Advisory 23-05: 2022 CARES Data

To: All EMS and First Response Agencies

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Regional Medical Director

Date: May 18, 2023

2022 represents the first year that the majority of transporting EMS services in the Monroe-Livingston Region participated in CARES – The Cardiac Arrest Registry to Enhances Survival (www.mycares.net). As we all work collaboratively to improve cardiac arrest survival across our community, this report – and the tremendous work by participating agencies and hospitals to enter data – provides an important benchmark to which we can together measure and improve survival.

The MLREMS Summary Reports are attached, inclusive of all participating agencies and their first responder partners, and I would point out a few important observations:

- The vast majority (80.3%) of cardiac arrests occur in the home.
- 35.2% of cardiac arrests were witnessed by a bystander.
- 33% – or only 1 in 3 cardiac arrests – received bystander CPR. Nationally the target is 45% and this provides a tremendous opportunity for us to continue to engage with our communities to increase awareness of, and training to, perform CPR.
- Our overall survival to hospital discharge is 6.8%, and 5.7% were discharged with good or moderate cerebral performance.

We all know that survival from cardiac arrest requires recognition, early CPR, and early defibrillation, and as professional rescuers we will not be successful in moving these numbers without continued community outreach and engagement. I strongly encourage you to review the information contained herein, meet with your Agency Medical Director, and examine ways in which as an agency and as a community we can meet, if not exceed national performance and benchmarks.

To that end, the following resources are invaluable to improve our cardiac arrest system of care and this report and resources are particularly timely given EMS Week May 21-27, 2023:

The 2022 CARES Annual Report outlines national cardiac arrest performance, offers a number of outstanding examples of community initiatives, feedback, quality improvement, and models for improving cardiac arrest survival in our community.

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High Quality CPR using a feedback device and routinely evaluating performance should be a part of every agency's cardiac arrest quality improvement program. We know that high quality CPR that emphasizes correct hand position, proper depth and compression rate, full recoil, and minimization/elimination of pauses are associated with improved survival from cardiac arrest. Routine practice and feedback during training, and post-event review should be conducted by analyzing downloads from the monitor/defibrillator and/or feedback device. Additional resources to improve CPR quality include:

The Evolution of High Performance CPR

AHA High Quality CPR Toolkit

Resuscitation Academy High Performance CPR Toolkit

Nearly all agencies are already engaged in Community CPR and Public Access Defibrillation (PAD) training, and these efforts should continue, with increased emphasis on offering compression-only CPR and AED training. Compression-only CPR can be quickly taught in schools, business, health fairs, or mass training events. By focusing on the "3 C's" – Check the victim, Call 911 and get an AED if available, and Compress the chest by pushing hard and fast – we can reduce barriers to training and administration of bystander CPR.

Other resources to improve out-of-hospital cardiac arrest survival include:

Washington Resuscitation Academy

Washington RA eBook: 10 Steps for Improving Survival from Sudden Cardiac Arrest

HeartRescue Project

With any questions, please do not hesitate to contact this office.

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CARES Summary Report

Demographic and Survival Characteristics of OHCA

Non-Traumatic Etiology | Arrest Witness Status: All | Date of Arrest: 01/01/22-12/31/22

Data	MLREMS N=702	National N=147736
Age	**N=702**	**N=147714**
Mean	61.5	62.2
Median	64.0	65.0
Gender (%)	**N=702**	**N=147735**
Female	267 (38.0)	55091 (37.3)
Male	435 (62.0)	92606 (62.7)
Race (%)	**N=702**	**N=147736**
American-Indian/Alaskan	1 (0.1)	577 (0.4)
Asian	10 (1.4)	3811 (2.6)
Black/African-American	219 (31.2)	31303 (21.2)
Hispanic/Latino	49 (7.0)	12193 (8.3)
Native Hawaiian/Pacific Islander	2 (0.3)	677 (0.5)
White	413 (58.8)	74687 (50.6)
Multi-racial	4 (0.6)	584 (0.4)
Unknown	4 (0.6)	23904 (16.2)
Location of Arrest (%)	**N=702**	**N=147736**
Home/Residence	564 (80.3)	106953 (72.4)
Nursing Home	50 (7.1)	15247(10.3)
Public Setting	88 (12.5)	25536 (17.3)
Arrest witnessed (%)	**N=702**	**N=147732**
Bystander Witnessed	247 (35.2)	54887 (37.2)
Witnessed by 911 Responder	61 (8.7)	17085 (11.6)
Unwitnessed	394 (56.1)	75760 (51.3)
Who Initiated CPR? (%)	**N=702**	**N=147733**
Not Applicable	0 (0.0)	60 (0.0)
Bystander	232 (33.0)	60247 (40.8)
First Responder	309 (44.0)	47072 (31.9)
Emergency Medical Services (EMS)	161 (22.9)	40354 (27.3)
Was an AED applied prior to EMS arrival? (%)	**N=702**	**N=147734**
Yes	334 (47.6)	43327 (29.3)
No	368 (52.4)	104407 (70.7)
Who first applied automated external defibrillator? (%)	**N=334**	**N=43330**
Bystander	45 (13.5)	8995 (20.8)
First Responder	289 (86.5)	34335 (79.2)
Who first defibrillated the patient?* (%)	**N=702**	**N=147714**
Not Applicable	510 (72.6)	104746 (70.9)
Bystander	7 (1.0)	2244 (1.5)
First Responder	61 (8.7)	9105 (6.2)
Responding EMS Personnel	124 (17.7)	31619 (21.4)
First Arrest Rhythm (%)	**N=702**	**N=147703**
Vfib/Vtach/Unknown Shockable Rhythm	116 (16.5)	25081 (17.0)
Asystole	345 (49.1)	77774 (52.7)
Idioventricular/PEA	134 (19.1)	32441 (22.0)
Unknown Unshockable Rhythm	107 (15.2)	12407 (8.4)
Sustained ROSC (%)	**N=702**	**N=147704**
Yes	152 (21.7)	39408 (26.7)
No	550 (78.3)	108296 (73.3)
Was hypothermia care provided in the field? (%)	**N=702**	**N=147735**
Yes	2 (0.3)	3703 (2.5)
No	700 (99.7)	144032 (97.5)
Pre-hospital Outcome (%)	**N=702**	**N=147736**
Pronounced in the Field	340 (48.4)	64995 (44.0)
Pronounced in ED	51 (7.3)	13764 (9.3)
Ongoing Resuscitation in ED	311 (44.3)	68977 (46.7)
Overall Survival (%)	**N=702**	**N=147736**
Overall Survival to Hospital Admission	190 (27.1)	36782 (24.9)
Overall Survival to Hospital Discharge	48 (6.8)	13794 (9.3)
With Good or Moderate Cerebral Performance	40 (5.7)	11110 (7.5)
Missing hospital outcome	3	331
Utstein[1] Survival (%)	**N=68**	**N=15087**
	27.9%	30.7%
Utstein Bystander[2] Survival (%)	**N=38**	**N=8856**
	26.3%	34.3%

Inclusion criteria: An out-of-hospital cardiac arrest where resuscitation is attempted by a 911 responder (CPR and/or defibrillation). This would also include patients that received an AED shock by a bystander prior to the arrival of 911 responders.

**This is a new question that was introduced on the 2011 form.*

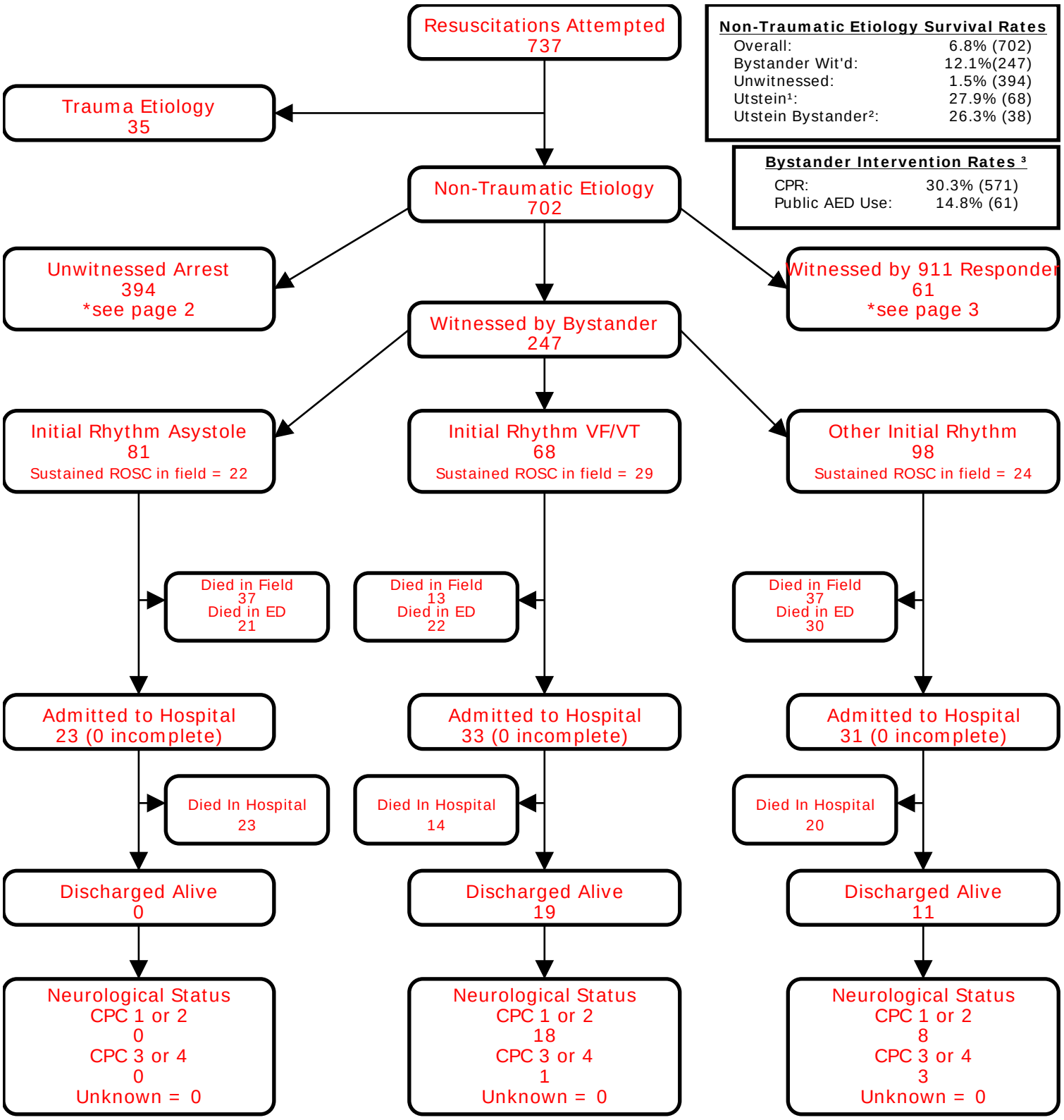
[1]Witnessed by bystander and found in a shockable rhythm

[2]Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR by bystander and/or AED applied by bystander)

Utstein Survival Report

All Agencies

Agency Group: MLREMS | Date of Arrest: 01/01/22-12/31/22



Non-Traumatic Etiology Survival Rates

Overall:	6.8% (702)
Bystander Wit'd:	12.1%(247)
Unwitnessed:	1.5% (394)
Utstein[1]:	27.9% (68)
Utstein Bystander[2]:	26.3% (38)

Bystander Intervention Rates [3]

CPR:	30.3% (571)
Public AED Use:	14.8% (61)

[1]Utstein: Witnessed by bystander and found in shockable rhythm.
[2]Utstein Bystander: Witnessed by bystander, found in shockable rhythm, and received some bystander intervention (CPR and/or AED application).
[3]Bystander CPR rate excludes 911 Responder Witnessed, Nursing Home, and Healthcare Facility arrests. Public AED Use rate excludes 911 Responder Witnessed, Home/Residence, Nursing Home, and Healthcare Facility arrests.

**Only data from the previous calendar year is fully audited. Data from the current calendar year is dynamic.*

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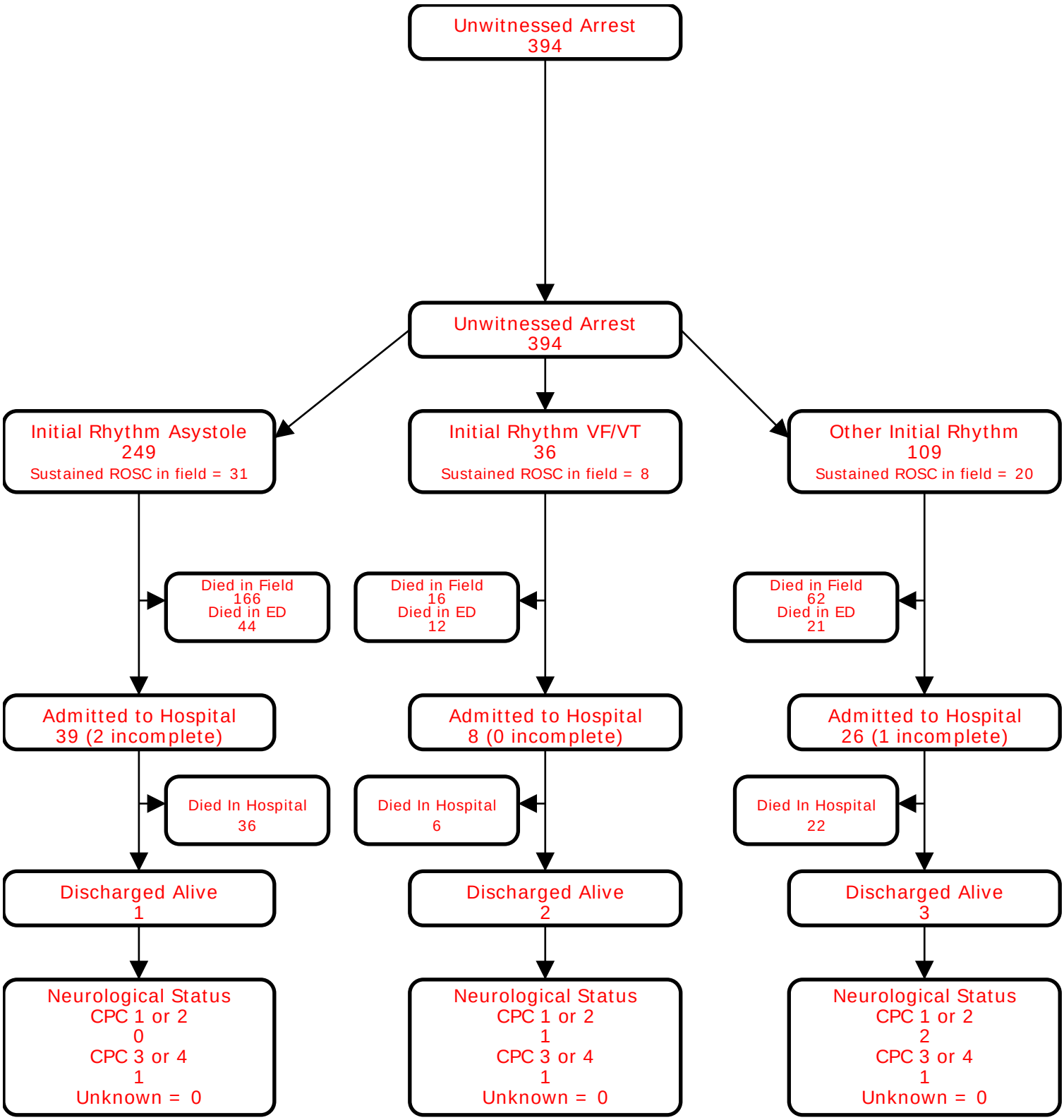

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