

Bystander CPR More Likely in States Requiring Teen Training

— State laws linked with 12% higher rate of bystander CPR

by [Michal Ruprecht](#), Editorial Intern, MedPage Today
May 23, 2022



State laws mandating CPR training in high schools were associated with a higher likelihood of bystander CPR for out-of-hospital cardiac arrest (OHCA), a retrospective cohort study found.

In the 20-state analysis, the rate of bystander CPR was 41.6% in states where CPR training was required for high schoolers versus 39.5% in states without such laws (adjusted OR 1.12, 95% CI 1.08-1.15), according to researchers led by Victoria Vetter, MD, MPH, of the University of Pennsylvania in Philadelphia.

Additionally, a difference-in-difference analysis involving states that enacted their laws during the study period found a higher probability of bystander CPR following implementation, but no such effect in states without the laws, the group reported.

"Further enactment of laws requiring CPR training in high schools may lead to improved outcomes after cardiac arrest if this results in the training of more willing bystanders," the researchers wrote in the *Journal of the American College of Cardiology*.

CPR training in schools is determined at the state level and mandates differ widely. Currently, 39 states and the District of Columbia have enacted CPR and automated external defibrillator (AED) training requirements for high school students. Previous research has demonstrated that mortality from OHCA [decreases](#) with the use of CPR and/or AED.

"High school students will become the next generation of bystanders who can provide CPR and AED use, once they are educated," Vetter and co-authors wrote. "Those trained as students are likely to be in homes or community sites where cardiac arrests commonly occur."

For their analysis, the investigators used data from the Cardiac Arrest Registry to Enhance Survival ([CARES](#)) dataset, analyzing 291,388 cases of OHCA in 20 states: 14 states with laws requiring CPR training in high schools, enacted either before or during the study period from 2013 to 2020, and 6 states without such laws.

More than half of the OHCA's (56.6%; n=164,906) occurred in states with mandates, and the overall bystander CPR rate was 40.7% across all states.

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In states with training laws, bystander CPR rates were higher in most age groups (except for ages 13-17 years), in both male and female sex, and in all racial/ethnic groups other than Hispanic/other. These states also had higher bystander CPR rates whether the cardiac arrest was witnessed or unwitnessed, occurred in the public or at home, was shockable/non-shockable, and in cases where an AED was used. Rural and suburban populations, however, had lower rates of bystander CPR in states with training laws.

The Black population had the largest difference in bystander CPR in states with training laws (31.7% vs 27.5% in states without such laws), but had lower rates compared with other racial/ethnic groups (37.6-48.6%).


"Assistance to schools to help with CPR/AED education in low socioeconomic minority communities has the potential for the greatest benefit," the team continued.

"We encourage states that do not have laws passed or enacted to enact such laws as soon as possible to benefit all their citizens."

Limitations of the study, the researchers said, included confounding factors that may have impacted bystander CPR rates. In addition, the results are preliminary because many states enacted their training mandates only

recently. Also, the CARES dataset does not contain information from every emergency medical system in the country.



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Disclosures

Vetter and co-authors reported no disclosures.

Primary Source

Journal of the American College of Cardiology

[Source Reference](#): Vetter VL, et al "Impact of state laws: CPR education in high schools" *J Am Coll Cardiol* 2022; DOI: 10.1016/j.jacc.2022.03.359.

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