Meeting the Needs of Rural Populations and Geographic Access to Care Issues

Christie Befort, PhD
University of Kansas Medical Center
NCPF Workshop Feb. 13th 2017
Rural population estimates

- ~20% of U.S. population and 21% of cancer survivors
  - 2.8 million survivors

U.S Census Bureau. 2010 Census Urban and Rural Classification and Urban Area Criteria. 2013
Geographic spread and race/ethnicity
Deaths from cancer across rural and urban counties, National Vital Statistics

Age-adjusted death rates among all ages by year

Percentage of excess deaths among persons <80 years

Access challenges in rural cancer care

- **Service supply**
  - 3% of medical oncologists
  - 16% of radiation oncologists
  - 2% of social workers

- **Financial access**
  - Lower income
  - Increasing rates of self-employment
  - Higher rates of uninsured

- **Travel time**

Whitaker, T et al. (2006). National Assoc of Social Workers
Travel time

<table>
<thead>
<tr>
<th></th>
<th>Median travel min to academic medical center</th>
<th>Median travel min to any specialized care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small town/isolated rural</td>
<td>105 (76-153)</td>
<td>59 (43-80)</td>
</tr>
<tr>
<td>Large rural</td>
<td>97 (69-139)</td>
<td>51 (38-70)</td>
</tr>
<tr>
<td>Suburban</td>
<td>83 (56-125)</td>
<td>41 (25-59)</td>
</tr>
<tr>
<td>Urban</td>
<td>22 (11-46)</td>
<td>11 (6-18)</td>
</tr>
</tbody>
</table>

Health status among urban and rural U.S. cancer survivors

![Bar chart showing weighted percentage of poor or fair self-reported health, ≥ 2 noncancer comorbidities, and presence of psychological distress in urban and rural areas.]

* $p < .05$ adjusting for age, sex, race/ethnicity, marital status, number of cancers, time since diagnosis, education, health insurance

Unmet needs among rural cancer survivors

- Less knowledge about cancer stage and treatment
- Fewer receive survivorship care plans (62% rural vs. 78% urban; MO BRFSS)
- Poorer mental health functioning (KY SEER)
  - Anxiety, depression, distress
- High levels of unmet support needs (qualitative data among breast cancer survivors)

Rural-Urban Obesity Prevalence

- **Drivers:**
  - Cultural eating patterns
  - Low leisure-time activity levels
  - Less socio-environmental supports
  - Less access to weight control programs

Befort et al., 2012 NHANES 2005-2008
Rural breast cancer survivor exercise preferences

- 483 survivors from IL state registry (30% response)
  - 63 ± 12 years-old, 3.2 ± 1.8 years since treatment, 96% White
  - 30% unknown cancer stage
  - BMI 28.9 ± 6.1 kg/m²
  - 54% sedentary, 19% ≥ 150 min/week of PA

Exercise intervention preferences

- Location
  - At home 38%
  - Outdoors 25%
  - Health club/YMCA 19%

- Counseling Delivery
  - Face-to-face 44%
  - No preference 30%
  - Video 6%

Rural breast cancer survivor needs

- 918 survivors in KS (83% response from local cancer registries)
  - 66 ± 13 years-old, 3.2 ± 2.6 years since treatment, 96% White
  - 40% reported unknown cancer stage
  - BMI 29.0 kg/m²; 68% overweight/obese; 37% obese

- Ranking of support needs
1. Exercise and diet program 44%
2. Personal training 29%
3. Support groups 23%
4. Lymphedema treatment 9%
5. Mental health services 8%

- 47% currently attempting weight loss

- Weight loss methods tried
  - Without assistance 67%
  - Joined gym 24%
  - Commercial program 18%
  - Diet book 6%
  - Internet program 3%

QUESTIONS TO CONSIDER:
• Referral or recruitment source
• Level of clinical integration
Weight loss maintenance RCT among rural breast cancer survivors
Group phone-based intervention

210 rural breast cancer survivors
stage 0-IIlc in past 10 years, BMI 27-45, medical clearance

0-6 months
Weekly group phone sessions

0-6 months
Weekly group phone sessions

85% lost ≥ 5%, n = 172
randomized to Phase II

6-18 months
Bi-weekly group phone sessions

6-18 months
Bi-weekly mailed newsletter

Weight changes by treatment group

<table>
<thead>
<tr>
<th></th>
<th>Group Phone Counseling (n = 85)</th>
<th>Newsletter Comparison (n = 83)</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight change 6 to 18 months</td>
<td>3.3 (4.8)</td>
<td>4.9 (4.9)</td>
<td>0.03</td>
</tr>
<tr>
<td>Percent weight change BL to 18 months</td>
<td>10.6% (7.8)</td>
<td>9.3% (8.0)</td>
<td>0.03</td>
</tr>
<tr>
<td>≥ 5% below baseline weight</td>
<td>75.3%</td>
<td>57.8%</td>
<td>0.02</td>
</tr>
<tr>
<td>Program costs per participant</td>
<td>$280.25</td>
<td>$88.47</td>
<td>--</td>
</tr>
</tbody>
</table>
Recruitment

- Personalized non-targeted mailed invitation from local oncologists
  - 14% response rate
  - 9% completed screening
- 721 cases screened
  - 84% from mailed brochure
  - 11% advertisements, friend referrals, outreach
  - 5% physician referral
- 29% enrollment rate of those screened

Befort et al., *Contemp Clinical Trials*, 2014
Lessons learned

• Group-based phone interventions can engage rural breast cancer survivors
  • 90% attendance in phase 1; 60% attendance in phase 2
  • 6 month process interviews (n = 186):
    • Accountability to group seen as one of most helpful components
    • Group cohesion varied
  • Desire for some amount of face-to-face contact

Lessons learned

• New medical events and patient navigation needs
  • 290 new or worsening medical conditions reported
    • 145 participants with ≥ 1 AE
  • 81 events (28%) possibly, probably, or definitely related
  • 35 lymphedema AEs (8 possibly to definitely related)
Pragmatic cluster RCT in rural primary care

- **Fee-for-Service** (In clinic individual)
- **Patient Centered Medical Home** (In clinic groups)
- **Disease Management** (Phone groups)

36 practices, 1440 patients

- n = 843 enrolled to date

Recruitment mailing response rates
Range across clinics: 5% to 31%
Range across arms: 13% to 19%

Clinical implementation

Patient uptake

Contextual factors within setting
- PCP leadership
- Relative priority
- Communication
Questions and challenges

• Interventions for rural survivors of other cancer types
• Importance of tailoring
  • Rural culture
  • Regional variations and rural racial/ethnic minority populations
  • Survivorship needs
• Optimal amount of face-to-face contact
• Capacity in rural clinical settings
• Integration in clinical care versus direct-to-consumer remote interventions
Opportunities

- Rurality as a designated under-represented group
  - Standard definition (e.g. RUCA)
  - Inclusion and Enrollment targets
  - Catchment area needs

- Observational studies on dietary and physical activity patterns and determinants in rural settings

- Planned rural-urban subgroup analyses for large trials

- PAs or RFAs focused on effectiveness-implementation hybrid designs
Questions?