Kevin G. Seaman, M.D., FACEP, FAEMS

Testimony

Greetings esteemed Delegates,

I am Dr. Kevin Seaman, Medical Director of the Maryland Resuscitation Academy, testifying here today on HB1092. In addition, I have extensive experience in EMS, directing multiple county EMS systems as the Medical Director, as well as directing the Maryland State EMS system, the Maryland Institute for Emergency Medical Services Systems.

The Maryland Resuscitation Academy was founded 12 years ago supporting the aspirational goal to live in Maryland where NO ONE dies of sudden out-of-hospital cardiac arrest. Since 2012 we have held 37 educational offerings, educating over 2000 EMS clinicians in techniques to save more lives from cardiac arrest. We have learned that:

- Bystander CPR can double survival from out-of-hospital cardiac arrest (OHCA)
- Telephone CPR can double survival from OHCA.
- Defibrillation using a public access defibrillator can double survival.

Assertive 911 Specialists/Telecommunicators, through initial training and frequent refresher training are the best method to get bystander CPR for all victims experiencing OHCA.

Time is our enemy. We have 600 seconds to save a life, before the brain dies and life slips away.

Bystander CPR, delivered before EMS arrives, can extend the interval in which bystander CPR and defibrillation using an AED is effective by an additional 4 minutes.

Our history in Maryland helps to explain where we were and help us decide where we want to go.

In 1976, Dr. R. Adams Cowley, the founder of our statewide EMS system in Maryland, stated that cardiovascular disease is our number one killer and observed that we have 10 minutes (600 seconds) to save a live.

In the early 1990's, Dr. Robert Bass advanced prehospital care by requiring county Public Service Answering Points (PSAPs)l who elected to do Pre-Arrival Instructions (PAIs), to use a Dispatch program to answer calls and provide PAIs.

Also, in the 1990's regulations required PSAPs to review 911 medical calls for quality purposes. The requirement was 3% of all calls, selected randomly, in smaller volume centers. Similarly, in large volume centers the requirement was 2% of all calls. There

were no diagnosis nor topic-related reviews that were required, including no requirement to review cardiac arrest calls.

I was fortunate enough to be invited to be a team member of the American Heart Association's (AHA) Telephone CPR workgroup, working on performance metrics for Telephone CPR. This resulted in on-line resources and published Policy Statements on Telephone CPR. Two important results:

Operational Commitment for a Successful Telephone CPR Program

1. Commit to T-CPR
2. Provide Initial and **ONGOING** Education in Telephone CPR for all telecommunicators.
3. Conduct Effective and Continuous Quality Improvement review of cardiac arrest calls.
4. Connect to an EMS Agency
5. Designate a Medical Director
6. Recognize outstanding Performance.

AHA Performance Metrics for Telephone CPR

American Heart Association Telephone CPR Performance Metrics		
Time (in seconds)	Call Transfer to OHCA Recognition	Call Transfer to delivery of first T-CPR compression
Minimum Acceptable Standard	< 90	< 150
High Performing EMS System	< 60	< 90

It's Performance, not Protocol

Despite having telephone CPR directions written in protocol, this does not result in universal, effective bystander/caller chest compressions coached by public safety professionals due to many barriers to providing telephone CPR instruction and having it delivered.

The best practice operational commitments listed by the AHA above require ongoing education in telephone CPR for all telecommunicators. In most centers this is not done currently.

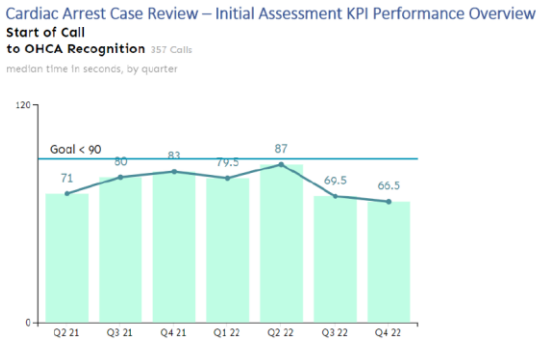
Under Effective and Continuous Quality Improvement the recommendation is that all out-of-hospital cardiac arrest calls be reviewed. Since the 1990's those 911 Centers using Dispatch protocols and providing Pre-Arrival instructions, have been required to review 2% of calls handled in larger volume centers and 3% of calls in lower volume centers. These calls are selected randomly and there is no requirement to review 911 calls by

complaint type, for example, cardiac arrest. Without requiring performance in ongoing training and feedback through quality improvement, lives too good to die are lost.

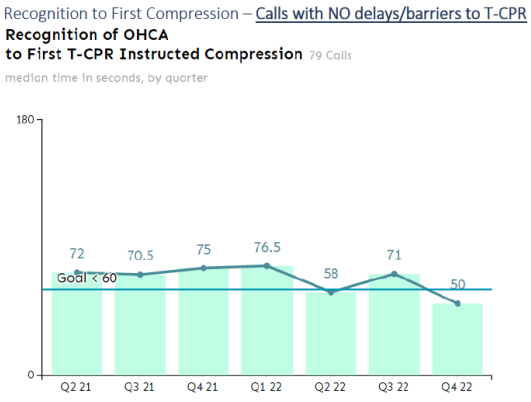
Only through implementation can we change behavior and thus, save the most lives from OHCA.

Charles County Results – 4+-year pilot of T-CPR

Over the past four plus years, Charles County 911 Center has intently followed the AHA recommendations, every 911 Specialist/telecommunicator (TC) completing a 15 minute, high-fidelity simulation every three months, taking them from entry level performance through intermediate then, onto mastery level competence recognizing cardiac arrest, overcoming barriers and assertively coaching bystanders to deliver chest compression CPR. Coupled with the simulation, quality improvement review of 911 calls with feedback to the 911 Specialist has 'closed the loop' and carried all TCs to improved performance and saved many lives.



Charles County 9-1-1 Fire/EMS Communications – Q4 2022



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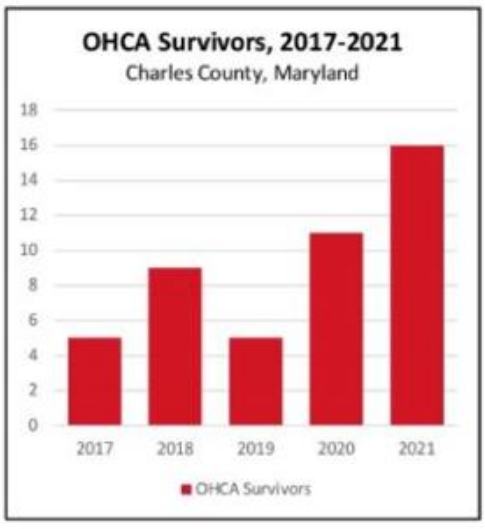


Summary

A mantra from the Resuscitation Academy, Measure, to Improve, exemplifies that only through measurement do we know where we start, implement T-CPR training and, through re-measurement we assess our improvement.

Charles County has implemented intensive recertification training in telephone CPR and coupled with QI review of actual 911 calls for cardiac arrest this has been associated with improvements in survival, lives saved. This lifesaving training must be implemented in every county and city 911 center across Maryland to realize maximal lives saved. Where you live should not determine if you live.

Time is the enemy; we have 600 seconds to save a life. The 911 Specialist owns the first 600 seconds of a cardiac arrest. They control the first 3 ½ rings of the chain of survival. Telephone CPR coached CPR by bystanders, coached by assertive 911 Specialist can double survival from cardiac arrest.

These lives can only be saved if we implement educational programs that change behavior and save the most lives. Performance, not Protocol. Save the most lives; Every patient in Ventricular Fibrillation (VF) can survive; we need to strive to make that a reality.

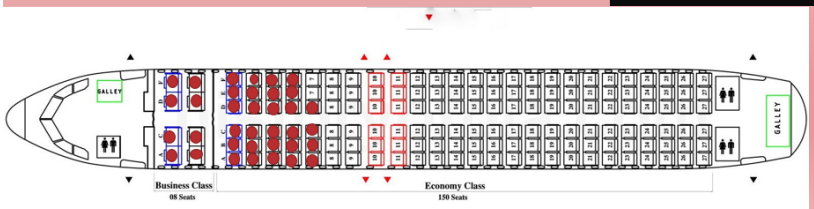
To truly move the needle on cardiac arrest survival we must educate our dispatchers with low-dose, high-frequency education, producing mastery level competence in recognition of cardiac arrest and in coaching bystander to deliver hands-only CPR before EMS arrives.

Let’s all work toward a world where no one dies of sudden cardiac arrest in Maryland; pass HB1092 and we take the first step toward implementing performance metric exceeding actions resulting in bystander chest compressions and start the journey toward saving maximal lives in Maryland.

You are familiar with Captain Sully’s Miracle on the Hudson. In Charles County they are tracking progress by putting each survivor in an airline seat, documenting our progress. When we fill the Charles County airliner, our miracle will have been realized in Charles County.

Answering the call, saving lives!

Miracle on the Hudson



- Life saved from cardiac arrest in Charles County Data (CARES)

Innovative Adult Learning

- Low Dose
- High Frequency