Alexandra Gheondea-Eladi

WHAT CONNECTS US IN SHARED DECISION-MAKING IN HEALTH

Introduction

This paper explores the mechanisms that lead to consensus in shared decision-making (SDM). It does so by comparing the mechanisms described until now in the literature on small group decision-making with those made possible by SDM interventions. This type of theoretical analysis is useful for the critical understanding of the way in which SDM interventions are able to foster the sharing of information, preferences, identities, and meta-cognitions in connection with treatment decisions. This analysis may become particularly useful in answering the question: under what conditions are SDM interventions likely to lead to shared mental representations that foster consensus.

In decision-making theory, there are two ways to generate consensus: one based on agreement about the decision-making process and one based on agreement on the final resolution or the content of the decision (Moscovici, Doise 1994; Zamfir 2005). In this paper, the author refers to the first type as process-based consensus and to the second type as content-based consensus. Discussions and voting are the most common ways to reach consensus (Moscovici, Doise 1994), with discussions being the preferred method for dyads. Consensus is important because it is the precondition for commitment (Hirokawa, Poole 1996). Also, consensus based decisions have the highest satisfaction rates compared to other decision-making strategies, like voting, representation (or deference), and this makes them a valued outcome (Zamfir 2005).

Consensus, however, does not guarantee the best solution is implemented (Gheondea-Eladi 2015, Dunning et al. 1990, Oskamp 1982). In the ab-
sence, in the absence of consensus, decision-making may be blocked or delayed and groups or dyads may be forced to dissolve, thus, leading to serious consequences for the expected outcomes. In healthcare and treatment decisions, delays or blockages may have fatal consequences. Although neither process-based nor content-based consensus guarantee the best decision outcome, they minimize regret (Loomes, Sugden 1982) for decisions in which there is no known solution.

Drawing on consensus theories, the author assumes that if decisions do not go beyond the superficial involvement of patients in health decisions, i.e., if they do not lead to both forms of consensus (process-based and content-based), then they fail to reach their goal of sharing the decision. Based on this assumption, in the following sections, it is argued that current SDM interventions only lead to process-based consensus, and not necessarily content-based consensus. Furthermore, based on the theories of consensus, the author proposes a set of social and organizational conditions that foster content-based consensus.

Briefly, in the first section, the main components of SDM are presented. In the second section, the decision-making situation constructed in medical settings is analysed. The third section discusses the main mechanisms of reaching consensus which are used to analyze two SDM interventions. One training designed by the Agency for Healthcare Research and Quality (AHRQ), in Rockville, Maryland, United States of America (Agency for Healthcare Research and Quality 2017) and one SDM intervention of the Making Good Decisions in Collaboration (MAGIC) program of The Health Foundation (The Health Foundation 2013, King et al. 2013).

Shared-Decision Making

Three health decision-making frameworks co-exist in Europe (European Commission 2012): defer responsibility to the doctor, decide individually as a patient, and decide together with the doctor. After being proposed theoretically (Emanuel, Emanuel 1992; Elwyn et al. 2000), SDM interventions were implemented as a solution to the problems incurred by informed consent in the medical setting (Widdershoven, Verheggen 1999, Ittenbach et al. 2015) and to avoid the risks of not considering the patient’s values in making informed health decisions. Thus, informing patients is no longer sufficient to increase adherence to treatment and to abide by the ethical principle of patient participation in health decisions (Elwyn et al. 2000; Ar ras et al. 2014). SDM represents a process in which “clinicians and patients work together to choose tests, treatments, management, or support pac-
kages, based on clinical evidence and patient’s informed preferences” (The Health Foundation 2013, p. 6). There are three main tools used for sharing in SDM: Training Health and Medical Professionals, Patient Activation, and Patient Decision Aids (The Health Foundation 2013).

From a decision-making point of view, scientists have always steered health decisions towards joint decisions of doctors and patients, in which the main goal is to reach a consensus, i.e., a common cognitive image or mental representation of the situation at hand. However, this decision-making model poses risks when the mental representations created by the doctor and by the patient *do not overlap on the relevant decision attributes.*

For example, during consultations, doctors and patients share facts and values. Let us assume, the doctor has the following representation of the patient’s situation: the fact is that the patient has hepatitis C, has developed cirrhosis, and has a short life expectancy; therefore, according to the protocol, the patient is not suitable for peg-interferon treatment (http://www.hcvguidelines.org/full-report/when-and-whom-initiate-hev-therapy). The doctor’s values are: to preserve life and to decrease the costs of treatment. The patient has the following representation of the situation: s/he suffers from hepatitis C and has developed cirrhosis. The underlying value is: to risk dying rather than sit around doing nothing. If the patient’s and the doctor’s mental representations are incomplete or do not overlap, it is possible that one or more of the following cases will happen:

1. the patient and the doctor will disagree on the best course of action;
2. the patient may search for a doctor that shares his/her mental representation;
3. the patient may make a fatal decision.

**How we Share in SDM: Training Professionals**

In SDM, health and medical professionals are trained to accept a new ethical principle which entitles the patient to decide on her/his own health. Training in this area is focused on applying a certain structure of the doctor-patient discussion which is aimed at helping patients participate in decision-making, explore and compare options, elicit values, and reach a decision (Agency for Healthcare Research and Quality 2017; The Health Foundation 2013). Additionally, health and medical professionals are expected to be able to evaluate the patient’s decision (Agency for Healthcare Research and Quality 2017). Overall, training professionals in SDM is still a problematic issue, since,
in some cases, patients’ perspective is not taken into consideration in the decision-making process (i.e., practitioners do not inquire about “patient’s concerns or need for questioning”) after the SDM training (Sanders et al. 2017), or SDM is perceived to be unreasonably time consuming (King et al. 2013).

**How we Share in SDM: Patient Activation**

Patient Activation (PA) was the solution given to the doctor’s domination over the health encounter and the patient’s passivity with respect to her/his health (Kukla 2007). It is based on the idea that patients should have an active role in making health decisions of which they will bear the consequences. Activated patients are encouraged to ask questions in order to facilitate sharing facts and sharing values. Facts are shared by asking about options, risks, and benefits of each option, and the likelihood of success or failure (The Health Foundation 2013; Hibbard et al. 2015; Alegria et al. 2008). Overall, patient activation has been shown to lead to better self-management of health, improved functioning, and lower costs of health-care (Hibbard et al. 2015).

**How we Share in SDM: Patient Decision Aids**

Patient Decision Aids are also meant to share facts and values, but in a structured and validated manner. PDAs are usually written or visual materials available online or offline, which inform patients about the decision that needs to be made and the options that are available for treatment or screening (Alden et al. 2013; Munro et al. 2016; Elwyn et al. 2009; Stacey et al. 2017; Elwyn et al. 2006; Graham et al. 2003; Aning et al. 2012). Their aim is to help people understand treatment or screening options in terms of harms and benefits and to elicit the patient’s decision-relevant values (Stacey et al. 2017; Elwyn et al. 2009). Facts are structured in terms of options, benefits and risks, and the likelihoods of success or failure. Values usually are predefined variables with predefined answers. In some cases, patients may define new values. Overall, PDAs have been shown to reduce decision conflict, reduce information processing (Stacey et al. 2014), and improve decision quality and the decision-making process (Sepucha et al. 2012).

**Mechanisms for Reaching Consensus**

Consensus is a social and psychological state which reflects agreement between members of a group, team, community, or society in the absence of
controlling influences. It is “the handiwork of everyone and accepted by everyone” (Moscovici, Doise 1994, p. 2). It has been argued that for consensus to emerge cognitive representations of the decision-making situation need to converge (Zamfir 2005). Consensus is achieved in two ways: discussions and voting (Moscovici, Doise 1994).

Also, decision-making by consensus requires the following existence conditions: equality of powers and autonomy. Power means intention to influence, knowledge to influence, opportunity to influence, and the means to control (Keltner 2017). Autonomy means intention to be autonomous, knowledge to decide, and freedom from controlling influences (Faden et al. 1986). By definition, when there is no equality of powers, consensus is replaced by obedience.

In decision-making theory, consensus is usually stimulated by agreeing on basic rules of communication (e.g., “we accept this type of arguments”, “we do not accept this type of arguments”, “we do not accept personal attacks”, etc.) and by setting up a flexible time frame for the decision to take place. If the time frame is too tight, over-confidence or under-confidence phenomena may undermine the implementation of the chosen solution (Gheondea-Eladi 2015). However, content-based consensus does not necessarily emerge if there is process-based consensus.

Drawing on the consensus theories presented earlier, the conditions in which SDM interventions are likely to lead to shared mental representations that foster consensus can be categorized in three ways:

1. Content conditions are conditions that directly affect the resolution or the final decision, such as: agreement on the type of arguments accepted or not accepted in communication and agreement on a strategy of decision (pros and cons list, benefits and side-effects, etc.).

2. Agent conditions are either characteristics of individuals or their relationship, such as: the distribution of power and autonomy in decision-making. These refer to knowledge, opportunities, and the means of control, as well as the intention to be autonomous and the lack of controlling influences.

3. Process conditions are conditions that facilitate the process of decision-making, such as: time, technology, support groups, support staff, procedures for doctor-patient communication, and procedures for patient feedback, etc.
Consensus and SDM

In theory, decisions can have known or unknown solutions. When there is a known solution, consensus usually co-varies with satisfaction for the decision process. For example, consensus may increase if arguments are presented in a logical manner, or it may decrease if persuasion or force is employed instead of logical arguments to impose a decision. But, in other communities, it may also decrease if logical arguments are used instead of force (should there be a preference for such strategies). Therefore, consensus co-varies with, but it is not the same as, second-order preferences (about how the decision is made).

In healthcare, most decisions do not benefit from a known, verifiable solution to the problem. In such cases, there are three distinct aspects of the decision that influence consensus: satisfaction with the way in which the decision was made, the perceived certainty of the group decision (process measures), and the closeness of the group decision to the final individual decision (a content measure) (Zamfir 2005).

From this point of view, SDM is a medical and healthcare intervention aimed at fostering consensus between doctors and patients (autonomous patients, surrogate decision-makers, and family members). In the literature, there are several tools which assess the closeness of the doctor-patient discussion to the SDM communication structure: OPTION-5 (Elwyn et al. 2005), SDM-Q-9 (Ballesteros et al. 2017), and CollaboRATE (Barr et al. 2014). While CollaboRATE and SDM-Q-9 are very short evaluation tools designed for patient and doctor use, OPTION-5 was designed for external evaluator use. However, these tools evaluate the compliance with the structure of doctor-patient discussions proposed in SDM, and not the level of consensus of the final decision. The SDM-Q-9 questionnaire, which is meant to be filled by both medical and health practitioners and patients or family members, may provide an approximation of process-based consensus by comparing the views of all parties involved. However, they all lack content measures of consensus. In the absence of content-based consensus, patients and doctors may have high satisfaction with the quality of the medical service, but low compliance with the treatment (as it happens with the use of herbal medicines in Tangkhatkunjai et al. 2014; Asadi-pooya & Emami 2014).
The Importance of Consensus in Different Health Decision-Making Situations

Envisioning oneself within a certain decision-making model determines the choice of the process-related information search strategy. Three such models have been observed by scholars in doctor-patient relationships: defer responsibility, decide together and decide individually (Table 1). During consultations, the patient’s choice of the decision-making framework may be different from the doctor’s.

| Table 1 |
|-----------------------------|-------------------------------------------------|
| **Deferred Decisions**      | Medical decisions are deferred to the doctor who  |
|                            | is responsible for acquiring information and her/his own values in order to decide. In this context, the risk is that patients’ values were not considered. |
| **Joint Decisions**         | Patients and doctors decide together after having reached consensus on a common cognitive image. In this case, the risk is that the cognitive representations created by the doctor and by the patient do not coincide or may be impossible to update or change due to much too wide a knowledge gap, lack of time or of communication. |
| **Individual Decisions**    | Patients may also be the only ones to decide on the medical treatment based on the information they are able to acquire and on how they define their own values. In this context, the risk is that the patient decides based on an incomplete or erroneous cognitive representation. |

*Source: Author’s own elaboration.*

This three-tyre framework is slightly different from that introduced by Ezekiel J. Emanuel and Linda L. Emanuel (Emanuel, Emanuel 1992) (which includes the paternalist, informative, interpretive, and deliberative types) in that it takes on a strictly decision-making perspective. It is also different from the research which sees shared-ness as a continuous self-assessment of the degree of doctor-patient involvement in the decision (Makoul, Clayman 2006). For decision-making, the informative model is very similar to the deferred decision model since informing the patient does not imply participation. On the other hand, the continuous nature of participation is expected to influence the degree of process-based consensus.
Each framework deals with consensus in ways that are driven by the modelling of the decision-making situation.

**Modelling Deferred Decisions**

The case when the medical or health decision is deferred to the doctor has been modeled as a principal-agent problem in which the principal lacks knowledge or skills to implement the solution and delegates the responsibility to the doctor (Buchanan 1988). In this framework, instead of having a consensus-based decision, the agent needs to be worthy of trust thus allowing a trust-based decision. On the other hand, when the doctor-patient relationship is modelled in terms of power difference (which is not considered in the standard principal-agent models), trust is replaced by obedience.

**Modelling Joint Decisions**

Joint decisions between doctors and patients require these two actors to work together either as a group with a shared goal or as a team where each member has different and complementary responsibilities toward the shared goal. Either way, the aim is to reach consensus. Greater patient participation is assumed if the doctor-patient relationship is modelled as a group decision (Castellan 1993). If more than one specialist is required to aid the decision-making process, modelling can take several stances. For example, as a team of experts and the patient or as a structured group in which the patient only works with one of the experts who uses the others as counsellors. In each case, both process-based and content-based consensus is crucial.

**Modelling Individual Decisions**

Despite the consensus-based model being promoted, patients may prefer to make an individual decision, while they search for reliable and coherent information sources, like multiple doctors, family members, online communities, other health care providers, friends or acquaintances. In such cases, patients do not decide within teams (there is no distribution of tasks with respect to a common goal) (Castellan 1993) nor necessarily in groups (since there is no common goal for all actors involved, e.g., doctors, family members, online communities, friends, etc.). The only social structure left in this case is the social network in which information is pursued depending on whether there is a possibility to contact another information source. However, since it is not possible to know which solution leads to the best outcomes or to a priori evaluate the best solution, information is collected until an acceptable level of certainty is achieved. In other words, this system of interactions works as long as it is off the equilibrium of certainty. Fur-
thermore, acquisition of information is driven by uncertainty with respect to both the behaviour and the cognitive process.

In this context, information structure is very important for the decision making process, since it gives both relevant information for the content of the decision and about where the patient is situated within the decision-making process. In other words, well structured information will indicate whether information is complete or not, whether uncertainty can further be reduced or not, and whether more information should be sought or not.

In this modelling framework, it is reasonable to assume that even if patients make individual decisions, they need to be able to convince doctors to implement the decision or to find another doctor who is willing to implement it. Therefore, two cases emerge: the one in which both the patient and the doctor agree on the decision-making framework and the doctor accepts the patient’s decision irrespective of its content, or the one in which the patient is forced (and able) to search for a doctor with whom a consensus-based decision emerges. Consequently, in the first case, process-based consensus is sufficient to make a decision. In the second case, content-based consensus is pursued by changing the doctor.

To sum up, both process- and content-based consensus are theoretically required in the individual and joint decision-making situations, although in different forms, but not in the deferred decision situation.

**Methodology**

In this section, one Professional Training and one SDM intervention report are analysed for the main mechanisms of eliciting consensus or those that might undermine consensus. The training support documents of the Agency for Healthcare Research and Quality (AHRQ), in Rockville, Maryland, United States of America (Agency for Healthcare Research and Quality 2017) and SDM intervention stories from the evaluation of the Making Good Decisions in Collaboration (MAGIC) program of the Health Foundation (The Health Foundation 2013, King et al. 2013) constitute convenience analysis data.

The documents were analysed with respect to the reported conditions that foster process-based or content-based consensus. Based on the conclusions of the theoretical section, the conditions in which SDM interventions are likely to foster consensus are: content, agent, and process conditions. These conditions were pursued within the analysed documents.
Content Analysis

The content analysis comprised of the identification of actions that foster either content, agent, or process conditions for consensus. Table 2 presents the operationalization and the content analysis.

Table 2

<table>
<thead>
<tr>
<th>Condition</th>
<th>Operationalization</th>
<th>THF(^1)</th>
<th>AHRQ(^2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Content</td>
<td>Agreement on the type of arguments accepted or not</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
</tr>
<tr>
<td></td>
<td>accepted in communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agreement on the type of the decision strategy (pros</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
</tr>
<tr>
<td></td>
<td>and cons list, benefits, and side-effects, etc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agent</td>
<td>Patient autonomy</td>
<td>Not mentioned</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Asking questions</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>Patient involvement</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Process</td>
<td>Time (e.g., flexibility)</td>
<td>Not mentioned</td>
<td>Not mentioned</td>
</tr>
<tr>
<td>Technology</td>
<td>(e.g., use of PDAs)</td>
<td>Yes</td>
<td>Not mentioned</td>
</tr>
<tr>
<td></td>
<td>Use of support groups</td>
<td>Partially</td>
<td>Not mentioned</td>
</tr>
<tr>
<td></td>
<td>(Only in clinical teams; no mention for patients)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Procedures</td>
<td>Yes (Two SDM</td>
<td>SHARE</td>
</tr>
<tr>
<td></td>
<td>for doctor-patient communication</td>
<td>clinician workshops</td>
<td>discussion tool</td>
</tr>
<tr>
<td></td>
<td></td>
<td>for skills building</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient feed-back forms</td>
<td>Unclear: Only for the</td>
<td>Possibly (in arranged</td>
</tr>
<tr>
<td></td>
<td></td>
<td>evaluation of the program, no mention of the SHARE protocol)</td>
<td>follow-up steps as part of the intervention</td>
</tr>
</tbody>
</table>

\(^1\) THF = The Health Foundation’s MAGIC programme (The Health Foundation 2013; King et al. 2013).

\(^2\) AHRQ = SHARE training support of the AHRQ (Agency for Healthcare Research and Quality 2017).

Source: Author’s own elaboration.
Results

The AHRQ training support includes the discussion of five steps called SHARE:

1. “Seek your patient’s participation
2. Help your patient explore and compare treatment options
3. Assess your patient’s values and preferences
4. Reach a decision with your patient
5. Evaluate your patient’s decision” (p. 7).

Decision evaluation from the fifth step includes supporting decision implementation and revisiting the decision regularly in case of chronic diseases. In the SDM intervention from the MAGIC program, in parallel with practitioner training, patients are encouraged to ask their doctor questions, so that some exchange of information takes place (The Health Foundation 2013; King et al. 2013). The MAGIC intervention comprised the following activities:

1. “skills development and engagement, such as introductory and advanced skills development workshops for participating clinicians
2. guidance on developing, adapting, and implementing decision support tools
3. facilitation and peer support for clinical teams
4. support in involving patients, including setting up patient forums and implementing a campaign – Ask 3 Questions – to ‘activate’ patients (increase their awareness of SDM)” (King et al. 2013, p. 6-7).

The analysis of the two interventions from the point of view of the consensus-supporting conditions revealed that these interventions are likely to lead to process-based consensus only (Table 2). Content-related consensus conditions are not considered in either of them. There was no mention of an agreement between patients and doctors on the type of arguments that are considered appropriate and those considered inappropriate for decision-making. Discussions on power inequality were also not considered in either document. Some process conditions appeared in both documents, these were: technology, support staff, and procedures for doctor-patient communication. No procedures for continuous patient feed-back could be identified.
(except for the evaluation of the SDM intervention). In the MAGIC intervention report, patient evaluation was replaced with the practitioner's reports of patient opinions (King et al. 2013). More than this, the extent of the difference between practitioner training and patient training does not seem to bridge the power gap between patients and doctors. In the MAGIC intervention, training practitioners is emphasised, while patient activation has been performed through posters and audio-visual presentations in waiting rooms (King et al. 2013).

Conclusions

Based on consensus theories, this paper argued that both process- and content-based consensus are needed in order to achieve shared-ness in SDM interventions. Furthermore, three types of conditions were identified from the literature for developing consensus: content, agent, and process conditions. By pursuing the relevant conditions, this paper showed that the analysed practitioner trainings and patient activation interventions in SDM only teach practitioners and patients how to pursue process-based consensus, but not content-based consensus. At the same time, the standard evaluation tools for SDM in healthcare do not measure content-based consensus.

The result of this theoretical analysis cannot be generalized to other practitioner trainings since it does not cover a representative sample. It provides, however, solid theoretical grounds for pursuing this topic further and for empirically measuring the extent of this state of affairs and its impact on health service quality assessments, patient commitment to treatment, and, ultimately, health outcomes. Also, some of the characteristics of the programs evaluated may not have been available in the reports that were measured, but actually implemented in the field (e.g., time flexibility). For future studies, this limitation may be addressed by directly contacting the institutions that were responsible for implementing the analysed programs.

Bibliography


Among Hawai‘i Physicians, "Hawai‘i Journal of Medicine & Public Health", 72(11), http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3831568/ [access: 15.08.2017].


WHAT CONNECTS US IN SHARED DECISION-MAKING IN HEALTH


Alexandra Gheondea-Eladi

Keywords: shared decision-making, consensus, training health professionals.

This paper discusses the mechanisms that lead to consensus in shared decision-making (SDM) from a theoretical point of view. It considers the way in which SDM interventions are expected to share information, preferences and create shared mental representations in treatment decisions. It draws on consensus theory to argue that both content-based and process-based consensus are needed in SDM interventions in order to achieve an acceptable level of shared-ness. Three types of conditions are identified from the literature for fostering consensus: content, agent and process conditions. These conditions are further pursued in one Practitioner Training support document and one SDM intervention evaluation report. The analysis revealed that the SDM interventions analyzed pursue only process-based consensus, while disregarding content-based consensus. Further research is required for generalized conclusions. Further implications for practice of these findings are expected to be in the area of patient adherence to treatment and patient satisfaction with service quality.
Alexandra Gheondea-Eladi

CO NAS ŁĄCZY W PODEJMOWANIU WSPÓLNYCH DECYZJI O ZDROWIU

Słowa kluczowe: podejmowanie wspólnych decyzji, konsensus, kształcenie pracowników służby zdrowia.

Niniejszy tekst dotyczy mechanizmów umożliwiających osiąganie konsensusu w podejmowaniu wspólnych decyzji z teoretycznego punktu widzenia. Odnosi się do sposobu, w jakim wspólna wiedza i oczekiwania wpływają na podejmowanie wspólnych decyzji oraz tworzą reprezentacje mentalne w kontekście decyzji dotyczących leczenia. Opiera się na teorii konsensusu, co pozwala uzasadnić konieczność występowania w interwencjach dotyczących podejmowania wspólnych decyzji zarówno konsensusu opartego na treści, jak i rozumianego jako proces dla osiągnięcia akceptowalnego poziomu współodpowiedzialności. W literaturze można odnaleźć trzy rodzaje warunków wspierających osiąganie konsensusu: wewnętrzne, indywidualne i zewnętrzne czynniki procesu. Trzy wymienione warunki zostały zastosowane w dokumencie wspierającym szkolenie pracowników służby zdrowia i raporcie z ewaluacji interwencji w podejmowanie wspólnej decyzji. Analizy pokazały, że przedstawiona interwencja w podejmowaniu wspólnych decyzji doprowadziła jedynie do konsensusu opartego na procesie, pomijając konsensus oparty o treść. Formułowanie ogólnych wniosków wymaga prowadzenia dalszych badań. Dalszych implikacji omówionych wyników dla praktyki można się spodziewać w obszarze przywiązania pacjenta do sposobu leczenia i jego satysfakcji z jakości usług.