The Role of Rural Health Clinics in Cancer Care across the Continuum

Holden Comprehensive Cancer Center Grand Rounds
Whitney Zahnd, PhD

December 17, 2021
Background-Rural Cancer Disparities

Sociodemographic Characteristics
- 15-20% of Americans live in rural areas
- ~40% of Iowans live in rural areas
- Older and poorer than urban populations

Cancer Outcome Disparities
- More prevalent “risky” health behaviors, overall and among survivors
- Higher incidence rates of preventable cancers
- Lower screening rates
- Higher mortality rates

Cancer Care Disparities
- Less access to cancer specialists, NCI-designated cancer centers
- Less likely to receive guideline-concordant treatment

Rural health clinics (RHC) are important sources of primary care in rural areas
- 4,500+ RHCs across 44 states
- 205 RHCs in Iowa
- Team-based approach
- Required to be staffed 50% of the time with a non-physician provider

- Received enhanced Medicare and Medicaid reimbursements
- No minimum services requirements or preventive service mandate
- No ongoing quality assurance program

Source: CMS
Background-COVID-19 and Cancer

→ The pandemic has affected operations of hospitals, federally qualified health centers, and other providers
  • Lack of PPE
  • Temporary closures
  • Suspension of specific services (e.g., elective surgeries)
  • Provider shortages
  • Provider and staff burnout

→ The pandemic led to a large drop initial in preventive services, including cancer screening that has yet to fully rebound

→ The NCI predicts an additional 10,000 breast and colorectal cancer deaths in the next decade due to delayed screenings

Background - RHCs and Cancer Care

Education, Provision, Referral

Decision Making, Referral, Provision

THE CANCER CONTROL CONTINUUM

FOCUS

- **Etiology**
  - Environmental factors
  - Genetic factors
  - Gene-environment interactions
  - Medication (or pharmaceutical exposure)
  - Infectious agents
  - Health behaviors

- **Prevention**
  - Tobacco control
  - Diet
  - Physical activity
  - Sun protection
  - HPV vaccine
  - Limited alcohol use
  - Chemoprevention

- **Detection**
  - Papanicolaou testing
  - Mammography
  - Fecal occult blood test
  - Colonoscopy
  - Lung cancer screening

- **Diagnosis**
  - Shared and informed decision making

- **Treatment**
  - Curative treatment
  - Non-curative treatment
  - Adherence
  - Symptom management

- **Survivorship**
  - Coping
  - Health promotion for survivors

CROSSCUTTING AREAS

- Communications
- Surveillance
- Health Disparities
- Decision Making
- Dissemination of Evidence-based Interventions
- Health Care Delivery
- Epidemiology
- Measurement

Adapted from David E. Almeida, Brown University School of Medicine

College of Public Health

IOWA
Objective

1. To describe the scope of cancer-related services provided or referred by RHCs from primary prevention to cancer survivorship before and during the COVID-19 pandemic.
2. To determine the extent to which RHCs are involved in their patients’ cancer treatment and survivorship care decisions.
3. To identify how cancer-related activities at RHCs aligned with current evidence-based guidelines and strategies.
Methods—Survey Development

Survey components adapted by the study team:
- HRSA Health Center COVID-19 Survey
- Primary Care Collaborative survey on primary care providers
- Survey of Physician Attitudes Regarding the Care of Cancer Survivors (SPARCCS)
- ACS/NCI Survey on Primary Care Physician’s Role in Cancer Care

Survey components developed by the study team:
- RHC Characteristics
- Additional COVID-19 questions
- United States Preventive Services Task Force (USPSTF) recommended services (Pre- and peri-pandemic)
- Use of Community Services Task Force evidence-based strategies
- Professional guidelines followed

Several iterations reviewed and modified by study team with expert feedback and limited pilot testing with local RHCs
Methods-Recruitment and Survey Administration

- Identified a stratified random sample of 1,900 RHCs (stratified by U.S. Census Region)
- Employed a modified Dillman approach:
  - Sent an informational postcard to each clinic (April 2021)
  - One week later: Sent hardcopy survey with cover letter with short link and QR code (April 2021)
  - Two weeks after survey: Sent reminder postcard (May 2021)
- $50 incentive for completion
- Amended follow-up strategy (June-August 2021):
  - Called non-responding RHCs
  - Re-sent hardcopy survey to non-responding RHCs
  - National Association for Rural Health Clinics (NARHC) board member sent a reminder through listserv
- 153 RHCs responded (8.0% response rate)
Statistical Methods

- Percentages and frequencies for categorical variables
- Means and standard deviations of continuous variables
- McNemar’s test to examined differences in pre- and peri-pandemic cancer prevention and screening services
The Effect of the COVID-19 Pandemic on RHC Cancer Prevention and Control Activities
## Results-RHC Characteristics

### Table 1: Participating RHC Characteristics

<table>
<thead>
<tr>
<th></th>
<th>N (%) or mean (Standard Deviation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n=153)</td>
</tr>
<tr>
<td><strong>Region</strong></td>
<td></td>
</tr>
<tr>
<td>Northeast</td>
<td>6 (3.9%)</td>
</tr>
<tr>
<td>South</td>
<td>63 (41.2%)</td>
</tr>
<tr>
<td>Midwest</td>
<td>63 (41.2%)</td>
</tr>
<tr>
<td>West</td>
<td>21 (13.7%)</td>
</tr>
<tr>
<td><strong>RHC Type</strong></td>
<td></td>
</tr>
<tr>
<td>Provider-Based</td>
<td>93 (60.8%)</td>
</tr>
<tr>
<td>Independent</td>
<td>60 (39.2%)</td>
</tr>
<tr>
<td><strong>Number of practicing clinicians, Mean</strong></td>
<td></td>
</tr>
<tr>
<td>Physicians (MD or DO)</td>
<td>2.2 (1.8)</td>
</tr>
<tr>
<td>Advanced Practice Nurses</td>
<td>2.1 (1.5)</td>
</tr>
<tr>
<td>Physician’s Assistants</td>
<td>1.3 (1.1)</td>
</tr>
<tr>
<td><strong>Primary Source of Patient Coverage, Mean</strong></td>
<td></td>
</tr>
<tr>
<td>Medicare</td>
<td>28.2 (16.5)</td>
</tr>
<tr>
<td>Medicaid</td>
<td>24.2 (17.5)</td>
</tr>
<tr>
<td>Dual-eligible</td>
<td>6.6 (9.4)</td>
</tr>
<tr>
<td>Private insurance</td>
<td>23.7 (15.2)</td>
</tr>
<tr>
<td>Other</td>
<td>3.1 (3.9)</td>
</tr>
<tr>
<td>Uninsured/self-pay</td>
<td>6.3 (7.5)</td>
</tr>
<tr>
<td><strong>Patient-Centered Medical Home, yes</strong></td>
<td>41 (29.9%)</td>
</tr>
<tr>
<td><strong>Accountable Care Organization, yes</strong></td>
<td>51 (43.2%)</td>
</tr>
</tbody>
</table>

**Note:** Percentages are calculated based upon the number of RHCs responding to a given question, which may be fewer than 153 RHCs completing the survey.
Results-COVID-19 Care

- 88.7% of RHCs provided testing services
- 19.1% of RHCs temporarily closed due to the pandemic
  - 57.1% of closures were due to COVID-19 among staff/clinicians
- 23.0% of RHCs provided telehealth services pre-pandemic → 92.2% of RHCs provided telehealth services peri-pandemic
  - 69.3% provided telehealth via video and phone
  - 10.5% provided telehealth via video only
  - 12.4% provided telehealth via phone only
Results-COVID-19 Stressors

- Increased patient questions about COVID-19: 85.6%
- Reorganizing practice to minimize healthy patient exposure: 81.7%
- Limiting patient visits to reduce exposure for patients & staff: 70.6%
- Staff in self-quarantine: 68%
- Financial concerns: 66.7%
- Staff / provider burnout: 64.7%
- Limited stock of tests available: 38.6%
- Reorganizing practice to perform drive-thru testing: 33.3%
- Lack of personal protective equipment: 32%
- Staff/provider turnover: 17.7%
- Not enough sick visits available for patients: 15.7%
- Other: 1.4%
Results-Impact on Cancer Prevention and Control Services

<table>
<thead>
<tr>
<th>Service</th>
<th>Pre-Pandemic</th>
<th>Peri-Pandemic</th>
</tr>
</thead>
<tbody>
<tr>
<td>HPV Vaccination</td>
<td>8.5</td>
<td>12.4</td>
</tr>
<tr>
<td>Pap smear</td>
<td>18.3</td>
<td>23.5</td>
</tr>
<tr>
<td>HPV DNA Testing</td>
<td>32.7</td>
<td>48.4</td>
</tr>
<tr>
<td>Sigmoidoscopy</td>
<td>18.3</td>
<td>23.5</td>
</tr>
<tr>
<td>Colonoscopy</td>
<td>8.5</td>
<td>12.4</td>
</tr>
<tr>
<td>FIT/FOBT</td>
<td>62.1</td>
<td>81.1</td>
</tr>
</tbody>
</table>

P<0.05 for all McNemar tests
Results-Impact on Cancer Prevention and Control Services

- **Mammography**
  - Pre-Pandemic: 20.9%
  - Peri-Pandemic: 34%

- **BRCA gene risk assessment**
  - Pre-Pandemic: 16.3%
  - Peri-Pandemic: 26.1%

- **BRCA testing**
  - Pre-Pandemic: 11.8%
  - Peri-Pandemic: 20.3%

- **Tobacco cessation counseling/pharmacotherapy**
  - Pre-Pandemic: 11.8%
  - Peri-Pandemic: 67.3%

- **Counseling or shared decision making for low-dose CT screening**
  - Pre-Pandemic: 41.2%
  - Peri-Pandemic: 58.2%

- **Hepatitis C screening**
  - Pre-Pandemic: 56.9%
  - Peri-Pandemic: 75.8%

*P<0.05 for all McNemar tests*
The Role of RHC Providers in Cancer Treatment and Survivorship Care
RHC Providers Role in Treatment Decisions

Provides, co-manages, or engages in joint decision with another clinician:

- Discussing possible participation in clinical trials: 10.5%
- Deciding on the frequency of surveillance testing for recurrence: 35.3%
- Deciding on the possible use of chemotherapy: 18.9%
- Deciding on the possible use of radiotherapy: 18.0%
- Deciding on the possible use of surgery: 24.1%
- Assessing patient preferences for cancer treatment: 39.4%
- Establishing goals for cancer treatment and prognosis: 32.6%
RHC Provider Role in Survivorship Care

Provides, orders, or shares responsibility with oncology specialists

- Treating pain related to cancer treatment: 65.2%
- Managing adverse/late-term cancer outcomes: 70.5%
- Counseling on diet/physical activity: 93.2%
- Treating sexual dysfunction: 93.9%
- Treating depression/anxiety: 94.0%
- Treating fatigue: 94.7%
- Counseling on smoking cessation: 96.2%
RHC Provider Role in Survivorship Care

Provides, orders, or shares responsibility with oncology specialists

- Screening for recurrent cancers: 50.4%
- Evaluating adverse late or long-term physical effects of cancer and its treatment: 58.3%
- Evaluating patients for the recurrence of cancer: 61.4%
- Evaluating patients for adverse psychological effects of cancer and its treatment: 68.2%
- Screening for other new primary cancers: 76.3%
## Experiences with Follow-Up Care

<table>
<thead>
<tr>
<th>Experience</th>
<th>% Always/Almost Always/Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Receive a treatment summary from the oncology team</td>
<td>72.8%</td>
</tr>
<tr>
<td>Provide a non-cancer history to the oncology team</td>
<td>72.5%</td>
</tr>
<tr>
<td>Experience difficulties in transferring responsibilities between you and oncology team</td>
<td>12.4%</td>
</tr>
<tr>
<td>Receive an explicit follow-up care plan documenting recommendations for future care/surveillance</td>
<td>62.1%</td>
</tr>
<tr>
<td>Have a specific discussion with the patient about future care/surveillance</td>
<td>61.4%</td>
</tr>
</tbody>
</table>
Implications of Findings
Summary and Implications of Findings

- RHCs experienced closures and many other stressors due to the pandemic
- Percent of RHCs providing telehealth more than tripled
  - Continued flexibility and coverage by Medicare?
- Cancer-related prevention and screening services were reduced in rural health clinics
  - Mirrors FQHC and large system EHR data
- RHC providers are involved at some level in treatment decisions and survivorship care, important opportunity for intervention
Proposed and Potential Next Steps

- Identify factors associated with cancer care across the continuum in RHCs
- Further analyze survey data to examine the use of evidence-based strategies for screening
- Interview RHCs to elucidate survey findings
- Examine individual-level data (e.g., Medicare) to examine the role of RHCs in aspects of cancer prevention and control service provision
Study Team and Acknowledgements

Research Team:
- Co-PIs: Whitney Zahnd and Jan Eberth
- Collaborators: Peiyin Hung, Swann Adams, Nabil Natafgi, Shaun Owens, Melinda Merrell, Elizabeth Crouch, Stella Self
- Student research assistants: Allie Silverman, Christopher Marshall
- Administrative support: Janie Godbold

Acknowledgements: Shannon Chambers, Fairfield Medical Center

Funding: HRSA Rural Health Research Center Cooperative Agreement (2U1CRH30539-05)
Thank you! Questions?

whitney-zahnd@uiowa.edu