Is Silo Mentality Relevant in Healthcare? The Healthcare Professional's View

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Abstract. *The number of hospital services and departments has been steadily increasing, accompanying technical progress and medical specialization. These units are often in competition, a situation that creates unavailability to share information and generalized mindsets. This situation may lead to inefficiency and erosion of trust among professionals, compromising the organization's productive culture. Despite this increase in size, most hospitals kept their rigid and very hierarchized functional organizational structure. Silos can be defined as groups that tend to work by themselves, as an autonomous unit within an organization, conditioning the interaction of members of different units. The term silo mentality is used to describe individual or group beliefs that can cause division and whose common outcome is the creation of barriers to communication and the development of disjointed work processes. This kind of mentality can reduce motivation and generate indifference towards the needs of others. Thus, the emphasis must be placed on the non-physical nature of the barriers. Even though the silo mentality in healthcare appears to be a significant problem, empirical studies are sparse, and conceptual clarification of the term is in need. The objective of this study is to understand if people working in healthcare find silo mentality a relevant problem. Being this the case, a definition of silo mentality in healthcare will be presented. In order to do so, a systemic combining methodology was used. The information was gathered using focus groups with participants from a Portuguese National Healthcare System hospital. The groups followed a semi-structured interview script. The participants belong to different professional classes, namely consultants, residents, nurses, technical assistants, administrative assistants, operations assistants, directors, and administrators, in a total of 32. Silo mentality in healthcare can be defined as the set of individual or group mindsets that can cause divisions inside a health organization and that can result in the creation of barriers to communication and the development of disjointed work processes with negative consequences to the organization, employees, and clients. In this study, the participants, healthcare professionals or not, considered silo mentality a significant problem in healthcare. Silo mentality is widespread and affects not only the organization, particularly its efficiency, but also the well-being of professionals and clients.*

Keywords: *corporate culture; healthcare; public administration; silo mentality.*

Introduction

Many authors have suggested the importance of silo mentality in healthcare (Bleakley, Boyden, Hobbs, Walsh, & Allard, 2006; Braithwaite et al., 2016; McCartney, 2016; Ullgren, Kirkpatrick, Kilpelainen, & Sharp, 2017). This is due to the fact that the operation of organizations with the size and level of complexity of hospitals requires the collaboration and cooperation of very different professional groups, with academic paths and expectations of their own (Braithwaite et al., 2016; Drupsteen, van der Vaart, & van Donk, 2013; Paige et al., 2014; Vatanpour, Khorramnia, & Forutan, 2013).

The number of hospital services and departments has been steadily increasing, accompanying technical progress and medical specialization. These units are often in competition, a situation that creates unavailability to share information and that conditions the way their elements think, resulting in generalized mindsets (Langley & Warner, 1990; Waldman & Cohn, 2007). This situation may lead to inefficiency and erosion of trust among professionals, compromising the organization's productive culture.

Despite this increase in size, most hospitals kept their rigid and very hierarchized functional organizational structure (Drupsteen et al., 2013).

Silos can be defined as groups that tend to work by themselves, as an autonomous unit within an organization, conditioning the interaction of members of different units (Vatanpour et al., 2013). These arise not only in organizations, but also across disciplines, occupations or even methodologies (Fenwick, Seville, & Brunsdon, 2009).

The term silo mentality is used to describe individual or group beliefs that can cause division and whose common outcome is the creation of barriers to communication and the development of disjointed work processes (Fenwick et al., 2009). This kind of mentality can reduce motivation and generate indifference towards the needs of others (Vatanpour et al., 2013). Thus, the emphasis must be placed on the non-physical nature of the barriers.

To our knowledge, a study in which the opinion of people working in healthcare organizations about silo mentality in healthcare is systematically collected was never published. Even though the silo mentality in healthcare appears to be a significant challenge to organizations, employees, and clients, there is no empirically supported theoretical framework and conceptual clarification of the term is in need.

The objective of this study was to understand if people working in healthcare find silo mentality a significant problem in healthcare. If this is the case and based on the literature available and in the information gathered, we will present a definition of silo mentality in healthcare.

Methodology

The systematic combination methodology consists of an evolutionary and dynamic combination of theory and reality, where the empirical study and the theoretical framework develop simultaneously. It is particularly useful when studying a single case in order to develop a theory. This approach is anchored in an abductive logic because the main concern is the generation of new concepts and the development of new theoretical models, rather than the confirmation of existing theory (Dubois & Gadde, 2002).

Focus groups have multiple applications, being an especially efficient tool for exploratory and explanatory research. Exploratory research is useful when little is known about the subject being studied. The explanatory investigation is used when trying to understand and explain certain beliefs, attitudes or behaviors. Focus groups go through the discussion of a specific set of topics by a pre-determined group of people (Hennink, 2007).

Centro Hospitalar do Porto (CHP), a Portuguese National Health System hospital in Porto, was chosen to carry out this work because it is a large health organization that was born from the fusion of several health institutions with a long tradition and history. These multiple professionals and departmental cultures, congregated in the same health organization, present themselves as an environment that may be particularly prone to the surge of silos. In the present moment, all the hospital departments are concentrated in two main campuses, Hospital de Santo António (HAS) and Centro Materno Infantil do Norte (CMIN)

We aimed to do a total of 7 focus groups with 6 - 8 elements and a duration of about 1 hour, representing the most relevant professional groups of the CHP, according to the 2015 accounts report of CHP (Porto, 2016). The study was authorized by the Ethics Committee for Health, the Director of the Education, Training and Research Department, and the members of the Administration Board of CHP.

In this method of collecting information, indicated for qualitative methodologies, random systematic sampling does not have the same importance that it has in the methodologies that are used for the quantitative studies, that try to test specific hypotheses (Hennink, 2007). Although we wanted to have a representative sample of CHP employees and since the participation in the study was not remunerated, voluntary participation was valued.

Focus groups were moderated by the first author and followed a structured script. First, the participants presented themselves and a basic definition of "silo mentality" was given. After, a set of open questions was

sequentially placed to the participants with the purpose of gathering their opinion. Focus groups were recorded using a digital recorder.

All the information related to the study was kept in a file with limited access. Data in electronic format was stored in password-protected files. Only the person responsible for the study or person designated by him had access to the data. The interviews were transcribed by a professional hired for this purpose. The opinions expressed were anonymized and participants could withdraw at any time.

The data were analyzed using the NVIVO qualitative data processing software.

Results

The main characteristics of the focus groups and their participants are presented in Table 1.

Table 1. *Main characteristics of the focus groups and their participants*

Focus Group	Professional class	Agreed to participate	Participated	Female participants
1	Residents	6	6	3
2	Consultants	6	5	4
3	Nurses 1	6	3	3
4	Nurses 2	6	2	2
5	Technical and technical assistants	6	4	3
6	Operations assistants	7	7	5
7	Directors and administrators	6	5	3

Of a total of 43 professionals who agreed to participate and confirmed the presence in the various focus groups, 32 (74%) attended the focus group, an average of 5 elements per group. The number of attendances varied between 2 people in group 4 (nurses 2) and the 7 people in group 6 (operations assistants). Several reasons justify this variation and unjustified absences were an infrequent situation. The proportion of female participants, 70% (23/32), was similar to the one that exists in the institution, 74%, according to the 2015 accounts report of CHP (Porto, 2016). The proportion of participants from different professional classes were also in accordance with this report.

It was possible to have in the focus groups 1 and 2 representatives of medical (4), surgical (4), mental health (2) and laboratory (1) specialties and from both HSA (8) and CMIN (3). In the focus groups, 3 and 4 nurses from both HSA (3) and CMIN (2) participated. Three of these were from medical services and two from surgical ones. In group 5, there was one technical and three technical superiors) from both HSA (3) and CMIN (1). Group 6 participants (operations assistants) worked in the clinical services, instrumentation, hygiene and cleaning, warehouse, concierge and informatics. Finally, in group 7 (directors and administrators), 4 of the participants were heads of departments and one was a chief medical officer. Three of these were in charge of services that were transversal to the organization and two of clinical services. Four of these were medical doctors and one a civil engineer.

At the end of the focus groups, most participants were satisfied with the opportunity to take part in the study. This was particularly evident in the focus groups composed by technical and technical assistants and operations assistants, as they felt that their views were seldom asked or valued by the organization.

Discussion

All the participants of the focus groups, healthcare professionals or not, considered silo mentality a significant problem in healthcare. The main reason for this was the impact it had, not only on the organization but also on its professionals and clients.

Participants considered that the silos are widespread within the organization, as we had referred previously (Alves & Meneses, 2018) their distribution is essentially matrixial, with horizontally distributed silos, namely the services and the professional classes; and vertical silos, the different hierarchical levels.

> "... category in the medical career, resident, specialist, consultant, groups within the services; after the services, above, the department; transversally, professional categories: auxiliary, nurse, medical, administrative, other technicians... and the board as a silo... "(Focus group 1 participant)

Silos can be classified according to the direction in which they are disseminated among the organization's employees as vertical or horizontal (Vatanpour et al., 2013). Most of the literature sets the silos horizontally, according to the functions that the departments perform within the organization: production, sales, marketing, research, and development, etc. (Barmyer & Sachseneder, 2013; Organization, 1988). It also recognizes its vertical dimension, the view of silos as a perversion of decentralized management (Côté, 2002) and the recognition that the problem is deepened by the way in which power and objectives are distributed across the various hierarchical levels of the organization (Stone, 2004).

There are still organizations with more complex configurations, such as hospitals. These present various professional groups with different academic paths, expectations, and functions. Classically health care providers, managers, and administrative personnel, who coexist within the same department (Fenwick et al., 2009). In this way, it can be considered that the silos have another horizontal dimension, besides the departmental function, the professional class.

Within the departments/services and the professional groups, there may still be smaller silos, people who share interests, strong personal links or a certain comfort area, and who establish preferential communication that separates them from the rest of their department (Vatanpour et al., 2013). Moreover, in the case of hospitals, and according to the doctors participating in the groups, there will be situations where internal disputes between doctors in the same department have consequences for the organization.

> "... in the medical field, there is some culture of vanity. Some goals that are more individual, not necessarily of the individual but of a service or a unit that wants to act or do things in their own way... and that can be harmful and interfere in a significant way with healthcare as a whole ... "(Focus group 2 participant)

> "… in my department… a department that has several floors and that works very much like this mentality… I usually call them the estates, each one has its own small farm, each one solves things in their way. They are divided organically and work well individually but the truth is that there are always things that overlap and that is where friction starts… it happens that it begins to be harmful to the wellbeing of the institution, to the good functioning of the organization…" (Focus group 1 participant)

In the various focus groups, there was an agreement on the existence of two parallel horizontal dimensions, functional and professional. The first corresponds to the various services, medical or not, and the second to the professional classes. A vertical dimension corresponding to hierarchical levels within the organization was also identified. Transverse services interact with various services and for this reason, they were considered by some participants as another horizontal dimension.

According to the participants, the silos of the professional classes also end up having another vertical and horizontal dimension, corresponding to their own internal hierarchy and to the various medical specialties. In the medical class, perhaps the most hierarchical and most complex, in its vertical dimension, limiting it to organization, and from top to bottom participants identified: the clinical director, head of the department, chief medical officer, unit manager, among consultants: senior graduate assistant, graduate assistant, assistant; then resident, general internee, and finally student.

There are also smaller silos within the services, people who share interests, strong personal links or a certain area of comfort, and who establish a preferential communication that separates them from the rest of their department.

> "... And there are our own peers within the service… maybe we form silos within the service itself. No longer talking about classes, talking about our relationships. So, I think that ... there are so many, so many, so many, that it is impossible to list them at all ... "(Focus group 3 participant)

Finally, it was also pointed out the hospital as a silo, a result of the organizational culture, accumulated in an institutional history that is now in the middle of its third century (HSA construction started in 1770), and the inability to look outside the organization.

> "... the hospital silo ... there is another silo within this institution and that exists in others also. It's called the historical silo ..." (Focus group 2 participant)

Participants pointed out as the main reason for the importance of silo mentality in healthcare Its impact on the efficiency of the organization and in the wellbeing of the professionals and clients. In the next few paragraphs, these dimensions will be addressed shortly.

In 6 out of 7 focus groups consequences of silo mentality to the organization were pointed out. The most frequent were the ones that can be found in literature: poor communication, lack of cooperation, loss of confidence, internal competition, conflicts, duplication of services, loss of efficiency, waste, and non-use of resources, added difficulties in the implementation of changes, barriers to innovation and disbelief (Barmyer & Sachseneder, 2013; Côté, 2002; Drupsteen et al., 2013; Franklin, 2014; Stone, 2004).

> "... frequently, when there is a barrier to communication, the patient himself realizes that there is something wrong… the nurse said there were no blankets and then the operational assistant comes and says something completely different ..." (Focus group 4 participant)

In 6 of the 7 focus groups, consequences of silo mentality to the employees were referred. The most frequent ones, and in accordance with the literature, were: waste of time, loss of efficiency, fatigue, disease, demotivation, victimization, radicalization and professional stagnation (Schütz & Bloch, 2006; Vatanpour et al., 2013).

> "... we do not stop to speak ... we don´t need so many people here, we need more people there ... we should calmly define things before despair. Then we want everything, all at the same time and we all shout at each other. We are exhausted from overwork, in burnout ... everything is falling, and we spend all day pointing at those above us: the clinical director, the hospital director, the chief medical officer, the nurses responsible for the unit ... and then we do not know what it is that we really want to discuss ..."(Focus group 1 participant)

Finally, consequences of silo mentality in healthcare to the costumers were pointed out in 4 out of 7 focus groups. A considerable number of the participants thought that the additional effort placed by the employees resulted in a silo mentality not having repercussions on the service users. The most frequent consequences mentioned were, in line with literature: frustration, failure to solve the problem in a timely manner, quality and quantity of health services offered, lack of information made available and emphasis on the process and not the user (Franklin, 2014; Organization, 1988).

> "... sometimes, you do not even think about the patient, you must run, do things, get there and finish it. We forget that if we worked together as a team, interacting with each other calmly, things would work better. But people here forget that. We must run, proceed, we have to do things, and we forget the rest ... "(Focus group 6 participant)

The silo mentality definition used at baseline for the focus groups: the term silo mentality is used to describe individual or group beliefs that can cause division and whose common outcome is the creation of barriers to communication and the development of disjointed work processes (Fenwick, Seville, & Brunsdon, 2009); also appears to be applicable to healthcare.

When asked about the specificities of silo mentality in healthcare the participants were divided. About half of the participants considered that the problem in health organizations was essentially the same as in other organizations, with the other participants having a contrary opinion. Of the latter, the overwhelming majority placed the emphasis, not so much on the purpose, as an organization that provides health services, but on the fact that it is an organization with a public service culture. Others considered that its purpose, not profit, but health gains, meant that the issue had to be framed differently. Still, they admitted that CHP tended more and more towards classic business management. Emphasis was also placed on the fact that professional cultures are present and very strong in healthcare.

> "... the tendency is for the differences between the hospital and private companies to become smaller. There must be attention to costs. For many years there was no such attention and it felt into a situation of difficult control, but what matters is treating the population properly ... the idea is to treat the patient, that is the goal of the hospital. But they are giving more attention to profit. Maybe they try to mask it a bit, to pass on the image that this is not so important ..." (Focus group 1 participant)

Regarding the issues raised by the participants, if in the case of the purpose of the organization, it is, in fact, a specificity of the health services; being a public service can be common to many other organizations, though we cannot disregard this as a significant specificity of this organization.

> "... I think that in large private companies the silo mentality will be similar. And if we think about the example of some banks and financial institutions, I think there is also silo mentality, the mentality of hindering procedures that allow monitoring... this is a very human thing: our tribe supplanting the other ... " (Focus group 7 participants)

Many of the participants put a strong emphasis on the fact that CHP is in the public sphere. Those in managerial positions find that, unlike in the private sector, they have no authority or way of rewarding or censoring employees' behaviors. Others, particularly operations assistants, considered that, and in accordance to their professional experience, in the private sector people were recruited and placed in different roles according to their vocation or competence, while in public services they were sometimes recruited for being "...the worse... " and that the function distribution was practically random.

> "... this is not a company. A company, in the true sense of the word, also has an organization chart as we do but it has a set of management tools that we do not have. We do not have management tools, neither to award nor to punish, this does not exist. And that makes all the difference, all the difference! There are blocking situations that occur both here and in private companies, but the hierarchy's approach to this blockage is completely different. The good things that happen in our institution and in private health institutions or others also have a completely different treatment ... " (Focus group 7 participant)

> "... before I came to work here, I was in the private sector ... they are much more demanding. We were rewarded, we were really evaluated ... if we deserved it. I do not see any of this here … we have a colleague who has always been very problematic. Even with the patients, she does not respect them, they complained about her and nothing... she acts like nothing ever happened ... if it was in the private sector, it would not happen. That element wouldn't be here ... "(Focus group 6 participant)

Other participants felt that the goal of the organization, health gains, rather than profit, would change the way in which silo mentality should be framed in healthcare.

> "... in a company, it is easy to define the ultimate objective and evaluate whether it is being fulfilled or not ... in health care, it is very different ... the ultimate goal, we would like everyone to think that it was the patient's wellbeing ..." (Focal group 1 participant)

Despite the specificities referred by the participants, we can´t say that any new dimension of the problem, that was not covered by the initial definition, appeared in the focus groups. In terms of the negative consequences, it is our view that the definition must be more specific. This need is reinforced by the need to distinguish between silo mentality and departmental culture: a basic set of employees' assumptions of a functional area expressed in the form of values or cultural artifacts (Wiebeck as cited in Barmyer & Sachseneder, 2013).

We propose that silo mentality in healthcare can be defined as the set of individual or group mindsets that can cause divisions inside a health organization and that can result in the creation of barriers to communication and the development of disjointed work processes with negative consequences to the organization, employees, and clients.

Conclusions

The hospital employees who participated in the groups, healthcare professionals or not, considered silo mentality a significant problem in healthcare as it affects not only the organization but also its professionals and clients. Organizations affected by silo mentality face difficulties in communication, cooperation, waste of resources and strong resistance to change. Their employees feel tired and that their work is not as efficient as it could be. Finally, clients often get frustrated and feel that their problems are not addressed or solver in a timely manner.

The results also point to the need to consider alternative organizational models for healthcare services, as the bureaucratic functional structure that is today´s standard works as a bottleneck, restricting the improvement of communication and collaboration across the organization.

If healthcare managers are aware of the existence of silos and try to understand and take into account the view´s and interests of the different professional groups, promoting at the same time a bidirectional communication, silos negative consequences can be mitigated.

Since this study was done in a single organization, we can´t generalize the results to all healthcare organizations but it points out the necessity to further study the importance of silo mentality in healthcare, not only presenting a theoretical framework, that presents its' causes, configurations and consequences, but also what can be done to minimize Its' effects.

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