.homolog.evipnet.org/sure/sure-guides/
4) SUPPORT Tools for evidence-informed health Policymaking (STP), available at https://www.paho.org/hq/index.php?option=com_content&view=article&id=4368:2010-support-tools-evidence-informed-health-policymaking-stp&Itemid=1659&lang=en
5) Centre for Evidence Based Management, more information at https://www.cebma.org/

## References

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Copyright 2010 by the National Academy of Sciences. All rights reserved.; 2010.
2. Wennberg JE. Time to tackle unwarranted variations in practice. BMJ (Clinical research ed). 2011;342:d1513.
3. Learmonth M. "Is there such a thing as 'evidence-based management'?": A commentary on Rousseau's 2005 presidential address. Acad Manage Rev. 2006;31(4):1089-91.
4. Rousseau DM. Is there Such a thing as “Evidence-Based Management”? Acad Manage Rev. 2006;31(2):256-69.

5. Arndt M, Bigelow B. Evidence-based management in health care organizations: A cautionary note. Health Care Manage Rev. 2009;34(3):206-13.
6. Walshe K, Rundall TG. Evidence-based management: from theory to practice in health care. The Milbank quarterly. 2001;79(3):429-57, iv-v.
7. Roshanghalb A, Lettieri E, Aloini D, Cannavacciuolo L, Gitto S, Visintin F. What evidence on evidence-based management in healthcare? Management Decision. 2018;56(10):2069-84.

**Participants of the HOPE exchange programme are asked to give 1-3 practical examples of evidence-informed decision-making in health management, based on what they have encountered during their stay in their host country,**

In most receiving countries, there will, be participants of several different nationalities and professional backgrounds. Hence the process of identifying and reaching consensus on practical examples will be an important, if not the most important, element. The process of producing the end result is at least as important as the content of the PowerPoint presentation.

The PowerPoint presentation for each country should focus on the practical examples, stimulating factors/initiatives and barriers that the participants have come across at national, regional, healthcare and/or ward levels. All participants will receive a one-page document about the healthcare systems of the country in which they stayed. This collection of one-page documents will be prepared by the HOPE Office on the basis of the information available on the HOPE website Therefore the participants are asked not to include a description of the health care system of the country in which they have stayed.

One of the major objectives of the exchange is to identify elements in the healthcare system they visited that they find inspiring or worth considering when looking at the challenges that they face at home in their own country. Participants are not asked to assess the health system in the country in which they have stayed. Rather, they are invited to reflect on what they would like to see implemented in their own country, region, institution or ward, or what they could learn from their host country when implementing a patient involvement approach. The task is oriented, as all the exchange is, on what to bring back home.

## Working process

### Step 1
Participants will individually identify examples.

### Step 2
They will exchange what they have found with other participants staying in the same country. If they do not meet before the end of the programme, national coordinators will organise this exchange by internet.

### Step 3
Participants will have to choose together up to three practical examples.

### Step 4
Participants will prepare a PowerPoint presentation of up to three practical examples. The participants are also invited to explain the reasons behind their choice.

## Presentations

- The presentations at the final conference are supposed to be 12 minutes long, and should be delivered to the organisers at the latest on Sunday evening. The presentation should not go below the time limit, nor exceed it.
- Presentations should be made in PowerPoint ONLY. Any sound effects and movies should be incorporated in the PowerPoint file.
- Diagrams and graphics are welcomed where appropriate or necessary to explain an idea or to visualise a process.

## Copyright

**Presentations must stand-alone (as a pdf-file) as they will be used for publishing on the website. This must be considered when using special effects or in respect to copyright restrictions.**

- Preferably, use only your own photographs as illustrations within the presentation.
- It is strongly recommended to only download images from websites that offer images free of royalties for commercial use (e.g. www.pixabay.com).
- The absence of a copyright notice does not mean that an image or illustration may be freely used. If in doubt, assume you cannot use it.
- In case copyright images are being used within the presentation, proof of purchase stating the intended use of those images must be provided to HOPE.
- The names of all participants in a country should be mentioned on the presentation. They will be held personally responsible in case of copyright infringements.