



Creating the Subspecialty Pediatrics Investigator Network

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Why a Network for Educational Research Across the Pediatric Subspecialties?

One challenge to research in the education of pediatric fellows is the need for large sample sizes so that innovative approaches can be assessed adequately and results are meaningful. Furthermore, trainees need to be evaluated in different educational settings to understand what works well in which environment, and why or why not. In addition, the information provided by studies with a limited number of programs may not be generalizable throughout the subspecialty or to other subspecialties. This is especially true for the pediatric subspecialties in which the number of trainees is generally small. A network for educational research will enable discovery and dissemination to improve the teaching and assessment of pediatric subspecialty trainees and establish best practices in medical education.¹ The Subspecialty Pediatrics Investigator Network (SPIN) was created to advance these goals.

The Creation of SPIN

SPIN was formed as a collaborative effort between the Council of Pediatric Subspecialties, the Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network,¹ the American Board of Pediatrics (ABP), and the APPD Fellowship Directors' Executive Committee, taking advantage of the expertise of each group. Through the Council of Pediatric Subspecialties, each subspecialty identified up to 2 SPIN representatives and these individuals, along with the organizational leaders, comprise the SPIN Steering Committee ([Appendix 1](#); available at www.jpeds.com).

As the network was being developed, specific roles for each group were defined ([Table 1](#)). Reflecting its "senate-like" structure, the main function of the Council of Pediatric Subspecialties was to coordinate the efforts of the subspecialties. The Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network, which already had a robust data infrastructure and network research expertise, assisted with institutional review board submission and data management and analysis. Recruitment and communication within each subspecialty were the responsibility of the SPIN subspecialty representatives because these individuals work

directly with their respective subspecialty program directors. All SPIN Steering Committee members provided input into study design and participated in manuscript preparation. SPIN's mission is "to improve the health of children by enhancing pediatric subspecialty training through innovation and research that establish best practices in education and assessment."²

Subspecialty Program Participation in SPIN's First Study

For its initial project, SPIN conducted a study evaluating entrustment decisions for 6 of the 7 common pediatric subspecialty Entrustable Professional Activities (EPAs).³ All subspecialties for which ABP certification is offered were invited to participate. Institutional review board approval was obtained at each site. For each of the EPAs, fellowship program directors and Clinical Competency Committees rated the required level of supervision for each of their fellows.⁴ In addition, the Clinical Competency Committees also assigned milestone levels to each fellow for each of the competencies mapped to these EPAs. Sample size estimates indicated that data from a minimum of 106 fellows from 6 subspecialties was required. However, the SPIN Steering Committee set an overall goal to involve all 14 subspecialties with the participation of at least 20% of programs in each subspecialty. Data were collected in the fall and spring of 2014 and 2015, respectively. As a part of an ongoing effort to continually improve data collection throughout the study, SPIN Steering Committee members were also eligible to obtain Part 4 Maintenance of Certification credit. Program directors who contributed data were considered collaborators ([Appendix 2](#); available at www.jpeds.com).

In the fall and spring, 208 and 209 pediatric subspecialty programs from 78 and 81 different institutions, respectively,

ABP	American Board of Pediatrics
EPAs	Entrustable Professional Activities
SPIN	Subspecialty Pediatrics Investigator Network

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*List of members of the Steering Committee of the Subspecialty Pediatrics Investigator Network is available at www.jpeds.com ([Appendix 1](#)).

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Table I. Organizational roles

CoPS	APPD LEARN	ABP	APPD Fellowship Directors' Executive Committee	SPIN Subspecialty Representatives
Provide overall supervision of recruitment of programs	Provide template and guidance for IRB application	Provide expertise regarding study question(s) and design	Assist with subspecialty and program recruitment	Provide instruction to programs about the study at organizational/ society meetings
Maintain list of participating programs	Instruct how to create subject LEARN identifiers	Assist with obtaining MOC credit for those engaged in data quality improvement	Provide a forum for discussion about the project	Recruit programs within their subspecialty
Coordinate IRB application within institutions	Create web-based data collection tools		Disseminate information about the project	Provide input into data collection tools
Serve as point of contact for subspecialties	Serve as a database repository			Assist with IRB submission
Organize calls and meetings	Manage and "cleanup" data			Assist with program compliance in submitting data
Prepare data for presentations	Perform data analysis			
Supervise manuscript and abstract submission				

APPD LEARN, Association of Pediatric Program Directors Longitudinal Educational Assessment Research Network; CoPS, Council of Pediatric Subspecialties; IRB, institutional review board; MOC, maintenance of certification.

participated in the study representing approximately one-quarter of all Accreditation Council for Graduate Medical Education approved pediatric fellowships.⁵ All 14 subspecialties with ABP certification contributed data, which included the ratings of more than 1000 fellows at each data collection period. In both periods, neonatology and critical care had the greatest number of programs participating (Table II). However, developmental-behavioral pediatrics enrolled the greatest percentage of programs followed by child abuse pediatrics. At each time point, 12 of 14 pediatric subspecialties (86%) met the goal participation rate of 20%, although there were some differences in the specific subspecialties that met the threshold. The reasons for this variability in participation are unknown. Results from this first study presenting validity evidence for the level of supervision scales have been published.⁶

What's Next for SPIN?

Although SPIN provides a critical infrastructure for evaluating the training of subspecialty fellows, creation of the network shows something equally important, the interest of all the pediatric subspecialties in working together to improve fellow

education. Despite the added task of providing level of supervision ratings at a time when fellowships were submitting their first set of Accreditation Council for Graduate Medical Education milestone data, a large number of programs across all subspecialties participated in this initial project. The second SPIN study is well-underway, and involves a survey of fellowship program directors to determine the least amount of supervision required for a trainee to satisfactorily complete fellowship for all the pediatric common and subspecialty-specific EPAs. A third study is planned to obtain validity evidence for the scholarship and subspecialty-specific EPAs as well as evaluate fellows longitudinally over their 3 years of fellowship.

As SPIN develops, other pediatric subspecialties will be welcome to join. This includes hospital medicine as well as other non-ABP-certified pediatric subspecialties. Based on its first study, we expect SPIN's contributions to improve the education of our pediatric fellows to be significant and sustained. ■

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Table II. ACGME-approved pediatric subspecialty programs participating in the EPAs Study

Subspecialties	Fall 2014	Spring 2015
Adolescent medicine	10 (36)	11 (39)
Cardiology	14 (25)	12 (21)
Child abuse pediatrics	10 (40)	10 (40)
Critical care medicine	24 (38)	21 (33)
Developmental and behavioral pediatrics	17 (46)	18 (49)
Emergency medicine	19 (26)	19 (26)
Endocrinology	12 (18)	14 (21)
Gastroenterology	11 (19)	10 (18)
Hematology-oncology	14 (20)	13 (19)
Infectious diseases	14 (23)	16 (26)
Neonatology	33 (34)	35 (36)
Nephrology	7 (16)	6 (13)
Pulmonary medicine	12 (23)	13 (25)
Rheumatology	11 (32)	11 (32)

ACGME, Accreditation Council for Graduate Medical Education. Values are n (%).

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