Usage Patterns of a Web-based Application Integrating Cancer Registry Data into Survivorship Care Plans

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“Every cancer survivor should have a comprehensive care summary and follow-up plan once they complete their primary cancer care that reflects their treatment and addresses a myriad of post-treatment needs to improve their health and quality of life.”
Background

- ACOS CoC-accreditation requirements (Standard 3.3)
  - SCPs required for patients who are treated with curative intent and have complete active therapy → tx summary and f/up care plan

<table>
<thead>
<tr>
<th>Year</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10%</td>
<td>25%</td>
<td>50%</td>
<td>75%</td>
</tr>
</tbody>
</table>

- Need to increase health facilities’ capacity to generate & deliver SCPs
  - Data from electronic sources may enhance reliability and validity of information included in SCPs, and improve staff efficiency and effectiveness in preparing them
  - Tools and assistance from external organizations can help cancer programs implement new standard
Background

- KCR developed a web-based application that exports relevant data from the Cancer Patient Data Management System (CPDMS) into *Journey Forward*, providing a SCP starter-template for healthcare staff.

- UK Markey Cancer Center pilot grant awarded to evaluate implementation of KCR application (Jan 2015)
  - Collaboration between UK, KCR, KCC, and 3 case study sites in central and eastern KY.
(Free) Site-specific templates available for breast, colon, lung, and lymphoma; a customizable generic template is available for other types of cancers

Components of a JF SCP:
- Care team information
- Background information on diagnosis, staging, comorbid conditions
- Treatment summary
- Schedule for follow-up care (i.e., surveillance)
- Psychosocial assessment
- Information on symptom management, late effects of treatment
The CPDMS-Journey Forward Application: How it works

- Approximately, 25% the fields in each JF template can be prepopulated from CPDMS data.

- Users may query patients using data included in cancer abstracts such as MRN, SSN, pt name, dates, stage, etc.

- Once a patient(s) is identified, there is an export feature that exports relevant CPDMS into the chosen JF template.

- The template can then be opened in the JF software program securely on a user’s local computer for completion and additional tailoring.
### Patient List

<table>
<thead>
<tr>
<th>SSN</th>
<th>MRN</th>
<th>First Name</th>
<th>Last Name</th>
<th>Date Completed</th>
<th>Care Plan Template</th>
<th>Created</th>
</tr>
</thead>
<tbody>
<tr>
<td>000022909</td>
<td>QMOPG1</td>
<td>HADA</td>
<td>GOODLIFE</td>
<td>2010/07/07</td>
<td>Breast</td>
<td>2015-03-31 12:02:35 (jobjis)</td>
</tr>
<tr>
<td>000026122</td>
<td>UFZBHKL</td>
<td>HADA</td>
<td>GOODLIFE</td>
<td>2012/07/12</td>
<td>Breast</td>
<td>2015-03-31 12:03:35 (jobjis)</td>
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<tr>
<td>000028574</td>
<td>ACC4HR</td>
<td>HADA</td>
<td>GOODLIFE</td>
<td>2013/12/30</td>
<td>Breast</td>
<td></td>
</tr>
</tbody>
</table>

### Care Plan Creation Success!

SUCCESS: You can download the 1 SCP reports now.

Download

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File Download

**Name:** IF_Breast_GOODLIFE_0000.xscp
**Type:** Survivorship Care Plan, 14.1KB
**From:** portal.kc.uci.edu

Do you want to open or save this file?

- Open
- Save
- Cancel

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not open or save this file. **What’s the risk?**
Cancer Survivorship Care Plan Builder

Breast cancer Survivorship Care Plan for HADA GOODLIFE (TEST CARE PLAN, NOT FOR PATIENT).

General information | Background information | Treatment plan | Treatment summary | Follow-up care

Needs, Concerns & Suggested Interventions

Chief need or concern: Depression

- Bone health/osteoarthritis risk
  - Bone densitometry every 1 to 2 years after initiation of aromatase inhibitor (if applicable) and/or at age 65 or older
  - Calcium and Vitamin D
  - Weight-bearing exercise
  - Avoidance of smoking/smoking cessation counseling, if appropriate
  - Bisphosphonate, if indicated per bone densitometry

- Hot flashes
  - Verapamil (Effexor) 37.5 mg up to 75 mg daily OR Gabapentin (Neurontin) 300 mg at bedtime up to 3 times/day OR referral to gynecologist

- Weight gain or overweight
  - BMI: 0.0 kg/m² (weight change of 0 kg)

- Mammography status
  - Annual mammography needed

- Clinical breast exam status
  - General anxiety
  - Screening for other cancers
  - Fatigue
  - Lymphedema
  - Joint aches and pains
  - Pain with intercourse/vaginal dryness
  - Marital/partner/family relationships
  - Genetic risk
  - Wellness (e.g., diet, exercise, smoking cessation)

* Suggested interventions provided by the UCLA Survivorship Center.
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<td>HADA</td>
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<td>2012/07/12</td>
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<td>Breast</td>
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<td>QMQP1</td>
<td>HADA</td>
<td>GOODLIFE</td>
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Application Usage (June 2015-May 2016)

- 778 total SCPs have been generated
  - 70% created for breast cancer (n=546)
  - 15% created using the “generic” template (n=120)
  - 84% of care plans have been created for women (n=657)
  - The average patient age at SCP creation is 61 years.
Median number of plans created was 57 (range 34-156); increases in SCP generation in Oct and Dec 2015 (156 and 109 plans, respectively)
Application Usage (June 2015-May 2016)

- 460 individual patients
  - 324 patients have had 1 report generated
  - 121 patients have had 2-5 reports generated
  - 15 patients have had >6 reports generated
    - Likely user practice / test cases

- Almost 2/3 of SCP (n=492, 63%) were created within 1-year of the patient’s date of diagnosis, aligning with overall CoC guidelines.
  - Similarly, the average number of years between age at diagnosis and age at SCP generation was 1.44.
Application Users

- 48 individuals representing 19 Kentucky 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 SCP generated to date
  - 66% (n=32) of application users are cancer registrars; the remainder are nurses and other hospital staff.
Conclusions

• Almost 800 total SCPs have been generated since the statewide launch of the KCR 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 KY 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.