

# Emergency Education to Students in a Rural Healthcare Area

## Purpose

The purpose of this study was to integrate emergency room education into rural high school settings to discourage people from using emergency services inappropriately. A 50 minute teaching program was created using the findings from a study by Shield, Kenneth, Griffin, and McNabb (1990), and it consisted of a pretest, lecture, question and answer session, and posttest to expand the knowledge of 39 ninth graders at a rural Kentucky high school. Topics covered included triage explanations, asthma and allergy control, epinephrine pen use, inhaler use, choking, cardiopulmonary resuscitation (CPR), automated external defibrillator use, seizure control, and mental health issues commonly faced in emergency rooms in the area.

## Literature Review

The literature from Shields, et al. (1990) supported the idea that emergency departments are providing preventive health education and primary health care to the uneducated population. According to the literature, the most effective methods improving education found that brochures videos and speaking with an expert were most effective. Topics that were found most intriguing were those that related to wellness, nutrition, and exercise. A study found that computers were the least preferred method of learning. In class learning sessions were conducted for a study as well as telephone instruction regarding asthma prevention. However, the study failed to produce a change in emergency room visits related to asthma due to lack of behavior modification techniques and little mastery of subjects produced. Several studies confirmed that when hospital emergency rooms are overcrowded with nonurgent care situations, wait times increased for urgent situations. Welfare recipients were determined to have higher levels of nonurgent visits. It was also found that small rural counties use less emergency room services than all other counties. Low use of primary care was also associated with high use of emergency room services. Another study determined that involving children in a primary care program will decrease emergency room visits marginally.

Stacie Hearell, BSN Student  
Jessica Naber, PhD, RN

## Methods

At the beginning of this study information about the study and its participants were submitted to the institutionalized review board at Murray State University. It was determined that approval was not needed to proceed with the study. The local high school superintendent was contacted for board approval of teaching within the high school. Coordination with the 9<sup>th</sup> grade health and physical education teacher was conducted to plan a date and time period for the teaching to take place. Internet resources as well as American Heart Association books were used to create a PowerPoint visual to aide in teaching. Upon arriving at the school students were informed via lecture of their right to refuse participation and that the results provided were voluntary and the pretest administered. The lecture consisted of a 30 minute teaching with questions answered throughout. A question and answer session was conducted and the post-test administered. Tests were collected by the health and physical education instructor and returned to me at the end of the teaching periods. Tests results were sealed in a private envelope with no names provided and were hand graded with results recorded in a flow chart.

	Pre Test	Post Test
N	39	39
Mean	7.03	9.56
SD	3.06	3.45

## Results

A pretest was administered to students before the 30 minute teaching session began. Two pretests were turned in blank indicating refusal to participate in the study. The average pretest score was 46.8. A posttest was administered after the teaching was complete and a question and answer session was performed. The average posttest scores were 63.7 with one test returned blank indicating refusal to participate. The results of the T Test were 0.0008 which are statistically significant therefore the students did significantly better on the posttest than the pre-test. Therefore, the conclusion can be drawn that the teaching was effective.

## Discussion

The teaching program based in a rural Kentucky high school with high poverty rates and low primary caregiver to patient ratios determined that implementing education strategies within curriculum increases students' knowledge related to emergency room services. It is unclear if emergency education effected emergency room visits within this population due to limited study time and capacity. Posttest results improved dramatically due to targeted teaching and direct question and answer sessions. Due to limited information and studies within the specific rural area emergency room statistics of nonurgent and urgent visits as well as demographics of visitors were difficult to determine. Future studies should focus more on the effects of education in high school curriculum compared with emergency room visits in the area following teaching. Limitations within this study included small class size and lack of follow up information related to emergency room use in the specific area. It was determined that integrating emergency education and basic CPR teaching within the high school curriculum improves emergency room knowledge.

## References

- Bishop, J. (2016). *Crittenden Health Needs Assesment*. Retrieved from [http://www.crittenden-health.org/docs/CHNA\\_-\\_2016.pdf](http://www.crittenden-health.org/docs/CHNA_-_2016.pdf)
- De Alteriis, Martin, Fanning, & Thomas. (1991). A public health model of medicaid emergency room use. *Health Care Financing Review, 12 (3)*
- Delgado, M., Ginde, A., Pallin, D., & Camargo, C.. (2010). Multicenter study of preferences for health education in the emergency department population. Doi: 10.1111/j.1553-2712.2010.00764.x. *Society for Academic Emergency Medicine. 17 (2)* 652-658.
- Orr, S., Charney, E., Straus, J., & Bloom, B.. (2010). Emergency room use by low income children with a regular source of health care. *Medical Care. 29 (3)* 283-286.
- Shields, M., Griffin, K., & McNabb, W.. (1990). The effect of a patient education program on emergency room use for inner-city children with asthma. *American Journal of Public Health. V 80. No 1.*