

Social Pressure on Patient Decision Making through Shifting Mental Models: Presenting Evidence to Patients

Dennis J. Mazur

Oregon Health and Science University, Portland, Oregon, USA

Email: mzrdj11@gmail.com

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Abstract

In humans, the processes of thinking or making decisions are usually based on mental models. Some of these mental models are designed to represent how humans think and decide, while others aim to improve their thinking and decision making. In decision making related to a patient's health and medical care, high courts aim to protect the patient's right to be involved in this process, while societal forces attempt to control costs associated with health and medical decision making. This paper examines legal, decision making, and social theories regarding the societal forces that attempt to influence the grounds upon which a patient thinks and decides about his or her health and medical care.

Keywords

Court-Based Decision Making, Evidence, Legal Theory, Mental Models, Patient-Based Decision Making

1. Introduction

The human mind is often represented as a mental model. Sometimes, this mental model is descriptive, in that it aims to describe how a human makes decisions. At other times, mental models are developed in an attempt to improve the decision making process. In health and medical care, patient thought and decision making are very sensitive to the social pressures that can be applied to the mental models designed to aid patients in their decision making. For our purposes in this paper, social pressures refer to the forces that are applied on the patient-physician relationship beyond the interests of the patient and the physician. These social pressures include 1) the force of high courts, 2) the force of logically-based decision analysts, and 3) the force of evidence-based

theorists. We will examine how each social force attempts to change the substance of what is included in discussions between patient and physician, particularly on the topic of benefits and risks of treatment. In this work, we will examine various approaches (higher court, logical, and evidence-based theories) to see how social pressures from groups representing each theory can attempt to alter how patients make decisions related to their health and medical care by influencing what information is disclosed in patient-physician discussions.

2. Patient and Patient-Doctor Decision Making as a Mental Model

Patient decision making can be viewed as a mental exercise of choice over a set of outcomes. The outcomes provided and the manners in which these are presented are viewed differently in various communities within society. This is especially true in health-related and medical decision making. In this paper, we will examine three specific cases: 1) high court decision making pertaining to consent and informed consent, 2) decision analysis, and 3) various forms of decision making, where additional specifications have been recommended beyond the basic information required in the court-derived doctrines of consent and informed consent. In order to analyze these approaches, we will examine their respective pros and cons.

3. Mental Models

The human mind is often modeled by psychologists (Baron, 2006; Granger et al. 2001). In this vein, mental models can be viewed as psychological representations of hypothetical, imaginary, or real situations (Mental Models and Reasoning Lab, Princeton University, 2014). Some mental models attempt to describe how patients or patients and doctors decide, while others provide decision making approaches that assist patients in making better decisions. We will review “better decisions” from individual patient, patient-doctor, and societal perspectives. In this paper, three mental models of patient decision making in health-related and medical decisions will be described: logical theory, medical evidence, and social theory.

4. High Court Theory in Consent and Informed Consent

Court decision making pertaining to consent and informed consent is governed by the law made by judges, due to absence of previous laws applicable to these cases. The development of this basic court-based view is found in high court decision making in Great Britain, the United States (Canterbury v. Spence, 1972), Canada (Reibl v. Hughes, 1980), Australia (Rogers v. Whitaker, 1992) and other countries in Europe and Asia (for example Malaysia (Che Ngah, 2005)). Within court decision making, courts originally based the standard of consent on a professional standard. This professional standard was used by courts to judge whether what a doctor disclosed to a patient was adequate from a court’s perspective. Today, the court-based approach continues to move toward a standard based upon what a reasonable person in the patient’s position would want to know.

The informing of patients about medical risks versus benefits has been a focus of courts since 1767 (Slater v. Baker and Stapleton). Over time, high courts agreed on what information should be disclosed to patients by their doctors about invasive procedures. This information typically included the nature of the procedure (P), its alternatives (A), and the risks (R) of both. In addition, these high courts recognized the patient’s right to ask the physician questions (Q) pertaining to the above.

5. Logical Theory (Decision Analysis)

Decision analysis is built on a set of logical axioms (Howard, 2007; Sox et al., 1988). Decision analysts took an interest in informed consent and expanded the disclosure process to include what they referred to as “preference elicitation”. Through an information structure, such as a decision tree or influence diagram, the decision analyst presents information to patients about the risks and benefits of the medical interventions being considered in their care (including survival-mortality and morbidity information) and elicits the patient’s preferences for each outcome. Here, the portrayal of information about outcomes and the estimated likelihood of their occurrence may itself be illuminating to both the decision analyst and the patient, as it assists the patient’s decision making with valid information pertaining to each of the available options (Mazur, 1986). However, the decision analyst can also fold the tree back and calculate the expected utilities of the outcomes based on the patient’s preferences.

6. Individual Patient (Patient-Doctor) Decision Making

Professionals within healthcare, medicine, nursing, and other professions involved in providing care and assistance to others have argued for a new concept of decision making where patients make the decisions alone, without the help of physicians. This is a general approach that can be contrasted with court decision making, where physicians are in charge of what information (PAR) a patient is given and whether the patient may ask the physicians any questions (Q).

7. Evidence-Based Theory

The evidence referred to by the supporters of this evidence-based theoretical approach includes randomized controlled trials and meta-analyses (typically placed at the top of evidence hierarchies) and on the doctor's clinical training and clinical experience (typically placed at or near the bottom of evidence hierarchies). Yet, it is the doctor who determines whether a particular piece of medical information is relevant in the patient's care. The same approach is taken when determining participants in randomized controlled trials (RCTs) and whether the findings yielded should be shared with a specific patient. This role of "fitting" cannot be undertaken by individuals who only provide patients with information for decision making (Mazur, 2014). This approach to evidence hierarchies (in contrast to approaches that exclude doctor training and experience as evidence) recognizes that the doctor is essential in all evidence-based approaches because of the fact that patients have to be "fit" into RCTs and meta-analyses. Thus, physicians are the ones accorded by law to determine this fit on the basis of medical theory as understood by a doctor through his or her clinical training and clinical experience.

8. Shared Decision Making

Shared decision making is argued to support patient autonomy as it relates to their health and medical care. Sandman and Muthe (2009) argued that patient autonomy takes one of five forms, namely 1) self-realization, 2) preference satisfaction, 3) self-direction, 4) binary autonomy, and 5) gradual autonomy of the patient. Sandman and Muthe also pointed out the lack of firm conceptual development of shared decision making in medicine. Thus, they recommend having a firm set of concepts to distinguish one form of shared decision making from another (if indeed there is more than one form). Since physicians are explicitly excluded from some shared decision making approaches, there is an onus on theoreticians in this field to better clarify what is "shared" in shared decision making.

9. Preference Construction

Findings of the studies conducted by cognitive psychologists Slovic (1995) and Slovic and Lichtenstein (2006) indicate that, in many cases in decision analysis, preferences were not being elicited but were being constructed for the first time by the patient. This is particularly true if the patient had never considered the medical condition, its treatments, the associated risks and benefits, and the likelihood of those risks and benefits occurring. However, it also needs to be recognized that, in any approach to patient-based decision making or patient-doctor decision making, there will be a construction of preferences based not only on the information the patient receives, but also on how that information is presented to the patient. A patient new to medical decision making will have to undergo a learning curve before he or she will be able to assimilate information implicit in court-based legal theory or evidence-based approaches. Future research into decision making thus needs to track such learning curves over time to see what aspect of the approaches that are presented to the patient are eventually rejected by the patient either partially or in their entirety.

10. Societal Forces

Societal forces operative here are different from those applicable to most situations where one has professionals attempting to dictate what patients receive as information and which decision making strategy they use to evaluate that information. The primary societal value argued for in shared decision making is that of cost-savings (Oshima Lee and Emanuel, 2013). Shared decision making (SDM) based on up-to-date medical scientific evidence yielded by RCTs and meta-analyses is a costly enterprise due to 1) the need to train individuals to conduct educational sessions related to the concepts once fully developed and 2) the need to be constantly searching the

peer-reviewed medical literature for results of new RCTs and meta-analyses and updating the devices and computer systems used in SDM.

Following a 2011 Cochrane Collaboration review of 86 studies, the authors argued that patients using decision aids (as compared to patients receiving usual care) “had increased knowledge, more accurate risk perceptions, reduced internal conflict about decisions, and an increased likelihood of receiving care aligned with their value” (Oshima Lee and Emanuel, 2013). However, the definition(s) of SDM being used in the studies reviewed as a part of this initiative were not clearly stated and contrasted. In addition, the following question still requires clarification—what aspects of shared decision making within the concepts contained in SDM are producing these benefits? For example, in evidence-based SDM, what role did evidence play in these studies, what aspect or aspects of evidence achieved this benefit (and in what way), or were the benefits achieved without the use of evidence? Thus a strict analysis is required, in order to ascertain what is meant by “increased knowledge”, “more accurate risk perceptions”, “reduced internal conflict about decisions”, and “increased likelihood of receiving care aligned with a patient’s values”.

In general, there needs to be more conceptual development and definition within the various forms of shared decision making in order to ensure that everyone understands what is included in and excluded from the concept (Sandman and Muthe, 2009). In addition, shared decision making supporters need to define their position as it pertains to the decision making in health and medicine relative to high court-protected values, such as faith-based decision making.

11. Summary and Conclusion

There is still a lack of conceptual clarity in the definitions of shared decision making utilized in the extant studies reported in the peer-reviewed medical literature. This lack of clarity makes it presently virtually impossible to answer a key question: What is a successful application of shared decision making in the care of an individual patient? The only clear area in the application of patient or patient-doctor decision making is when evidence-derived from the peer-reviewed medical literature is provided to patients. Issues in need of further research include determining who is to provide this information to the patient, how the information is to be disclosed, and who does the patient want to be involved in his or her medical decision besides the patient himself or herself. In addition, supporters of shared decision making need to clarify how their program interfaces with high court-protected values in decision making in the patient-doctor relationship, such as decision making based on deeply-held values, such as faith-based values.

12. Increasing Complexity of Information in Patient-Based Decision Making

Each of our theories (high court theory, logical theory, and evidence-based theory) approaches decision making from different perspectives. The problem is the limited time frame that exists in the patient-physician relationship (where medical institutions allocate patients and physicians only brief periods of time for discussion) forces each approach to emphasize different types of information for patient-based decision making.

Regarding high court developments, in the United States, informed consent falls under state law. Some states experiment with various additions to the information load of informed consent, for example, including the differential diagnosis of the patient’s presentation to an emergency room as an extension of the PARQ information requirements. Regarding decision evidence-based theory, there is continued research on presenting patients with survival and mortality statistics as part of decision making. Finally, certain decision making groups attempt to exclude physicians from patient consideration of treatment options and attempt to train a cadre of professionals to present the data of the decision to the patient. Regarding the physician’s role in patient decision making, the physician is in charge of “fitting” patients into the results of research studies and sharing the findings with those patients. In addition, the physician is the intermediary who has to answer a patient’s questions about a multitude of areas about how government policy, institutional policy, and other key areas influence what the patient is provided in health and medical care. Future research is needed in all areas as the complexity of information will increase with the provision of new forms of information such as genetic information in personalized decision making.

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