

School Nurses' Perceived Barriers & Perceptual Influences When Implementing AED Programs

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School Nurses

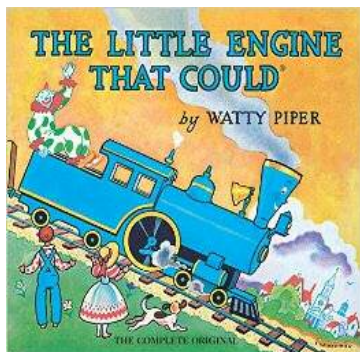


“School nurses have minority status in the educational environment of a school” (DeSisto & DeSisto, 2004, p. 229)

Louisiana School Nurses

- In a 2009 national survey of school nurses, 13 out of 50 states met the nurse-student ratio of NASN 1:750 (Mangham, 2009)
- LA School nurse ratios ranged from 1:450 to 1:3000 (Boudreaux, 2016)
- LA state law R.S. 17:28 mandates 1:1500 ratio (Louisiana Department of Education, 2015)

Self-efficacy

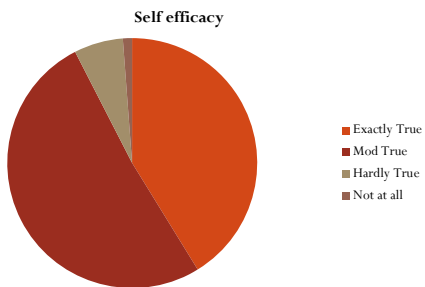


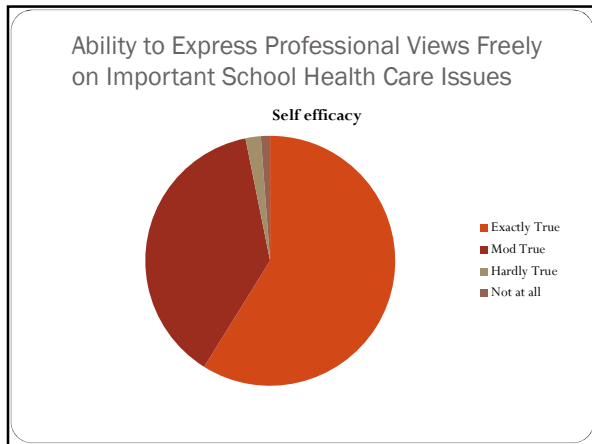


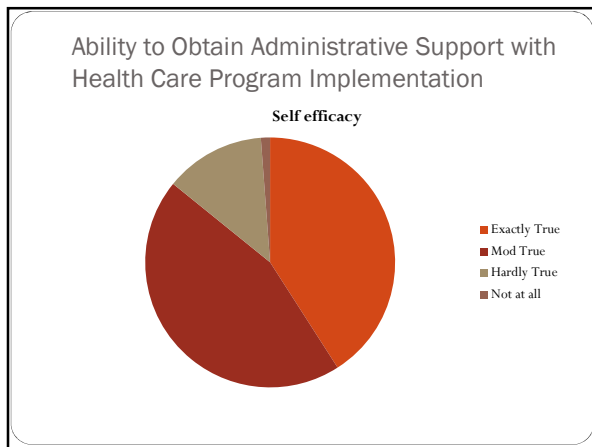
Self-efficacy & School Nurses

“The stronger the perceived self-efficacy, the more likely are persons to select challenging tasks, the longer they persist at them, and the more likely they are to perform them successfully”
(Bandura, 1986, p. 397)

Ability to Influence Major Health Care Decisions in The School Setting







- ### LA School Nurse General Self Efficacy Scores
- 98% can solve difficult problems with enough effort
 - 81% can overcome opposition
 - 95% can easily accomplish goals
 - 97% can deal effectively with unexpected events
 - 97% can handle unforeseen situations due to resourcefulness
 - 97% can remain calm when facing difficulties with internal coping abilities
 - 98% can find several solutions to a problem
 - 97% **CAN HANDLE WHAT COMES THEIR WAY**

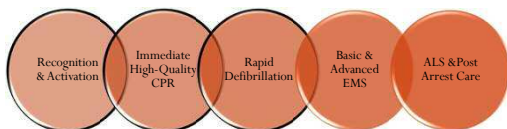
Sudden Cardiac Death in The School Setting

- In a 2005 national-based survey of school nurses, 30% of school nurses lacked confidence in the ability to respond accordingly to Sudden Cardiac Death (SCD), as compared to 12% in the response to respiratory distress (Olympia, Wan & Aher, 2005).

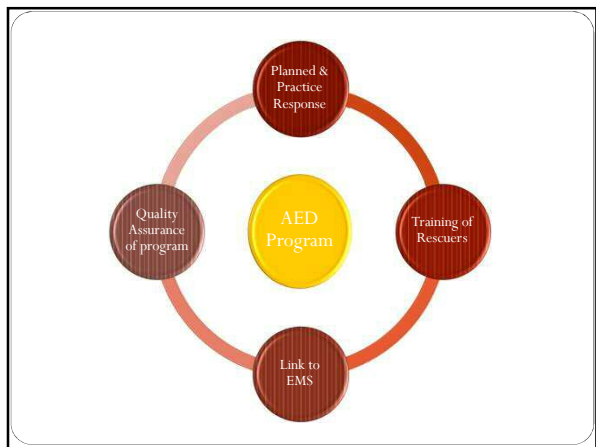
SCD Incidence

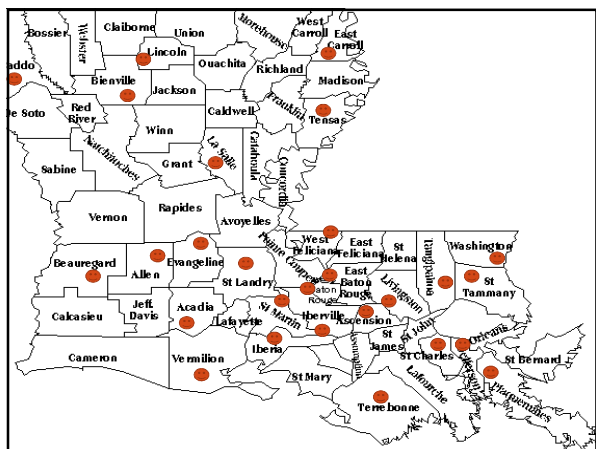
- 1 per 100,000 students a year in high school athletes (Maron, 2001)
- 4.4 per 100,000 students a year in high school athletes (Drezner et al., 2009)
- 1 per 43,000 student-athlete per year (Harmon et al., 2011)
- 250,000-350,000 out-of-hospital SCD in U.S. (Sama et al., 2008)
- 8 per 100,000 out-of-hospital SCD in children & adolescents (Atkins et al., 2009)

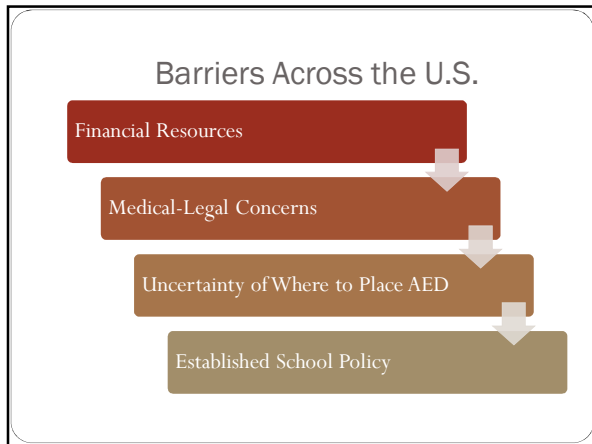
AHA 2015 OHCA Guidelines

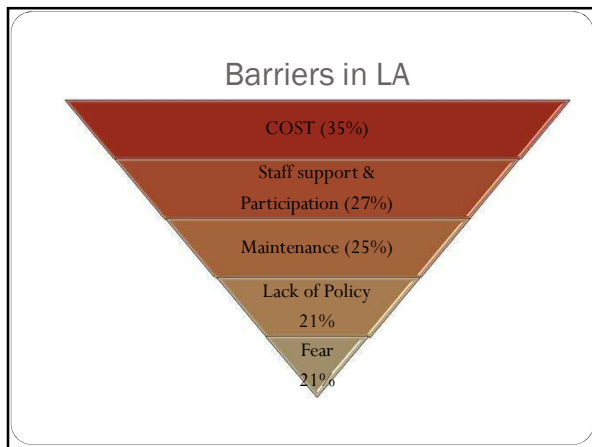


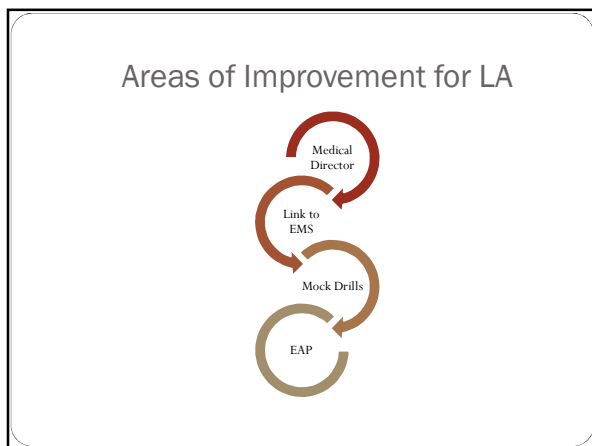
AEDs should be available to all athletes experiencing SCD in competition, training & practice within five minutes of collapse (Lank et al., 2015)











R.S. 40:1236.13

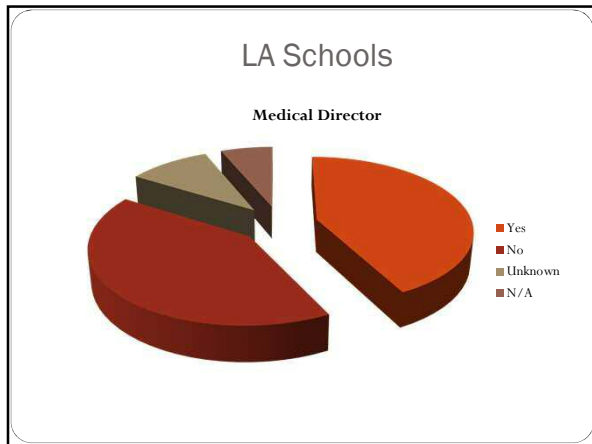
- Tested & maintained according to manufacturer guidelines
- A licensed physician or APN with prescription authority is involved in
 - Training
 - Emergency medical service notification
 - Maintenance

R.S. 40:1236.13

- AED users receive appropriate CPR & AED training from a national recognized CPR & AED course
- EMS is activated when using AED
- Any use of AED is reported to MD or NP
- Notification to Bureau of Emergency Medical Services of DHH
- Notification of AED location to local EMS
- If funding available- AED for all high schools

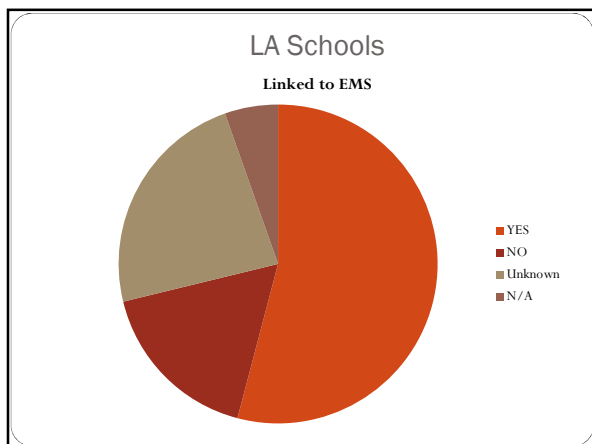
How are LA schools complying with R.S. 40:1236.13 law?

- 42.3% under supervision of MD or ANP
- 41.1 % do not have MD or ANP supervising program
- 6.3% do not know
- 9.9 % N/A



How are LA schools complying with R.S. 40:1236.13 law?

- 54.1% are linked to local EMS
- 17.1% are not linked to local EMS
- 23.4% do not know
- 5.4% N/A



Have you notified the Bureau of
Emergency Medical Services of LA
Department of Health & Hospitals of
your AED program?

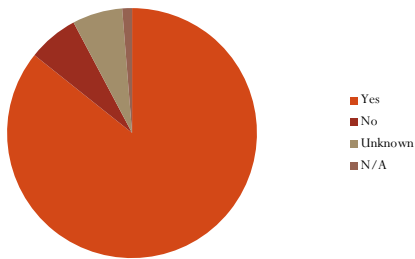


How are LA schools complying with R.S.
40:1236.13 law?

- 81.1 % CPR training every 2 years
(which course using?)
- 8.1 % are not retraining employees in
CPR
- 5.4 % do not know
- 5.4 % N/A

LA Schools

CPR training

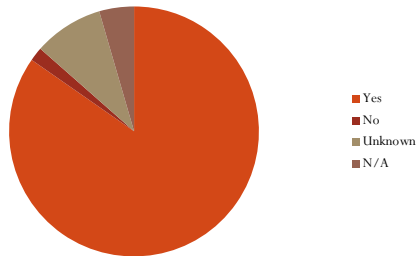


How are LA schools complying with R.S. 40:1236.13 law?

- 84.7 % incorporate regular AED maintenance checks
- 1.8 % do not
- 9.0 % do not know
- 4.5 % N/A

LA Schools

Maintenance



Evidence-Based Practice

Essential Elements of AED programs (Aufderheide et al., 2006)

- ✓ planned & practiced response
- ✓ Training of rescuers in CPR & AED
- ✓ Link to local EMS
- ✓ Continuous quality improvement of program

Evidence-Based Practice

“Every school or institution that sponsors athletic activities should have a written and structured EAP”

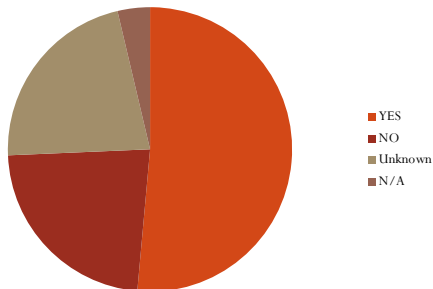
(Drezner et al., 2007, p. 143).

LA schools & EAPs

- 50% have EAPs
- 23% do not
- 21.6% do not know

LA schools

EAP

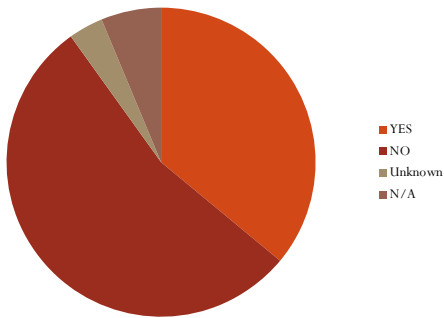


LA Schools & Mock Drills

- 36% do mock drills
- 54% do not
- 4% do not know

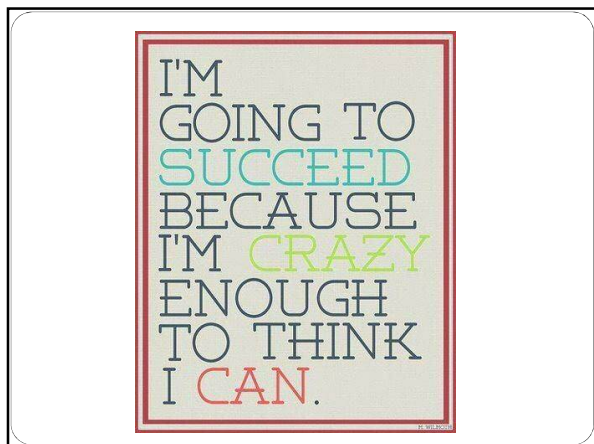
LA Schools

Mock Drills



LA House Bill No. 123

Each high school shall
have an AED on its
premise (Teddy Daigle & Shane Ozene Act)



References

Atkins, D. L., Stewart, S. E., Sears, G. K., Daya, M., Osmond, H., Warden, C. R., ... Berg, R.A. (2009). Epidemiology and outcomes from out-of-hospital cardiac arrest in children: The resuscitation outcomes consortium epistry cardiac arrest. *Circulation*, 119, 1484-1491. doi: 10.1161/CIRCULATIONAHA.108.802678

Aufferheide, T., Hazinski, M.F., Nichol, G., Steffens, S.S, Buroker, A., McCune, R., ... Cummins, R. O. (2006). Community lay rescuer automated external defibrillation programs. Key state legislative components and implementation strategies. A summary of a decade of experience for healthcare providers, policymakers, legislators, employers, and community leaders from the american heart association emergency cardiovascular care committee, council on clinical cardiology, and office of state advocacy. *Circulation*, 113. doi: 10.1161/CIRCULATIONAHA.106.172289

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall

DeSisto, M.C., & DeSisto, T.P. (2004). School nurses' perceptions of empowerment and autonomy. *The Journal of School Nursing*, 20(4), 228-233. Retrieved from <http://exproxyprod.ucs.louisiana.edu:2077/ehost/pdfviewer/pdfviewer?vid=2&sid=f620641c-45fc-46e2-b806-057154c64760%40sessionmgr102&hid=125>

References

Drezner, J. A., Ashwin, L. R., Heistand, J., Bloomingdale, M.K., & Harmon, K. G. (2009). Effectiveness of emergency response planning for sudden cardiac arrest in united states high schools with automated external defibrillators. *Circulation*, 120, 518-525. doi: 10.1161/CIRCULATIONAHA.109.855890

Drezner, J. A., Courson, R.W., Roberts, W.O., Mosesso, V.N., Link, M.S., & Maron, B.J. (2007). Inter-Associated task force recommendations on emergency preparedness and management of sudden cardiac arrest in high school and college athletic programs: A consensus statement. *Journal of Athletic Training*, 42(1), 143-158. Retrieved from <http://www.journalofathletictraining.org>

Harmon, K.G., Asif, I. M., Klossner, D., & Drezner, J.A. (2011). Incidence of sudden cardiac death in national collegiate athletic association athletes. *Circulation*, 123, 1594-1600. doi: 10.1161/CIRCULATIONAHA.110.004622

Louisiana Department of Education. (2015). School-based nursing services in Louisiana schools: A resource handbook for school nurses and school administrators. Retrieved October 2, 2015, from <https://www.louisianabelieves.com/docs/default-source/public-school/2014-school-nursing-handbook.pdf?sfvrsn=6>

Link, M.S., & Estes, M. (2016). Sudden cardiac death in the athlete: Bridging the gaps between evidence, policy, and practice. *Circulation*, 125, 2511-2516. doi: 10.1161/CIRCULATIONAHA.111.023861

References

Maron, B.J. (2003). Sudden death in young athletes. *The New England Journal of Medicine*, 349(11), 1064-1075.

Maughan, E. (2009). Part 1-Factors associated with school nurse ratios: An analysis of state data. *The Journal of School Nursing*, 25(3), 214-221. Retrieved from [http://cxproxyprod.ucs.louisiana.edu:3964/openurl?sid=EBSCO%3arzh&genre=article&issn=10598405&ISBN=&volume=25&issue=3&date=20090601&spage=214&pages=214-221&title=Journal+of+School+Nursing+\(Sage+Publications+Inc.\)&atitle=Part+1+-+Factors+associated+with+school+nurse+ratios%3a+an+analysis+of+state+data.&aulast=Maughan+&sid=DOI%3a10.1177%2f1059840509336058&site=ftf-live](http://cxproxyprod.ucs.louisiana.edu:3964/openurl?sid=EBSCO%3arzh&genre=article&issn=10598405&ISBN=&volume=25&issue=3&date=20090601&spage=214&pages=214-221&title=Journal+of+School+Nursing+(Sage+Publications+Inc.)&atitle=Part+1+-+Factors+associated+with+school+nurse+ratios%3a+an+analysis+of+state+data.&aulast=Maughan+&sid=DOI%3a10.1177%2f1059840509336058&site=ftf-live)

Olympia, R. P., Wan, E., & Avner, J.R. (2005). The preparedness of schools to respond to emergencies in children: A national survey of school nurses. *Pediatrics*, 116, 738-745. Retrieved from <http://pediatrics.aappublications.org/content/pediatrics/116/6/738.full.pdf>

Sanna, T., Torre, G.L., Waure, C.D., Scapigliati, A., Ricciardi, W. & Russo, A.D. (2008). Cardiopulmonary resuscitation alone vs. cardiopulmonary resuscitation plus automated external defibrillator use by non-healthcare professionals: A meta-analysis on 1583 cases of out-of-hospital cardiac arrest. *Resuscitation*, 76, 226-232. doi: 10:1016/j.resuscitation.2007.08.001

Torresdahl, B.G., Harmon, K.G., & Drezner, J.A. (2013). High school automated external defibrillator programs as markers of emergency preparedness for sudden cardiac arrest. *Journal of Athletic Training*, 48(2), 242-247. doi: 10.4085/1065-6650-48.1.20
