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## Shared decision-making in general practice: an observational study comparing 2007 and 2015

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### Abstract

**Background.** Shared decision-making (SDM) is, largely, espoused as the preferred model for making decisions in everyday health care. Studies exploring the application of SDM in primary care practice are still lacking.

**Objectives.** This study explores how GPs involve their patients in decision-making, if application of SDM has increased over time (2007–15), and what factors are associated with it.

**Methods.** We investigated the application of SDM by Dutch GPs by analysing a random set of reallife video-recorded consultations collected in 2007 ( $n = 50$ ) and 2015 ( $n = 50$ ). SDM was assessed by observing patient involvement in decision making (OPTION), a reliable and valid instrument measuring the extent to which clinicians involve patients in decision-making by coding 12 behavioural items. In addition, GPs and patients completed questionnaires about their background characteristics. The potential determinants for application of SDM by Dutch GPs (including year of measurement, sex and age of patients and GPs, the nature of complaints, consultation duration and the type of decision discussed) were analysed using multilevel analysis [with patients (Level 1) nested within GPs (Level 2)].

**Results.** In 2015, GPs applied SDM more often compared with 2007 according to OPTION. In consultations with older patients, there is less application of SDM by GPs.

**Conclusions.** Although application of SDM by Dutch GPs has increased, low overall SDM scores still leave room for improvement. GPs should elicit the patient's preferred role in

the decisionmaking process at any time, in particular in consultations with older patients.

## Introduction

Today, shared decision-making (SDM) is, largely, espoused as the preferred model for making decisions in everyday health care (1,2). It is a process whereby professionals and patients share knowledge, values and preferences for different options for treating, or not, complaints and diseases. This decision-making process is greatly relevant if one is to achieve informed consent and patient-centred care. SDM typically involves the provision of evidence-based information about options, outcomes and uncertainties. It also includes counselling to support decisions and a system for eliciting and applying patients' informed preferences (3). This helps patients to consider their options (4) and improves patients' biomedical and psychosocial health outcomes (5–7). It may too increase their knowledge, trust (8) and ownership of their health (9). It also has economic benefits by reducing the overuse of, especially, unwarranted treatment while increasing choices for treatment associated with a net benefit, for example, effective screening tests (9).

Over the last decades, policy makers, researchers and clinicians have made considerable efforts to try to implement SDM (10). At the 9th International Shared Decision Making Congress 2017 (2–5 July, Lyon, France), it became evident that worldwide, SDM is still in progress and expands to more and more countries. Among others, the Netherlands was recognized for its strong leadership and professional collaboration in order to promote greater public understanding for evidence of SDM. The number of Dutch initiatives that really target implementing SDM is still growing (11). Further implementation and improvement is supported by the Dutch Ministry of Health, Dutch Patients Federations, professional bodies and health insurers.

However, there remains a considerable gap between aspiration and practical reality regarding SDM. Dutch clinicians are still inclined to be hesitant with regard to their coaching role, and there seems plenty of room for improvement in daily practice (11). Furthermore, the increasing number of clinical options is broadening the complex task of weighing the risks and the benefits of all these options (12). Research whose main objective is the exploration of the application of SDM in clinical practice remains scarce. In addition, the research which does exist is mainly focused on secondary care providers or on a specific disease and its treatment options, in particular cancer (10). However, SDM is applicable to all clinical settings, also for non-treatment-related decisions and for decisions which may be perceived as small and not life threatening (13). Besides, in the Netherlands, GPs are the point of entry for people to health care (Gatekeepers). Specialists and hospital care can only be accessed after referral by the GP. The role of primary care in the health care system in the Netherlands is comparable with that in 10 (of 31) other European countries (e.g. UK, Norway, Denmark, France and Spain) (14,15). The decision-making process, preferably, starts as early as the diagnostic phase of the first consultation (16), which, in particular, features primary care consultations. This highlights the need for studies that investigate the application of SDM in real-life general practice. Observing primary care consultations with an observation protocol for SDM is a useful way of capturing the presence or absence of specific behaviour and changes in how it is applied in practice over time (17). It can create practical and transferable knowledge about how SDM can become a core characteristic of patients' routine clinical care. In this way, it can contribute to patient-centred care (10). Due to the increased attention for SDM over the last decades (1,2,10,11), we hypothesize that this will be reflected in daily practice over time. Therefore, the present study aims to explore how GPs involve their patients in SDM, if this involvement has increased from 2007 to 2015, and what factors are associated with it.

## Methods

### Study design

We performed an explorative observational study, comparing two time periods (2007 and 2015). Real-life video-recorded consultations between GPs and their patients were observed to explore if, and how, Dutch GPs apply SDM in primary care consultations. Video recording is proven to be a valid method for examining the doctor–patient communication as the influence of the video recorder on the participants' behaviour is marginal (18).

### Setting and procedure

We compared data collected in 2007 (19) with that from 2015 (20). The 2007 consultations were video-recorded as part of a previous study on doctor–patient communication by NIVEL (The Netherlands Institute for Health Services Research) (19). The 2015 consultations were video-recorded for an ongoing study into GP–patient communication, which had the same design as that carried out in 2007.

In 2007, data were collected in several primary care practices spread throughout the Netherlands. In 2015, the majority of primary health care settings were in the east of the country. Video recordings were made during two random days per GP.

All patients and GPs gave written informed consent to record their video consultation. Both patients and GPs were aware that the study focused on communication, but they were not aware of the focus on SDM. Patients filled in a short questionnaire before and after their consultation. GPs filled in one questionnaire. All questionnaires contained questions about their background characteristics (e.g. age, gender and education). To protect patients' privacy, the video data were anonymized and the video recorder was directed at the GP. Most of the time only the patient's back was visible. Both studies adhered to Dutch privacy legislation. The privacy regulation was approved by the Dutch Data Protection Authority. According to Dutch legislation, approval by a medical ethics committee was not required for these observational studies.

### Participants

In this cross-sectional study, we included patients who spoke and wrote sufficient Dutch, were at least 18 years old, presented with a single new disease episode or single new complaint and had no mental disabilities (e.g. Down's syndrome). Patients were not excluded or included on the basis of their diagnosis.

### Observations

Only the first consultations were included in order to ensure a more equal comparison, all consultations then starting at the same point. In 2007, a total of 808 consultations were video-recorded, of which 307 were first consultations. In 2015, 392 consultations were video-recorded, of which 142 were first consultations. Subsequently, 50 consultations were randomly selected. The first data set of 50 consultations included consultations from 29 GPs; the second data set included 17 GPs.

Patients' symptoms during consultations were registered according to the International Classification of Primary Care (ICPC). In 2007, this was coded by the observers from NIVEL (21) and in 2015 by those GPs whose consultations were recorded. Only the main complaint (ICPC) was registered even though consultations may include various complaints. The type of decision, as discussed during the consultations, was registered by the observers using the following categories: (i) medical prescription (e.g. pain management), (ii) referral (e.g. to secondary care), (iii) watchful waiting (e.g. lifestyle advice), (iv) further investigation (e.g. blood test) and (v) surgical intervention (e.g. stitches). In addition, the duration of the consultation was registered.

## Measuring shared decision-making behaviour

The decision-making process was assessed by coding each video-recorded consultation with the observing patient involvement in decision making (OPTION)<sup>12</sup> instrument. The OPTION<sup>12</sup> is a reliable and valid method (22) used extensively to investigate SDM behaviour(23). OPTION<sup>12</sup> measures the extent to which clinicians involve patients in decision-making by coding 12 SDM items on a 5-point Likert scale (from 0 = 'no attempt has been made' to 4 = 'the behaviour is observed and executed to a high standard'; Tables 1 and 2).

The final score ranged from 0 to 48 per consultation. Details are provided in the rater manual about how each scale point should be given to behaviours observed demonstrating different levels of skill. The total score is calculated by adding up the scores for the individual items and is converted to a 0–100 scale. The higher the score, the higher the level of SDM behaviour. Coding was conducted with Observer software (24). Video-recorded consultations were reviewed by one main observer, and 10% ( $N = 10$ ) were reviewed by a second observer to secure reliability. Beforehand, both observers were trained using a specific training map with exercises (according to the OPTION protocol by Glyn Elwyn (22). Inter-rater reliability between the observers was calculated with Cohen's kappa (0.65) and indicated a substantial inter-rater agreement (25).

## Statistical analysis

Descriptive analyses were used to describe GP, patient and consultation characteristics and how GPs involve their patients in the decision-making process.

The potential determinants for application of SDM by Dutch GPs (including year of measurement, sex and age of patients and GPs, the nature of complaints, consultation duration and the type of decision discussed) were analysed using multilevel analysis [with patients (Level 1) nested within GPs (Level 2)].

In the subsequent models, we added several variables in order to analyse any possible association with SDM. Model 1 included application of SDM, compared over time. In model 2, we added the following variables: the patient's age (26), the patient's sex (26), the GP's age and the GP's sex (27). In model 3, we added the following variables: the duration of the consultation (27) and the nature of the complaints (28,29). To be relevant for analysis, the nature of complaints (ICPC coding) was aggregated into five chapters. In the fourth and final model, we added the type of decision discussed. Data were analysed using Stata version 14 (30).

## RESULTS

### Sample characteristics

The GPs in 2007 ( $N = 29$ ) were significantly older (51.6) than those in 2015 ( $N = 17$ ) (45.5) (Table 3). In both 2007 and 2015, a medical prescription was the most common decision made during a consultation. In the 2015 sample, the consultation was significantly longer (11.28 minutes) than in the 2007 sample (9.24 minutes). Other characteristics did not differ significantly.

Most patients' symptoms were related to the musculoskeletal system (back pain, knee trauma; Table 3). In 2007, 77.6% of the patients ( $N = 808$ ) agreed to participate. Non-responders were somewhat older (on average 48 years versus 43 years) and less often female. In 2015, none of the patients invited refused to participate.

### Shared decision-making behaviour

On a scale from 0 to 100, the mean SDM score was significantly higher in 2015 (22.6) than in 2007 (14.1) (Table 3). In 2007, the majority of the scores revealed that 'the behaviour towards SDM was not observed at all'. In 2015, the majority of the scores on the five-point Likert scale revealed a 'minimal attempt' (score 1) towards SDM behaviour (Table 1). Table 2 shows examples of

consultations that illustrate the absence or presence of SDM behaviour by GPs (including the OPTION score). In both 2007 and 2015, the predominantly observed items were 'identifying problem(s)' (item 1) and 'indicating a need to review the decision' (item 12) and least observed items were 'assessing preferred approach' (item 3) and 'eliciting preferred involvement' (item 10) (Table 1).

### [Table 3]

#### Factors associated with shared decision-making

Table 4 shows the results of the multilevel analysis. Overall, in 2015, GPs applied SDM more often compared with 2007 according to OPTION. Although model 2 shows an effect of the patient's sex, the effect disappears by adding the consultation duration in model 3. In model 3, there is a remaining effect of patient's age. In consultations with older patients, there is less application of SDM according to OPTION. No other significant effects were founded.

#### Conclusions and discussion

To our knowledge, this study is the first to explore how GPs involve their patients in SDM, comparing two time periods by using video recorded consultations. In 2015, the GPs applied SDM behaviour more often during their daily practice compared with the GPs in 2007. This finding is in line with the greater attention given to SDM over the last decades (1,2,10,11). However, in most cases, only a minimal attempt was made per behavioural item. This result corresponds with the systematic review of Couet et al. (23) that found low levels of behaviours involving patients in various clinical contexts. Therefore, the extent to which SDM is applied by GPs, or by other health care providers, seems comparable. Moreover, the most predominant observed items were 'drawing attention to an identified problem as one that requires a decision-making process' (item 1) and 'indicating the need to review the decision' (item 12). These items have been found to be important for all health care consultations in general and, again, not only specifically for the application of SDM in primary care (11).

Another common factor concerns the least observed, and most observed, items. The two least observed behaviours were 'assessing the patient's preferred approach' (item 3) and 'eliciting preferred involvement' (item 10). A previous study reported that clinicians find it inappropriate to ask these two items in a consultation (31). With regard to 'assessing the patient's preferred approach' (item 3), it is noteworthy that patients' self-reported 'preferred role in decision-making' has never been associated with variations in GP behaviours involving patients (23). With regard to the low scores on 'eliciting preferred involvement' (item 10), several studies state that most clinicians incorrectly believe that they know patients' preferred level of involvement without asking (23,26). This preference should itself be informed rather than based on a clinician's presumption about what the patient wants. However, this does not imply that clinicians are completely blind to patients' preferred level of involvement. They usually apply more behaviours involving patients when patients demonstrate more initiative (23). Meanwhile, the findings above have been acknowledged and have resulted in a revised version of OPTION<sup>12</sup>, called OPTION<sup>5</sup>, in which items 3 and 10 are removed. Although both instruments are equally valid (32), future observational studies on SDM should preferably use OPTION<sup>5</sup>.

The remaining items where there was minimal observation, both in 2007 and 2015, were 'checking understanding' (item 8), 'indicating a need for a decision' (item 11) and 'offering opportunities for questions' (item 9). These results offer suggestions for developing future interventions aimed at improving communication between GPs and patients in daily practice. However, although it is known that training GPs results in more SDM during consultations, GPs still report a tension between recommendations for guidelines and the implementation of patient preferences (33). In addition, the application of SDM may be limited by protocols or other

restrictions. Furthermore, there are patients who do not wish, or do not have the capabilities, to participate in SDM—for example, due to limited health literacy (34). The OPTION does not take these factors into account. These factors represent familiar challenges internationally too (10). Countries, which may also have a health care system comparable with the Netherlands, acknowledge that efforts on all levels, including the policy, clinician and patient levels, are required to overcome these challenges (10,35). Next to the resemblance in challenges, these countries—characterized by a gatekeeper system— have also in common the increased attention for SDM during the last decades. The expectation that this had led to an equal increase in application of SDM in general practice should be examined.

Consultations in 2015 were significantly longer compared with 2007, and longer consultations were associated with higher OPTION scores in both years. Although several previous studies argue that SDM does not necessarily take more time (36,37), behaviours involving the patient are observed more consistently in studies with lengthier consultations (23). Still, our overall low OPTION scores may strengthen clinicians' view that their biggest barrier to practising SDM is their lack of time (27,38).

In consultations with older patients, there was less application of SDM. This finding aligns with earlier studies that found that involvement levels reduced as patient age increases (39,40). Moreover, these studies have suggested the underlying cause that older patients tend to have lower preference for involvement. However, such associations are not absolute and show large minorities in different age groups holding opposite views to the majority (41). Regardless of age, each unique patient may vary in one's desire for involvement in decision-making. This highlights the desirability for helping patients better expressing their preferences and acting according to it. On top of that, older patients more frequently experience chronic or severe diseases and therefore are regarded as more vulnerable than younger patients. For that reason, GPs should pay explicit attention to eliciting the preferred role of older patients in the decision-making process.

An important strength of this study is that we used real-life video-recorded consultations collected during two time periods. Furthermore, neither the GPs nor the patients were aware of the fact that SDM was our focus of interest. Some limitations should also be noted. First, the results may be influenced by the relatively small study sample (N = 50 per year). Also, due to the explorative research design, the external validity is low. This was in spite of our random selection of routine GP–patient consultations in an attempt to achieve a more reliable reflection of daily practice. However, a post hoc power analysis revealed that in order for a large effect size to be detected (80% chance) as significant at the 5% level, a sample of 21 consultations per year would be required. Also, in 2015, there were fewer GPs included (n = 17), compared with 2007 (n = 29), due to the lower number of video recordings available for analysis in 2015 at the time of the current study. Second, the GPs in 2007 were significantly older than those in 2015. Older GPs may, possibly, apply SDM less often during their consultations. However, age is not by definition, a determining factor for communication competences (18). Third, the familiarity of the patient with a GP, and vice versa, can strengthen the doctor–patient relationship (42,43) and hence may influence a GP's communication style. However, we could not include this factor in our analyses due to substantial differences in the measurement of familiarity in 2007 compared with 2015. Even so, SDM does not solely depend on the clinicians' behaviour. Ideally, studies should observe both clinicians' and patients' behaviour as well as their interaction during a consultation. Fourth, the localization of GP offices was substantially different in 2007 (i.e. throughout the Netherlands) from that in 2015 (i.e. the majority was located in the eastern part of the country). However, in the Netherlands, the localization of GP offices is not likely to have an effect on GPs' communication style; the GPs' vocational training is quite similar throughout the Netherlands, and the GP practices are governed by national guidelines (44).



#### [Table 4]

Finally, because OPTION only measures the extent to which patients are involved in decision-making processes in consultations, it is not a conclusive measure for the quality of communication by GPs. With regard, in particular, to the generalist approach in primary care—as opposed to secondary care—SDM may be more important for some decisions than others. If SDM is followed mechanically or ritualistically, it can be insensitive towards the situational context and will not improve health outcomes (45,46). Even though SDM is seen as the ideal standard for making decisions in clinician–patient encounters, the intensity of SDM will always differ per patient and per context (11). Therefore, implementing SDM in primary care calls for communication tailored to the context and situation of the individual patient.

Nonetheless, involving patients in the decision-making process remains a key facet in patient participation in health care. This emphasizes the need for a GP to elicit the patient’s preferred role in the decision-making process at any time, in particular in consultations with older patients. Only by doing so, the application of SDM aligns with a patient-centred approach and can be a legitimate means of improving GP–patient communication in daily practice.

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#### Declaration

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Ethical approval: The studies were carried out according to Dutch privacy legislation. The privacy regulation was approved by the Dutch Data Protection Authority. According to Dutch legislation, approval by a medical ethics committee was not required for these observational studies.

Conflict of interest: none.

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## Tables

**Table 1** *OPTION scores from observations of GP–patient consultations in 2007 and 2015*

OPTION index	2007					2015				
	0	1	2	3	4	0	1	2	3	4
1. The clinician ‘draws attention’ to an identified problem as one that requires a decision-making process.	6	21	19	4	0	0	16	25	8	1
2. The clinician ‘states’ that there is more than one way to deal with the identified problem.	33	17	0	0	0	21	10	14	5	0
3. The clinician ‘assesses’ the patient’s preferred approach to receiving information to assist decision-making.	49	1	0	0	0	42	7	1	0	0
4. The clinician ‘lists’ ‘options’, which can include the choice of ‘no action’.	41	8	1	0	0	25	10	9	5	1
5. The clinician ‘explains’ the pros and cons of options to the patient.	35	14	1	0	0	15	24	8	3	0
6. The clinician explores the patient’s ‘expectations’ about how the problem, or problems, is to be managed.	40	18	2	0	0	23	21	4	2	0
7. The clinician explores the patient’s ‘concerns’ about how problem, or problems, is to be managed	36	13	1	0	0	23	23	3	1	0
8. The clinician checks that the patient has ‘understood’ the information.	35	15	0	0	0	18	32	0	0	0
9. The clinician offers the patient explicit ‘opportunities to ask’ questions during the decision-making process.	0	48	2	0	0	1	43	6	0	0
10. The clinician elicits the patient’s ‘preferred level of involvement’ in decision-making.	48	2	0	0	0	42	7	0	1	0
11. The clinician indicates the need for a decision-making stage.	25	23	2	0	0	4	43	3	0	0
12. The clinician indicates the need to review the decision.	13	7	7	23	0	10	14	17	8	1
Total	351	187	35	27	0	224	249	91	33	3

GP, general practitioner; OPTION, observing patient involvement in decision making.

Score Description

- 0 The behaviour is not observed.
- 1 A minimal attempt is made to exhibit the behaviour.
- 2 The behaviour is observed and a minimum skill level achieved.
- 3 The behaviour is exhibited to a good standard.
- 4 The behaviour is exhibited to a very high standard.

Details about how each scale point should be given to differing skill levels of behaviours observed are provided in the OPTION rater manual.

**Table 2** *Examples of consultations that illustrate the absence or presence of SDM behaviour by GPs*

The following quotes illustrate two different consultations in which SDM behaviour is scored as absent (GP-A) and in which SDM behaviour is scored as observed (GP-B):

1. *[Patient with inflammation of the tonsils]*

‘GP: I advise to take 400-mg Ibuprofen. You may take it three times a day, if needed in combination with Paracetamol. Okay? Patient: Yes. GP: Okay.’

(GP-A)

OPTION score: 0

2. *[Patient with psychological complaints after (musculoskeletal problems due to) car accident]*

‘GP: Do you already have any ideas that might help you with your issues? Patient: Well, I already went to a psychologist, but I cannot afford it anymore. GP: We could check whether your insurance reimburses the costs. If not, an alternative could be our practice nurse for mental healthcare. This is actually the same as a psychologist. Because she is part of our practice, it will cost you nothing. Patient: I think that would be great. GP: And if it does not meet your expectations you may always come back to me.’

(GP-B)

OPTION score: 2

GP, general practitioner; OPTION, observing patient involvement in decision making; SDM, shared decision-making.

Table 3 Medical and demographic characteristics of the study sample

Patient characteristics		2007 (N = 50)			2015 (N = 50)		
Age	Mean	SD	Range	Mean	SD	Range	
Years	49.2	16.5	18–87	48.8	16.2	18–78	
Gender	Number	Percentage		Number	Percentage		
Male	18	36		21	42		
Female	32	64		29	58		
ICPC chapters	Number <sup>a</sup>	Percentage		Number <sup>b</sup>	Percentage		
D: Gastrointestinal tract	12	24		6	12		
L: Musculoskeletal system	12	24		12	24		
R: Respiratory tract	7	14		5	10		
S: Dermatological diseases	5	10		6	12		
Other (general or unspecified)	14	28		21	42		
GP characteristics		2007 (N = 29)			2015 (N = 17)		
Age*	Mean	SD	Range	Mean	SD	Range	
Years	51.6	5.8	41–62	45.5	11.3	31–69	
Gender	Number	Percentage		Number	Percentage		
Male	19	65		8	47		
Female	10	35		9	53		
Types of practice	Number	Percentage		Number	Percentage		
Solo practice	7	24		2	12		
Duo practice	8	28		4	24		
Group practice	9	31		5	29		
Health care centre	5	17		6	35		
Consultation characteristics		2007 (N = 50)			2015 (N = 50)		
Duration*	Mean	SD		Mean	SD		
Minutes	9.24	5.0		11.28	4.2		
Nature of decision	Number	Percentage		Number	Percentage		
Medication	18	36		16	32		
Referral	4	8		10	20		
Expectative policy	12	24		14	28		
Further investigations	14	28		9	18		
(Surgical) intervention	2	4		1	2		
OPTION score*	Mean	SD		Mean	SD		
0–100 scale	14.1	6.3		22.6	11.7		

GP, general practitioner; ICPC, International Classification of Primary Care; SD, standard deviation.

<sup>a</sup>Coded by observers.

<sup>b</sup>Coded by GPs.

\*Significant difference,  $P < 0.05$ .

