



Do Shared Decision-Making Measures Reflect Key Elements of Shared Decision Making? A Content Review of Coding Schemes

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Background. There is a growing need for valid shared decision-making (SDM) measures. We aimed to determine whether the items of extant SDM observer-based coding schemes assess the 4 key elements of SDM. **Methods.** Items of SDM coding schemes were extracted and categorized. Except for the 4 key elements of SDM (fostering choice awareness, informing about options, discussing patient preferences, and making a decision), (sub)categories were created inductively. Two researchers categorized items independently and in duplicate. **Results.** Five of 12 coding schemes assessed all 4 SDM elements. Seven schemes did not measure “fostering choice awareness,” and 3 did not measure “discussing patient preferences.” Seventy of 194 items (36%) could not be classified into one of the key SDM elements. Items assessing key SDM elements most often assessed “informing about options” ($n = 57/124$, 46%). **Conclusion.** Extant SDM coding schemes often do not assess all key SDM elements and have a strong focus on information provision while other crucial elements of SDM are underrepresented. Caution is therefore needed in reporting and interpreting the resulting SDM scores.

Keywords

content analysis, measurement, patient involvement, shared decision making

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In shared decision making (SDM), patients and clinicians engage in a conversation and work together to make decisions about health and care that fit best individual patients and their lives.^{1,2} SDM is considered particularly pertinent when there is more than one reasonable approach available to manage the patient’s situation and when these approaches differ in ways that matter to patients.^{2,3} Although SDM models differ to some extent,⁴ many prominent models distinguish 4 key elements: 1) fostering choice awareness, 2) discussing relevant options and corresponding pros and cons, 3) discussing patient views and preferences, and 4) making the final decision.^{3,5}

As the interest in implementing SDM in routine care is growing, the need to evaluate its occurrence and the effects of SDM interventions is growing as well. In a

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recent systematic review, Gärtner et al.⁶ identified 40 different instruments that assess SDM. Some of these are self-report instruments, providing insight in the experiences of patients or clinicians. These self-report instruments tend to show ceiling effects (i.e., scores are generally high without much variance),^{7,8} possibly due to halo effects (i.e., SDM is difficult to disentangle from other qualities attributed to the care received or from overall satisfaction).⁹ Other SDM instruments are observer-based coding schemes, requiring a trained assessor to observe and code the patient-clinician conversation. This is time and resource consuming, but raters are trained in the evaluation of SDM and thus can be expected to apply stricter criteria and avoid ceiling effects. Indeed, previous research has shown results from observer-based instruments to reveal lower levels of SDM compared to results based on self-report instruments.^{7,10}

In their review, Gärtner et al.⁷ found an overall lack of evidence for the psychometric quality of SDM instruments. The authors therefore recommend to select SDM instruments for studies or evaluation based on the content of these instruments. The aim of this study was to determine whether the items of extant SDM observer-based coding schemes assess the 4 key elements of SDM.

Methods

Selection of Instruments

For this content analysis, we selected SDM instruments identified in the review by Gärtner et al.⁶ These authors searched 7 databases for studies investigating instruments measuring the process of SDM and identified 51 articles describing 40 instruments, of which 20 were observer-based schemes. For our content analysis, we used these coding schemes; we excluded translated versions of the same scheme ($n = 4$),¹¹⁻¹⁴ schemes of which a revised version was available ($n = 1$),¹⁵ and schemes that contained the same items and only used a different scoring method or rating scale ($n = 3$),¹⁶⁻¹⁸ thus leaving 12 schemes for analysis.¹⁹⁻³⁰

Analysis

We extracted all items of selected schemes and classified them into categories of SDM behaviors. In addition to the 4 key elements of SDM,^{3,5} we inductively created (sub)categories based on the data (Table 1). Items were categorized independently and in duplicate by 2 researchers (MK, IH). Each item was attributed to 1 category only (Table 2). Discrepancies were discussed and solved in consensus. A third researcher (FRG) checked all final categorizations, and again, discrepancies were solved in consensus.

Results

The 12 included observer-based SDM coding schemes contained a total of 194 items (median = 10, range 3–70; see Table 1).

Five of 12 schemes (DSAT (Decision Support Analysis Tool), DAS-O (Decision Analysis System for Oncology), OPTION-5 (Observing Patient Involvement scale 5 items), OPTION-12 (Observing Patient Involvement scale), Mapping'SDM (Multifocal Approach to the sharing in SDM)) contained at least 1 item for all 4 SDM key elements. The schemes with the highest percentage of their items classified in 1 of the 4 SDM key elements were the OPTION-5 ($n = 5/5$; 100%) and the DSAT-10 (Brief Decision Support Analysis Tool) ($n = 10/11$; 90%). The schemes with the lowest percentage were the PES (Parental Engagement Scale) ($n = 0/3$; 0%) and the RPAD (Rochester Participatory Decision-Making Scale) ($n = 2/9$; 22%). Seven schemes did not assess the key element “fostering choice awareness,” and 3 did not assess “discussing patient’s preferences” (Table 1).

Of the 194 items, 124 (64%) could be classified into 1 of the 4 SDM key elements. Almost half of these ($n = 57/124$, 46%) assessed “informing about options” (SDM element 2; see Figure 1), and almost one-third ($n = 36/124$, 29%) assessed “making a decision” (SDM element 4). The remaining items assessed “discussing patient’s preferences” (SDM element 3, $n = 16/124$, 13%) or “fostering choice awareness” (SDM element 1, $n = 15/124$, 12%). The SDM subcategories with the most items were “discussing pros and cons” ($n = 15/124$, 12%), and “discussing roles in decision making” ($n = 11/124$, 9%).

Seventy of 194 items (36%) could not be classified into 1 of the 4 SDM key elements and assessed, for example, the discussion of the current medical problem ($n = 5/70$, 7%), general communication skills ($n = 11/70$, 16%), or checking patients’ understanding or allowing patients to ask questions ($n = 16/70$, 23%).

Discussion

This study aimed to determine the extent to which extant SDM coding schemes assess the key elements of SDM. We showed that less than half of the coding schemes assess all 4 key elements of SDM. The coding schemes mainly focus on information provision, while items to assess other key elements such as fostering choice awareness or discussing patient’s preferences are less often included. Especially the latter is surprising, as discussing what matters to patients seems the drive for SDM. The importance of fostering choice awareness was only recently incorporated in SDM models, which may explain why this element is absent in

Table 1 Number of Items per Shared Decision-Making Coding Scheme and Total Number (and Proportion) of Items That Assess Each of the (Sub)categories

	DSAT ²⁸ (n = 22)	DSAT-10 ³⁰ (n = 11)	DAS-O ²⁴ (n = 70)	DEEP-SDM ²¹ (n = 10)	IDM ²⁹ (n = 7)	MAPPIN'SDM ²² (n = 15)	OPTION-5 ¹⁹ (n = 5)	OPTION-12 ²⁷ (n = 12)	PES ²³ (n = 3)	RPAD ²⁶ (n = 9)	SDM-Scale ²⁵ (n = 20)	SDMRS ²⁰ (n = 10)	Total (n = 194)
Before SDM													
Setting agenda		8		1						2	3	1	15 (7.7%)
Discussing patient's situation		3									1		4
Discussing current medical problem		4									2		6
SDM 1. Fostering choice awareness		1		1						2		1	5
1A Identifying the need to make a decision	1	8				2	2						15 (7.7%)
1B Acknowledging that there is ≥ 1 option		3				1	1	1					2
1C Introducing SDM	1	4				1	1						6
1X Other		1											6
SDM 2. Informing about options	3	3	26	4	3	3	1	2			8	4	57 (29.3%)
2A Listing of options			3			1	1				2	1	8
2B Explaining what options entail		1		2							1		4
2C Discussing pros/cons		2	5	2	1	1	1			2	1	1	15
2D Discussing source of information		1				1					1		3
2E Discussing options (in general)	1	2			1		1				1	1	7
2F Providing personalized information	1	1									1		3
2G Providing balanced information		4									1		4
2X Other	1	10		1									13
SDM 3. Discussing patient's preferences	3	2	3	2	1	1	1	2			1	1	16 (8.2%)
3A Discussing patient's values and views	2	2	1	1		1	1				1	1	10
3B Discussing patient's general expectations, concerns, ideas		1			1		2						4
3X Other	1			1									2
SDM 4. Making decision	6	5	6	1	2	4	1	3		2	3	3	36 (18.5%)
4A Discussing roles in decision making	2	2	1	1	1	1	1	1		1	1	2	11
4B Discussing patient's treatment preference			1		1							1	3
4C Making final decision	1	2				1	1				1		7
4D Discussing timing of decision making	1	1									1		4
4E Discussing follow-up/implementation	1	1	1	1	1	1	1	1		2			7
4X Other	1	2			1								4
Other	9	1	19	3	1	5	3	3	3	5	5	1	55 (28.3%)
General communication skills			7							2	2		11
Patient understanding/question asking	1		5	1	1	2	2			2	1	1	16
Clinician understanding						2				1			3
Discussing information preferences	1	2			1	1	1				1	1	6
Clinician's recommendation		3		2							1		6
Other	6	1	2						3				12
Unclear item	1												1

DAS-O, Decision Analysis System for Oncology; DEEP-SDM, Detail of Essential Elements and Participants in Shared Decision Making; DSAT, Decision Support Analysis Tool; DSAT-10, Brief Decision Support Analysis Tool; IDM, Elements of Informed Decision Making; MAPPIN'SDM, Multifocal Approach to the Sharing in SDM; OPTION-5, Observing Patient Involvement scale 5 items; OPTION-12, Observing Patient Involvement scale; PES, Parental Engagement Scale; RPAD, Rochester Participatory Decision-Making Scale; SDM, shared decision making; SDMRS, Shared Decision Making Rating Scale.

Table 2 Examples of Items of Shared Decision-Making Measurement Instruments Classified in Each (Sub)category.

(Sub)category	Example Item	Instrument
Before SDM	Setting agenda Discussing patient's situation Discussing current medical problem	SDM-scale DAS-O DAS-O
SDM 1. Fostering choice awareness	1A Identifying the need to make a decision	OPTION-12
1B Acknowledging that there is ≥ 1 option	Reason for consultation established Explore patient's work and family background Potential risks and time frame of the situation getting worse (prognosis) The clinician draws attention to an identified problem as one that requires a decision-making process. The clinician states that there is more than one way to deal with the identified problem (equipose); the patient indicates that there is more than one way to deal with the concrete problem (equipose); clinician and patient discuss that there is more than one way to deal with the concrete problem (equipose). Justify the work of deliberation as a team. The provider reassures the patient or reaffirms that the provider will support the patient to become informed. The provider will support/explain the need to deliberate about the options. Link—introduction, seeking permission to discuss clinical trial	MAPPIN'SDM
1C Introducing SDM	The clinician lists "options," which can include the choice of "no action." Definition of option. Physician provides a description of the treatment option or procedure. Discussion of the pros (potential benefits) and cons (risks) of the alternatives Source and strength of evidence Discussion of the alternatives Discusses client's characteristics that may affect the decision Spend appropriate amount of time on different options Fact words: know, rationale, reasons for doing it, chances, what happens, why it happens, health risks and condition	OPTION-5
1X Other	Link—introduction, seeking permission to discuss clinical trial	DAS-O
SDM 2. Informing about options	2A Listing of options 2B Explaining what options entail 2C Discussing pros/cons 2D Discussing source of information 2E Discussing options (in general) 2F Providing personalized information 2G Providing balanced information 2X Other	OPTION-12 DEEP-SDM IDM DAS-O SDMRS DSAT DAS-O DSAT
SDM 3. Discussing patient's preferences	3A Discussing patient's values and views	DSAT
3B Discussing patient's general expectations, concerns, ideas	Assists to clarify values for outcomes by personal discussion or by providing access to balance scales, "shading" and "weighing" exercises, and other values-clarification tools The clinician explores the patient's expectations (ideas) and concerns (fears) about how to manage the concrete problem; the patient describes his or her expectations (ideas) and concerns (fears) about how to manage the concrete problem; clinician and patient discuss the patient's expectations (ideas) and concerns (fears) about how to manage the concrete problem. Patient self-efficacy. Reference to or mention of patient perceived self-efficacy or ability (to adhere to the decision), by either the provider or the patient	MAPPIN'SDM
3X Other	Patient self-efficacy. Reference to or mention of patient perceived self-efficacy or ability (to adhere to the decision), by either the provider or the patient	DEEP-SDM
SDM 4. Making decision	4A Discussing roles in decision making 4B Discussing patient's treatment preference 4C Making final decision	DSAT-10 IDM OPTION-5
4D Discussing timing of decision making 4E Discussing follow-up/implementation	Discuss preferred role in decision making, others' involvement and their opinions Discussion of the patient's role in decision making Integrate preferences. The provider makes an effort to integrate the patient's preferences as decisions are either made by the patient or arrived at by a process of collaboration and discussion. Option given to defer treatment decision to next visit Examine barriers to follow-through with treatment plan	SDM-scale RPAD

(continued)

Table 2 (continued)

(Sub)category	Example Item	Instrument
4X Other	The clinician supports the patient in his or her activation of decision-making strategies; the patient talks about his or her decision-making strategies; clinician and patient discuss strategies for handling the decision.	MAPPIN'SDM
Other	Interruptions Physician asks, "Any questions?" The clinician asks questions or points out aspects he or she had not fully understood during the discussion; the patient explicitly offers the clinician opportunities to ask questions or to point out aspects he or she had not fully understood during the discussion; clinician and patient make sure that the clinician can ask questions and point out aspects he or she had not fully understood during the discussion. Summarizes the need for information Explicitly provides a treatment recommendation Insightful participation Stage in the decision-making process	SDM-scale RPAD MAPPIN'SDM
Discussing information preferences Clinician's recommendation Other Unclear item		DSAT DAS-O PES DSAT

DAS-O, Decision Analysis System for Oncology; DEEP-SDM, Detail of Essential Elements and Participants in Shared Decision Making; DSAT, Decision Support Analysis Tool; DSAT-10, Brief Decision Support Analysis Tool; IDM, Elements of Informed Decision Making; MAPPIN'SDM, Multifocal Approach to the Sharing in SDM; OPTION-5, Observing Patient Involvement scale 5 items; OPTION-12, Observing Patient Involvement scale; PES, Parental Engagement Scale; RPAD, Rochester Participatory Decision-Making Scale; SDM, shared decision making; SDMRS, Shared Decision Making Rating Scale.

most coding schemes (Bomhof-Roordink H, Gärtner FR, Stiggelbout AM and Pieterse AH; unpublished data). Moreover, the schemes assess more than the 4 elements considered key to SDM alone; over one-third of items assess, for example, general communication and consulting skills, such as agenda setting and checking patient or clinician understanding. These are relevant behaviors for SDM but may not be specific to SDM.³¹

A strength of our study is that it could build on a recent systematic review on SDM instruments.⁶ The categorization of items was performed independently and involved SDM experts from different backgrounds and institutes. However, we need to put in perspective that the diversity in the content of different extant coding schemes reflects the reported lack of consensus on what SDM entails (Bomhof-Roordink H, Gärtner FR, Stiggelbout AM and Pieterse AH; unpublished data).⁴ As further efforts are made to conceptualize SDM, what authors of SDM models consider to be "key elements" may shift as well.^{4,32}

Our study showed that observer-based SDM coding schemes have a strong focus on assessing information provision. This is not surprising; providing patients with information has received great attention in SDM research and implementation, and providing information is crucial to come to an informed decision.³³ Also, information provision encompasses a broad range of behaviors, such as explaining the options at hand, as well as their pros and cons and respective probabilities, which can all be relevant to evaluate when assessing SDM. Surprisingly, the SDM coding schemes hardly or not at all assessed some of these behaviors. We did not find any item specifically focusing on whether or how probabilities are discussed, despite the importance of clear and understandable risk communication to consider and weigh pros and cons of available approaches.³⁴⁻³⁶ Also, whether information is presented in a balanced and nonsteering way³⁷ cannot be assessed by any of the SDM coding schemes except the DAS-O. This is striking, as these behaviors are relevant to identify whether information provision supports the SDM process.

SDM elements such as the fostering of choice awareness or discussing the patient's preferences were underrepresented in the coding schemes. Hence, the schemes are less likely to pick up behaviors or behavior changes in these areas. In addition, the inclusion of many items that are not specific to SDM, such as general communication skills, may limit the size of the effects of interventions that specifically focus on SDM. Since our review suggests that there is no dominant "best option" among the SDM instruments to evaluate SDM or the effects of SDM interventions, the decision on which SDM

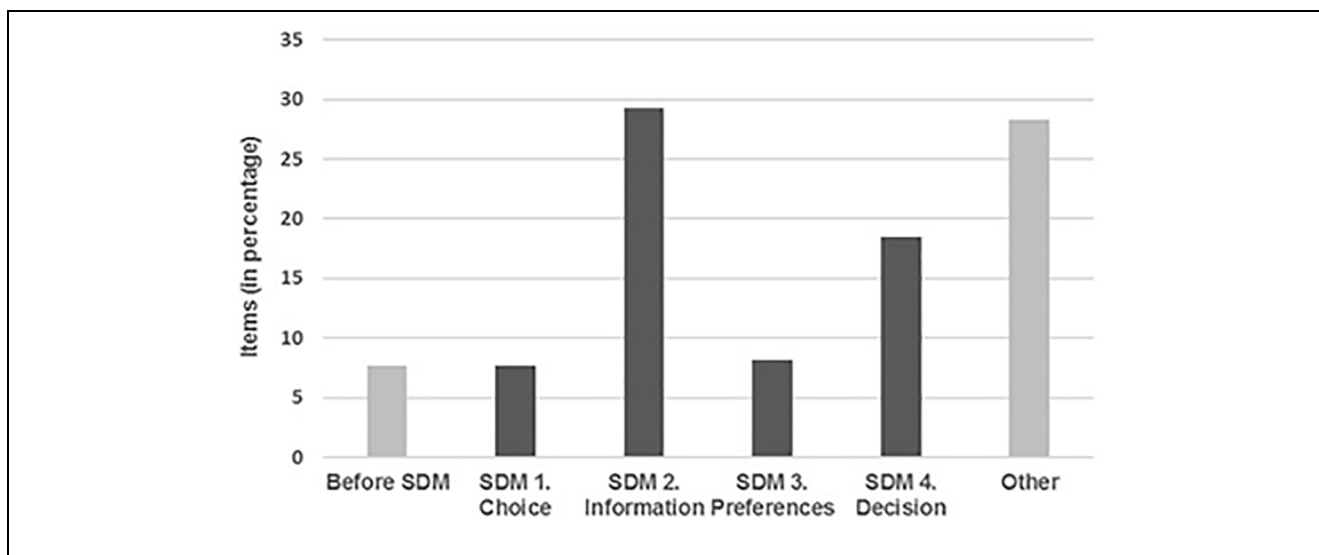


Figure 1 Distribution of items from shared decision-making (SDM) coding instruments.

instrument to use should depend on its content and the focal elements aimed to assess. Similarly, in presenting and interpreting (total) scores of SDM instruments, we must bear in mind the focus of their content.

To move forward in studying and implementing SDM, we need to pay attention to scores on individual items or (sum) scores per SDM element³⁸ to discover effects that are diluted in the total scores. As an example, information interventions, such as some decision aids, may not necessarily improve the involvement of patients in other ways than by informing them more thoroughly, thus increasing the total score in ways that do not reflect an encompassing effort to promote SDM. In addition, providing *more* information does not necessarily mean *better* information provision, nor does it mean that the information provided actually helps to advance the situation of the patient. Still, total scores of SDM instruments may suggest “more shared decision making.” Consequently, we may be “checking the SDM boxes” without improving the quality of SDM.³⁹ Previously, Kunneman et al.⁴⁰ warned for such “measurement with a wink” in which we may be getting *higher scores* on the instruments but not necessarily *higher-quality* SDM.

Conclusion


Our study shows large variation in the content of observer-based SDM coding schemes, with a strong focus on information provision and absence of other elements considered key to SDM. We need to be cautious

in interpreting scores of SDM instruments, as high scores do not necessarily mean more SDM. We recommend researchers to be mindful and transparent about their motivation for using particular SDM measurement instruments and to present scores of individual items or SDM elements when reporting and interpreting the findings of their studies.

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