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# The Six Steps of SDM: linking theory to practice, measurement and implementation

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## Introduction

Shared decision-making (SDM) has gained acceptance as a preferred and ideal method for medical decision-making.<sup>1,2</sup> As SDM concepts and assessments initially focused on the clinical encounter, efforts to improve decision-making for patients initially did so, as well.<sup>3</sup> This resulted in a plethora of patient-focused interventions (eg, patient decision aids)<sup>4</sup> while lacking concurrent development of a systems-oriented approach to change the structural and procedural requirements of medicine for optimal implementation of SDM practice.<sup>5</sup>

## Rationale and context for developing The Six Steps of SDM

We developed The Six Steps of SDM to fill gaps in coordination among theory, measurement, interventions and implementation of SDM. That is, ideally, theory should drive both measurement and development of interventions (including skills training and tools such as decision aids), and therefore, influence implementation. However, SDM theories, assessments, decision tools and curricula were not developed as part of a comprehensive, implementation-oriented strategy. Any comprehensive model, therefore, should conceptually harmonise theory-driven measures that fulfil various purposes. For example, the measures that would be best used to help assess effectiveness of clinical training and provide feedback to improve their skills may well be different from assessments used to determine how patients perceive their providers' abilities with respect to SDM. Nonetheless, the set of assessments should work together conceptually.

Examples of this lack of harmonisation can be seen, for example, in how provider training for SDM has developed. Typically, SDM theories and assessments were not developed with teaching in mind. Therefore, existing models of instruction may not align with validated measures of SDM, making it difficult to tell if the instruction was successful.<sup>6</sup> Measures of SDM, in turn, have mostly been developed to describe and define decision-making in clinical encounters, not as pedagogical tools. As a corollary, many models used to teach and evaluate communication skills (eg, The Four Habits),<sup>7</sup> while they may have relevance for SDM, are not designed to teach nor measure SDM specifically. While theory development need not, and arguably should not, be driven by pedagogical concerns, didactic methods and their measurement need to be developed that are derived from a

theoretical model. Only then we can be sure that: (1) we teach what we intended to teach; (2) what we teach is derived from theory and (3) and we measure what we intended to teach.

The dual aims of this paper are to present The Six Steps of SDM and to illustrate how this theory-based model is used in a coherent strategy for system-wide implementation. This strategy applies a multicomponent, multifocal approach to reach sufficient intervention dosage. In this paper, we will describe how the four components of SHARE TO CARE ([www.share-to-care.de](http://www.share-to-care.de))<sup>8</sup> relate to its six steps of SDM and delineate the coherent strategy for implementation that includes harmonisation of theory, measurement and interventions.

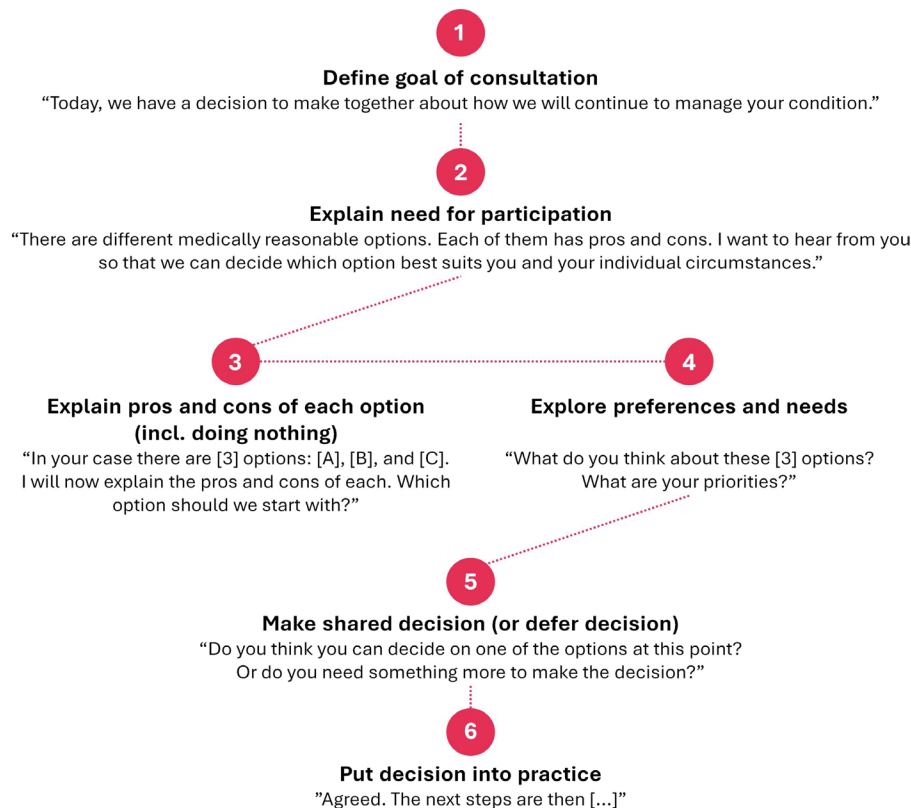
## Explanation of The Six Steps of SDM and the SHARE TO CARE programme

We used as the basis of this programme the Integrative Model of SDM by Makoul and Clayman.<sup>3</sup> This was done, in part, because members of this team had previously developed measures based on the Essential Elements (eg, MAPPIN'SDM) laid out in the model<sup>9,10</sup> and because we needed a model that was flexible enough to be applied across clinical contexts (ie, was not specific to any one medical specialty or disease).<sup>3</sup> While the Integrative Model of SDM forms the theoretical formulation of the implementation goal, we felt that the Integrative Model on its own was not sufficiently tangible for healthcare professionals to learn or to practice. Therefore, we developed The Six Steps of SDM for use in teaching physicians and medical students,<sup>8,11</sup> the rationale for which was both practical and methodological. The Six Steps of SDM is a stripped-down, clinically practical version of the Essential Elements of SDM. While we recognise that decisions may be deferred or revisited,<sup>12</sup> measurement of any decision-making process, including the status of that decision at the end of a clinical encounter, should occur as one of the outcomes in any implementation project (figure 1).

## SHARE TO CARE: a programme for widespread implementation of SDM

We recognised that any single effort to promote everyday, routine SDM would need more than any single training or other intervention. To implement SDM in concordance with these theoretically derived six steps, we developed a multicomponent, coherent implementation programme with corresponding measures. The SHARE TO CARE programme is designed to address not only the

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**Figure 1** The Six Steps of SDM with example sentences. SDM, shared decision-making.

physician's communication skills, but also the patient's information processes before and between consultations (by means of decision aids and decision coaching), and the patient's self-efficacy and ability to actively participate in the discussion (by means of ASK3).

The four intervention modules of the programme were based on prior work into each component individually. That is, there is a strong rationale and evidence base in general for training of clinicians, training decision coaches, developing and implementing decision aids, and fostering patient engagement. Each component listed below has been tested in randomised controlled trials, with an accompanying citation about each specific programme or resource used (eg, ASK3). However, these components are rarely combined in practice to create a cohesive whole.

#### *Developing a coherent strategy and implementation plan*

This specific programme includes four components: (1) SDM training for clinicians,<sup>8</sup> (2) integration of nurses, particularly as decision coaches,<sup>13</sup> (3) a suite of online decision aids<sup>14</sup> and (4) a patient activation campaign (with AskShareKnow or 'ASK3'<sup>15</sup> as core). Each of the four components of SHARE TO CARE supports patient engagement in decision-making and corresponds to several steps of the SDM model.

#### *Training of every physician (steps 1–6)*

In practice, researchers want to know if and how patients participate in decision-making. However, in training clinicians, it is important that clinicians are aware of and feel comfortable with each part of the SDM process. It is incumbent on the clinician to create an environment in which the patient feels that their participation is encouraged and desired. We recognised that many

providers need training in how to be good decision partners for patients.

In our training, in addition to a didactic, online portion, clinicians are taught SDM skills in-person, recorded practising these skills and provided individual feedback on their performance. Both the online training and face-to-face training that clinicians receive address each of the six steps outlined above.<sup>11</sup> Feedback to providers is given after a recorded session that is analysed using MAPPIN'SDM.<sup>9</sup>



**Figure 2** Four interventions of SHARE TO CARE.

### Integration of every nurse (steps 1–4)

Nurses or other healthcare professionals are trained as decision coaches.<sup>13</sup> Guiding patients' use of available decision aids, their effect is boosted by decision coaches. Decision coaches are integrated into steps 1 and 2 as part of the clinical pathway, while their discussions with patients primarily address steps 3 and 4. In addition, all nurses are educated on how to support patients and physicians regarding SDM in daily practice.

### Evidence-based decision aids for every department (steps 1–5)

SHARE TO CARE decision aids are web based and contain plain-language texts, graphics, video clips featuring healthcare professionals and patients and include value-clarification exercises.<sup>16</sup> They follow IPDAS standards<sup>17</sup> and have been cocreated with input from clinicians and patients.

### Activation of every patient (steps 1–4)

Patient activation focused primarily on steps 1 and 2. These included messages from decision coaches and on printed materials (eg, 'It is your right to participate'; 'You are the expert on your life'). In addition, German-language materials from the ASK3 campaign address steps 3 and 4.

Thus, the four interventions of the SHARE TO CARE programme are composed to complement and reinforce each other to realise all six steps in daily clinical practice (figure 2).

### The right measure: precise evaluation of the implementation goal

As described, multiple intervention modules at multiple points in the decision process are necessary to generate SDM. However, the best approximation of the outcome we aim to measure—the joint decision between physician and patient—materialises within the consultation. We can, therefore, measure the six steps.

The observer instrument MAPPIN'SDM captures the six steps within a consultation with one item each. MAPPIN'SDM includes a provider score, a patient score and a combined score for the dyad. The resulting MAPPIN'SDM dyad score, therefore, reflects the direct effects of the SDM training for physicians and the patient activation campaign, the rather indirect SDM support by nurses and—if applied—the effects of decision aids and decision coaching. The success of the SDM implementation—as well as the failure—can thus be evaluated sensitively and specifically.

In this paper, we do not intend to imply that there is only one reasonable model on which to base implementation, nor that there is only one way to measure such implementation. There have been excellent reviews that cover various assessments as well as models of SDM<sup>18 19</sup>, as well as other implementation projects.<sup>20</sup> However, we present this model as an existing programme that demonstrates how disparate components can be combined into a cohesive whole.

### Implications for practice and policy

The Six Steps of SDM serves multiple purposes. It is, on one level, a practical, measurable and yet theoretically sound method of training clinicians. On another level, it is an organising framework that can illuminate which of the six steps each intervention (clinician training, decision coaching, decision aids, patient training) provides.

In such a harmonised and combined approach with systemic support, everyone involved in the decision is aware of the decision, uses consistent terminology, and is aware of multiple resources. Each member of the patient-provider-decision coach

team receives training in the steps relating to choice awareness,<sup>19</sup> eliciting patient preferences and evaluating the options, ensuring both that patients feel welcomed to participate and that their providers expect and embrace that participation. We recognise that implementation is difficult, messy and often requires modifications in interventions, timelines or metrics. Careful implementation should be undertaken in line with the field of implementation science, and this particular model is no exception. Nonetheless, we feel that this set of interventions demonstrates a path for implementation that is feasible and theoretically based.

It also has practical relevance for policy-makers, as they want some evidence that SDM has occurred before they agree to support or pay for SDM and the costs of implementation. When implementation occurs throughout a system and is reinforced in multiple ways, policy-makers can have confidence that SDM is occurring if the implementation of SHARE TO CARE is sound. One oft-noted barrier to widespread SDM implementation is the difficulty in reliably determining if SDM has occurred in any particular patient encounter. Without such determination, insurers have no incentive to pay for SDM. Yet systemic implementation that has rigorous research behind it can negate the need to reimburse by individual patient and can be part of bundled payments to clinics or hospitals. Fostering innovative programmes that include multiple ways to promote SDM is the first step to further changing clinical culture and making everyday SDM a reality.

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#### References

- Barry MJ, Edgman-Levitan S. Shared decision making--pinnacle of patient-centered care. *N Engl J Med* 2012;366:780–1.
- US Preventive Services Task Force, Davidson KW, Mangione CM, *et al*. Collaboration and shared decision-making between patients and Clinicians in preventive health care decisions and US preventive services task force recommendations. *JAMA* 2022;327:1171–6.
- Makoul G, Clayman ML. An integrative model of shared decision making in medical encounters. *Patient Educ Couns* 2006;60:301–12.
- Dreesens D, Stiggelbout A, Agoritsas T, *et al*. A conceptual framework for patient-directed knowledge tools to support patient-centred care: results from an evidence-informed consensus meeting. *Patient Educ Couns* 2019;102:1898–904.
- Tan ASL, Mazor KM, McDonald D, *et al*. Designing shared decision-making interventions for dissemination and Sustainment: can implementation science help translate shared decision making into routine practice? *MDM Policy Pract* 2018;3:2381468318808503.
- Légaré F, Adekpedjou R, Stacey D, *et al*. Interventions for increasing the use of shared decision making by Healthcare professionals. *Cochrane Database Syst Rev* 2018;7:CD006732.
- Frankel RM, Stein T. Getting the most out of the clinical encounter: the four habits model. *J Med Pract Manag MPM* 2001;16:184–91.
- Danner M, Geiger F, Wehkamp K, *et al*. Making shared decision-making (SDM) a reality: protocol of a large-scale long-term SDM implementation programme at a northern German University hospital. *BMJ Open* 2020;10:e037575.
- Kasper J, Hoffmann F, Heesen C, *et al*. MAPPIN'SDM--the multifocal approach to sharing in shared decision making. *PLoS One* 2012;7:e34849.
- Geiger F, Liethmann K, Reitz D, *et al*. Efficacy of the doktormitSDM training Module in supporting shared decision making - results from a multicenter double-blind randomized controlled trial. *Patient Educ Couns* 2017;100:2331–8.
- Geiger F, Hacke C, Potthoff J, *et al*. The effect of a Scalable online training Module for shared decision making based on flawed Video examples - a randomized controlled trial. *Patient Educ Couns* 2021;104:1568–74.
- Clayman ML, Gulbrandsen P, Morris MA. A patient in the clinic; a person in the world. Why shared decision making needs to center on the person rather than the medical encounter. *Patient Educ Couns* 2017;100:600–4.
- Berger-Höger B, Liethmann K, Mühlhauser I, *et al*. Nurse-led coaching of shared decision-making for women with Ductal carcinoma in situ in breast care centers: A cluster randomized controlled trial. *Int J Nurs Stud* 2019;93:141–52.
- Evidence review for decision AIDS for people facing health treatment or screening decisions: shared decision making: evidence review C. London National Institute for Health and Care Excellence (NICE); 2021.
- Shepherd HL, Barratt A, Jones A, *et al*. Can consumers learn to ask three questions to improve shared decision making? A feasibility study of the ASK (Askshareknow) patient-clinician communication model(®) intervention in a primary health-care setting. *Health Expect* 2016;19:1160–8.
- Rummer A, Danner M, Weik K. *Online-Entscheidungshilfen für Patient:innen – Eine praktische Anleitung für mehr Shared Decision Making im klinischen Alltag*. atp-Verlag, 2023.
- Stacey D, Volk RJ, IPDAS Evidence Update Leads (Hilary Bekker, Karina Dahl Steffensen, Tammy C. Hoffmann, Kirsten McCaffery, Rachel Thompson, Richard Thomson, Lyndal Trevena, Trudy van der Weijden, and Holly Witteman). The International patient decision aid standards (IPDAS) collaboration: evidence update 2.0. *Med Decis Making* 2021;41:729–33.
- Gärtner FR, Bomhof-Roordink H, Smith IP, *et al*. The quality of instruments to assess the process of shared decision making: A systematic review. *PLoS One* 2018;13:e0191747.
- Bomhof-Roordink H, Gärtner FR, Stiggelbout AM, *et al*. Key components of shared decision making models: a systematic review. *BMJ Open* 2019;9:e031763.
- Scholl I, Hahlweg P, Lindig A, *et al*. Evaluation of a program for routine implementation of shared decision-making in cancer care: study protocol of a stepped wedge cluster randomized trial. *Implementation Sci* 2018;13.