

Early-Onset Colorectal Cancer and Lead-Time Messaging

By: Tiffany Rosemond, DrPH

AGENDA

- Introduction
- Epidemiological Data
 - United States and South Dakota Data
 - Early-Onset Data
- Risk Factor Data
- Screening and Diagnosis Statistics
- Conclusion

Understanding Colorectal Cancer and Early-Onset CRC

Overview:

- - **Colorectal cancer**, also known as **(CRC)** affects the colon and rectum.
- - Often **begins as benign polyps** that can develop into cancer.
- - Early detection through **screening is key** to improving outcomes and survival rates.
-

Early-Onset Colorectal Cancer:

- - Defined as colorectal cancer diagnosed in individuals under **50 years of age**.
- - **Increasing incidence** in younger populations over recent decades.
- - Presents **unique challenges** in diagnosis, treatment, and management.



Colorectal Cancer Data: National Insights & South Dakota Focus

Key National Statistics on Colorectal Cancer (2024 Projections)

Colorectal cancer is the second leading cause of cancer death in the U.S. for men and women combined. Preventive screenings are highly effective in reducing avoidable deaths.

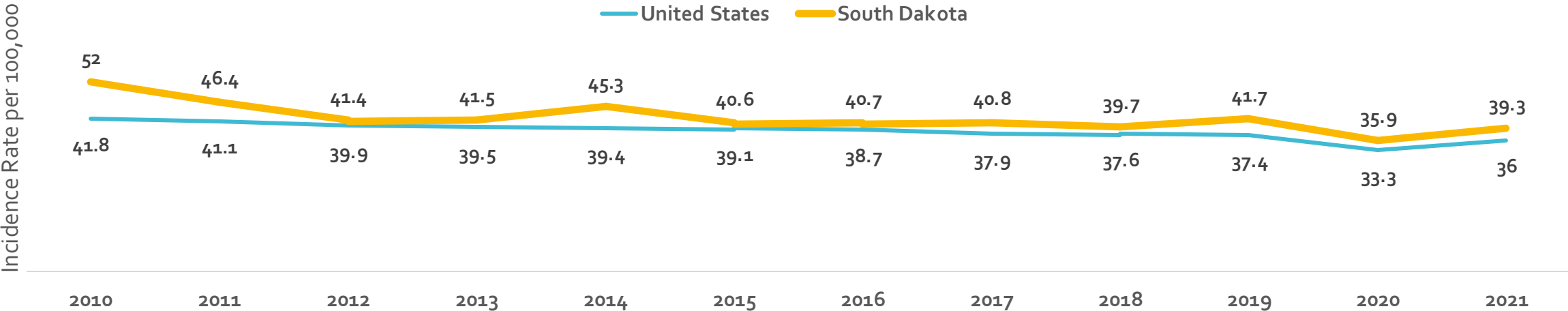
– *American Cancer Society*

- 📅 **152,810 adults** will be diagnosed with colorectal cancer in 2024.
- ⚠️ **53,010 people** are expected to die from this disease in 2024.
- 🩺 **1 in 3 adults aged 45 and older** are not getting screened.
- 💬 **1.54 million** Americans are living with a history of colorectal cancer.

Call to Action:

Raising awareness and increasing screening could save thousands of lives each year.

Colorectal Cancer Incidence Rates: United States vs South Dakota (2007-2021)

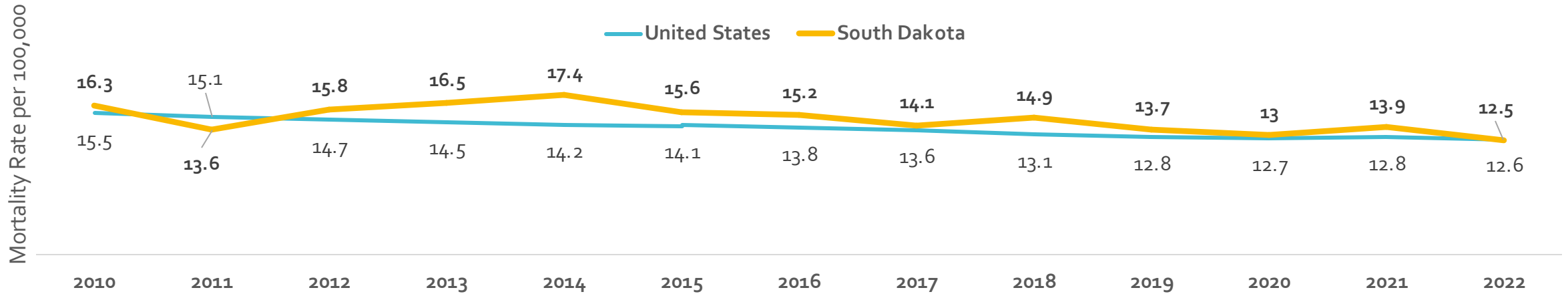


Key Insight:

- South Dakota has slightly higher CRC incidence rates compared to the national average.
- Overall, South Dakota and national rates of CRC incidence continue to decrease.

Overall CRC Incidence Age-Adjusted Rates, 2007-2021, Male and Female, All Races and Ethnicities

Colorectal Cancer Mortality Rates: U.S. vs. South Dakota (2007-2022)



Key Insights:

- South Dakota has slightly higher mortality rates from colorectal cancer compared to the national average.
- Both regions show a decline in mortality rates, with South Dakota experiencing a more **significant decrease**.

Colorectal Cancer Mortality Rates (2007-2022), All Genders, Races, and Ethnicities

Colorectal Cancer Incidence Rates in South Dakota Metro Areas (2017-2021)

Sioux Falls Metro Counties

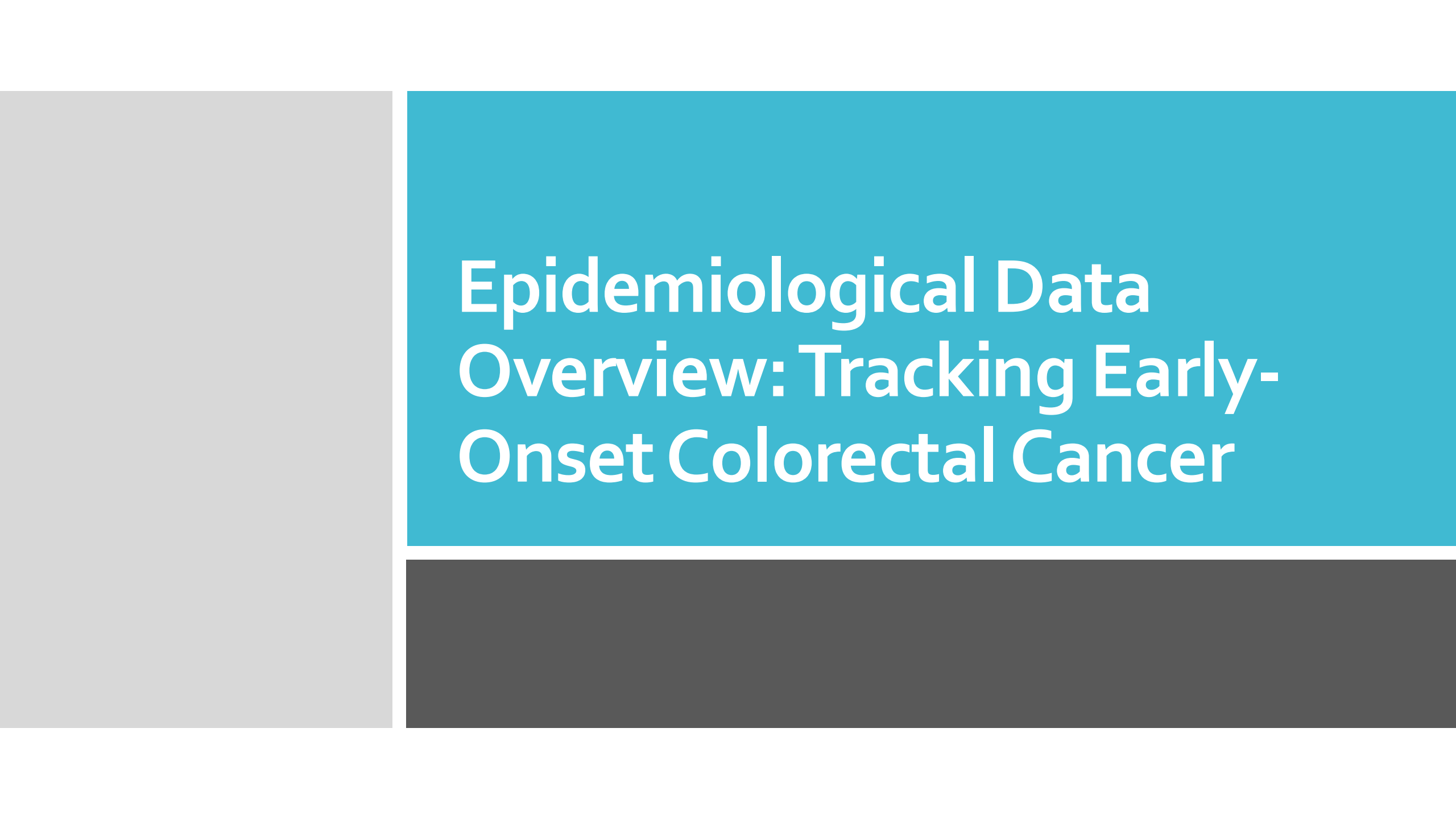
County	Age-Adjusted Rate
Turner	29.7
Lincoln	34.4
Minnehaha	37.8
McCook	62.9

Rapid City Metro Counties

County	Age-Adjusted Rate
Custer	27.8
Meade	34.3
Pennington	34.5

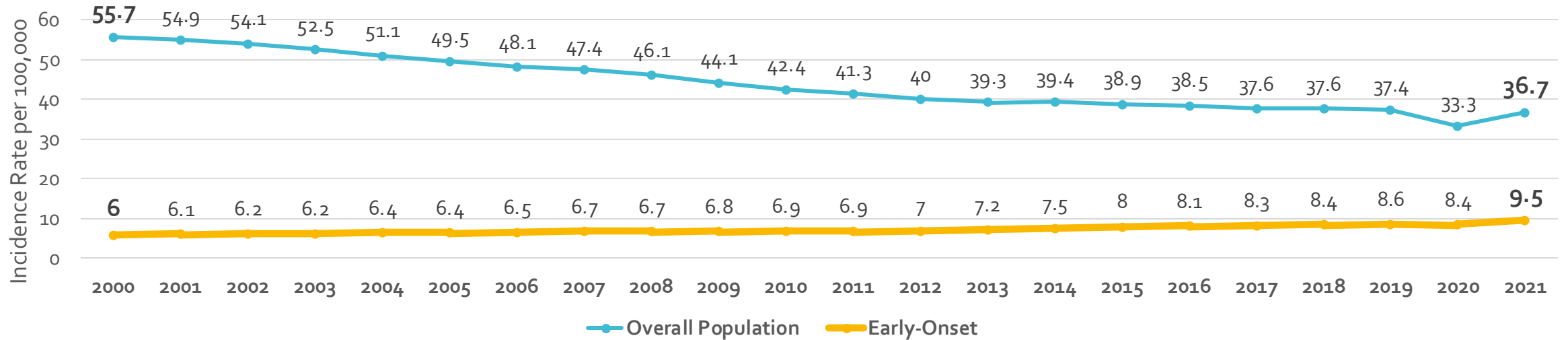
Key Insights:

- McCook County shows the highest CRC incidence rate at 62.9, significantly higher than any county in either metro areas.
- Overall, Sioux Falls metro counties exhibit higher incidence rates than Rapid City metro counties.



Epidemiological Data Overview: Tracking Early- Onset Colorectal Cancer

Comparing Incidence Rates: Early-Onset CRC vs. Overall Population (2000-2021)

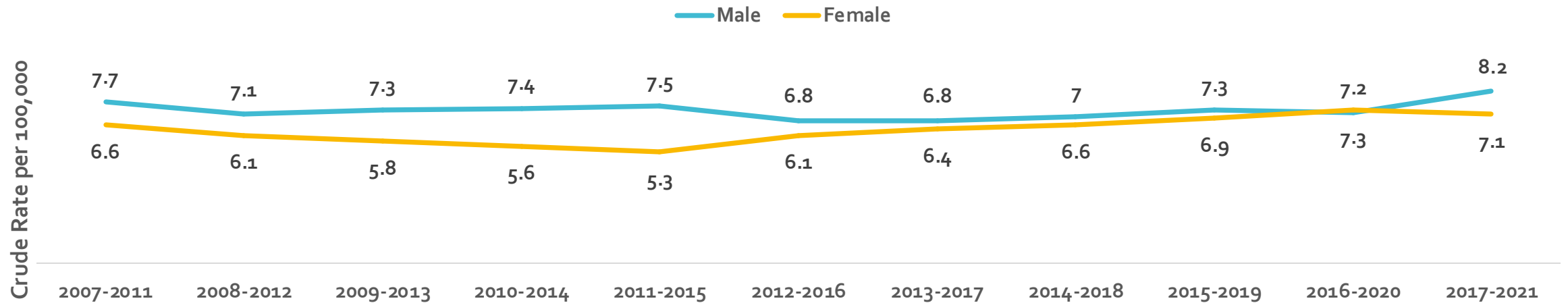


Key Insights:

- The Incidence of CRC in the overall population group has **steadily declined** over the past two decades.
- Early-onset CRC (under age 50) shows a noticeable **upward trend**, especially from 2016-2021.

U.S. Trends: Colorectal Cancer Incidence in Early-Onset (<50) vs. All Ages (2000-2021)

Early-Onset CRC Crude Rates in South Dakota by Gender (2007-2021)

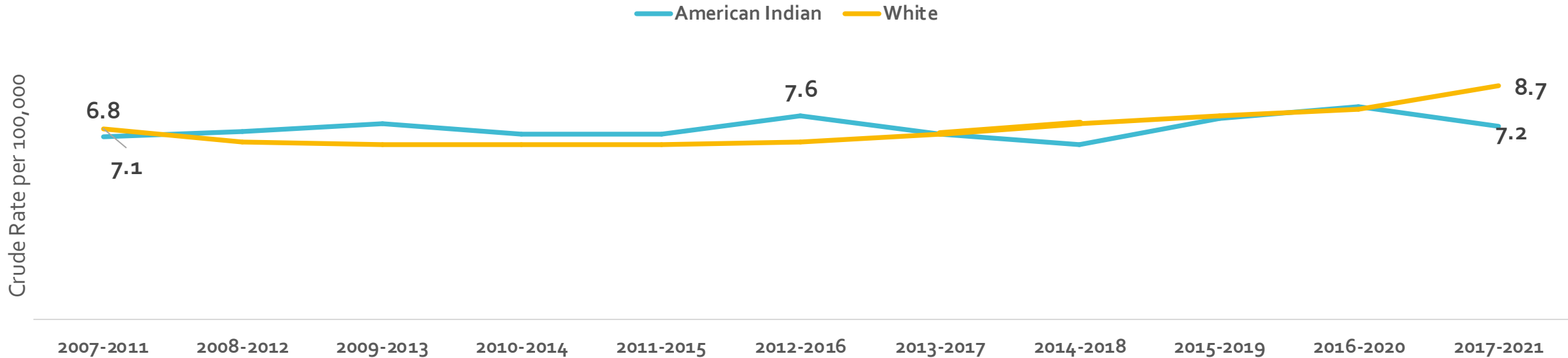


Key Insights:

- Incidence rates for males have increased significantly in recent years, while rates for females remain relatively steady.
- The crude rates for males surged to **8.2 per 100,000** between 2017-2021.

Recent Trends in Early-Onset CRC by Gender in South Dakota (Ages <50, All Races and Ethnicities)

Crude Rates of Early-Onset CRC in South Dakota by Race (2007-2021)



Key Insights:

- While early-onset CRC rates for American Indian populations remained relatively stable, there was a sharp increase in the White population between 2016 and 2021.
 - By 2021, the crude incidence rate for White individuals rose to **8.7 per 100,000**.

Recent Trends in Early-Onset CRC by Race (White vs. American Indian) in South Dakota, Ages <50

Identifying Key Risk Factors: Data Insights into Colorectal Cancer

Lifestyle Risk Factors for Early-Onset Colorectal Cancer



Diet and Nutrition:

- High red/processed meat: Increases risk by **30-40%**.
- High vegetable/fish intake: Lowers risk by **3-10%** per 100g of vegetables.



Physical Activity:

- High activity: Lowers risk by **19%** (meta-analysis, 2016).



Obesity:

- BMI 25-30 (overweight): Increases risk by **18%**.
- BMI ≥ 30 (obesity): Increases risk by **32%**.



Smoking and Alcohol:

- Smoking: Increases risk by **30%**.
- Alcohol: Moderate to heavy use increases risk by **1.2-1.5 times**.

Key Insights:

These lifestyle factors significantly influence early-onset colorectal cancer risk, emphasizing the importance of dietary choices, physical activity, and avoiding smoking and excessive alcohol use.

Key Genetic Risk Factors for Early-Onset Colorectal Cancer

Statistics on Genetic Risks:

Lynch Syndrome:

- **Prevalence:** 2-4% of early-onset CRC cases
- Genes: MLH1, MSH2, MSH6, PMS2
- Up to 80% lifetime risk of CRC

Familial Adenomatous Polyposis (FAP):

- **Prevalence:** ~1% of CRC cases
- Nearly 100% lifetime risk if untreated

Key Insights:

- Understanding these genetic risk factors is critical for identifying high-risk individuals and implementing early intervention strategies.

Colorectal Cancer Screening Data

United States CRC Screening Prevalence Rates (2022): Highest and Lowest States

Overall Screening Rate: In 2022, 72.2% of U.S. **adults aged 50-75** reported being up-to-date with colorectal cancer screening according to the Behavioral Risk Factor Surveillance System (BRFSS).

U.S. Highest Screening Rates:

- Connecticut: 79.6%
- Rhode Island: 79.5%
- District of Columbia: 78.1%
- Massachusetts: 77.7%
- Maine: 77.5%

U.S. Lowest Screening Rates:

- Puerto Rico: 59.7%
- New Mexico: 63.5%
- Wyoming: 63.7%
- Nevada: 66.5%
- Arizona: 67.2%

Key Insights:

- Higher rates are observed predominantly in the Northeastern U.S.
- Lower rates are more common in Southwestern states and Puerto Rico.

South Dakota Colorectal Cancer Screening Prevalence by County (Age- Adjusted, 2020)

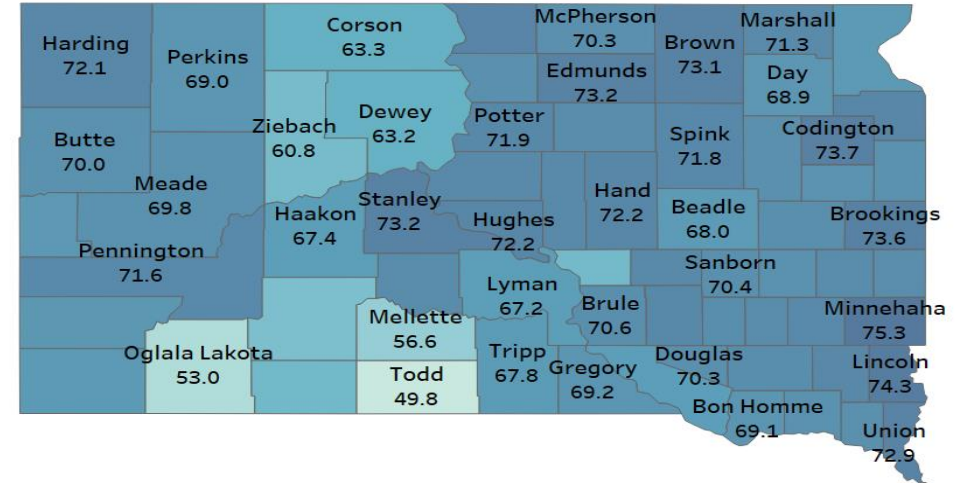
Percentage of adults aged 50-75 up-to-date with colorectal cancer screening, age-adjusted by county, 2020.

SD Counties with Highest Prevalence:

- Minnehaha: 75.3%
- Lincoln: 74.3%
- Codington: 73.7%
- Brookings: 73.6%
- Edmunds: 73.2%

SD Counties with Lowest Prevalence:

- Todd: 49.8%
- Oglala Lakota: 53.0%
- Mellette: 56.6%
- Jackson: 60.2%
- Ziebach: 60.8%



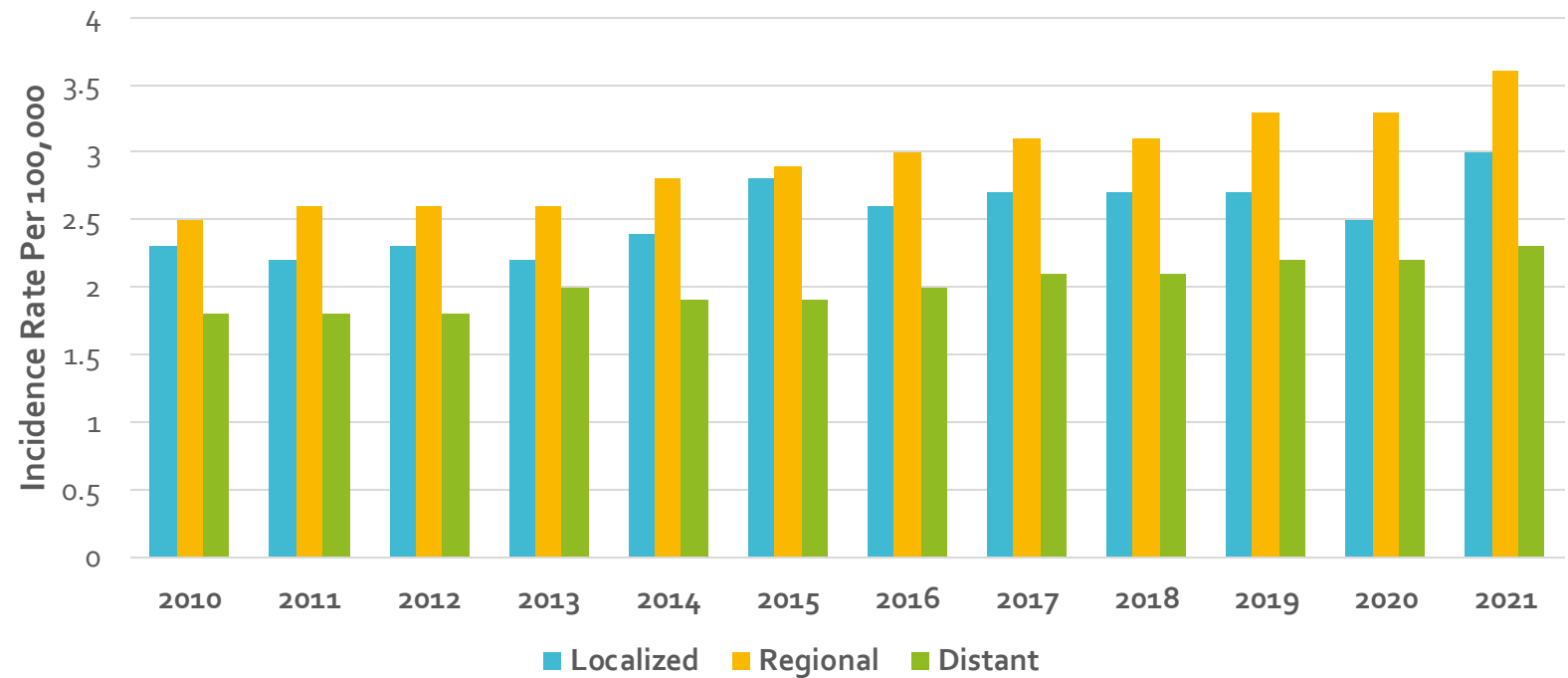
Key Insights:

- Eastern and central South Dakota counties, such as Minnehaha and Lincoln, report the highest CRC screening rates, exceeding 73%.
- Counties in the western and southwestern regions, including Todd and Oglala Lakota, show significantly lower screening rates, with Todd County as low as 49.8%.

Diagnosis Data for Early-Onset Colorectal Cancer: Trends and Findings

Early-Onset CRC Stage of Diagnosis (<50 Years), 2004-2021

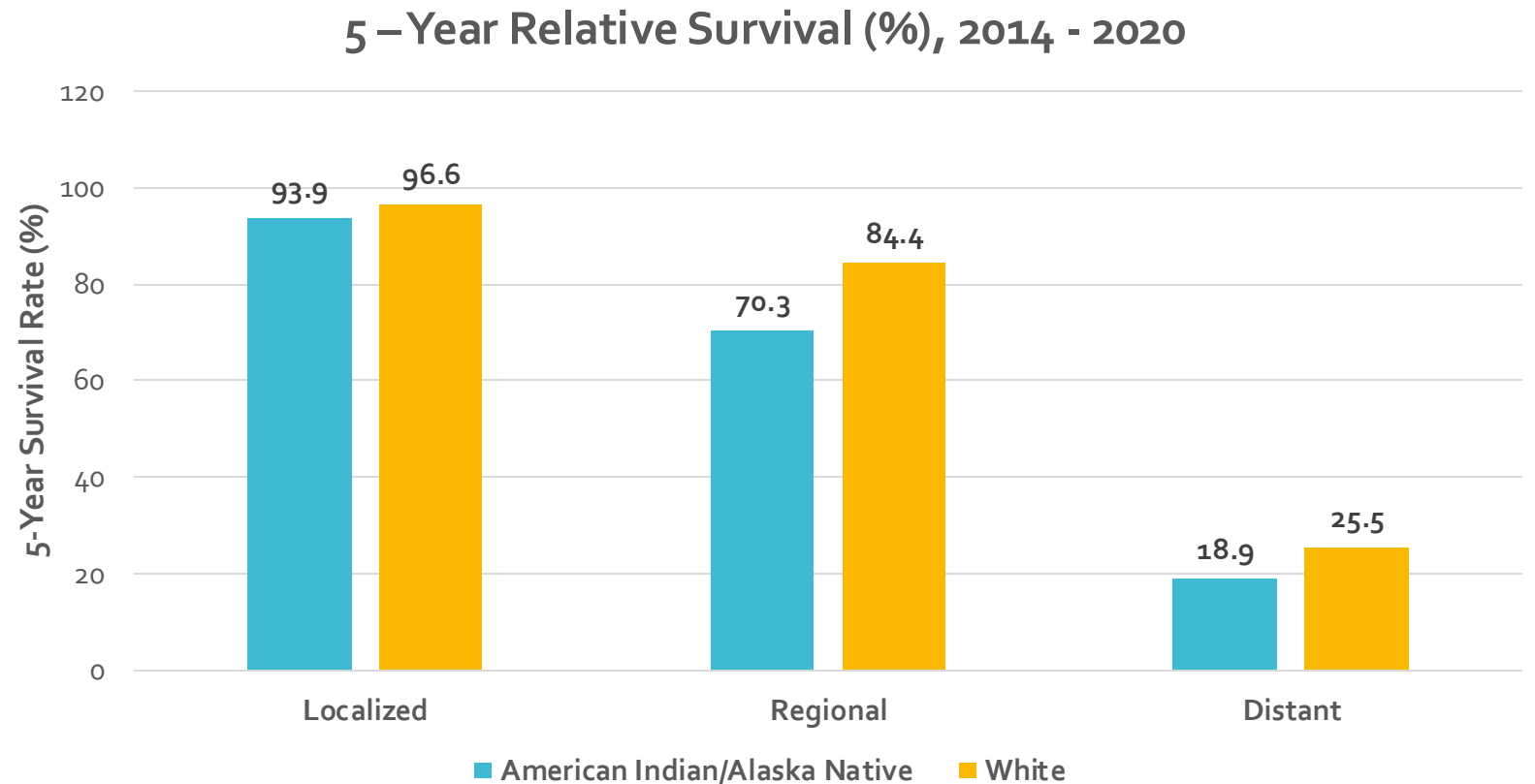
Stage of Diagnosis Early-Onset CRC



Key Insights:

- While all stages of diagnoses have increased, distant and regional diagnoses show worrying upward trends, indicating later detection.

5-Year Relative CRC Survival by Race (American Indian/Alaska Native vs. White), 2014-2020



Key Insights:

- American Indian/Alaska Native populations consistently have lower 5-year survival rates compared to White populations across all CRC stages.
- The survival gap is most pronounced in regional and distant stages.

Conclusion: Insights and Actions on Early- Onset CRC

Key Takeaways and Focus Areas

Keep in Mind:

- **National Trends:** Overall, colorectal cancer incidence and mortality rates have decreased.
- **Rising Concern:** Incidence and mortality are increasing among younger adults (under 50).
- **Action Needed:** There's a pressing need for awareness and early-onset CRC screening.
- **Focus Areas:** Prioritize early detection, proactive strategies, and prevention.

Thank you for your attention and participation. We hope this information encourages further action to combat early-onset colorectal cancer.