

Sickle Cell Disease-Related Hospital Encounters

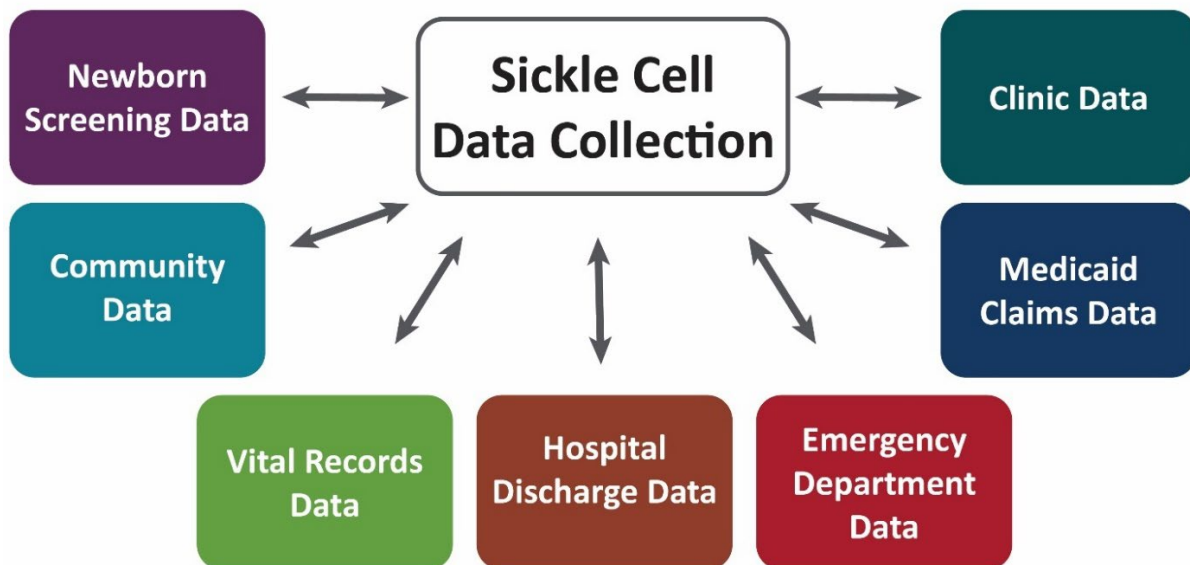
MINNESOTA, 2010-2021

Minnesota is one of 11 states participating in the national CDC Sickle Cell Data Collection (SCDC) program. The objectives of the program are to collect, synthesize, and disseminate multi-source, population-based, longitudinal data for people with sickle cell disease (SCD). This will allow the Minnesota Department of Health (MDH) to establish a health profile of the SCD population, track changes in SCD care practices and outcomes over time, and ensure credible, scientifically sound information to inform standards of care, policy, and health care practices.

The health inequities faced by individuals living with SCD and their families has made understanding and addressing these inequities a public health priority for MDH, the impacted community, and the medical providers who care for them. By learning more about the experiences of those living with SCD in Minnesota we can help improve diagnosis, treatment, health care, and community services for people with SCD.

Data sources

The SCDC program analyzes data from newborn screening, communities, clinics, vital records, emergency departments, Medicaid claims, and hospital discharge data.



Hospital discharge data

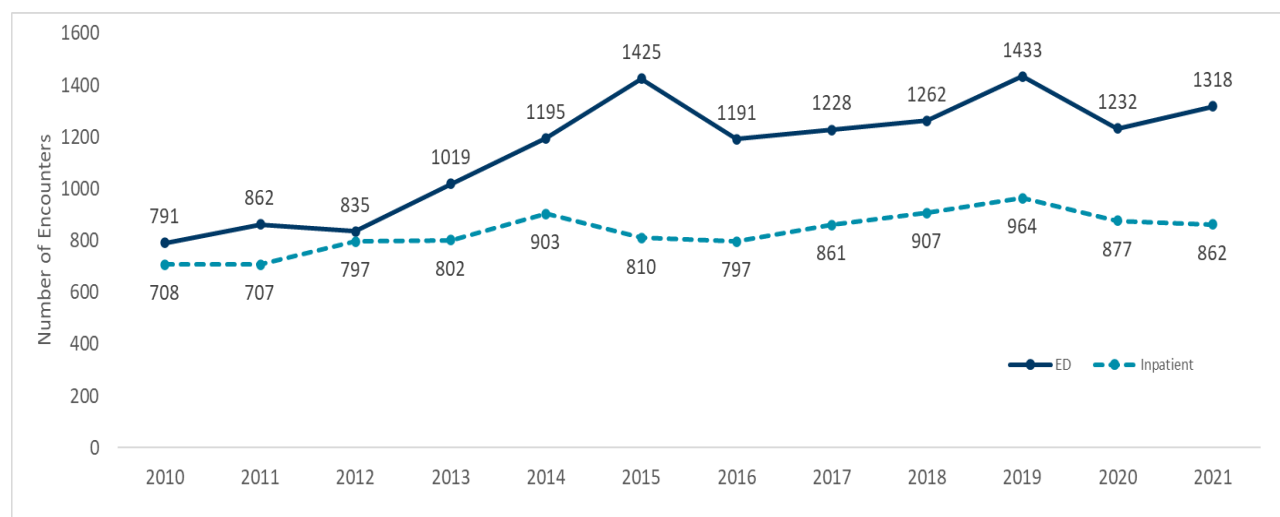
The Minnesota Hospital Association (MHA) administrative claims database includes hospital (i.e., inpatient), outpatient, and emergency department (ED) discharge data from acute care hospitals that voluntarily provide data to the MHA. Out of the 144 hospitals in Minnesota, 142 of them are members of the MHA and 137 have data included in the administrative claims database. Every quarter, de-identified subsets of the data in the administrative claims database are submitted to MDH. These datasets are called hospital discharge data (HDD) datasets. All statistics in this factsheet are based on hospital discharge data from the September 2022 update.

SCD-related ED, hospital, and outpatient encounters in the HDD were identified as all discharges with a SCD diagnostic code (ICD-9-CM codes 282.4, 282.6 for 2010-2015, and ICD-10-CM codes D57.0-D57.2, D57.4-D57.8 for 2016-2021) in any diagnosis field.

We report on SCD-related ED and inpatient encounters among Minnesota residents, based on their home address at the time of the encounter. We do not have person-level information and, as a result, these data: a) do not reflect how many persons there are with SCD in Minnesota, b) do not allow us to determine the number of ED or hospital encounters per person with SCD, and c) likely under-report ED and hospital encounters because SCD may not be listed as a diagnosis for persons with SCD.

Overall, there were 23,786 encounters with a SCD diagnosis among Minnesota residents in the HDD datasets between 2010 and 2021. There is variability in the number of ED and hospital encounters from year to year.

Sickle cell disease-related emergency department and hospital encounters for Minnesota residents, 2010-2021

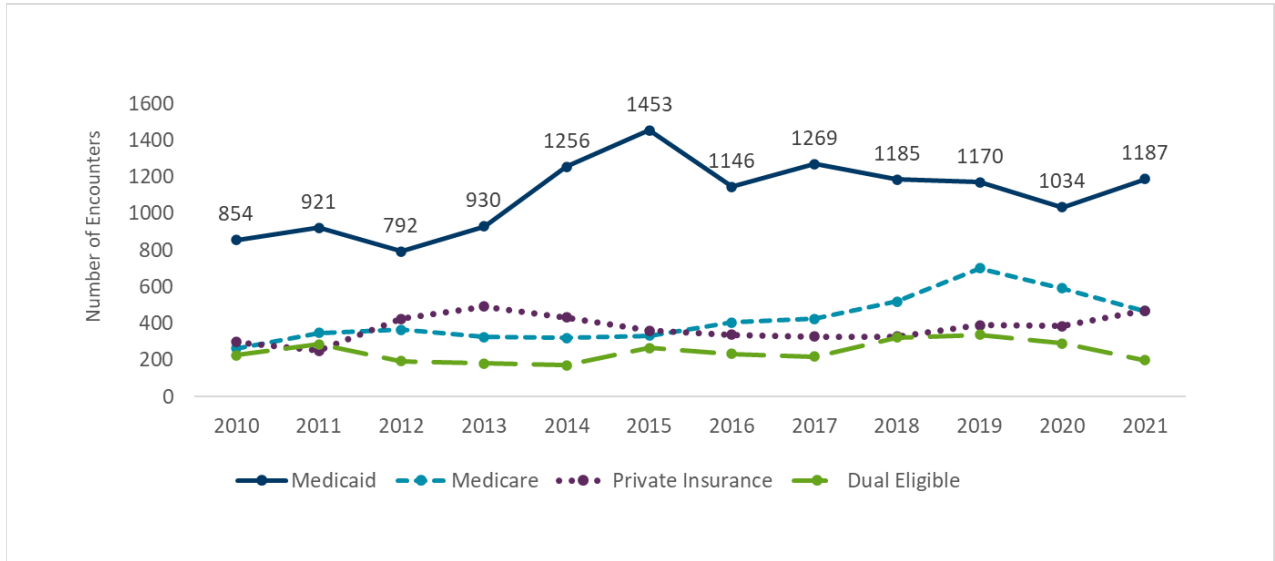


Note: The diagnostic coding system changed from ICD-9-CM to ICD-10-CM in the 4th quarter of 2015.

Minnesota Medicaid covers the largest proportion of SCD-related ED and hospital encounters. This proportion ranged from 49% to 65% between 2010 and 2021. These are even higher when considering dual coverage by Minnesota Medicaid and Medicare. Medicare only and private insurance also made payments but with far fewer SCD encounters.

SICKLE CELL DISEASE-RELATED HOSPITAL ENCOUNTERS

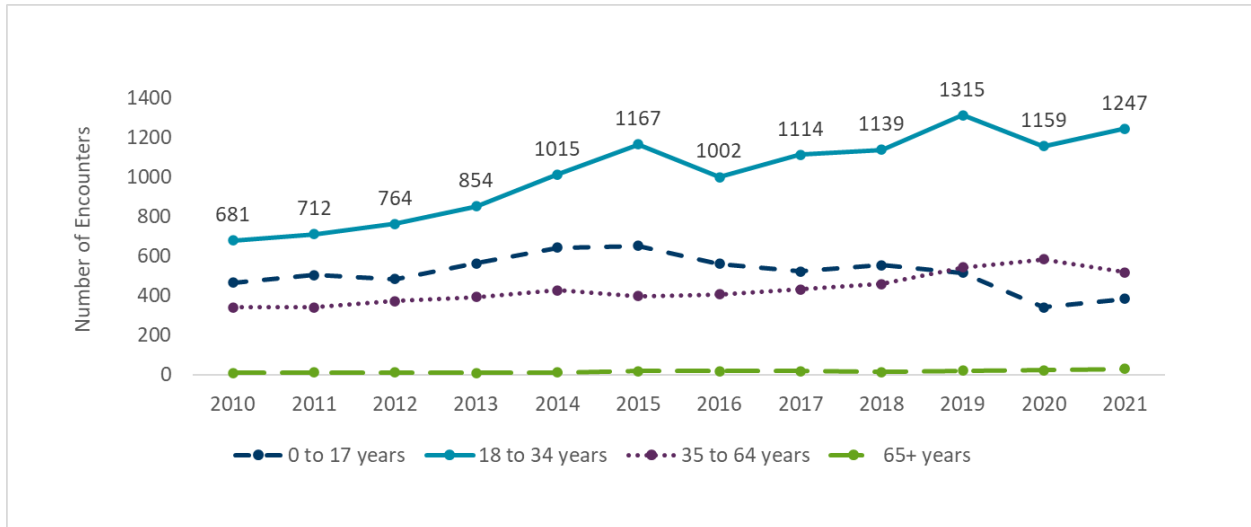
Payers of emergency department and hospital sickle cell disease encounters, 2010-2021



Note: The diagnostic coding system changed from ICD-9-CM to ICD-10-CM in the 4th quarter of 2015.

Between 2010 to 2021, 45% to 57% of ED and hospital encounters with at least one SCD diagnosis code in Minnesota were patients aged 18 to 34 years. There were few SCD encounters with individuals aged 65 years or older.

Minnesota residents with at least one sickle cell disease diagnosis code by age category for both emergency department and hospital encounters, 2010-2021

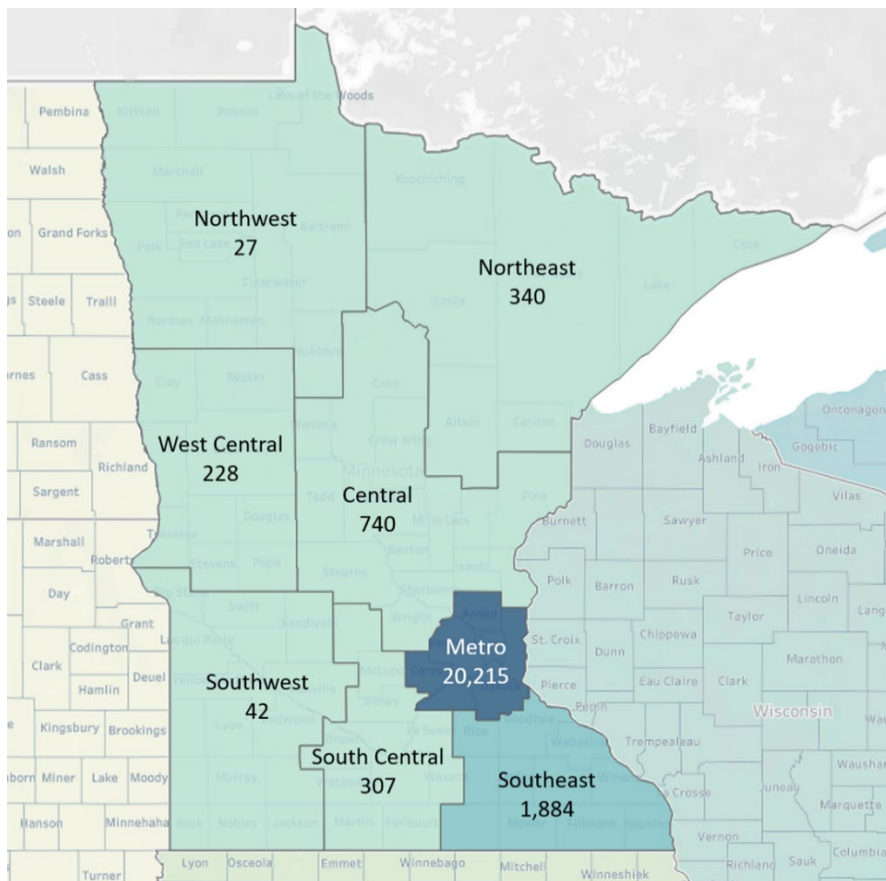


Note: The diagnostic coding system changed from ICD-9-CM to ICD-10-CM in the 4th quarter of 2015.

Between 2010 and 2021, based on the county of residence over 80% of SCD-related hospital encounters were in the Twin Cities metropolitan area (i.e., Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties).

SICKLE CELL DISEASE-RELATED HOSPITAL ENCOUNTERS

Sickle cell disease-related hospital and emergency department encounters among Minnesota residents in eight Minnesota local public health regions, 2010 – 2021



The following table shows the total and percentage of the total of encounter type by Minnesota resident status combined from 2010 through 2021.

Encounter Type	Total	Minnesota Resident (% Total)	Non-Minnesota Resident (% Total)
Emergency Department	14,603	13,791 (94.4%)	812 (5.6%)
Hospitalization	10,577	9,995 (94.5%)	582 (5.5%)
Total	25,180	23,786 (94.5%)	1,394 (5.5%)

Out of the 25,180 encounters with SCD status in the HDD datasets, 1,394 (5.5%) of them were from SCD patients living outside Minnesota. Non-residents were from at least 33 states with North Dakota (n=564), Illinois (n=241), Wisconsin (n=89), Iowa (n=61), New York (n=57), and Texas (n=54) being the top six.

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01/25/2023

Appendix: Data tables

Sickle cell disease-related emergency department and hospital encounters for Minnesota residents, 2010-2021

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
ED	791	862	835	1019	1195	1425	1191	1228	1262	1433	1232	1318
Inpatient	708	707	797	802	903	810	797	861	907	964	877	862

Payers of emergency department and hospital sickle cell disease encounters, 2010-2021

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Medicaid	854	921	792	930	1256	1453	1146	1269	1185	1170	1034	1187
Medicare	263	348	365	325	321	334	404	425	520	701	591	468
Private insurance	298	251	425	491	433	360	337	328	327	390	385	470
Dual eligible	227	285	193	181	172	265	234	219	323	337	291	199

Minnesota residents with at least one sickle cell disease diagnosis code by age category for both emergency department and hospital encounters, 2010-2021

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
0 to 17 years	467	504	485	565	643	653	562	524	556	517	342	385
18 to 34 years	681	712	764	854	1015	1167	1002	1114	1139	1315	1159	1247
35 to 64 years	342	342	372	393	428	398	407	433	460	544	585	519
65+ years	9	11	11	9	12	17	17	18	14	21	23	29

SICKLE CELL DISEASE-RELATED HOSPITAL ENCOUNTERS

Sickle cell disease-related hospital and emergency department encounters among Minnesota residents in eight Minnesota local public health regions, 2010 – 2021

Region	Total encounters
Null	3
Central	740
Metro	20,215
Northeast	340
Northwest	27
South Central	307
Southeast	1,884
Southwest	42
West Central	228
Grand Total	23,786