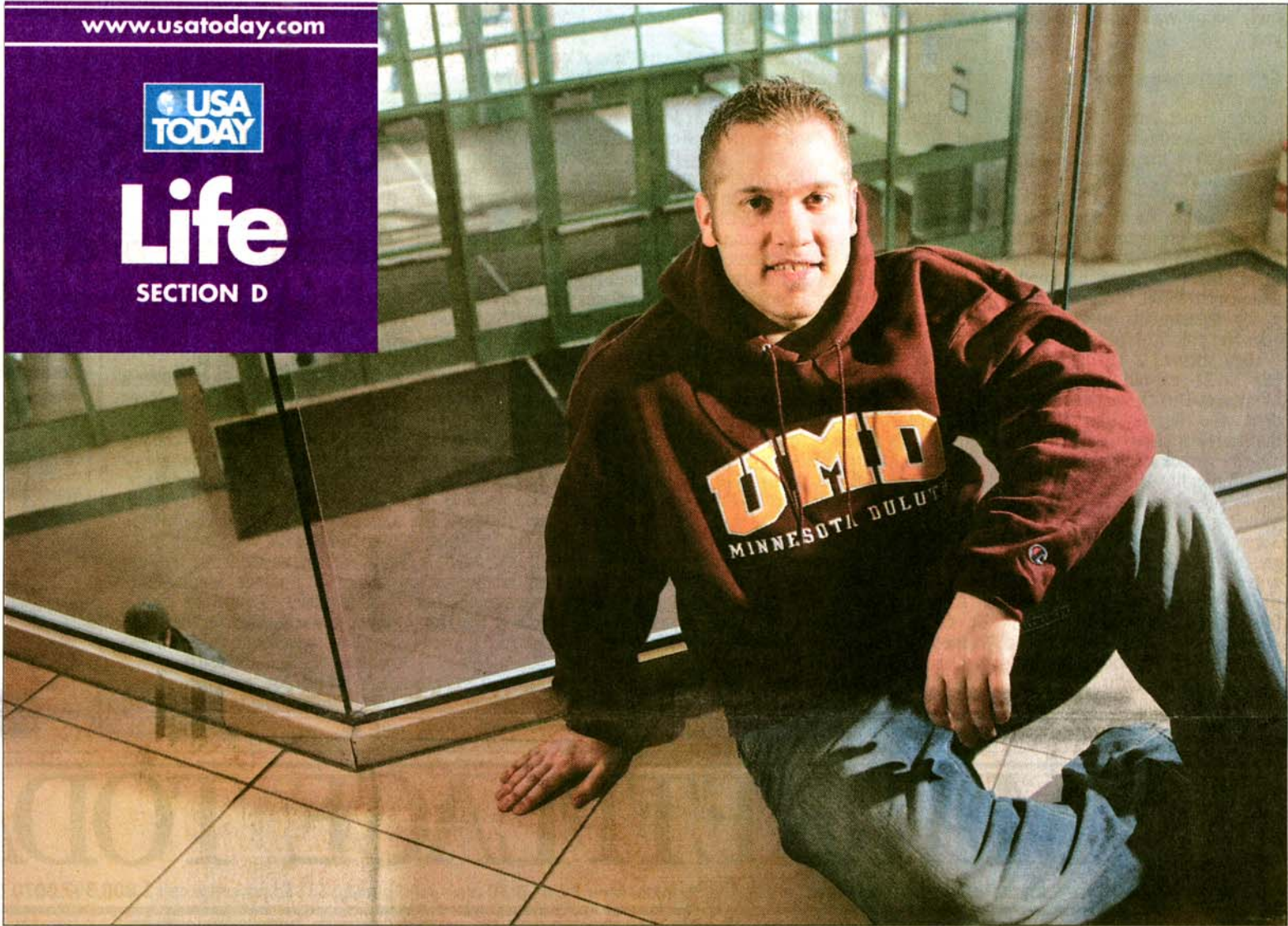


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USA TODAY

Life
SECTION D



By Julia Cheng for USA TODAY

Combined efforts: University of Minnesota-Duluth student Ben Jobs, 21, survived sudden cardiac arrest last summer at his home in Champlin.

A plan: 'Take Heart America'

Program aims to improve cardiac-arrest survival rates

By Robert Davis
USA TODAY

AUSTIN — Here in the heart of Texas, a grass-roots effort is taking shape that doctors believe could double survival from one of the nation's leading killers: sudden cardiac arrest.

The pilot program Take Heart America, which is being launched in Austin, St. Cloud, Minn., and Columbus, Ohio, is designed to combine simple steps that improve cardiac-arrest survival and apply them as a cohesive effort involving citizens, rescuers and doctors.

The doctors and researchers who are launching the program say it prepares communities to improve their responses and to better use all the tools at their disposal, including cardiopulmonary resuscitation (CPR), automated external defibrillators (AEDs) and brain-cooling measures.

"We know in isolation that these all

make a difference, but taken together they make a bigger difference," says Keith Lurie, an electrophysiologist at the Central Minnesota Heart Center at St. Cloud Hospital who helped develop Take Heart America. "We're putting simple technology in a package and delivering it to a community." If it dramatically increases survival rates, the team will deliver a blueprint to any city that wants it, Lurie says.

Sudden cardiac arrest claims 900 lives a day, the American Heart Association says. The survival rate is low: The national average is 5%.

Take Heart America, coordinated by a non-profit corporation of the same name, combines the efforts of medical-product manufacturers, community leaders, physicians, researchers and emergency-medicine personnel.

Michael Sayre, an emergency physi-

Please see COVER STORY next page ▶



Step 1: Distributing the CPR Anytime kit, with dummy and DVD, helps more people learn CPR. See Steps 2-4 on 2D.

American Heart Association

Cover story

Preparing the public is key to saving more lives

Continued from 1D

cian and cardiac-arrest researcher at the Ohio State University Medical Center in Columbus, says doubling cardiac-arrest survival nationwide would save the lives of 40,000 Americans each year.

When people suffer cardiac arrest, or "clinical death," the heart stops beating. They may gasp for air initially, but they soon stop breathing. Life and death is defined in six minutes. Emergency medical crews rarely can reach a victim's side within six minutes of collapse.

But this kind of sudden clinical death can be reversible, especially in the young and otherwise healthy, with immediate CPR, a fast shock from an AED, advanced care from swift-moving paramedics and aggressive hospital care.

Austin already does a good job: It saves about one in 10 of such patients. But Ed Racht, the physician who leads Austin's emergency medical services, wants to improve.

The cities with the highest survival rates in the nation, including Seattle and Rochester, Minn., save more than twice as many patients.

If Racht could double survival rates in Austin, "that equals 100 more people walking around every year."

Getting everyone ready

Take Heart America aims to boost preparedness at every level. Perhaps most important, it targets the public's role.

In a packed city hall meeting room recently, Racht, Sayre, Lurie and others presented the plan to leaders from the Austin fire department's first responders, paramedic ambulance crews, hospital emergency departments, medical societies and philanthropists.

They showed a picture of Ben Jabs, a 21-year-old University of Minnesota-Duluth marketing student, who they say was saved by the Take Heart America plan.

Ben was home in Anoka County for summer break in June when the family's Chihuahua, Joey, began jumping and barking wildly at 3 a.m. When Ben's brother, Matt, got up, thinking Joey needed to go outside, he saw that what was actually bothering the dog was Ben's breathing. Ben had suffered a cardiac arrest and, with his heart no longer beating, his body was taking its last, gasping breaths.

Matt woke his mother, Hannah, a nurse. She performed CPR. Rescu-



Family photo

To the rescue: Ben Jabs' mother, Hannah, a nurse, and the family dog, Joey, are credited with helping Ben survive his brush with death.

ers raced in with a defibrillator.

The Jabs live near St. Paul, not St. Cloud, where the Take Heart America project has begun. But Charlie Lick, the doctor who oversees emergency-medical services where the Jabses live, had been working with the Take Heart team and already had implemented some of the steps.

His crews shocked Ben's heart repeatedly and performed CPR using what is known as a ResQPOD device, which doubles blood circulation during chest compressions.

Once Ben's heart was restarted, doctors in the hospital cooled his body to about 91 degrees and kept him cool and sedated for 24 hours to protect his brain as his body struggled to recover.

Ben, who is back at college, says: "This makes you value life more. Tomorrow is promised to nobody."

Because most cardiac-arrest victims do not collapse, as Ben did, near an attentive pet and in the home of a nurse, the effort to save more lives starts with training the public to recognize the emergency and perform CPR.

As part of Take Heart America in St. Cloud, philanthropists have helped pay for every ninth-grader to learn CPR with the CPR Anytime kit, which includes a Mini Anne Manikin and a DVD that tells how a person can learn the lifesaving skill

in 20 minutes.

The students received the kits in school and learned CPR. Their homework assignment was to teach CPR to at least two other people using their kits, which the American Heart Association and Laerdal, maker of the CPR Resusci Anne Manikin, sell for \$30.

When bystanders perform immediate CPR, it buys time until an AED can be retrieved to shock a heart back to a normal beat.

Though AEDs are more common in public places, they are often not used in an emergency. "People are dying in places where an AED existed, but it was not used," says Richard Lazar, a lawyer who specializes in AED legislation and is a member of the Take Heart America team.

Austin has taken steps to fix the problem. When an Austin 911 dispatcher types in "cardiac arrest," an alert pops up on the computer screen if an AED has been registered at that address.

But if the cardiac arrest occurs next door or across the street, nobody knows an AED is nearby. For example, if a person collapses in a bank that does not have an AED but a defibrillator sits idle at the Starbucks next door, "that AED is invisible," Lazar says.

Lazar has developed a system sold through his company, Atrus Inc., that tracks AEDs and shows

dispatchers where they are on a map. He estimates Austin now uses AEDs in public places to treat cardiac-arrest victims two to 10 times a year. If the city uses his system showing 911 dispatchers how close an AED might be to a person in cardiac arrest, he predicts, the city could use the same number of AEDs 89 times a year.

The system's cost, which Lazar did not disclose, varies according to the size of the city's population.

Take the 'voodoo' out of it

Lazar and other Take Heart America leaders may benefit financially if the city adopts their ideas, a potential conflict of interest they disclose during presentations.

"There are conflicts of interest," says Lurie, who invented the ResQPOD device that was used on Ben Jabs. He sells the device for \$100 through his company, Advanced Circulatory Systems. "We are putting them on the table."

But they say their mission is to save lives. "We're still losing too many of these patients. It's a win for the community," Lurie says.

Bob Niskanen, executive director of Take Heart America, incorporated in Minnesota as a not-for-profit corporation, researched cardiac arrest for 27 years before retiring as a senior scientist at Medtronic Physio-Control. His new consulting firm, Resurgent Biomedical Consulting LLC, focuses on emergency medicine and resuscitation issues.

Niskanen says his group will promote unique devices such as the ResQPOD. "If products are unique and there are not other alternatives, and we... as a group think the evidence for use is strong, then we will recommend to the medical leaders of each community that they should consider incorporating these technologies," he says.

The challenge, says Bob Walker, a local businessman and philanthropist who attended the Austin meeting, is to convince ordinary citizens they can prepare themselves to respond in an emergency.

"If you want the community to embrace this program, you have to take some of the voodoo out of it," says Walker, president and chief executive of Matinee Media Corp. "You're going to have to take it down so Joe Average on the street is willing to walk into the Starbucks and take the AED and use it."

"Without that, you could raise a billion dollars, and it won't do any good."

How to boost survival rates

Leaders of Take Heart America believe cities can double survival rates in cases of sudden cardiac arrest by taking four steps:

1. Increase bystanders' CPR training



Aimed at: The public
How: By distributing CPR Anytime kits from the American Heart Association, training thousands more people in cardiopulmonary resuscitation (CPR) and the use of automated external defibrillators (AEDs).

2%-5%

More survivors:

2. Improve the quality of CPR

Aimed at: The public and rescuers
How: For bystanders, 30 chest compressions followed by two breaths lasting one second each. For rescuers, continuous chest compressions.



4%-6%

More survivors:

3. Improve the quality of emergency response



ResQPOD

Aimed at: First responders
How: Shorten the time to dispatch crews; tell 911 callers when an AED is nearby; use a device called ResQPOD to double circulation during CPR. (ResQPOD works by blocking air from entering the lungs each time the chest wall recoils after a compression. This creates a slight vacuum in the chest that draws more blood into the lungs and improves circulation.)

4%-6%

More survivors:

4. Cool the patient's brain

Aimed at: Paramedics and doctors
How: By using sedation, ice and cold packs before arriving at the hospital and pads connected to body-cooling equipment at the hospital, people who do not immediately wake up after their hearts are restarted are cooled to about 91 degrees for 24 hours to protect their brains.



5%-10%

More survivors:

Source: Take Heart America