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Physician Behaviors Surrounding the Implementation of Decision and Communication Aids in a Breast Cancer Clinic: a Qualitative Analysis of Staff Intern Perceptions

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Abstract The aim of this paper is to examine how physician behavior facilitated or impeded our implementation of decision and communication aids in a breast cancer clinic. Staff interns provided decision and communication aids to patients and wrote up case notes for each patient they served. We used grounded theory to code our staff interns' case notes. We then identified barriers and facilitators to our program's implementation from each category we generated in the coding. Facilitators included physicians reading patient questions and then bringing the staff interns to the consultation. Barriers included physicians forgetting to bring the staff interns to the appointments and discouraging interns from speaking during the consultation. Physicians vary in their cooperation with our program. Our next steps will be to inquire directly with physicians about how to adapt our program design. We will also seek to position the staff interns as mentees to increase physician commitment to our program.

Keywords Implementation · Shared decision making · Decision aids · Communication aids

Introduction

We operate a patient support program at the UCSF Breast Care Center. The design of our program grew out of a needs assessment that author JB conducted with breast cancer survivors. Survivors identified three needs they had when they were newly diagnosed. They needed high-quality information, strategies for asking important questions of their doctors, and strategies for remembering the doctors' responses to their questions [1]. To address these needs, our clinic partnered with the Informed Medical Decisions Foundation to conduct a demonstration project translating decision and communication aids into routine practice. The foundation provided the decision aids along with core funding for data collection, analysis, and reporting; our clinic provides staff interns who deliver the decision and communication aids to patients before and during their visits to surgeons and medical oncologists.

Decision aids are audiovisual materials that present valid information about treatment options and outcomes. Communication aids include question lists, audio-recordings, and consultation summaries. Cochrane reviews have shown all three interventions (decision aids, question lists, and recordings and summaries) to be effective [2–4]. Decision aids are associated with increased patient knowledge, and communication aids are associated with increased patient question-asking and information recall.

We evaluate our program using the RE-AIM framework [5]. RE-AIM stands for reach, effectiveness, adoption, implementation, and maintenance. In prior studies, we have reported on *reach* and *effectiveness*. Reach refers to "the absolute number, proportion and representativeness of individuals" who receive our communication and decision aids [6]. We have reported on successful initiatives to expand the reach of our program—we changed our process for offering and delivering our services so as to be maximally efficient

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with staff time [7]. Effectiveness refers to the impact of our communication and decision aids on "important outcomes" [6]. Patient surveys before and after appointments have indicated that our interventions are associated with improved decision self-efficacy, decreased decisional conflict, and increased satisfaction with consultations, without increasing consultation times [8–10].

We report here on a study we conducted to learn more about how the physicians in our clinic facilitate or impede high-fidelity *implementation* of our program. In this report, we focus on one program component in which our staff interns personally assist some patients with the use of decision and communication aids before, during, and after their doctor visits. We offer this personalized assistance to patients based on their interest and need, as well as the availability of our staff interns. Our staff interns perform the following tasks: (1) elicit and write down any questions that patients conceive after reviewing relevant decision aid (s) that our clinic sent them at the time they made their appointment; (2) E-mail and print a copy of the question list for the physician; (3) audio-record the doctor–patient discussion; (4) ensure that the patient asks all listed questions; and (5) take notes and create a summary of the discussion. We have previously reported on details of this service delivery plan [7, 8, 10, 11].

Successful implementation of our program relies in part on the physicians in our clinic. Specifically, we rely on physicians to encourage patients to use decision and communication aids, since patients want to know that their doctors support, for example, the use of question lists and audio-recordings. We rely on physicians to coordinate with our staff interns logistically so that the interns know when to enter clinic rooms, since doctors frequently deviate from posted clinic schedules. We also rely on physicians to collaborate with staff interns during the appointment so that the interns feel welcome to remind patients of questions, take notes, and make recordings.

In a previous study, we surfaced anecdotal concerns from staff interns about the extent to which physicians facilitate the implementation of our program [7]. Since physician engagement is crucial to our implementation, we decided to analyze staff intern reflections about physician engagement captured in program case notes. We now present a qualitative analysis of these staff intern reflections.

Methods

Objectives

The aim of this paper is to examine how physician behavior facilitated or impeded our implementation of decision and communication aids in a breast cancer clinic.

Study Design

This is a qualitative analysis of program records. We obtained ethics approval from the UCSF Committee on Human Research to abstract and de-identify our program records for research analysis and reporting purposes.

Population, Setting, and Intervention

The Breast Care Center at the University of California San Francisco is a multi-specialty clinic. Our Decision Services Unit promotes the use of decision and communication aids by new patients at the Breast Care Center. Ten staff interns working part-time in this program call all patients in advance of their first appointment with a surgical oncologist, plastic surgeon, or medical oncologist. The staff interns send decision aids to patients to review before their appointments. Staff interns also provide our communication aid service (question listing before the appointment; note-taking and audio-recording during the appointment) for one patient per week. The staff interns document each case in our program's online database. After each consultation they attend, the staff interns reflect on their interactions with the physician and patient. The staff interns are employees of the Breast Care Center who are classified as staff interns because their term of employment consists of 1 or 2 years to gain experience after college, before going on to graduate school for professional training in medicine or a health-related field.

Data Collection

Our online record keeping system prompted staff interns to reflect on the use of decision and communication aids surrounding the patient visit. The system provided space for staff interns to write short paragraph responses.

Sample and Analysis Plan

From January to June 2010, staff interns attended 171 appointments with patients and wrote reflections for 126 (74 %) of them. These 126 reflections constitute our sample.

Using modified grounded theory [12], two coders (authors MP and SV) identified themes inductively and then reviewed for reliability and consistency by coders. Specifically, the coders independently reviewed 20 responses and each generated a list of themes. The coders then worked together to combine the two lists into a single list of categories, reviewed and discussed by all members of the study team. The coders used the resulting consensus list of categories as the basis to reconcile the thematic coding of the first set of responses. Using the reconciled list of themes, both coders independently coded a second set of 20 responses. The coders had 80 % or higher agreement for

both the initial investigation and the reliability set. Author MP then went on to code the remaining 86 reflections.

Results

The authors identified three categories relevant to the study question: logistics, use of the question list, physician reference to decision and communication aids. The categories purposely have no valence—we used them to thematically code both facilitators and barriers to our implementation. Table 1 shows the three categories, a description, an example of each, and our main findings.

Logistics

We used this category to capture any comments that addressed how the staff intern got into the exam room at the right time to take notes and make a recording, i.e., when the attending physician began the consultation (attendance frequently deviate from posted schedules). Our program requires staff interns to check in with patients when the patients are initially put in exam rooms. The staff interns introduce themselves and then wait in a back office until the physician is ready to see the patient. Generally, this category captures the dynamics surrounding the physician willingness to engage in logistical coordination with our program.

Examples

- "[Dr. Oncologist] brought me along to the appointment."
- "[Dr. Oncologist] did not ask me to come into the room with him when he got up. Luckily, I checked the room and found him in there as he was starting the consultation."
- "The fellow was very helpful in keeping me posted and making sure I went in."
- "[Drs. Surgeon and Reconstructive Surgeon] went in without me. I came in at the end of the appointment."
- "The summary was incomplete because Dr. Surgeon sent Patient to get a mammogram…the later, more thorough portion of the appointment… went on without me."

Facilitators and Barriers

The primary facilitator of program fidelity illuminated in this category is when physicians bring staff interns to the consultation. This ensures that the staff intern is present from the start of the consultation. Staff interns also appreciated whenever physicians were communicative about their plans. Several reflections indicated that Fellows and other trainees were particularly helpful in bringing staff interns to appointments.

Conversely, the most common barrier to program fidelity identified was physicians forgetting to bring the staff intern, causing the staff intern to either miss the appointments entirely or miss portions of the appointment.

Use of the Question List

We used this category to capture all comments from staff interns about how the physician or patient used (or did not use) the question list. Staff interns e-mail the physicians the question list in the form of a word-processed document 1 day before the appointment. They also provide physician and patient with copies to use during the appointment. It is our policy to check in with the physician in advance of the appointment and give them a printed copy then. According to our program policy, if the staff intern notices that neither party has addressed a critical question, it is their responsibility to ask the patient if they still want to ask that question. Generally, this category captures comments surrounding physician cooperation with and attitudes toward our program during the appointments.

Table 1 Summary of results

Category	Description	Example quote	Barrier identified	Facilitator identified
Logistics	How did the staff intern get into the exam room at the right time?	"Dr. Reconstructive Surgeon came and got me before the appointment"	Physicians forgetting to bring or otherwise notify staff intern	Physicians who bring staff intern with them.
Use of the question list	Who referenced the question list and how?	"Dr. Oncologist went line-by-line through the [question list] to answer every question."	Physician attempts to stop staff intern from raising unanswered questions.	Physicians who read the question list in advance of the appointment.
Physician reference to decision and communication aids	Do physicians endorse our program to patients?	"Dr. Oncologist made positive references to the service, ensuring the patient that I would be getting down all of the drug names and information for later reference."	None identified	Physicians who endorse our services in their appointments.

Examples

- "Dr. Surgeon read the [question list] thoroughly before the appointment and came in knowing what the patient's concerns were. As a result, the appointment seemed more focused because Dr. Surgeon already knew that the patient was interested in breast conservation."
- "Dr. Oncologist was very friendly and went over the [question list] at the end of the appointment to make sure all questions were answered."
- "The patient reviewed the [question list with] Dr. Surgeon line-by-line. Dr. Surgeon made some small disparaging remark about this, but she didn't stop the patient from asking all her questions."
- "Dr. Surgeon mentioned to the patient that she never reads the [question lists]."

Facilitators and Barriers

The staff interns cited several ways in which the physicians used the question list. Some physicians read the document in advance and used it as the agenda for the meeting. Others used it as a checklist at the end to make sure they addressed all questions. Some did not look at the question list and relied on patients and interns to bring up their questions.

Several times, staff interns noted benefits when physicians read through questions in advance. For example, one physician saw a question about genetic counseling and arranged for a genetic counselor to join the consultation. Physicians also used the question list to target their discussion to address the patient's most pressing goals and concerns.

Staff interns describe varying responses to their own involvement in the conversation. As stated above, it is our policy to raise material questions if they have gone unaddressed. Some staff interns described the physician as "accommodating" of this interruption. Another staff intern details a physician who did not respond positively:

> Dr. Surgeon stood up to leave and actually rolled her eyes when I continued to try to get her to answer a few more questions from the [question list], including the basic one that this family had come in to get answered.

Such a response from the physician allows us to identify another barrier: physicians who verbally or non-verbally attempt to suppress reminders from staff interns about unanswered questions.

Physician Reference to the Decision and Communication Aids

This category captured instances when physicians mentioned our program's materials and services. The physicians are familiar with our process and know that we send most patients decision aids. They sometimes use the consultation as a time to either endorse or criticize aspects of our decision and communication aid program.

Examples

- "Dr. Oncologist promised the patient she'd review the [summary]."
- "Dr. Reconstructive Surgeon thanked me for doing the service, and he told the patient she was doing 'all the right things' in reference to asking for [our services]."
- "Dr. Oncologist suggested the patient review the [early stage oncology decision aid] to get a better understanding of hormonal therapy."
- "At the end Dr. Oncologist mentioned that it was good the patient had received [communication aid service] so that 'some of that will get through'."

Facilitators and Barriers

This category contained only positive comments from staff interns about physicians endorsing the decision aids, question list, recording, and summary. The most common endorsement that staff interns reported was physicians who use the summary to reassure the patient—the patient does not have to take notes because the staff intern already is. For example, "Dr. Oncologist asked me to write down the names of the drugs during the appointment so that the patient could refer to them later."

Discussion and Conclusion

Discussion

Interpretation

The "logistics" category revealed to us that staff interns were most frustrated by their wait time and most appreciative of physicians who brought the intern to the appointment. When staff interns felt unsure that physicians would bring them into the appointment, they spent a lot of time and effort tracking physicians through the clinic and checking in with their patients. For example:

> I was waiting [away from the desk] because the resident (who didn't know much about the service at the time) was in with the patient and I didn't know where Dr. Oncologist was and I didn't want her to go in without me.

Our program design puts the responsibility on the physician to make sure the appropriate staff intern is in the room with them before they begin their consultations. Meanwhile, interns can work at a desk space reserved for them in the

clinic. It is important that our staff interns be productive working on other job tasks for other supervisors during their wait time (which can be as long as 4 h). If the staff interns are not productive during wait times, they may exceed 8 h of time their supervisors donate towards the program, leading supervisors to withdraw support of our patient support program. The lesson we draw from this logistics category is that we need to better educate physicians about the reason why it is so important for them to get the intern from the desk, rather than count on the intern to lurk in the hallway constantly monitoring the physician's whereabouts. We are implementing new strategies to try to alleviate this barrier, as described in a previous publication [7].

"Use of the question list" comments revealed three main ways physicians interact with the question list during the appointment: using it to prepare for the appointment, using it as a checklist at the end of the appointment, and ignoring it. Of these, the first is most in line with our program design, and staff intern comments support this design feature. The staff interns were especially pleased when physicians had read the question list in advance and structured the appointment around the content. In contrast, the staff interns expressed the most concern for appointments where neither physician nor patient referenced the question list. The lesson we draw from this "use of the question list" category is that we may need to highlight for physicians the difference it makes to interns and patients when they use the question list as it is intended, a preview and overview of the patient agenda.

"Physician reference to the decision and communication aids" comments were only positive. We were pleased to find that physicians often verbalize support of our program to patients. In the future, we plan to reference this support when asking physicians to change their behaviors regarding the logistics and question list categories mentioned above. Specifically, it appears that physicians endorse and intend to cooperate with our program, and may not be aware of the impact of some of their behaviors when they forget to get an intern, or do not use the question list as intended.

In addition to continually improving on the existing program design, our reflections on this study have led us to a potential innovation. Our physicians appear committed to our program as a way to benefit patients. While analyzing our data and reflecting on this study, we realized that they may not be aware of their impact as mentors and role models for our staff interns. Our staff interns are pre-medical college graduates who benefit immensely from developing question lists and attending consultations with patients. Our physicians work at an academic medical center and believe in contributing to the education of medical trainees. We therefore hope to position the physicians as mentors to the staff interns. Our hope is that physicians will be especially attentive to the issues we have raised in this study because they feel an increasing sense of pride and stewardship in the development of the staff interns.

Connections to the Literature

Few studies have examined the implementation of shared decision-making interventions, and even fewer have systematically examined the staff perspective on those implementations. However, we found two examples in the literature of studies that benefited from examining the perspective of the service providers. Dimoska and colleagues have studied their implementation of question prompt lists in cancer care [13]. The study authors informally surveyed the staff involved with distributing the question prompt lists to learn more about their implementation. The staff suggested an improvement: a facilitator to explain how best to use the prompt lists so that the busy clinic staff did not have to. Price and colleagues asked medical interpreters how they feel about various service delivery methods [14]. They found that interpreters thought that telephone interpreting was sufficient for exchanging information, but preferred video interpreting when there were significant interpersonal challenges. In both studies, the authors gained insight into their implementation by surveying the providers of the intervention.

Other studies have examined physician behaviors regarding a shared decision-making implementation. Hirsch et al surveyed physicians after appointments in which they used a library of decision aids. They found that their implementation of the decision aids in the appointment was feasible, and that few physicians felt the appointments had been "unacceptably extended" in length due to the decision aids [15]. Graham et al examined physician adoption of decision aids. Many physicians stated in surveys that they would implement decision aids and then failed to do so [16]. These results echo our own: physicians agree with the concept of shared decision-making interventions (in our study, we found that they often endorse our interventions to patients) but they could do more to facilitate the implementation.

Limitations

Staff interns work with the same 13 physicians for their yearlong employment—they form impressions of the doctors that could affect their reflections. If a staff intern has a particularly positive or negative experience with a physician one time, they may anchor on similar behavior from the physician in the future and continue to report only similar actions. This would amount to a type of confirmation bias.

Similarly, our data are subject to some recall bias. Staff interns were prompted to reflect whenever they upload their summary to our program's database. This is typically 1–2 days after the original appointment. Events may have

grown more extreme in memory or may simply have been misremembered. Again, we are unsure what systematic effect this bias could have on our data.

Staff interns reflected in 126 of the 171 appointments during our study period (74 %). It is unclear why staff interns did not reflect in the other appointments. There could be some bias hidden here: staff interns could choose not to reflect because they felt whatever they had to say was insignificant, repetitive, or somehow taboo.

Conclusions

We found this examination of staff interns' perceptions to be useful in generating a list of facilitators and barriers on which we can focus our future quality improvement interventions. We plan to feed back to physicians the positive effect of their verbal endorsements of our program. We also plan to improve intern wait time by providing the physicians with explicit training on how to contact the staff interns at the appropriate time before the consultation. We also plan to examine staff intern experiences and provide the physicians with that feedback. We need to better understand how physicians may encourage or inhibit the interns in raising unanswered questions. And finally, we need to do more work to address physicians who ignore the question list during the appointments or even discourage or discredit it. In the past, we have found that monitoring the results of our interventions, and feeding those results back to stakeholders leads us eventually to the desired improvement. We have focused on steps to increase the reach of our program through better case-finding and referrals. Now we plan to improve the implementation of our program by appealing to physicians to maintain positive behaviors (facilitators) and change some of the behaviors that inhibit our program success (barriers). As part of that process, we will inquire with the physicians as to what their needs are, for example with respect to bringing the interns to the consultation or using the question list as the patient agenda. Additionally, engaging physicians as mentors may further facilitate their engagement and active support for the program.

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