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Chapter · May 2017

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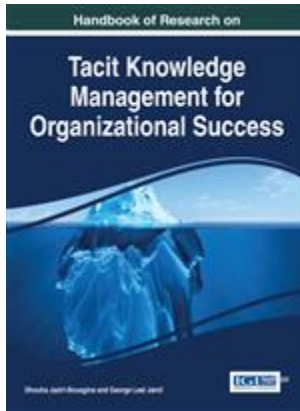
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To cite:

Marc Jacquinet, Henrique Curado, Ângela Lacerda Nobre, Maria José Sousa, Marco Arraya, Rui Pimenta, António Eduardo Martins. (2017). Management of Tacit Knowledge and the Issue of Empowerment of Patients and Stakeholders in the Health Care Sector. In Dhouha Jaziri-Bouagina & George Leal Jamil, Handbook of Research on Tacit Knowledge Management for Organizational Success, IGI Global, pp. 436-460.

INTRODUCTION

The recent transformations in the economy and society are often referred to as the knowledge economy, the information society or even the knowledge society (Amin & Cohendet, 2004; Amin & Roberts, 2008; Antonelli, Foray, Hall, & Steinmueller, 2006; Carayannis, Pirzadeh, & Popescu, 2011; De la Mothe & Foray, 2001; Foray, 2010; Kahin & Foray, 2006; Lam, 2000). These transformations impact most sectors; and health care is no exception. It is a major provider of knowledge-intensive services that are going through a rather swift adoption of new information systems and knowledge management processes that parallel the concomitant emergence of new management models (J. Birkinshaw, 2010; Julian Birkinshaw, Hamel, & Mol, 2008; Julian Birkinshaw, Nobel, & Ridderstråle, 2002; Raisch & Birkinshaw, 2008). Related to these issues –in public policies, social action and management– the notion of empowerment has spread widely. Now, as discussed here, it is affecting health care models, institutions, businesses and management as much as the structuration and the organization of the whole sector.

Concepts, context and issues

There is a growing literature on health and health care dedicated to empowerment of patients. There is, however, no explicit research on the tacit dimension of the knowledge management of the empowerment process of patients, health care organizations and institutions. There is also a need to clarify the principles for good knowledge management applied in the health care sector; and this is especially true if it goes beyond the implementation of information systems solutions that are only part of the response necessary to tackle the problems of today. Our objective here is to tackle that gap in the literature and to extend the discussion of the empowerment of the patients to the stakeholders more or less concerned or involved with health care. The discussion is at the level of managerial processes of empowerment and the knowledge management aspects of health care provided and organized by

professionals for the wellbeing of patients. The authors in this chapter relate empowerment to the issue of health literacy.

The issue of empowerment relates obviously to the notion of health promotion, used by the World Health Organization (WHO) (1986) of the United Nations and is implemented as a guiding principle for many countries around the world (Catford, 2011; Potvin & Jones, 2011). This is an important issue not just for knowledge management specialists and scholars but also for public health and policy makers (Baba, Kearns, McIntosh, Tannahill, & Lewsey, 2016; Banerjee & Duflo, 2008; Bowen & Lawler III, 1992; Brandstetter et al., 2015; Brandstetter, McCool, Wise, & Loss, 2014; Crawford Shearer, 2009; McLaughlin, 2003, 2016; Rappaport, 1985; Wiggins, 2012; Williams, 2016; Marc A. Zimmerman, 2000; Marc A Zimmerman & Rappaport, 1988).

Empowerment can be seen as a way of managing knowledge in specific groups, organizations or sectors, such as the health sector – e.g., the national or regional health systems. Empowerment, broadly construed, is an ancient concept, not just in management but in community development, military organizations, public administration, public policies, and not to mention the associations and religious orders and congregations (McLaughlin, 2016; Rappaport, 1985; Marc A. Zimmerman, 2000; Marc A Zimmerman & Rappaport, 1988). It is, however, of a more recent facture in its modern sense. Although the concept is not new, its *emergence* and *widespread use*, in its modern form, is relatively recent, dating from the 1960s and the 1990s respectively (Carlisle, 2000; McLaughlin, 2016; Nutbeam, 2000, 2008).

There is, nevertheless, still a great lack of studies on knowledge management in health care, and, even more obviously, about empowerment in relation to health issues (Baba et al., 2016; Berkman, Kawachi, & Glymour, 2014; Crondahl & Eklund Karlsson, 2016; Downey, Curado, & Jacquinet, 2016; Karamitri, Talias, & Bellali, 2015; Lam, 2000; MacDonald, 2003; McLaughlin, 2016; Tengland, 2008).

Most studies on the health sector envision a more technological view and functional emphasis of knowledge management that ignore the specificities of the health sector and the broader management issues concerned with information and decision making. In other words, it has to do with management processes, including corporate planning and public policies, strategies and decisions made both at the macro and the micro-levels of the system.

A preliminary discussion of the issue of knowledge in health care

Our discussion of empowerment, in healthcare, is related to health information, health literacy and the logic of knowledge management, i. e., both the vision and the practice. In other words, it goes through the whole spectrum from functional health literacy to critical health literacy (Nutbeam 2000). It is important to mention here that in the specialized literature there is a parallelism or strong association between health literacy and health empowerment (Crondahl & Eklund Karlsson, 2016; Kostenius & Hertting, 2016; Mårtensson & Hensing, 2012; Nutbeam, 2008; Porr, Drummond, & Rishter, 2006).

There are some aspects of knowledge management, namely its imprecision, contradiction and often flawed conceptions of what knowledge is (all about) that are necessary to investigate further. We will study it in greater details in sections two through six below. But before that, it is convenient to tackle a certain number of issues related to knowledge conception, knowledge management and health and health care.

First of all, the notion of knowledge is problematic, not just in the philosophical literature but also in the management literature, not to mention the knowledge management specialization. The problematic nature of knowledge is not new and is even a common feature across all disciplinary borders (Frodeman, 2010; Legendre, 1983, 1996, 2001; Rosenthal & Gutas, 1970).

It is here convenient to make a criticism of traditional or mainstream knowledge management literature, namely Nonaka's model (Ijukiyo Nonaka, 1988; Ikujiro Nonaka, 1991, 1994; I Nonaka & H Takeuchi, 1995; Ikujiro Nonaka & Hirotaka Takeuchi, 1995; Ikujiro Nonaka, Toyama, & Konno, 2000; Spender, 1996; Von Krogh, Nonaka, & Ichijo, 2000), that considers knowledge and knowledge processes in management practice or in the implementation of public policies as being too poor or flawed, and lacking evidence (Stephen Gourlay, 2006; S Gourlay & Nurse, 2005). This is in stark contrast with the literature on health and social psychology (Bandura, 1986a, 1986b) that stress the "complex relationships between knowledge, beliefs, and perceived social norms, and provide practical guidance on the content of educational programs to promote behavioural change..." (Nutbeam, 2000: 260).

This is why, in section five, the model based on the tools and concepts from Nonaka and collaborators is adapted to the peculiarities of the health sector. It has to be considered as a heuristic model to help shape practice locally and develop communities of practice in a trial and error fashion and not a descriptive functional model. In this sense it is just a first step to be improved as stakeholders and actors gain experience in the making of knowing, knowledge sharing and interactions.

Too much related to a certain kind of management culture, it used flawed concepts (Dreiling & Becker, 2007; Montuori, 2003; Alexander Styhre, 2003; A. Styhre, 2003; Tsoukas, 2016) and could be indeed clarified and sometimes simplified (Alvesson, 2001; Alvesson & Kärreman, 2001; Alvesson & Sveningsson, 2015), and this is a partial aim of this chapter focused on health literacy and empowerment.

Accordingly, the present chapter will tackle the issue of empowerment and health literacy from a knowledge management focus, leaving aside important issues such as power, power relations, public policies – either social or health, and identity (Alexander, Schallert, & Hare, 1991; Haugaard, 2012). For all these issues we refer to the vast literature already published (Alexander et al., 1991; Haugaard, 2012).

The present chapter will start with a review of the literature on empowerment, especially focused on the health sector and the health providers of health care. The following sections will develop a critical analysis of empowerment, mainly around the concept of tacit knowledge (Polanyi, 1958, 1962, 1966) and knowledge management. One key variable is the proximity of the actors involved in the empowerment process. This key variable is very much related to the tacitness issue of knowledge production and flows.

After considering some limited conceptual issues (section 1), some limitations of empowerment theory (section 2), and the tacit dimension in health care (section 3) we will extend the notion of empowerment to a broader set of stakeholders, and not just patients as object of empowerment policy (section 4).

The chapter extends the discussion of the empowerment of the patients to that of the stakeholders and the general debate about health literacy. In the last two parts of the chapter we will discuss a model for knowledge management in health care (section 5) and discuss the prospects for the future (section 6). Some conclusions and trends to consider in the near future and suggestions for further research and policy action will be presented at the end of the chapter.

EMPOWERMENT THEORY AND APPLICATIONS TO HEALTH SECTOR

The notion of empowerment in health is very much related to health literacy, health information, and, more recently, to electronic health record (HER) or online portals and databases, and other aspects of the relationship between the patient and the doctor, surgeon or nurse, in brief, the professionals, and this has been casted in terms of the institutionalized knowledge management.

We will not discuss deeply the nature of the relationships between patients and doctors or surgeons for the sake of the present chapter objectives. It is however important to highlight just one aspect that is central to empowerment: the asymmetrical position between the patient and the doctor with respect to knowledge and not just information. It is indeed one of incomplete information, ignorance and uncertainty (Loasby, 1976, 1999).

But here, it is not just the doctor that knows more about the patient health, at least he or she can better interpret the raw data of information, exams, and output from devices than the patient. On the other hand, the patient is or could be more knowledgeable than the doctor, especially about his past and what he did or did not do. Both can know more than they could or would like to tell. But both can also transmit tacit knowledge more than he or she might be aware of.

It is also tantamount to note that patients today not only knows more than those in the past but also are more connected to information and online portals. They are more knowledgeable of current problems, new treatments, debates and secondary or undesired effects of interventions and news coverage. And health professionals are sensitive to these issues, above all when online interactions and social network can amplify certain pieces of information, trends or concerns.

We will come back to some of the tacit dimensions of the relation between the patient and the doctor but also across the whole spectrum of the relationships between patients, health professionals, managers, policy-makers, and the stakeholders (see section 3 and 6). Before that it is important to clarify health promotion on two counts: health literacy and the Ottawa Charter.

Health promotion and health literacy

The three levels of health literacy (Nutbeam, 2000, 2008) can be extended to the notion of empowerment, because both are conceived as proximate concepts and practices (Baba et al., 2016; Banerjee & Duflo, 2008; Brandstetter et al., 2015; Crondahl & Eklund Karlsson, 2016; Cyril, Smith, & Renzaho, 2015; Kostenius & Hertting, 2016; McMillan & Worth, 2015; Rappaport, 1985; Rodwell, 1996; Tengland, 2008; Marc A. Zimmerman, 2000).

The first level of empowerment is the **functional health literacy** or the most basic component with a focus on factual information. It is typically represented by flyers, folders and information given to the patient on a variety of subjects related to health care, from access, and post intervention recovery, to precautionary behavior (Nutbeam, 2000). It is not limited to information sharing, however; yet, this is its main component. This is related to the more basic concept of literacy focusing on knowledge and information transmission but not much emphasizing on action and management.

The second level of empowerment is called the **interactive health literacy** that promotes self help as well as the seizing of opportunities to develop individual skills. The focus here is the individual, her or his attitude and behavior. It is also more time oriented, meaning to help change individual perceptions, attitudes and knowledge (Adam, 2004).

Finally, the third level, the **critical health literacy**, is characterized by a focus on groups and context, with the provision of information on social, economic and group determinants of health and how this can lead to change, both at the individual, group and community levels (Mårtensson & Hensing, 2012; Nutbeam, 2000; WHO, 1998). This third level is the most comprehensive one, going beyond the individual as a learner and getting into matters of management, collective choice, decision and public policies.

It must be stressed that every previous level is integrated in the following one. So in the critical health literacy, we find the content of functional health literacy (such as factual information) and the interactive health literacy that tries to develop skills and characterizes the direct supportive environment. In other words, the focus is getting broader and more and more related to the different factors that have a bearing on health, and moving from the individual to the group and the collective action and policy targets.

In section 3, we will discuss the implications of that model when we take into account the relevance of tacit knowledge.

Ottawa Charter and health promotion

We have now to discuss some principles that orient health policies worldwide. To do this, the guidelines defined by the World Health Organization, namely and above all here, the Ottawa Charter (WHO, 1986) are the most relevant. There are other more recent agreements like the Jakarta Declaration of 2013; however they are not changing the essential of the content and objectives, they are getting more in the

details. The overall goals are maintained throughout, though, often more precise and more qualified.

The principles and guidelines sketched in the Ottawa Charter connect health policy to health promotion and health literacy and, now, can be related to the empowerment in health care. Other documents are relevant too, but we will not discuss them here and the debates continue, as recently at the world conference on Health promotion organized in June 2016 in Brazil or in China later in the same year convened by the WHO or previous declarations (WHO, 1999) and studies (Catford, 2011). It is important to note that these principles are almost three decades old (Potvin & Jones, 2011). There is room for improvement, namely in terms of integration of policies, instruments and knowledge management initiatives.

The Ottawa Charter, signed in 1986, identified five main areas of action for health promotion: (1) Building healthy public policy; (2) Creating supportive environments; (3) Strengthening community action; (4) Developing personal skills; and (5) Re-orienting health care services toward prevention of illness and promotion of health (WHO 1986). These have implications for knowledge management, namely for going beyond the implementation of information systems, as the concept of informatics is well-known in the health management literature. At this point, knowledge management in health care has to be combined with public policy (see areas 1, 2, 3, and 5) at different levels, namely local or regional (see area 2 and 3). It forces knowledge management to integrate communities and environment where people live and work. This is of far reaching consequences, beyond what traditional or functional knowledge management is designed for.

Furthermore, the rather recent evidence-based approach to health promotion has been introduced to tackle several issues raised by the Ottawa Charter and the implementation of its five areas of health promotion (Juneau, Jones, McQueen, & Potvin, 2011; McQueen & Jones, 2007). The evidence-based approach is a central ingredient in the change process of health policies and the knowledge management systems and processes. This element is part and parcel of the adapted model of knowledge management in section five.

Further complication can be deducted from the fundamental conditions of health promotion: i) peace, ii) shelter, iii) education, iv) food, v) income, vi) a stable ecosystem, vii) sustainable resources, viii) social justice, and equity as stated in the Ottawa Charter. We must take into account that even if the conditions are for all countries in the world, yet some of the conditions are barely met in many instances. Even in OECD countries, education, income, food and social justice and equity can be frequent problems and it turns out to be highly correlated. Those lacking food, usually lack income, education, and live in an unstable economic system. This is the problem of intersectionality (Collins, 2015; Crenshaw, 1989; Davis, Collins, & Crenshaw, 2003; Hill-Collins & Bilge, 2016). Issues of sustainable resources and pollution are of increasing concerns as well as social justice and equity, which is one of the concerns of public health and social epidemiology (Berkman et al., 2014).

Finally, the strategies of the World Health Organization in the Ottawa Charter advances three paths of action for health promotion: (1) advocate (advocacy for health) to take defense for the good health, (2) enable (for achieving greater equity),

and (3) mediate (relating to the people involved in the processes). The second point – to enable – has to be related to the notion of empowerment. To empower, is it not to enable?

The human dimension of empowerment and ... knowledge management

Finally, it can be very interesting, and even enlightening, at this point, to highlight the relationships of the patient with the health professionals with a citation from a philosopher of science and medicine, Georges Canguilhem and make a few comments to highlight the complexity of the matter and to reinforce our conception of knowledge management for health and health promotion:

Understood as an event in the doctor-patient relationship, healing is at first sight what the patient expects from the doctor, but not what he always obtains from him. There is thus a discrepancy between the patient's hope regarding the power that he attributes to the doctor on the grounds of the latter's knowledge and the doctor's recognition of the limits of his own efficacy. There, without doubt, lies the main reason why, of all the objects specific to medical thought, healing is the one that doctors have considered the least. Yet this is also due to the fact that the doctor perceives in healing an element of subjectivity, a reference to the beneficiary's evaluation of the process, when from his objective point of view, healing is the target of a treatment that can be validated only by a statistical survey of its results. (Georges Canguilhem, 2012: 53)

First of all, the original text, published in 1978, a classic in its own right, from which the current extract comes from, is titled "Is a Pedagogy of Healing Possible?" (G. Canguilhem, 2002) and aims at reflecting on the difficulty of healing and the learning process of the patient.

This is just the idea behind the notion of health promotion, health literacy (we can see a connection between pedagogy, learning and literacy) and empowerment. Accordingly, the second point to highlight is the difficulty of empowering the patient in the process of healing. Health and healing are here defined as capabilities (Horton, 1995; The Lancet, 2009). Indeed, as stated in a recent issue of *The Lancet*, health, following explicitly the steps of Canguilhem, is defined as "the ability to adapt" (The Lancet, 2009: 781).

Another theme is the knowledge asymmetry and the limit of knowledge. There are still other aspects of the problem of health and healing to note. In the following extract it is important to highlight the issue of responsibility, the expectations and vision of the doctor and the patient and their divergent paths at some point in time:

And without making a disparaging comparison to those laughable doctors who would make their patients bear responsibility for therapeutic failure, it has to be acknowledged that the absence of healing in one patient or another does not suffice to induce doubt in the doctor's mind concerning the virtue that he attributes to any prescription. Conversely, whoever claims to speak pertinently

about an individual being healed should be able to demonstrate that healing, understood as the satisfaction of the patient's expectation, is really the effect of a prescribed and scrupulously applied therapy. However, it is more difficult to carry out such a demonstration today [...] (Georges Canguilhem, 2012: 53-54)

From this previous extract, we can note one more theme, the difficulty of demonstration of healing and the role played by the doctor – or the health professional – that goes beyond the outcome or the expected outcome. This difference is well highlighted in the next paragraph:

In short, we can say that for the sick man, healing is what medicine owes him, while for most doctors, even today, what medicine owes the patient is the best-studied, best-tested, and most-used treatment currently available. Hence the difference between a doctor and a healer. A doctor who does not succeed in healing anyone would not de jure cease to be a doctor—he continues to be licensed by a diploma that sanctions a conventionally accepted knowledge for the purpose of treating patients whose diseases are outlined in medical treatises in terms of symptomatology, etiology, pathogenesis, and therapy. A healer can be one only de facto, for he is judged on the basis not of his “knowledge,” but of his successes. (Georges Canguilhem, 2012: 54)

Finally, the author finished his essay by declaring that for the patient, to heal, it is not the same as coming back to a previous state of health, but a new situation, a change in his or her reality and life: “The lucid consciousness of the fact that healing is not a return helps the patient in his search for the state of the least possible renunciation by liberating him from his fixation upon his previous state” (Canguilhem 2012: 66).

From all these considerations, we would like to stress the complexity of the processes at hand and the importance of the knowledge of the professionals and the patients involved in these very processes. This is relevant to consider for dealing with the promotion of health and the empowerment of agents. What is promotion of health if not enabling people to adapt to new circumstances and changing meanings of live and living. This is here the modernity of Canguilhem at the meeting point with innovation and knowledge management conceived in a complex and evolutionary way (Richard R. Nelson & Winter, 1982; Richard R Nelson & Winter, 2002).

SOME LIMITATIONS OF EMPOWERMENT THEORY

There are a number of limitations to the theory of empowerment and its implementation in management practices and in public policies in the health sector. We will discuss the most important and relevant ones for the health care sector and to orient policies and management decisions that implement knowledge management measures.

One primary limitation, as already hinted at above, is the traditional asymmetry of information between health professionals and patients. The asymmetry can run both ways. This is well covered in the health economics literature (Blaug, 1998; Donaldson, Mugford, & Vale, 2002; Hodgson, 2008; McPake, Kumaranayake, & Normand, 2002; Scott, Maynard, & Elliott, 2003; Wolfe, 2008). It is important to note that it is not just the doctor or health professional that typically knows more about health problems, ailments and diseases as well as factors related to them. On the other hand, the patient knows more about his past history than the professional. The difficulties for knowledge management and for empowering people's health do not stop here. The patient can be less knowledgeable of scientific theories and evidence-based assertions. However, some patients still ignore, before some diagnosis, what their health problem, if any at all, is. The recent literature on downstream and upstream health reveal even professionals may not see the whole picture and proffer misdiagnoses (Ewles & Simnett, 2003; WHO, 1999; Wilkinson & Pickett, 2010).

The second aspect has to do with the tacit dimension of health knowledge and interactions. The concept of knowledge management continues to treat tacit knowledge, despite late criticism of the conception of Nonaka and colleagues (Adler, 1995; Buono, Poulfelt, & København, 2005), as a residual category. Tacitness is not a secondary feature of knowledge but one of its defining aspects (Adler, 1995; Buono et al., 2005; Dreiling & Becker, 2007; Duguid, 2005; Stephen Gourlay, 2006; S Gourlay & Nurse, 2005; Polanyi, 1958, 1962, 1966; Polanyi & Prosch, 1975; Alexander Styhre, 2003; A. Styhre, 2003). Knowledge has a complex and embedded character that turns its management a difficult and challenging task.

Third, there is a neglect of local and community interactions and knowledge base in the design and implementation of public policies for health promotion and health care. Local knowledge (or indigenous knowledge (Sillitoe, 1998, 2007) as it is called in the anthropology literature) could bridge the gap, at least partially, between science-based knowledge and personal knowledge (as defined by Polanyi). This third limitation is also very relevant for the adoption of new technologies and alternative treatments (Laverack & Wallerstein, 2001; Wallerstein & Bernstein, 1988).

The fourth limitation of the empowerment theory has to do with the limited view of interested parties or stakeholders, most often than not the doctor or surgeon and the patient, neglecting other health, administrative professionals, citizens and associations of public interest or local scope (see the forthcoming section on stakeholders for further considerations). The proposition in this chapter is to involve more key players or stakeholders, from the design of public policies, the measures used and the implementation process, including the management of information and knowledge in an efficient and meaningful way.

The last limitation of the empowerment theory, discussed here, is the lack of an active pedagogy, especially for the patient, and especially the less prepared individuals, namely those that do not have the adequate literacy and skills to fully be aware of what is going on and what can be useful (Laverack & Wallerstein, 2001; Wallerstein & Bernstein, 1988).

TACIT DIMENSION IN HEALTH CARE AND EMPOWERMENT PROCESS

We will discuss here the tacit dimension of health care and the empowerment process as well as health literacy. The tacit dimension here has to be conceived in broad terms, closer to management processes and real life of patients and health professionals. This means that the tacit dimension is not a residual category, as conceived by Nonaka and his group of researchers, but an essential part of knowledge management and social interaction.

The tacit dimension of knowledge as conceived by Michael Polanyi is related to a context of knowing, learning and acting in a scientific community and beyond, including the process of indwelling that focus on the non explicit traits of knowledge creation and transmission (Polanyi, 1958, 1961, 1962, 1966, 1981; Polanyi & Prosch, 1975; Prosch, 1986). His conception received much attention in science and technology studies as well as economics of innovation, technological change, management and philosophy (Jha, 2002).

Our understanding of the tacit here is to be approximated to the knowing how or the “how to” knowledge (contrasted but complementary to the knowing what) as defined by Gilbert Ryle (Ryle, 2009). It is associated to the process view of social action and organization; with philosophical roots in William James, Whitehead and Bergson, *inter alia* (Connolly, 2005, 2011, 2013; Jha, 2002). Without entering in philosophical considerations, tacitness here is construed as a central dimension of knowing. It is not a residual category that can be eliminated through codification, i.e., knowledge management would be essentially a process of transcription, translating tacit knowledge or skills in explicit or codified knowledge. While codification is important and it must be carried out with care in order to avoid loss of knowledge, namely alternatives in any situation where decisions can be made in order to keep the different paths open to social actors or workers or managers in a given organization composed of interdependent subsystems.

There are some aspects of knowledge management, namely, its imprecision, its contradiction and often its flawed conception of what knowledge is (all about). We have studied it in greater details in sections 2 and 3 above, and some more will be tackled in the forthcoming sections. On the other hand, it is convenient to tackle a certain number of issues related to knowledge conception, knowledge management and health and health care.

First of all, the notion of knowledge is problematic, not just in the philosophical literature but also in the management literature, not to mention the knowledge management specialization. The problematic nature of knowledge is not new and is even a common feature across all disciplinary borders (Frodeman, 2010; Legendre, 1983, 1996, 2001; Rosenthal & Gutas, 1970).

Second, we will make a criticism of traditional or mainstream knowledge management literature, namely Nonaka’s model (Ikujiro Nonaka, 1994; I Nonaka & H Takeuchi, 1995; Ikujiro Nonaka et al., 2008; Ikujiro Nonaka et al., 2000), that consider knowledge and knowledge processes in management practice or in the

implementation of public policies as being too poor or flawed, and lacking evidence (Gourlay 2006, Gourlay & Nurse 2005).

Third, there exists a stark contrast with the literature on health and social psychology (Bandura, 1986a, 1986b) that stresses the “complex relationships between knowledge, beliefs and perceived social norms, and provide practical guidance on the content of educational programs to promote behavioural change ...” (Nutbeam 2000: 260).

Too much related to a certain kind of management culture, it used flawed concepts (Dreiling & Becker, 2007; Montuori, 2003; Alexander Styhre, 2003; A. Styhre, 2003; Tsoukas, 2016) and could be indeed clarified and sometimes simplified (Alvesson 2001; Alvesson & Karreman 2001), and this is a partial aim of this chapter focused on health literacy and empowerment.

Finally, the first step is to distinguish and work the difference between beliefs and knowledge. And this step can be taken when dealing with stakeholders and people involved in the processes with different worldviews.

EXTENSION TO VARIOUS STAKEHOLDERS

A final point is our treatment of health literacy as a tool of knowledge management that has to tackle the issue of the widening of the ambit of the actors involved from the specific organization to the whole national or regional health system, beyond just the patient and doctor and integrating institutions, citizens, regulatory agencies, higher education institutions and associations, *inter alia* (Crawford Shearer, 2009).

In a certain sense, we integrate here the conclusions of the previous sections, mainly section 2 and 3, to incorporate them in a model of knowledge organization and management processes that take into account the various stakeholders based on a willingness to learn and improve both the outcomes and the processes at hand.

The first stakeholder in health literacy, health empowerment and health promotion is the state. This is a particularity of the health sector that the state is the most influential decision maker, the promoter, the regulator and the provider (at least of part) the “supply” of health care. Its action goes beyond the regulation of, and provision of, health care. It crosses boundaries, namely in terms of education of health professionals and innovation and research policies.

In the health care sector, the state is the policy maker, defining guidelines, objectives, wielding strong influence on the management of hospitals and professional bodies. It is also the guarantor of patients’ rights. It is also defining how and by whom the sector will be regulated. It is often seen as the provider of last resort for health care and the guarantor of some minimum principles for equal access to the health services.

This is also a commitment of the European states to contribute to the empowerment in health, due to the constitutional texts, reflecting the idea of welfare state, not in the role of caregiver, but to foster the development of health education of the people and healthy lifestyle practices (Bambra, Fox, & Scott-Samuel, 2005; Gøsta Esping-

Andersen, 1990; Gosta Esping-Andersen, 1999, 2002), as exposed by Esping-Anderson: “The explicit acknowledgement of the political nature of health will lead to more effective health promotion strategy and policy, and to more realistic and evidence-based public health and health promotion practice” (Bambra et al., 2005: 187).

Most literature on empowerment process rightly focuses on patient and on the most extreme cases, those that are marginalized. This is important, but generally the method used and the vision adopted has several drawbacks. It conceives poverty out of the relevant context (much can be done through evidence-based policy) and the diversity of actors and professionals that adopt different vantage points and some of these prevail more than others.

This justifies a more comprehensive approach, taking into account the complexity of the issues and the relevant factors that cannot be neglected. Some of these aspects are related to creativity, innovation and the institutional setting for empowerment (Shalley, Hitt, & Zhou, 2015; Supiot, 2007, 2010, 2015a, 2015b; Todorov, 2001, 2005; Todorov, 2009, 2010, 2013; Vankova, Kerekovska, Kostadinova, & Todorova, 2016).

A MODEL OF KNOWLEDGE TRANSFER AND EMPOWERMENT

In this section, the focus is on a model for knowledge transfer and the development empowerment of medical personnel (and other professionals) through practice. The model presented is based on the model developed by Nonaka and collaborators (see below the combinations of four modes of knowledge transfer – Socialization, Externalization Combination and Internalization, i.e. the SECI Model).

Tacit knowledge is a fundamental knowledge type for organizations and it is disseminated by the employees’ networks. The concept was created and defined by Polanyi (1966) in order to identify a type of knowledge that is not possible to be codified or easily explained. It is embodied through practice with a process named indwelling.

According to this concept we can say that critical skills and knowledge of medical staff are also tacit and emerges from practice. This experiential knowledge can be identified in project context or in communities-of-practice (Wenger, 2000; Yanow, 1999, 2000), and in the healthcare organizations. The success of the medical activities and the organization itself depends on the integration and sharing of this type of knowledge; this is a mean of empowerment and a way of increasing their responsibilities.

Several researchers (Szulanski, 1996, 2000; Szulanski, Cappetta, & Jensen, 2004) refer that knowledge transfer is a process through which knowledge moves between the source and the recipient, with the goal to be applied and used in practical situations. Following this idea, knowledge is an asset that can be transferred among individuals that belong to different departments and hierarchical levels. It is possible to say that knowledge is one of the most important assets to

empower employees potentiating their competencies and contributing for their growth within the organization.

SECI Knowledge Transfer Model Applied to Healthcare Sector

There is a heuristic model that can be used in the healthcare sector and by organizations active in providing health care – this model was first introduced by Nonaka (1994) and Nonaka and Takeuchi (1995) and is named the SECI Model. This model explains the knowledge transfer process which is based on the knowledge conversion model and it can assume four forms: socialization, externalization, combination and internalization (SECI).

According to Nonaka and Takeuchi (1995: 57), “socialization refers to an organizational process through which tacit knowledge held by some individuals is transferred in tacit form to others with whom they interact. Externalization refers to the transformation of some tacit knowledge into explicit knowledge, via theories, concepts, models, analogies, metaphors and so on. Combination refers to the conversion of codified knowledge into new forms of codified knowledge. Internalization is a process of conversion of explicit knowledge into a tacit form.”

The SECI model has to go through some adaptation for the health care sector and to respond do some of the criticisms analyzed in the previous sections. A first modification result from the integration of what Fahey and Prusak (1998) have called the eleven sins of knowledge management in their paper in the California Management Review. The adaptation is also necessary for dealing with organizations active in health care, namely hospitals and specific services providers that are embedded in a very special context with orientations coming from public health policies.

The application of the SECI model to the healthcare sector is as follow. It is possible to analyze the healthcare activities using the Socialization, Externalization, Combination and Internalization dimensions:

a) Socialization

There are several layers for the socialization process in which health professional are embedded. The socialization process through the practice and the interaction among doctors can help to reduce the doctors' mistakes and to improve the medical practice. This is also true for nurses and other health professionals like therapists, analysts and technicians of diagnosis machines and tools. This process is important at the beginning and at critical points of implementing Information Technology (IT) solutions to manage knowledge flows, inputs and outputs. This process is adequate to discuss beliefs system and clarify the knowledge processes and needs in the implementation of information systems in the test phase or design of its objectives and architecture.

b) Externalization

The externalization occurs when medical staff explicit the medical routines into new technologies which will raise the quality of services. This is at this level that electronic health record (HER) can be introduced in the model and be integrated with other activities. This process occurs at a further step than socialization when IT solutions are implemented. Here, explicit instruction and procedures are implemented. This dimension of externalization is similar to the concept of codification of knowledge (both explicit and implicit or tacit) to transmit it across organizations or groups in order to promote efficacy and efficiency in production (Cowan, 2001; Cowan & David, 1997; Cowan, David, & Foray, 2000). It is important when writing procedures or codifying knowledge to pay heed to the role and importance of tacit knowledge, as advocated by Fahey and Prusak (1998).

c) Combination

The combination process occurs when the organization ensures that safety procedures are applied to patients directly by the medical staff and new and better procedures emerges from the practice. In the SECI model it proceeds from explicit knowledge to explicit transformation. It means systematizing procedures and knowledge. It can be the implementation of evidence-based medicine, applying explicit knowledge from scientific research to practical knowledge and procedures in use such as treatments or safety rules.

d) Internalization

The internalization can emerge when the medical personnel is directly responsible for the quality of services and the treatment process, involving their active participation and using their knowledge in problem solving situations. Sometimes, it means restructuring medical practices that are used on a daily basis. It goes from the explicit knowledge base to tacit transformation. It covers much of what learning means in organizations and health practices. The focus is on improving action and practices.

Having explicitly discussed the SECI model for health, it is important to place it into perspective, namely through its role as improving health care and promoting health, as stated in the Ottawa Charter (Juneau et al., 2011).

It is convenient to combine the different approaches and to foster learning and to improve knowledge in use and practices. In this sense, information science, through such elements as queries, health information seeking, representation, indexing retrieving and evaluation, can be of great help (C. Lopes, 2008; C. T. Lopes & Ribeiro, 2015).

The SECI model is also considered in its effects through a spiral that implies through time improvements in the knowledge base and practices. The engine of the spiral is the learning process that combines the four modes and other modalities of orienting learning in health care organizations and services.

Finally, it must be stressed that the model has to integrate various components and learning processes and this implies complexity, both as a method or way to proceed and

as an object of practice or a wicked problem, i.e., issues that are difficult to tackle for the sheer number of elements and nonlinear relationships between them.

Complexity has two different meanings that are of interest for research and must be distinguished: one is complexity as reality or object of study, and this is the most widespread meaning. The other is complexity as a method of inquiry; it is sometimes referred to the science or sciences of complexity (Jacquinet & Caetano, 2010).

FUTURE TRENDS AND META-LEARNING

Several authors address the momentum for social change at a global level, from a knowledge management perspective (e.g., Laszlo & Laszlo, 2002; McMichael, 2016; Pieterse, 2015). The relationship between knowledge processes and organizational learning, represents a radical shift in management thinking (Nobre, 2007). Michael Polanyi, in particular, is highly influential, namely as argued by Sandbrook (2011), through the idea of “re-embedding of economy in society”, through community-based alternatives arising from ‘reciprocity’.

The social change dynamics is particularly present in the health care sector. Consequently, three critical dimensions may be understood to reflect the reality of the health care system, on one hand, and the evolution of contemporary societies, on the other hand. The present chapter has argued above that tacit knowledge is a core dimension of any knowledge management process, that empowerment strategies potentiate critical health literacy and that stakeholders have to be involved, including communities and the environments in which people live in, when designing effective public health policies. This is a broader perspective on stakeholders and stakeholder theory.

When considering the evolution of societies and the pressure from emergent trends across different disciplinary areas, there is an irrefutable demand for global change, at all levels, socio-political and environmental, which includes precisely the referred above phenomenon. That is, a simplistic and reductive perspective on knowledge imposes a myopic view of the power of science, in particular of social and human sciences. The power of science is substantiated in the quality of life of the populations who are the benefactors of scientific-based public policy design.

Effective decision making, in health care or in any other area, at macro or micro level, implies considering complexity as a social interaction event, ready to be addressed by concepts such as tacit knowledge, empowerment and the role of stakeholders and of communities in helping to design, implement and manage powerful public policies, which indeed have an impact in real lives.

The meta-learning that emerges from the health promotion strategies refers to the prevalence and strength of global change movements. Civic movements represent the hidden, invisible, informal and implicit pressures, which suddenly become operationalized and are systematized into coherent and solid public discourses that,

in turn, affect political decision-making as well as the groups and individuals decision-making. Such global processes are present in human's rights movements and they represent a clear cut message to management design functions: to address, again and again, the issues related to the social embeddedness and embodiedness of knowledge, as considered in the concept of tacit knowledge, as a mandatory step towards building more productive, healthy and balanced societies.

CONCLUSIONS

A number of conclusions can be drawn from our analysis and discussion. First of all, the health care sector is a rather specific arena, diverging on several counts from the mainstream model of business and competition, and this includes most of the knowledge management literature, to heterodox perspectives and alternative frameworks.

Second, there is no easy solution to the problems of the health sector, as it can be construed as a wicked problem (this is equivalent to the notion of complexity as a problem or reality in social science and the philosophy of science).

Third, the implementation and the improvement of knowledge management in healthcare are not easy tasks, not just because of the peculiarities of the sector but because the visions and paradigms in knowledge management are not sufficiently critical and based on evidence. Heuristic models, like the SECI model discusses and adapted in the present chapter, are a possible wedge into the complex problem of health care and better public policies and efficiency of the management of people and resources.

The advocacy of a piecemeal approach is better adapted to the sector needs and to the long-run effectiveness of policies, changes and consolidation of good practices. Learning is central to the success of managing knowledge, health literacy and promoting effectively empowerment of actors.

The empowerment should go beyond the strict action of the patient and include the stakeholders relevant to the issues at hand. And the problem is not just to manage knowledge but to work also at the level of perceptions and beliefs of the significant actors involved in one way or another.

The knowledge approach, that tackles tacitness explicitly, has to integrate learning, with the integration of the different actors' valuations, inertia and attitude.

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Glossary

Complexity

Complexity has two different meanings that are of interest for research and must be distinguished: one is complexity as reality or object of study, and the other complexity as method or way of approaching issues. In the first conception, reality is complex because it is composed of distinct and interwoven and intermingled elements that create a whole superior to its parts and structured through different levels of reality.

In the second sense, complexity as method, it is a way of understanding and study reality in its multiple dimensions and reciprocal interdependencies. In this second acceptance, complexity is also synonymous of interdisciplinarity or transdisciplinarity. It is also sometimes referred to the science or sciences of complexity.

Critical health literacy (see also interactive health literacy and functional health literacy, in this glossary)

Critical health literacy is characterized by a focus on groups and context, with the provision of information on social, economic and group determinants of health and how to lead to change, both at the individual, group and community levels (Mårtensson & Hensing, 2012; Nutbeam, 2000; WHO, 1998). It is the third level of health literacy and the most comprehensive one, going beyond the individual as a learner and getting into matters of management, collective choice, decision and public policies.

Ehealth, eHealth or E-Health: A concept comprising all applications used at the level of information technology, including the Internet, to enable more efficient patient care, thereby improving access and the quality of management of clinical processes. The Electronic Health Record (EHR) is part of this set of tools. E-health can be considered as a current avenue for implementing policies that aim at empowering patients and actors in the health care sector (Jacquinet & Curado, 2016; Porfírio, Jacquinet, & Carrilho, 2013).

Electronic Health Record (EHR and also Electronic Health Registry): See also electronic patient registry, medical electronic record. This is the creation of digital information, its storing, management, transmission, access, modification and use across a health care unit, several units or even a whole system of health care. In its basic generic form, the definition of EHR, according to the document ISO/TR 20514:2005 of the ISO – International Standards Organization, can be stated as followed: “repository of information regarding the health status of a subject of care, in computer processable form” (ISO, 2005).

Empowerment

Empowerment in its modern sense (from the late 1950s to today) must be distinguished from its ancient forms, in which the concept was not considered as a general and adequate character for a wide and not much constrained use like today. Authoritarian regimes and old civilizations retained much its scope. (This theme is central to Polanyi’s philosophical endeavor that we do not discuss here; for a hint, see Jah (2002: 1-47).

According to the Cornell empowerment Group: “Empowerment is an intentional, ongoing process centered in the local community, involving mutual respect, critical reflection, caring, and group participation, through which people lacking an equal share of valued resources gain greater access to and control over those resources” (Zimmerman 2000: 43). It is important to stress that empowerment is generally construed at the organizational and the community levels (Zimmerman 2000: 44).

Functional Health Literacy (see also interactive health literacy and critical health literacy, in this glossary)

Functional health literacy is the first level of empowerment, its most basic component with a focus on factual information related to health. It is typically

represented by flyers, charts, and information given to the patient on a variety of subjects related to health care, from access to precautionary behavior (Nutbeam, 2000). It is not limited to information sharing, however, yet, this is its main component. This is related to the more basic concept of literacy focusing on knowledge and information transmission but not much focus on action and management.

Health: Health, according to the World Health Organization, is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The modern definition of health is an ability, or, to use, Amartya Sen perspective, a capability.

Health information

This concept means all kinds of information (past, present or future) directly or indirectly linked to a person's health, or clinical and family history, whether that person is alive or deceased. It is not limited to the knowledge produced and exchange by health professionals. It includes the patient information, among other types of information.

Health literacy

Health literacy is defined by the World Health Organization (WHO) as the "cognitive and social skills that determine the motivation and ability of individuals to gain access to, understand and use information in ways that promote and maintain good health (Martenson and Hensing 2012: 151; see also WHO 1998)

There are, according to Nutebeam (2000), three levels of health literacy: the basic one, functional health literacy, that is centered on factual information; the intermediate level or interactive health literacy that is centered on the development of individual skills and its direct context; and, finally, the critical health literacy that relate the individual to the community and public policies as well as the behavioral change of a population in its global context, not just the direct or obvious one.

Health promotion

Health promotion can be defined as the process of "enabling people to increase control over and improve their health (WHO, 1998). Health is seen as a resource for everyday life, not the objective of living. Health promotion is not just the responsibility of the health sector, but goes beyond healthy lifestyles to well being." (<http://www.who.int/healthpromotion/conferences/previous/ottawa/en/>, accessed on September 30 2016)

Interactive health literacy (see also functional health literacy and critical health literacy, in this glossary)

Interactive health literacy is the second level of empowerment and promotes self help, seizing of opportunities to develop individual skills. The focus here is the individual, its attitude and behavior. It is also more time oriented, meaning to help change individual perceptions, attitudes and knowledge.

Knowledge management

Without entering any controversy, following Jashapara (2011: 16), we define knowledge management as “the effective learning processes associated with exploration, exploitation and sharing of human knowledge (tacit and explicit) that use appropriate technology and cultural environments to enhance an organization’s intellectual capital and performance.” It must be extended in health empowerment to groups and social interaction.

Routines

Routines are repeated and stabilized in time patterns of behaviors in organizations and groups. Processes in organizations, when stabilized, can also be considered as routines.

Tacit knowledge

As Michael Polanyi (1967: 4) wrote in *The Tacit Dimension*, we should start from the fact that ‘we can know more than we can tell’. Jashapara (2011) identifies tacit knowledge to knowing how or intelligence, in a tentative to approximate the concepts of knowledge developed by Michael Polanyi and Gilbert Ryle.

It is frequent in the literature to find an opposition between tacit and codified knowledge, construing tacitness as a residual category. This is not our stance, given the complexity of the notion of knowledge and its dynamics, both in science and technological, technical and professional settings.