

**Pediatric Continuing Education in North Carolina:
Results from a 2010 Statewide Survey
North Carolina Office of Emergency Medical Services**

Background

In the spring of 2010, the North Carolina Emergency Medical Services for Children (EMSC) program undertook a statewide assessment of pediatric continuing education throughout the state of North Carolina. This was done to determine what was being provided and if there were any unmet needs that could be addressed by the EMSC program and its partners throughout the state. Survey data was cleaned, analyzed, and ready for statewide report development by the fall 2010.

The survey was sent to all 100 EMS systems in the state. Overall, 77 of the state's 100 EMS Systems responded to the survey, resulting in a 77% response rate, although the number of systems responding to each question varied. Most respondents were training coordinators, followed by system directors.

Summary of Findings*

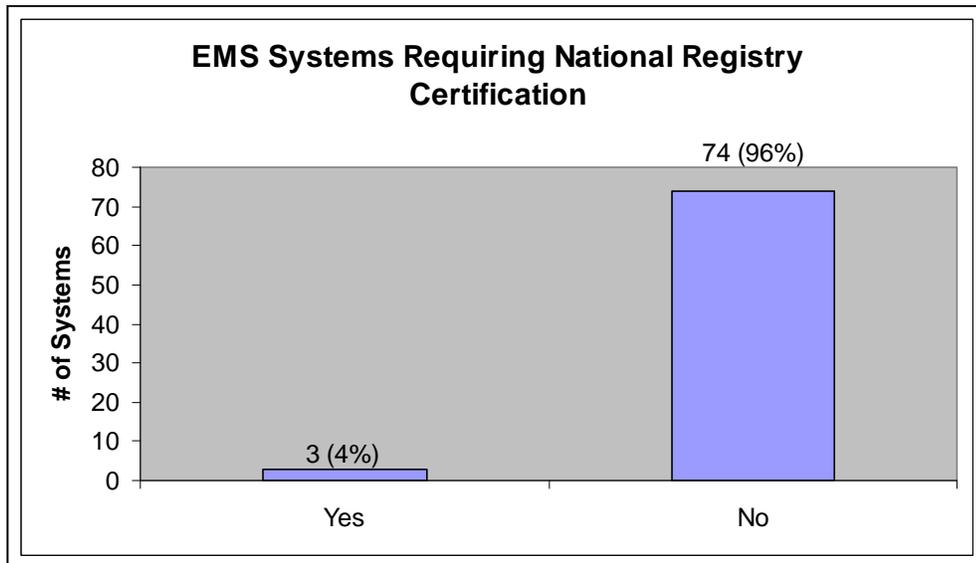
All responding EMS systems reported offering pediatric continuing education to EMS personnel each year. Most offered three or more hours, meeting the state requirement for pediatric content hours needed for recertification. In addition, most had a primary instructor they relied on to teach pediatric continuing education and most of these instructors were paramedics who were credentialed as Level II EMS instructors. Pediatric Advanced Life Support (PALS) was the pediatric course most commonly offered within responding EMS systems, followed next by Pediatric Education for Prehospital Professionals (PEPP). Several systems offered both of these courses. In addition, pediatric case reviews were often included in peer review processes on a monthly, quarterly, or annual basis, or when a quality of care issue arose. This enabled systems to focus on specific pediatric content areas that needed to be addressed. Most responding EMS Systems offered pediatric continuing education one to two times each year or three to four times each year.

Most respondents reported that the content and amount of pediatric continuing education was adequate for all provider levels, however, 33% of responding EMS systems expressed support for an increase in the number of required hours for pediatric continuing education. Most EMS systems rated the overall quality of pediatric continuing education as better than adequate.

*Note: In order to simplify reporting of findings, all percentages reported herein have been rounded to the nearest whole number.

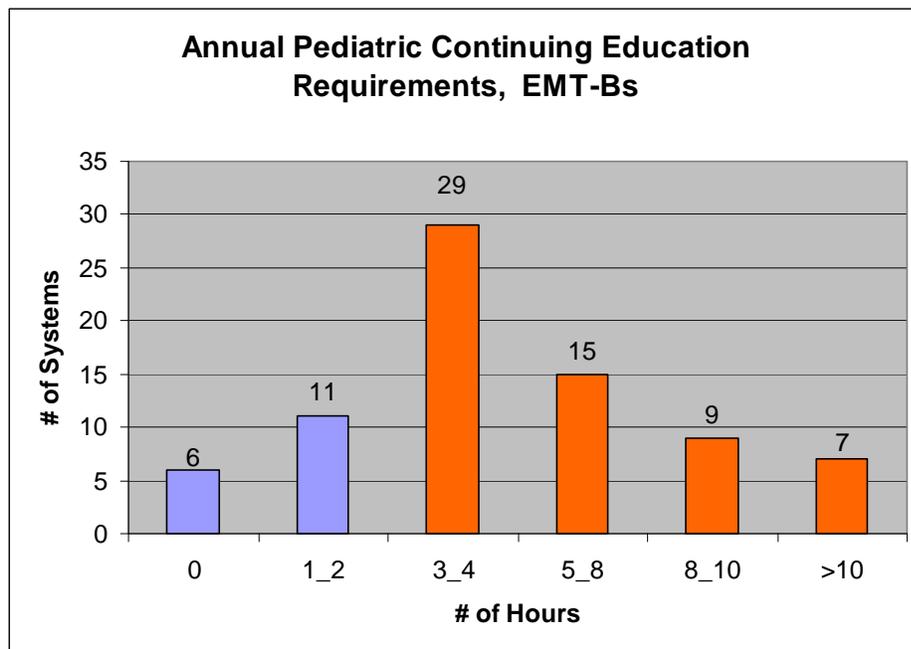
Survey Results

Of the 77 EMS systems that responded, only three required at least one level of their EMS personnel to obtain certification by the National Registry of Emergency Medical Technicians.

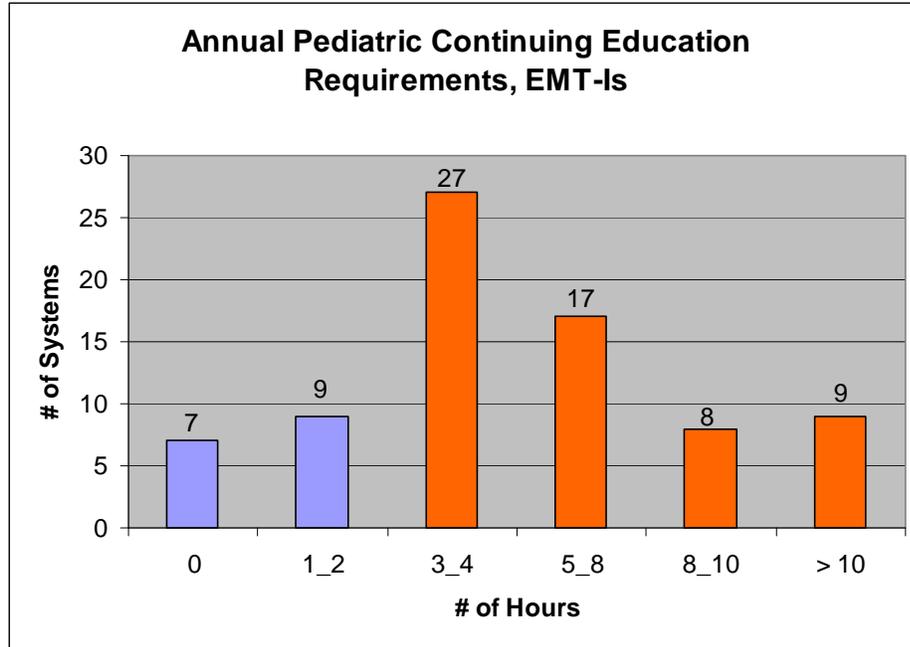


Most EMS systems required pediatric continuing education hours to be completed each year for each credential level. Most EMS systems required three to four hours for Emergency Medical Technician-Basic (EMT-B), Emergency Medical Technician-Intermediate (EMT-I), and Emergency Medical Technician-Paramedic (EMT-P). The number of systems that required three to four hours or more per year varied by credential level, however, with systems requiring more hours for EMT-Ps. This is depicted in the three charts that follow.

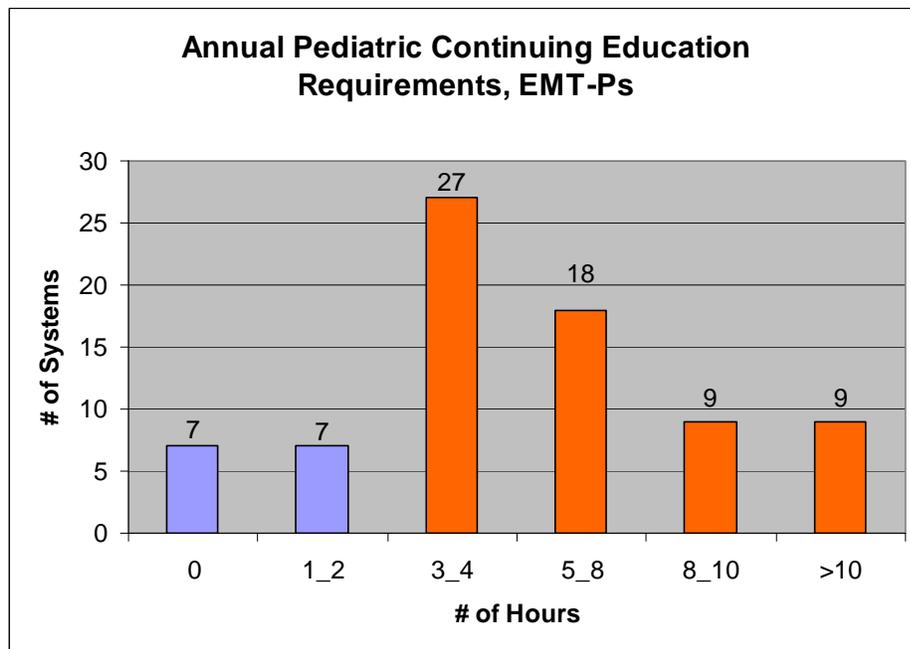
Sixty of 77 EMS systems, or 78%, required three or more hours of pediatric continuing education for EMT-Basics per year.



Fifty-two of 77 responding EMS systems, or 68%, required three or more hours of pediatric continuing education hours for EMT-Intermediates per year.

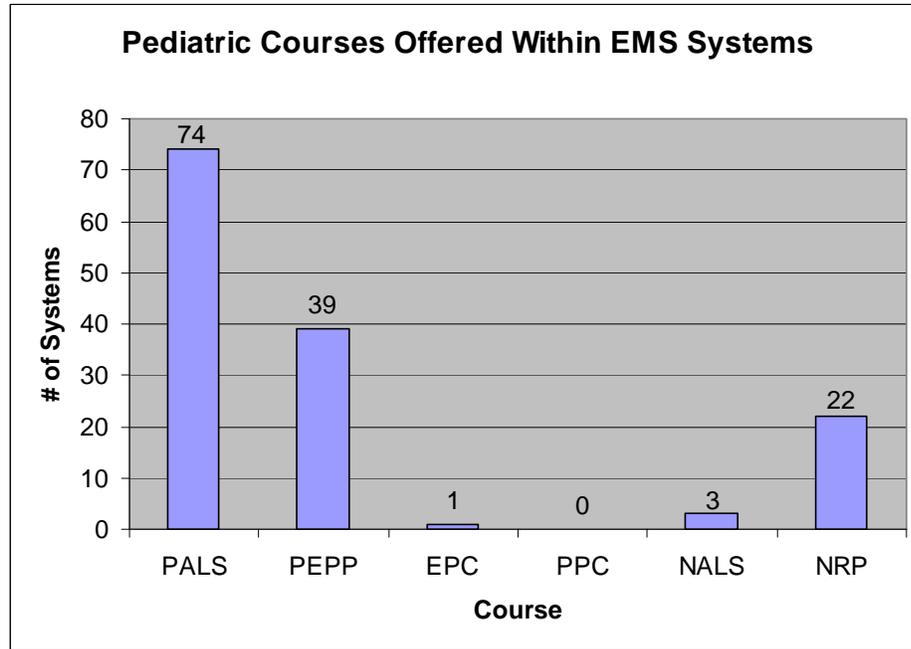


Sixty-three of 77 responding EMS systems, or 82%, required three or more pediatric continuing education hours for EMT-Paramedics per year.

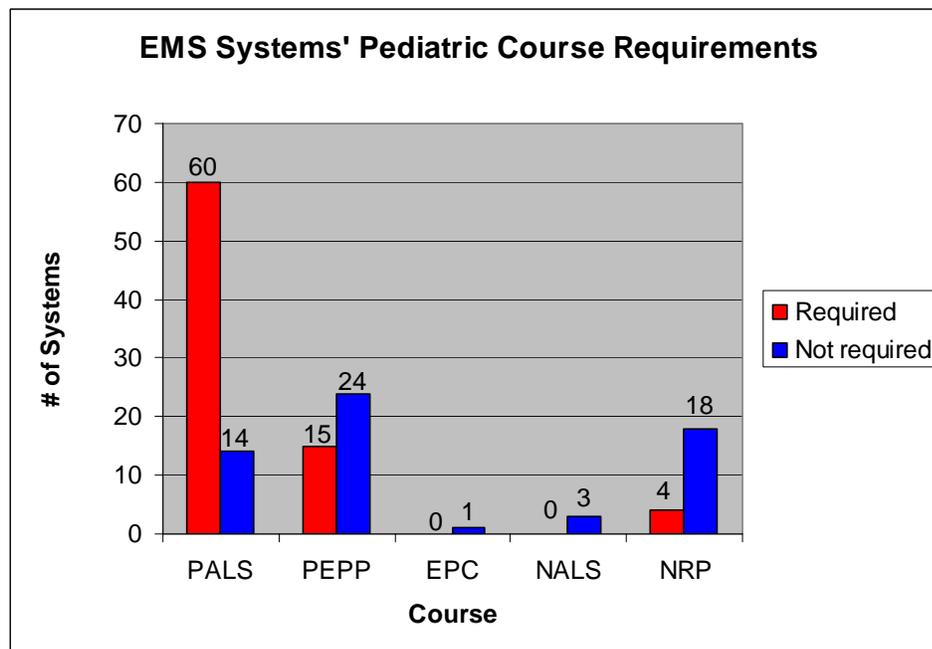


EMS systems were asked which nationally-recognized pediatric emergency care courses they offered. These included Pediatric Advanced Life Support (PALS), Pediatric Education for

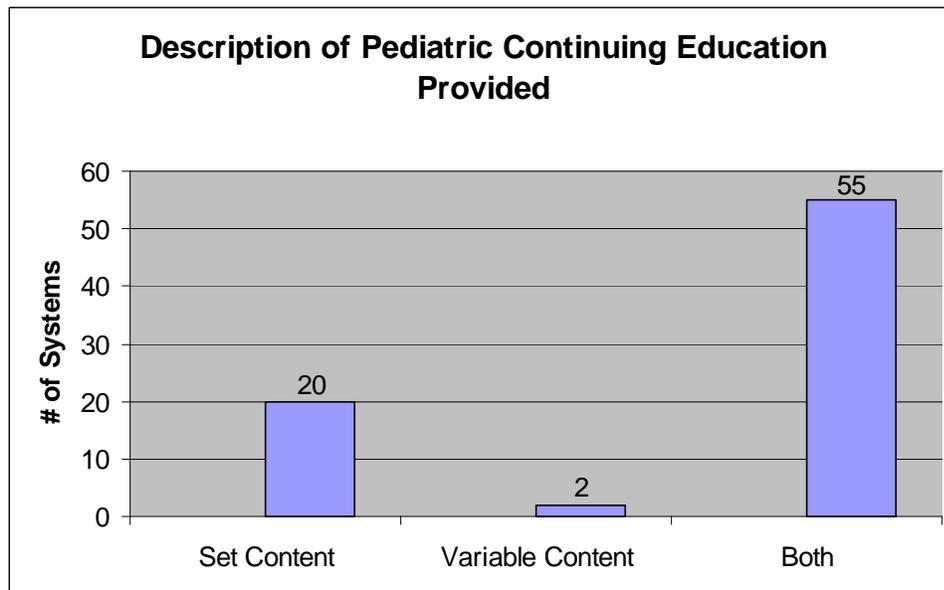
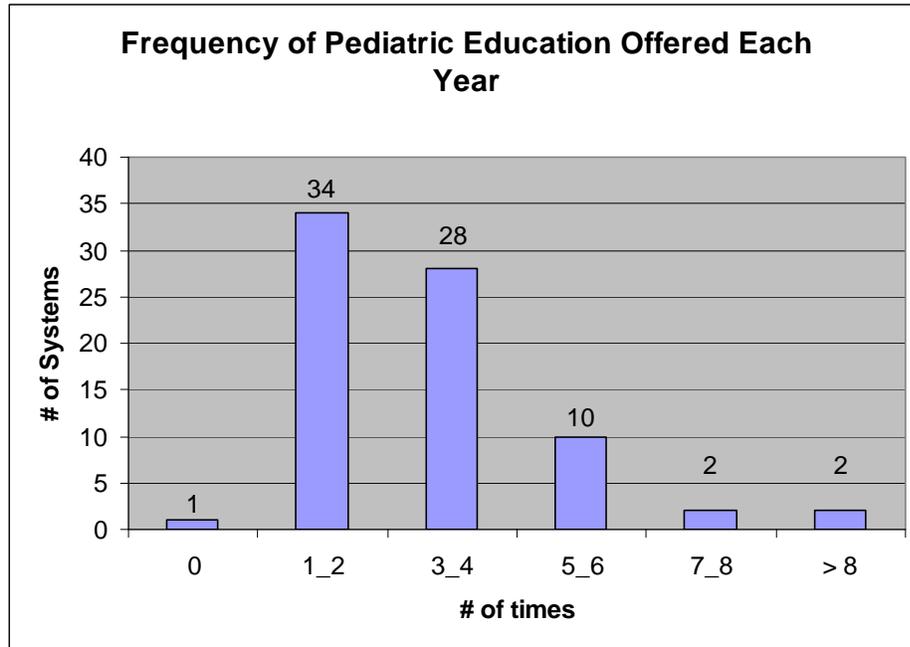
Prehospital Professionals (PEPP), Emergency Pediatric Care (EPC), Prehospital Pediatric Care (PPC), Neonatal Advanced Life Support (NALS), Neonatal Resuscitation Provider (NRP), or others not specified. Most EMS Systems offered PALS, followed by PEPP, then NRP.



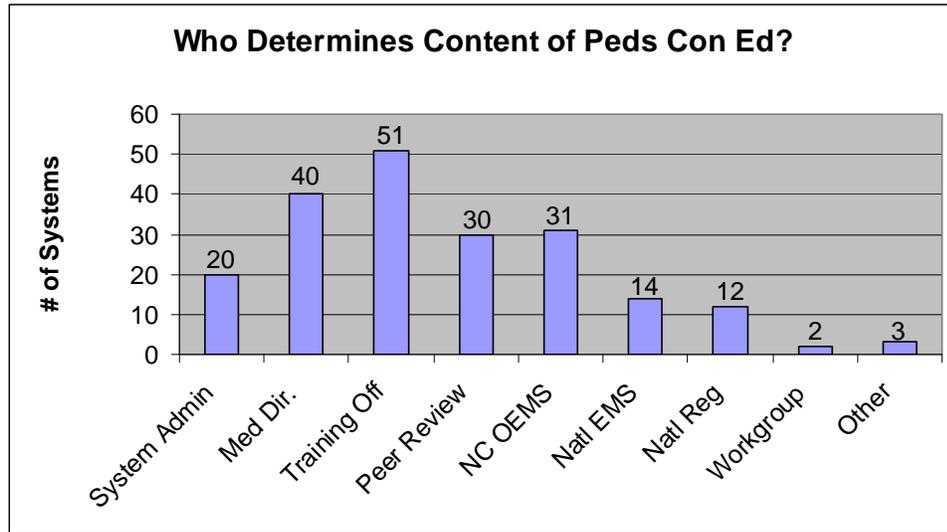
Of these courses, PALS was required more often than any other course, although not all of the systems that offered it required it in order for their EMS personnel to be re-credentialed.



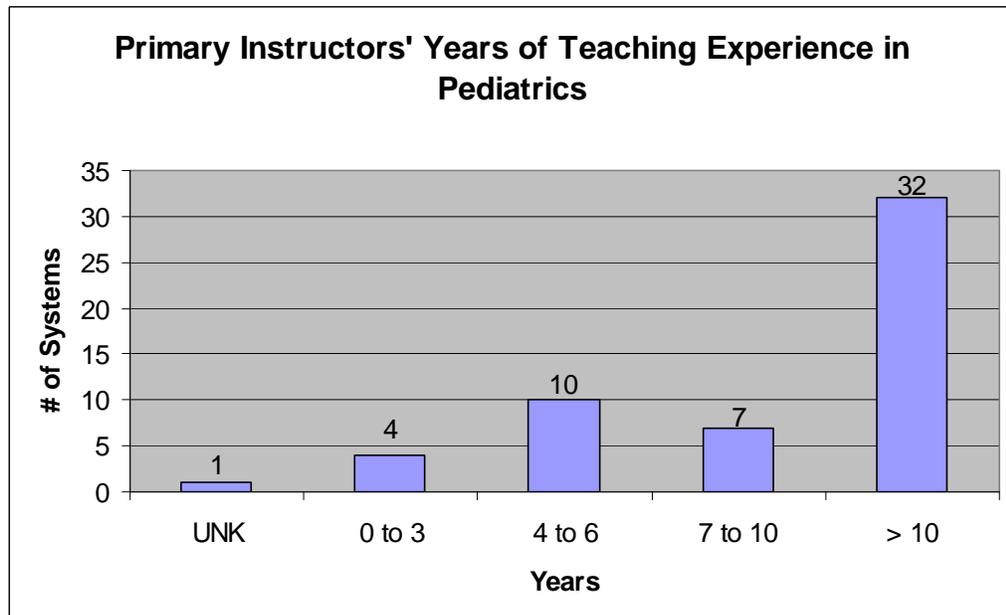
Most EMS systems offered pediatric continuing education one to two times or three to four times each year, but several offered it more frequently. In addition, most provided this education using both set content as well as variable content, although 26% of responding EMS systems offered it using set content only.



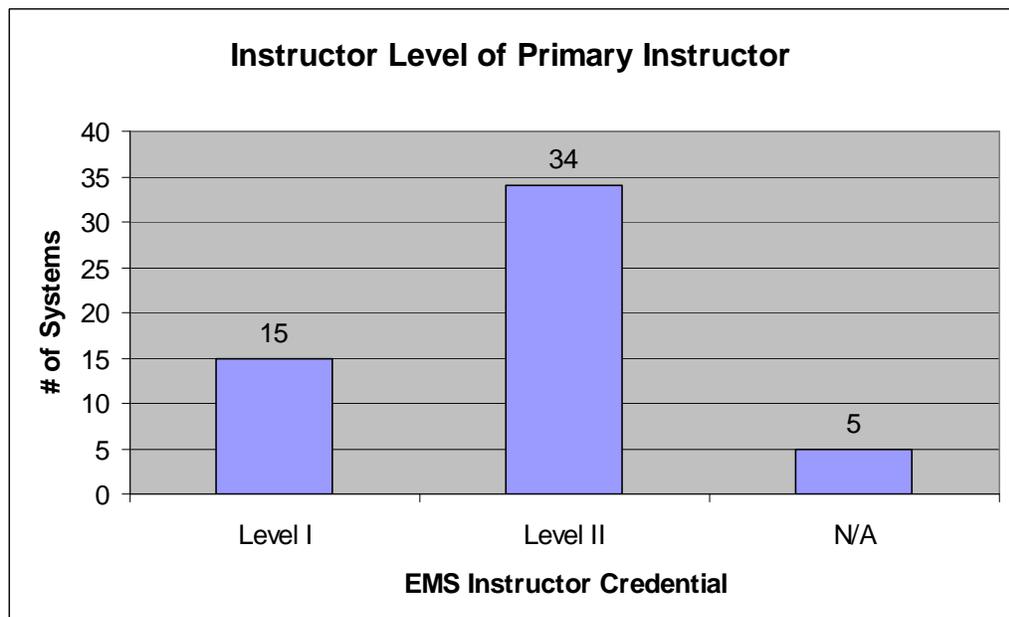
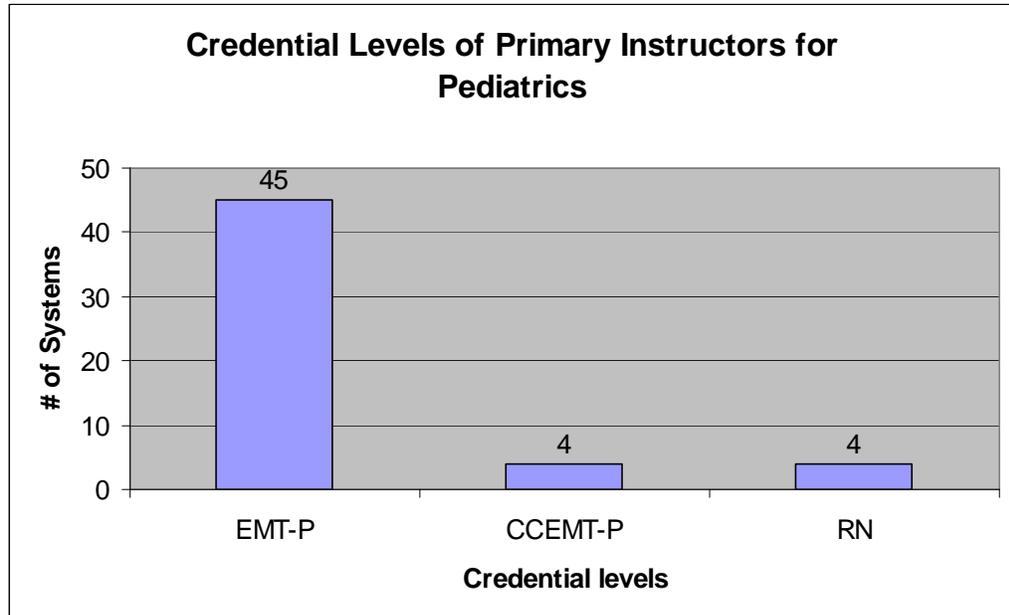
Most EMS systems utilized more than one staff member or source to determine the content of pediatric continuing education. Training officers were the most frequently utilized, followed by medical directors. The categories in the following chart are not exclusive; rather systems could indicate one or more of these staff members or resources as contributing to the development of pediatric educational content.



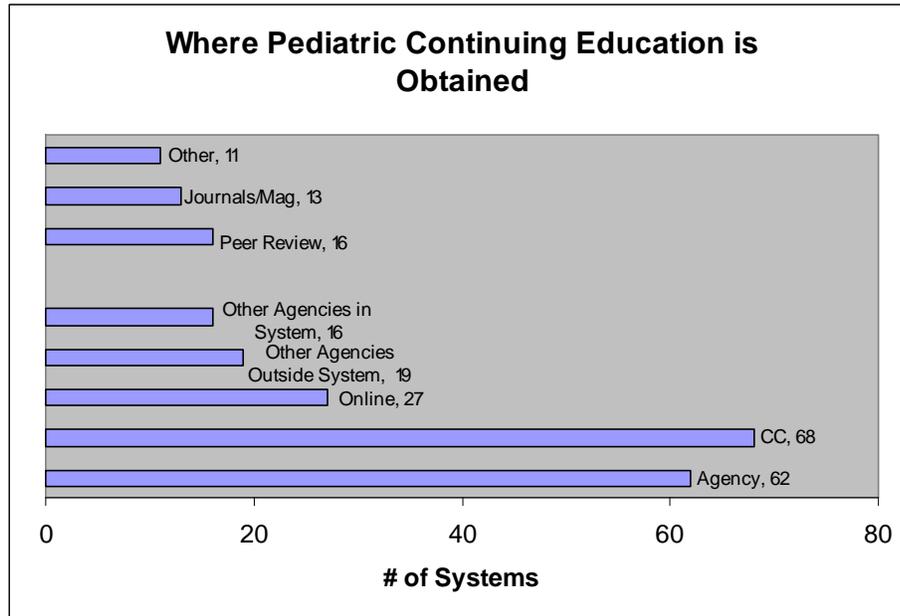
Fifty-four of 77 responding EMS systems, or 70%, reported having a primary instructor to teach pediatric continuing education and most systems reported having primary instructors with more than 10 years of experience in teaching pediatrics.



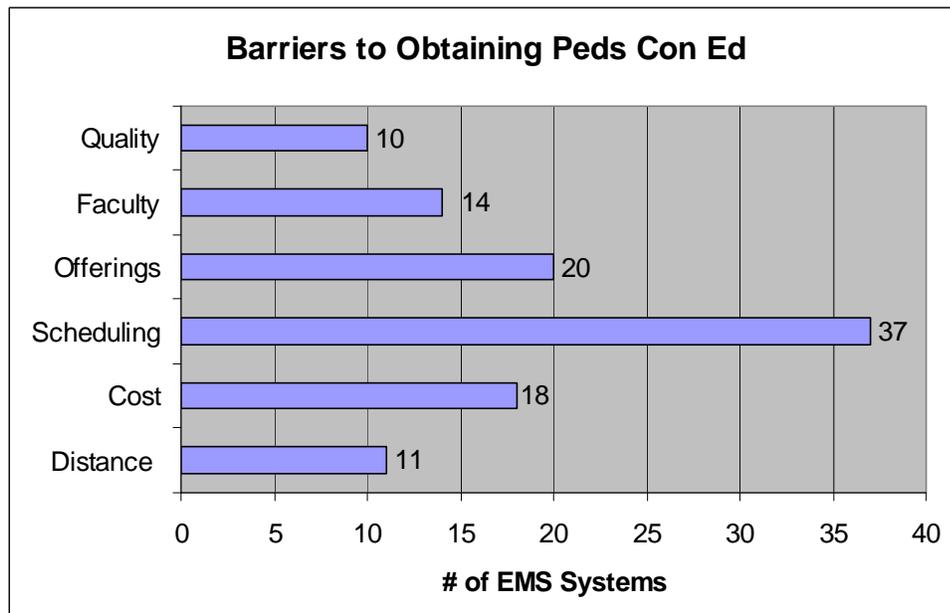
Most responding EMS systems' primary instructors for pediatrics were paramedics and most were Level II instructors.



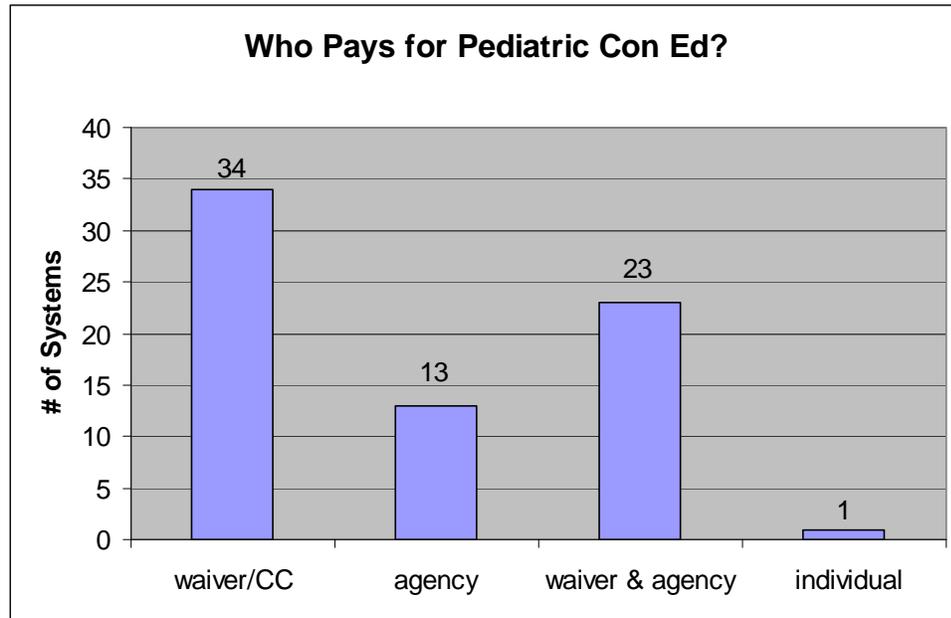
Systems indicated that their personnel obtained pediatric continuing education from a variety of sources, however the most frequent sources were community colleges, their own agencies, online offerings, and from other agencies outside of their systems.



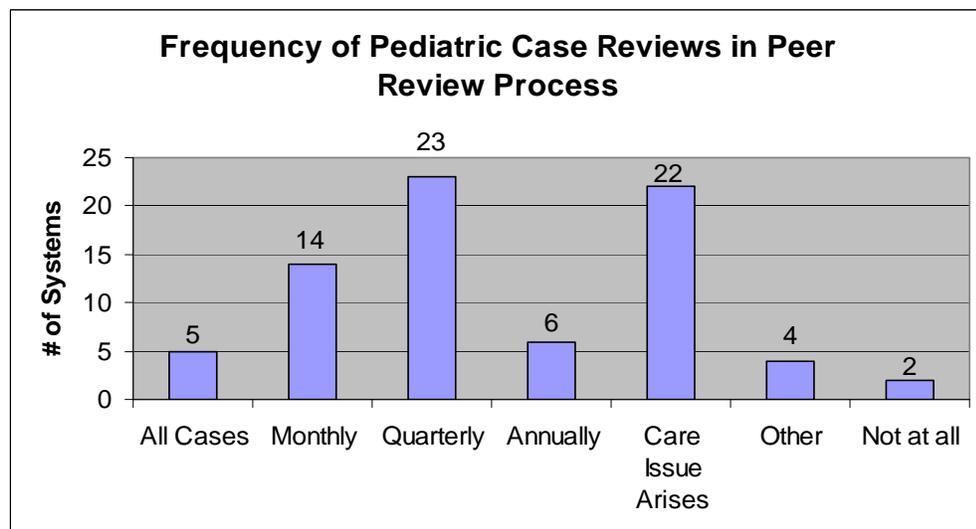
The most frequent barrier cited in regard to obtaining pediatric continuing education was scheduling conflicts. A lack of training opportunities offered and the cost of pediatric continuing education were the next most frequent barriers cited.



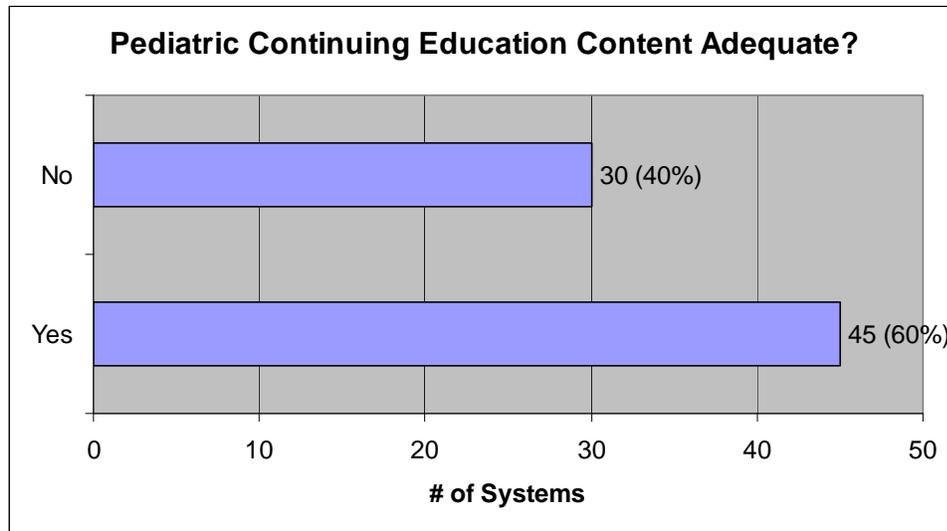
Thirty-four EMS systems reported that pediatric continuing education was primarily paid for through tuition waivers or through community colleges. However, 23 EMS systems indicated that the costs of this type of education were covered by both tuition waivers and by their agencies.



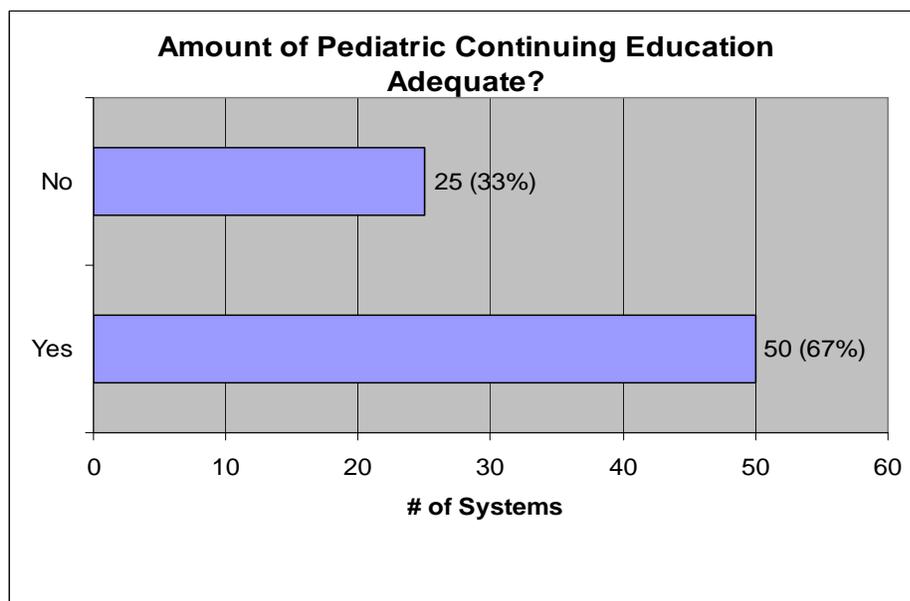
In addition, the survey asked whether pediatric cases were reviewed in the system's peer review process, and if so, how often, as a potential method of identifying pediatric content for education. All but two responding EMS systems included pediatric cases in their peer review processes. Most included pediatric case reviews in their peer review processes either quarterly or when a care issue arose.



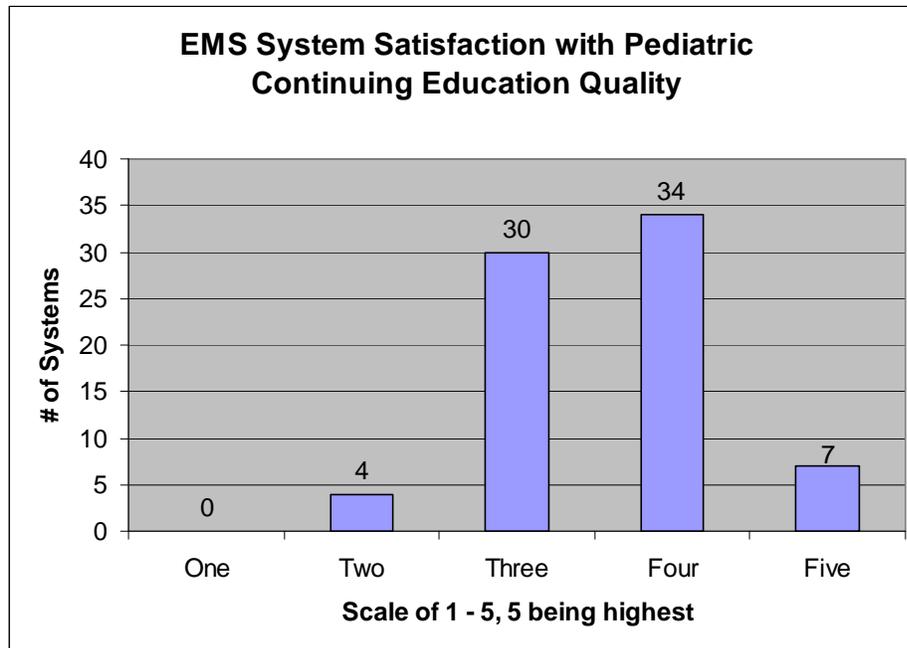
Forty-five of 75 responding EMS systems, or 60%, indicated that the content of pediatric continuing education was adequate. However, 30 EMS systems, or 40%, indicated that improvements could be made. Suggestions for additional content included special needs or technology dependent children and an increased focus on pediatric trauma. Other comments included the need to mandate topics in pediatric education and to teach more on “everyday” pediatrics in order to decrease the level of stress that EMS providers feel when treating a child.



Fifty of 75 responding EMS systems, or 67%, indicated that the amount of pediatric continuing education provided was adequate. Of the 25 EMS systems that indicated it was not adequate, 21 indicated support for an increase in the number of hours required for all levels of EMTs.



Lastly, most responding EMS systems reported satisfaction with the overall quality of pediatric continuing education that was being offered in their respective systems. Thirty-four of 75 responding EMS systems, or 45%, gave pediatric continuing education a rating of four on a scale of one to five with five being the highest, while all but 4 systems, or 95% rated overall quality a three or higher.



Conclusion and Final Thoughts

This survey provided a first opportunity for the EMSC program to determine what was being done in pediatric continuing education statewide, and to assess the frequency, content, and overall quality of this education as conveyed by EMS system personnel. Although there were similarities among the EMS systems that participated in the survey, there were also a number of differences. Some systems offered PALS, some offered PEPP, and some offered both. A few also offered NRP, however PALS or PEPP were the courses most frequently required of those offered. In addition, it is important to note that 25 of 75 responding EMS systems, or 33%, indicated that the amount of pediatric continuing education was not adequate and that they would support additional required hours. Moreover, 30 of 75 responding EMS systems, or 40%, felt that the content of pediatric education could be improved. Some suggestions for improvement were including subject matter on special needs or technology dependent children, restraint devices for pediatric transport, and medication dosing, in addition to requiring the Pediatric Advanced Life Support (PALS) course, and increasing content on pediatric trauma.

Overall, EMS systems throughout the state were satisfied with the quality of pediatric continuing education. It is also clear that EMS systems were committed to providing ongoing education to

EMS personnel in pediatric care as evidenced by educational requirements, frequency of course offerings, and the inclusion of pediatric cases in peer review processes. These all reflected a desire to promote quality pediatric care and ensure overall pediatric preparedness across the state.

Many thanks to the following EMS systems that participated in the survey:

Alamance County EMS
Alexander County EMS
Alleghany County EMS
Anson EMS
Avery County EMS
Bladen County Emergency Medical Ser
Brunswick County EMS
Buncombe County EMS
Cabarrus County EMS
Caldwell County EMS
Carteret County EMS
Catawba County EMS
Central Carolina Advanced Life Support
Cherokee Tribal EMS
Cleveland County EMS
Coastline Care Inc. d/b/a
First Med NC
Craven Regional-EMS
Cumberland County EMS
Currituck County EMS
Dare County EMS
Davidson County Community College
Davidson County EMS
Davie County EMS
Duplin County EMS
Durham County EMS
Edgecombe County Rescue Squad
Firsthealth Regional EMS System Chatham
Firsthealth Regional EMS System
Montgomery
Firsthealth Regional EMS System Richmond
Franklin County EMS
Gaston County EMS
Graham County EMS
Granville County EMS
Guilford County EMS
Halifax County Emergency Medical Service
Haywood County EMS
Henderson County Emergency Service

Hyde County EMS
Iredell County EMS
Johnston County EMS
Jones County EMS
Lincoln County EMS
Macon County EMS
McDowell County EMS
Mecklenburg Emergency Medical Services
Agency
Mission Hospitals (Yancey)
Moore County EMS
Nash County EMS
New Hanover Regional Medical & EMS
Northampton County Ambulance Service
Orange County EMS
Pasquotank-Camden Ambulance Service
Pender Volunteer EMS & Rescue
Person County EMS
Pitt County EMS
Polk County EMS
Randolph County EMS
Robeson County EMS
Rockingham County EMS
Rowan County EMS
Rutherford County Emergency Service
Sampson County EMS
Scotland County EMS
Stanly County EMS
Stokes County EMS
Surry County EMS
Transylvania County EMS
Tyrrell EMS
Union Emergency Medical Services
Vance County Fire & Amb
Warren County Emergency Medical
Services
Washington County EMS
Watauga Medics Inc.
Wayne County EMS
Wilkes County EMS
Wilson County Department Of EMS
Yadkin County EMS