


Analyzing How Discursive Practices Affect Physicians' Decision-Making Processes: A Phenomenological-Based Qualitative Study in Critical Care Contexts

INQUIRY: The Journal of Health Care Organization, Provision, and Financing
Volume 54: 1–8
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DOI: 10.1177/0046958017731962
journals.sagepub.com/home/inq



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Abstract

An intensive care unit (ICU) is a demanding environment, defined by significant complexity, in which physicians must make decisions in situations characterized by high levels of uncertainty. This study used a phenomenological approach to investigate the decision-making (DM) processes among ICU physicians' team with the aim of understanding what happens when ICU physicians must reach a decision about the infectious status of a patient. The focus was put on the identification of how the discursive practices influence physicians' DM processes and on how different ICU environments make different discursive profiles emerge, particularly when a key issue is at the center of the physicians' discussion. A naturalistic approach used in this study is particularly suitable for investigating health care practices because it can best illuminate the essential meaning of the "lived experiences" of the participants. The findings revealed a common framework of elements that provide insight into DM processes in ICUs and how these are affected by discursive practices.

Keywords

intensive care unit, physicians, decision making, uncertainty, discursive practice analysis, phenomenological-based qualitative study

Introduction

The present study stemmed from a problem highlighted by the Italian Group for the Evaluation of Interventions in Intensive Care Units (GiViTI): In the past 13 years, the GiViTI has collected epidemiological and clinical data through continuous quantitative surveys involving 236 Italian intensive care units (ICUs) with the aim of discovering what factors are typically associated with high-quality health care.¹ Despite the huge number of patients and volume of data, the advanced statistical approaches applied were unable to explain the observed variability between ICUs with respect to the different outcomes investigated (eg, the incidence of infections and the prevalence of multidrug-resistant bacteria). GiViTI asserted that, to better understand the elements that influence the quality of health care practices, a different perspective was required, and it decided to focus its attention on elements such as cognitive and communicative patterns and leadership styles.² A helpful point of observation from which to study this issue is decision making (DM), a crucial point in health care, in which cognitive, communicative, and leadership aspects are interwoven.^{3,4}

In recent years, many studies have aimed to investigate DM. Many of them focused on discovering how to support positive interprofessional cooperation and shared DM

processes in ICUs. As a result, despite the sentiment that "more research is needed to conceptualise and measure good and healthy collaboration"⁵ much has been done in that regard.^{6,7} Another relevant aspect of this issue is the sharing of DM by physicians with patients' families, which is shifting "from a paternalistic approach to an autonomy-based standard,"⁸ even though it is still far from being standard practice.^{9,10}

The themes concerning the shared DM between nurses and physicians and between patients' families and physicians are undoubtedly relevant, but the literature review revisited another crucial issue, which few scholars have explored: shared DM within the medical consultation team. Indeed, a small number of studies focused on how ICU physicians reach a decision during rounds; much remains to be discovered about the factors that influence them.^{3,11,12} For

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Received 24 November 2016; revised 17 August 2017; revised manuscript accepted 17 August 2017

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this reason, GiViTI pursued qualitative research with the aim of discovering how physicians make decisions when they deal with a key issue (control of infections).^{1,2}

Therefore, the objective of the research is to find out how different discursive practices lead to different DM processes and what discursive profiles emerge in ICU teams when a decision regarding a key issue (eg, infection) must be made.

Background

DM is a cognitive process that begins with the statement of a problem and then goes on to evaluate the components in the ICUs, identify the various potential strategies, and, ultimately, decide whether and how to undertake decisive action. Physicians in ICUs must frequently make patient-related decisions when they do not have all the information necessary to reach a balanced decision. To overcome this problem, they practice the principle of “bounded rationality.” This term refers to the ability to make choices based on approximations that account for the limitations of complex environments. Physicians attending an ICU use the principle of bounded rationality supported by their clinical experience: In this sense, bounded rationality is used as a heuristic technique to take a decision when they contend with particularly complex issues. Hence, to use this tool means being able to take a decision that is not a merely application of protocols. Moreover, it means to be able to find a way in the midst of uncertainties through an evaluation that takes into account a multitude of factors in contexts characterized by a high level of complexity and urgency.¹³⁻¹⁸

This not only requires critical reflective skills, but it also needs the capability to apply them in contexts characterized by a high level of complexity. For this reason, the concept of bounded rationality is linked to an ecological vision, according to which, to understand DM processes, it is necessary to analyze them coherently with the environment in which they are set. Therefore, a decision cannot be considered correct “in an absolute sense” but only “for certain situations” and “under certain conditions.” Moreover, to understand it, its analysis must start from the concrete experience, revealing the heuristic tools that are tangibly being implemented in a specific DM environment.^{19,20}

Anyway, in the medical contexts, it is difficult to follow an ecological perspective in studying the way in which a physicians’ team reaches a decision because it is often reached within the closed doors of medical offices during physicians’ rounds.

Another issue related to physicians’ DM in ICUs is the hierarchical approach that is widely distributed among physicians: This theme has been thoroughly investigated in recent years, but mainly focusing on its repercussions in relation to patients’ families²¹⁻²³ or its impact on the nursing staff.^{5,24,25} A hierarchical approach can also have an impact within the medical team as the leader (eg, the head physician) may then hold all DM authority, leaving little or no

voice for other attending physicians: This makes collaboration within physicians team, with potential negative consequences on clinical outcomes for patients.²⁶⁻²⁹ This approach to team leadership in ICU and its impact on DM processes therefore require further investigation, beginning with the peculiarities of interactions in these contexts, because applying to physicians leadership theories developed for other professionals can result in misleading conclusions.²⁸

The medical team leader is central to fostering a collaborative DM approach, which can facilitate the development of positive DM processes. Indeed, it often occurs that “under time-pressure, the leader has to rapidly establish a reasonable model that others will support.”³⁰ To avoid time pressure, a helpful strategy is the “shared mental model.” This strategy relies on the idea that teamwork is more effective when all team members share an understanding of all the elements that can have an impact on the actions the team undertakes. Within physician teams, particularly in critical care, this strategy improves situational awareness and helps build a task-focused team, which supports a more effective governance of complex DM processes.³⁰⁻³²

With these considerations in mind, the perspective chosen to investigate physician DM was discursive practice analysis. For the purpose of this research, a discursive practice is speech which contains verbal and paraverbal patterns that might discover the meaning of experiences and actions that constitute structured organizations.³³ Moreover, discursive practice is a helpful point of view from which to study DM processes within ICUs because it allows to explore the research challenge from the concrete experience of physicians. Indeed, “humans act toward things on the basis of the meanings they ascribe to those things” and, according to this, discourse is a primary object of inquiry that reveals the significance of human experience.³⁴

Research Design

In accordance with the foregoing, the research questions governing this study are (1) how can we develop a tool of analysis capable of revealing how different discursive practices lead to different DM processes? and (2) what discursive profiles emerge in ICU teams when a decision regarding a key issue (eg, infection) must be made?

Participants in the research are chosen on the basis of the findings of the previous epidemiological studies carried out by GiViTI. A total of 236 ICUs are classified into 4 different groups, according to their characteristics, and 1 ICU is randomly selected from each group for this qualitative research. Table 1 summarizes the main characteristics of the ICUs involved in the research.

In terms of methodological framework, this research is conducted according to a naturalistic approach. Its focus on lived experiences seeks to provide a thematic description of health care contexts to help physicians understand the impact of their actions and, consequently, emphasize their transformative

Table 1. ICUs Description.

	ICU A	ICU B	ICU C	ICU D
Size	Small ICU (5-8 patients)	Large ICU (14 patients)	Medium/small ICU (9 patients)	Medium/large ICU (11 patients)
Type of patients	Mostly chronic cases or postoperative individuals with a long period of hospitalization behind them and often with many septic problems before their arrival to the ward.	Patients with very different profiles (postoperative, chronic, traumatic, etc) but often referred from a local hospital with many multidrug-resistant infections.	Mainly polytraumatic, neurological, or elective postsurgical patients who had been recently hospitalized. The presence of multidrug-resistant bacteria and the level of infections are very low.	Polytraumatic or neurosurgical patients with a limited period of previous hospitalization and many infections, mostly community-acquired infections. ⁱ
Physicians' specialization	All the physicians of the team are anesthetist specialized in intensive care.	All the physicians of the team are anesthetist specialized in intensive care.	All the physicians of the team are anesthetist specialized in intensive care.	All the physicians of the team are anesthetist specialized in intensive care.
Structural characteristics	A postsurgical ICU waiting for restructuring. It has been partly merged with a CICU, sharing the same hospitalization area (for this reason the number of patients is flexible).	A general ICU recently renovated to support an open-access policy (24 h/d) and a prevention policy aimed to face multidrug-resistant microorganisms.	A general ICU connected to a neurosurgical ICU, a CICU, and a pain therapy unit. The spatial organization is designed to support a rigid prophylaxis practice.	A trauma center completely redesigned in recent years to create separate spaces for patients not requiring a mechanical ventilator.
Organizational characteristics	The head physician and a senior physician manage together a stable group of health care professionals who have worked together for many years.	The working group is rather young but very experienced. The physicians mostly come from the same university and from the same research group and they are still very involved in clinical research.	Two senior physicians appointed by the head physician supervise the ward and manage a young team.	A senior physician, reporting directly to the head physician, directs a team of health care professionals with different professional seniorities.
Presence of nurses during the physicians' meeting	All nurses in turn are present at rotation at the physicians' meeting: They join the meeting when the physicians are discussing the patients they deal with.	A nurse, delegated by the group of nurses and by the head nurse, attends the physicians' meeting	Depending on the gravity of the patients' condition, 1 or 2 of the nurses in turn attend the physicians' meeting.	Only the case manager is allowed to attend the physicians' meeting.
Presence of other figures during the physicians' meeting (infectiologist, surgeons, neurologists, surgeons, etc).	Other specialists are involved in the discussion if a consultation is needed.	Other specialists are involved in the discussion if a consultation is needed.	Other specialists are involved in the discussion if a consultation is needed.	Other specialists are involved in the discussion if a consultation is needed.

Note. ICU = intensive care unit; CICU = cardiac intensive care unit.

potential.³⁵⁻³⁸ Moreover, the epistemological principle at the basis of this study is that the world is an object of meaning, and research must find a way to comprehend the process of making meaning which lies at the core of human experience.³⁹ In other words, researchers must develop heuristic strategies to comprehend reality in as much detail as possible, and reflection is essential to "perceive the original qualities of the reality" (p. 23).³⁹ The method used in this research interweaves the empirical phenomenological method (EPM) with grounded theory (GT).^{40,41} The methodological blending of these methods is legitimized by the fact that the heuristic principle on which

each is based is identical: to remain faithful to the qualities of the investigated experience and to generate a theory that fits the phenomenon. This approach takes from EPM a way to bracket preconceptions, through the epoché,ⁱⁱ while remaining faithful to the qualities of the phenomenon. It takes from GT a systematic process of analysis thought a collection of steps.³⁹

To collect data, researchers are divided into 4 pairs: each pair spends 3 nonconsecutive weeks in one of the ICUs and video-recorded physician rounds in which patients' conditions were discussed. A total of 26.17 hours of interactions are collected: These data are then transcribed using a detailed

procedure that faithfully reported participants' speech, including repetitions, hesitations, pauses, speech overlap, and nonverbal actions.⁴² All the physicians involved in the research participants are informed that their participation is voluntary and a written informed consent is obtained giving them a brief description of the aims and methods of the study.

Data analysis leads to the creation of coding through an inductive process. Its aim was to illustrate the essence of the different DM processes by describing the quality of the discursive practices that formed them. Labels were organized into categories until categorical saturation is achieved.ⁱⁱⁱ The categories list is composed by informative practices (providing information about the context^{iv}); assertive practices (declaring the position of the speaker regarding what is affirmed^v); problematization practices (opening up the discussion to new scenarios^{vi}); normative practices (regulating the flow of speech^{vii}); developmental practices (used to express elements useful to build a deeper comprehension of the problem^{viii}); co-constructive practices (intended to build the scenario analysis in a dialogue structure^{ix}); judgment practices (expressing an evaluation of different elements^x); deliberative practices (indicating the DM^{xi}); and meta-reflective practices (identifying the way in which individuals reflect on their own cognitive activity, extending it to the group^{xii}).

The coding constructed through this process is an analytical tool that can accurately describe the quality of discursive practices with the aim of grasping the genuine essence of discursive phenomena in ICUs.

The first step was to analyze every transcript. In the second step, all the transcribed data were examined with a focus on the sequences that contained deliberative matter. The aim was to observe the connections between the deliberative practices and other discursive practices. Such heuristic action typically leads to the building of an inductive theory because it allows for "the structuring of the gradual process of interpretation and systematization of data," thereby creating a discursive profile of the ICU in terms of DM processes (p. 11).³⁹

Findings

In terms of the first research question, the analysis led to the development of an analytical tool capable of revealing how different discursive practices lead to different DM processes. Tool described in Table 2 highlights the role of the discursive practices within a conversational flow and minimizes the distance between the description and the meaning.

That is, when a researcher analyzes a discursive practice, he or she must first describe the content of the sentences (description) and then define its role in the conversational context (interpretation). The phenomenological-grounded method used in this study lead to the development of an analytical tool that combines these 2 aspects, indicating the essential quality of every discursive practice by a specific

Table 2. Coding.

Category	Labels
Informative practices: Provide information about the context	Starts an intervention Describes Narrates Asks for data—provides data Asks for an explanation—provides an explanation Reconstructs therapeutic actions Emphasizes own decision
Assertive practices: Declare the position of the speaker regarding what is affirmed	Declares agreement Declares disagreement Reiterates
Problematization practices: Open the discussion to new scenarios	Asks for clarifications Introduces a doubt Raises a problem Is questioned Detects a critical issue
Normative practices: Regulate the flow of speech	Regulates the interaction Shifts attention
Developmental practices: Are used to express elements useful to build a deeper comprehension of the problem	Highlights a given data Exposes reasons Makes assumptions Exposes a thesis Formulates a thesis Completes his/her own speech
Co-constructive practices: Are intended to build the scenario analysis in a dialogue structure	Asks for attention Consults others Asks for agreement Tries to intervene Receives Modifies Echoes Completes other's speech Asks for operative indications Takes up a proposal
Judgment practices: Express an evaluation of different elements (ideas, procedures, etc)	Has a positive view of the action of the other Has a negative view of the action of the other Assesses patient status Expresses himself/herself with irony
Deliberative practices: Indicate the decision making	Suggests Proposes Prescribes
Meta-reflective practices: Identify the way in which individuals reflect on their own cognitive activity, extending it to the group	Expresses his cognitive practices Expresses other's cognitive practices Explains a group's interpretation Emphasizes his own limitations

label and showing that there is no opposition between description and understanding. The key strength of this method is that it uses a rigorous and systematic process that delves deeply into the qualities of a (complex) observed phenomenon, combining description and interpretation.

Table 3. Illustrative excerpt of the analysis.

			SPI	SP2	P2	P3	H NUR	NUR
169	SPI	[I think is fairly bad]	Exposes a thesis					
170		after a: good period						
171		last week						
172		I think that in the last three days						
173	P3	[he has worsened]				Completes other's speech		
174	SPI	[things are going] (nodding)	Declares					
175		really bad.	agreement					
176		It is that I cannot understand (.)	Expresses his/					
177		if it is just an (.)	her cognitive					
178		hepatic problem	practices					
179		an hepatic problem. and what follows,						
180		or if there is an infection problem						
181		This is not clear, it is not clear for anyone::	Raises a problem					
182		[and and also this . . . It is not clear]						
183	P2	[But why . . . is the bilirubin level rising]?			Asks for explanation			
184	P3	Well [38000 white cells]				Highlights a given issue		
185	SPI	[Yes: but everything is getting worse	Gives an					
186		Yesterday I checked the examinations	explanation					
187		everything is worsening::						
188		(. . .)						
189	P3	Well 38 [1000 white cells]				Echoes		
190	SP	[platelets are the same]	Highlights a given					
191		but 38000 white cells are really too many::	issue					
192	P3	[Eh.]				Receives		
193		(.)						
194	SP	Can we have a culture from	Prescribes					
195		the ascites, today, please?						
196	NUR	OK						Receives

Note. SP = senior physician; P = physician; H NUR = head nurse; NUR = nurse.

To address the second research question, the research generates a discursive profile of each of the 4 ICU teams when a decision regarding a key issue (infection) is required.

ICU A is representative of many generalist Italian ICUs in peripheral hospitals: It has a relatively small number of beds and its patients frequently have chronic conditions or have undergone a long period of hospitalization. It also presents a significant number of infections, often multidrug-resistant.

The analysis (see Table 3) revealed that deliberative practices were equally distributed between the leader and other members of the ICU team—physicians as well as nursing staff. This distribution in DM is indicative of the leader's willingness to share DM power. Furthermore, the senior physician (SP)^{xiii} and the other physicians connect their deliberative practices with developmental practices and problematization practices. Developmental practices are used to express the underlying reasons for the deliberative practices, which rendered the decisions a starting point rather than a conclusion. However, the use of problematization practices

revealed that, within this team, it is considered essential to collect and share not only information but also uncertainties before reaching a decision. The team's practice of sharing uncertainties reinforces its critical and reflective attitude, while its use of developmental and co-constructive practices showed an attempt to develop a shared DM process.

ICU B is strongly focused to research and is located in a large metropolitan city. It has 14 beds, and many of its patients had undergone emergency operations, often in other hospitals. It has an open-access policy^{xiv} and a clear infection prevention policy to face the growing number of infections caused by multidrug-resistant bacteria in this ward. In this ICU, the deliberative power is spread among physicians. The analysis of the discursive profile of the leader revealed his efforts to involve all members of the group in a collaborative vision of teamwork, giving others the possibility of sharing in the cognitive process. He often expressed his discursive practices through questions and suspended sentences and used co-constructive practices to relate or reinforce others'

discursive practices. Moreover, the deliberative practices were often associated with informative, developmental, and problematization practices. The use of informative practices revealed that it is crucial for these physicians to gain as much knowledge of the patient's state as possible before making a decision, whereas the significant presence of developmental and problematization practices showed that they assign importance to a reflective and shared style of evaluation. Ultimately, the team's discursive profile revealed efforts to increase its level of participation, reinforcing its cohesive force and involving its members in a common analysis of the clinical case, thereby building a shared reflective process.

ICU C is a general ICU in a hospital where there is also a neurosurgical ICU and a cardiac ICU. All are managed by the same head physician who has charge of a young team, with the exception of 3 SPs. The general ICU has 9 beds, and its patients are mainly polytraumatic or elective postsurgical patients with a very brief recovery time. The levels of infection and the presence of multidrug-resistant bacteria are low. In this ICU, the deliberative practices are mainly, but not exclusively, exercised by the SPs, who connect them to informative and assertive practices as well as to developmental, problematization, and meta-reflective practices. As in the other ICUs, the use of problematization practices reflected an attempt to reinforce the team's critical and reflective attitude, whereas the developmental practices revealed the desire to involve the team in a common analysis of each patient's status. However, the frequent use of meta-reflective practices revealed the SPs' attempts to transform the team into a thinking community by making clear their line of thought to every member of that team. The team's discursive profile emphasized a high level of participation, supported by the SPs, which involved the youngest members of the group in a collaborative vision of the case.

ICU D has 11 beds and it has mainly trauma patients recently hospitalized. The infections that are treated are mostly community-acquired, and the presence of multidrug-resistant bacteria is low. Nevertheless, the SP, who manages the ward as delegated by the head physician, establishes a policy for controlling the spread of multidrug-resistant bacteria, reducing the use of empirical antibiotic therapy: for him to adhere strictly to this policy is central is a key part of the affiliation agreement. The analysis revealed that this ICU had a discursive profile that was significantly different from the others. First, the deliberative practices were expressed by a single person: the leader. Moreover, he stated his decision *ex abrupto*, without introducing it through other discursive practices: this makes unclear the reasoning by which he reaches a decision, weakening the bond between the leader and his collaborators. This is confirmed by the fact that the leader uses normative practices far more than they are used in other ICUs and sometimes in connection with deliberative practices. These normative practices highlight his regulative and subjective approach.

Discussion and Conclusion

As we have previously pointed out, many researchers state that physicians use "bounded rationality" as a heuristic tool that, on the basis of their clinical experience, makes them able to take decisions grounded on approximations through the application of a critical and reflective thinking that makes them able to evaluate the limitations of environments characterized by a high level of complexity. Anyway, another aspect influences the DM processes: the way in which the leader manages the clinical team. That is why many studies highlight that a hieratic approach reduces the involvement of the physicians in the DM, with potential negative consequences on clinical outcomes. Therefore, we can say that, to support a positive DM process, 2 elements would be necessary: (a) the capacity of the physicians to reach a critical and deep comprehension of a clinical case despite the complexity that characterizes critical patients, using bounded rationality; (b) and the capacity of the leader to involve the team in a shared situational awareness which supports a more effective DM process.

Then, what is the link between these considerations and our findings? The findings reveal that the meta-reflective practices are used to involve young team members in a reflective environment: this demonstrates how SPs use the discursive practice to show to less-experienced physicians how their bounded rationality "works," supporting the development of their reflective and critical thinking. Moreover, the findings reveal that where DM processes are characterized by numerous developmental and problematic practices, decisions are shared within the team. This reveals that these discursive practices can be used by the leader to reinforce the engagement of the physicians in the DM process. On the contrary, the findings reveal that a frequent use of normative practices is related to the presence of a no-shared DM process and that it discloses a regulative and subjective approach, which hinders the development of a critical and reflexive thinking.

These findings could be the basis for an in-service training program aimed to show physicians the type of discursive practices that can facilitate DM and help them understand how their discursive practices are related to cognitive, communicative, and leadership patterns that influence the way they reach a decision as an attending patient community. Moreover, bringing these dynamics to the attention of the physicians could make them aware that being able to look at their discursive practices with a reflective and critical eye can affect their DM processes.

Authors' Note

The data collected for this study comprised audio- and video-recorded meetings amongst the physicians of four ICUs. Field notes were also used to supplement the video-based observations. The

study did not involve any action that might influence any medical interventions. All participants were informed that their participation was voluntary, and each of the participants signed an informed consent form. At the time of the study, the University of Verona did not have a formal ethical approval committee that oversees research.

Acknowledgments

We thank all the members of the research team who provided insight and expertise that greatly assisted the study and all the staff of the ICUs involved in the research.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article. Funding for this study was provided by the Italian Group for the Evaluation of interventions in Intensive Care Units (GiViTI), a network that connects more than 150 Italian ICUs, related to the Research Institute “Mario Negri,” which is a nonprofit organization.

Notes

- i. Infections acquired outside of the hospital (or at other residential health care facilities) which are not usually multidrug-resistant.
- ii. “The essential phenomenological attitude is the temporary suspension of all existing personal biases, beliefs, preconceptions, or assumptions in order to get straight to the pure and unencumbered vision of what a thing ‘essentially is.’ [. . .] Husserl referred to this phenomenological feature as ‘epoché.’”⁴³
- iii. See Table 2.
- iv. For example, “The propofol was reduced, so this led to a progressive increase in blood pressure.”
- v. For example, “Sure sure, I agree with you.”
- vi. For example, “But bile is dripping from it.”
- vii. For example, “Now we must abandon these fears and go on.”
- viii. For example, “So, seeing that she has no other marker, eh, and if we don’t want to use carbapenem.”
- ix. For example, “Or do you prefer us to wait?”
- x. For example, “Bad thing, bad bad thing.”
- xi. For example, “Give him 4 vials of morphine.”
- xii. For example, “It’s that I cannot understand (.) if it is just an (.) hepatic problem, an hepatic problem and what follows, or if there is an infection problem.”
- xiii. In this ward, the head physician had assigned the responsibility of running the ward to a senior physician.
- xiv. This means that the families of the patients can visit at any time (eg, 24 hours a day).

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