Heart disease and stroke are, respectively, the first and third leading causes of death in the United States as well as Chicago. Combined, they account for one-third of all deaths. While many of the leading risk factors such as high blood pressure, high cholesterol, cigarette smoking, diabetes, poor diet, physical inactivity and obesity are modifiable, they are all too common.

One in three Chicago adults has high blood pressure with 37% being diagnosed by a physician. Close to one in five (19%) Chicagoans smoke, 63% are not reaching standards for physical activity levels and 67% of Chicago adults are either overweight or obese. Over time, these risk factors can lead to plaque build up in the walls of the arteries, making it harder for blood to flow and putting individuals at risk for cardiac arrest.

Cardiac Pulmonary Resuscitation (CPR) has been shown to more than double the chances of surviving an out-of-hospital cardiac arrest. However, 70% of Americans do not feel adequately trained to administer CPR in a cardiac emergency. In addition, concerns about contracting a disease from mouth-to-mouth ventilation prohibits the initiation of CPR for many. Ultimately, a little under one-third (32%) of persons experiencing a cardiac arrest at home, in the workplace or in a public place receive CPR. As such, increasing bystanders’ use of CPR in the event of cardiac arrest is an important priority in meeting Healthy Chicago’s heart-health goals.

**Hands-Only CPR**

CPR was formally developed in 1960. Elements of CPR, including both mouth-to-mouth ventilation and chest compressions, originated in the 18th and 19th centuries. In 2008, the American Heart Association (AHA) released a statement that high-quality chest compressions alone, without mouth-to-mouth ventilation, should be performed by those untrained in CPR. “Bystanders who witness the sudden collapse of an adult should activate the emergency medical services (EMS) system and provide high-quality chest compressions by pushing hard and fast in the middle of the victim’s chest, with minimal interruptions”

The recommendation stemmed from the evaluation of scientific research and a consensus of the AHA Emergency Cardiovascular Care Committee. A number of studies found that chest compressions only, as compared with conventional CPR, did not negatively impact victim survival.

Cardiac compressions are important because they simulate a heartbeat; the action that gets oxygenated blood to the brain and organs. However, many who perform conventional CPR interrupt chest compressions to perform ventilation for much longer than recommended, thus delivering fewer compressions over time.

In 2010, a large American study showed that more adults survived cardiac arrest when provided with continuous chest compressions than with conventional CPR. Hands-only CPR removes two important barriers to performing traditional CPR: It is easier to remember and eliminates the risk of contracting a disease. Conventional CPR is needed for breathing emergencies and is still recommended for infants, for children in puberty, for anyone found already unconscious or not breathing normally, for victims of drowning and drug overdose and those collapsed due to problems breathing or prolonged cardiac arrest.
Promoting CPR Training
CPR training in schools has become a policy focus. Previous training in CPR is a strong predictor of providing CPR in the event of cardiac arrest and research shows children as young as 11 are capable of performing CPR after just one training session. Because schools provide access to a large part of the community, over time, a significant proportion of a given community can receive training. As of last school year, 36 states had a law or curriculum standards encouraging CPR training in schools and six of them made CPR training a mandatory component of the health education curriculum.

In late June 2012, an Illinois State law (Public Act 097-0714) was enacted to support the provision of CPR training in schools. The law allows school boards of public schools to provide safety education including training 6th-8th graders on CPR and how to use an automated external defibrillator (AED) by watching a video and CPR training for students enrolled in grades 9-11. The legislation dovetailed with a project by Northwestern University medical students to train all 6th-8th graders in Hands-only CPR.

First-year Northwestern University medical students worked with Chicago Cardiac Arrest Resuscitation Education Service (CCARES), a non-profit started by two emergency medicine physicians at Northwestern University’s Feinberg School of Medicine, to develop a free 6-minute training video for middle school students on Hands-Only CPR and AEDs. Plans are in the works for the students and CCARES to pilot this training and expand it to more students as well as teachers.

CCARES has been funded by a grant from the Medtronic Foundation to train communities throughout Chicago and Illinois with the aim of improving the rate of CPR conducted by bystanders. CCARES and its partners in the Illinois Heart Rescue Team will also create videos in Spanish and Polish, with the goal of eliminating disparities in CPR training. CCARES is currently training the Chicago Police Department in Hands-only CPR and AED use. To learn more about CCARES, go to http://ccares.northwestern.edu/.

1 - Healthy Chicago: A Public Health Agenda. The Chicago Department of Public Health, September 2011.
4 - Ibid
5 - Ibid