**Addressing Rural Cancer Health Disparities: A Siteman-SIUSM Partnership**

Graham A. Colditz1,2, MD, DrPh; Aimee James1,2, PhD, MPH; Wiley Jenkins3,4, PhD, MPH; David Steward3, MD, MPH; Sonya Izadi1, BA; Amanda Fogleman2, MEng; Laurent Brard3,4, MD, PhD, FACOG

1Washington University School of Medicine (WUSM) 2Siteman Cancer Center (Siteman) 3Southern Illinois University School of Medicine (SIUSM) 4Simmons Cancer Institute

### Cancer Disparities in Downstate Illinois

Southern Illinois University School of Medicine (SIUSM)

**Service Area in Downstate IL includes:**
- 66 Counties in Central and Southern IL
- 2.2 million people
- 64% rural residents

Compared to the rest of the state, Downstate IL has:
- Higher poverty
- Higher cancer incidence, morbidity, & mortality
- Shorter life expectancies
- More chronic health issues
- Lower access-to-care: <1% of IL oncologists reside in rural areas

Cancer incidence rates in Downstate IL remain relatively unchanged, despite state and national improvement trends.

### Siteman-SIUSM Partnership Overview

The Partnership **aims** are to:
- **Promote** new, integrated research collaborations between SIUSM and Siteman that specifically address cancers disparities in Downstate IL.
- **Establish** an integrated training and career development program to foster SIUSM scientific and career development and enhance Siteman rural cancer disparities awareness, research, and reach.
- **Create** a research environment that:
  - Enhances SIUSM research-related learning and training
  - Promotes mentorship, collaboration, and interaction among clinical, population health, and basic science faculty and trainees at SIUSM and Siteman
- **Support** investigators at both institutions to conduct collaborative cancer pilot projects

### Year One Pilot

**Disparities of Health Literacy in the Context of Kidney Cancer and Smoking**

**Figure 2. Kidney cancer mortality in rural IL counties vs. national sample of rural counties (4.9 vs. 4.5 [p<0.01])**

<table>
<thead>
<tr>
<th>Rural IL</th>
<th>US Rural</th>
<th>US Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate per 100,000</td>
<td>Rate per 100,000</td>
<td>Rate per 100,000</td>
</tr>
<tr>
<td>11.5</td>
<td>11.8</td>
<td>17.2</td>
</tr>
<tr>
<td>12.9-26.3</td>
<td>12.9-26.3</td>
<td>12.9-26.3</td>
</tr>
<tr>
<td>16.7%</td>
<td>16.7%</td>
<td>20.9%</td>
</tr>
<tr>
<td>15.5-18.2</td>
<td>14.4-29.4</td>
<td>14.4-29.4</td>
</tr>
<tr>
<td>3.1%</td>
<td>3.1%</td>
<td>6.3%</td>
</tr>
<tr>
<td>2.5-4.6</td>
<td>2.6-10.4</td>
<td>2.6-10.4</td>
</tr>
</tbody>
</table>

**Aims:**
1. Examine whether health literacy and cancer literacy differ by geographic region (rural vs. urban)
2. Investigate whether knowledge of relationship between smoking and kidney cancer differs by geographic region
3. Compare threshold for urologic symptom bother by geographic region

### Year Two Pilot 1

**Supporting Decisions about Cancer Clinical Trials in Rural Cancer Centers**

**Table 3. Comparison of OCPC Incidence and Tobacco Use Rates in Montgomery County vs. State of IL**

<table>
<thead>
<tr>
<th>OCPC Incidence</th>
<th>Smoking Prevalence</th>
<th>Chewing Tobacco Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>per 100,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois Rates (95% CI)</td>
<td>Rural Rates* (95% CI)</td>
<td>Rural Rates* (95% CI)</td>
</tr>
<tr>
<td>11.8</td>
<td>10.7</td>
<td>12.9-26.3</td>
</tr>
<tr>
<td>(11.5-12.0)</td>
<td>(10.9-11.7)</td>
<td></td>
</tr>
<tr>
<td>16.7%</td>
<td>20.9%</td>
<td></td>
</tr>
<tr>
<td>(15.5-18.2)</td>
<td>(14.4-29.4)</td>
<td></td>
</tr>
<tr>
<td>3.1%</td>
<td>6.3%</td>
<td></td>
</tr>
<tr>
<td>(2.5-4.6)</td>
<td>(2.6-10.4)</td>
<td></td>
</tr>
</tbody>
</table>

**Aims:**
1. Conduct usability testing of CHOICES, a web-based patient decision aid to promote shared decision making about cancer clinical trials, among rural cancer survivors.
2. Pilot the modified Rural CHOICES among recently diagnosed rural cancer patients, in a pre-post design.

### Progress and Future Directions

Since inception, the Research Program has:
- Funded 3 pilot projects in rural cancer disparities
- Solicited proposals from 25 unique investigators across both institutions and various disciplines on the topic of rural cancer disparities

The Siteman-SIU Partnership continues to encourage:
- Applications from new investigators
- Awardees to use their pilot project findings in developing applications for NIH funding in rural cancer disparities.

By motivating and facilitating Siteman and SIU researchers to combine their resources and expertise, the Partnership aims to ultimately reduce rural cancer disparities in Downstate IL.

### References

### Acknowledgements
This research is supported by NCI of the National Institutes of Health award numbers: P20CA192966 and P20CA192987.

The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.