



CPR saves lives; Damar Hamlin is high-profile proof

“It's bystander CPR that's improving the survival rate of cardiac arrest, not in-hospital CPR,” a Pittsburgh EMS medical director says.

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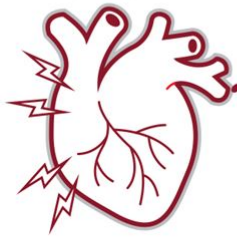
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On Jan. 2, 1 million viewers watched as [Pittsburgh native](#) and Buffalo Bills safety Damar Hamlin collapsed during the first quarter of the “Monday Night Football” game. The matchup was canceled, yet viewership continued to grow to 23.9 million between 9 and 10:15 p.m. as word of his injury spread and people tuned in to the coverage.

Hamlin experienced cardiac arrest, which occurs when the heart either stops beating or stops beating correctly. The heart is responsible for pumping life-sustaining oxygen to the brain and vital organs. When the heart can no longer pump blood, death occurs within minutes if treatment is unavailable.

Out-of-hospital cardiac arrest by the numbers

According to 2021 U.S. data, survival to hospital discharge for all EMS-treated non-traumatic, out-of-hospital cardiac arrests (OHCA) was 9.1%.



350,000+
Out-of-hospital cardiac arrests per year

1,000+
Daily out-of-hospital cardiac arrests on average

Saved by CPR

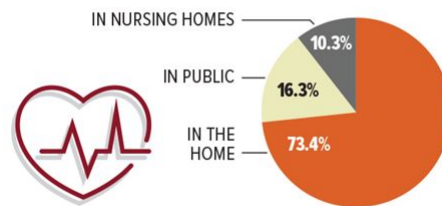
2X to 3X
better chance of survival with immediate CPR



Instances of bystanders who perform CPR:



Where OCHAs occur



Source: American Heart Association, Journal of the American Medical Association

James Hilston/Post-Gazette

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We don't know all of the specifics of Hamlin's case — the exact cause or the exact chain of events — but one thing is clear: Without immediate CPR, or cardiopulmonary resuscitation, it is unlikely he would have survived.

Bill's head coach [Sean McDermott](#) noted that the CPR care Hamlin received from athletic trainers and emergency staff, in particular, assistant athletic trainer Denny Kellington, was essential in "saving Damar's life."

Dr. Sylvia Owusu-Ansah (pediatrician, pediatric emergency medicine and EMS physician), EMS medical director, and assistant professor of pediatrics and emergency medicine at the University of Pittsburgh, concurs. "Damar has proven that you can survive," she says, "and the key is that everybody can do [CPR]."

Most cardiac arrests occur at home or in public settings, she notes, not at hospitals. She hopes Hamlin's survival will inspire people to learn CPR.

“It's bystander CPR that's improving the survival rate of cardiac arrest, not in-hospital CPR,” she says.



Buffalo Bills players react as teammate Damar Hamlin is examined during game against the Cincinnati Bengals on Jan. 2.

(AP)

Prevalence of cardiac arrests

Cardiac arrest is different from a heart attack.

The American Heart Association refers to cardiac arrest as “an ‘electrical’ problem,” while a heart attack is “a ‘circulation’ problem.” A heart attack occurs when blood flow to the heart is blocked. This can result in cardiac arrest, but they are not the same thing.

Out-of-hospital cardiac arrests total 356,461 annually, per a 2022 [American Heart Association study](#) and, of those, the survival rate hovers around 10%.

“For every minute without immediate CPR and use of an AED, survival chances drop 10%,” according to the [American Red Cross](#) website. An AED, or automated external defibrillator, is an electrical device used to shock the heart into beating correctly.

If the heart cannot pump oxygen-rich blood to vital organs, something external must help. Cardio (heart) pulmonary (lungs) resuscitation (bring back to life) involves providing compressions to the chest that force the blood through the body.

When we exhale after breathing, our breath contains carbon dioxide, but it also contains excess oxygen. That extra oxygen can be forced into the mouth of a person whose heart has stopped. Compressions and breaths can keep the brain alive until the heart can be restarted with an AED.

Lisa Landis, communications and marketing director at the American Red Cross Greater Pennsylvania Region, confirms a significant increase in inquiries for CPR and AED training and in-course enrollments since Hamlin's incident — the day the nation watched as a healthy 24-year-old was resuscitated. The young man literally walked out of the hospital nine days later.



Dr. Sylvia Owusu-Ansah (pediatrician, pediatric emergency medicine and EMS physician), EMS medical director, and assistant professor of pediatrics and emergency medicine at the University of Pittsburgh.
(Courtesy of Sylvia Owusu-Ansah)

What, exactly, is CPR?

Today there are two types of CPR taught: conventional and compression-only CPR.

Trained people use conventional CPR, which involves chest compressions and rescue breaths, at a ratio of 30 compressions to two breaths, to circulate oxygen to vital organs when the heart cannot perform this work.

This procedure keeps oxygen flowing until the heart can be restarted or shocked back into a normal rhythm with an AED.

But even untrained people witnessing a collapse can save lives.

According to the American Heart Association, bystanders who see someone collapse can use compression-only CPR, also called Hands-Only CPR, without mouth-to-mouth breaths. This can work if an AED is near because there is residual oxygen in the person's blood that, if circulated through compressions, can suffice for a short time.

Hamlin's survival is tied to the CPR he received moments after his collapse.

"Mr. Kellington, that's what saved him; he went right to the chest," Owusu-Ansah says. "And the key thing is [Kellington] is not some rock star cardiothoracic surgeon; he's an athletic trainer who knew CPR."

Owusu-Ansah organized the "[Gathering of Solidarity and Prayer](#)" event in McKees Rocks a week after Hamlin's cardiac arrest. It began as a communion of hope for recovery that turned into a celebration when Hamlin was released from the hospital that very day.

The event, which saw hundreds convene at the Sto-Rox Junior-Senior High School Football Field, included an introduction to CPR training.



Damar Hamlin's uncle Dorian Glenn speaks during the "Gathering of Solidarity and Prayer" on Jan. 9, which included a CPR demonstration.
(Post-Gazette)

Pittsburgh connection to CPR

The roots of the techniques that saved Hamlin's life are intertwined with Pittsburgh.

"Peter Safar developed CPR here in Pittsburgh," Owusu-Ansah says proudly. "We are the birthplace of CPR."

Safar, a three-time Nobel Prize nominee and prominent Pittsburgh physician, had begun his CPR work in Baltimore, but it was in Pittsburgh where his efforts convinced the world that pre-hospital CPR could save lives, that care did not have to come from doctors or nurses.

Two tragedies took place in the 1960s that led Safar to revolutionize the CPR techniques used worldwide every day.

In June 1966, Safar and his wife were away when their 11-year-old daughter, Elizabeth, died after suffering an asthma attack.

"That always haunted Dr. Safar," says Owusu-Ansah. "[He's] a doctor that helps people to breathe, and [he lost his] child because she couldn't

breathe. It really had an impact on him. So he vowed to spend the rest of his life truly saving lives.”



Internationally renowned physician-researcher Peter Safar is considered the "father of CPR."

Five months after Elizabeth's death, four-term Pittsburgh mayor and former Pennsylvania Governor David Lawrence was rushed to Presbyterian University Hospital. He had collapsed while preparing to speak at a gubernatorial rally.

Lawrence died of brain damage 17 days later, having never regained consciousness. The many minutes Lawrence spent without CPR on the way to the hospital frustrated Safar, Lawrence's physician. He was convinced that CPR in transit could have saved Lawrence's life.

According to Safar's [2003 obituary](#), he was "convinced that lay people, not just doctors, had to be involved in resuscitation if lives were to be saved. One year after his daughter's death, he designed and implemented the first ambulance service with a physician and volunteers trained in CPR."

CPR for all

Those watching the events unfold Jan. 2 witnessed a surreal scene; the incident was devastating, with players and coaches crying, holding hands, hugging and praying as the medical staff tended to Hamlin. Hidden by a

veil of privacy created by his [teammates](#) and coaches, medical staff tore open Hamlin's jersey and performed CPR right there on the field.

Dr. Elizabeth Russ of the Cleveland Clinic Mercy Hospital tweeted several days later: "It's ironic that some of the least paid people on the field have the most important job. #savinglives #therealheros"

While Owusu-Ansah applauds the increased interest in life-saving CPR training, she warns that "we need to have a culture of keeping up with the skills, keeping up with the recognition, keeping up with the education. This cannot just be a one-and-done thing. It can't just be a #number3DamarHamlin thing."

To learn CPR, [The American Red Cross](#) and [American Heart Association](#) offer courses throughout the region.

Then you, too, can save someone's life. You, too, can be a hero.

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