

Title: Development of EMS Activation Guidelines for School Health Personnel

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PROBLEM STATEMENT

- Overactivation of the Emergency Medical Service(EMS) results in delays of emergency care to our community and has the potential to increase health care expenditures.
- The overactivation of EMS by school health personnel results from pediatric triage knowledge deficits. These deficits result from educational variances among school health personnel.
- Overactivation of EMS by school health personnel may result from the absence of guidelines which describe the triage findings which support the need for EMS activations.

PROJECT PURPOSE

- The purpose of this DNP project is to examine and reduce the EMS activations made by school health personnel.
- The DNP student will attempt to achieve this purpose by developing evidence based pediatric triage guidelines which support the need for EMS activation.
- PICOT question: Will the introduction of pediatric triage guidelines designed specifically for school health personnel decrease the unnecessary EMS activated over a three-month period.

MODEL/NURSING THEORY

- The quality improvement model chosen for this project was the Lean Six Sigma. The targeted DAIMC components utilized included definition, analysis, improvement, and control of the process requiring change.
- The nursing theory selected for the DNP project was Lewin's Change Theory.

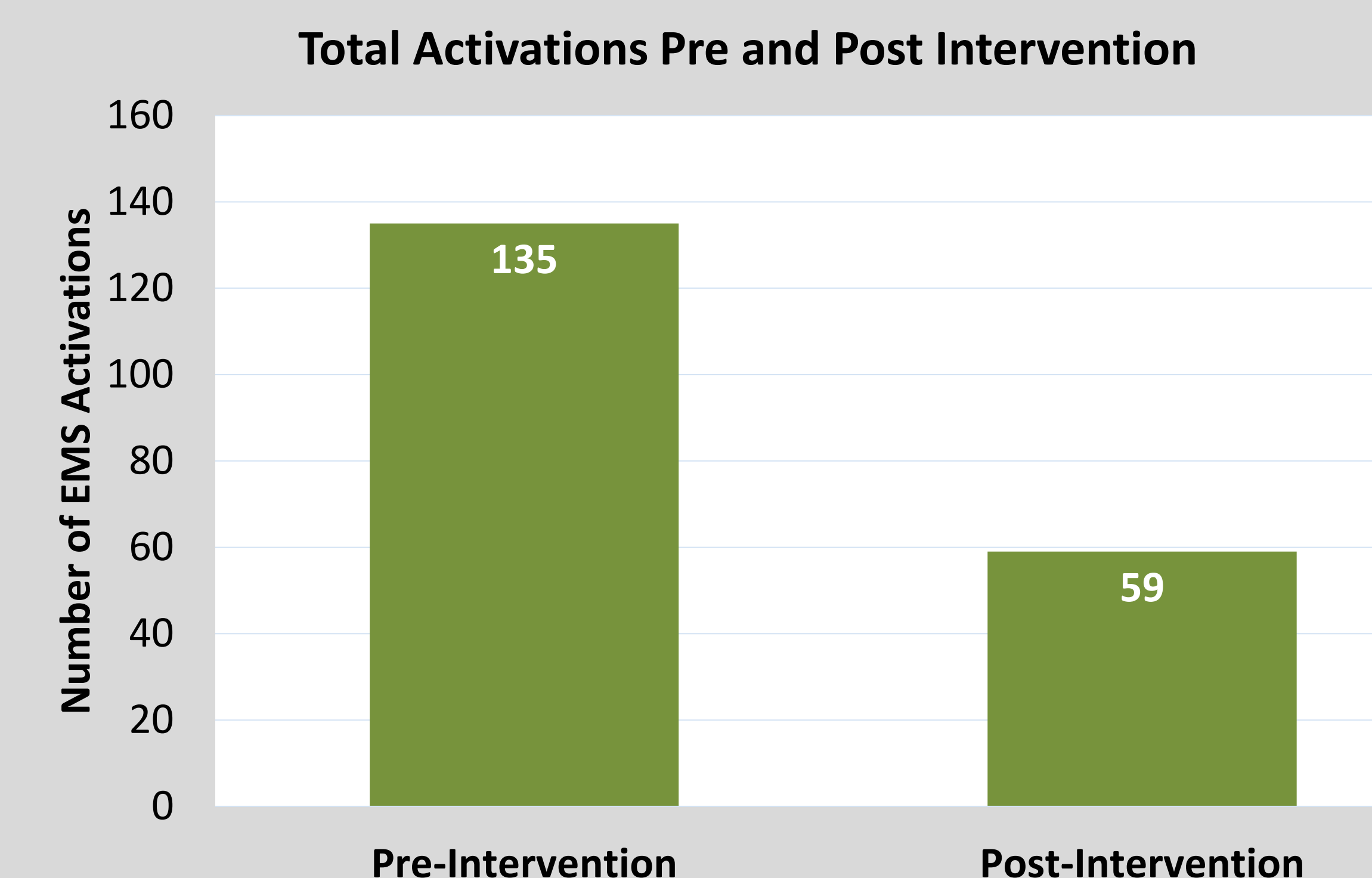
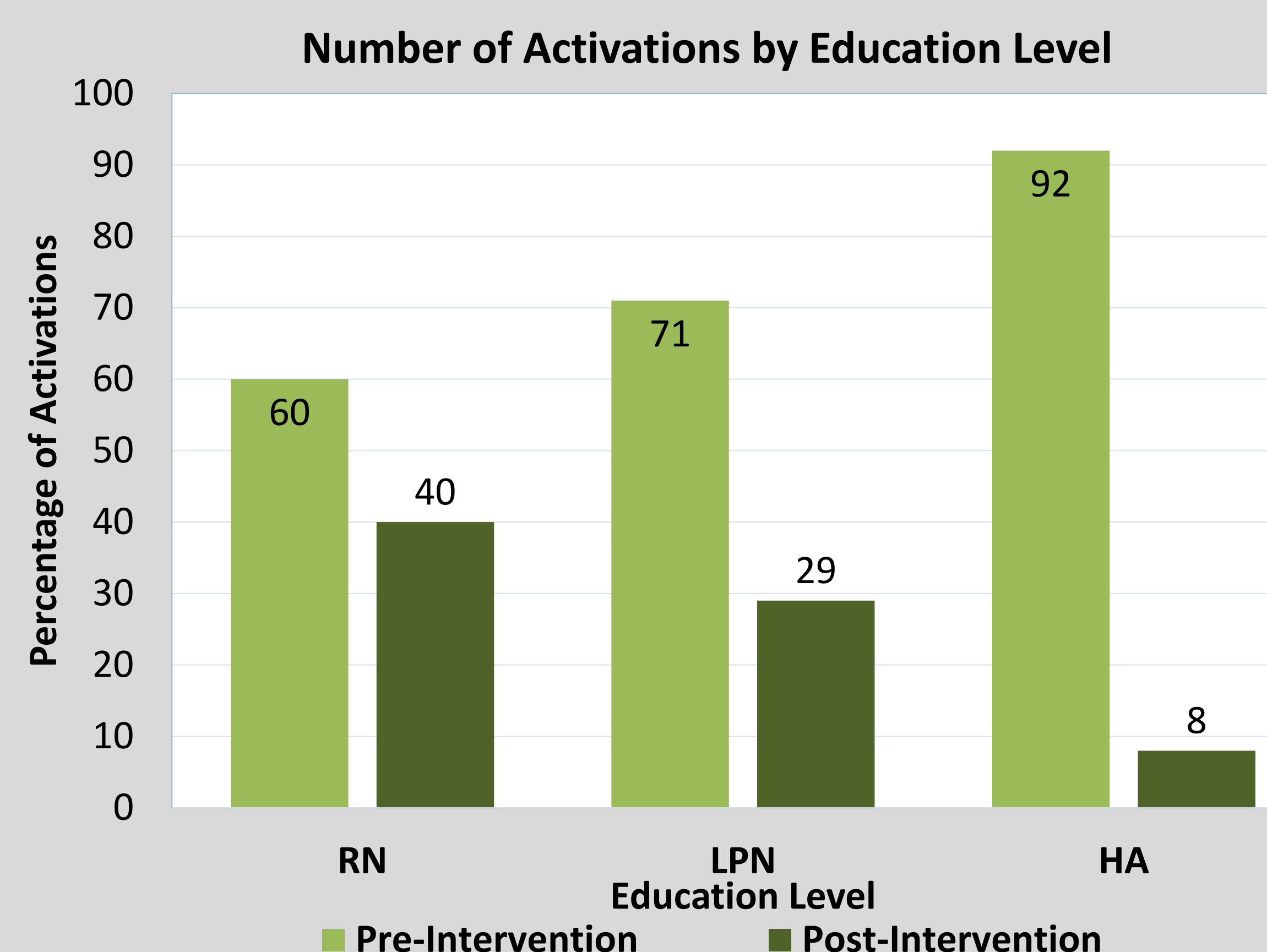


METHODS

- **Subjects (Participants)**
 - Primary subjects; EMS activations which occurred after the implementation of EMS triage guidelines. N=55
 - Secondary subjects; 395 school health personnel who are responsible for the activation of EMS. Personnel included: Eight APRNs, 114 RNs, 227 LPNs, and 56 Health Assistants.
- **Setting**
 - 250 school-based clinics.
 - The schools included were classified as elementary, middle, and high schools. All receive both state and federal funding.
- **Instruments/Tools**
 - The data collection tool selected is the established 911 log
- **Intervention and Data Collection**
 - The data was collected during two time periods for comparison. The first set of data reviewed was from the school year 2018-2019. Extracted from the 911 log was the educational level of provider activating EMS, the condition requiring EMS activation, and the final disposition of the EMS activation. The triage guidelines were developed using this data set.
 - The new guidelines were then presented via Power Point presentation to the targeted secondary subjects which included 347 school health personnel members.
 - The second time period for data collection was the months August, September, and October school year 2020-2021. Extracted from this data set was the educational level of provider activating EMS, the condition requiring EMS activations and the final dispositions of the EMS activation. Calculated from this data was the statistical analysis of effectiveness of the triage guidelines.

RESULTS

- Pre-Intervention, a chi-square goodness of fit test was calculated on the number of EMS activations made prior to the intervention (i.e. pre-intervention) by RN's, LPN's, and HA's. There was a statistically significant association of the number of activations made by participants' highest level of education, $\chi^2(2) = 44.93, p < .001$. A higher proportion activations came from LPN's (54.8%) than RN's (37.0%) and HA's (8.1%).
- Post intervention there was an overall statistically significant decrease in activations among all educational levels. $\chi^2(2) = 7.436, p = .024$
- There was a significant reduction in the total number of activations from pre-test (n = 135) to post-test (59) $\chi^2(2) = 29.77, p < .001$.



DISCUSSION

- The introduction of EMS guidelines did decrease the overall activations of EMS.
- The activations decreased significantly among each of the educational levels of school health personnel.
- The project resulted in the formation of EMS activation guidelines which will provide guidance to all the various school health personnel.

IMPLICATIONS FOR ADVANCED PRACTICE NURSING

- DNP programs provide APRNs the knowledge and skills needed to develop policy using evidenced based interventions and statistical applications.
- DNP developed EMS activation guidelines can decrease school personnel pediatric triage knowledge deficits.
- Decreasing unnecessary EMS activations can decrease EMS response times to the community.
- Decreasing unnecessary EMS activations decreases healthcare expenditure.

SUSTAINABILITY:

- The guidelines will now be incorporated into the Health Services General Guidelines.
- No extra funding will be required to sustain the guidelines. All the school health guidelines are reviewed and updated on a yearly basis.

REFERENCES

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The introduction of EMS activation guidelines reduced the unnecessary activations by 56%.