Pediatric Chief Resident Exchange Program—A Novel Method to Share Educational Ideas Across Training Programs

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ABSTRACT

BACKGROUND: Pediatric residency programs offer many conferences and activities to meet the educational needs of their residents. We developed and assessed the Pediatric Chief Resident Exchange Program where pediatric chief residents visited another institution for a day with the goal of sharing educational and curricular innovations between residency programs in an experiential manner.

APPROACH/INNOVATION: Pediatric chief residents participated in various activities during the exchange including educational conferences and discussions with residency program leadership at the host institutions. Surveys were administered to all participating chiefs to determine if any changes to educational conferences or curriculum were made or planned to be made at their home program based upon what they observed at the other institution and to have chiefs reflect on what they gained from the experience.

RESULTS: Twenty-eight chief residents from 9 programs participated in the exchange program over 3 academic years (2015−2018). All respondents felt the exchange experience was worthwhile. The majority (67%) of programs planned to implement a change at their institution based on participation in the exchange with over half actually making a change by the end of the academic year. Participating chiefs gained a sense of camaraderie, appreciated that other programs experienced similar struggles, and developed further insight into the chief resident role.

DISCUSSION: The Pediatric Chief Resident Exchange Program is a novel method of sharing educational practices between institutions that can lead to curricular changes at participating programs. It can also be an opportunity for chief resident professional development.

KEYWORDS: Pediatric Chief Resident Exchange Program; professional development; residents

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WHAT'S NEW

The sharing of educational innovations between residency programs is beneficial both to trainees and programs. This study describes a novel experiential model of utilizing pediatric chief residents to share curricular and programmatic ideas between pediatric residency programs.

THE ACCREDITATION COUNCIL for Graduate Medical Education (ACGME) requires that pediatric residency training programs have "planned educational experiences" to ensure that residents acquire the skills necessary to practice pediatrics independently.[1] However, there is little guidance from the ACGME as to how this content should be provided. A large body of literature exists where curricular innovations are disseminated via platforms such as MedEdPORTAL from the Association of American Medical Colleges (AAMC) and Share Warehouse from the Association of Pediatric Program Directors (APPD) in addition to peer-reviewed manuscripts.[2,3] Even with these dissemination methods to learn about interesting and effective educational programs, there may be barriers to implementation. Many educational interventions are being used successfully in programs that are not being disseminated. Program leadership may find it difficult to adapt and implement curricula they read about within their own program. Experiencing curricula and educational programs directly may be a more effective way to share approaches. As described in Kolb's Experiential Learning Theory, participating in and experiencing the educational environment, reflecting on and learning from that experience, then actively incorporating learned techniques may enhance the dissemination of educational offerings more than print dissemination alone.[4]

Experiential exchange models have been described in the medical literature, mainly in global health education.[5,6] The

goals of these international resident exchanges include appreciation of different cultures and improving clinical care in addition to promoting institutional changes in patient care systems and educational practices. Nursing international exchange programs also have been described with similar goals.[7,8] To our knowledge, no resident exchanges between residency programs in the United States have been described.

We developed and evaluated an exchange program for pediatric chief residents with the goal of sharing educational and curricular innovations between residency programs in an experiential manner. Chief residents were utilized in this program due to their unique position in the educational and administrative structure of most pediatric residency programs. Full-time chief residents have typically just completed residency training and experienced the educational offerings of their home program. They have insight into the learning needs of residents at their program and may have ideas on how to improve the educational experience of the residents.[9,10] Chief residents are unlikely to have the same level of clinical and/or administrative burden as program directors, giving them the flexibility to leave their institution for a day to experience curricular and other educational offerings at another training program. Given the leadership role of chief residents, they have the ability to implement changes in their programs upon returning from the exchange experience.

Other experiential learning programs for pediatric chief residents have been described including leadership training courses and various "chief camps" including the Chief Resident Forum from the APPD.[11–13] These courses allow for pediatric chief residents from different programs to share ideas but this information exchange occurs in the context of discussions and not an in-situ experience. We created the Pediatric Chief Resident Exchange Program to allow chief residents to have a physical exchange in order to experience and participate in educational offerings at other institutions. We hypothesize that participation in the Pediatric Chief Resident Exchange Program will lead to curricular changes at the home institutions.

APPROACH/INNOVATION

We developed the Pediatric Chief Resident Exchange Program to have chief residents from the Mid-America Region of the APPD visit another institution in the region for 1 day during each academic year from 2015 to 2018. The APPD Mid-America Region consists of 23 categorical pediatric residency programs with approximately 1050 pediatric residents and 50 chief residents. Exchanges were assigned each year by pairing programs of similar size while attempting to minimize travel distance for the chief residents. No 2 programs were paired together more than once. The exchange dates were determined by the participating chief residents and occurred during the fall or winter of the academic year. In order to promote information exchange, we asked participating programs to have the visiting chief resident(s) experience and participate in one of the host program's educational sessions (morning report, case conference, etc.). They were also encouraged to have meetings with the host chief residents, residency program director and/or associate program director. We created sample topics to help guide discussions during the exchange (Table 1). Visit day schedules were created by the host program. After the exchange, we asked the chief residents to discuss their experience with their program director and other educational leadership. The visiting chiefs spent up to 1 full business day at the host institution. Some chiefs chose to drive to a location closer to the host program the night before the exchange visit. The visiting and host chiefs spent most of the exchange day together. Some program directors spent time with just the visiting

Table 1. List of Potential Topics for Discussion

Educational conferences	What type of educational conferences do you provide? (Morning Report, Journal Club, etc.)
	Do you require attendance at conferences? What percentage of resident attendance is required by your program?
	How do you promote faculty attendance at conferences?
Miscellaneous	What type of tracks does your program provide? (Rural, Research, Global Health, Primary Care, etc.)
	How do you manage your administrative/teaching duties during recruitment season?
Chief resident clinical duties	What type of clinical duties do chief residents perform (Hospitalist, continuity clinic preceptor, nursery ED, etc.)?
	What are the chief residents' salaries and benefits, including CME?
Chief resident administrative duties	Do you use scheduling software to make the residents' schedules?
	What secretarial duties to do you perform routinely?
	Are you responsible for scheduling the residents' educational conferences?
	Does your program have a backup schedule if residents are ill or fatigued? How does this schedule work?
Chief resident teaching duties	What is your role in teaching medical students?
	What is your role in teaching residents?
Chief resident research	Are you actively involved in research during your chief residency year? Is involvement optional or expected?
Chief Resident Professional Development	What types of professional development opportunities are you provided with during your chief residency year?

chief residents and others had a group discussion with both the host and visiting chiefs. Participating residency programs paid for any costs associated with the exchange.

After a pilot year between 2 residency programs, 2 study years were performed where additional pediatric residency programs were recruited via emails sent through the APPD Mid-America Discussion Board and via direct emails to residency program directors in the APPD Mid-America Region. We designed the project on a small scale initially to determine the feasibility of the exchange prior to inviting additional programs. We assessed the project utilizing 2 surveys disseminated via REDCap (www.projectredcap.org) to all participating chief residents (Appendix 1a). The initial survey was sent to participating chiefs approximately 1 month after their visit to the other institution. The primary goal was to determine whether their home program implemented or planned to implement a change to the current educational offerings based on what they experienced during their exchange visit. The survey also elicited details regarding what the chief residents experienced during their visit and open-ended feedback on the program in general.

During the study years, we distributed an additional survey at the end of the academic year in which the chief residents participated in the exchange program (Appendix 1b). The primary goal of this survey was to determine whether any educational changes had actually been implemented at the home institution based on what the chiefs had experienced during the exchange. We also elicited additional open-ended feedback regarding the program. Descriptive statistics were used to analyze the quantitative data. Open-ended feedback was reviewed and representative comments chosen based upon repeated themes.

This project was evaluated by the institutional review board at University Hospitals Cleveland Medical Center and found to be exempt.

RESULTS

Twenty-eight chief residents from 9 pediatric residency programs participated in the Pediatric Chief Resident Exchange Program (please see Acknowledgments for list of participating programs). Twenty-five chief residents responded to the initial survey (89% response rate) and all respondents felt the exchange program was worthwhile (Table 2). During their exchange visit, responding chief residents participated in the following activities (percent of chiefs participating): met with host chief residents (100%), experienced morning report or other interactive conference (100%), met with host program director and/or associate program director (96%), attended a didactic conference (52%), attended patient care rounds (40%), and met with additional faculty (8%). Chief residents from 6 of the 9 programs were planning on making a curricular change based upon the exchange experience. Sixteen chief residents responded to the follow-up survey at the end of the academic year (67% response rate) and 5 programs had enacted some form of curricular change based upon participating in the exchange. Changes that were planned and those actually made by the end of the academic year included enhancing the interactive nature of conferences, alterations to morning reports, improving mock codes, changing resident inpatient team structure, and adding professional development opportunities (Table 3). Comments from chief residents showed that they established a sense of camaraderie with other chiefs, realized that other programs had similar struggles, and developed further insight into the role of chief resident (Table 3).

Table 2. Pediatric Chief Resident Exchange Program Survey Data

Participating chief residents	28
Participating residency programs	9
Initial survey respondents (%)	25 (89%)
Respondents who felt exchange program was worthwhile (strongly agree or agree) (%)	25 (100%)
Programs planning to implement change (%)	6 (67%)
Follow-up survey respondents (%)	16 (67%)
Programs that implemented change (% of responded programs)	5 (56%)

DISCUSSION

To the best of our knowledge, the Pediatric Chief Resident Exchange Program is the first of its kind that utilizes an exchange program with chief residents to experience and share curricular and educational offerings. We demonstrated that a chief resident exchange is perceived as a worthwhile experience for the participants and can lead to curricular and programmatic changes in pediatric residency programs. Changes were made mainly to curricular offerings but there were also some to resident schedules and wellness activities. Seeing what other programs offer and how they are structured also aided in the professional development of the chief residents. They gained additional skills in their job including new ways to schedule and approach challenges in addition to developing a sense of camaraderie among other chief residents.

The Pediatric Chief Resident Exchange Program led to curricular changes for some, but not all, of the participating programs. Some chiefs did their exchange later in the academic year, leaving less time for them to enact change before they left their position. The paired programs may have had similar educational offerings and program leadership did not see a need to implement changes. One other possibility is that programmatic structures may have been such that implementing certain curricular changes would have been logistically difficult. An example of this may be that programs would not be able to restructure conferences due to inpatient rounding times.

There are some limitations to our study. There were a small number of participants and not all participants responded to all surveys. The follow-up surveys were sent in June of each academic year which may have led to a lower response rate with chief residents moving to their next position. Another potential reason for these lower response rates may be that chief residents who did not make curricular changes did not respond leading to a possible response bias in our results. We did not assess for barriers

Table 3. Survey Comments

Planned programmatic changes (listed by program)	Enhance global health curriculum Increase attending presence at morning report Develop PGY-level specific conferences Alter resident team structure Enhance advising and mentoring program Increase interactive nature of conferences Encourage PICU nurses to attend resident mock codes Increase interactive nature of noon conference Change morning report structure Improve rounds Change inpatient team structure Implement additional wellness activities Open morning report with a board prep question
Actual programmatic changes made (listed by program)	Creation of PGY-1 only didactic curriculum* Creation of procedure checklist Incorporate different teaching techniques* Altered resident team structure* Encourage PICU nurses to attend resident mock codes* Altered team structure to enhance the "team" mentality Creation of additional resident morale-boosting activities Chief residents holding resident pagers during conferences
Reflections from participation in the Pediatric Chief Resident Exchange Program	"It was helpful to hear that the program leadership. . .shares in our experiences with recruitment and program improvement, including both the struggles and successes." "We found many similarities between our mid-sized program when compared with a very large program. . .which was surprising considering that we lack some of the available resources of a large program" "Helpful to commiserate with other chiefs and understand that we were experiencing the same trials and tribulations" "I gained more insight into how the chief role is interpreted at different institutions, as well as practical programmatic changes that could be implemented at our institution" "It was really amazing to see other chiefs and how they function, and the ways they tried to tackle similar challenges that we also have."

*Planned changes on initial survey that were implemented on follow-up survey.

to implementation of changes at programs. While we did encourage chief residents to discuss the experience with their program leadership, we did not assess whether there were structured debriefing sessions or whether there was buy-in from the program directors to implement change. Future studies could be done to evaluate program director perceptions of the Pediatric Chief Resident Exchange Program and how it impacted their residency program.

We believe the Pediatric Chief Resident Exchange Program could be adapted to other regions and lead to similar results. We learned many lessons that would aid in other regions developing a similar exchange program. Having one point person to organize the exchanges led to ease of creating pairings each academic year and to keeping track of logistics such as the individual chief residents that were participating and the dates of the exchanges. Several chief residents did not want to exchange in the fall due to studying for the American Board of Pediatrics certifying exam or because of their roles in residency recruitment. This led to some exchanges occurring later in the academic year. Determining the programs that will participate a few months prior to the start of the academic year may lead to earlier exchanges between programs.

We decided to utilize chief residents for the exchange due to their knowledge of their residency program and their place in leadership teams to have the potential to enact change.[10] More junior residents may not have as much knowledge of their home programs to see the same benefit. However, this exchange program could potentially be designed with "rising chiefs," senior residents who have been chosen to be chief residents during the following academic year, as the participants. Utilizing these residents could lead to additional time for implementation of changes in the home program during their chief resident year. A similar type of program could also be envisioned for program directors, associate program directors, or program coordinators. All of these individuals could benefit from seeing how other programs are structured from their own unique point of view.

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SUPPLEMENTARY DATA

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