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Fighting Cancer Together: Development and Implementation of Shared Medical Appointments to Standardize and Improve Chemotherapy Education

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Abstract

Objective—Shared medical appointments offer a novel approach to improve efficiency and quality of care consistent with the goals of the Institute of Medicine. Our objective was to develop and implement a shared medical appointment for gynecologic cancer patients initiating chemotherapy.

Methods—We first assessed the level of interest in shared medical appointments among our patients and providers through qualitative interviews. Both patients and providers identified pre-chemotherapy as an optimal area to pilot shared medical appointments. We subsequently created a multidisciplinary team comprised of physicians, advanced practice providers, nurses, pharmacists, administrators, health education specialists and members of the Quality Improvement Department to establish a Shared Medical Appointment and Readiness Teaching (SMART) program for all

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CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest.

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gynecologic oncology patients initiating chemotherapy with platinum- and/or taxane-based regimens. We developed a standardized chemotherapy education presentation and provided patients with a tool kit that consisted of chemotherapy drug education, a guide to managing side effects, advance directives, and center contact information.

Results—From May 9, 2014 to June 26, 2015, 144 patients participated in 51 SMART visits. The majority of patients had ovarian cancer and were treated with carboplatin/paclitaxel. Surveyed patients reported being highly satisfied with the group visit and would recommend shared medical appointments to other patients.

Conclusions—This model of care provides patient education within a framework of social support that empowers patients. Shared medical appointments for oncology patients initiating chemotherapy are both feasible and well accepted.

Background

Receiving a diagnosis of cancer can be incredibly overwhelming, in part because of the substantial amount of information that must be conveyed to the patient before she begins treatment. For many women with gynecologic malignancies, standard therapy includes surgery, chemotherapy, and/or radiation therapy. Therefore, within a very short period of time, a patient will receive information about her disease process, and each modality of treatment which has its own risks and side effects. In a survey published by Jenkins *et al.*, women with advanced ovarian cancer reported feeling underprepared to manage treatment-related adverse effects such as fatigue, neuropathy, and constipation [1]. Unfortunately, increasing clinical and financial demands on providers make it challenging to address the complex needs of cancer patients in the brief amount of time allocated to outpatient visits [2]. The ability of a woman to cope with her diagnosis and treatment also depends on numerous personal factors that may not be optimized in our current health care environment because the infrastructure underestimates the importance of psychosocial support. Research in cancer survivorship has shown social support to be a positive prognostic indicator of oncology outcomes [3–5]. Integrating social networks into cancer treatment delivery is essential to improving patient care and quality of life [3].

Shared medical appointments offer a novel approach to health care delivery that improves the efficiency and quality of care in a supportive, patient-centered approach. In lieu of the traditional visit between a single healthcare provider and patient, a provider engages a group of patients with similar healthcare needs in an extended visit that allows more time for patient-centered education and discussion [6]. Although shared medical appointments were initially piloted in the primary care setting, this model has now been applied to more specific diagnoses and conditions such as diabetes [7–11], heart failure [12], and pregnancy [13]. It has also been utilized in various surgical subspecialties including urology [14,15], bariatric surgery [16], and cardiac surgery [17]. Published studies comparing traditional models of care to shared medical appointments have shown improved clinical outcomes such as lower hemoglobin A1c [7], increased exercise [18], improved blood pressure control [18], decreased preterm birth [19], improved access to care and decreased costs [20]. Despite the potential benefits of shared medical appointments for both patients and providers, there have been few attempts to utilize this model in oncology [21–24]. Our aim was to develop and

conduct a pilot study to determine whether shared medical appointments would be feasible for gynecologic oncology patients at the initiation of chemotherapy. The purpose of this paper is to describe the development and implementation of a shared medical appointment for chemotherapy education and clearance in a tertiary academic medical center and provide our initial results from this ongoing program.

Methods

Needs Assessment

This study was approved by the Quality Improvement Assessment Board at The University of Texas MD Anderson Cancer Center. After obtaining approval, the primary investigator (LSP) used a semi-structured script to conduct face-to-face interviews with 24 gynecologic oncology patients and 26 health care providers to assess their level of interest in shared medical appointments. Patients were approached in the waiting room prior to their scheduled appointments. The median age of patients interviewed was 60 years (range, 34–85 years). The majority of patients (75%) were white and had ovarian cancer (63%). All patients reported a history of surgery, chemotherapy or both, and 36% were actively receiving treatment. The majority of providers interviewed were physicians (65%). The remainder of the providers included clinical pharmacists, mid-level providers, nurses, and a psychologist. Thirty-five percent of providers, but no patients, had previous knowledge of shared medical appointments. After a brief description of the model, 92% of providers and 58% of patients stated that they would be interested in learning more about or would consider participating in a shared medical appointment. Providers and patients rated both chemotherapy initiation and survivorship as optimal settings to initiate a shared medical appointment.

Clinical Setting

Prior to initiation of this project, there was no standardized chemotherapy education component at our institution. We therefore felt that chemotherapy initiation was a high yield area for improvement and we chose to investigate the feasibility of developing a new clinic for patients initiating chemotherapy utilizing the shared medical appointment methodology. The following briefly explains the process of chemotherapy education used in the Gynecology Center prior to the implementation of shared medical appointments. The Department of Gynecologic Oncology has 15 faculty, 18 advanced practice providers, and 25,000 clinic appointments annually. Each week, 2 to 14 patients are seen for chemotherapy initiation, the majority of whom are initiating treatment with a platinum- and/or taxane-based regimen. The first chemotherapy visit includes evaluation by an advanced practice provider and gynecologic oncologist, as well as chemotherapy education provided by a clinical pharmacist or advanced practice provider. Education typically includes information regarding chemotherapy and its administration, as well as review of relevant side effects and their management. This conversation is documented by written consent.

Despite similarities in the choice of chemotherapy drugs to treat gynecologic cancers, we observed significant variation in scheduling appointments, chemotherapy counseling, and materials provided to patients. We performed baseline time studies to document our perceptions. We monitored 20 patients who initiated chemotherapy in nine different

physician clinics. The median total visit time, including patient wait time, was 114 minutes (range, 28–236 minutes). Patients spent an average of 45 minutes (range, 19–85 minutes) face-to-face with a provider, of which only 13 minutes was spent with the attending physician (range, 2–34 minutes). These time studies demonstrated that chemotherapy initiation required much more time than anticipated, resulting in long patient wait times, decreased patient satisfaction and inefficient use of clinic rooms. Thus, in response to our patients' needs and baseline time studies, we identified chemotherapy initiation as a high yield pilot clinic for shared medical appointments in the Gynecology Center.

We secured administrative support from the conception of the project. The departmental operations team championed the project with full support from the executive leadership including the department Chair, and the medical and fellowship directors. Consensus was reached among the gynecologic oncology physicians at a staff retreat to pilot the program.

Program Development and Standardization of Chemotherapy Education

Although several group visit models have been described in the literature, very few have been adopted in the oncology setting and none have been used in patients receiving active treatment [21,23]. Therefore, we chose to create our own model using aspects of the shared medical appointments program pioneered by Edward Noffsinger, as well as the group visit model described by the Centering Healthcare Institute [6,25]. We assembled a multidisciplinary team that comprised physicians, advanced practice providers, nurses, pharmacists, administrators, health education specialists, and members of the Office of Performance Improvement to develop a comprehensive shared medical appointment for gynecologic cancer patients initiating chemotherapy. Our group opted to include patients who were receiving platinum- and/or taxane-based chemotherapy for the first time, as these agents are the cornerstone of systemic treatment for most gynecologic cancers. Using input from patients in ovarian and endometrial cancer support groups, we developed the Shared Medical Appointment and Readiness Teaching (SMART) program incorporating the six Institute of Medicine aims: safety, effectiveness, equitability, patient-centeredness, timeliness, and efficiency of care—with a particular emphasis on the last three [26].

Several measures were undertaken to standardize the chemotherapy education and consent process. We developed a teaching checklist and chemotherapy education slide presentation, which is delivered by either a clinical pharmacist or advanced practice provider. Topics include basic principles of chemotherapy, common chemotherapy side effects, and suggestions for managing side effects. The presentation also covers logistical issues such as directions to the Ambulatory Treatment Center (our chemotherapy infusion facility), important contact information, and helpful tips. The presentation concludes with a discussion of the importance of patient safety, with suggestions for how patients can ensure their own safety while receiving chemotherapy. Printed copies of the slide presentation are provided to patients and caregivers.

We also developed a standardized toolkit tailored to meet the specific needs of gynecologic cancer patients undergoing chemotherapy. This kit includes the American Cancer Society Personal Health Manager folder, a Guide to Managing Your Chemotherapy booklet developed by the Patient Education Office at MD Anderson [27], chemotherapy drug

information sheets, anti-nausea medication instructions, a copy of the chemotherapy consent form, clinic and hospital contact information sheets, advance directives information, and a pocket-sized map of the MD Anderson campus. All educational materials were developed in a format that encompassed best practices for adult education and health literacy guidelines. The materials were reviewed and approved by a patient health education specialist to ensure appropriate language and readability. Table 1 details the key components of the educational content.

Implementation

Patient Recruitment—English-speaking patients with a gynecologic cancer scheduled to receive taxane and/or platinum-based chemotherapy are eligible to participate. Participation is voluntary and patients are referred from the Gynecology Center. Each treatment plan is established by the primary Gynecologic Oncology attending physician. Services offered by the SMART clinic include education only, education and consent, or education with consent and writing of the chemotherapy orders. During the initial few months, patients were identified from the weekly planning and preoperative conferences and attending physicians were notified about their eligible patients.

To raise awareness about SMART and encourage patient enrollment, the SMART team presented informational sessions to the physicians, advanced practice providers, medical trainees, and nurses. Advanced practice providers, nurses, and medical assistants were invited and encouraged to attend SMART as observers to learn more about the program and the information presented. To enhance patient recruitment, we created an advertising campaign “SMART Awareness Month”, and encouraged friendly competition among clinic teams to increase patient participation. The team that enrolled the largest percentage of patients each week won gifts cards redeemable in the hospital cafeteria. We designed a logo integrating the medical and caregiving aspects of this effort and created a patient handout that explained the logistics of the visit (Figure 1). Each week, we brought an item to the clinic that reminded everyone in clinic to enroll patients in SMART, including Glaceau Smart Water and Smarties candies. SMART Month was a huge success, and we exceeded our goal of 80% recruitment. The awareness and use of SMART continues to increase and patients are now routinely scheduled for SMART by their primary gynecologic oncology team.

Structure and Flow of Visit—SMART is offered every Friday morning from 7:30 am to 9:30 am for patients initiating chemotherapy with a platinum- and/or taxane-based regimen. The visit process is illustrated in Figure 1. Patients’ blood specimens are collected prior to SMART, and the laboratory values are reviewed by the SMART medical staff to ensure they are adequate for chemotherapy administration. Patients check in at the Gynecology Center and undergo a nursing assessment. The women and their caregivers are then greeted by a member of our staff and taken on a group tour of the chemotherapy infusion facility.

After the tour, the patients and family members are escorted to a patient education classroom, where the patients meet the clinical pharmacist and/or advanced practice provider. We provide beverages and light snacks for patients and their caregivers to enjoy

during the visit. The group session commences with an educational presentation delivered by a clinical pharmacist or advanced practice provider and is followed by a facilitated group discussion with the staffing physician that allows for patient education within a framework of social support.

After the group session, patients are offered individual time with the staff physician should they have additional questions and/or medical concerns that were not addressed during the group setting. Patients are provided with prescriptions for anti-nausea medications and a wig, as indicated. As a courtesy, parking validation tickets are provided for the day of the SMART program. In accordance with recommendations from the American Society of Clinical Oncology Institute for Quality, written consent is reviewed with the patients and then signed using a laptop and e-signature pad. The orders for chemotherapy are prepared by the clinical pharmacist and/or mid-level provider and then completed and signed by the staffing physician. The visit concludes with a tour of the Learning Center, a consumer health library, where patients and their caregivers have access to additional resources and information to help them throughout treatment.

Billing, Medical Documentation and Privacy Concerns—A dictation template was created for consistency and ease of medical documentation, since a different physician staffs the clinic each week. Appointments are billed by the staffing physician based on the time spent in face-to-face counseling and coordination of care. Each Thursday evening, a copy of the template is emailed to the faculty staffing the clinic the next day. The staffing physician dictates at the completion of the visit. Any additional required medical evaluation, testing, or follow-up appointments are scheduled after the SMART visit. At the start of the visit, patients were asked if they were comfortable with the pharmacist or advanced practice provider discussing their individual chemotherapy regimen in front of the group. This verbal consent allowed our facilitators to tailor the education to the group present, as patients often received different regimens such as combination platinum and taxane regimens versus single agent treatment. Aside from treatment regimen, no patient health identifiers were discussed by the medical team in the group setting, therefore we did not require the participants to sign a confidentiality waiver at the start of the program. However, many patients did share the details of their diagnosis and/or experiences during the course of the appointment, and were allowed to do so as appropriate to the overall discussion. Other models of SMA described in the literature have provided a confidentiality waiver that patients sign at the start of the visit.

Process Improvement—As recommended by Berger-Fiffy [6], a SMART “dress rehearsal” was conducted two weeks prior to the launch date, using team members to role-play patients. This gave program leaders an opportunity to better define and prepare for their roles. Key stakeholders from our administration and faculty were also present to observe the rehearsal and provide feedback. During the initial implementation phase, the SMART team met weekly to review the process, discuss patient feedback, and change the visit flow as needed. For example, we initially conducted the tour of Ambulatory Treatment Center at the end of the visit. After several SMART visits were held, we noted that the facilitated discussions were more interactive if patients toured the Ambulatory Treatment Center first, since this tour gave them an opportunity to meet each other prior to the group presentation.

After the process order was changed, patients seemed to feel more comfortable and more engaged in the group.

Results

Patient Demographics

The first SMART program was launched in May 2014. To date, we have provided 51 SMART visits to 144 patients. The majority of patients brought at least one caregiver with them; we began tracking caregiver participation as of Jan 1, 2015, and have since counted 101 caregivers (range, 0–5 caregivers/patient). The patients were a diverse group representing most gynecologic cancers, including ovarian (N = 52, 36%), uterine (N = 44, 31%), cervical (N = 22, 15%), mullerian of unknown primary (N = 18, 13%), vaginal (N = 6, 4%) and vulvar (N = 2, 1%). The majority of patients (N = 81, 56%) initiated treatment with carboplatin and paclitaxel, but other regimens included single-agent carboplatin, single-agent paclitaxel, and cisplatin or paclitaxel with radiation therapy.

Patient Satisfaction

Patient satisfaction was assessed via an anonymous 18-question satisfaction questionnaire distributed at the end of the SMART visit. The survey included a combination of Likert scale (maximum score of 5), multiple choice, and open-ended questions. A total of 105 patients completed the questionnaires, 91 of whom “strongly agreed” or “agreed” that they were satisfied overall with their SMART appointment. The mean responses to the survey questions are listed in Table 2. Patients were also given free text space to provide additional comments about their experience. We received overwhelmingly positive feedback and have included some patient responses in Table 2. We initially distributed the surveys at the end of the visit, however we occasionally had patients who had conflicting medical appointments and needed to leave the SMART visit early or showed up late, so we modified our structure and provided the survey in the packet at the beginning of the visit and requested that patients return it at the end of the visit. We subsequently had patients who did not complete the tour of the ambulatory treatment centers or the tour of the learning center, but to our knowledge, there were no patients who left the visit due to dissatisfaction with the education component of the visit.

Discussion

As healthcare continues to rapidly evolve, healthcare providers are required to develop innovative methods of delivering high-quality care. Our preliminary experience demonstrates that use of shared medical appointments for patients initiating chemotherapy is both novel and feasible within an academic medical center. SMART is a patient-centered model that provides patient education within a framework of social support and provides an opportunity to standardize chemotherapy education. SMART enabled our department to create new multidisciplinary collaborations with the Learning Center and Ambulatory Treatment Centers, thereby providing improved coordination of care for our patients.

We encountered several challenges in the process of development and implementation that are critical to consider for those interested in piloting a similar program. Based on our initial

experience, we highly recommend performing a needs assessment to determine the volume and specific needs of the local environment to ensure that the implementation of a shared medical appointment is the appropriate choice for your group. Second, because we see a high volume of patients initiating treatment with similar cancer drugs, we tailored our education session to patients undergoing platinum- and/or taxane-based chemotherapy. However, this tailoring may not be viable for smaller centers, and inclusion of other chemotherapy regimens should be considered. Third, the number of participants in SMART is smaller than those reported in traditional shared medical appointments. We noted that the majority of our patients brought at least one caregiver. Given the large participation rate of caregivers in chemotherapy education and planning, and to be sensitive to their needs, we have chosen to conduct smaller shared medical appointments of 3–4 patients rather than larger groups often reported in the literature. Fourth, the group dynamics and treatment regimens had a significant influence on the nature of the appointment. For instance, patients with medical co-morbidities requiring different dosing regimens often required the covering team to spend additional time ensuring that patients understood their specific regimen and scheduling. We also had a few instances in which patients were felt to not be medically suitable for chemotherapy and their chemotherapy was cancelled. These patients were rescheduled to meet with their primary provider or were transported to the emergency center for more immediate evaluation and management. Fifth, we utilized survey data to obtain patient satisfaction. We recognize that there are many limitations of using survey data for reporting patient satisfaction outcomes. These limitations include that respondents may not feel comfortable providing accurate, honest answers and there may be bias due to differences in experiences that isn't captured by the non-responders. Last, planning for a shared medical appointment was labor intensive and required a dedicated and flexible group to ensure success. Obtaining buy-in from administrators and clinical staff early on in the development of the project was essential.

Conclusion

The integration and standardization of patient education increase the likelihood that patients will receive the information they need when they need it, and in a format that encompasses best practices of adult education and health literacy. Our preliminary evaluation suggests that shared medical appointments have the potential to improve value by providing better education and support to patients in a more efficient manner. Further evaluation of clinical outcomes is on-going. A patient-centered model, collaboration of multidisciplinary team members, and timely responsiveness to constructive feedback were essential to the successful integration of shared medical appointments in our tertiary academic cancer center.

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HIGHLIGHTS

We utilized quality improvement methodology to develop an innovative approach to chemotherapy education.

Shared medical appointments are a novel concept among oncology provides and patients.

Shared medical appointments for oncology patients initiating chemotherapy are both feasible and well accepted.

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SMART Chemotherapy Program

(Shared Medical Appointment and Readiness Teaching)

What is SMART?

The SMART program is a shared appointment for patients about to start chemotherapy. Chemotherapy education is offered in a relaxed group setting where patients are encouraged to ask questions, and share concerns and experiences.

We want to prepare you for your cancer treatment. This handout will explain our chemotherapy education program. If you have any questions, please ask. We are here to help!

THE UNIVERSITY OF TEXAS
MDAnderson Cancer Center

What can I expect at this visit?

You will receive chemotherapy education with a pharmacist or mid-level provider, have a session with a doctor to ask questions; and tour The Learning Center and the Ambulatory Treatment Center. Please arrive at the Gynecologic Oncology Center, Mays Clinic, Floor 6 at 7:30 a.m. We value your time and will start sessions promptly. Here's how the appointment works:

Check-in & Vital Signs Arrive at 7:30 a.m.	Tour the Ambulatory Treatment Center (ATC)	Group Session Chemotherapy Education	Group Session Q&A and Wrap Up	Tour The Learning Center

What can I do to prepare for my visit?

Please complete your bloodwork before your SMART visit. This can be done any day of the week. Check your schedule on myMDAnderson to confirm that a lab appointment has been scheduled for you. Make a list of questions that you would like answered.

Where do I park?

For your SMART visit, please self-park in the Mays Clinic Garage near Entry 5. Parking is free and will be validated at your appointment.

Figure 1. Patient recruitment flyer illustrating Shared Medical Appointment and Readiness Teaching (SMART) visit flow

Table 1

Standardization of Chemotherapy Content and Supplies Used

Educational Materials	Personal Health Manager Kit from American Cancer Society Chemotherapy presentation slides Gynecologic Oncology Contact sheet Anti-Nausea Medicines handout Blank Chemotherapy consent form Blank Advance directives MD Anderson maps
Education Content	Chemotherapy basics: overview and definitions Logistics of treatment Description of treatment regimens and side effects Side effect management Patient Safety Helpful tips from previous patients
Supplies	Pens Notepads Laptop with electronic signature pad Healthy snacks and beverages

Table 2

Self-Reported Patient Satisfaction with SMART

Question number	Parameter	Response N = 105*
1	Length of appointment n(%) (n=90)	
	Too long	1 (1.10%)
	About right	87 (95.6%)
	Too short	1 (1.10%)
	Unsure	2 (2.20%)
2	Number of patients n(%)	
	Too long	3 (2.86%)
	About right	99 (94.29%)
	Too short	1 (0.95%)
	Unsure	2 (1.9%)
3**	Understood information provided	4.73 ± 0.05
4	Adequate time to ask questions	4.73 ± 0.05
5	Concerns about chemotherapy addressed (n = 104)	4.78 ± 0.05
6	Clear explanation of what to expect during chemotherapy	4.84 ± 0.05
7	Interdisciplinary communication	4.77 ± 0.05
8	SMA's are a good way of receiving information about chemotherapy (n = 93)	4.65 ± 0.08
9	Other patients asked questions that I may not have asked (n = 92)	4.09 ± 0.14
10	Benefited from hearing the answers to questions that other patients asked (n = 92)	4.33 ± 0.12
11	Would participate in other SMA's if available (n = 93)	4.31 ± 0.10
12	Would recommend SMA's to other patients (n = 94)	4.59 ± 0.08
14	Overall satisfaction with appointment (n = 94)	4.65 ± 0.65
15	Overall satisfaction with providers (n = 94)	4.79 ± 0.05
Comments	"It is helpful that the entire family is encouraged to come and there is space for everyone. It relieves some fears to actually see where the treatments will be given" "great help – felt a little less alone." "Thoroughly answered all my questions and gave me helpful hints/tips to manage side effects"	

* Of the 105 surveys returned, 11 surveys were missing responses to p. 2 (questions 8–15). The number of respondents was 105 unless otherwise indicated above. SMA = Shared Medical Appointment.

** Likert scale (maximum score of 5) for questions 3–15.