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## Using a Patient Portal for Electronic Communication With Patients With Cancer: Implications for Nurses

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E-mail has revolutionized communication; however, nurses have been slow to adopt that type of communication in their clinical practice. Patients overwhelmingly report that they want electronic access to their healthcare providers, yet concerns exist among providers regarding the safety and security of such communication, along with the effect on workload (Bodenheimer & Grumbach, 2003; Hussain, Agyeman, & Das Carlo, 2004).

Patient portals are Web applications that allow patients to interact with their providers and access various applications (Lin, Wittevrongel, Moore, Beaty, & Ross, 2005). At the start of this decade, significant growth occurred in the patient portal industry, with evidence of more large hospitals and small practices providing that type of service to patients (Sorensen, Shaw, & Casey, 2009; Weingart, Rind, Tofias, & Sands, 2006). One advantage of patient portals is the security that they provide for electronic messaging. Additionally, portals can build on e-mail communication by adding other features such as access to appointment information, test results, patient education materials, and online forms, as well as the ability to update demographic information and pay bills.

Oncology nurses are well positioned to lead and participate in this practice change because they are able to articulate the elements that are most important to incorporate in the development of patient portals. Oncology nurses also play an important role in promoting patient autonomy in the management of their care. Engaging patients in communication through patient portals has the potential to enhance shared decision making by allowing patients access to their own healthcare information.

### Background

Memorial Sloan-Kettering Cancer Center (MSKCC) is a National Cancer Institute (NCI)-designated comprehensive cancer center in New York City. The 432-bed inpatient hospital is located in Manhattan, and an extensive outpatient department spreads throughout Manhattan into the surrounding regions of Long Island and Westchester County, NY, as well as New Jersey, with more than 500,000 patient visits annually (MSKCC, 2009).

Nurses in the MSKCC outpatient department collaborate with physicians to provide care for patients as part of a disease-management team. The nurses perform patient assessments, determine treatment-associated toxicities, conduct patient teaching, provide strategies for self-care interventions, and provide psychosocial support for patients along the entire continuum of cancer care. In addition to patient clinic visits, nurses are responsible for triaging patient phone calls to the physicians' offices. Phone calls are a primary means of communication with patients.

In addition to phone calls, patients and nurses occasionally communicate via e-mail. In 2003, the institution adopted a nursing policy for nurse-patient e-mail communication. Internal stakeholders developed the policy based on the best available evidence in the literature, as well as from Web guidelines and informatics consultation. The online communication policy includes details regarding expectations for responding to messages and documentation of communication in the electronic medical record (EMR). At that time, nurses used their MSKCC e-mail accounts, which used encryption software whenever sending an outgoing message to a patient.

In 2005, MSKCC began developing a "homegrown" patient portal system (see Figure 1). The steering committee guiding the project included members from administration, information technology, the privacy office, patient financial services, and the legal, medicine, and nursing departments. Development of the secure messaging application (where e-mail would occur) was a critical feature of the portal; therefore, nurses were key participants because they had developed the policy on e-mail communication with patients. Patients' desire for online communication and the need to ensure patient privacy and safety while integrating this communication technology into the nursing workflow became the driving principles of the secure messaging feature in the patient portal.

### Process

The patient portal builds on patients' desire for e-mail communication but adds other features. Learning from the experience of using e-mail for communicating with patients, the team sought to solve common problems that patients and nurses sometimes experienced using e-mail: (a) difficulties with patient identification because full name, date of birth, or medical record number often were missing from messages; (b) messages were too long and wordy; (c) messages contained urgent issues such as severe symptoms; (d) delivery of messages failed because of firewalls blocking the encryption software on the receiving end; (e) documentation in the EMR required transcription of messages, adding to workloads; and (f) when a nurse was out of the office, no one responded to the message.

**Figure 1. MYMSKCC Patient Portal Home Page**

Note. Image courtesy of Memorial Sloan-Kettering Cancer Center. Used with permission.

Using information obtained through surveys, focus groups, and user-acceptance testing, the team designed a new

type of secure messaging system that answered the needs of patients and nurses while improving access and flow

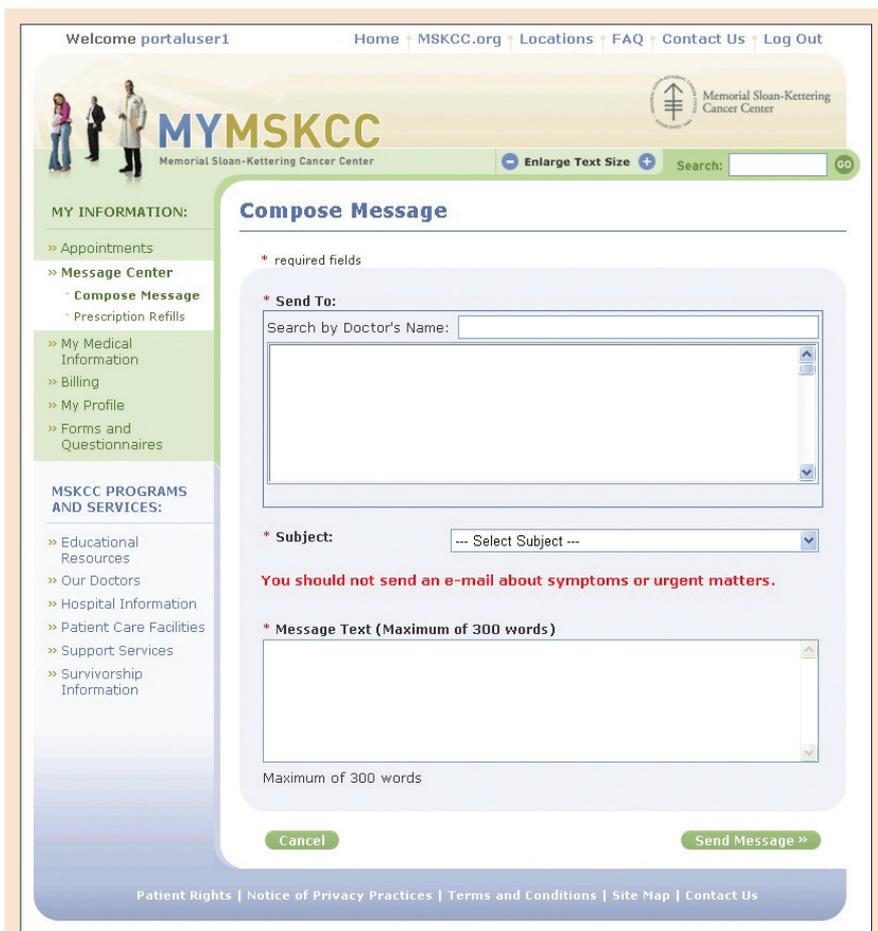
of information. Engaging the end users in the development of the system supported the sustainability of the innovation. Furthermore, understanding what specific aspects of e-mail communication caused concern for the nurses and subsequently addressing those concerns facilitated a smoother adoption.

When using e-mail, nurses struggled with accurately identifying patients because messages often lacked required patient identifiers. In the patient portal, patients must register and then log in to send messages. A validation process occurs between a patient's information and the hospital system to verify the patient's identification. As a result, any message a patient sends through the portal is automatically tagged with his or her full name and medical record number.

Although nurses educated patients regarding acceptable content for electronic messages, the risk of patients communicating urgent issues remained high. To reduce the risk, patient advisories—"You should not send an e-mail about symptoms or urgent matters"—were added to the secure messaging system (see Figure 2). To avoid lengthy messages, the portal limits free text messaging to no more than 300 words. Additionally, patients may choose from a number of templates that structure messages depending on topic. For example, if a patient requests a prescription refill, he or she selects the corresponding template that guides the user to input the information required to complete a refill request (see Figure 3).

Sending electronic messages through the portal eliminated the technical problems encountered with encryption software and firewalls. This helped to reduce the frustration that the end users experienced with e-mail. Portal security protection enhanced incoming and outgoing message security. Also, by using the portal, MSKCC leveraged the ability to interface between the portal and the EMR. Nurses can simply click a button to send a message to the EMR to document an exchange. Finally, when shifting electronic communication from e-mail to the portal, MSKCC created shared mail boxes so that nursing staff could cross-cover when out of the office. For patients, this ensured continuity of care and avoided interruption in communication.

To assist in the implementation of the practice changes related to using the patient portal for e-mail with patients, the nursing staff received education on the secure messaging feature in the



**Figure 2. General Message Template**

Note. Image courtesy of Memorial Sloan-Kettering Cancer Center. Used with permission.

portal. In a dynamic healthcare environment where the workforce is changing constantly, inclusion of information regarding the patient portal in the nursing orientation ensured that new members of the staff were aware of the innovation. Additionally, the nurse educators and preceptors incorporated education on the secure messaging feature during unit orientation. A slide show detailing the process for secure messaging on the portal is available on the "Nursing Web" (located on the MSKCC's intranet) for nurses to access at any time.

## Challenges

The secure messaging application proved to be the most controversial aspect of the patient portal's implementation, with significant differences between patients and nurses in perceived utility of the application. Patients viewed the system positively; however, many nurses perceived it negatively. Nurses expressed great concern over safety, liability, and workload issues potentially associated

with electronic messaging. The incorporation of secure messaging to the patient portal and subsequent invitation to patients to join the portal represented a culture change for the organization. Until the portal's implementation, nurses controlled whether they would share their e-mail addresses. With the portal, patients could initiate electronic communication.

Because patients use electronic communication for nonurgent issues, an opportunity existed to triage messages and respond at times convenient for the nurses. Unlike telephone or face-to-face communication, the asynchronous nature of electronic communication allows nurses to use time more effectively.

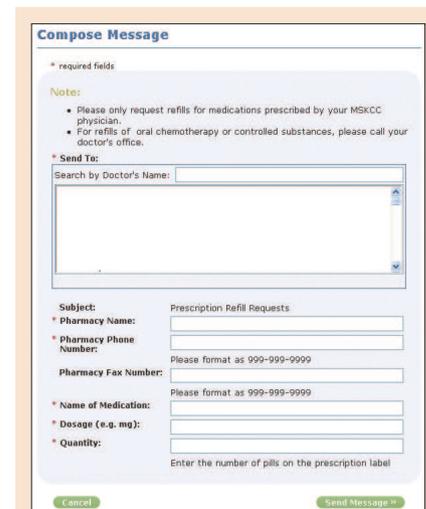
Many physicians resisted the implementation of the secure messaging application; to date, most do not use the system to communicate with patients. Physician concerns about electronic communication with patients are well documented in the literature (Hussain et al., 2004; Klein 2007; Sands, 2004). In addition to the worries that nurses

cite (e.g., safety, security, workload), physicians emphasized the effect on workload and the lack of reimbursement for such consultation. Thus, the office practice nurses collaborate very closely with physicians in the outpatient department. Differences between nurses and physicians in adoption of the innovation have created additional challenges in the implementation of a secure messaging application.

To help overcome these challenges, nursing leadership emphasized how the innovation provided convenience and truly met the needs of patients. Framing the change to illustrate how electronic communication could enhance the nurse-patient relationship proved beneficial by increasing buy-in from the nursing staff. Through the portal, nurses can supplement messages with educational materials sent as attachments and interface with the EMR, thus saving time. Furthermore, providing patients with a choice on how to communicate supports the patients' desire for autonomy about their care.

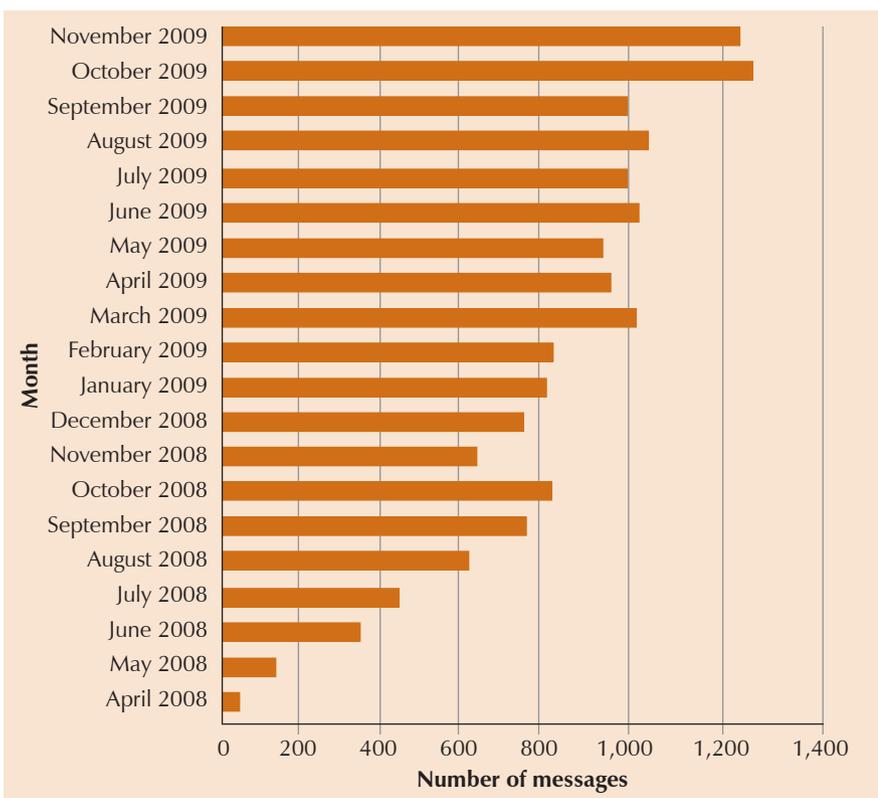
## Benefits

Great potential exists in using patient portals to augment nursing care delivery for patients with cancer. In the oncology population, providing opportunities for empowerment can improve the quality of care. Klein (2007) noted that "patients with greater healthcare needs foresee increased use of portals to access their



**Figure 3. Prescription Refill Message Template**

Note. Image courtesy of Memorial Sloan-Kettering Cancer Center. Used with permission.



**Figure 4. Patient Portal Secure Messages**

personal medical information” (p. 751). Using secure messaging through a patient portal helps nurses and patients to reduce or eliminate “phone tag,” as well as address issues as they arise. Patients can request refills of medication prescriptions through the system. Nurses can further leverage the technology by automatically sending messages to the EMR for documentation.

Nurses can capitalize on the ease and efficiency of secure messaging to communicate with patients. In addition to supporting nursing practice by saving time, this method of communication holds the potential to improve patient satisfaction. In a randomized, controlled trial, Lin et al. (2005) reported that patient satisfaction significantly increased in a group using a patient portal versus a control group who did not use the portal. The findings sug-

gest that patients value online access to healthcare providers and related logistical information (e.g., appointments).

In this era of educated consumers, a changing economic climate, and a tightening healthcare market, survival necessitates asserting a competitive edge. Answering the needs of patients by offering a unique service provides MSKCC with an advantage over competitors. A national survey demonstrated that the provision of online health information would influence people’s choice of physicians (Harris Interactive Inc., 2006). In the long term, the implementation of the secure messaging application to the portal may prove economically advantageous by assisting in recruitment of new patients. Nurses are poised to influence the overall success of this innovation and the subsequent contribution to improving market share for MSKCC.

Patients at MSKCC demonstrate interest in the patient portal. Since 2005, more than 11,000 patients have registered for access to the site. This represents nearly one-third of the organization’s entire patient population. Furthermore, the number of secure messages sent to the shared mailboxes increased month by month since the institution first tracked that information in April 2008 (see Fig-

ure 4). Each physician practice has a shared mailbox. On average, each mailbox received 48 messages during the 19-month period (about three messages per month). In November 2009, the average number of messages per mailbox per month doubled (see Figure 5).

## Summary

Nurse leaders supported the culture change and acted as catalysts for acceptance of the innovation. Identifying early adopters and engaging key stakeholders provided an opportunity to receive and incorporate feedback from the nursing staff (see Figure 6). Enhancements to the secure messaging application, made at regular intervals, signaled to the nursing staff the importance of their feedback. Granting nurses the ability to influence portal development builds interest in the system and the resulting implications for nursing practice.

Electronic communication with patients presents an opportunity to move away from the idea of a patient visit being a single in-person event to an ongoing relationship. In the outpatient setting, oncology nurses care for patients along the entire care continuum—from diagnosis, through treatment, and to survivorship or death. The incorporation of secure messaging to oncology practice offers nurses and patients a unique alternative that allows more frequent and timely communication between nurses and patients. The patient portal offers patients timely access to information about their health care in a secure and safe environment.

*The author gratefully acknowledges the following MSKCC colleagues for their work in the development and support of the patient portal secure messaging center: David Artz, MD, Sujatha Ananthabhotla, Diana Garcia, Laurie Ochs, Maryellen O’Sullivan, RN, Karen Roberts, Peter Roehrich, Rori Salvaggio, RN, Kevin Shannon, and Bing Zhang.*

Total number of messages: 15,684  
 Total number of mailboxes: 327  
 Median number of messages: 26  
 Mean number of messages: 47.9  
 Range of messages: 1–335

**Figure 5. Patient Portal Secure Messaging Statistics for April 2008–November 2009**

- Identify key stakeholders.
- Engage stakeholders in the development and design of the site.
- Provide support to end users.
- Actively seek feedback.
- Incorporate feedback in a timely fashion to enhance sustainability of adoption.
- Evaluate the effect of changes and make appropriate adjustments.

**Figure 6. Key Points to Consider During Development of a Portal for Patients With Cancer**

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Digital Object Identifier: 10.1188/10.ONF.667-671

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## Leadership & Professional Development

This feature provides a platform for oncology nurses to illustrate the many ways that leadership may be realized and professional practice may transform cancer care. Possible submissions include, but are not limited to, overviews of projects, accounts of the application of leadership principles or theories to practice, and interviews with nurse leaders. Descriptions of activities, projects, or action plans that are ongoing or completed are welcome. Manu-

scripts should clearly link the content to the impact on cancer care. Manuscripts should be six to eight double-spaced pages, exclusive of references and tables, and accompanied by a cover letter requesting consideration for this feature. For more information, contact Associate Editor Mary Ellen Smith Glasgow, PhD, RN, ACNS-BC, at [Maryellen.smith.glasgow@drexel.edu](mailto:Maryellen.smith.glasgow@drexel.edu) or Associate Editor Judy Schreiber, RN, PhD, at [judy.schreiber@louisville.edu](mailto:judy.schreiber@louisville.edu).