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# Perioperative shared decision making - How do we train clinicians?

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ARTICLE INFO	A B S T R A C T				
<i>Keywords</i> : Shared decision making <i>Per</i> i operative Surgery Consent	Objective: Decision making about high-risk surgery can be complex, particularly when outcomes may be uncertain.   Clinicians have a legal and ethical responsibility to support decision making which fits with patients' values and preferences. In the UK, preoperative assessment and optimisation is led by Anaesthetists in clinic several weeks prior to planned surgery. Training in supporting shared decision making (SDM) has been identified as an area of need among UK anaesthetists with leadership roles in perioperative care.   Methods: We describe adaptation of a generic SDM workshop to perioperative care, in particular to decisions on high-risk surgery, and its delivery to UK healthcare professionals over a two-year period. Feedback from workshops were thematically analysed. We explored further improvements to the workshop and ideas for development and dissemination. <i>Results:</i> The workshops were well received, with high satisfaction for techniques used, including video demonstrations, role-play and discussions. Thematic analysis identified a desire for multidisciplinary training and training in using patient aids. <i>Conclusion:</i> Qualitative findings suggest workshops were considered useful with perceived improvement in SDM awareness, skills and reflective practice. <i>Innovation:</i> This pilot introduces a new modality of training in the perioperative setting providing physicians, particularly Anaesthetists, with previously unavailable training needed to facilitate complex discussions.				

## 1. Introduction

Shared decision making (SDM) in healthcare describes a process where a decision on a treatment or screening intervention is made by healthcare professional and patient, drawing together the best available evidence in the context of the patient's values and expectations, along with those of the patient's friends and family. A common misconception is that SDM and informed consent are equivalent concepts. However, SDM refers to a more holistic discussion that takes informed consent one step further by eliciting a patient's specific values and preferences and understanding how these align with the implications of decisions surrounding their care and the possible consequences of each. Importantly, SDM embodies the concept of choice.

In recent years the complexities surrounding decision making in highrisk surgical patients has gained prominence. This is a group of patients for whom traditional medical and patient-reported outcomes following surgical intervention may be uncertain and unpredictable [1] and although studies are in progress [2] to explore shared decision making for high-risk surgery, a survey of perioperative local provider leads [3] highlighted a gap in confidence and training in holding shared decision-making consultations in this context.

A number of drivers in recent years have raised the profile of shared decision- making, most notably the Montgomery judgement of 2015 [4], which emphasised the communication of material risks, mandating a comprehensive understanding of the patient's preferences, values and sensitivities. The major regulatory bodies for healthcare professionals in the United Kingdom mandate patient-centred care and patients' involvement in their care. This includes a wide range of professionals involved in patient care pathways at various stages including doctors, nurses, nurse practitioners, physician associates, and allied health professionals. The right to receive care and treatment which meets a patient's needs and preferences is enshrined in the NHS constitution [5]. Coulter and Collins published their document 'Making Shared Decision Making a Reality' in 2011 [6] pointing to the barriers in widespread implementation of shared decision making across the NHS, one of which is training. Until the Montgomery judgement, relatively limited progress was made towards incorporating SDM into routine clinical practice as evidenced by serial NHS inpatient surveys showing patients still felt uninvolved in decisions on their care. Furthermore, the

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addition of shared decision making to the medical school curriculum is also relatively recent [7], hence development of skills in shared decision making for the majority of doctors currently practicing will be through postgraduate education and varies considerably between specialties.

#### 1.1. The perioperative context

Preoperative assessment in the United Kingdom is led by Anaesthesia and is delivered in line with guidance from the Royal College of Anaesthetists' (RCoA) guidance for provision of anaesthetic services [8]. Perioperative Medicine refers to the period from the point of contemplation of surgery to complete recovery. Perioperative medicine in the UK has grown from the specialty of Anaesthesia [9] where the anaesthetist is responsible for understanding patients' comorbidities in greater detail, impact on functional performance status on peri-operative risk etc.

Pre-operative assessments in the UK primarily take place with an anaesthetist in the clinic environment several weeks in advance of planned surgery. This allows for an in-depth discussion with the patient equipped with the information from a thorough history, examination, and investigation findings. These consultations form a pivotal point in a patient's decision making around surgery; they focus on various decisions including whether or not to proceed with the intervention, exploring alternative surgical options if needed, discussing the role for expectant/palliative management, supporting patient to make choices which might lower their perioperative risk, such as physical, psychological and pharmacological prehabilitation interventions inclusive of modifying lifestyle factors, as well as delaying surgery if needed to optimise their preoperative health. It introduces the idea of choice to the patient and enables them to decide which pathway aligns most with their values and preferences. If the patient ultimately wishes to cancel or delay the procedure, a further discussion takes place along with the surgeon and other clinicians involved in the multidisciplinary team on how to mitigate the patient's concerns as well as continue to explore alternative management options (eg. radiotherapy, chemotherapy).

The anaesthetist's role is unique in that their extensive, rigorous training in physiology, peri-operative and intensive care makes them well suited to discuss the risks and possible consequences of surgery with patients. Hence, developing the skills among anaesthetists to communicate uncertainty and support decision-making is paramount.

As part of the perioperative medicine programme launched in 2015 by the RCoA [10], perioperative local leads were appointed at over 180 hospitals providing anaesthesia for major surgery in the United Kingdom. A survey of these local leads in 2017 [2] (response rate 75%) revealed that many centres have a clinic dedicated to the assessment and communication of risk in complex patients. These clinics are also set up to facilitate shared decision-making consultations around surgical intervention and planning of care, however 18.6% of respondents stated they had no prior training in shared decision making. 93% wanted further information, with 80% agreeing that they would like generic tools or teaching in shared decision making. Furthermore, when asked to rank topics in perioperative medicine in order of priority, shared decision making was ranked highest. This highlights a gap in training and appreciation of the importance of shared decision making in perioperative care in the UK.

As part of the strategy of the perioperative medicine programme, it was decided that a high priority was to train perioperative professionals in shared decision making, particularly surrounding whether to proceed with surgery or not. A literature review revealed that whilst there are many educational and training programmes available to support shared decision making, there are very few which are specific to perioperative decision making, and the reported structure and outcomes are variable. Here we will describe our experience of adapting a shared decision-making workshop derived from a national programme in SDM, Making Good Decisions in Collaboration (MAGIC). The MAGIC programme ran over a period of 18 months between 2010 and 2012, described SDM across a number of settings, including decisions on surgical interventions, for example in breast

cancer, benign prostatic hypertrophy and tonsillectomy, and was evaluated independently in 2013 [11,12].

The clinician training component of the programme consisted of a three-hour workshop, described below:

- An opening plenary, with introduction of the three talk model [13,14].
- Live and video demonstrations of consultations.
- Role-play in small groups and as a large group.
- Plenary session and discussion.

The MAGIC workshop has a number of advantages which lend it well to a model for training clinicians:

- Small group work between professionals who often work together can facilitate discussion.
- 3-h workshop, time-efficient, which lends itself well to a 'train the trainer' model.
- Evaluated independently and used across primary and secondary care, giving it validity and demonstrating some success in the 'real world', and, importantly, in the NHS.

We therefore concluded that a workshop based on MAGIC would be the best vehicle to start training perioperative clinicians in shared decisionmaking.

## 2. Methods

The MAGIC training targeted specific types of surgical interventions that had clear epidemiological data on outcomes available. It did not, however, target high risk surgical interventions for which there are significant uncertainties about the outcomes as well as a heterogenous group of patients in terms of comorbidities. This makes it much more challenging to identify outcomes for a particular patient as well as the consequences of not going forward with a particular intervention, making the shared decision making process even more complex. Hence, these workshops were specifically curated to address this gap.

## 2.1. Process of adaptation

- Plenary: SDM was contextualised in the perioperative setting, using a didactic lecture introducing the landscape of perioperative care and the high risk surgical patient, transparency in managing uncertainty and the difficulties with individualised risk prediction and communication.
- Case vignettes were written which accurately reflect the daily practice of our clinicians. A range of these were developed, being careful to ensure the focus remained on eliciting patient preferences rather than detailed discussions on the medical problem faced. This was done through an iterative process following theme choosing, drafting and peer review steps described by Stacey and colleagues [15].
- Discussion focused on how to implement SDM within individual and organisational practice. The aim is to find consensus on what tools might be used to communicate risk, what should be detailed in written summary documentation to both the patient and primary care physician, and how other healthcare professionals within the organisation can be brought into the process.

It was felt that a timely response was required in order to address the gap in training needs of anaesthetists, and this fell within the remit of the RCoA. The proposed strategy was therefore to develop a network of trained perioperative local leads representing each region of the United Kingdom, and cascade training across their region using the train the trainer model. This was hypothesised to be the most efficient way, within a resourcelimited setting, to disseminate specific training in perioperative shared decision-making. The strength of having a community of practice, that is

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a network of trained colleagues who could support training in other regions, supports sustainability.

#### 2.2. Workshops

The first workshop was held at the RCoA in November 2017, and was delivered by one of the founders of the MAGIC programme, in collaboration with Choosing Wisely UK and the Academy of Medical Royal Colleges. Twenty-two delegates attended, and those who felt confident to become trainers put themselves forward to deliver the next workshop. Subsequent workshops delivered are described in table 1 (*Appendix A.1*).

Feedback was sought from attendees of all workshops, using an adaptation of a questionnaire developed by MAGIC. Feedback used open and closed questioning in order to gain qualitative insights into the workshop and inform future development and refinement of the workshop. A subset of participants completed a before/after questionnaire rating their perceived level of expertise in SDM domains.

## 2.3. Data extraction and synthesis

Answers to questions ranked on a Likert scale were exported to a Microsoft Excel® (Microsoft Corp. Seattle WA, USA) spreadsheet. Proportions of responses to each question were calculated, with use of GraphPad® (GraphPad Software Inc., La Jolla CA, USA) software to calculate confidence intervals for each.

Free text feedback was collated and analysed thematically in accordance with Braun and Clarke's guidance on thematic analysis [16]. The data were pooled and mapped according to themes. The first 35 workshop feedback forms were analysed to generate open codes, followed by axial coding. Themes were then generated inductively from the data and further divided into sub-themes. The remaining 144 forms were then coded using this structure.

#### 3. Results

## 3.1. Ethics

Ethical approval was not sought for this study as it represents a form of evaluation of a teaching intervention, with no patient involvement.

#### 3.2. Demographics

179 participants attended the workshops. The smallest workshop comprised 6 participants, the largest 35 participants. Completed feedback forms were received for 135 participants, giving an overall response rate of 75.4%. The specialty backgrounds of participants are detailed in table 2 (*Appendix A.2*).

The feedback questionnaires differed slightly between workshops but core questions on knowledge, skills and behaviours were common to all and are presented below. Specific feedback on organisation and catering were excluded from this analysis.

## 3.3. Confidence in SDM

Fig. 1 (*Appendix B.1*) shows the breakdown of participant-perceived level of confidence and skill in SDM after the workshops. The data demonstrate that most agree or strongly agree with the statements covering the domains of an SDM consultation, with the exception of confidence in using patient decision aids. Fig. 2 (*Appendix B.2*) shows the results from a subset of participants (n = 42) who were asked to identify their perceived level of skill and confidence in domains of shared decision-making consultations before and after participating in the workshop. It demonstrates a trend towards statements of increased confidence and skill after participation. Definitions of these statements are provided in the legend, however the range is from 'recognised' (objective view that others can recognise

these skills and behaviours in you) to 'unaware' (you have little or no awareness of these domains of shared decision making). No statistical analysis was performed on this data since it was non-parametric, and the sample size is very small (26%) compared with the overall number of workshop participants.

#### 3.4. Thematic analysis of feedback comments

The coding framework and hierarchy of coding are shown in table 3 and table 4 (see Appendices A.3 and A.4). The domains are expanded on below. Quotations demonstrate illustrative, rather than definitively representative examples of views expressed:

## 3.4.1. Practical skills and techniques

*3.4.1.1. Role-play.* Many participants commented on role-play as being of value, and this was one of the most common themes mentioned. Comments included:

"The role-play sessions were most useful. I learned practical tips to facilitate the introduction of SDM to my consultations."

"Role play was useful"

"Although I hate it, role-play was the most valuable part of the day."

Additionally, some workshops included a question on role-play, and, where answered, these were rated as 'strongly agree' or 'agree.' There were very few negative comments on the value of role-play. Some commented that it was less valuable than demonstration consultations or the video demonstrations and plenary sessions. In the comments about improvements for the future, some comments suggested that changing the balance of the workshop to include more discussion and less role-play may be useful.

*3.4.1.2. Skills learned.* This theme relates to the three-talk model, the key phrases to support the consultation, the introduction of choice, and focus on what matters to the patient. Comments were positive, particularly in relation to how to structure the consultation. They included:

"...a better understanding of how to open the consultation and set the tone. How to explore and frame information to be relevant to the individual patient." "...contextualising options relevant to the patient's values."

"Asking patients 'what's important to you?".

*3.4.1.3. Decision aids.* Decision aids were mentioned frequently. Many participants either commented on the relative lack of training on decision aids, or that they would like more training on how to use decision aids. This is backed up by the quantitative results presented above. There were also comments on the development of in- house decision aids specific to the consultations encountered in perioperative medicine.

"I would like to see more examples of decision making tools."

"...the decision grids. I don't feel I know how to access them. Also I would like further training on how to use them."

#### 3.4.2. Experience of the workshop

This domain related to overall impression of the workshop, the mix of faculty, specialties represented, and specific organisational aspects including the sue of the plenary session for introduction, the use of pre-course online reading, and a talk on risk communication. Overall, the workshop feedback was positive, with many comments suggesting they would recommend to colleagues. Typical comments were:

"A good way to introduce SDM into the workplace and great emphasis on role play to support the model and the concept."

"A great day, very interesting discussions, will definitely apply what I have learned to my practice."

"Excellent and I think it should be mandatory."

3.4.2.1. Skill mix. Many of the comments reflected this as a shortcoming, either commenting that the lack of surgical representation or other

multidisciplinary team members was a negative feature, or that to improve the workshop they would involve more participants from other specialties:

"I think it would be beneficial to include more professionals from different specialties."

"Broader range of specialties/roles."

"I think the main challenge and perhaps 'disappointment' was the lack of surgeons and other clinicians....their presence would've been very useful. As such it was mainly anaesthetists which runs the risk of echo-chamber type discussions."

Other comments mentioned the value of having an experienced faculty: "Prof C was excellent and extremely knowledgeable. He facilitated the sessions very well."

"It helps having facilitators who understand the unique context we work in."

*3.4.2.2. Observation.* Participants valued the opportunity to watch other colleagues undertaking role- play consultations, and the demonstrations in a video shown in the plenary session were frequently mentioned positively.

*3.4.2.3. Risk communication.* In all workshops this generated discussion on the difficulties of incorporating this into consultations. These discussions were found to be useful by participants, however a number of comments indicated that more in-depth guidance on individualised risk assessment and what risk prediction tools to use would be welcomed. These comments highlighted the issue of uncertainty and difficulty when the potential outcomes are unclear:

"Access to resources for individual risk assessment, individual outcome prediction for different treatment options."

"More specific knowledge about risk scores with real world examples and advice on using them."

### 3.4.3. Impact of the workshop

Comments included those on how to implement shared decisionmaking, how to involve surgical colleagues in implementation, and how to learn from other organisations. Most comments were in response to the question of how to improve the workshop for the future, i.e. aspirational; some were skeptical on the practicalities of wider uptake:

"I would love to see how some of my colleagues are going to be engaged with this because sadly it's probably the skeptics who are the worst at doing this properly." A typical comment in relation to wider uptake is:

"How do you engage all disciplines practically? What do the stakeholder meetings look like?"

"The lectures should also present examples of shared decision making in other trusts, how they tackled change and barriers."

There were also some comments on training as a team, often as part of a comment on the skill mix theme, including:

"Include a more multidisciplinary team and to identify and set action points to take forward into our clinical settings within each team."

*3.4.3.1. Impact on personal practice.* Participants frequently noted that they would change their practice as a result of attending, and that they had previously perceived they were practicing SDM, however, have since reflected that this was not necessarily the case:

"Initially I had thought this is what we already do, why do we need to revisit how we do informed consent/consultations with patients. However, it became clear that we don't always give the patient an informed choice and discuss their preferred options."

"It has helped me introspect on my own practice."

## 3.4.4. Improvements for the future Comments related to:

- · Changing the balance between components of the workshop
- The vignettes should be shortened, or simplified, with addition of some more complex cases or 'difficult' patients
- · The practicalities of applying the consultation model to clinical practice.

"One thing which as an anaesthetist I find difficult is how to apply the shared decision making tools to the patients when we meet on the morning of surgery....it would have been useful to have some advice on this."

#### 4. Discussion and conclusion

#### 4.1. Discussion

We have described the first known multidisciplinary training in perioperative shared decision making for high risk surgery in the United Kingdom. We have demonstrated successful adaptation of a widely used, validated workshop to the perioperative setting, which appears to be feasible to run across a variety of sites and delivered to healthcare professionals involved in perioperative care. Preliminary findings from this pilot show that, qualitatively, the workshop was considered to be useful, with a trend towards perceived improvement in SDM awareness, skills and reflective practice. We aimed to identify whether an SDM workshop used in the United Kingdom could be adapted to perioperative care in response to a demand for training and support in SDM expressed by anaesthetists leading a perioperative service. The workshops were delivered over a two-year period and evolved over time, becoming increasingly multidisciplinary. They represent the first structured training in perioperative SDM for anaesthetists in the UK. Since the original workshop, nine participants have become trainers themselves. We have also demonstrated that it is possible to 'port' the workshop to different settings, and it has now been run in six institutions in the UK, with plans to expand to two more sites.

This pilot was not designed or powered to detect patient-centred or observer- noted changes in SDM, therefore the outcomes represent narrative discussion of feasibility and acceptability to participants who hitherto have not been exposed to such training. Our results will inform the design of a future study to analyse the impact of this adapted workshop on shared decision making experienced by patients, clinicians and that observed by researchers.

Qualitative analysis of the workshop identified themes which warrant further discussion in terms of developing training in perioperative SDM. One of the strongest themes was the desire for multidisciplinary training. Although we trained professionals from a variety of backgrounds, the majority of the workshops were single specialty. This stemmed from the original identification of the anaesthetist as a key player in facilitating in-depth discussions with patients about their individual operative risks and consequences within the current surgical pathways in the UK, along with a desire for further training expressed by anaesthetists; the longer-term aim was to expand this across the perioperative team. Free text comments highlighted the value of having other specialty perspectives in discussion, and there is evidence of its success in other settings [17]. Another theme, backed up by the results of direct questioning, is that more training in the use of patient decision aids is required, and indeed there is a demand for development of decision aids which are applicable to perioperative decision making. There is good evidence for the use of decision aids in the literature, and it is clear that the use of decision aids in combination with a training intervention increases the quality of a consultation [18]. Bilimoria and colleagues [19] attempted to develop a decision aid based on the American College of Surgeons' NSQIP calculator. The OSIRIS study [2] will study shared decision making in high-risk surgery in the UK and results will inform the development of decision support tools. Feedback on the risk assessment and risk communication components of the workshop suggested that more focused training is needed to support decision making where the perioperative risk is high but likelihood of specific outcomes is difficult to predict and quantify (examples being complications such as 'stroke', or 'pneumonia' where the severity and the degree of physical impairment over the longer term can be highly variable and may change how an individual lives). Important information will be gained from studies such as the Perioperative Quality Improvement Programme (PQIP) [20] which tracks outcomes including quality of recovery, mortality, quality of life and disability up to 12 months after major surgery. This data, combined with individualised risk assessment, can support conversations about

possible outcomes from surgery, and patient information and decision aids could be developed based on this data.

This pilot has important limitations. The audiences were self-selected therefore demonstrating a pre-existing interest in SDM and were more likely to engage in the process. We had some missing data from workshop feedback, partly due to administrative issues, and also due to lost data during the SARS-CoV-2 pandemic. Despite this, the response rate to feedback was 75.4%, which is in excess of the often-quoted threshold of 65% response rate for survey feedback to be representative. We have presented the data without statistical analysis due to the use of Likert scoring in the survey questions, which is categorical and cannot be translated into an ordinal scale.

We have described a face-to-face workshop with small group role play and plenary sessions. In light of the recent pandemic, we will consider the need to adapt our model of training to facilitate remote training. Video conferencing for webinars and scientific conferences has now become established, therefore this could be used to deliver the plenary sessions and video demonstrations. Smaller groups could be allocated to hold video role-play via a 'meeting' with a facilitator observing and supporting. Actors could be recruited to improve fidelity and compensate for the lack of 'in person' feedback. There is some evidence for using simulation and avatars for improving communication skills in doctors [25-27]. This could be backed up by online learning, such as that developed by the Winton Centre in conjunction with the Australian Commission for Quality and Safety in Healthcare [28] used in the pre-course material for these workshops. Indeed, this change in delivery would provide an opportunity to design a full evaluation of training, and a major advantage of remote delivery would be to widen access to training.

#### 4.2. Innovation

Shared decision making (SDM) in healthcare has gained prominence in recent years with research and training being done into its application in different medical settings. However, the literature highlights a lack of such research and training provision in perioperative care in the UK. Given that anaesthetists lead the individualised perioperative risk discussion in the UK and they currently have little to no training provided on this within the current anaesthetic training pathways, we recognised this as a key gap to be addressed.

We attempted to tackle this by adapting the SDM workshop from the national programme MAGIC to create a novel multi-disciplinary training workshop that catered specifically to improving SDM in the perioperative setting. Careful consideration was given to each component described in the MAGIC template while curating our workshop, focusing on addressing the unique challenges faced when discussing high risk surgical interventions, the unique role of the anaesthetist in facilitating patient decision making surrounding surgery, and ensuring to accurately reflect the realities of day-to-day perioperative care provision.

Furthermore, we recognised the need to efficiently disseminate the training nationwide and developed a cascade training network of local leads in different regions in the UK; nine participants have become trainers themselves since the original workshops. This article describes a successful pilot at providing training in perioperative shared decision making in the UK with scope for meaningful implementation on a larger-scale and collecting valuable feedback which allows for continued improvement on its delivery.

The article fosters innovation by describing the first time a new modality of training has been designed specifically for perioperative physicians supporting decisions with a higher degree of ambiguity. It acknowledges the complexity of decision making in the perioperative setting and emphasises the significant problem of uncertainty of outcome, and implications for a patient's values and beliefs. Although there are risk prediction models for surgical interventions, the wide spectrum of severity of complications outstrips what has been described in the MAGIC decisions of the original workshops. Complications from surgery in the high-risk patient may significantly change the way a patient lives and the acceptability of this is a very individual decision, and individuals' approach to risk varies greatly. Patients often find themselves on a trajectory to surgery without having had the opportunity to challenge whether it is right for them. Our adaptation provides hitherto unavailable training to account for these specific challenges.

In the past, surgical pathways have been predominantly target-driven, with majority of the decisions being made without involvement from the patient, other than the opportunity to accept or decline. There are a myriad of reasons why a patient may not ask for alternative options, and an important one is the skill of the healthcare provider in eliciting preferences, values and attitude to material risks which may be associated with surgery in their case.

Contextualising the risks of surgery to the individual patient is an important part of supporting them to consider whether or not a particular outcome may be acceptable to them. The difference in high-risk surgery is that the certainty of a particular outcome is less clear, therefore it is difficult to present a balanced view to the patient. It is uncomfortable for us as healthcare professionals to admit uncertainty and this training supports confidence in admitting this and working through this with the patient.

### 4.3. Conclusion

In conclusion, we have described innovative adaptation of a SDM workshop which can support a strategy for more widespread implementation of perioperative SDM. The aim was to introduce a new mode of training to a group of professionals who have expressed a need, to support patients making often life-changing decisions. Demonstration that our workshop is feasible and acceptable will support the next steps which could include measurement of patient-reported experience of involvement in their decision making to the workshops. In time, national stakeholder buy-in, and promotion to professionals across a surgical pathway will be sought and we intend to promote engagement and awareness in patients, who should come to expect shared decision making and feel empowered to ask for it.

## Additional information

The authors DO have competing interests and confirm that I/we have included a statement headed 'Competing interests' at the end of my/our manuscript, stating any funding obtained and any potential competing interests, as detailed in the Guidance for Authors.

## CRediT authorship contribution statement

Anne-Marie Bougeard: Conceptualization, Methodology, Investigation, Writing – original draft. Ashwati Nair: Writing – review & editing, Visualization. Ramai Santhirapala: Conceptualization, Methodology, Investigation, Writing – review & editing, Supervision.

## **Declaration of Competing Interest**

No competing interests to declare.

The Southampton workshops were sponsored by Pharmacosmos (UK). The Guy's and St Thomas' Hospital workshops were supported by Guy's Hospital Charity.

I confirm all patient/personal identifiers have been removed or disguised so the patient/person(s) described are not identifiable and cannot be identified through the details of the story.

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## Appendix A. Tables

## Table A.1

## Description of workshops.

Location	Date	Specialities	Total Trained
RCoA	Jan-18	Anaesthesia, Surgery, Management, Primary Care	35
Torbay Hospital	Jul-18	Anaesthesia, Physiotherapy, Primary Care, Surgery	6
North Devon Hospital	Dec-18	Physiotherapy, Primary Care, CCG	18
Guy's and St Thomas' Hospital	Mar-19	Anaesthesia, Surgery, Medicine, Nursing	23
Guy's and St Thomas' Hospital	Oct-19	Anaesthesia, Surgery, Nursing, Physiotherapy	26
Derriford Hospitals	Dec-19	Anaesthesia	12
University Hospitals Southampton	Jan-20	Anaesthesia, Medicine	9
University Hospitals Southampton	Feb-20	Anaesthesia	9
Guy's and St Thomas' Hospital	Mar-20	Anaesthesia, Surgery, Medicine, Nursing, Pharmacy	28

## Table A.2

Specialty backgrounds of workshop participants.

Specialty	Proportion of participants (%)
Anaesthesia	60
Physiotherapy	15
Surgery	10
Nursing	7.5
Medicine (inc geriatrics)	3.5
Primary Care	2.5
Executive/management	1
Pharmacy	0.5

## Table A.3

Coding framework for thematic analysis.

Code	Definition
Role play	Refers to use of role play in workshop, or participation in scenarios. May be considered positive (enjoyed, valued) or negative (did not enjoy, did not consider of value, preferred other components of workshop)
Multidisciplinary	Not enough multidisciplinary involvement, considered of benefit to involve broader range of specialty backgrounds. May be included in suggestions for improvement

Table	A.3	(continued)
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Code	Definition
Plenary session	Remarks about the lectures, discussion session either positive or negative or for changes in balance of plenary to other components
Preparatory material	Refers to online pre-course material or manual
Skills	Refers to specific skills acquired from the workshop including new phrases, breaking down consultation, 3 talk model, eliciting preferences, exploring 'what matters to you', introducing choice
Change of practice	Includes personal reflection, self-awareness, intention to change, and system-level or institutional change. Includes engaging MDT colleagues, setting up services
Decision aids	Comments referring to use of decision aids. May include suggestions for development, addition of session to cover decision aids, or lack of training in use of decision aids
Goldfish bowl	Refers to role play technique where two participants hold consultation in front of a larger audience and swap in/out to practice key skills. May be positive or negative
Observation	Comments relating to observation of others or being observed. May be positive or negative
Risk communication	Comments related to use of risk prediction models, discussion of risk, communication of risk to patients. May include suggestions for improvement, negative or positive comments
Positive experience	Comments related to overall impression or experience of workshop, enjoyment, generally positive
Negative	Comments related to overall impression or experience of workshop, criticisms, generally negative
Training	Comments related to the balance of training components. Includes comments on vignettes or case studies, positive, negative or suggestions for improvement
Modification	Comments relating to changing workshop not covered elsewhere. Includes specific comments about relation to challenge of timing in clinical practice
Faculty	Comments on the facilitators, may be positive or negative

## Table A.4

Hierarchy of coding for thematic analysis.

Domain	Themes
Practical skills and techniques	Role play, skills learned, decision aids, goldfish bowl technique
Experience of workshop	Positive experience, negative experience, skill mix, observation, risk communication, plenary session, pre-course material
Impact of workshop	Change of practice: individual or institutional
Improvements for future	Training, timing, modification and multidisciplinary

## **Appendix B. Figures**



Fig. B.1. Overall self-rating of confidence in SDM domains at the end of workshop. N = 179.



Fig. B.2. Sub-group of participants who completed pre/post feedback demonstrating effect of the training. N = 42.

Statement A: I understand the structure of a shared decision making consultation

Statement B: I feel able to introduce a preference sensitive decision into a consultation

Statement C: I feel that I am able to explain why the decision presented has options

Statement D: I feel that I am able to portray the options and check for understanding

Statement E: I feel that I am able to elicit patients' personal preferences Statement F: I feel comfortable with introducing decision support tools (within or outside the consultation)

Legend refers to statements describing level of self-confidence in SDM domain

Appendix C. Raw data

# Results of post workshop questionnaire feedback

	Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7
Strongly Agree	41	. 34	36	34	33	21	43
Agree	64	71	69	76	82	63	59
Neutral	15	22	24	19	15	35	19
Disester				15		15	
Disagree	/	/	5	5	5	15	6
Strongly Disagree	1	. 1	1	. 1	0	1	1
Total	128	135	135	135	135	135	128
Strongly Agree	32.0%	25.2%	26.70%	25.20%	24.40%	15.60%	33.60%
Agree	50.0%	52.6%	51%	56.30%	60.70%	46.70%	46.10%
Neutral	11 79/	16 29/	17 90%	14 10%	11 109/	25.00%	14 909/
Neutrai	11.7%	10.3%	17.80%	14.10%	11.10%	23.90%	14.80%
Disagree	5.5%	5.2%	3.70%	3.70%	3.70%	11.10%	4.70%
Strongly Disagree	0.8%	0.7%	0.70%	0.70%	0%	0.70%	0.80%
Total	100%	100%	100%	100%	100%	100%	100%
Question 1: I understan	d the structure of a	shared decision ma	aking consultation				
Statement		70	3370CI	-			
Strongly Agree	41	. 32%	24.6-41.5%				
Agree	64	50%	41.5-58.3%				
Neutral	15	11.7%	7.1-18.5%				
Disagree	7	5.5%	2.5-11.1%				
Strongly Disagree	1	0.80%	<1-4.7%				
Total	120	0.0070					
iotal	128						
Question 2: I feel able t	o introduce a prefe	rence sensitive dec	ision into a consult	ation			
Statement	n	%	95%CI				
Strongly Agree	34	25.20%	18.6-33.2%				
Agree	71	52.60%	44.2-60.8%				
Neutral	22	16 20%	11-22 5%				
Neutral	22	10.30%	11-23.3%				
Disagree	1	5.20%	2.4-10.5%				
Strongly Disagree	1	. 0.70%	<1-4.5%				
Total	135	i					
Question 3: I feel that I	am able to explain	why the decision p	esented has ontio	ne			
Statement	n	≪	05%()				
Statement		70	55/0CI				
Strongly Agree	36	26.70%	19.9-34.7%				
Agree	69	51.1%	42.7-59.4%				
Neutral	24	17.80%	12.2-25.2%				
Disagree	5	3.70%	1.4-8.6%				
Strongly Disagree	1	0.70%	<1-4.5%				
Total	135						
Total	155						
Question 4: I feel that I	am able to portray	the options and che	ck for understandi	ng			
Statement	n	%	95%CI				
Strongly Agree	34	25 20%	18 6-33 2%				
A read	34	Z5.20%	10.0-33.2/0				
Agree	/6	50.30%	47.9-04.470				
Neutral	19	14.10%	9.1-21%				
Disagree	5	3.70%	1.4-8.6%				
Strongly Disagree	1	0.70%	<1-4.5%				
Total	135						
	200						
Quartier F. 16-14-11	am able to ellate	tiontel nome-of-	foroness				
Question 5: I teel that I	an able to elicit pa	dents personal pre	oracci				
statement	n	70	95%CI				
Strongly Agree	33	24.40%	17.9%-32.4%				
Agree	82	60.70%	52.3-68.6%				
Neutral	15	11.10%	6.8-17.6%				
Disagree		3 70%	1.4-8.6%				
Strongly Discourse	-	5.70%	-0.2%				
strongly Disagree	C	0%	<0-3%				
Total	135						
Question 6: I feel comfo	ortable with introdu	ucing decision supp	ort tools(within or	outside the consult	ation)		
Statement	n	%	95%CI		_		
Strongly Agree	21	15.60%	10.3-22.7%	1			
Strongry Agree	21	15.00%	10.3-22.776				
Agree	63	46.70%	56.5-55.1%				
Neutral	35	25.90%	19.2-33.9%				
Disagree	15	11.10%	6.8-17.6%				
Strongly Disagree	1	0.70%	<1-4.5%				
Total	125						
iotai	155						
Question 7. Louilling - L		ee ekille i bever le	ad in the conduct	-			
Question 7: I will be abl	e to put into practi	ce skills i nave learn	iea în the worksho	P			
Statement	n	%	95%Cl				
Strongly Agree	43	33.60%	25.9-42.2%				
Agree	59	46.10%	37.7-54.7%				
Neutral	10	14 80%	9.6-22.1%				
Dicagraa	19	A 700/	1 0 10 19/				
Disagree	6	4.70%	1.5-10.1%				
Strongly Disagree	1	. 0.80%	<1-4.7%				
Total	129						

## Results of pre/post workshop questionnaire feedback

	Pre and post wo	orkshop feedback	¢						
		Pre-work	shop						
Statement		D1	D2	D3	D4	D5	D6		
Recognised		1	0	3	0	2	1		
Capable		9	16	15	15	16	7		
Informed		13	11	15	21	12	16		
Aware		17	12	8	4	10	14		
Unaware		2	3	1	2	1	4		
	Total	42	42	42	41	42	42		
		Post-work	kshop						
Statement		D1	D2	D3	D4	D5	D6		
Recognised		3	2	6	5	4	5		
Capable		23	20	23	21	26	12		
Informed		13	16	11	13	8	19		
Aware		3	4	2	2	3	6		
Unaware		0	0	0	0	0	0		
	Total	42	42	42	41	41	42		
Кеу									
D1	I understand the	structure of a sha	red decis	sion maki	ng consul	tation			
D2	I am able to intro	duce a preferenc	e sensitiv	e decisio	on in a co	nsultation			
D3	I am able to explain why there is more than one treatment option								
D4	I am able to port	ay the options ar	nd check	for unders	standing				
D5	I am able to elicit	the patient's per	sonal pre	ferences					
D6	I am comfortable with introducing decision support tools (within or outside the consultation)								

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