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Shared Decision Making in Health Care: Theoretical perspectives for why it works and for whom

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Abstract

Applying both theoretical perspectives and empirical evidence, herein we address two key questions regarding Shared Decision Making (SDM); 1) When should shared decision-making be more patient-driven and when should it be more provider-driven?, and 2) Should health care providers match their SDM style/strategy to patient needs and preferences?

Self-Determination Theory for example, posits a distinction between autonomy and independence. A patient may *autonomously* seek their health care provider's input and guidance, perhaps due to low perceived competence, low coping resources, or high emotional arousal. Given their need state, they may *autonomously* require non-independence. In this case, it may be more patient-centered and need-supportive to provide more provider-driven care. We discuss how other patient characteristics such as personality attributes, motivational state, and the course of illness and other parameters such as time available for an encounter, may inform optimal provider decision-making style and strategy. We conclude that for some types of patients and clinical circumstances, a more provider-driven approach to DM may be more practical, ethical and efficacious. Thus, while all decision making should be patient centered, i.e., it should consider patient needs and preferences, it does not always have to be patient-driven. We propose a flexible model of SDM, whereby practitioners are encouraged to tailor their DM behaviors to patient needs, preferences, and other attributes. We provide some principles to guide such tailoring, and offer some future research priorities. Studies are needed to test whether matching DM behavior based on patient states and

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traits, i.e., achieving concordance, is more effective than simply providing all patients with the same type of DM, which could be tested using matching/mismatching designs.

INTRODUCTION

Shared Decision Making (SDM) has become an almost universally accepted component of our health care delivery system[1]. Its endorsement and adoption across the health care system in the U.S. and globally is driven by both ethical considerations and empirical evidence[2,3]. Yet, despite its wide-spread acceptance, some key questions regarding SDM remain. This paper will focus on two related questions that have significant implications for theory, practice, and research:

1. When should shared decision-making be more patient-driven and when should it be more provider-driven ?, and,
2. Should health care providers match decision-making style and strategy to patient needs, preferences, and traits?

To answer these two questions, we bring in theoretical perspectives of patient-centeredness as well as relevant empirical evidence regarding individual preferences for and response to different provider communication styles. We then address circumstances when a more provider-driven approach may be more practical, ethical and efficacious. Integrating these theoretical and empirical observations we propose a flexible model of SDM, whereby practitioners can tailor their DM communication styles to patient needs, preferences, and other attributes. We conclude with some future research priorities.

We begin by defining SDM. Although there is no universally accepted definition of SDM [3–5], most models of SDM consider it a collaborative process by which both the patient and health care provider contribute to medical decisions, with patients being full partners in decisions about their care. Virtually all models of SDM recommend that health care providers (at times aided by decision making tools) explain the pros and cons and costs and benefits of treatment options and help patients choose the treatment option that best aligns with their preferences, values, beliefs, emotional state, and perceived capabilities, all of which should be elicited by the health care provider. The provider checks in periodically with the patient to evaluate what additional information, time, or input they may require, and the health care provider is transparent about any biases about a particular treatment or test they may possess, and they do not judge the patient's decision. This is in contrast to purely physician-driven (traditionally termed paternalistic) decision-making where the health care provider, operating from a position of authority and greater technical expertise, makes treatment recommendations and generally directs the decision-making process with the patient playing a more passive role. In practice, encounters are rarely fully patient or provider-driven and comprise a mixture of both styles with varying degrees of patient- and provider-driven interaction. The SDM process comprises several sub-elements including agenda setting, eliciting patient preferences, tailoring information, encouraging patient deliberation, and delineating choices[5–7].

Less clear is the boundary between shared decision-making and behavior change counseling. SDM includes preference sensitive decisions for which there is no clear "correct" clinical option, such as choosing between a stool test versus colonoscopy for colon cancer screening, whether or not to undergo PSA testing for prostate cancer screening, or having a lumpectomy versus mastectomy for early stage breast cancer. In each case, there is more than one evidence-based acceptable option, and the practitioner adopts a position of equipoise. On the other hand, it is less clear whether SDM encompasses persuasive clinical encounters where there is a clear benefit for one option such as quitting smoking, losing weight, exercising, or getting cancer screening (all relative to not engaging in the evidence-based behavior). Persuasive encounters necessarily require a different approach and skill set than equipoise encounters. For example, the techniques used to persuade, such as motivational interviewing can be quite different –and more consistent with counseling - than the skills used to support patients deciding between two equally beneficial options, i.e., making preference-sensitive decisions. Yet SDM has been called for in both contexts. Thus, for purposes of this paper we have assumed a broad definition of SDM that includes both persuasive and preference sensitive encounters.

There is no single unifying theory to explicate the mechanisms of SDM[8]. Here, we will incorporate two models that are particularly relevant to understanding the concepts of patient-centeredness and patient-driven DM; 1) Self-Determination theory, and 2) The Difficulty X Motivation Matrix. We focus on these two models as they specifically address patient autonomy and patient motivation as key mechanisms of the behavior change process, and because both models provide insights regarding the distinction between patient-driven and provider-driven decision making.

Self-Determination Theory (SDT), originally proposed by Deci and Ryan in the realm of organizational psychology, conceptualizes a continuum of motivational regulation that ranges from controlled to autonomous[9–13]. Controlled motivation can result from external pressure (e.g., health care provider) or from the person's internal sense of internalized guilt or shame. In contrast, autonomous motivation is seen as fully volitional and concordant with patient needs, preferences and values. In general, change that occurs through autonomous regulation is stronger than change through more controlled processes[14]. SDT proposes three fundamental human needs that are relevant to SDM: Competence, relatedness, and autonomy. When these needs are met, SDT posits, people experience higher quality motivation, which leads to more successful behavior change, greater psychological well-being, and higher post-decision satisfaction [15]. From an SDT perspective, behavior change that arises from an autonomous process that is volitional, aligned with patient values, and consistent with their perceived competence - will be more enduring and more positively appraised than behaviors which arise from more controlled regulation. In this way, SDM can be seen as supporting these three basic human needs and operating thereby through autonomous processes [16]. On the other hand controlled motivation does not address these 3 key needs, will lead to worse outcomes both in terms of the choice itself and the appraisal thereof. Thus, on the surface, a patient-driven process of DM would seem to align with the autonomous pathway proposed by SDT whereas provider-driven DM would seemingly align with controlled motivation. However, a deeper dive into SDT suggests a more nuanced interpretation.

Understanding SDM through the lens of SDT requires delineating a distinction between autonomy and independence [16]. Autonomy is the SDT North Star. It is central to all encounters. Independence refers to how much the patient acted on their own behalf without input from others. In SDT the opposite of independence is dependence. Dependence occurs when a patient relies on the advice and help of their provider to resolve their ambivalence and determine a course of treatment. Dependence can be seen as analogous to provider-driven DM. A smoker who decides to quit by him/herself functions independently, while the smoker who wants advice from their physician to quit displays dependent functioning. However, both the self-quitter as well as the physician-dependent quitter can quit from an autonomous position. A patient may *autonomously* decide to seek their health care provider's input, that is they may decide *autonomously* to be non-independent.

Consider a cancer patient who may prefer to rely on their practitioner to decide if they should obtain germline genetic testing or whether they should opt for a lumpectomy versus mastectomy to treat their early stage breast cancer. They may relinquish their independence for many reasons, including feeling overwhelmed by their condition and other coping demands of their cancer. But they are doing so autonomously.

Consider also a patient with low perceived competence to make a health care decision. In this case, the patient may prefer and may respond positively to a more provider-driven style. Having the provider drive the encounter may bolster the patient's competence which in turn may shift the patient toward a more a patient-driven nexus. In each of these cases because the patient has requested provider direction, the interaction is still patient-centered and need-supportive. The patient is acting autonomously and it can be *patient-centered* to provide more *provider-driven* DM. The key is to match the style of DM to patient needs and preferences for autonomy. It is important to note that according to SDT, although a provider-driven approach may be appropriate to promote behavior change for some patients, there are some techniques - some pathways to change - such as shame and guilt that are never warranted, as they are viewed as inherently unethical and/or ineffective.

A second theoretical perspective that may be useful in addressing our dialectic is the Difficulty X Motivation Matrix proposed by Resnicow et al [17]. In this framework, which was informed by SDT, the choice of intervention approach for promotion of behavior change is based on two orthogonal dimensions, the individual's perceived difficulty for making the behavior change (defined by how much energy they perceive is required to make the change) and their motivation to change (e.g., controlled vs. autonomous).

A key component of this framework is that the **type** of behavior change influences the degree of patient autonomy needed. Modifying less complex or less difficult behaviors such as seat belt use or most screening tests, may need different types of interventions than more complex, high energy behavior changes such as substance misuse, obesity, or chronic disease management. For example, more external policy or "nudge" interventions such as financial incentives and regulatory mandates may be appropriate for simpler behavior changes. For more complex behavior changes, patient-driven interventions may be more important than for simpler behaviors. Thus, patient-driven DM may be more important for more complex changes such as smoking cessation (which assumes that we define SDM

more broadly to include persuasive encounters) than simpler changes such as seat belt use or preference sensitive decisions.

In the parlance of SDT, working through autonomous motivation may be more important for more complex changes and health care decisions. For simpler behavior changes and medical decisions, a more external, and provider-driven approach may be warranted. This begins to formulate a framework for when patient-driven DM may be more desired.

The Difficulty X Motivation Framework also predicts that when patients facing a medical decision feel overwhelmed or have little energy to devote to the DM process, perhaps because they just learned of their diagnosis, their condition has worsened, or other life demands have depleted their coping resources, they may be more likely to rely on their provider to guide the decision-making process. According to the Difficulty X Motivation Framework, when coping resources and adaptive energy are low or patient anxiety or fear may be high, patients may be less willing and able to be actively involved in the DM process[17]. They may not be able to invest time and energy into researching their options, integrating complex information, and driving the decision, and thus in these situations they may prefer a more directive approach.

Above we provided some theoretical perspectives that suggest there may be benefit in matching DM style to patient preferences and that under certain circumstances individuals will have better clinical and/or psychosocial outcomes from more provider-driven DM. Yet these frameworks do not elucidate all the factors that may lead a patient to prefer a certain type of DM encounter/style. Just like with coping resources and adaptive energy levels, there are other individual characteristics that may impact the DM approach that individuals prefer. For example, race/ethnicity has been associated, in both survey and intervention research, with different decision-making style preferences. Levinson et al [18], in a representative national sample of 2,765 US adults, queried preferences regarding three components of the DM process, 1) seeking information, 2) discussing options, and 3) making the final decision. They found that self-identified Hispanic respondents were more likely than Black and White respondents to prefer physician-directed communication for seeking information, and both Hispanic and Black respondents were more likely than white respondents to prefer leaving final decisions about medical care up to their providers, that is they reported a weaker preference for shared decision-making. There were no ethnic difference regarding the Discussing Options variable Overall, 91% of the sample at least moderately agreed with the Options statement. Thus, racial and ethnic differences in preference for aspects of SDM may be limited to sub-components of the process itself. It is also important to note that although some groups reported weaker preferences for elements of shared decision-making, it is not clear from the multivariate results if these groups had a stronger preference for provider-driven decision-making or just a weaker preference for patient-driven decision-making. The authors also found that women were more likely than men to prefer a patient-directed approach across all race/ethnic groups and all three dimensions. While educational attainment was not associated with the Options preference, preferences for shared information seeking and final decision-making increased as educational attainment increased.

Another study reported racial differences in preference for SDM[19] similar to Levinson et al. The authors surveyed 3,177 adults and found that overall, 62% of respondents preferred shared decision-making, 28% preferred patient-centered, and 9% preferred provider-centered DM. Black respondents were more likely to prefer provider-centered decision-making than White respondents in both univariate and adjusted analyses. Lower income was also associated with stronger preference for provider-centered DM. Black respondents were significantly more likely than White respondent to report experiencing provider-centered care, which is consistent with several prior studies [20–23].

The preference for a more directive, provider-driven communication style amongst some Black Americans might be the result of negative personal interactions with the health care system, society at large, and historical and persistent structural racism. Weaker preferences for patient-driven DM among Black Americans may have its roots in historical and persistent disenfranchisement and maltreatment by the health care system[24]. Preferences for provider communication made be a reaction to receiving low autonomy support care. Given poor interactions with the health care system, some Black Americans may question the willingness and capability of providers to exhibit “patient-centeredness” which may lead to doubt about how well their needs will be will elicited and respected. It may also in part reflect their own personal negative experiences with the system when they might have received poor care or their needs were not met[25]. Thus, it may be the case that Black Americans preference for or expectation for provider-driven DM is driven by the fact that they do not expect patient-centeredness from their providers because they have been less likely to receive it[24,26], and have become accustomed to if not resigned to receiving provider-driven, low autonomy support health care. Given this, Black Americans may have lower efficacy to communicate their preference to providers and they may have lower trust that their preferences and needs will be taken into account[26]. Together this could engender a “preference” for provider-driven interactions, which perhaps more accurately should be characterized as disbelief that providers can treat Black patients with true patient-centeredness. This preference for provider-driven DM may be different if they have a provider who is of the same racial background or if they possess high trust in their provider. It is also possible that the preference for more provider-driven communication is an informed choice rather than a reaction to suboptimal provider care. More research is needed to understand the origins of these cultural differences and how best to respond to them in clinical practice.

In contrast to the two studies noted above, in one survey conducted amongst 974 patients with diabetes from 34 community health centers in 17 midwestern and west-central states, race was not associated with patient preference for SDM[7]. Moreover, in that study, Black Americans were actually more likely to report initiating discussions about their diabetes care with their providers. While the Levinson et al and Murray et al studies surveyed the general adult population, the Peek et al study surveyed only adults with diabetes, which makes comparison between these studies somewhat difficult[7].

While individuals may prefer different DM styles, it is important to determine whether such preferences are related to differential intervention response. It may be the case that, independent of stated preferences, individuals may still derive benefit from greater

involvement in the DM process[1,8,27]. In other words, independent of preference, some degree of patient driven decision-making may still be beneficial.

We could find no studies that directly assessed whether individual states or traits are associated with differential response to patient-driven or provider-driven DM. Evidence from a recent secondary analysis that explored individual response to two styles of smoking cessation counseling however, can also inform this inquiry[28]. One style was based on a more directive approach and the other used Motivational Interviewing (MI). MI incorporates many of the core tenets of Self-Determination Theory and many of the principles and strategies of Shared Decision Making[16,29–32].

For example, a key aspect of MI entails helping individuals to work through their ambivalence or resistance about behavior change. MI providers, using techniques such as reflective listening establish a non-confrontational and supportive climate in which patients feel comfortable expressing both the positive and negative aspects of their current behavior. Although the MI encounter is ultimately goal driven, the MI provider often begins the process by adopting a position of equipoise [33], acknowledging the patient's ambivalence and avoiding the injection of the counselor's aspirations for the patient. This helps reduce patient reactance[34,35] and builds rapport. Perhaps the primary distinction between SDM and MI, is that in MI, the encounter is generally focused on whether the individual will choose to change a behavior that carries clear cut benefit, whereas in many SDM encounters the focus is more on which treatment or test the patient chooses. Thus, MI, whilst a behavior *change* technique rather than a DM technique, it nonetheless incorporates many of the principles and strategies of SDM. Now we return to the smoking cessation study.

This randomized clinical trial compared Motivational Interviewing (MI) and Health Education as contrasting methods to encourage g smoking cessation among a sample of adult smokers who were dichotomized into Black and Non-Black, with the vast majority of the latter being white. The Health Education intervention was intended to be a more directive, provider-driven contrast to the MI counseling which can be seen as more analogous to patient-driven DM.

The authors compared post intervention quit attempts among 138 Black and 66 Non-Black smokers all with low baseline desire to quit, who were randomly assigned to four sessions of MI or HE[28]. They found that MI was less effective than HE in Black smokers both in terms of quit attempts and the target mediator of autonomous motivation. Moreover, this race difference was largely explained by differences in baseline preference for patient vs. provider-driven communication style. Specifically, participants were asked at baseline to choose on a scale from 1–10 "When it comes to my smoking, I want an expert to tell me what to do." Black smokers scored higher on this item, and when analyses included DM style preference in the multivariate model, the race effects were substantially diminished, indicating that differences in communication style preferences largely accounted for the race-specific effects of MI and Health Education.

The weaker response to MI on the part of Black smokers is consistent with qualitative studies which found that southern Black patients and providers expressed negative reactions

to viewing video MI encounters[36,37]. The authors report that Black participants found more traditional paternalistic approaches (i.e., physician-led decision conversations) were more representative of "good counseling" and more familiar to them. In addition, health care providers voiced concern about the limited input of the provider during the MI consultation. It should be noted that race effects for MI reported by Grobe et. al. are inconsistent with one meta-analysis which found no moderating effect for patient race in studies when MI was used in medical settings [38]. The meta-analysis however only examined whether MI was superior to control or alternate interventions whereas the Grobe et al study further found that AA participants showed a stronger response to the more directive Health Education counseling than whites.

Individual difference in communication style preference have also been shown to moderate response to tailored messages. Two studies asked participants a similar question at baseline as the one used in Grobe study, "When it comes to my xx (diet in one study and or colon cancer screening in the other), I want an expert to tell me what to do."[39,40]. We view this question as analogous to asking about preference for patient-driven versus provider-driven care. Both studies had two intervention conditions, one that provided tailored messaging based on principles of Self-Determination Theory (e.g., autonomy support) and strategies from Motivational Interviewing (e.g., reflective listening, rolling with resistance, values alignment), and a control group which received untailored, traditional health education messages. The experimental arms in these two studies can be seen as analogous to comparing patient-driven communication versus provider-driven communication. One study focused on changing fruit and vegetable intake and the other on increasing screening for colorectal cancer. In both studies, the response to the experimental intervention was moderated by baseline patient-driven versus provider-driven preference variable. Specifically, individuals who preferred a more patient-driven approach, i.e., SDM, showed stronger response to the tailored MI-type messages than those who preferred a more provider-driven style.

Finally, a cross-sectional study of 1,690 women with localized breast cancer patients provides further support that some individuals benefit more from autonomy support care than others. Women were asked about their perceptions of autonomy-supportive communication from their surgeons and medical oncologists[15], their communication style preferences (assessed by two questions "When it came to getting treatment for my breast cancer, I preferred to be told what to do" and "When it came to getting treatment for breast cancer, I wanted my doctor to tell me what to do."), and their self-reported decision quality (key components of decision satisfaction)[41]. Overall patient-reported decision quality scores were positively associated with higher levels of perceived autonomy-supportive communication from surgeons and medical oncologists. This was true even amongst those who stated a preference for directive communication. However, patient communication style preference moderated the association between physician communication style received and perceived decision quality. Specifically, the difference in decisional quality based on provider communication style was significantly greater amongst those with who preferred a non-directive style compared to those who preferred a directive style [42]. That is, those who wanted a more autonomy supportive communication style benefitted more from receiving autonomy support from their provider than those who preferred a more directive style. This

is consistent with Lantz et al who found that concordance between preferred DM style and actual DM style received was associated with higher patient decision satisfaction and lower regret[43]. Similarly, a review by Kiesler and Auerbach[8] found that the more the information received by patients matched their preferences, the better their adjustment to treatment, the less their subsequent emotional dysphoria and the greater their adherence to their medical recommendations.

An important caveat is that with the exception of Grobe et al, these studies do not address whether more patient-driven DM may be harmful amongst some groups. This is important because if there is no harm in providing patient-driven DM even to those who do not ask for it, then tailoring or matching communication style may not be necessary. Everyone should simply receive patient-driven DM. The importance of the Grobe et al study is that it provides a signal that universal implementation of patient-driven SDM may not be indicated as a more directive style may be superior for some individuals[44].

SDT provides a framework to help guide provider tailoring of DM behavior. The guiding principle is that patients do better when their needs are satisfied, and under varying patient conditions, different provider behaviors and communication styles can fulfil patient needs. The key is that provider decision making behaviors should support patient needs for autonomy and competence, which in some cases may lead to a more provider-driven conversation. Thus, as long as the patient has autonomously chosen to seek advice from their provider or has requested a more directive tone, by providing this direction, the provider ensures the encounter is still patient-centered, even if not patient-driven. Under these parameters positive behavioral and psychologic outcomes could be expected[14,16]. Similarly, if the patient needs a more directive style of DM, and the provider offers a more patient-driven (and therefore mismatched) style of DM, placing too much responsibility on the part of the patient, the patient might perceive this as controlling behavior and worse outcomes could be expected. Alternatively, if the patient does not prefer or seek directive provider input, provider-driven decision making could result in feeling controlled and lead to poor health behavior outcomes and worse psychological well-being[14,16]. In sum, if a patient needs and/or requests a more directive DM process it may be patient-centered to provide it. A patient may autonomously decide to seek provider-driven decision making; volitionally requesting provider input and direction.

So too the Difficulty X Motivation Framework suggests a role of matching DM style to patient needs and preferences. For example, consider a patient who may have just received an ominous diagnosis; they know little about their newly diagnosed conditioned or their treatment options. And, the treatment options are complex with regard to side-effects, efficacy, cost, recovery, and other risks. Under these circumstances they may feel overwhelmed by both the need to learn about their condition or what treatment to choose. They may also be dread any anticipatory regret about making a decision on their own. In these cases, the patient may be relieved to have an expert tell them what they should do and why. These dynamics may also be related to the patient's stage of illness or treatment. For example, breast cancer patients are least likely to prefer shared decision making immediately after their initial surgery [27]. From an energy perspective, while recovering from surgery, the patient may temporarily have insufficient emotional resources (attention capacity) to

devote to shared decision-making, and may therefore prefer to rely on their provider during that time. Similarly, depressed patients (depression is a low energy state) may be less likely to engage in treatment decision-making [45]. Thus, under certain conditions the most effective type of DM may be less shared than under other conditions due to available emotional resources or the motivational state of the patient. Yet, under these circumstances less shared DM may still be more patient-centered and effective. For those wanting a more patient-driven decision, practitioners should focus on reducing the difficulty of the decision and supporting patient efficacy. Another factor that can determine decision making style is how much time is available for the patient encounter. When less time is available a more provider driven approach may be more appropriate [46]. The goal is to match the provider communication and DM style to the patient's needs and emotional state.

While we have focused on applying two theoretical models to help explain and guide the use of different DM styles for different patients, using other theories to address these issues such as Decision Conflict Theory is encouraged [47]. For example, from a Decision Conflict perspective, asking a patient to drive a decision when they are not prepared to do so, do not have the energy to do, do not prefer to do so, or do not have the skills to do so, could result in patient overload, insufficient deliberation, and ultimately a poor quality decision. Application of other frameworks and theories to the decision-making process, such as the Transtheoretical model [48], Social Cognitive Theory [49], and the Patient Activation Model [50], while beyond the scope of this paper, is encouraged.

Conclusion and Future Directions

The discussion presented herein suggests rethinking how SDM is conceptualized and implemented. A more **flexible** approach to delivery of SDM may be indicated. Rather than assuming all patients under all circumstances require the same degree or kind of SDM, we propose, based on integration of both empirical evidence and theoretical perspectives that provider decision-making style be tailored to patients' preferences, disease state, personality, motivation, and psychological need satisfaction (i.e., autonomy, competence and relatedness). This means that while all SDM should be patient-centered it does not always have to be patient-driven. Under some circumstances, a more provider-driven approach may be more practical, ethical and efficacious. We acknowledge that more research is needed to support the utility of this "precision SDM" approach as well as to develop methods to implement such matching in clinical practice.

Future Research

Studies are needed to test how best to match DM style to patient states, needs, and traits; preferences and/or personality characteristics. Evidence for the utility of matching DM style is scant, and more controlled studies are needed to address this issue[8]. This could include matching/mismatching designs where patients are stratified by a baseline characteristic that is thought to influence response to SDM, such as preference for expert driven communication, and then they are assigned to either their presumptive matched and mismatched interventions. The hypothesis would be that matched interventions should outperform mismatched interventions. Within intervention or observational studies, we can

measure factors such as patient autonomy needs, perceived competence, and psychological well-being to help identify the psychological mechanisms and mediators by which SDM interventions work, which would lead to more tailored delivery of DM interventions. Studies to elucidate the mechanisms through which DM style matching may operate are also encouraged.

Unpacking studies to identify active ingredients of SDM are also warranted. As noted above, SDM comprises numerous subcomponents, e.g., seeking permission, eliciting values, providing choices, reflecting emotion, supporting autonomy, etc. Approaches such as MOST that use a fractional factorial design may be particularly useful to identify active ingredients of SDM [51,52]. Main effects and lower order interactions of sub-elements of SDM can be identified and tested in randomized fractional factorials studies. Experiments that test hypotheses about mechanisms are essential. This could lead to development of brief measures that clinicians can use to determine which style to employ with a particular patient.

The efficacy of matching DM to patient characteristics in clinical practice requires that providers alter their DM style based on patient needs and preferences[43]. Whether providers are able to modulate their DM style and what type of training may be needed to enable them to do so merits study. Similarly, what patient characteristics should be used to determine which style of decision making to employ and how to assess these characteristics needs to be determined. Practitioners could rely on overt patient preference, i.e., “I prefer my provider just tell me what to do” or an assessment of the patient’s perceived difficulty or coping resources related to the decision at hand. How best to measure decision making preference, including whether it is a generalized trait or a decision-specific state, and the stability of this preference merits further work [53]. Further, patient-driven and provider-driven decision making are not binary options, but represent a continuum of decision making styles. This has implications for both measurement and implementation of SDM.

While individual characteristics, such as race/ethnicity, education, age and gender may broadly be associated with differential preference for and response to DM style, making clinical decisions solely based on these characteristics is discouraged. Providers may project their own biases on patients [24], and such group targeting fails to account for within group heterogeneity and could lead to exacerbating health disparities and mistrust. It is important for providers to try and elicit individual needs and preferences on a per patient basis.

Finally, research is needed to determine what states and traits may predispose a patient to respond to different styles of DM. For example, different levels of trust with the health care system, available support, and baseline knowledge may all impact decision making preferences[54]. This line of research can also address potential individual level differences in SDM preferences and intervention response, including the potential impact of patient-provider race/ethnicity concordance. It would be helpful to elucidate if a preference for directiveness amongst some groups may be a response to historical and persistent non-patient centered experiences in the health care system. In this case, reducing health disparities in how providers communicate with their patients may lead to increased trust with the health care system, and therefore a shift in SDM preferences from more provider-centered to more patient-driven.

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