

# Michigan | RECIPIENT PROFILE (2019-2020)

The Michigan Department of Health and Human Services (MDHHS) is a state recipient of the Centers for Disease Control and Prevention (CDC)'s Paul Coverdell National Acute Stroke Program, which aims to improve the quality of stroke care and stroke outcomes. This profile summarizes program activities and outcomes in Program Year 5 (June 30, 2019 - June 29, 2020).



## Select Implementation Partners

- Michigan Hospital Association
- American Heart Association (AHA)
- Greater Lansing Stroke Collaborative
- Kent County Collaborative
- MDHHS Bureau of EMS, Trauma and Preparedness
- Biospatial, Inc.
- Michigan Health Information Network
- Michigan Centers for Rural Health

## State Prevalence of Stroke

3.6% of adults aged 18 and older report having had a stroke  
(Source: Behavioral Risk Factor Surveillance System, 2019)

## Award Amount

\$740,000 (Program Year 5 Award Amount)

## Complementary CDC-Funded Cardiovascular Disease Programs

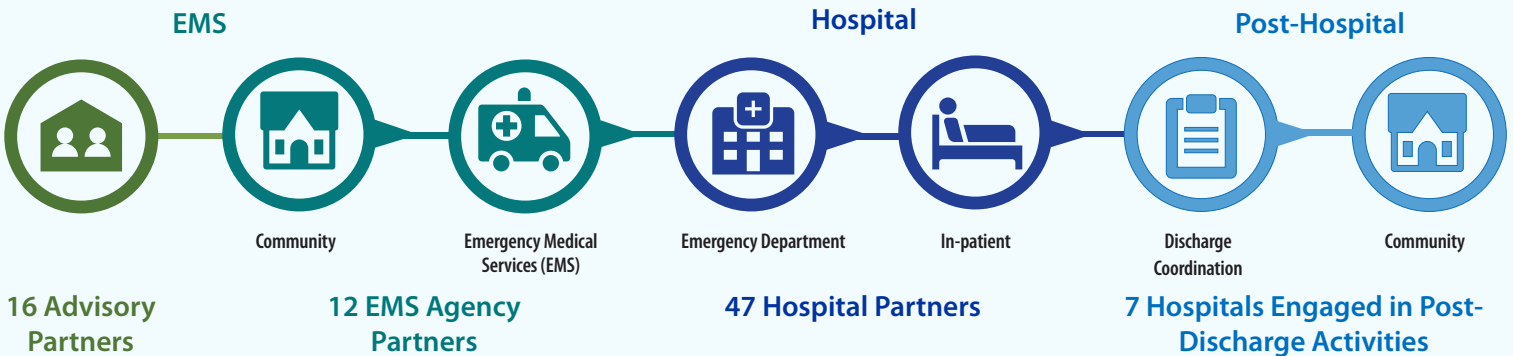
- DP18-1815 - Improving the Health of Americans through Prevention and Management of Diabetes and Heart Disease and Stroke
- DP18-1816 - WISEWOMAN
- DP18-1817 - Innovative State and Local Public Health Strategies to Prevent and Manage Diabetes, Heart Disease, and Stroke

## Background of Michigan's Ongoing Stroke Registry to Accelerate the Improvement of Care (MOSAIC)

MDHHS first received CDC funding in 2001 to implement the Michigan Acute Stroke Care Overview and Treatment Surveillance System. MDHHS launched the Michigan Stroke Registry and Quality Improvement Program in 2007 with additional funding. In 2012, MDHHS initiated MOSAIC, a data-driven quality improvement (QI) project to monitor the quality of acute stroke care across clinical settings, including emergency medical services (EMS) care, hospital care, and care after hospital discharge. In 2015, CDC funded MDHHS through the Paul Coverdell National Acute Stroke Program (DP15-1514) to improve the quality of care for patients across the continuum of care. Program activities address stroke care from the time a patient has a stroke at home or in the community until after they are discharged and follow up with their doctor.



## Program Implementation



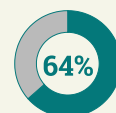
By the end of Program Year 5, MOSAIC recruited 16 advisory organizations, 12 EMS agencies, and 47 hospitals. EMS agencies participated in MOSAIC-led data collection and quality improvement activities and expanded statewide reach of the Coverdell program to transport and treat stroke patients. Hospital partners entered data in the state stroke registry and participated in MOSAIC-led quality improvement activities. Of those hospitals, 7 engaged in post-hospital activities which included working with hospitals to input data into the electronic post-discharge tab available in Get With The Guidelines®-Stroke (GWTG-S).

## Program Reach



EMS

Patients with acute stroke in Michigan who were transported by MOSAIC-participating EMS (7,131 patients transported)



Hospitals

Acute stroke patients in Michigan admitted to MOSAIC-participating hospitals (20,769 patients admitted)

## EMS to Hospital Transitions of Care

### Key Activities

MOSAIC continued to support and form EMS-hospital stroke collaboratives to assist hospitals and EMS in bridging gaps in communication during patient hand off as well as facilitate the feedback of hospital outcome information. MOSAIC attended regional stroke collaborative meetings to share EMS data reports and discuss proper documentation to facilitate data linkages and improve feedback from hospitals to EMS.

### Performance Measures

EMS agencies called in **3,516** pre-alert notifications for suspected stroke patients in Program Year 5.\*



**86%** of EMS-hospital teams reported use of feedback from hospital to EMS in Program Year 5, allowing EMS to improve identification and treatment of stroke patients.



## Quality Improvement (QI)

### Key Activities

MOSAIC implemented monthly calls with hospital stroke coordinators to review data and share best practices to improve dysphagia screening, antihypertensive medications prescribed at discharge, and defect-free care. MOSAIC provided hospitals data score cards to monitor performance on stroke quality of care measures. Additionally, MOSAIC organized an annual workshop with presentations from clinical experts on hemorrhagic stroke and QI for partners across the stroke system of care and webinars on EMS documentation and performance data.

### Performance Measures

QI initiatives include workshops and trainings implemented by Coverdell recipients and their partners to improve implementation and focus of stroke care. These initiatives are implemented for EMS, hospital, and discharge hospital staff. MOSAIC implemented **6** initiatives for EMS staff, **6** initiatives for hospital staff, and **3** initiatives for discharge hospital staff in Program Year 5.

## Data Linkages

### Key Activities

MOSAIC developed and continued to refine a system to link EMS data from the Michigan Emergency Medical Service Information System to hospital data from Get with the Guidelines®-Stroke for all participating hospitals. MOSAIC explored ways to collect and link post-discharge data, including leveraging Michigan's Health Information Exchange (HIE) to link to MOSAIC's pre-hospital and in-hospital dataset.

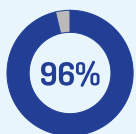
### Performance Measures

**50%** of EMS agencies (n=150) had data linked to in-hospital data.<sup>a,b</sup>

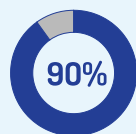


## Stroke Quality of Care Outcomes Among MOSAIC-Participating Hospitals

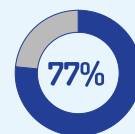
Activities contributed to performance in stroke quality of care as reflected in the following stroke outcomes:



of patients/caregivers received stroke education materials during their hospital stay



of acute ischemic stroke patients who were eligible for treatment received IV Alteplase, a clot busting drug, within 60 minutes of hospital arrival



of ischemic stroke patients received all available care for which they were eligible\*\*

For more information, please visit [https://www.cdc.gov/dhdsp/programs/stroke\\_registry.htm](https://www.cdc.gov/dhdsp/programs/stroke_registry.htm)

Data sources: Year 5 recipient-reported performance measure data, hospital and patient level data, evaluation reports, and annual performance reports

\*Advanced notification by EMS is under the condition of arrival by EMS. Percentage represents those stroke patients that were called in out of the total number that arrived via EMS.

\*\*Please see Overwyk, et. al., Defect-free care trends in the Paul Coverdell National Acute Stroke Program, 2008-2018, American Heart Journal for included measures.

<sup>a</sup>Performance measures are based on data submitted by Coverdell recipients. The total number of EMS agencies differ from the implementation figure on page 1 due to differences in recipient reporting mechanisms. ; <sup>b</sup>Year 4 data

