



Can shared decision making increase the uptake of evidence in clinical practice?

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Accepted 18 March 2011

Published Online First
21 April 2011

Despite copious research and clear policies in many healthcare systems, evidence based practice has yet to be widely adopted. Part of the problem is insufficient consideration of the patient–clinician consultation, which lies at the heart of clinical practice and is where most decisions are made. Shared decision making (SDM)—the interactive process in which patients and clinicians decide on healthcare together—capitalises on the consultation to better translate the best evidence into clinical decisions while taking the patient's values and preferences into account. This paper takes stock of interventions that seek to embed SDM in clinical practice, such as patient decision aids that target both patients and clinicians. It also presents challenges that remain: among others, the paucity of evidence on effective implementation strategies and the lack of consideration of how SDM works when care is delivered by interprofessional teams. The paper then reviews current initiatives to improve and disseminate SDM across the healthcare continuum, and discusses why SDM should be encouraged as a means to leverage evidence based practice. The evidence suggests that finding ways to overcome the challenges and promote SDM will accelerate the uptake of evidence in gastroenterology and hepatology clinical practice.

Introduction

Although the healthcare systems of the developed world are unanimous as to the benefits of evidence based practice, evidence based medicine is still not widely exercised.¹ Part of the problem is insufficient consideration of the structure of patient–clinician consultations, which lie at the core of clinical practice and are the principal venue where decisions are made. Shared decision making (SDM)—the interactive process in which patients and clinicians collaborate to decide on healthcare—capitalises on the consultation to better translate best evidence into clinical

decision making while taking the patient's values and preferences into account.² In this paper, we review what is known about effective strategies for implementing SDM in clinical practice, outstanding challenges to the implementation of SDM (and what policy makers and government agencies are doing to meet them) and how SDM can increase the use of evidence based practice in gastroenterology and hepatology.

Strategies for implementing SDM in clinical practice

A systematic review of 38 studies in 10 countries revealed that when healthcare providers were asked about the biggest barriers to practicing SDM in the clinical setting, most often they named time constraints and lack of applicability of SDM because of the patient's characteristics and clinical situation.³ When asked about facilitators to practising SDM, they most frequently identified personal motivation and SDM's positive impact on the clinical process and on patient outcomes. These findings make valuable suggestions for future SDM implementation strategies. They are also valuable in that they showed that the vast majority of the healthcare providers that participated in the studies—89%—were medical doctors: far from mirroring conditions on the ground, this reveals an important discrepancy between the focus of SDM research and actual healthcare practice, which is increasingly delivered by interprofessional teams. For this reason, physicians' perceptions of barriers and facilitators are not authoritative as to the most effective strategies for implementing SDM.

A recently published Cochrane systematic review on interventions for improving healthcare professionals' adoption of SDM has attempted to fill this gap. The publication reviewed five studies, all

randomised controlled trials.⁴ In only two of the five was a statistically significant effect associated with an intervention to promote healthcare providers' adoption of SDM.^{5,6} The first trial compared a single intervention (the Statin Choice decision aid) to another single intervention (the standard Mayo patient education pamphlet)⁶ and found that the Statin Choice decision aid group outperformed the standard Mayo patient education pamphlet group. The second study compared a multifaceted intervention (the distribution of educational material, an educational meeting, and audit and feedback) to usual care.⁵ Interestingly, neither trial observed a difference in the duration of the consultation between the consultations of professionals who had been more successful in implementing SDM in their clinical practice (the subjects) and the consultations of those who had been less successful (the controls). Although this systematic review did not draw firm conclusions about the most effective strategies for increasing SDM in clinical practice, it nonetheless concluded that healthcare provider training in SDM may be important, as may the use of patient decision aids.

Patient decision aids are an SDM tool that involves patients in decisions by informing them of options and outcomes and helping them clarify their personal values. Designed to complement, not replace, counselling from a health provider,⁷ patient decision aids differ from usual health education materials by their detailed and personalised focus on options and outcomes for the purpose of preparing patients to make decisions. In implementation science, patient decision aids are referred to as patient mediated interventions—interventions aimed at changing healthcare professionals' behaviour either through provider–patient interactions or through information provided by or to the patient.⁸ Health education materials, in contrast, have a broader perspective and help patients understand their diagnosis, treatment and management in general terms: they do not necessarily help them participate in decision making. The Patient Decision Aid Research

Group at the Ottawa Hospital Research Institute maintains an inventory of patient decision aids—the A to Z Inventory of Decision Aids (<http://decisionaid.ohri.ca/AZinvent.php>)—that can be searched online.⁹ The aids listed in this inventory address several clinical topics relevant to gastroenterology and hepatology: for example, colorectal screening options, gastro-oesophageal reflux disease treatment options, hepatitis treatment options and long term tube feeding in cognitively impaired older persons.¹⁰

How popular are patient decision aids as a tool to promote SDM? Research shows that a significant number of patients prefer an active role in decisions concerning their health, especially once they understand the benefits of participating.¹¹ More specifically, patients' participation in decision making is associated with greater patient satisfaction with the consultation process and better health outcomes.¹² While a number of strategies can encourage patients' participation,¹³ a Cochrane systematic review of patient decision aids has indicated that several patient decision aids are singularly successful in this regard.⁷ This review considered various studies of patients' perception of the decisions making process and concluded that patients exposed to patient decision aids felt more involved in decision making than did patients exposed to usual care (no decision making intervention).⁷

This said, a number of clinical conditions do not yet have their own decision aid. For these, the Patient Decision Aid Research Group has proposed a generic tool, the Ottawa Personal Decision Guide (<http://decisionaid.ohri.ca/decguide.html>). This guide offers a four step process for making decisions (see table 1). The guide is available in English, Spanish, French and Japanese. It can be completed online or downloaded as a pdf file free of charge.

The Patient Decision Aid Research Group also offers a patient decision aid development toolkit for researchers interested in developing their own patient decision aid (<http://decisionaid.ohri.ca/resources.html>). The group has also produced an implementation toolkit

Table 1 Four step process for making decisions based on the Ottawa Personal Decision Guide (see <http://decisionaid.ohri.ca/decguide.html>)

Step	Examples of questions to ask patients
(1) Clarify the decision to be made	What is the decision you face? What is your reason for making this decision? When does this decision have to be made?
(2) Explore the decision	What is your preferred role in decision making? Do you know which options you have? Do you know the good and bad points of each option? Are you clear about which good and bad points are most important to you? Are you choosing without pressure from others?
(3) Assess decision making needs	Can you list and review the options you are considering and list the pros and cons of each option? Can you show how important each pro and con is to you?
(4) Plan the next steps	What are you willing to try to address things making the decision difficult?

Table 2 Five step process for implementing decision aids in clinical practice (see <http://decisionaid.ohri.ca/Implement.html>)

Step	Examples of specific activities to be conducted
(1) To assess patients' and practitioners' information and decision making needs	Conduct a needs assessment to identify patients' and practitioners' perception of patients' decision making needs Survey practitioners to determine barriers and facilitators to providing decision support to patients and sharing decisions with patients
(2) To review patient decision support tools	Audit the quality of patient education resources currently used within the practice Review the inventory of patient decision aids maintained by the Patient Decision Aids Research Group (http://decisionaid.ohri.ca/AZinvent.php) Consider using a generic worksheet if the above inventory does not include the desired patient decision aid (http://decisionaid.ohri.ca/decguide.html)
(3) To offer practitioners education and training	Access the Ottawa Decision Support Tutorial, an online tutorial designed to help practitioners develop skills in providing decision support to patient and engaging patients' decision making (https://decisionaid.ohri.ca/ODST/index.php) Register to a training programme in SDM Embed training in patient decision support and SDM as a thread across a curriculum for health professionals (http://decisionaid.ohri.ca/docs/Implement/PtDS_Curriculum.pdf)
(4) To implement patient decision support tools using strategies tailored to the practice setting	Assess the gap between the patients' identified decision making needs and current practice Engage health professionals to identify needed resources and strategies to address barriers Embed patient decision support tools within care pathways Ensure organisational mandate includes supporting patients to be engaged in decision making and self-care Increase patients' and family members' awareness of resources Link health information resources to electronic health records to ease documentation and flag relevant resources 'just in time'
(5) To monitor the quality of the decision support provided	Assess decision quality (http://www.informedmedicaldecisions.org/quality_initiative.html)

SDM, shared decision making.

targeting patients and healthcare teams that uses a five step process to implement decision aids in clinical practice (<http://decisionaid.ohri.ca/Implement.html>). Table 2 provides details about the following five steps: (1) to assess patients' and practitioners' information and decision making needs, (2) to review patient decision support tools to find those relevant to the needs identified, (3) to offer practitioners education and training to enhance their decision support skills (note that an international research collaborative is currently surveying SDM training programmes for healthcare professionals),¹⁵ (4) to implement patient decision support tools using strategies tailored to the practice setting and (5) to monitor the quality of the decision support provided as well as the quality of the decision—for example, by assessing decisional conflict and patients' decisional regret.^{16–18}

Challenges to implementing SDM in clinical practice

Notwithstanding the recent work on patient decision aids, at least three obstacles continue to slow the adoption of SDM in clinical practice. The first is the paucity of evidence on productive, cost effective strategies for the large scale implementation of SDM. The solution to this obstacle could very well lie in research: more specifically, well designed theory based implementation studies that have appropriate power, follow procedures to minimise bias and target two goals: to better estimate the effects of interventions

on healthcare professionals' adoption of SDM and to determine which implementation strategies are most worth stakeholders' money and effort. The second obstacle is the lack of consensus on how to assess the successful implementation of SDM in clinical practice: should success be measured as a function of healthcare providers' adoption of SDM related behaviours? Or would another indicator be more useful?¹⁹ Consensus on this subject would facilitate cross study comparisons and more reliably assess whether SDM is occurring.^{20,21} The third obstacle is the academic community's near total insistence on studying the practice of SDM by physicians alone. More and more care is now being delivered by interprofessional teams of healthcare providers, not just doctors. For that reason, it is essential that SDM be embraced by interprofessional teams.²² Yet little is known about how providers other than doctors perceive SDM, or how SDM is seen by healthcare teams and players at other levels of the healthcare system.²³

What is being done to meet these challenges? We discuss recent developments in three countries that testify to interesting progress at the policy making level. The first is the UK. Home to a significant number of SDM implementation studies during the past decade,²⁴ the UK has declared its intent to improve health outcomes by involving patients in their own care and by having decisions made by patients in partnership with clinicians, rather than by clinicians alone.²⁵ Supporting this initiative is a study by the National Steering

Group for Decision Support Aids in Urology, which has stated that implementing patient decisional support in UK urology departments would likely benefit both patients and professionals and optimise the use of National Health Service (NHS) resources.²⁶ The NHS Direct helpline and website are already working in this regard, having created a platform for publicising decision aids recently developed in the country.²⁷ And in August 2010, the Health Foundation began supporting an 18 month programme steered by the universities of Newcastle and Cardiff that is exploring how SDM can be embedded in clinical practice and form a core part of mainstream health services (http://www.health.org.uk/current_work/programmes/shared_decision.html).

In the USA, healthcare reforms led by the Obama administration include a section on SDM and patient decision aids.²⁸ The provision for SDM is not new: the state of Washington, for example, has passed legislation to make SDM a standard of practice.²⁹ Meanwhile, certain American medical institutions, such as the Dartmouth–Hitchcock Medical Center in New Hampshire, have pioneered SDM infrastructure that offers patients a systematic approach to SDM and patient decision aids.^{30–32} For example, the Dartmouth–Hitchcock Medical Center offers patients a Center for Shared Decision Making where patients facing difficult health related decisions can request one on one counselling for any clinical condition; access a library of patient aids that includes videotapes, audiotapes, booklets, CD-ROMs and websites; and find a healthcare decision guide worksheet that helps them work through a decision on their own.³³

In Canada, sundry initiatives to extend SDM are also taking place. One such initiative consists of the province of Saskatchewan's introduction of patient decision aids in surgical specialties, a practice that Saskatchewan plans to expand to all medical specialties over time.³⁴ These actions are the realisation of a promise made by the administration during the last election campaign, when its platform advocated fostering patient centred care.

Lastly, the *BMJ* hosted an expert roundtable event to discuss SDM on 24 March 2011 and published the Salzburg Statement on Shared Decision Making (<http://www.bmj.com/content/342/bmj.d1745.full.pdf>). This statement follows a seminar attended by 58 people from 18 countries and highlights the need for all stakeholders (eg, clinicians, researchers, editors, journalists, policy makers) to take immediate actions so patients and their families are supported when facing difficult decisions.

How SDM can leverage evidence based practice

We know about barriers and facilitators to implementing SDM, especially from physicians' point of view, and we have identified obstacles to the implementation of SDM and ways that three countries hope to promote SDM, but is SDM really an efficient vehicle

for the realisation of evidence based medicine? What mechanisms make it so?

Even in a meeting as brief as a clinical consultation, participants have the potential to influence each other's cognition, emotions and behaviour.³⁵ Research confirms the dynamic: the doctor and the patient influence each other during the clinical decision making process. A particularly poignant example can be found in a study of 112 dyads of doctors and patients where the personal uncertainty of doctors and patients (ie, how confident each party felt about the decision being made) was influenced not by each party's own deficit in knowledge but rather by the deficit of the other member of the dyad.³⁶

SDM recognises this context of mutual influence and capitalises on it to encourage the uptake of the best available evidence in situations where clinical decisions are commonly made: clinical consultations. A systematic review that identified 31 SDM components and summarised the key ones in an integrative model posited that three elements must be present for SDM to occur: the parties must acknowledge that a decision is needed, they must both know and understand the best available evidence concerning the risks and benefits of every option and, in making a decision, they must take not only the doctor's recommendations but also the patient's values and preferences into account.³⁷ In this way, we see that SDM not only requires that the best evidence be considered, but requires that it be considered by both members of the decision making dyad: the healthcare provider(s) and the patient. In other words, SDM does not assume that the doctor is the only party to need access to evidence in order for patients to experience evidence based practice: rather, it assumes that both the doctor and the patient need access to the best evidence and that they also need to weigh this evidence in light of the values and preferences of the patient and the recommendations of the doctor. By practising SDM, clinicians can thus be expected to boost their uptake of evidence while taking patients' values and preferences into account and reducing patients' personal uncertainty and their own. In the process, of course, they will be ensuring that healthcare decisions are made on a sounder, more evidentiary basis that cannot but improve patients' experience of the healthcare system.³⁸

Conclusion

This journal aims to improve the fields of gastroenterology and hepatology by accelerating the uptake of best evidence in clinical practice and considering the needs of both patients and healthcare providers. SDM is fully consistent with these ambitions. Yet patients' low level of involvement during consultations in various clinical settings confirms that SDM is still largely ignored in clinical practice.^{19 39 40} In 2006, for example, 26 NHS surveys showed that 32% of primary care patients and 48% of hospital patients had not been

involved in decisions about their care as much as they had wished.⁴¹

To remedy this situation and allow SDM to occur, healthcare providers and patients must agree to re-engineer the typical consultation process and make use of new clinical tools, such as patient decision aids. Clinicians must be trained in SDM, and to be trained in meeting with patients who have used patient decision aids. Also, ongoing initiatives by the Guidelines International Network Patient and Public Involvement Working Group (G-I-N PUBLIC) are expected to provide exciting new strategies to translate SDM into clinical practice by fostering the involvement of patients in the development and implementation of guidelines.⁴²

But what advantage does SDM hold for clinicians? We have seen that reworking the consultation to make room for SDM improves health outcomes and meets patients' demands for participation in health related decisions. But SDM also holds benefits specific to healthcare providers. By helping providers discuss evidence with patients, SDM helps bridge the gap between patient centred care and evidence based practice—that latter of which is sometimes perceived as practice that is anything but centred on the patient.⁴³ SDM calls upon the doctor to share the best evidence with the patient, including evidence about the consequences of 'doing nothing', and in doing so helps the patient to make an informed decision, such as the decision to decline a certain test. In this way, SDM improves the patient's understanding of benefits and risks and has the potential to reduce the frequency of malpractice suits.⁴⁴ For example, Barry *et al* conducted focus groups with 47 potential jurors who were presented with different scenarios in a hypothetical malpractice case involving the failure to order a prostate specific antigen screening test. In these scenarios, better documentation that a patient had made an informed decision to decline a prostate specific antigen test resulted in more legal protection for physicians, especially when the patient had made the decision using a patient decision aid.⁴⁴ This is another reason why SDM may become a desirable standard of practice for informed consent procedures.

SDM also enjoys the approval of policy makers on specific grounds. First, SDM can reduce the overuse of options not clearly associated with benefits for the target population (eg, prostate cancer screening).⁴⁵ Second, it can increase the use of options clearly associated with benefits for the target population (eg, cardiovascular risk factor management).⁴⁶ Third, it can reduce unwarranted variations in healthcare practices, variations that cannot be explained by difference in patients' profiles.⁴⁷ Fourth, it can foster the sustainability of the healthcare system (reduce costs).⁴⁸ Lastly, it can reinforce health professionals' acceptance of patients' involvement.⁴⁹

In this way, we see that SDM both promotes the uptake of best practices and itself acts as a best practice by

involving patients in decisions and ultimately improving the outcome of care. More research—especially in clinical areas in which experiments with SDM have not yet taken place—and greater recognition of the importance of multidisciplinary teams in clinical decision making would speed progress further in this important domain.

Contributors FL was responsible for drafting the article. FL, MS and DS revised and accepted the final version of the manuscript. Jennifer Petrela edited this article.

Competing interests FL holds a Tier 2 Canada Research Chair in Implementation of Shared Decision Making in Primary Care.

Provenance and peer review Commissioned; externally peer reviewed.

References

1. Grol R, Grimshaw J. From best evidence to best practice: effective implementation of change in patients' care. *Lancet* 2003;362:1225–30.
2. Elwyn G, Edwards A, Kinnersley P. Shared decision-making in primary care: the neglected second half of the consultation. *Br J Gen Pract* 1999;49:477–82.
3. Légaré F, Ratté S, Gravel K, *et al*. Barriers and facilitators to implementing shared decision-making in clinical practice: update of a systematic review of health professionals' perceptions. *Patient Educ Couns* 2008;73:526–35.
4. Légaré F, Ratté S, Stacey D, *et al*. Interventions for improving the adoption of shared decision making by healthcare professionals. *Cochrane Database Syst Rev* 2010;5:CD006732.
5. Stacey D, O'Connor AM, Graham ID, *et al*. Randomized controlled trial of the effectiveness of an intervention to implement evidence-based patient decision support in a nursing call centre. *J Telemed Telecare* 2006;12:410–15.
6. Nannenga MR, Montori VM, Weymiller AJ, *et al*. A treatment decision aid may increase patient trust in the diabetes specialist. The Statin Choice randomized trial. *Health Expect* 2009;12:38–44.
7. O'Connor AM, Bennett CL, Stacey D, *et al*. Decision aids for people facing health treatment or screening decisions. *Cochrane Database Syst Rev* 2009;3:CD001431.
8. Entwistle VA, Freemantle N, Watt IS; International Society of Technology Assessment in Health Care Meeting. Patient mediated interventions: theoretical issues. *Annu Meet Int Soc Technol Assess Health Care Int Soc Technol Assess Health Care Meet* 1995;11:240.
9. The Patient Decision Aids Research Group at the Ottawa Hospital Research Institute. *A to Z inventory of decision aids*. Ottawa: Patient Decision Aids Research Group, 2010.
10. Mitchell SL, Tetroe J, O'Connor AM. A decision aid for long-term tube feeding in cognitively impaired older persons. *J Am Geriatr Soc* 2001;49:313–16.
11. Kiesler DJ, Auerbach SM. Optimal matches of patient preferences for information, decision-making and interpersonal behavior: evidence, models and interventions. *Patient Educ Couns* 2006;61:319–41.
12. Hack TF, Degner LF, Watson P, *et al*. Do patients benefit from participating in medical decision making? Longitudinal follow-up of women with breast cancer. *Psychooncology* 2006;15:9–19.

13. Coulter A, Ellins J. Effectiveness of strategies for informing, educating, and involving patients. *BMJ* 2007;335:24–7.
14. Coulter A, Parsons S, Askham J. *Where are the patients in decision-making about their own care?* Copenhagen: WHO, 2008.
15. Légaré F, Bekker H, Desroches S, *et al.* Effective continuing professional development for translating shared decision making in primary care: a study protocol. *Implement Sci* 2010;5:83.
16. Brehaut JC, O'Connor AM, Wood TJ, *et al.* Validation of a decision regret scale. *Med Decis Making* 2003;23:281–92.
17. Légaré F, Kearing S, Clay K, *et al.* Are you SURE?: assessing patient decisional conflict with a 4-item screening test. *Can Fam Physician* 2010;56:e308–14.
18. O'Connor AM. Validation of a decisional conflict scale. *Med Decis Making* 1995;15:25–30.
19. Elwyn G, Hutchings H, Edwards A, *et al.* The OPTION scale: measuring the extent that clinicians involve patients in decision-making tasks. *Health Expect* 2005;8:34–42.
20. Weiss MC, Peters TJ. Measuring shared decision making in the consultation: a comparison of the OPTION and Informed Decision Making instruments. *Patient Educ Couns* 2008;70:79–86.
21. Butow P, Juraskova I, Chang S, *et al.* Shared decision making coding systems: how do they compare in the oncology context? *Patient Educ Couns* 2010;78:261–8.
22. Légaré F, Stacey D, Pouliot S, *et al.* Interprofessionalism and shared decision-making in primary care: a stepwise approach towards a new model. *J Interprof Care* 2011;25:18–25.
23. Stacey D, Légaré F, Pouliot S, *et al.* Shared decision making models to inform an interprofessional perspective on decision making: a theory analysis. *Patient Educ Couns* 2010;80:164–72.
24. Coulter A. *Implementing shared decision making in the UK: a report for the Health Foundation.* London: The Health Foundation, 2009.
25. Department of Health. Equity and excellence: liberating the NHS. White Paper NHS. London: Department of Health, 2010:57.
26. National Steering Group for Decision Support Aids in Urology - Final Report. Oxford: The Picker Institute Group, 2005. http://www.pickereurope.org/Filestore/Research/Urology_steering_group_report.pdf (accessed 18 Apr 2011).
27. Elwyn G, Laitner S, Coulter A, *et al.* Implementing shared decision making in the NHS. *BMJ* 2010;341:c5146.
28. Iglehart JK. Senate's reform package wrapped up in time for Christmas. *N Engl J Med* 2010;362:e4.
29. Kuehn BM. States explore shared decision making. *JAMA* 2009;301:2539–41.
30. Andrews SB, Drake T, Haslett W, *et al.* Developing web-based online support tools: the Dartmouth decision support software. *Psychiatr Rehabil J* 2010;34:37–41.
31. Brackett C, Kearing S, Cochran N, *et al.* Strategies for distributing cancer screening decision aids in primary care. *Patient Educ Couns* 2010;78:166–8.
32. Weinstein JN, Clay K, Morgan TS. Informed patient choice: patient-centered valuing of surgical risks and benefits. *Health Aff (Millwood)* 2007;26:726–30.
33. Dartmouth–Hitchcock Medical Center. Center for Shared Decision Making. Lebanon, NH: Dartmouth–Hitchcock Medical Center, 2010.
34. Chow S, Teare G, Basky G. *Shared decision making: helping the system and patients make quality health care decisions.* Saskatoon, SK: Health Quality Council, 2009:52.
35. Brinberg D, Jaccard J. Multiple perspectives on dyadic decision making—research agenda for dyadic decision making. In: Brinberg D, Jaccard J, eds. *Dyadic decision making.* New York, NY: Springer-Verlag 1989:328–33.
36. LeBlanc A, Kenny DA, O'Connor AM, *et al.* Decisional conflict in patients and their physicians: a dyadic approach to shared decision making. *Med Decis Making* 2009;29:61–8.
37. Makoul G, Clayman ML. An integrative model of shared decision making in medical encounters. *Patient Educ Couns* 2006;60:301–12.
38. Brouwers M, Stacey D, O'Connor A. Knowledge creation: synthesis, tools and products. *CMAJ* 2010;182:E68–72.
39. Siriwardena AN, Edwards AG, Campion P, *et al.* Involve the patient and pass the MRCGP: investigating shared decision making in a consulting skills examination using a validated instrument. *Br J Gen Pract* 2006;56:857–62.
40. Gagnon S, Labrecque M, Njoya M, *et al.* How much do family physicians involve pregnant women in decisions about prenatal screening for Down syndrome? *Prenat Diagn* 2010;30:115–21.
41. Richards N, Coulter A. *Is the NHS becoming more patient-centred? Trends from the National Surveys of NHS Patients in England 2002–07.* Oxford: Picker Institute Europe, 2007:31.
42. Boivin A, Currie K, Fervers B, *et al.*; G-I-N PUBLIC. Patient and public involvement in clinical guidelines: international experiences and future perspectives. *Qual Saf Health Care* 2010;19:e22.
43. Bensing J. Bridging the gap. The separate worlds of evidence-based medicine and patient-centered medicine. *Patient Educ Couns* 2000;39:17–25.
44. Barry MJ, Wescott PH, Reifler EJ, *et al.* Reactions of potential jurors to a hypothetical malpractice suit: alleging failure to perform a prostate-specific antigen test. *J Law Med Ethics* 2008;36:396–402.
45. Evans R, Edwards A, Brett J, *et al.* Reduction in uptake of PSA tests following decision aids: systematic review of current aids and their evaluations. *Patient Educ Couns* 2005;58:13–26.
46. O'Connor AM, Bennett C, Stacey D, *et al.* Do patient decision aids meet effectiveness criteria of the international patient decision aid standards collaboration? A systematic review and meta-analysis. *Med Decis Making* 2007;27:554–74.
47. Wennberg JE. Practice variations and health care reform: connecting the dots. *Health Aff (Millwood)* 2004;(Suppl Web Exclusives):VAR140–4.
48. Coulter A. *Engaging patients in their healthcare. How is the UK doing relative to other countries?* Oxford: Picker Institute Europe, 2006:55.
49. Straub C, Nebling T, Müller H. Translating research into practice: a German sickness fund supporting patient participation. *Patient Educ Couns* 2008;73:544–50.