

# Medical and Human Genetics in South Dakota

## SD Department of Health

### Pierre, SD Kayla Tinker, Administrator Office of Family Health



## State Profile

- Population: 754,844
- 88.7% white; 9% Native American; 2.3% Other races
- 26.8% of population is under 18 years of age and 6.8% is under 4 years of age
- Area 75,955 square miles
- Population density: 9.9 people per square mile
- % of the 66 counties have population density of < 6 persons per square mile
- 9 Indian Reservations, many considered poorest counties in the nation
- Largest cities: Sioux Falls, 123,975; Rapid City, 59,607; Aberdeen 24,658

## MAP

Native American Reservation and Tribal Lands



## Newborn Screening

January 1 to December 31, 2006 Infants born = 12,387 Total number of infants screened = 12,336	Presumptive Positives	Confirmed with Diagnosis
Amino-acyl Screen	194	5 (3 – MCAD, 1 asymptomatic SCAD, 1-VLCAD)
Biotinidase Deficiency	13	3 (2 partial, 1 carrier)
CAH	59	0
Hemoglobinopathies: Disease	1	0
Trait	64	63
Other	25	5
Thyroid Screen	12	5
Galactosemia	1	1
PKU	5	1

- Effective June 1, 2007, SD began testing for cystic fibrosis, currently testing for 28 of the 29 ACMG Core Panel and 17 secondary targets.
- Hearing Screening is not mandated – 97% of infants born in SD are screened before one month of age
- Centralized contracted laboratory system with the University of Iowa Hygienic Laboratory

## Successes

- NBS and Hearing results are integrated with birth certificate February 2002
- Newborn Screening Laboratory Services through University of Iowa Hygienic Laboratory began June 1, 2007
- Improved turn-around-time from birth to reporting of test results – Average 5.5 days (June 2007)
- T. Denny Sanford gift of \$400 million to Sioux Valley Hospital newly named Sanford Health.
- As a result of the gift, a new children's hospital is being built in Sioux Falls
- H. Eugene Hyman, MD joining Sanford Health as Chief Pediatric Medical Officer for Sanford Children's Hospital August 1, 2007

## Challenges

- Disparities of White population vs. Native American
- 27 of the 50 community hospitals deliver babies
- 1 physician (total of 1087 Ob-Gyn, Pediatrician, Internal Medicine, General and Family Practice) for every 694 people
- 1 midlevel (total of 692 PAs and CNPs) for every 1090 residents
- 29.4% of state's population at 200% of poverty – Indian Reservation rate high 66%-79%
- 2/3 of the state is designated as Primary Medical Care Health Professional Shortage Area

## Genetic Services

- New genetic counselor to start services in August, 2007 for a total number of 3 Genetic Counselors in SD
- PKU Drug Expanded Access Program (Sapropterin) – Sanford Children's Hospital
- General Genetics – Geneticist on site  
Sanford Children's Clinic, Sioux Falls, SD  
CSHS Outreach Clinics: Pierre, and Rapid City
- Hereditary Cancer Genetic Counseling  
Sanford Clinic – OB-GYN, Ltd.
- Maternal Fetal Medicine  
Sanford Clinic – Maternal Fetal Medicine  
Avera McKennan Maternal-Fetal Medicine
- Multidisciplinary Genetic Clinics  
Comprehensive Metabolic Clinic  
Down syndrome multidisciplinary  
Fetal Alcohol syndrome spectrum disorder  
Craniofacial multidisciplinary clinics (Rapid City and Sioux Falls)
- Cystic Fibrosis Center  
Sanford Children's Clinic, Sioux Falls, SD
- Hemophilia and Blood Disorders  
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## References

- South Dakota Dept. of Health, Office of Data, Statistics, and Vital Records
- Quinn Stein, MS, CGC

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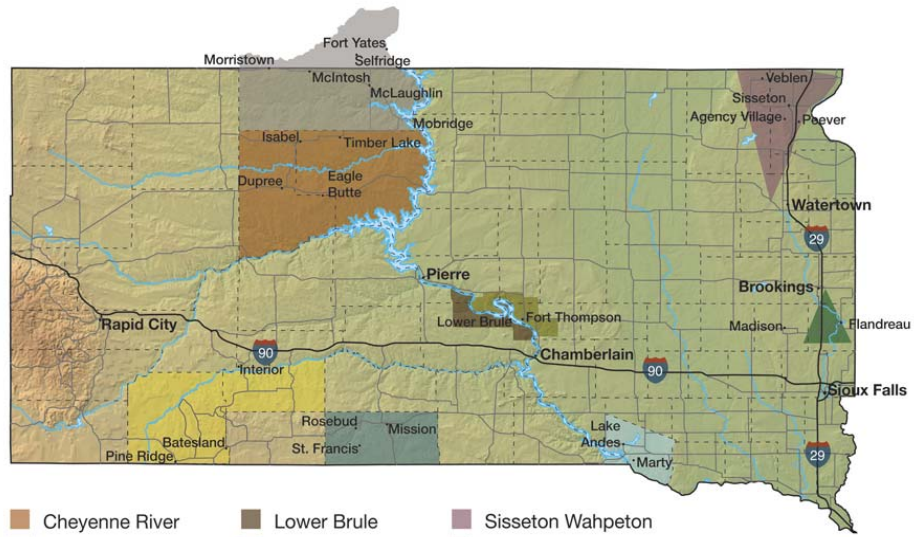
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# MAP

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| <span style="display: inline-block; width: 15px; height: 15px; background-color: #8B4513; border: 1px solid black; margin-right: 5px;"></span> Cheyenne River   | <span style="display: inline-block; width: 15px; height: 15px; background-color: #4B3621; border: 1px solid black; margin-right: 5px;"></span> Lower Brule | <span style="display: inline-block; width: 15px; height: 15px; background-color: #6A329F; border: 1px solid black; margin-right: 5px;"></span> Sisseton Wahpeton |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #6B8E23; border: 1px solid black; margin-right: 5px;"></span> Crow Creek       | <span style="display: inline-block; width: 15px; height: 15px; background-color: #FFD700; border: 1px solid black; margin-right: 5px;"></span> Pine Ridge  | <span style="display: inline-block; width: 15px; height: 15px; background-color: #A9A9A9; border: 1px solid black; margin-right: 5px;"></span> Standing Rock     |
| <span style="display: inline-block; width: 15px; height: 15px; background-color: #2E8B57; border: 1px solid black; margin-right: 5px;"></span> Flandreau Santee | <span style="display: inline-block; width: 15px; height: 15px; background-color: #4682B4; border: 1px solid black; margin-right: 5px;"></span> Rosebud     | <span style="display: inline-block; width: 15px; height: 15px; background-color: #ADD8E6; border: 1px solid black; margin-right: 5px;"></span> Yankton           |

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