Early Age and Late Stage Diagnosis of Colorectal Cancer Among American Indian Residents of Montana, 2001-2010

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Montana Department of Public Health and Human Services
Montana

Frontier State

3 Cattle : 1 Person

1.4 Elk per square mile
Reservations and Associated Tribes of Montana

Map by: Census and Economic Information Center
Montana Department of Commerce
301 S. Park Avenue, Helena, MT 59601
(406) 841-2740, e-mail: ceic@mt.gov http://ceic.mt.gov
March 2009 Reservations_Tribes_Coai
All-site cancer incidence among Montana American Indians was high

- **MT AI**: 607*
- **MT White**: 479
- **U.S. AI/AN**: 330

* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010
Four types of cancer account for over 50% of all cancers in Montana

<table>
<thead>
<tr>
<th>American Indian</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lung</td>
<td>1. Prostate</td>
</tr>
<tr>
<td>2. Female Breast</td>
<td>2. Female Breast</td>
</tr>
<tr>
<td>3. Colorectal</td>
<td>3. Lung</td>
</tr>
<tr>
<td>4. Prostate</td>
<td>4. Colorectal</td>
</tr>
</tbody>
</table>

Data Source: Montana Central Tumor Registry, 2001-2010
CONCLUSIONS. For all races/ethnicities combined in the U.S., favorable trends in incidence and mortality were noted for lung and colorectal cancer in men and women and for breast cancer in women. For the AI/AN population, lower overall cancer incidence and death rates obscured important variations by geographic regions and less favorable healthcare access and socioeconomic status. Enhanced tobacco control and cancer screening, especially in the Northern and Southern Plains and Alaska, emerged as clear priorities. *Cancer 2007;110:2119-52. Published 2007 by the American Cancer Society.*
Regional Differences in Colorectal Cancer Incidence, Stage, and Subsite Among American Indians and Alaska Natives, 1999–2004

FIGURE 1. States and Contract Health Service Delivery Areas (CHSDA) counties by Indian Health Service region.

Citation: Perdue et al, Cancer, 2008
Describe colorectal cancer (CRC) incidence among MT American Indian (MT AI) residents compared to MT White residents and U.S. American Indians and Alaska Natives (AI/AN).
Methods

Race:
- American Indian
- White

Geography:
- Montana
- United States

Stage at Diagnosis:
- Early [stage 1]
- Late [stages 2-7]

Age at diagnosis:
- <50 years
- 50-64 years
- ≥65 years
RESULTS
Incidence of CRC was high among MT American Indian

<table>
<thead>
<tr>
<th>Group</th>
<th>Age-adjusted rate per 100,000 people</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT AI</td>
<td>77.8*</td>
</tr>
<tr>
<td>MT White</td>
<td>44.8</td>
</tr>
<tr>
<td>U.S. AI/AN</td>
<td>42.0</td>
</tr>
</tbody>
</table>

* Statistically significantly different
Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010
MT American Indians are diagnosed at advanced stage CRC* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010

<table>
<thead>
<tr>
<th></th>
<th>Early Stage</th>
<th>Late Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>MT AI*</td>
<td>25.0</td>
<td>50.4</td>
</tr>
<tr>
<td>MT White</td>
<td>18.0</td>
<td>24.9</td>
</tr>
<tr>
<td>US AI/AN</td>
<td>15.3</td>
<td>24.5</td>
</tr>
</tbody>
</table>

* Age-adjusted rate per 100,000 people
* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010
MT AI had significantly greater incidence rate for age groups 50-64 and 65+

<table>
<thead>
<tr>
<th>Age group at diagnosis</th>
<th>MT AI*</th>
<th>MT White</th>
<th>US AI/AN</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;50</td>
<td>6.6</td>
<td>5.9</td>
<td>6.6</td>
</tr>
<tr>
<td>50-64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥ 65</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Age-specific rate per 100,000 people
- 0 ≤ 500

* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010
Late stage CRC greatest among MT AI screening age adults

Late Stage

<table>
<thead>
<tr>
<th>Age Group at Diagnosis</th>
<th>Early Stage</th>
<th>Late Stage</th>
</tr>
</thead>
<tbody>
<tr>
<td>50-64</td>
<td>MT AI</td>
<td>MT AI*</td>
</tr>
<tr>
<td>26.0</td>
<td>39.5</td>
<td>103.8</td>
</tr>
<tr>
<td>26.0</td>
<td>129.7</td>
<td>200.2</td>
</tr>
<tr>
<td>≥ 65</td>
<td>MT AI*</td>
<td>MT White</td>
</tr>
<tr>
<td>78.2</td>
<td>102.4</td>
<td>127.3</td>
</tr>
<tr>
<td></td>
<td>121.6</td>
<td>US AI/AN</td>
</tr>
</tbody>
</table>

* Statistically significantly different

Data Source: Montana Central Tumor Registry, 2001-2010; SEER 18, 2000-2010
Key Findings

Montana American Indians have a greater burden of colorectal cancer than their White & U.S. counterparts.

Colorectal cancer in this population is diagnosed at earlier ages and later stages than their White & U.S. counterparts.
Geographic Variation in Colorectal Cancer Incidence and Mortality, Age of Onset, and Stage at Diagnosis Among American Indian and Alaska Native People, 1990–2009

<table>
<thead>
<tr>
<th>IHS Region/Gender</th>
<th>Incidence</th>
<th></th>
<th></th>
<th></th>
<th>CRC Incidence Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AI/AN Cases, No.</td>
<td>AI/AN Rate</td>
<td>White Cases, No.</td>
<td>White Rate</td>
<td>Montana, 2001-2010</td>
</tr>
<tr>
<td>Northern Plains</td>
<td>Both genders</td>
<td>510</td>
<td>67.3</td>
<td>19,949</td>
<td>44.0</td>
</tr>
<tr>
<td></td>
<td>Men</td>
<td>275</td>
<td>78.5</td>
<td>10,124</td>
<td>49.8</td>
</tr>
<tr>
<td></td>
<td>Women</td>
<td>235</td>
<td>57.9</td>
<td>9,825</td>
<td>39.2</td>
</tr>
<tr>
<td></td>
<td>Northern Plains, 2005-2009</td>
<td>67.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Citation: Perdue et al, AJPH, 2014
Study limitations

U.S. AI/AN data was from SEER – may not be representative of all AI/AN in the nation

Montana American Indian population is small – statistical analyses with small numbers is limited
What can be done?

Regular cancer screening

CRC screening is **LOW** among Montana American Indians

<table>
<thead>
<tr>
<th>MT American Indian</th>
<th>MT white</th>
<th>U.S. (50 states + DC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>48%*</td>
<td>61%</td>
<td>67%</td>
</tr>
</tbody>
</table>

* Statistically significantly higher

Men and women aged 50+ who have ever had a sigmoidoscopy or colonoscopy

Why haven’t you been screened for CRC?

“I didn’t think I needed one”

43%

Men and women aged 50+ who reported never having had a sigmoidoscopy or colonoscopy
Data Source: Montana Behavioral Risk Factor Surveillance System, 2010
Access to healthcare in Indian Country

25,000 MT American Indians (41%) have no health insurance

Indian Health Services (IHS) services most MT American Indians
Need: Access to endoscopy is poor

The majority of American Indian persons in MT receive healthcare from Indian Health Services (IHS)

Challenge: IHS is chronically underfunded
Cancer Control Activities in MT Targeting American Indians

- Direct services- CRC screening
- Health education– contracts with tribal health
- Engaging the medical community & IHS
  - Circle of Life
  - CRC Roundtable Conference, October 2014
- Montana American Indian Women’s Health Coalition
Thank you!

QUESTIONS?