

Medical and Human Genetics in South Dakota

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State Profile

- **Population:** 754,844
- **Area:** 75,955 square miles
- **Population density:** 9.9 people per square mile
- ½ of the 66 counties have population density of < 6 persons per square mile
- 9 Indian Reservations, many considered poorest counties in the nation
- **Four largest cities:** Sioux Falls, 123,975; Rapid City, 59,607; Aberdeen 24,658; Watertown, 20,237

Newborn Screening

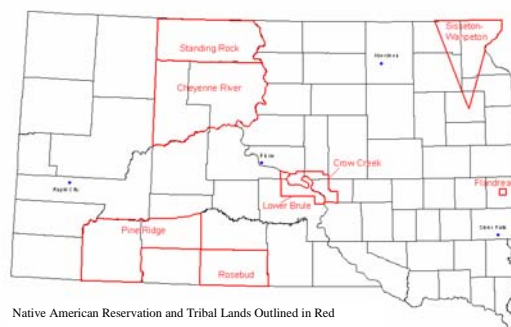
- Effective June 1, 2005, SD began testing for 27 of the 29 ACMG Core Panel and 17 secondary targets.

June 1, 2005 to July 31, 2006	Presumptive Positives	Confirmed with Diagnosis
Infants born = 14,188 Total number of infants screened = 14,120		
Amino-acyl Screen	142	5
Biotinidase Deficiency	16	2
CAH	64	1
Hemoglobinopathies: Disease	1	0
Trait	71	69
Other	38	0
Thyroid Screen	16	5
Galactosemia	2	2
PKU	5	1

- Cystic fibrosis screening is optional - current participation rate is 21%
- Hearing Screening is not mandated – 96% of infants born in SD are screened before one month of age
- Centralized contracted laboratory system with Sioux Valley Clinical Laboratories
- MS/MS testing referenced to Baylor
- Hemoglobinopathies, BT, and CAH referenced to New England

MAP

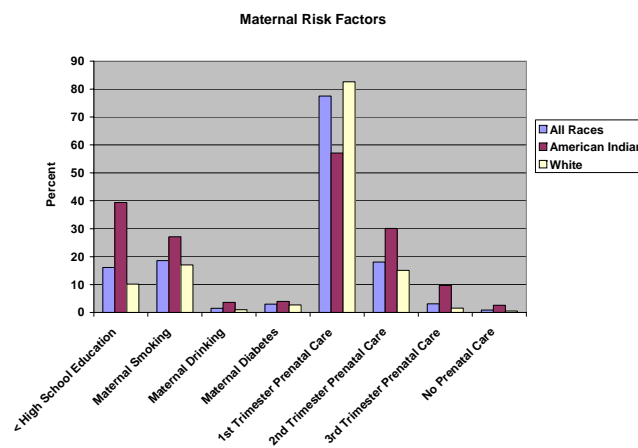
SOUTH DAKOTA DEPARTMENT OF HEALTH



Native American Reservation and Tribal Lands Outlined in Red

Challenges

Disparities of White population vs. Native American
30 of the 50 community hospitals deliver babies
33.1% of state's population at 200% of poverty
2/3 of the state is designated as Primary Medical Care Health Professional Shortage Area



Source: South Dakota Department of Health, Office of Data, Statistics, and Vital Records (2004)

Special Features

- NBS and Hearing results are integrated with birth certificate
- Birth Certificate Established
 - 0-2 days of birth = 57%
 - 3-7 days of birth 36%
 - 8-14 days of birth = 5%
 - 15-30 days of birth 2%
- 88.5% NBS records are matched within 2 days of receipt from Laboratory.
- 99.5% records with 4 elements within 90 days of birth (birth cert, hearing, metabolic, and one immunization event)

Genetic Services

- General Genetics – Geneticist on site
Sanford Children's Clinic, Sioux Falls, SD
CSHS Outreach Clinics: Aberdeen, Pierre, and Rapid City
- Hereditary Cancer Genetic Counseling
Sioux Valley Clinic – OB-GYN, Ltd.
- Maternal Fetal Medicine
Sioux Valley 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
Sanford Children's Clinic, Sioux Falls, SD

References

- Jacy Clarke, Chronic Disease Epidemiologist, South Dakota Department of Health
- South Dakota Dept. of Health, Office of Data, Statistics, and Vital Records
- Quinn Stein, MS, CGC