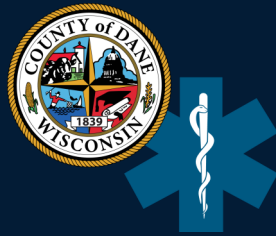


Dane County EMS

2022 Cardiac Arrest Statistics

Updated May 9, 2023

Authored by Eric Anderson



Background

As part of Dane County's participation in the Cardiac Arrest Registry to Enhance Survival (CARES) program, we get a detailed look at our cardiac arrest outcomes compared to national and statewide figures. This information is meant to inform and strengthen our pursuit of becoming a leader in prehospital cardiac arrest care. This document will evaluate Dane County's CARES summary data from 2017 through 2022. This report looks at non-traumatic cardiac arrests that either received resuscitation from EMS or had defibrillation prior to EMS arrival in Dane County. Moving forward, Dane County EMS will continue to track our cardiac arrest outcomes to ensure long-term sustained improvement.

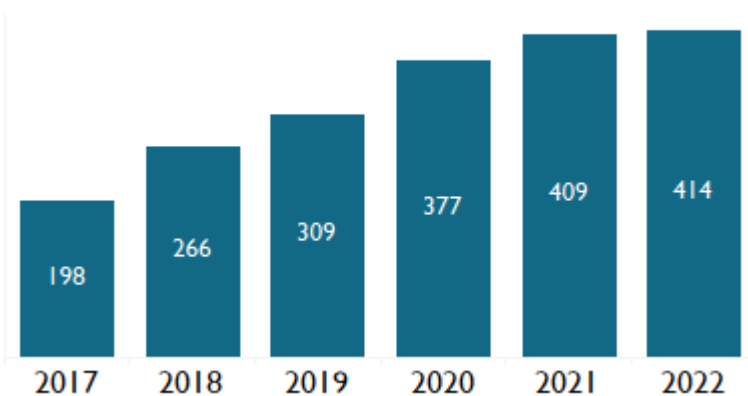


Arrest Volume & Key Factors for Success

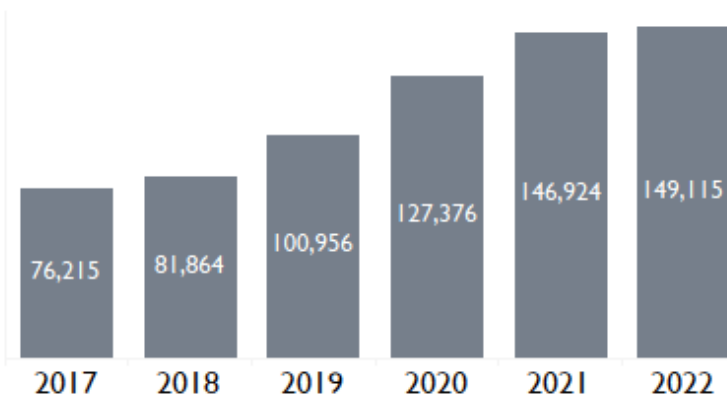
Arrest Volume & Data Capture

Each year Dane County EMS has increased the number of cardiac arrest cases submitted to CARES. 2022 saw the highest volume of submissions to date, but did not experience a significant increase from 2021 (1.2%). As seen in these visuals, 2022 had 414 non-traumatic cardiac arrest incidents submitted for Dane County. The success of this program is dependent on the excellent data submitted by EMS providers throughout our system. Thank you for your commitment to submitting high-quality and complete reports!

Number of Cardiac Arrest Incidents by Year - Dane County



Number of Cardiac Arrest Incidents by Year - National



Key Factors to Success

Bystander CPR



2022 had the highest rate of chest compressions occurring prior to the arrival of first responders (62.4%). This is an improvement of 40.2% from 2021, due in no small part to the dedication of Dane County's 911 call-takers to coach callers through chest compressions to give patients the best chance at a good outcome. In 2022, patients in Dane County who received bystander CPR had a survival rate over twice as high as those who did not (15.4% vs. 6.6% respectively).

Bystander AED Use



118 of the 414 (28.5%) of out-of-hospital cardiac arrests had an Automated External Defibrillator (AED) placed prior to the arrival of EMS. Of these incidents, only 24 of the 118 (20.3%) had the AED placed by a bystander. These figures are similar to statewide and national numbers, and continue to be an area of opportunity to improve in Dane County.

High-Performance CPR



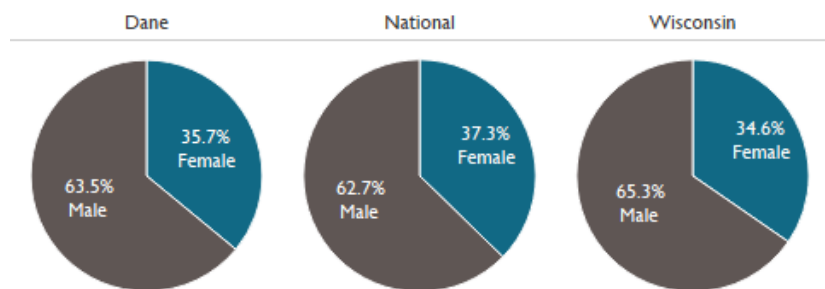
EMS agencies in and around Dane County have made a significant effort to improve the care they provide to patients in cardiac arrest. Read about the improvements our partners in EMS have made so far in our recent High-Performance CPR Summary Newsletter: <https://em.countyofdane.com/documents/pdf/newsletters/2023/Dane-County-EMS-High-Performance-Resuscitation-Highlights--January-2023.pdf>



Patient Demographics & Arrest Characteristics

Patient Sex

A majority of sudden cardiac arrest victims submitted to the CARES registry are male, with Dane County's share of male patients being slightly higher than national data.



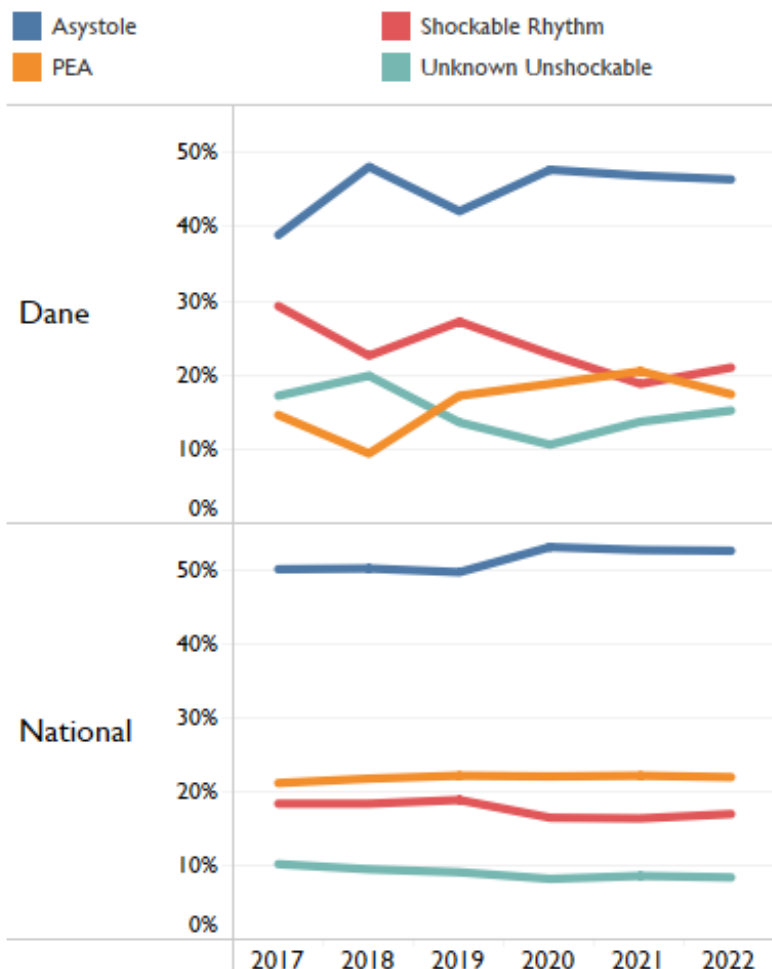
Patient Age in Years

Both the mean and median age of patients for Dane County are younger than National and State data.

	Dane	Wisconsin	National
Mean Age	60.6	61.1	62.2
Median Age	63.5	64	65

Initial Arrest Rhythm

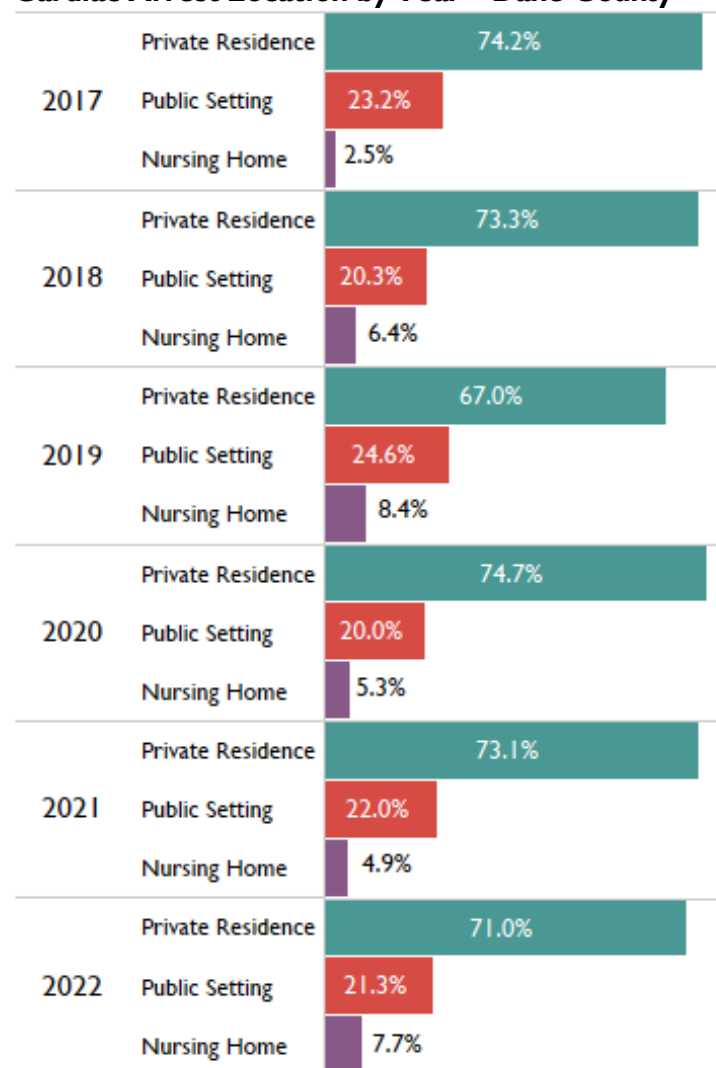
Asystole has consistently been the most common initial rhythm over time. Dane County has seen more fluctuation in each of these cardiac rhythms when compared to national data. While there was a slight increase in shockable rhythms for Dane County in 2022, the overall trend since 2017 has been a continued decline in the share of shockable rhythms.



Arrest Location

Roughly 3/4 of all cardiac arrests in Dane County occur in the patient's private residence. This is the case for statewide and national data as well.

Cardiac Arrest Location by Year—Dane County

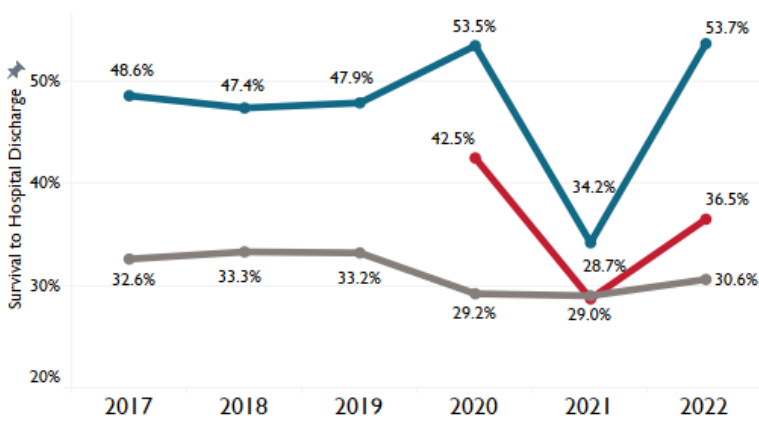


Survival & Patient Outcomes

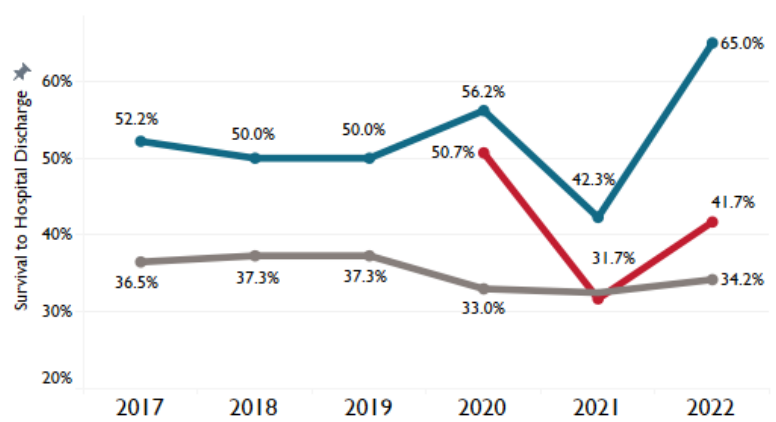
Utstein & Utstein Bystander Survival by Year

As seen below, Dane County has consistently had higher Utstein¹ and Utstein Bystander² survival rates than national and state values. Dane County's 2022 Utstein values are the highest to date, with exceptional survival rates for patients who receive bystander intervention.

Utstein Survival Rate (Dane-Wisconsin-National)



Utstein Bystander Survival Rate (Dane-Wisconsin-National)



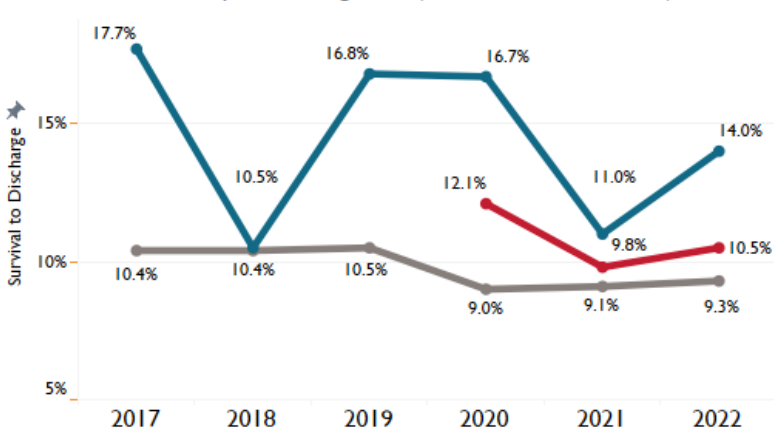
¹These incidents are witnessed by a bystander and found in a shockable rhythm.

²These incidents are witnessed by a bystander, found in a shockable rhythm, and received some bystander intervention (CPR and/or AED application).

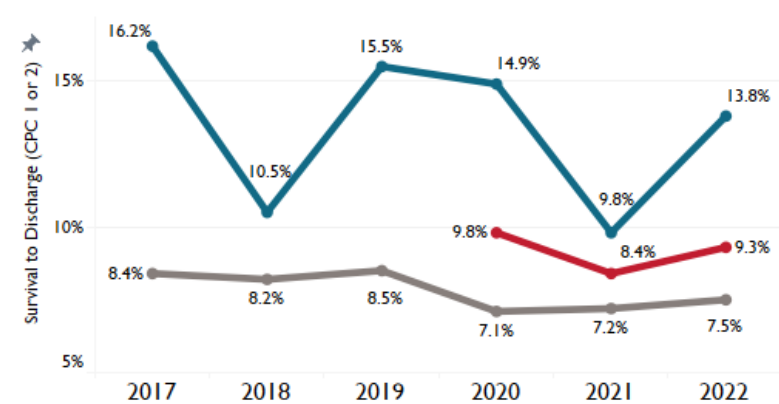
Overall Survival & Neurological Outcomes

Dane County has held a five year average survival rate to hospital discharge of 14.5% compared to 9.7% nationally. Both Dane County and national data have slightly lower rates of survival to discharge with a good neurological outcome (five year average: Dane County 13.5%, national 7.8%). In 2022 specifically, 58 patients survived their out-of-hospital cardiac arrest, which is our highest ever number of survivors in a single year. Additionally, 98% of these survivors returned to a high quality of life after hospital discharge.

Patient Survival to Hospital Discharge Rate (Dane-Wisconsin-National)



Patient Survival to Hospital Discharge With Good Neurological Outcomes Rate (Dane-Wisconsin-National)



About CARES: <https://mycares.net/sitepages/aboutcares.jsp>

About DCEMS: <https://em.countyofdane.com/EMS>

