Development and Implementation of a Novel Web-based Application Integrating Cancer Registry Data into Survivorship Care Plans

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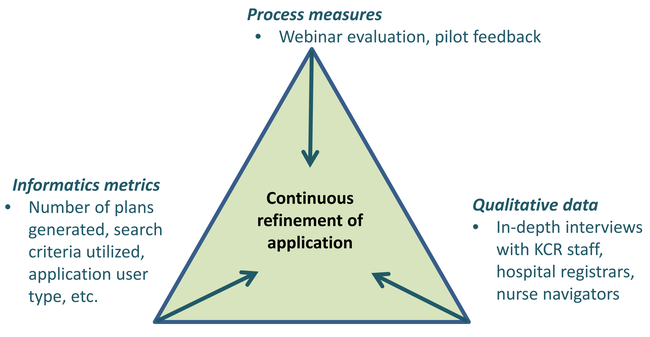
Background

As advocated by the Institute of Medicine, survivorship care plans (SCP) are comprehensive plans that outline past, present, and future goals of care for cancer survivors. As of 2016, delivery of SCP to 25% of eligible patients will be mandated for cancer programs accredited by the American College of Surgeons' Commission on Cancer (CoC, Standard 3.3); this percentage will incrementally increase to 75% by 2018 and beyond. Research suggests that cancer program readiness to implement the new standard is sub-optimal, and tools are needed to improve efficiency in generating and delivering SCP.

In January 2015, University of Kentucky Markey Cancer Control Program investigators were awarded one of four Markey Cancer Center Cancer Center Support Grants to support the design, implementation, and evaluation of a novel web-based application for prepopulating SCP templates using patient data collected by hospitals and entered into KCR's Cancer Patient Data Management System (CPDMS). The purpose of this poster is to describe activities leading up to the application launch in June 2015 as well as preliminary evaluation findings.

Methods

In this research, informatics metrics, process evaluation measures, and qualitative data are triangulated using a case-study approach to provide iterative feedback necessary for refining and customizing the application.



To date, process and qualitative data have been collected via the following research activities:

- The delivery of two training **webinars** hosted by the Kentucky Cancer Consortium (KCC) (75 total attendees);
- **In-depth interviews** with KCR informatics staff and key stakeholders from 3 hospital case-study sites in central and Appalachian KY prior to and after the application's launch;
- **Application pilot-testing** by staff from case-study sites; and
- **Usage statistics** generated from the web application.

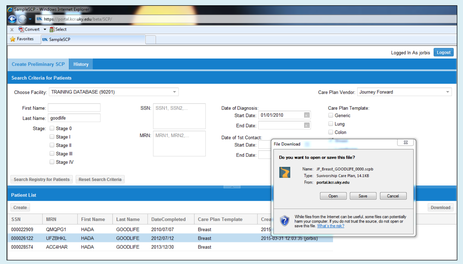
The CPDMS-Journey Forward application: How it works

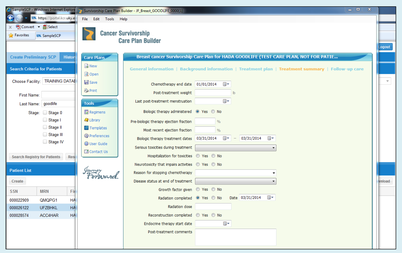
Journey Forward (JF) is a free software program with SCP templates for lymphoma, breast, lung, and colon cancer, as well as a generic template. Components of a JF SCP include general information, background information, treatment plan, treatment summary and follow-up care.

To use the CPDMS-JF application, CPDMS users query patients using data included in a cancer abstract, such as medical record number, social security number, patient name, stage, and relevant dates.

Once a patient is identified, relevant abstract data is exported directly into the selected JF template. Approximately, 25% of the JF fields for each template are prepopulated with registry data.

The starter template is opened in the JF software on a user's local computer for completion and additional tailoring.

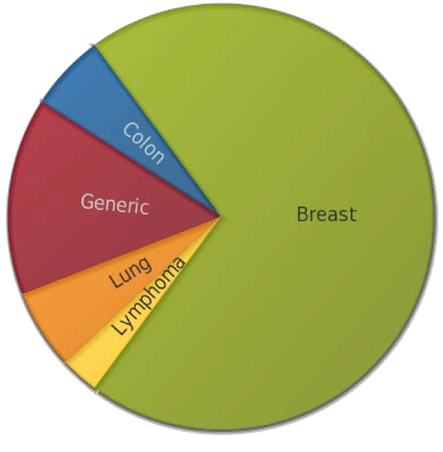


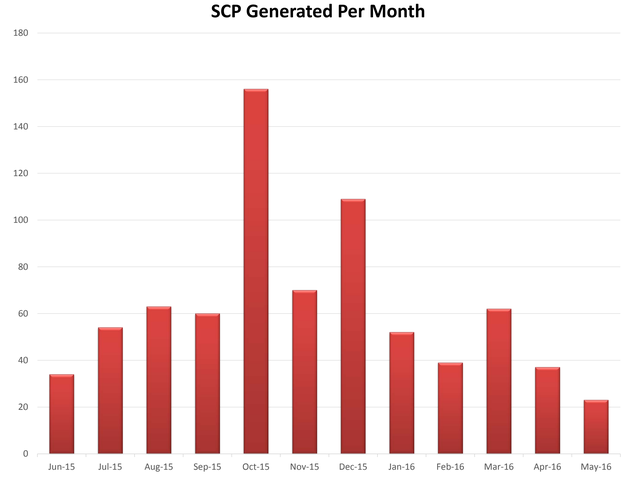


Results

Application Usage

As of May 2016, 759 SCP have been generated with 70% created for breast cancer (n=533), followed by 15% (n=114) created using the "generic" JF template. 315 patients have had one report generated; 121 patients have had 2-5 reports generated.





Since the application's launch in June 2015, the median number of plans created is 57 (range 23-156); there was a notable increase in SCP generation in October and December 2015 (156 and 109 plans, respectively). Of SCP generated to date, the majority (n=483, 64%) were created within one year of the patient's date of diagnosis, aligning with overall CoC guidelines.

Results

Application Users and Developers

48 individuals representing 19 hospitals have requested access to the application:

✓ 15 hospitals are CoC-accredited;
✓ 8 hospitals are MCC Affiliate Network members;
✓ 4 hospitals are MCC Research Network members;
✓ 7 hospitals are located in Appalachian KY;
✓ 3 hospitals account for 46% of the SCP generated to date; and
✓ 66% (n=32) of application users are cancer registrars; the remainder are nurses and other hospital staff.

Qualitative user feedback suggests the CPDMS-JF application:

- is relatively easy to use, although users wish more than ~25% of the JF template fields could be pre-populated by the application;
- needs to be compatible with varying EMR systems;
- may not be as useful when generating SCP for early stage cancers due to the time delay in entering a complete record into the cancer registry;
- has decreased SCP prep time for hospital staff;
- is viewed as value-added to several facilities; and
- has led to new collaborations between hospital staff and KCR as well as registrars and navigators within the same facility.

Informatics team members indicated that mapping cancer abstract data into JF's SCP template fields required substantial expertise and time from KCR staff. The informatics team also provides ongoing technical assistance to users and has added several new features to the application in response to user feedback.

Conclusions

Over 700 SCPs have been generated since the launch of the SCP application in June 2015. Development of the application was a significant undertaking, but has resulted in a new method for prepopulating SCP with registry data that may ease logistical burdens that hospitals face in meeting CoC-accreditation requirements. Additional qualitative and quantitative data collection and analysis will allow us to assess trends over time and continue to make application improvements.

Acknowledgements

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