Towards Patient-Centeredness? Media Frames on Shared Decision-Making for Healthcare Treatment

ABSTRACT

The literature on healthcare management and innovation has long noted that shared decision-making (SDM), a practice of organizing joint decisions between healthcare professionals and patients, should improve healthcare outcomes by increasing patient engagement and autonomy, and thus fostering patient-centeredness and equality. While SDM projects are increasingly implemented across Europe and worldwide, the diffusion of the practice remains partial. The healthcare management and innovation literature explores SDM trough the underlying assumption that its diffusion constraints result from an information problem, implying objective criteria and rational behavior. The purpose of this research is to conduct a study on the social construction of SDM and underlying rationales using the case of one of the largest healthcare markets worldwide – Germany. To capture the complexity of SDM, a frame analysis is conducted on its medial representations. Media are both influential in shaping public opinion as well as generating public discourses. This analysis enables to elaborate the different facets of the construct, to capture inherent patterns and to explore the consequences for the acceptance and diffusion of SDM in Germany. Three facilitating and three obstructive frames were assessed. The polarities of these findings range from the questioning of one's own decision-making authority to the perception of individual competence and decision-making agency. Moreover, this study reflects on how physicians' and patients' role for SDM is conceived. Regarding physicians these alternate between the perception of the 'demigod in white' and the loss of decision-making authority. Regarding the patients these alternate between the perception of the 'layman' and the competent patient, eager to participate in decision-making.

Keywords Shared decision-making, frame analysis, innovation acceptance, healthcare innovation, media analysis

TOWARDS PATIENT-CENTEREDNESS? MEDIA FRAMES ON SHARED DECISION-MAKING FOR SURGICAL INTERVENTIONS

Integrating shared decision-making (SDM), a practice of organizing joint decision-making between health professionals and patients, is an emerging, viable component for the treatment of patients. It is valued as a promising approach for improving healthcare treatment (Chin, Lopez, Nathan, & Cook, 2016; DeMeester, Lopez, Moore, Cook, & Chin, 2016).

SDM and patient-centered projects are being implemented throughout Europe. A substantial contribution is made by the distinct direction of the WHO, which aims at putting the patients at the center of healthcare. European projects such as *Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence* are representative for this stance. Further, the EU-wide online portal *EUPATI*, promotes health literacy and patient participation in research projects. The EU-funded *IC-Health project*, which aims to improve the digital health literacy of European citizens, also fits into this picture. In Germany, our study context, the cooperative university project *PETUPAL* and the *SHARE TO CARE* program at the University Hospital of Schleswig-Holstein are two main projects piloting the implementation of shared decision-making. The participation of patients in research projects is promoted by the 13 citizen science projects of the German Federal Ministry of Education and Research. The *Data Box Project* launched by the German Cancer Research Centre is an essential instrument for the enhancement of patient health literacy.

However, the implementation of SDM as an innovation in healthcare remains only partial and necessities further elaboration. Thereby, it is being discussed that although the drive to implement SDM is emphasized by concerned stakeholders, in practice it is often not embraced by patients, nor consistently implemented by physicians and not adequately supported by the hospital management (Couët et al., 2015; Coulter, Härter, Moumjid, Perestelo-Perez, & Weijden, 2015).

Contemporary literature on healthcare management and innovation indicates that the practice of analyzing the implementation of shared decision-making should be improved. Given the discrepancy between the declared commitment to SDM by concerned stakeholders and the lack of implementation, the stakeholders' underlying rationale and conceptualization of shared decision-making must be considered (Elwyn et al., 2012; Légaré et al., 2016; Woltmann & Whitley, 2010). Further, we argue that the healthcare management and innovation literature explores SDM implying objective criteria and rational behavior trough which its diffusion constraints become mere practical issues, without assessing the inherent relations of the constraints nor the fostering rationales. It is therefore necessary to go beyond the mere identification of single facilitators and barriers and explore the underlying rationales for these and their relational structures.

Within the scope of this study, we will address the stance towards shared decision-making in the context of surgical healthcare interventions. Postoperative complications represent a major challenge to patient health and healthcare costs (Manecke, Asemota, & Michard, 2014; Marmelo, Rocha, & Moreira-Gonçalves, 2018; Vonlanthen et al., 2011). Initial studies suggest that SDM improves patient satisfaction and compliance (Eichenberg & Auersperg, 2015; Gutknecht & Augustin, 2019), reduces treatment costs (Marckmann & Maschmann, 2017; Mühlbacher, 2017) and improves treatment quality (Glöser, 2018; Klemperer, 2015) within the surgical setting.

The aim of this study is to identify the underlying social constructs of SDM. For this we conduct a media analysis on the assumptions, values and decision-making premises. Conceptually and methodologically we refer to the frame analysis, based on Goffman (1974) and Bateson (1978). Frames are considered to have a perceptual and action-guiding function, which makes them useful for the analysis of social constructs. The frame analysis is a qualitative text-based method, which enables an exploration of individual frames through the analysis of relevant subjects, linguistic

expressions and the visual language employed. The result of the study consists of determining patients' and physicians' frames on SDM. The following research question is pursued:

Which media induced frames shape the perception, evaluation, and acceptance of shared decision-making among patients, and physicians?

The first part consists of exploring the current practice for analyzing the diffusion of SDM. Further, we elaborate the theoretical foundation and developing a suitable procedure for the frame analysis of the case study. Subsequently, the frame analysis of media coverage is conducted to assess media induced frames of patients and physicians. In this process, socially discussed views, and frames on SDM are identified. This analysis enables to identify underlying rationales, the common denominator, beyond the peripheral arguments - we thus move away from the shallow analysis and peripheral discussion of singular arguments and identify tangible coherent ideas on the individuals' view on SDM. These frames shape the perception of an innovation and the individual arguments resulting thereof.

THEORY

Problem Statement

Shared decision-making is described by terms such as patient involvement, autonomy, and joint decisions. It is a form of decision-making which is based on equal collaboration between physicians, healthcare professionals, and patients. However, the approaches differ, ranging from a high degree of patient autonomy to the continued paternalism of healthcare professionals (Davis & Davison, 2017; Flynn et al., 2012; Vucicevic, Honoris, Raia, & Deng, 2018). The primary reason for this stems from the varying conceptualization of 'sharing'. Accordingly, the implementation of SDM ranges from "information exchange, deliberation on options" to "acting on the decision" (Woltmann and Whitley, 2010:34). Healthcare management and innovation literature has long identified that SDM can enhance patient-centeredness (Elwyn et al., 2012; Légaré et al., 2016;

Woltmann & Whitley, 2010) and equality in healthcare treatment (Chin et al., 2016; DeMeester et al., 2016). In Germany, our study context, treatment-related involvement in decision-making is also constitutionally embedded in the 'Patient Protection Act' (BGB I, 2013).

Existing studies on SDM acceptance are primarily of a quantitative nature and accordingly feature a broader list of factors - yet without any assessment of the underlying rationale of the arguments, relations, or in-depth exploration. Facilitators associated with having a positive impact on SDM acceptance can be divided into improvement of the treatment and patient autonomy. The former refers to the reduction of (preoperative) anxiety, (postoperative) depression (Härter et al., 2015) and frustration associated with the treatment (van der Zwaard et al., 2019). In addition, some studies indicate a positive impact on recovery after treatment (Giampieri, 2012; O'Donnell et al., 2019). Patient autonomy is arguably the major factor for patients' SDM acceptance (Corbett & Brown, 2018; Requarth, 2015). This autonomy is associated with the perception of a higher level of participation in the treatment process and the enhancement of the patients' role (acting on an equal footing with the physicians) (Dhesi, Lees, & Partridge, 2019; Rijken, Lette, Baan, & de Bruin, 2019). In this sense, the integration of individual desires and preferences is of crucial importance. Barriers can be divided into institutional, treatment consistency, patients' health, and communication. Institutional barriers include time constraints, lack of human resources (healthcare personnel), ambiguous allocation of responsibilities and a paternalistic culture (Bunn et al., 2018; Dyrstad, Testad, & Storm, 2015). Treatment consistency includes in particular staff rotation (physicians and healthcare personnel) and the transition between the clinic and the outpatient sector (O'Donnell et al., 2019). The underlying assumption is that high degrees of treatment continuity are conducive to building trust and conducting SDM (Selman, Bristowe, Higginson, & Murtagh, 2019; van de Pol et al., 2017). The central issue for patients' health is that patients are overstrained (in the cognitive, physical and psychological sense) by SDM processes (Gainer et al., 2017;

Murthy, Hepner, Cooper, Bader, & Neuman, 2015), making it difficult to participate actively, as well as asymmetric power relations between patients and physicians (Gainer et al., 2017; Ekdahl, Andersson, & Friedrichsen, 2010). Communication arguments consider linguistic barriers (Giampieri, 2012; Selman et al., 2019), the social and emotional understanding of physicians and healthcare staff (Bunn et al., 2018; van de Pol et al., 2017) and the need for individually tailored communication (Muth et al., 2018).

Given these numerous facilitating factors and barriers, the question arises as to what is actually being done here conceptually and which underlying assumptions are inherent. Most of the above examined studies contain objective-rational arguments, implying objective criteria and rational behavior. The impression prevails, that the implementation of SDM is a mere practical problem, which could be overcome, for example, by improving internal communication and increasing healthcare personnel, without questioning the constructs underlying these barriers and facilitators and how they relate to each other. The preceding analyses do not consider which relational structures underlie the singular facilitators and barriers or whether these seemingly singular aspects are singular at all. Compelling analyses have been conducted to find every possible reason for the facilitation and obstruction of SDM yet resulting in a pile of topics for which it is uncertain which can be considered singularly, which imply reciprocal relationships, and which can only be considered as a result of the prevalence of another. While current literature has identified important barriers such as paternalistic culture obstructing the success of SDM, it has not considered the origin, anchoring, and reproduction of these patterns by the respective stakeholders. Are patients really overburdened to participate or is this perception of overburdened patients resulting of the paternalistic perspective on patients? A major issue, then, is to identify the relational structures between what appears to be single aspects. Since there is an absence of discussion at this point, the impression prevails that these aspects are understood as plausible arguments in the field of

healthcare management and innovation and are subsequently categorized as facilitating and obstructing for SDM.

Further, we question the prevalence of a unified and precise understanding of shared decision-making. As shown in particular by Woltmann and Whitley (2010), the underlying rationale and the individual conceptualization of shared decision-making is an essential issue to consider when implementing SDM. Decision-making is subject to a wide range of conceptualization. While it can be understood as a rational process, for which information deficits are the central problem (Laux, Gillenkirch, & Schenk-Mathes, 2018; Mag, 1990), in a contrasting view decision-making is understood as a subjective, complex process, shaped by the subjective perception and interpretative assessment of the object of decision by the respective decision-maker (March, 1994). And at this point we have not even considered how sharing of a decision might be conceptualized. How does the respective patient or physician conceive shared decision-making? Alternatively, just one step before: What does the respective patient or physician understand by decision-making and how can this be shared at all? Thus, the exploration of the phenomenon, shared decision-making, is another major issue.

Seeking epistemological clarity: The epistemological perspective of this paper lies in constructivism but distances itself from radical forms. We emphasize at this point that our stance does not imply that anything is up for debate and should always be negotiated. The sheer prevalence of e.g. scientific facts is not called into question. It is merely emphasized that respective facts are (1) not perceived in the same way, (2) not assessed in the same way and (3) not given the same relevance for all people who encounter them. It is about taking into account that we conceive the world out of our embodied experiences and that we do so in a subjective sense (Schutz, 1974). As social scientists it is our task, to assess this subjective meaning and to explore its relevance for the subject at hand.

With these issues in mind, we propose the conceptual and methodological employment of frame analysis to contribute for understanding the perceptions on SDM and inherent facilitating and obstructing elements. The purpose of this research is to analyze the social constructs of facilitating and obstructing elements vis-à-vis the acceptance and diffusion of SDM by patients and concerned physicians. For this, we conduct a media analysis, on the content and the nature of the facilitators and barriers, for understanding and describing perceptual and action-guiding assumptions, values, logics of action and behavior, thus the social construct of SDM. This is important because designing SDM practices involves changes in underlying norms, values, and practices of main stakeholders, including medical professionals, patients, and other status groups in hospitals.

The relationship between audience and media is reciprocal and subject to continuous and interdepend evolvement. As a major opinion-shaping source media are considered to be both influential in shaping public opinion as well as generating public discourses (Scheufele, 2003; Gamson & Modigliani, 1989). The analysis of media thus enables the assessment insights for specific societal realities.

Frames and Frame Analysis

Frames are versatile compositions of experiences, rationales and expectations that shape the individuals' perception and give meaning to reality at any given moment (Schot & Steinmueller, 2018; Levin, Schneider, & Gaeth, 1998; Goffman, 1974). This refers to the organization of past experiences, thoughts on present affairs and the perceived scope of future opportunities: These interpretative ties between past, present, and future produce vigorous frames that constitute the foundation for an individuals' perception, decision and action (Benford & Snow, 2000). Frames therefore operate as an internally coherent input-processing-output triad: Beginning with the

individuals' perception, continuing with the respective interpretation of the perceived and concluding with the consequential action (Entman, 1993).

Frames arise through the social context of the individuals and imply selective perception and agency (Entman, 1993; Goffman, 1974). Any perceptions, attitudes and decisions are thus not based on a rational and objective consideration of facts but are shaped (not determined) by frames (Entman, 2007). Based on Goffman (1974) and Bateson (1978) we aim to develop a research design to identify patients' and physicians' frames.

Originating within the intersection of sociology and psychology (cf. Gamson & Modigliani, 1989; Scheufele, 2003), frames can be considered in light of a subject-philosophical perspective (ultimately, in most instances individual actors or news articles and their perceptions or content are studied). We view the emergence and manifestation of the respective frame(s) as a collective process. The focus here lies on the perceptual, interpretative, and behavioral logic resulting from the individuals' socialization. This is carried out under the assumption that framing processes (e.g. learning of social norms, and behavior patterns) are determined by the respective social setting (Bateson, 1978; Bourdieu, 2014; Goffman, 1974). Accordingly, the origin of each frame is located at the socio-structural level. Although the analysis can, of course, be carried out at the individual level (through interviews and surveys), the results are not individual but rather socio-cultural frames (Van Gorp, 2007) shaped by the individuals' socialization (i.e., culture, socio-economic and demographic factors).

Turning to this research project, innovations are conceived as socially constructed (Bijker, Hughes, & Pinch, 2012). Its adoption is subject to contested and conflicting frames among stakeholders (Bernardi, Constantinides, & Nandhakumar, 2017). We position the exploration of frames as an approach to identify patients' and physicians' stance vis-à-vis a healthcare innovation, respectively shared decision-making. Within the realm of studies on the diffusion of an innovation and the

respective stance by users the analysis of frames serves as a sound approach for analyzing, understanding and describing perceptual and action-guiding assumptions, values, logics of action and behavior (Goffman, 1974; Maule & Villejoubert, 2007; Parsons, 1994). The diffusion and acceptance of an innovation is shaped by the subjective perception and interpretative assessment of the innovation by its respective consumers (Star & Ruhleder, 1996; Bijker et al., 2012). This perception is in turn conditioned by an interplay between individual views and social influences and takes place in the context of socio-cultural diversity and divergent interests (Bauman, 2001; Chang, 2012; March, 1994), inherent patterns of dependencies and perceived power structures (March, 1994) and the subjective assessment of one's own role in the respective social setting (Goffman, 1976; Luhmann, 2000). All these aspects precede the assessment of an innovation and are subject to dynamic processes. When applied to the stance towards an innovation in healthcare by patients and physicians, this means that the social construction of SDM, represented by aspects such as the subjective perception of quality of healthcare treatment and the interpretation of the relationship between patients and physicians shape the individuals' acceptance towards SDM and its diffusion.

METHOD

Research design

The primary approaches aiming at identifying frames are (1) qualitative, (2) manual-holistic (3) clustering or (4) computer-assisted (Matthes, 2014). All approaches pursue the goal of revealing frames and rely on varying applications of framing devices (e.g. keywords, metaphors and content), formatting devices (e.g. representation of object and subjects in images) and reasoning devices (e.g. causes, consequences, solutions and moral judgements). Frames "are manifested by the presence or absence" (Entman, 1993:52) and interpretation of these devices, which are essentially

based on Entman (1993) and Gamson and Modigliani (1989). Accordingly, all approaches aim to grasp frames by analyzing these devices, whereby, certain devices are selected, and others are not. Considering the perceptual and action-guiding function of frames, to us it becomes apparent that empirical analysis must be able to capture conscious and unconscious beliefs, attitudes, values, and rationales that shape the individuals' perception and behavior. Thus, we argue that frame analysis ought to be inductive and explorative to capture these qualitatively complex components. These enable to encompass the novel and unexpected perceptual and action-guiding components at the individual level. On the contrary, analyses that are merely theory-based or confirming prior empirical findings are subject to the risk of omitting these novel and for researchers unexpected aspects and phenomena, thus implying the risk of omitting crucial perceptual and action-guiding elements.

This research study follows an inductive and explorative approach, by applying a computer-assisted clustering method. The core of this methodical approach is constituted by Gamson and Modiglianis' (1989) framing devices. These are: metaphors, exemplars, catchphrases, words, and couplings. Further, a modification of Entmans' (1993) reasoning devices (define problems, diagnose causes, make moral judgements, suggest remedies) constitutes the second theory-based component. Since this study is not primarily focused on visual or motion picture media content (television news, illustrations), formatting devices are not considered.

Methodological Application

In practical terms, the research design consists of four main parts: (1) Identification of news articles, (2) content, rhetorical and lexical analysis of the news articles via MAXQDA, (3) hierarchical cluster building via R, and (4) the qualitative analysis and assessment of the frames.

Identification of news articles and further sources of information. The national daily newspapers Süddeutsche Zeitung, Frankfurter Allgemeine Zeitung and Die Welt have been selected for the study. National daily newspapers have the highest reach of all types of newspapers (53.9% in 2019 (AGMA, 2019)). The selected newspapers are, in the order shown here, the most widely distributed daily newspapers in Germany (respectively 1,22, 0,88 and 0,62 million with regard to the direct range and 8,33, 7,24 and 5,92 million with regard to the extended audience (IfD Allensbach, 2019)). Beyond this, Apotheken-Umschau was selected as a public health magazine. This quarterly magazine had a distribution of 8.2 to 9.3 million in the period under consideration (since the 1st quarter of 2018) (IVW, 2020).

Physicians, however, rely on further sources of information. Their view is therefore shaped through several channels (Wessel, Gersch, & Harloff, 2017). German general practitioners, and internists obtain medical related information through following channels: 92,1% through medical journals, 77,9% trough conferences and congresses, 63,8% through online services, 63,1% through specialist books, 60,9% through discussions with colleagues and 55,4% through pharmaceutical representatives (LA-MED, 2019). Regarding medical journals, the Deutsches Ärzteblatt is considered in this study. Based on the API studies of 2017 and of 2019 by the LA-MED working group, the weekly journal Deutsches Ärzteblatt has a coverage of 57.1% (LA-MED, 2017) and 55.1% (LA-MED, 2019) among German general practitioners, and internists, representing the most-read medical journal. To represent the content of congresses, the online available press releases, and statements of major organizers of congresses (i.e., associations, organizations, and federations) are taken into account. Here we selected the German Medical Association, the National Association of Statutory Health Insurance Physicians, German National Academy of Sciences Leopoldina and the German Society of Anesthesiology and Intensive Care Medicine. These are the leading professional associations of physicians and represent an integral source of

information. The latter was selected because the specific context of this study concerns the setting of surgical healthcare interventions. To include pharmaceutical representatives, the online available press releases, publications, and position papers of the major pharmaceutical associations are considered. Here we selected the Federal Association of the Pharmaceutical Industry (BPI) and the Federal Association of Pharmaceutical Manufacturers (BAH). With more than 260 (BPI, 2020) and over 400 (BAH, 2020) affiliated companies, the BAH and BPI are the largest pharmaceutical representative organizations in Germany (Simon, 2015). For online sources, physicians use a variety of services. The shift to online sources does not imply a shift of the primary sources (Pfannstiel, Da-Cruz, & Rederer, 2020). The most frequent sources are for example the apotheken-umschau.de (Haschke, Grote Westrick, & Schwenk, 2018), Pubmed and Medline (Kettler, Bromme, & Stadtler, 2011). This research is primarily conducted through online media and through relevant newspapers, associations, and stakeholders. Accordingly, there will be no separate analysis of online platforms. Discussions with colleagues are excluded, due to their informal nature and the challenge of assessing these. Specialist books are also excluded, as these contain primarily technical-medical information.

The search was conducted through the WISO and the LexisNexis databases and the respective websites (see figure 1). Hereby, every article containing the respective keywords was selected. According to the search term identification strategies by Phelps, Fisher, & Ellis (2007) we first identified key concepts for our search for news articles. The identified subjects are healthcare (field of application), shared decision-making (innovative subject), surgical intervention (specific context of SDM) and digitalization (crucial practical feature of the innovation). Based on these concepts and the inherent relations we identified the following search items: 'partizipative Entscheidungsfindung' OR 'shared decision-making' OR 'Patientenorientierung' OR 'Patientenpräferenz' OR 'Patientenperspektive' AND 'medizinische Versorgung' OR 'Operation'

OR 'operativer Eingriff' AND 'Digitalisierung' OR 'digitale medizinische Versorgung'. The search has been conducted in calendar week 29/2020 and concerned all articles since December 2013. This choice of this point in time is based on the German federal governments' coalition agreement of December 14 of 2013, in which patient orientation was issued as the guiding principle of the German healthcare system (CDU/CSU/SPD, 2013). The search was limited to German written articles.

Based on these search items, we conducted a research of the databases of the respective sources. First, the duplicates were removed. Further, the introduction for all articles were read and the general content was browsed to ascertain if their content is relevant for this research. The remaining articles were reviewed in their entirety and evaluated according to their relevance in terms of content. All remaining articles were included in the qualitative analysis. Here, a limited number of articles were discarded for lack of content relevance. Further, it was our aim to integrate an exploratory research phase. We performed a **backward search** (Levy & J. Ellis, 2006; Webster & Watson, 2002), which corresponds to the follow-up of relevant references of identified articles. This is a valuable approach to circumvent potential database, keyword or source related omissions. Moreover, this approach provides a valuable contribution to the understanding of the phenomenon SDM by identifying crucial sources and contributions that are not covered by the present search scope (Hardy, Maguire, Power, & Tsoukas, 2020). In this way, we were able to identify work that proved to be promising for expanding our analysis on SDM frames. This search led to valuable which would not have been identified by the standardized search, but which contributed greatly to our review. We identified further 15 contributions. Among these are effectively implemented SDM projects, and legislative resolutions.

Insert Figure 1 about here

Content, rhetorical, and lexical analysis of the transcripts via MAXQDA. The transcripts were analyzed regarding content, rhetorical, and lexical elements. The content analysis corresponds to the reasoning devices, while the rhetorical and lexical analysis correspond to the framing devices.

The content analysis is based on the predefined structure by the modification of Entmans' reasoning devices and were executed manually. The modified categories are: Content description, causal description, evaluative description, suggestions for action. The statements of the articles were assigned to the respective categories.

The rhetorical analysis concerns the analysis of the employed metaphorical elements and was conducted manually. The metaphorical language employed and its function for the respective reasoning were analyzed. Particular attention was given to the alternation between metaphorical language and precise and explicit terms. This is based on the assumption that this enables an insight into individual patterns of orientation (Lakoff & Johnson, 2003). The articles were analyzed to determine which metaphors are essential and the extent to which they underpin the reasoning.

The lexical analysis concerns the analysis of Gamsons' framing devices (exemplars, catchphrases, words and couplings) and was employed by MAXQDA. The analysis for exemplars and catchphrases was conducted manually. The keyword and coupling analysis was executed through the build-in keyword, phrase search and further searches for attributes, frequencies of words and interactive word trees. All terms were lemmatized, counted and the conjunctions filtered. All results were further filtered to select only those terms that were found in at least 50% of the articles. For the keyword coupling search, all terms were lemmatized, counted and keyword strings between 3-5 words were selected. All results were further filtered to select only couplings that were found in at least 10% of the articles. All keyword couplings that occurred at least 10 times were selected.

Building the frame: Hierarchical cluster analysis. This phase consists of three steps: (1) Spearman correlation analysis of the codes per paragraph, having a distance matrix as the output, (2) hierarchical cluster analysis, using the ward method, in order to cluster correlated codes, (3) qualitative analysis of the clusters and description of the identified clusters.

Frames can be depicted through the different patterns of text, interview or literally any form of human expression. This step consists of depicting and composing the frame evaluation and the compilation of consistent frame elements (or more specifically the ascertained codes). Initially, all codes with less than five entries were discarded. The first step concerns the one-on-one analysis of the consistency of the device elements. This part is performed trough the build-in Spearman correlation analysis in MAXQDA. The result of this first step consists of a representation of the correlation between the single elements within a distance matrix.

In the second step the elements are clustered, according to the consistency of their correlations. This is done through a hierarchical cluster analysis, using the Ward method, via R Studio. The number of clusters is determined through the elbow criterion. The goal is to determine a solid compromise between too few clusters (the heterogeneity of the individual clusters is too high, the aim is to reduce heterogeneity of clusters) and too many clusters (clusters cannot be differentiated in terms of content or even have the same content, the aim is to reduce intra-cluster redundancies). The 'elbow' therefore represents the point where heterogeneity is near its lowest point and the number of clusters in this respect represents the lowest value (Matthes & Kohring, 2008). To determine the number of clusters, the decline of variance of the first derivation by the total within-cluster sum of squares was determined and plotted. To account for competing solutions, adjacent numbers of clusters were also employed and tested for interpretability. At this point, the aim was to establish a high level of intra-subjectively comprehensible and reproducible procedures:"[…]

reliability in frame analysis is not completely resolved but is shifted to the content analytical assessment of single frame elements" (Matthes and Koring 2008:264).

Qualitative analysis and assessment of the frames. The frames were analyzed by means of the pheatmap (see appendix A and). The pheatmap is an R package that enables a more detailed analysis of the individual correlations using heatmaps. In contrast to the pure determination of clusters, here it becomes apparent which codes exhibit a close correlation when analyzed in isolation. A perfect relationship (= codes always occur in the same text segment) corresponds to the value 1 (colored dark red). Codes that do not have a relationship correspond to the value 0 and codes that have an opposite relationship correspond to the value -1.

Concluding, the clusters are described and represented in narrative frames. This step is conducted manually and is contingent on the subjectivity of the researcher, as the qualitative assessment of frames is shaped by the respective researcher. Any news frame is not an objective entity hidden in the article, waiting to be discovered by any reader or researcher. A frame is not an isolated unit that can be traced back by any individual, but something that is shaped and interpreted by the respective reader or researcher (Van Gorp, 2005). Therefore, the aim here is not to be non-subjective - this is negated at this point for qualitative studies - but to provide a substantial degree of transparency and accountability within subjectivity.

RESULTS

Frames

Three facilitating and three obstructing frames were assessed through this study.

Within the scope of the qualitative analysis, 61 codes refer to the facilitating frames. These three facilitating frames were compiled based on the quantitative cluster analysis. The titles of the frames are: *Fruits of participatory science*, *The proficient patient* and *Informed decision*.

Within the scope of the qualitative analysis, 45 codes refer to the obstructing frames. These three obstructing frames were compiled on the basis of the quantitative cluster analysis (see appendix E). The titles of the frames are: *Wealthcare, Demigod and layman* and *Rejecting the novel.*

Figure 2 provides an initial overview of the frames identified and the qualitative relations. Overall, the frames *The proficient patient, Informed decision* and *Demigod and layman* represent a stark polarity of mutual promotion and disaffirmation - it is these three frames that constitute the cornerstone of the stance towards SDM. Concerning the facilitating frames, the frame *Informed Decision* serves as a point of intersection between *The proficient patient* and *Fruits of participatory science.* This is mainly due to the stance towards the patients, emphasizing autonomy and competence and its pragmatic elements towards patients' participation in shared decision-making and research projects. The frame *Fruits of participatory science* is aimed at patient participation in research projects. With regard to the obstructing frames, the frame *Demigod and layman* is qualitatively and quantitatively important. The frame *Rejecting the novel* and *Informed decision* contrast in terms of content, but are similar in their approach, since both frames imply a pragmatic view vis-à-vis shared decision-making. The frame *Wealthcare* bears little reference to shared decision-making and addresses rather the broad perception of physicians' loss of authority as their scope of agency is increasingly undermined by economic considerations and predetermined treatment structures.

Insert Figure 2 about here

Facilitating Frames

The frames refer to similar amounts of codes (see figure 3). Thus, the frame *Fruits of participative science* refers to 21 codes, *The proficient patient* refers to 20 codes and *Informed decision* refers to 20 codes. Nevertheless, these harbor varying degrees of complexity (see pheatmap, appendix A).

The pheatmap shows that the correlation range is between 0.8 and -0.2. This means that although there are strong correlations between codes, these are by no means perfect. Similarly, there are no codes that are significantly opposed to each other. Overall, the majority of the correlation are within the range -0.2 to +0.2 - hence most correlations are not significant. Decisive for the composition of the clusters are the values between 0.4 to 1. The frame displaying the strongest correlations is *The proficient patient*. This frame is characterized by a relatively high density and closeness of the isolated relations. The correlations are in the range between 0.4 - 0.8 and only partially at 0.2 and none at 0 or -0.2. This contrasts well with the frames *Fruits of participatory science* and *Informed decision.* The former is characterized by a larger and a smaller sub-cluster. The correlations for these subclusters are in the range 0.4 to 0.8. The frame *Informed decision* implies weaker correlations, including one sub-cluster ranging between 0.4 – 0.6.

In addition, the pheatmap enables an analysis of the quantitative overlapping of codes. Thus, it has been used primarily to identify quantitative (and potentially qualitative) overlaps of frames or codes. This revealed that the frame *Fruits of participatory science* is quantitatively well bounded but having strong correlations to the digitalization-related codes of the frame *The proficient patient,* which are qualitatively plausible. The frames *The proficient patient* and *Informed decision* exhibit some quantitative and qualitative overlaps.

Insert Figure 3 about here

Fruits of participatory science. This frame is shaped by the belief and conviction that participatory research is fundamentally good and worthwhile.

The substantive issues that emerge from it are *citizen research, participation of citizens* and *improved data and research results*. The *ageing society* is a related subject area. The following

statement of the code of *citizens' research* is characteristic for this frame: "The approach of participatory research assigns a new role in medical research to the patient as 'Citizen Scientist'. Equipped with new technologies, connected in large communities and with the possibility to upload their own medical data into the network, patients already contribute significantly to the quality and scope of medical research today" (#23). These subjects are enriched by the metaphors *demographic change, connected medicine and patients* and *fruits of digitalization* and the catchphrases on *patient orientation, digital medicine* and *new requirements due to an ageing society*. Considering these codes, it is apparent that the frame is shaped by the belief and opinion that patients are experiencing a new role as a result of digitalization (and the opportunities for digital participation associated with it). Representative of the transformative impact of digitalization on the healthcare system is the following statement of the code *connected medicine/patients*: "A new generation of patients, the so-called e-patients, places the values of the connected world, open communication, transparency and participation at the center" (#19). The frame does not concern the competencies and expertise in the patients' own health interest and the equal relationship with physicians in shared decision-making.

In terms of content, this frame is in particular in contrast to some elements of the frame *Demigod and layman*. While this frame is based on the assumption that "new and better data is made possible through the exchange of experience" (#17), patients are denied participatory competence in the frame *Demigod and layman*.

The pheatmap indicates that the overall frame is well defined. Nevertheless, there is a solid correlation with the code *digitalization: access to medical information*. This in turn is qualitatively quite plausible as this code implies a contextual reference to digital participatory research.

Informed decision. This frame is rather complex: It is characterized by the belief in the meaningfulness of patient participation coupled with very tangible ideas on how this can be achieved. In this respect the frame is pragmatic.

The important content issues that emerge are *patient orientation & individualization, health improvement as therapeutic indication, improvement of the state of health* and *informed decision*. The will for change is expressed by s*tance and Patient Rights Act*, *creating financial incentives* and *developing standards*. The following statement of the code *informed decision* is representative for this frame: "Patients have an ethical and legal right to an informed decision for or against consent to a medical measure" (#65). This frame is not characterized by an emotional attitude towards patients, nor by an elevated competence of patients, but is based on a solid ethical stance: Medical treatments are carried out on the patient, therefore the patient must assume decision-making authority in this matter.

These are complemented by the examples of *pilot projects and implementation of SDM* and *standards and guidelines* and catchphrases on S*DM must be part of the daily routine of the patients and physicians relationship* and *adherence to therapy*. The following statement is representative of this, which aims at the relevance of establishing clear standards and guidelines: "Imagine that stewardesses would have to devise something new for the safety instructions on board every time they need to do so. Just as they are in a good mood. Sometimes there would be a good day, sometimes a bad day, sometimes a lot would be forgotten. Nobody would feel safe. Such a thing would be unimaginable in flight operations, but in medicine it is part of everyday life" (#24).

This frame contrasts in particular with the frames *Wealthcare* and *Demigod and layman*. This is especially due to the contrasting perspective on the patient: While in this frame patients are granted autonomy, self-determination and competence the contrasting frames imply that patients' participation is as a burden and a waste of time in certain cases. Representative of the latter is the

following statement of the code *paternalistic attitude*: "In the clinic the chief rolls his eyes after only ten minutes and the patient sits there and hasn't understood anything. In everyday life, one goes over to assembly line work and in case of doubt quickly decides for oneself" (#87).

In terms of attitude, this frame is compatible with the frame *The proficient patient*. This becomes particularly apparent through the analysis of the pheatmap. This refers in particular to a series of codes which are primarily associated with the frame *Informed decision,* but which are also relevant to *The proficient patient* in terms of both quantity and quality (see *The proficient patient*). The essential common ground is the attitude towards the patient, who is assigned self-determination and a role at eye level.

   The proficient patient. This frame is characterized by the belief and attitude that the patients are competent, self-determined and responsible. In this respect, patients are clearly considered to have the ability and will to participate in shared decision-making.

The important issues that emerge are *shared decision-making, active, autonomous, self-determined & competent* and *patient preferences, wishes & needs*. Representative for this frame is a statement of the code *active, autonomous, self-determined & competent*: "A new generation of patients, the so-called e-patients, puts the values of the connected world, open communication, transparency and participation at the core. The big 'E' in front of patient stands not only for 'electronic', but also for educated, enabled, engaged and empowered" (#19).

These are enhanced by the metaphors *at eye-level* and *the proficient patient/the therapeutic alliance* and the catchphrases on *joint decisions, informed patients* and *patients want to participate*. Also with regard to the key words it becomes clear that this frame has the strongest reference to shared decision-making: The terms *decision, decision-making* and *shared decision-making* appear primarily in this frame. Representative for this frame is a statement of the code *the proficient patient/therapeutic alliance*, which summarizes the new role of patients and their demands: "The

modern patient no longer wants to be an obedient patient, but a proficient, competent interlocutor"(#25). This frame contrasts in particular with the frame *Demigod and layman.* This is mainly due to the different approach to the patients. On the one hand, patients are attributed competence and expertise in one's own matter and on the other hand, the role of physicians is exaggerated, and the participation of patients is not considered relevant. Representative for the latter is the following statement of the code *demigod in white*: "The patient is needed for joint decision-making - but the patient, as the authors of the study describe it, has the image of the demigod in white before his eyes and does not even dare to ask questions"(#28). The strong positive correlation to the frame *Informed decision* becomes apparent by means of the pheatmap. At this point there is a whole group of codes (e.g. *therapy acceptance & compliance,* and *satisfaction & trust*) which are assigned to the frame *Informed decision.* Furthermore, the key words *decision* and *decision-making* but also contents such as *satisfaction and trust* and *Patients/Physicians: Shifting attitudes* are relevant for both frames. Accordingly, the boundaries between these frames are partly blurred. In terms of content, this frame is also compatible with the frame *Fruits of participatory science*. The codes *Dealing with one's own health* and *digitalization: Access to medical information* are compatible in terms of content as well, in that they promote the autonomy of patients.

Obstructing Frames

The frames refer to different amounts of codes (see figure 4). Thus, the frame *Rejecting the novel* refers to 19 codes, *Wealthcare* to six codes and *Demigod and layman* to 20 codes. Correspondingly, these also harbor varying degrees of complexity. The pheatmap was used primarily to identify quantitative (and potentially qualitative) overlaps of the frames or codings (see appendix B). The pheatmap shows that the correlation range is between 1 and -0.2. This means that perfect correlations between codes prevail. Similarly, there are no codes that are significantly opposed to each other. Overall, it is clear that the majority of correlations lie in the range between -0.2 and

+0.2 - most correlations are therefore not significant. Decisive for the formation of the clusters are the values between 0.4 - 1. The frame with the strongest relationships is *Wealthcare*. The frame *Demigod and layman* is characterized by two sub-clusters with correlations between 0.4 and 0.8. The frame *Rejecting the novel* is characterized by three sub-clusters. This frame implies relatively weak correlations, as these primary lie in the range between 0.2 – 0.6. Regarding the overlap between the clusters, the pheatmap indicates that the frames are well separated overall. There are some overlaps, but these are only partial and lie in the range of 0.4 - 0.6.

Wealthcare. This frame shifts the responsibility for participation and involvement explicitly towards the political and economic sphere. Structural political and economic aspects are referred to as barriers and are thereby loaded with a strong metaphorical charge.

The substantive issue that emerges from this is *economic pressure/constraints*. The following statement is representative for this frame: „The driving forces in the hospital system, with its hardly comprehensible regulations, fixed rates and therapy guidelines, are less the physicians than the economists and number fetishists in the administrations of the hospital corporations, as well as the numerous associations with their generously rewarded functionaries" (#35).

This is further supplemented by the metaphors *economic constraints, bloody dismissals & revolving door medicine* and *politics of symbolism* and the catchphrases on the *economization of medicine* and *healthcare - stepchild of politics*. With regard to the role of the economy, the following statement of the code *economic constraints* is typical: "Hardly anyone wants to admit that this system has long since degraded sick people to mere subjects of capitalist profit" (#48). Representative of the criticism due to lack of political support is the following statement of the code *politics of symbolism*: "Deficiency management and platitudes everywhere. Allegedly 97 times it is emphasized that the patients are the core focus. This is not sincere. Nobody has dared to say that the healthcare system is primarily about the interests of hospital associations, health

insurance companies, the medical and pharmaceutical industries. There is no sign in the coalition agreement of a health policy that is geared to the needs of patients" (#33).

The frame contrasts the frame *Informed decision.* This is due to the attitude towards the implementation of shared decision-making. While the *Informed decision* frame is characterized by a pragmatic will to implement, the other side of the coin plays a role in the *Wealthcare* frame: Barriers are not perceived as manageable milestones, but as unbreakable walls. This also implies a negative perspective on the relationship between the political and economic spheres. This is particularly evident in the metaphorical language. Representative of this is the following statement of the code *politics of symbolism*: "Nothing can be expected from politics. Politicians will not be able to turn the healthcare system around. Or do you really think they would mess with the globally organized corporate operators? The state is earning a lot of money from this madness. Why should politicians want to change anything about it?" (#35). The pheatmap illustrates that the frame as a whole is well defined. Nevertheless, there is a sound relation to the topic *politics/physicians: Low priority*, *lack of standards and guidelines* and *organizational structures*. As this frame implies a negative perspective on the role of politics and shifts the responsibility away from individual physicians, the relation to these codes is plausible.

Demigod and layman. This frame is characterized by the belief and conviction that only physicians have the training, competence and understanding of the patients' conditions and treatment options necessary to make decisions.

This implies that patients are simply layman and therefore not entitled to participate in decision-making processes and research projects. This frame embodies therefore the two sides of the same coin, turning physicians to demigods and patients to laymen.

Solely considering the demigod perspective, the content issues that emerge are *paternalistic attitudes, lack of priority, lack of time* and *complexity of diseases & therapeutic options*.

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Representative for this frame is a statement of the code *complexity of diseases & therapeutic options*: "It takes more than the pure knowledge of the rules. A decision - whether shared or not - is ultimately the end of a process of reasoning that leads to a judgment. Here it is the judgement as to whether an operation should be carried out in a specific case. This requires judgement sharpened by experience" (#28). This is supplemented by the metaphors *demigod in white* and *thicket healthcare system* and the examples about *former role models*. Representative of the perspective on patients (and the related perception of physicians) is the following statement of the code *thicket healthcare system*: "It has complex structures, costs a lot of time and money; many doctors are constantly working under tension and are often under time pressure. They must be quick and precise. To do this, they use complicated technical language. For most patients, however, it sounds like gibberish. They are overwhelmed by it" (#27). This statement is also exemplary for the relation between the perspectives on the physicians as demigods and the patients as laymen: The complexity of care and the resulting overtaxing of patients is mentioned in the same breath with the ability of physicians to be 'quick and precise'. Again, a very contrasting relationship is thus painted, which puts the competence of the physicians in the foreground and denies the patients any participation. However, it is plausible that a frame which elevates the level of competence of physicians, undermines the competence and participation of patients - and vice versa.

Solely considering the layman perspective, the content-related topics that result from this are *e-lack of health literacy* and *lack of digital health literacy*. Representative for this is a statement of the code *lack of digital health literacy*: "The amateurish search in the internet often does not make things better - on the contrary. One no longer knows what to do. Specialists speak of limited health literacy in such situations - the ability to maneuver safely and perhaps successfully through the health system" (#27). These are supplemented by the metaphors *the layman* and *parallel universes* and the examples on *complexity of illness and therapy.*

This frame contrasts in particular with the frame *The proficient patient* (for more details see *The proficient patient*). Overall, this frame is quantitatively well bounded.

   Rejecting the novel. This frame has the highest relation of the obstructive frames to shared decision-making - in a strictly rejecting manner.

In contrast to previous frames, in which the perspective on patients or physicians was the decisive impetus, the focus here is clearly on the collaborative participation of patients in medical decision-making or research. Participation itself is critically examined and supported by arguments originating in different areas, which implies that the primary function of this frame lies in rejecting the novel. The content-related topics that result from this are *lack medical evidence, data security, and doubts about improving satisfaction/trust/health*. These are supplemented by the examples on *digital health literacy, standards & guidelines* and *deficient pilot projects and implementation of SDM*. The catchphrases on *lack of health literacy* and l*ack of implementation of SDM* complete the picture. Representative for this is a statement of the code *standards & guidelines:* "The analysis of information forms currently used in Germany also shows that these are not suitable for supporting an informed decision. An assessment of the information with regard to its actuality and reliability is only possible to a limited extent. The assessment of different treatment options is not supported because a numerical representation of benefits and harms and in comparison to alternative measures is missing" (#65). This example demonstrates two core elements of this frame: (1) Rejection of patient participation, (2) coupled with a pragmatic approach. This frame cannot be classified as emotional, let alone hostile to patients or physicians. In a certain manner the frame is structurally similar to the frame *Informed decision*, with the major difference that in this frame the obstructing aspects are given much more emphasis. Therefore, this frame is in contrast to the frame *Informed decision*. The pheatmap indicates that the frame is well bounded.

DISCUSSION

Overall, these frames illustrate the broad scope of assumptions, logics of action, wishes and hopes that prevail in the healthcare system and have a decisive influence on the stance towards shared decision-making within the context of surgical healthcare interventions.

Turning to the social constructs of the assessed frames on shared decision-making, following questions prevail: What is the decision that patients are supposed to participate in at once or that is supposed to be shared? Can decisions be shared at all? Or can only the responsibility for the decision be shared? A commonly known reference to decision-making is that individuals face several (equivalent) decision options, deliberately evaluate these options and then consciously take the situationally appropriate decision. Decisions are mundane, affect all individuals and involve choosing between different options. The existence of an alternative is a key condition. The decision therefore serves the purpose of determining an alignment between the available alternatives (Laux et al., 2018; Mag, 1990).

Given the question of how we actually make decisions, pragmatic decision theories and models support the rational, even objective decision of an individual. Hereby, decision problems are reduced to information problems (Laux et al., 2018; Mag, 1990), according to the maxim: If every piece of information (which would be perceived and categorized objectively and rationally) of past, present and future components were available, there would be no decision problem. Information is therefore an irrefutable and given objective element upon which the decision-making processes result in a decision which reflects these objective elements. In contrast to this, March (1994:179) conceives decisions not as a consequence of facts and given information of an objective world, but as world-constructing: "Decisions are seen as vehicles for constructing meaningful interpretations of fundamentally confusing worlds, not as outcome produced by a comprehensible environment". The subjective previous decisions, the present realm of taken decisions and the subjective

projections and assessments of future events determine all decisions. This applies to everyday, routine decisions as well as to the grand scheme of strategic decisions concerning the conception of one's life. With regard to 'sharing', the opening part of this article stated that sharing refers to the exchange and joint elaboration of a decision. Since we interpret decisions as subjective processes that take place at the intersection of the subjectively experienced, present assessment of experiences and anticipated events, we understand that it is not the decision but rather the responsibility for the decision that is shared.

Yet how is shared decision-making conceptualized in the frames? In a conflicting sense, the perceptions of shared decision-making range between the fulfilment of the declared aim of patient orientation and the undermining of the medical profession. In the frame *Demigod and layman*, the ability to make decisions is equated with the competence to perceive and assess respective choices. This perspective corresponds closely to the rational decision model, according to which decision problems are equated to information problems. Accordingly, patients are denied the ability to participate in decision-making because they do not have the competence to understand all the necessary information and to make an informed decision. The aim of involving the patients or even the jointly responsible decision therefore amounts to a parody of the medical profession. By contrast, the key characteristics of the frame *The proficient patient* involve subjective and individual perspectives on personal expectations of life. At this point, the patients are essentially granted the right to participate in decisions: Simply by the fact that it concerns the patients, concerns their body and has an influence on their life. Patients are thus viewed as responsible experts of their own health and indispensable participants in the decision-making process. Although the frames *Fruits of participatory science* and *Informed decision* pursue the same approach (patients must participate), the rationale is close to the information model, but with a different outcome. It is argued that patients can very well enjoy solid health literacy and have both

an understanding of their state of health and an understanding of the options available. It is only a matter of providing information. A divergent yet engaging account of the reflection on decision-making emerges in the frame *Wealthcare*. The individual autonomy of decision-making is called into question and the power of decision-making is structurally assigned to the economic-political system. At this point the individual deteriorates into a pawn of systemic structures.

CONCLUSION

Within the scope of this media analysis, this study pursued the question which frames shape the perception, evaluation, and acceptance of shared decision-making within the setting of surgical healthcare interventions. This study followed an inductive and explorative approach, by applying a computer-assisted clustering method. Frame analysis enables insights into the stance towards SDM. In this way a deeper understanding of the attitude towards shared decision-making was attained. Three facilitating and three obstructive frames were identified. The facilitating frames are summarized under the titles: *Fruits of participatory science, Informed decision* and *The proficient patient*. The obstructing frames are summarized under the titles: *Wealthcare, Demigod and layman* and *Rejecting the novel*.

The identified facilitating and obstructing frames have a major influence on the stance towards SDM by the respective frame holders. Here it became very clear that the attitudes towards sharing and decision-making are polarized, which in some cases fundamentally compromises the acceptance of SDM. The understanding and subsequent bridging of the obstructing frames should become a main issue in subsequent research projects. The identification of frames is positioned in this article as an eminent means for understanding innovation decision-making processes, enabling the exploration of the causes for the stance towards SDM. We thus move beyond the analysis of peripheral and isolated arguments and identify the coherent perceptions of patients and physicians

on SDM related constructs. These perceptions precede the process of innovation, the perception about innovation and the individual arguments emerging from them. Thus, not the single arguments are in the spotlight and are being analyzed, but the frame from which they emerge is the main focus. Frames are considered as integral elements of overarching social figurations. Accordingly, these are not dependent on the individual, but enable an understanding of societal frames.

The methodological contribution of this analysis lies in (a) the application of frame analysis to address innovation acceptance and (b) the implementation of quantitative frame and cluster analysis. With regard to the analysis of the acceptance of innovations, the application of frame analysis also represents a hitherto uncommon approach. Thus, this work underpins the relevance of the analysis of the interaction between subject and innovation. The innovation decision is not based on rational, linear, and unidirectional processes, but on subjective and multidirectional processes along the respective field of application. This enables an adequate reflection of the level of perception and action in innovation processes. Further, this study enabled moving beyond the determination of various seemingly unrelated aspects facilitating and obstructing the diffusion of SDM, but to understand the underlying constructs and the inherent relations.

The qualitative analysis of the articles, the development of the codes and the concluding discussion of the frames remain as qualitative-subjective activities, which are conditioned by the personal background of the researcher. It was again our concern to find an alternative solution at a crucial juncture: The composition of the frames. By means of quantitative frame composition or cluster analysis we succeeded in doing so. In contrast to most frame analyses, the subjectivity of the researcher could be overcome at this point. All in all, it can be summarized that this study remains primarily qualitative in nature but contains an essential quantitative element. In addition, we were very concerned to provide a substantial degree of transparency and accountability within subjectivity.

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Figure 1: PRISMA: Literature review process
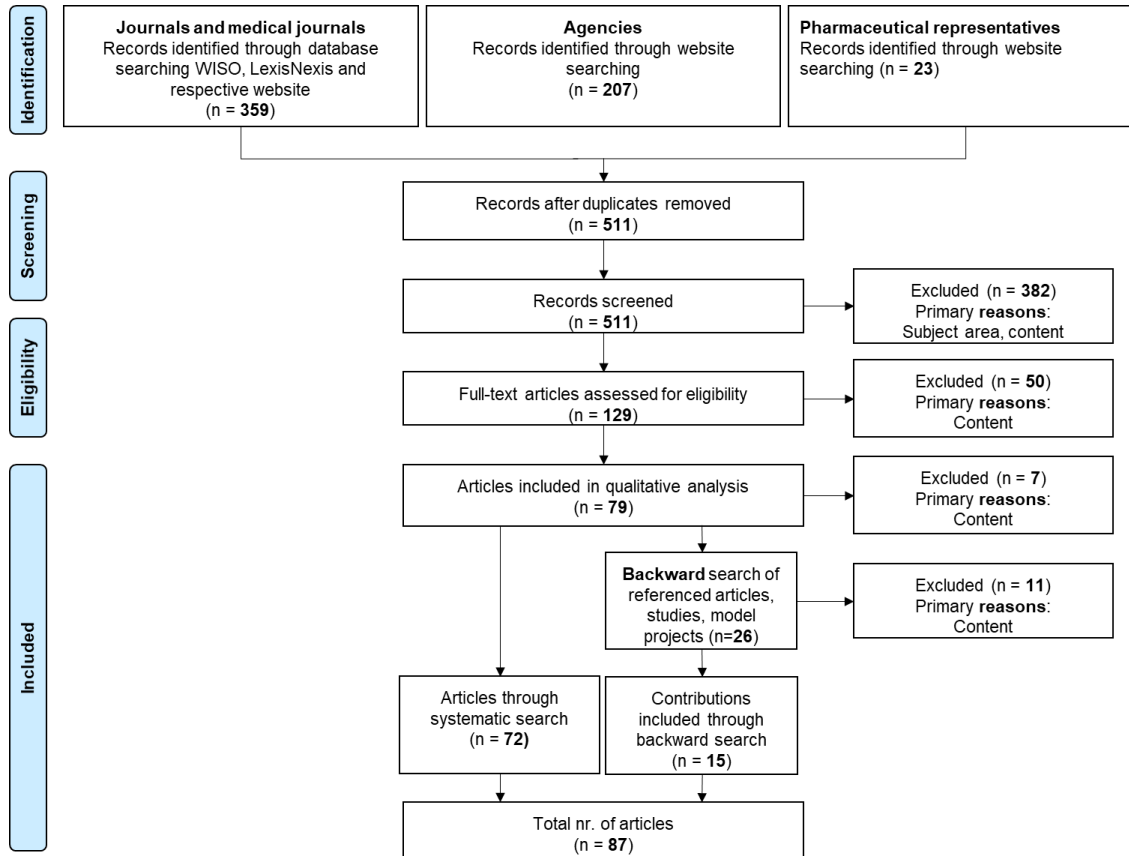
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Figure 2: Frames and qualitative relations
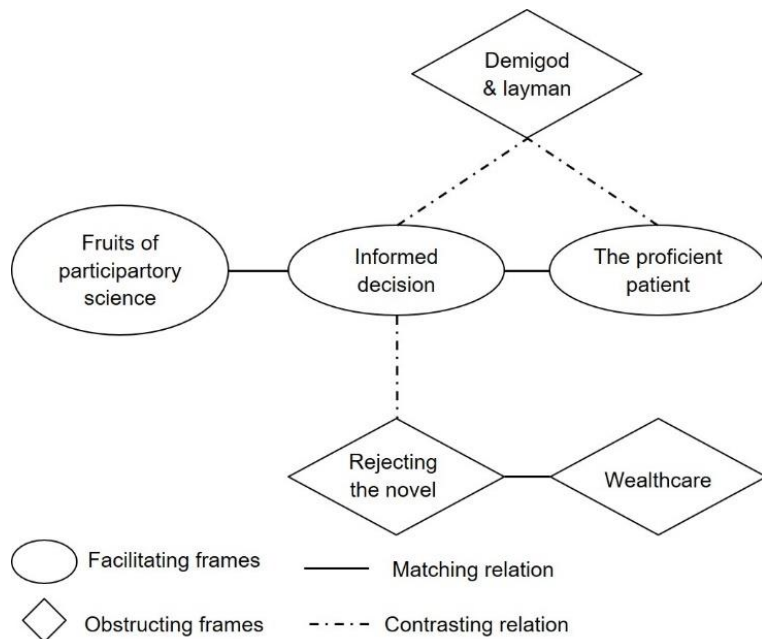
Figure 3: Facilitating frames

Figure 4: Obstructing frames

Wealthcare

Content
Economic pressure/constraints

Rhetoric
Politics of symbolism
Bloody dismissals & Revolving door medicine
Economic constraints

Lexica
Economisation of medicine
Healthcare - Stepchild of politics

Demigod and laymen

Content
Exhaustion and limited cognitive abilities of (elderly) patients
Lack of health literacy
Lack of digital health literacy
Lack of communication & social skills
Paternalistic attitude
Lack of time
Lack of (mutual) understanding
Complexity of diseases & therapeutic options
Lack of educational component
Former role models
Lack of standards & guidelines
Lack of priority
Organisational structures

Rhetoric
Parallel universes
Thicket healthcare system
Demigod in white
The layman
Complexity of illness & therapy
Former role models

Lexica
Deficient communication & attitude of physicians

Rejecting the novel

Content
Shared decision-making
E-patient - Participation through digitalisation
Citizens research
Lack of medical evidence
Data security
Doubts about improvement satisfaction/trust/health

Rhetoric
Digital health literacy
Standards & guidelines
Deficient pilot projects & implementation of SDM

Lexica
Lack of Health Literacy
Lack of Implementation of SDM
Patients
Shared decision-making
Decision
Decision-making
Information
Improvement
Physician and patient
Advantage and disadvantage

Appendix A: Pheatmap – three facilitating frames

Fruits of participatory science

The proficient patient

Informed decision
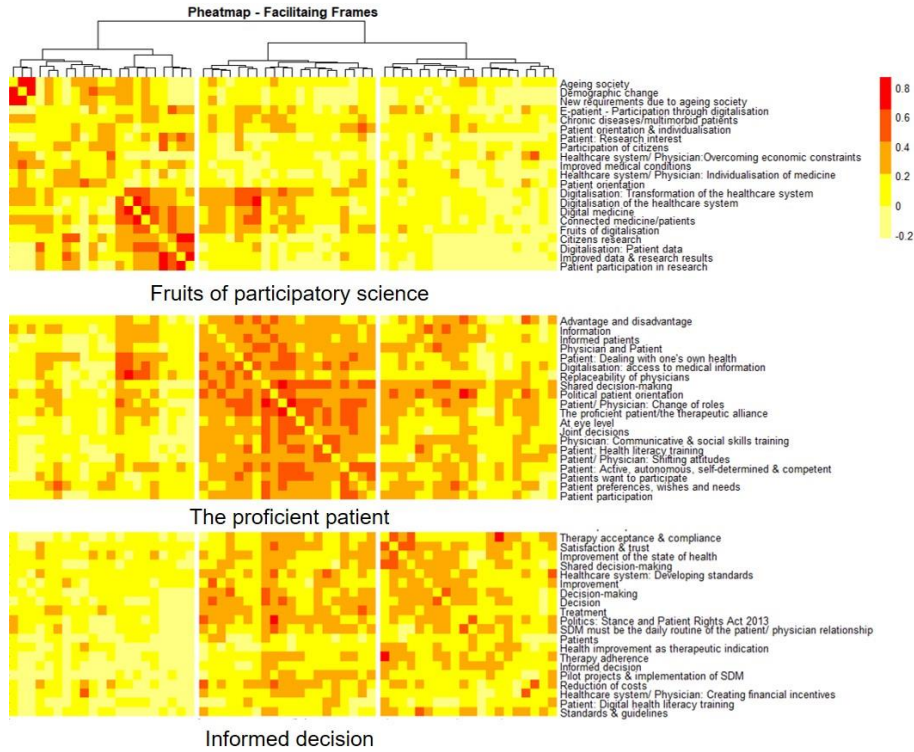
Appendix B: Pheatmap - three obstructing frames

Rejecting the novel

Wealthcare

Demigod and layman