The Perceptions, Beliefs, and Practices of Administrators of CoC-Accredited Cancer Care Programs Regarding Cancer Survivorship Care Plans
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I have no personal financial relationships with commercial interests, relevant to this presentation, to disclose.

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Learning Objectives
• Discuss the current state of implementation for cancer survivorship care plans (SCPs)
• Describe cancer program administrators’ perceptions of SCP outcomes
• Report key predictors and correlates for SCP implementation success
Background and Purpose

Cancer

- 2nd leading cause of death in the US\(^1\)
- The number of cancer survivors growing
  - 19 million by 2024\(^2\)
- Cost to the health care system
  - By 2020, nearly $300B annually\(^3\)

“Survivors”

- Long term physical, mental, financial, social issues\(^3\)
- Institute of Medicine (IOM) publication (2005)\(^4\)
  - High-level plan to address survivor needs
  - Survivorship care plan (SCP) one component
General IOM Guidelines

- Every eligible cancer patient receives an SCP
- SCP includes
  - Treatment summary
  - Long-term plan
    - Suggested screenings
    - Education for self-care
    - Diet, exercise guidelines
    - Quality of life resources

Current Problems with SCPs

- Standards on SCP often not well understood
- Implementation can be expensive and difficult
  - Supporting systems
  - Staff
- Poor evidence regarding SCP effectiveness
  - Limited research
  - Mixed results

Purpose of the Study

The purpose of this study is to identify cancer center program administrators’ perceptions, beliefs, and practices regarding SCPs and how these factors impact the policies and practices of the cancer centers.
Methods

Study Design

Cross-sectional, mixed method, non-experimental design utilizing both telephone interviews and a theory-based electronic survey.

Methods

- Elicitation Research
  - Ten open-ended questions
  - 30 minute interviews, n=22
- Written Survey
  - Population sample of CoC Cancer Programs admins (n=1,158)
  - 46 items, 7 sections
  - Electronic survey using Qualtrics®
**Inclusion and Exclusion Criteria**

- **Inclusion criteria:**
  - CoC Cancer Administrators
  - Could be passed to administrative subordinates
- **Exclusion criteria:**
  - Administrators over multiple programs
  - Administrators from interviews or pilot study

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**Data Collection**

- To maximize return rate:
  - Lottery of five $100 drawings (Amazon gift card)
  - Personalized e-mails directly to respondents’ e-mail addresses
  - Signed letter of support from the CoC
  - 10 Reminders: 10-Nov-2016 through 15-Jan-2017
  - CoC Assisted by publicizing national newsletter

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**Data Analysis**

- Analyze using SPSS 23.0
- Descriptive statistics
- Spearman’s rho correlation
- Odds Ratio, Chi Square
- Kruskal Wallis H
  - Similar to One-way ANOVA
- Mann Whitney U test
  - Similar to Independent t-test
- Ordinal, Linear, Logistic Regression
Results, Discussion, Conclusions, Recommendations

Respondents (response rate n=575, [51.4%])

- **Gender**
  - Male: 48.50%
  - Female: 51.50%

- **Race**
  - White: 92.5%
  - Black: 2.8%
  - Asian: 2.3%
  - Other: 2.4%

- **Education**
  - HS: 0.9%
  - Assoc: 5.8%
  - Doc: 7.0%
  - Bachelors: 23.2%
  - Masters: 63.2%
  - Doc: 7.0%

  Mean age: 51.9

- **Non-hispanic**: 96.7%

Cancer Programs

<table>
<thead>
<tr>
<th>Time accredited by the CoC</th>
<th>91.3%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Program</strong></td>
<td></td>
</tr>
<tr>
<td>Comprehensive Community Cancer Program</td>
<td>46.7%</td>
</tr>
<tr>
<td>Community Cancer Program</td>
<td>24.9%</td>
</tr>
<tr>
<td>Academic Comprehensive Cancer Program</td>
<td>15.1%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Setting of facility</th>
<th>Profile of patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>39.9%</td>
</tr>
<tr>
<td>Suburban</td>
<td>44.9%</td>
</tr>
<tr>
<td>Rural</td>
<td>25.4%</td>
</tr>
<tr>
<td></td>
<td>Urban</td>
</tr>
<tr>
<td></td>
<td>Suburban</td>
</tr>
<tr>
<td></td>
<td>Rural</td>
</tr>
<tr>
<td></td>
<td>57.1%</td>
</tr>
<tr>
<td></td>
<td>22.2%</td>
</tr>
</tbody>
</table>
Program Sizes

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds in the facility (N=539)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Small (0-49 beds)</td>
<td>120</td>
<td>22.3</td>
</tr>
<tr>
<td>Medium (100-279 beds)</td>
<td>133</td>
<td>24.7</td>
</tr>
<tr>
<td>Large (279-450 beds)</td>
<td>134</td>
<td>24.9</td>
</tr>
<tr>
<td>Extra Large (451-2363 beds)</td>
<td>152</td>
<td>28.2</td>
</tr>
</tbody>
</table>

Support for SCPs

Most (90.9%, n=500) respondents reported that their facility had an EMR or EHR
- Only 44.4% (n=244) reported that the SCP information was contained solely within the EMR/EHR
- Other: manually-generated, collected, or uploaded

80% of accredited centers:
- less than 3 full-time equivalent employees to handle these time consuming tasks

Support for SCPs

<table>
<thead>
<tr>
<th>Administrators’ Perception of Physicians’ Attitudes</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unfavorable Physician Attitude</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCPs are valuable but NOT worth the time/effort</td>
<td>241</td>
<td>43.9</td>
</tr>
<tr>
<td>SCPs are valuable and worth the time/effort</td>
<td>156</td>
<td>25.5</td>
</tr>
<tr>
<td>SCPs provide no added value to physicians</td>
<td>106</td>
<td>19.3</td>
</tr>
<tr>
<td>Not well informed about SCPs</td>
<td>100</td>
<td>16.0</td>
</tr>
<tr>
<td>SCPs provide no added value to patients</td>
<td>90</td>
<td>16.4</td>
</tr>
<tr>
<td>SCPs provide no added value to cancer care centers</td>
<td>81</td>
<td>14.7</td>
</tr>
<tr>
<td>Other</td>
<td>25</td>
<td>4.5</td>
</tr>
<tr>
<td>SCPs interfere with the practice of medicine and/or the delivery of care</td>
<td>46</td>
<td>8.4</td>
</tr>
</tbody>
</table>
Support for SCPs

- Providers typically not directly employed by the cancer facility
- Directly employed
  - Most: medical oncologists (51.8%, n=293)
  - Least: primary care physicians (29.9%, n=169)

Less than half of providers were directly employed by the facility

Support for SCPs

- CoC guidelines clear?
  - Agree: 66.6%
  - Disagree: 33.4%

- CoC timelines realistic?
  - Agree: 35.7%
  - Disagree: 64.3%

SCP Practices and Policies

- Full Implementation
  - 95.1% (n=547) of respondents were delivering SCPs to at least some of their cancer patients
  - 21% (n=120) were providing SCPs to all eligible cancer patients, regardless of cancer type
  - 11.3% (n=62) were fully implementing SCPs
Outcome Expectations

If your program were to provide each of your cancer patients with the ideal survivorship care plan (SCP) HOW LIKELY do you think it is that each of the following outcome would occur?

<table>
<thead>
<tr>
<th>Improvement in</th>
<th>Likely/Highly Likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-provider communication</td>
<td>74.1%</td>
</tr>
<tr>
<td>Patient knowledge and understanding</td>
<td>74.1%</td>
</tr>
<tr>
<td>Patient satisfaction</td>
<td>70.4%</td>
</tr>
<tr>
<td>Patient adherence and self management</td>
<td>63.5%</td>
</tr>
<tr>
<td>Patient health outcomes</td>
<td>52.6%</td>
</tr>
</tbody>
</table>

What Factors are Associated with Full Implementation?

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Statistically Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoC guidelines are clear</td>
<td>Wald $\chi^2 = 4.670$, $p &lt; 0.05$</td>
</tr>
<tr>
<td>CoC timelines are realistic</td>
<td>OR=2.13, 95% CI, 1.286 to 3.518, $p &lt; 0.01$</td>
</tr>
<tr>
<td>Time SCPs have been in place</td>
<td>OR=0.572, 95% CI, 0.395 to 0.905, $p &lt; 0.05$</td>
</tr>
<tr>
<td>Staff dedicated to SCP creation/dissemination</td>
<td>OR=0.574, 95% CI, 0.330 to 0.997, $p &lt; 0.05$</td>
</tr>
</tbody>
</table>

Administrators who felt the CoC timelines were realistic were twice as likely to be in programs with a higher stage of readiness to fully implement SCPs.

What Factors Predict Full Implementation?

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Statistically Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>CoC guidelines are clear</td>
<td>Wald $\chi^2 = 4.670$, $p &lt; 0.013$</td>
</tr>
<tr>
<td>Patient health outcomes</td>
<td>Wald $\chi^2 = 4.1$, $p &lt; 0.043$</td>
</tr>
<tr>
<td>Program type</td>
<td>Wald $\chi^2 = 9.503$, $p &lt; 0.023$</td>
</tr>
</tbody>
</table>

• Of these, perceived CoC guideline clarity was most significant predictor
• Academic cancer programs were 3x more likely to have fully implemented SCPs than community-based programs
What Factors Affect (Correlation) Outcome Expectations?

<table>
<thead>
<tr>
<th>Significant Correlation (Spearman Correlation)</th>
<th>Patient satisfaction</th>
<th>Patient health</th>
<th>Patient provides communication</th>
<th>Patient knowledge and understanding</th>
<th>Patient influence and well-being</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cof: Correlations are clear</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Number of new cancer cases per year</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Significant Association (OHSC Stanford, Mass)</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cof: Treatment is unclear</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Medical Oncologist directly employed</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Care Physician directly employed</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Model of Delivery</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

What Factors Predict Outcome Expectations?

<table>
<thead>
<tr>
<th>Significant Prediction (regression analysis)</th>
<th>Patient satisfaction</th>
<th>Patient health</th>
<th>Patient provides communication</th>
<th>Patient knowledge and understanding</th>
<th>Patient influence and well-being</th>
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<tbody>
<tr>
<td>Cof: Treatment is unclear</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cof: Treatment is unclear*Cof: guidelines are clear</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Cof: Treatment is unclear<em>Cof: guidelines are clear</em>Program Type</td>
<td>X</td>
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<td>Cof: Treatment is unclear<em>Cof: guidelines are clear</em>Program Type</td>
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Discussion

- Key issues
  - Policy
  - Resources and Staffing
  - Influences associated with outcome expectations

A common theme that connects each of these is staffing levels
Policy

- CoC guidelines and timelines add pressure
  - Mandates can add focus and help an organization effect change\(^2\)
  - Mandates without adding resources can create resentment and resistance\(^7\)

Resources and Staffing

- Need for systems to create/maintain SCPs
- Staffing for creating and delivering SCPs
  - Taxing to an already overworked clinical staff
  - Difficulty when patients are far from the facility
- Support from health care providers
  - Lack of physician buy-in
  - Fragmented employment model

Staffing Influences Regarding Outcome Expectations

- Administrators who had stronger outcome expectations for patient outcomes were more likely to be in programs that were at a higher stage of readiness to fully implement SCPs
- Administrators’ outcome expectations were often interwoven, and perhaps influenced by, operational or monetary issues
**Implications/Recommendations**

- Some staffing needs may be alleviated as the technical resources mature and become easier to use
- Engage a physician champion, if possible
- Continue research on models of delivery
- More research is needed on physician perceptions

**Areas for Future Research**

- Physician outcome expectations regarding SCPs
- Survivor outcome expectations regarding SCPs
- Ecological study of health outcomes of patients who received SCPs
- Same study as this one, but with admins NOT from CoC-accredited institutions
- SCPs for metastatic patients?
### References


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Thank you!