

Sickle Cell Disease in Michigan

There were approximately 1,392 people diagnosed with SCD through Michigan's Newborn Screening Program from October 1987 through December 2008. As of 2008:

- 18% younger than 5 years
- 48% 5-14 years
- 34% 15-21 years

From 2004-2008, there were 251 babies with SCD born in Michigan:

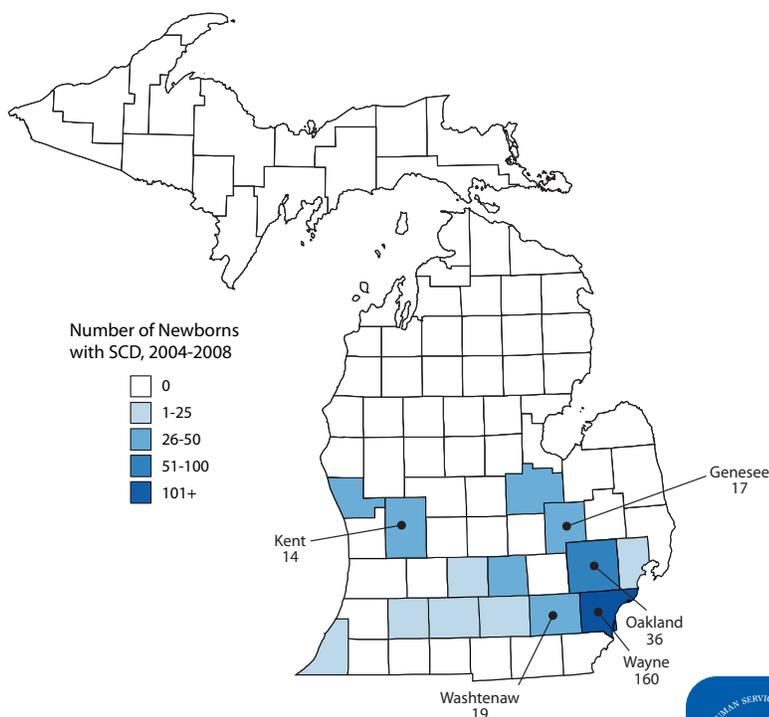
- 96% Black or African-American
- 13% were underweight at birth (<2,500g)
- The education level for the mothers of these babies was:
 - 26% <12th grade
 - 36% High school diploma or GED equivalent
 - 38% > High school
- SCD occurs among approximately 1 out of every 2,496 births
- SCD occurs among approximately 1 out of every 467 African-American births

What is RuSH?

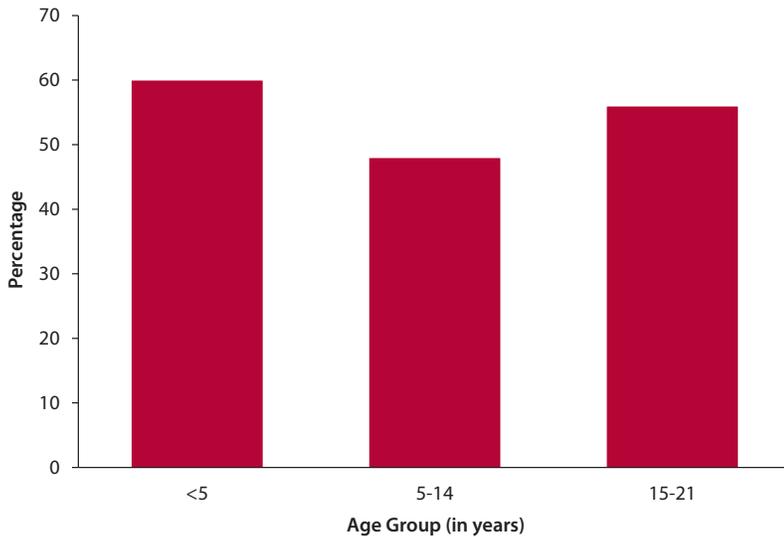
- RuSH was a pilot project that was implemented by the Centers for Disease Control and Prevention (CDC) in collaboration with the National Institutes of Health's National Heart, Lung, and Blood Institute.
- The overall purpose of RuSH was to collect state-specific, population-based data on people with sickle cell disease (SCD) and thalassemia in order to provide accurate updated information to the public.
- Seven states were funded to participate in data collection: California, Florida, Georgia, Michigan, New York, North Carolina, and Pennsylvania.

What is Sickle Cell Disease?

- SCD is a group of inherited conditions that affect hemoglobin, a protein that allows red blood cells (RBC) to carry oxygen to all parts of the body.
- The most common types of SCD are:
 - *Hemoglobin SS Disease (HbSS)* - People who have this form of SCD inherit two sickle cell hemoglobin genes ("S"), one from each parent. This is commonly called *sickle cell anemia* and is usually the most severe form of the disease.
 - *Hemoglobin SC Disease (HbSC)* - People who have this form of SCD inherit a sickle cell hemoglobin gene ("S") from one parent and from the other parent a gene for abnormal hemoglobin called "C". This is usually a milder form of SCD.
 - *Hemoglobin S beta thalassemia (HbS beta thalassemia)* - People who have this form of SCD inherit one sickle cell hemoglobin gene ("S") from one parent and one gene for beta thalassemia, another type of anemia, from the other parent. There are two types of beta thalassemia: "0" and "+". Those with HbS beta⁰-thalassemia usually have a more severe form of SCD. People with HbS beta⁺-thalassemia tend to have a milder form of SCD.

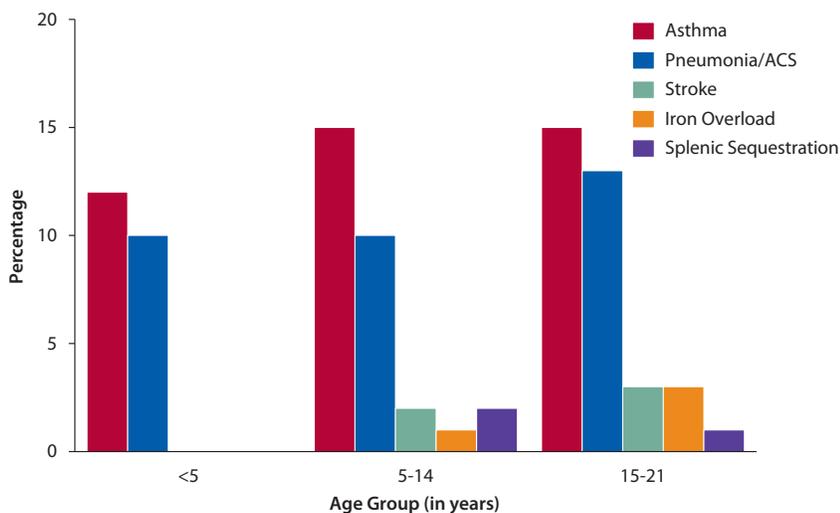


Patients with SCD enrolled in Medicaid with at least 1 emergency room (ER) visit, 2008



- In 2008, 61% of those born from 1987-2008 and diagnosed with SCD through Michigan's Newborn Screening Program were enrolled in Medicaid.
- Among those with SCD and enrolled in Medicaid in 2008, approximately 60% of children <5 years old, 48% of those 5-14 years old, and 56% of those ≥ 15 years old had a claim for at least one ER visit.

Claims for complications among patients with SCD enrolled in Medicaid, 2008



Among those with SCD and enrolled in Medicaid in 2008:

- Asthma was the most common complication across all selected age groups, with approximately 12% of children <5 years old and 15% of children ≥ 5 years old having at least one Medicaid claim for that co-morbidity.
- The second most common complication across all ages was pneumonia. Approximately 10% of children <15 years old and 13% of those ≥ 15 years old had at least one Medicaid claim for that co-morbidity.

DEFINITIONS:

- **Asthma:** a condition in which airways narrow and swell and produce extra mucus
- **Iron Overload:** build-up of iron in the body due to therapeutic blood transfusions
- **Pneumonia:** an infection of the lungs
- **Splenic Sequestration:** a condition that causes the spleen to fill with blood and become large and tender
- **Stroke:** the sudden death of brain cells in a localized area due to inadequate blood flow

For more information, please visit www.cdc.gov/ncbddd/sicklecell

Contact the Michigan Newborn Screening Program toll-free at 1-866-673-9939 or email newbornscreening@michigan.gov
Additional information can also be found online at www.michigan.gov/rush and www.michigan.gov/newbornscreening