Implementation of the Serious Illness Care Program on Hospital Medical Wards: Methodology for a Multisite Quality Improvement Initiative

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Received: 20 August 2020; Accepted: 1 December 2020; Published: 2 September 2021
DOI: https://doi.org/10.22374/cjgin.v16i3.484

Abstract

Background
Poor communication with hospitalized patients facing serious, life-limiting illnesses can result in care that is not consistent with patients’ values and goals. The Serious Illness Care Program (SICP) is a communication intervention originally designed for the outpatient oncology setting that could address this practice gap.

Methods
A multihospital quality improvement initiative adapted and implemented the SICP on the medical wards of four teaching hospitals in Calgary, Hamilton, Ottawa, and Montreal. The SICP consists of three main components: tools (including the Serious Illness Conversation Guide for clinicians), training for frontline clinicians to practice using the Guide, and system change to trigger and support serious illness conversations in practice. Implementation of the SICP at each site followed a phased approach: (1) Building a Foundation; (2) Planning; (3) Implementation; and (4) Sustainability. To assess the success of implementation and its impact, we developed an evaluation framework that includes process measures (e.g., number and proportion of eligible clinicians trained, number and proportion of eligible patients who received a serious illness conversation), patient-reported outcomes (including a validated, single-item “Feeling Heard and Understood” question), and clinician-reported outcomes.
Conclusion
Based on our adaptation and implementation efforts to date, we have found that the SICP is readily adaptable to an inpatient medical ward setting. Future manuscripts will report on the fidelity of implementation, impact on patient- and clinician-reported outcomes, and lessons learned about how to implement and sustain the program.

Résumé

Contexte
Une mauvaise communication avec les patients hospitalisés atteints d’une maladie grave qui limite leur espérance de vie peut se traduire par des soins qui ne correspondent pas à leurs valeurs et à leurs objectifs. Le Programme de soins dans le cas de maladies graves (PSMG) est une intervention de communication conçue à l’origine pour l’oncologie externe qui pourrait remédier à cette lacune dans la pratique.

Méthodologie
Une initiative multihospitalière visant l’amélioration de la qualité a adapté et mis en œuvre le PSMG dans les unités de soins de quatre hôpitaux universitaires situés à Calgary, à Hamilton, à Ottawa et à Montréal. Le PSMG comprend trois principaux éléments : des outils (dont le guide de conversation sur les maladies graves à l’intention des cliniciens), de la formation pour que les cliniciens de première ligne puissent s’exercer à l’aide du guide et un changement de système pour entamer et faciliter les conversations sur les maladies graves dans la pratique. À chaque endroit, la mise en œuvre du PSMG a suivi une approche progressive : 1) l’établissement d’une base; 2) la planification; 3) la mise en œuvre; 4) la durabilité. Pour évaluer le succès de la mise en œuvre et ses répercussions, nous avons créé un cadre d’évaluation qui comprend des mesures de processus (p. ex., le nombre et la proportion de cliniciens admissibles formés, le nombre et la proportion de patients admissibles qui ont eu une conversation sur les maladies graves), des résultats rapportés par les patients (dont une question validée à un seul élément « se sentir écouté et compris ») et des résultats rapportés par les cliniciens.

Conclusion
À la lumière de nos activités d’adaptation et de mise en œuvre réalisées jusqu’à maintenant, nous constatons que le PSMG est facilement adaptable à un contexte d’unité de soins pour les patients hospitalisés. Les prochains manuscrits porteront sur la fidélité de la mise en œuvre, les répercussions sur les résultats rapportés par les patients et les cliniciens et les leçons apprises sur la façon de mettre en œuvre et de maintenir le programme.

Introduction
Good communication between patients and healthcare practitioners can result in high-quality care that aligns treatment to patients’ goals and values. Effective communication is important for hospitalized, seriously ill patients at risk of receiving invasive treatments inconsistent with their preferences. This article defines a serious illness conversation as a discussion between a practitioner and a patient with a serious life-limiting illness or their substitute decision-maker(s) regarding their illness understanding, prognosis, values, goals, fears, and sources of strength. These conversations intend to enable a more person-centered approach to care and better align current or future treatment with patients’ values and goals. However, in the hospital setting, serious illness conversations are infrequent, occur too late in the illness trajectory, and often fail to adequately address prognosis or elicit the patient’s goals, values, and wishes. Poor quality of communication during serious illness is associated with medical error, suboptimal patient experience and quality of life, increased risk for clinician burnout, and higher healthcare costs. Thus, improving the quality of serious illness conversations may lead to important improvements in the quality of patient care in hospital settings.
Clinicians may find it difficult to have serious illness conversations for several reasons. Many clinicians are uncertain about their knowledge, competency, and skills to deliver serious illness conversations to the point where some clinicians actively avoid them. In addition, there is a culture within the health system to delay serious illness conversations until very late in the illness trajectory. Also, while some clinicians might prefer to rely on palliative care specialists to have these conversations, there are not enough palliative care clinicians available to meet the needs of all patients experiencing serious illnesses. The Serious Illness Care Program (SICP) is a system-based communication intervention designed to address these barriers and thus, improve the timing, quality, and frequency of conversations with patients facing serious, life-limiting illnesses about their values and goals. The SICP resulted in earlier and more frequent conversations with patients and sustained reductions in patient anxiety and depression in a randomized controlled trial conducted in an outpatient oncology setting. Although originally designed for ambulatory cancer care, we hypothesized that the SICP would be well-suited to address the documented gaps in communication for hospitalized patients experiencing serious illness. This article aims to describe the methods for a multisite quality improvement initiative that adapted and implemented the SICP on the medical wards at four teaching hospitals across Canada. We will report the results of this study in future manuscripts.

Methods

Design
This is a multihospital quality improvement study. A quality improvement framework was chosen because it places explicit value on the tailoring of the evidence-based SICP to the local context to maximize uptake and impact.

Context
We adapted and implemented the SICP on general internal medicine wards at four hospitals across Canada: Foothills Medical Centre, Calgary, Alberta; Hamilton General Hospital, Hamilton, Ontario; Montreal General Hospital, Montreal, Quebec; and The Ottawa Hospital Civic Campus, Ottawa, Ontario. Participating sites were a convenience sample identified through our collaborative research network (Canadian Researchers at the End of Life Network). The participating general internal medicine wards were affiliated with a teaching institution and were staffed by interprofessional teams (nurses, nurse practitioners, physicians, physiotherapists, occupational therapists, social workers, registered dieticians, speech-language pathologists, and pharmacists), learners (medical students, residents), and administrative personnel. The number of general medical beds varied across participating sites and ranged from 38 in Calgary to 100 in Hamilton (Table 1).

Intervention: Description of the SICP
The SICP consists of three components: communication tools, clinician training, and system change. The central communication tool is the Serious Illness Conversation Guide (hereafter referred to as the Guide), which provides a conversation flow and specific, patient-tested language for clinicians (Appendix A). The Guide was developed by a team of palliative care experts at Ariadne Labs (Boston, MA, USA) and consists of seven elements that address; illness understanding, decision-making and information preferences, prognostic disclosure, patient goals, values and fears, views on acceptable function and trade-offs, and desires for family involvement. In contrast to many other communication tools in this field, the Guide is based on best practices in palliative care communication and has evidence demonstrating its positive impact on patient-important outcomes. For instance, in a cluster randomized controlled trial in the outpatient oncology setting, the use of the Guide when compared with usual care resulted in more frequent, accessible, comprehensive, patient-centered, earlier conversations documented in the electronic medical record (EMR), and sustained clinically important reductions in anxiety and depression amongst patients diagnosed with advanced cancer. A further analysis of this study by Paladino et al. showed that the use of the Guide was feasible, acceptable, and associated with positive experiences for both patients and clinicians. We did not make any changes to the content of the Guide, but did add local institutional branding at each site as permitted by the Ariadne Labs creative commons licensing agreement. Other program tools include a previsit letter, which we modified for the hospital setting (see section ‘Phase 2: Planning’), a Clinician Reference Guide that provides additional communication tips for clinicians to consider when using the Guide, and a Family Communication Guide (Appendix C) that is designed to support patients in having ongoing conversations with their family. We did not make any changes to the latter two tools during our implementation.

The training component consists of an interactive training session for clinicians to practice using the Guide. This 2.5 to 3-hour workshop includes; a reflection exercise about the importance of serious illness communication, a didactic session about the evidence base for serious illness conversations, a live or video demonstration of a trained clinician using the Guide with a standardized patient followed by a large group debriefing, individual skills practice role-playing the use of the Guide with direct observation, feedback by expert facilitators, and a final debrief. The facilitators were trained in using the SICP (Appendix B).
resources from the Ariadne Labs team by attending intensive and interactive, in-person SICP 'train-the-trainer' workshops either in Boston (MA, USA) or in Canada.

The system change component includes a series of processes that: routinely identify patients experiencing serious illness, ‘cue’ conversations for clinicians, prepare patients for conversations, deliver conversations, document them in a structured format, and support patients in having ongoing conversations with their families (Figure 1).

**Implementation of the Study Intervention**

At each participating site, implementation of the SICP consisted of four phases: (a) building a foundation, (b) planning, (c) implementation, and (d) sustainability (Figure 2).

**Phase 1: building a foundation**

This phase at each site consisted of creating an exploratory committee responsible for determining program goals, assessing readiness for implementation, recruiting an implementation team, selecting participating wards, constructing a budget, and obtaining approval from the local hospital. Exploratory committees consisted of a small number (i.e., four or fewer) of physician champions. The program goals were to build capacity amongst frontline clinicians on the general medical wards to have more frequent, more person-centered conversations with patients experiencing serious, life-limiting illnesses so that care could be aligned with patients’ values and goals. To assess readiness for implementation, members of the exploratory committees at each site engaged in one-on-one conversations with key stakeholders (i.e., organizational leaders and frontline clinicians expected to have serious illness conversations with patients). The objectives of these conversations were to: (a) tell stakeholders about our program goals and how this would improve their practice or enable the organization to meet its strategic objectives; (b) elicit and address any barriers to their support or participation in the initiative, and (c) ask for their support.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Foothills Medical Centre</th>
<th>Hamilton General Hospital</th>
<th>McGill University Health Centre</th>
<th>The Ottawa Hospital Civic Campus</th>
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</thead>
<tbody>
<tr>
<td>City</td>
<td>Calgary</td>
<td>Hamilton</td>
<td>Montreal</td>
<td>Ottawa</td>
</tr>
<tr>
<td>Number of participating medical wards</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Number of patient beds</td>
<td>38</td>
<td>100</td>
<td>51</td>
<td>75</td>
</tr>
<tr>
<td>Number of attending physicians on ward</td>
<td>3</td>
<td>6</td>
<td>2</td>
<td>4</td>
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<tr>
<td>Number of individuals on the implementation team</td>
<td>15</td>
<td>19</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>Frequency of meetings during Planning and Implementation phase</td>
<td>6 per year</td>
<td>6 per year</td>
<td>1 per month</td>
<td>1 per week</td>
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<td>Background of members on the implementation team</td>
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<tr>
<td>Clinical staff</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Research</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Hospital administrative staff (i.e., unit manager)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>External stakeholders (i.e., external to the participating general medical ward)</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Patient advisors</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
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</table>
Figure 1. Key Serious Illness Care Program elements requiring local customization.

Figure 2. Serious Illness Care Program implementation roadmap.
support or participation in the quality improvement initiative. Frontline clinicians were personally invited to attend a future clinician training workshop.

At each site, the exploratory committee recruited individuals to an implementation team responsible for local governance, guidance, and reporting for the quality improvement initiative. Implementation teams varied across sites by size, personnel composition, and frequency of meetings (Table 1). However, consistent across all implementation teams was a physician leader who was an attending physician on the general medicine ward and responsible for providing oversight of the day-to-day operations, decision-making, budgeting, and reporting of progress to relevant stakeholders.

**Phase 2: planning**
The central activity during this phase was for each site’s implementation teams to tailor SICP workflow to the inpatient medical ward and their local context. Table 2 shows the adaptations to workflow in more detail below and summarizes workflow at each site.

**Patient identification**
The Montreal’s McGill University Health Centre used the surprise question, ‘Would you be surprised if this patient died in the next year?’ to identify patients. Patients for whom the attending physician answered ‘No’ were eligible for a serious illness conversation. The surprise question was the patient identification method used in the original implementation of the SICP.

At Hamilton General Hospital, we leveraged a hospital initiative that screened all patients in the emergency department aged 65 years and older to identify those at increased risk for adverse health outcomes, prolonged hospitalization, or need for community-based services. This initiative used a validated instrument called the interRAI emergency department (ED) Screener that assigns a score of 1 to 6 based on physical function, mood, comprehension, presence of dyspnea, and family burnout at the time of admission. Higher scores are associated with poorer health outcomes or increased health resource use. Patients with a score of 6 were eligible for a serious illness conversation. We chose to use this approach for patient identification to align the SICP with the strategic goals of the hospital and therefore, facilitate implementation.

At the Foothills Medical Centre in Calgary, patients were eligible if they were 65 years or older and hospitalized for five days or more or if the attending physician believed a serious illness conversation was a high priority for their care. This pragmatic approach leveraged the hospital’s existing digital patient census data, provided a quick and simple way to identify patients, and gave clinicians some autonomy in the patient selection process.

The Ottawa Hospital Civic Campus used the modified hospital one-year mortality risk (HOMR-Now!) score to identify patients. This automated tool uses hospital administrative and clinical data available in real-time in the hospital's electronic data warehouse to predict the risk for death within the next year after hospital admissions. Patients were eligible for a serious illness conversation if they had a predicted 1-year mortality score of

<table>
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<th>Table 2. Key Aspects of SICP Workflow at Each Site</th>
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<tr>
<td><strong>SICP process</strong></td>
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<tr>
<td>Patient identification</td>
</tr>
<tr>
<td>Cueing clinicians for conversations</td>
</tr>
<tr>
<td>Preparing eligible patients/family members for conversations</td>
</tr>
<tr>
<td>Delivering conversations</td>
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<tr>
<td>Documentation of conversations</td>
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</tbody>
</table>

SICP = Serious Illness Care Program; ED = emergency department; EMR = electronic medical record.
greater than 20% and had been hospitalized for more than 72 hours. This approach was chosen to identify patients because it was automated and anticipated to have greater acceptance by clinicians due to its objectivity and accuracy.

**Clinic training**

The site leads recruited eligible clinicians through one-on-one conversations inviting them to participate in the SICP. Clinician participation was not mandatory, and clinicians did not receive any payment for participation. Training of clinicians consisted of two types of activities: (i) skills practice workshops for those expected to lead serious illness conversations with patients and (ii) sessions to orient other health professionals working on the medical ward to the Guide and workflow. For the skills practice workshops, we did not make any changes to the original format described above. To incentivize clinician attendance the workshops were accredited for the Royal College of Physicians and Surgeons of Canada, continuing professional development credits. The primary audience for these skills practice workshops were the attending physicians on participating medical wards. In addition, at the Ottawa site, 66% of general internal medicine residents attended the skills workshop as part of their communication curriculum.

The objectives of the workshops were aligned with the Royal College of Canada's Competency by Design Framework. At the Hamilton and Ottawa sites, nurse practitioners and managers on the medical wards were also eligible to attend the skills practice workshops, along with other allied health professionals who were invited to participate based on their level of engagement with the program.

Each site oriented other health professionals on the medical wards like nurses, physiotherapists, occupational therapists, social workers, registered dieticians, speech-language pathologists, or pharmacists, and clinical managers to the SICP so that they would be able to support its implementation. These orientation sessions were done through in-service sessions at the Hamilton and Montreal sites or the Ottawa site, by monthly informal promotional events, which included educational pamphlets distribution and the opportunity to discuss the program with a member of the implementation team. At the Calgary site, bedside nurses were trained by preparing patients for a serious illness conversation, providing discharge documentation for the conversation to the patient, and enhancing their practice in having bedside conversations. Like Calgary, bedside nurses at the Montreal General Hospital were trained to improve their comfort in dealing with serious illness conversations through a one-hour training module called “The patient wants to talk,” adapted from the skills practice workshops described above.

**Prompting clinicians for conversations**

Once eligible patients were identified, clinicians were prompted to have a serious illness conversation either through a unit champion or via specific triggers delivered to the clinicians. At the Calgary and Hamilton sites, we seconded nurses who worked on the medicine wards as unit champions. The unit champion notified trained clinicians (either in person or by text messaging) that their patient was eligible for a serious illness conversation. The unit champion asked physicians to select patients from the subset of eligible patients under their care who they believed were of higher priority for a conversation. In contrast, the Ottawa and Montreal site embedded the responsibility for triggering clinicians to have serious illness conversations into existing daily activities within the clinical workflow. In Montreal, the surprise question usage during daily morning multidisciplinary rounds identified eligible patients and cued clinicians to conduct serious illness conversations. In Ottawa, clinicians were triggered to have serious illness conversations with eligible patients (see criteria above) at daily interprofessional rounds as well as twice-weekly email reminders. If clinicians agreed to proceed, social workers set up a meeting for the serious illness conversation to take place.

**Preparing patients for conversations**

The original SICP workflow designed for ambulatory care prepares eligible patients for a serious illness conversation using a previsit letter. To adapt this to the hospital setting, instead of using a previsit letter, eligible patients had a face-to-face meeting with a unit champion, bedside nurse, or social worker. The main objectives were to: obtain permission to schedule a conversation, prompt patient reflection on the key questions contained in the Guide, ask who else to invite to the conversation (e.g., substitute decision-maker), and confirm the time and place of the meeting. At the Calgary, Hamilton, and Ottawa sites, the unit champion or clinicians used a script based on the previsit letter used in the original implementation of the SICP concerning the hospital context (Appendix B). When patients could not participate in conversations, the substitute decision-maker(s) would be invited instead and asked if other family members should also attend.

**Delivering conversations**

Unit champions, nurse managers, or social workers reminded clinicians about meetings one day in advance and ensured that the necessary documents (i.e., Guide and Family Communication Guide) were available for the day of the conversation. Efforts were made to ensure conversations occurred in private spaces. Therefore, most of the conversations occurred in private meeting rooms located on the ward or at the patient's bedside if the patient had a private room. However, at the Ottawa site,
conversations occurred mostly at the patient’s bedside because of logistical constraints in accessing meeting rooms. At all sites, residents or medical students were invited to attend serious illness conversations at the discretion of the attending physician and with patient consent. Occasionally, senior residents who had received skills practice training using the Guide facilitated the conversation under the supervision of the attending physician. In Hamilton, the unit champion invited other members of the interprofessional team to take part in conversations based on their judgment and preparatory discussions with the attending physician or nurse practitioner, the patient, or their family members. In Calgary and Ottawa, physicians (attending physicians, sometimes with trainees) were generally the only clinicians involved in conversations. Data from the cluster randomized controlled trial of the Serious Illness Care Program by Bernacki et al. reported a median conversation time of 19 minutes (range, 5–70 minutes).

**Documentation**

Clinicians at all the sites were instructed to document a structured summary of the serious illness conversation in the patient’s medical record that included a free text summary aligned with each item in the Guide (i.e., illness understanding, knowledge preferences, prognosis, goals, fears, sources of strength, values, trade-offs, family involvement, and recommendations). Specific documentation practices were tailored to each site. In Calgary, we used a preexisting Advance Care Planning and Goals of Care Tracking Record in the EMR. In Ottawa, we used an in-house Serious Illness Conversation Template in the EMR. In Hamilton, clinicians dictated a structured clinical note aligned with the items in the Guide, which was then transcribed by medical records staff and placed in the EMR; in some cases, clinicians placed their hand-written notes in the patient’s paper chart. In Montreal, conversations were documented as written notes placed in the patient’s charts.

**Supporting ongoing conversations between patients and family members**

After the serious illness conversation, we gave patients or their substitute decision-maker(s) the Family Communication Guide (Appendix C) to support patients to have an ongoing dialogue about their illness, values, and goals with their family. It is not a documentation tool, and completion of the tool was not mandatory nor tracked in our study. We did not make any adaptations to the Family Communication Guide for this project; however, the Calgary site provided patients and families with an additional provincial advance care planning resource called the “Conversations Matter Guidebook.”

**Phase 3: implementation**

The implementation phase included initiating promotional events, training clinicians to deliver conversations, implementing and refining clinical workflow to trigger, and deliver and document serious illness conversations. During this phase, the implementation teams at each site met regularly to review operations and make changes through progressive Plan-Do-Study-Act (PDSA) cycles. Table 3 shows the summary of changes made during implementation. Another important activity during this phase was communications strategies implementation to maintain awareness of the initiative amongst frontline clinicians and other stakeholders within and outside the hospital. These strategies included the distribution of infographics by email and/or posted on the unit with interim results (i.e., number conversations, number of frontline staff trained) and with testimonials from frontline staff and patients, opportunistic presentations by site lead at pertinent rounds and hospital committee meetings, quarterly email updates to frontline staff with interim results, and biannual newsletters to internal and external stakeholders. Unique to the Calgary site, at every 6 months, an anonymized physician dashboard using electronic health records informed clinicians of their progress compared with their colleagues regarding the delivery of serious illness conversations.

**Phase 4: sustainability**

The sustainability phase will consist of efforts to continue and expand the program to new sites. To inform future sustainability efforts, we will use the NHS Institute for Innovation and Improvement Sustainability Model self-assessment tool to identify key local contextual factors that may influence the likelihood of continued project success after completion of the implementation phase. The model consists of 10 factors related to process, staff, and organizational issues and is organized in a checklist format. The implementation committees at each site will lead a face-to-face structured discussion, chaired by the site lead, to reach a consensus on checklist scores for their site.

**Evaluation**

The project steering committee, consisting of the site leads and exploratory committee members from each site, developed an evaluation framework to be used across all sites. We included metrics in the framework with two objectives in mind: (1) to motivate clinicians in sustaining their implementation efforts and (2) to provide measures of the uptake and impact of the program to internal and external stakeholders. Our evaluation framework includes process measures to assess implementation efforts and patient- and clinician-reported outcomes to measure impact (Table 4).
### Table 3. Examples of Local Modifications Made to SICP Workflow During Implementation Phase

<table>
<thead>
<tr>
<th></th>
<th>Hamilton</th>
<th>Calgary</th>
<th>Montreal</th>
<th>Ottawa</th>
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<tr>
<td><strong>Clinician training and</strong></td>
<td><strong>Three-hour skills practice</strong></td>
<td><strong>Repeat “in-services” after 1 year for nursing staff, unit clerks, and</strong></td>
<td><strong>–</strong></td>
<td><strong>In addition to attending physicians,</strong></td>
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<tr>
<td><strong>education/awareness</strong></td>
<td><strong>workshop given to the first- year core internal medicine residents at</strong></td>
<td><strong>allied health professionals.</strong></td>
<td><strong>–</strong></td>
<td><strong>internal medicine residents were trained</strong></td>
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<td></td>
<td><strong>their academic half day.</strong></td>
<td><strong>Three sessions per year for internal medicine residents (year 1 and 2)</strong></td>
<td><strong>–</strong></td>
<td><strong>to increase the site’s capacity to deliver conversations.</strong></td>
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<td></td>
<td></td>
<td><strong>at their academic half days: (a) Basics about Goals of Care designations</strong></td>
<td><strong>–</strong></td>
<td><strong>Three-hour skills practice workshop to the first, second- and third-year</strong></td>
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<td></td>
<td></td>
<td><strong>and personal directives; (b) SICP workshop; and (c) Determining</strong></td>
<td><strong>–</strong></td>
<td><strong>internal medicine residents during their academic</strong></td>
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<td></td>
<td></td>
<td><strong>and communicating Goals of Care Designations based on SICP</strong></td>
<td><strong>–</strong></td>
<td><strong>half day. A separate session was held for</strong></td>
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<td><strong>GIM fellows during their academic half day.</strong></td>
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<td><strong>Residents received a card sized, laminated conversation guide that could</strong></td>
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<td><strong>be placed on their ID lanyards.</strong></td>
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<td><strong>At the beginning of each resident block,</strong></td>
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<td><strong>a brief overview of SICP was included in the orientation.</strong></td>
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<td></td>
<td><strong>Monthly “Serious chocolate” sessions to raise program awareness amongst</strong></td>
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<td></td>
<td><strong>frontline practitioners.</strong></td>
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<tr>
<td><strong>Patient identification</strong></td>
<td><strong>Eligibility expanded to patients with interRAI ED screener score of 5 or 6</strong></td>
<td><strong>–</strong></td>
<td><strong>–</strong></td>
<td><strong>Change in hospital EMR system prevented continued use of automated</strong></td>
</tr>
<tr>
<td></td>
<td><strong>(vs. only 6)</strong></td>
<td></td>
<td></td>
<td><strong>HOMR Now! score; therefore, eligibility criteria changed to age 70 years or</strong></td>
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<td><strong>older and hospital length of stay of at least 5 days.</strong></td>
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<td></td>
<td><strong>Other members of the multi-disciplinary</strong></td>
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<td></td>
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<td></td>
<td><strong>team could also identify patients during</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>daily rounds.</strong></td>
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<td><strong>Prompting clinicians</strong></td>
<td><strong>Additional use of text messaging by unit champion to communicate with</strong></td>
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<td><strong>Initially was done in person, then changed</strong></td>
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<td><strong>attending physicians and nurse practitioners.</strong></td>
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<td><strong>to email reminders, then augmented through use of a colour coding system,</strong></td>
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<td><strong>called the “SIC” button, on their patient lists and white boards to visually</strong></td>
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<td><strong>prompt clinicians. This system was used by</strong></td>
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<td><strong>multi-disciplinary team during daily team huddles and would be removed</strong></td>
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<td><strong>Documentation</strong></td>
<td><strong>–</strong></td>
<td><strong>Creation of a dashboard in the electronic health record to provide</strong></td>
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<td><strong>after the conversation had occurred.</strong></td>
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<td><strong>monthly snapshot of whole unit metrics on number of advance care</strong></td>
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<td><strong>planning tracking record entries (surrogate for number of Serious Illness</strong></td>
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<td><strong>Conversations documented) and to provide benchmarked metrics for each</strong></td>
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<td><strong>physician about the number of patients who did or did not have a</strong></td>
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SICP = Serious Illness Care Program; GIM = general internal medicine; EMR = electronic medical record; HOMR = hospital one-year mortality risk.
Throughout the implementation phase, we will track process measures. They include the number of eligible clinicians trained, patients screened, serious illness conversations delivered, and conversations documented in the EMR. Patient-reported outcomes will be measured post conversations using a Likert-style questionnaire to capture the patient assessment of the impact of conversations on their medical care, health, quality of life, and closeness to their clinician. For the patient-reported outcome of feeling heard and understood measured before and after a serious illness conversation, we will use a paired t-test to assess the change in score.

Each site is responsible for collecting, verifying, and analyzing its data to describe the implementation and impact of the SICP at their local hospital. On completion of the implementation phase at each site, data from all sites will be merged to assess the overall implementation and impact of the program. Baseline characteristics of patients, process measures, and patient- and clinician-reported outcomes for the combined dataset will be summarized using descriptive statistics (e.g., the mean and standard deviation for continuous variables, counts, and proportions for categorical variables). We plan to conduct exploratory between-site analyses to look for important differences in the characteristics of enrolled patients, process and outcome measures between sites, and for differences in local context also (i.e., scores on NHS sustainability self-assessment instrument) across sites. For these comparisons, we will use analysis of variance for continuous variables and chi-squared tests for categorical variables. Results will be considered statistically significant at a P-value of 0.05.

Clinician interviews will be conducted by two research staff, unknown to the clinicians, and will be trained in qualitative methods. These interviews will occur six to 12-month post-training to ensure that the clinicians will have had the opportunity to participate in several serious illness conversations through the program. That will allow clinicians to have sufficient time to reflect on their experiences and any practice changes that may have occurred because of the SICP.

The interview guide will be developed by two site leads and the project research coordinator, all with experience in qualitative research. The interview transcripts will be analyzed by two research investigators using conventional content analysis to identify themes as part of a qualitative descriptive approach to analysis. The two investigators will independently complete a line-by-line open coding of five transcripts to develop a preliminary list of codes that will then be verified and discussed until a consensus is reached. The lead investigator will then code the remaining transcripts. Coding reports from the entire qualitative data set will be reviewed with a larger analysis team, and any new insights, decisions, or coding revisions will be documented in an audit trail.

### Ethics review
This quality improvement initiative was approved by Calgary’s Conjoint Health Research Ethics Board. The Hamilton Integrated Research Ethics Board, McGill University Health Centre’s Research Ethics Board, and Ottawa Health Science Network Research Ethics Board reviewed the study and granted a formal written exemption from complete review as the primary aim was a quality improvement.

### Discussion
The SICP was originally developed as a communication intervention designed to facilitate earlier, more frequent, and more

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<th>Evaluation measures</th>
<th>Description</th>
<th>Data collection</th>
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<td><strong>Process</strong></td>
<td>Number (%) of eligible clinicians trained.</td>
<td>Primary data collection</td>
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<td>Number of patients screened.</td>
<td>Primary data collection</td>
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<td>Number (%) of eligible patients who had a conversation.</td>
<td>Primary data collection</td>
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<td>Number (%) of conversations documented in medical record</td>
<td>Chart review</td>
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<td><strong>Patient reported</strong></td>
<td>Quality of communication: feeling heard and understood measure.</td>
<td>Survey</td>
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<td>Patient experience.</td>
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<td><strong>Clinician reported</strong></td>
<td>Clinician experience with having Serious Illness Conversations.</td>
<td>Survey</td>
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<td>Clinician perspectives on program implementation.</td>
<td>Semistructured interviews.</td>
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person-centered conversations between clinicians and patients with serious illness in the outpatient oncology setting, and others have implemented the SICP in primary care and intensive care settings. Based on our multisite work in the hospital setting thus far to build a foundation for the program, plan and execute its implementation, and tailor it to the local and hospital settings with the direct input from frontline clinicians, we have found that the program workflow is readily adaptable to an inpatient general medical ward setting. Although we conclude that SICP processes can be readily adapted to the hospital context, we cannot confirm the implementation feasibility of the adapted workflow. Future manuscripts will report on the feasibility and fidelity of implementation, the impacts of the program on patient-reported and clinician-reported outcomes, and lessons learned regarding program implementation and sustainability.

For this study, we chose to use a pragmatic quality improvement approach over a more rigid clinical trial protocol with highly prescriptive methods. Although clinical trials can provide research results that inform best practices, they are not always well-suited for the complex health system interventions evaluations from a real-world settings. The core aspects of the SICP including the communication Guide, the format for clinician skills practice training, and the evaluation framework remained fixed for this study. However, consistent with recommendations by the program developers, many other components were left for sites to adapt to their local setting, existing resources, and culture. We believe the pragmatic quality improvement approach provides several advantages to maximize the chances of successful implementation and sustained impact of the SICP. First, was our ability to create local site leadership with some autonomy and decentralized decision making over program implementation, giving sites a feeling of greater responsibility, ownership, and empowerment, which will translate to the program’s sustained success. Additionally, when frontline clinicians see that the program is being adapted to fit local norms, practices, and is supported by local opinion leaders, it is more likely to create a sense of acceptance and ownership within the hospital culture. Second, our pragmatic quality improvement approach allowed us to leverage the expertise of site implementation teams about local policies, practices, and opportunities. This local expertise was critical to guide the program implementation in ways that would minimize amending the existing workflow processes and maximize chances for the program’s uptake, impact, and sustainability. Third, our study design gave sites the flexibility to make continuous adjustments and improvements along the way in response to the review of internal data or external changes.

As a result of this approach presented in this article, there were appreciable differences in implementation between sites that included the triggering conversations processes with patients that could result in heterogeneous populations, which may present challenges to evaluate and interpret the program’s impact across sites. For instance, if we find substantial differences in the outcomes between sites, it may not be appropriate to pool outcome data across sites. However, we may be able to use NHS Sustainability Model scores from each site to objectively identify important contextual factors of each site and reconcile or explain any between-site differences that we observe. On the other hand, if we do observe consistent clinician and patient-reported outcomes between sites, despite differences in implementation between sites, it will strengthen the generalizability of our findings. Regardless, given that our four hospital sites were selected using a convenience sample and our experience should not necessarily be viewed as representative of all hospitals or teaching hospitals in Canada.

In conclusion, our multisite experience with the adaptation and implementation of the SICP shows that the program can be readily adapted to the workflow of the inpatient general medical ward setting. We believe that this intervention can address many existing gaps in serious illness communication in this setting and deliver more person-centered goal consistent care for hospitalized patients facing serious, life-limiting illnesses.

Author contributions
Conception and design: Singh J, Simon J, Swinton M, and You JJ.
Procurement of data: Singh J, Swinton M, and You JJ. Analysis of data: Singh J, Swinton M, and You JJ. Drafting of the original manuscript: Singh J, and You JJ. Critical review of the original manuscript: All authors.

Acknowledgements
The authors would like to thank the members of the implementation teams for their critical input into the adaptations of the SICP and planning for implementation at their respective sites.

Funding
This study was supported by a transformative research grant from the Canadian Frailty Network (TG2015-03) and Hamilton Health Sciences Research Administration.

Conflicts of interest
The authors have no conflict of interests to disclose. Ma I holds the John A. Buchanan Chair in General Internal Medicine at the University of Calgary. Simon J is the consultant physician at the Advance Care Planning and Goals of Care, Alberta Health Services, Calgary, Canada.

References
Appendix A. Serious illness care program conversation guide.

**Serious Illness Conversation Guide**

**CONVERSATION FLOW**

1. **Set up the conversation**
   - Introduce purpose
   - Prepare for future decisions
   - Ask permission

2. **Assess understanding and preferences**

3. **Share prognosis**
   - Share prognosis
   - Frame as a “wish...worry”, “hope...worry” statement
   - Allow silence, explore emotion

4. **Explore key topics**
   - Goals
   - Fears and worries
   - Sources of strength
   - Critical abilities
   - Tradeoffs
   - Family

5. **Close the conversation**
   - Summarize
   - Make a recommendation
   - Check in with patient
   - Affirm commitment

6. **Document your conversation**

7. **Communicate with key clinicians**
Serious Illness Conversation Guide

PATIENT-TESTED LANGUAGE

SET UP

“I’d like to talk about what is ahead with your illness and do some thinking in advance about what is important to you so that I can make sure we provide you with the care you want — is this okay?”

ASSESS

“What is your understanding now of where you are with your illness?”

“How much information about what is likely to be ahead with your illness would you like from me?”

SHARE

“I want to share with you my understanding of where things are with your illness...”

Uncertain: “It can be difficult to predict what will happen with your illness. I hope you will continue to live well for a long time but I’m worried that you could get sick quickly, and I think it is important to prepare for that possibility.”

OR

Time: “I wish we were not in this situation, but I am worried that time may be as short as (express as a range, e.g. days to weeks, weeks to months, months to a year).”

OR

Function: “I hope that this is not the case, but I’m worried that this may be as strong as you will feel, and things are likely to get more difficult.”

EXPLORE

“What are your most important goals if your health situation worsens?”

“What are your biggest fears and worries about the future with your health?”

“What gives you strength as you think about the future with your illness?”

“What abilities are so critical to your life that you can’t imagine living without them?”

“If you become sicker, how much are you willing to go through for the possibility of gaining more time?”

“How much does your family know about your priorities and wishes?”

CLOSE

“I’ve heard you say that ___ is really important to you. Keeping that in mind, and what we know about your illness, I recommend that we ___. This will help us make sure that your treatment plans reflect what’s important to you.”

“How does this plan seem to you?”

“I will do everything I can to help you through this.”
Appendix B. Examples of scripts used to prepare patients or substitute decision-makers for a serious illness conversation. Adapted from the SICP previsit letter.

Preparing the patient for a serious illness conversation

Introduce self/acknowledge situation
“Hello my name is [ ] and I am a [professional role] on [unit].
I’m sorry that you are in the hospital.”

Introduce the serious illness conversation
“We would like to have a conversation with you to understand what kinds of things are important to you during your stay in the hospital and in the future.”

Ask if others should be present for the conversation
“Would it be helpful to include a family member or the person you have appointed to make medical decisions for you are part of the meeting?”

Sharing/explaining resources
Give the patient the “Talking with your medical team about the future” form” and explain that it describes some important things to think about to prepare for the conversation.
Ask them to review it before the conversation.

Fielding questions

Patient asks about their medical condition and prognosis
“That’s a great question, on the back of the form I gave you is a place for you to write down questions for your medical team to answer during the meeting.”

Patient asks about someone else making decisions for them and how that works
“That’s a great question, I will ask our social worker to come and explain the role of the medical substitute decision maker to you.”

Patient states that they don’t want to talk to anybody
“You seem really angry/sad/mad/frustrated (pause for silence). Sometimes it is hard to talk about your health or concerns with others when you aren’t sure about them yourself. The purpose of this meeting is to give you a chance to share your wishes and concerns with your medical team.”
Preparing the family / substitute decision maker for a serious illness conversation

Introduce self/acknowledge situation
“Hello my name is [ ] and I am a [professional role] on [unit]. I’m sorry that your father/mother/spouse/friend is the hospital.”

Introduce the serious illness conversation
“We would like to have a conversation with you about what has brought your father/mother/friend into hospital. We would like to do some planning for the future based on what is important to your father/mother/friend and their wishes during their stay with us.”

Sharing/explaining resources
Give the patient the “Talking with your medical team about the future” form” and explain that it describes some important things to think about to prepare for the conversation. Ask them to review it before the conversation.
Appendix C. Family conversation guide.

Talking about your illness with loved ones and caregivers

This booklet can help you talk with your loved ones about your illness and the future. It is based on what you have already talked about with your clinician.

Talking about your illness with friends and family may not be easy, but it will help them understand what is important to you. It will also help them support you and your decisions.

Before you talk to your loved ones, think about when and where you want to talk. Choose a time and place when you feel relaxed. Be sure you have time to talk for a while. You can use the words in this guide, or use your own words — whatever is easier for you.
Start the conversation

I am doing OK right now, and even though there is no rush, my doctors think we need to begin talking about my future care.

They believe in being prepared and want to know my goals and wishes for medical care.

Since you are important to me, I’d also like you to be part of the conversation.

If at some point I can’t speak for myself, I want you to be able to make decisions for me.

Check in with your loved one

UNDERSTANDING
What is your understanding now of where I am with my illness?

INFORMATION
I know that it may not be easy, but I would like to share information about my illness with you. Is that okay?

How much information about what is likely to be ahead would you like from me?

My doctor and I talked about the outlook for my illness—can I share that with you?
Share what is important to you

GOALS & WISHES
I’d like to share some of my goals that might affect my healthcare decisions. Some things I’m looking forward to are...

EXAMPLES: Meet my new grandchild, celebrate my next birthday, etc.

FEARS & WORRIES
My biggest fears and worries about my future with this illness are...

EXAMPLES: Not being able to make decisions for myself, or having to ask others for help with basic needs.

ABILITIES
I can’t imagine not being able to do certain things...

EXAMPLES: Not being able to recognize or interact with people, not being able to care for myself, etc.

TOUGH CHOICES
I know that we may have to choose between treatments that are hard to go through and more time.

EXAMPLES: Being in the hospital, having a feeding tube, living in a nursing home, being on a breathing machine, more chemotherapy, etc.

Here’s how I think about those choices...

Plan to talk again

Do you have any questions about what we have discussed?

I would like to talk with you about my illness and medical care as my treatment continues. Is that okay?

I know this was probably not an easy conversation. How do you feel now that we have talked?

Are there other people we should talk with?

✍️ Remember to talk again with your loved ones / caregivers as your situation or wishes change
NOTES
You can use this page to write down ideas from your talk, questions for your clinician, or any other thoughts.