

Longitudinal Evaluation of the Required Level of Supervision for Pediatric Fellows
Draft 8-25-17

A previous study by the Subspecialty Pediatrics Investigator Network (SPIN) provided cross-sectional data about the required level of supervision for 6 of the 7 common subspecialty EPAs for pediatric subspecialty fellows as well as validity evidence for the supervision scales. A subsequent investigation will solicit the opinion of fellowship program directors regarding the minimum level of supervision expected of a fellow at the time of graduation for all EPAs (common and subspecialty-specific) as well as the relative importance of the EPA in making graduation decisions. This project will evaluate fellow level of supervision as determined by the CCC longitudinally as well as provide validity evidence for the subspecialty-specific and scholarship EPA level of supervision scales. It will also examine the concordance between CCC ranking and fellow self-determination of level of supervision.

Specific Aims

The specific aims of this project are:

- 1) To obtain validity evidence for the subspecialty-specific and scholarship EPA level of supervision scales
- 2) To determine the developmental progression of levels of supervision for all EPAs (common and subspecialty-specific) during the 3 years of fellowship and
 - a) To investigate whether graduating pediatric fellows are meeting the previously defined minimum levels of supervision
 - b) To determine if the time in training at which pediatric fellows meet the previously defined minimum levels of supervision differ among the subspecialties
 - c) To determine if there is a level of supervision for any EPA below which remediation for poor performance is performed
 - d) For learners in which remediation was initiated, to determine if the level of supervision rating guided the decision to do so.
- 3) To compare level of supervision assessments made by the Clinical Competency Committee (CCC) with those of the pediatric fellow
- 4) For the Scholarship EPA, to examine the association between the level of supervision rating and the milestone level of the competencies mapped to the EPA
- 5) To investigate the thought process of the rater in deciding what constitutes a simple versus complex case
- 6) For the 5 EPAs that cross the generalist to subspecialist roles, to compare the level of supervision assigned to a resident at graduation to the level assigned at first assessment as a fellow

Methods

- SPIN
- CCC completes level of supervision rating for all fellows for 3 years. (evaluations twice/year at time of milestones)

- If CCC assigns levels 3 or 4 (which involve the distinction between simple and complex), specific questions will be asked to determine how the decision regarding simple/complex was made
- FPD completes ranking for scholarship EPA and assigns milestones and level of supervision for all fellows for 3 years (evaluations twice/year at time of milestones). Note: while the SOC might also be able to do this, the timing of the evaluations might differ and the expertise of the SOC in understanding milestones/EPAs would vary.
- Fellows complete self-ranking twice/year
 - Will need to obtain emails of fellows in whom their program is enrolled in the study.
 - FPDs sends email list to Study Coordinator (Alma Ramirez). Fellows will generate their own LEARN ID number or could get it from FPD.
 - APPD LEARN will incorporate a mechanism to be sure correct LEARN id is typed in.
- FPD will answer questions related to remediation
- Data from Residents entering Fellowship from LEARN database
- FPDs should be able to obtain MOC credit and be considered collaborators

Schematic

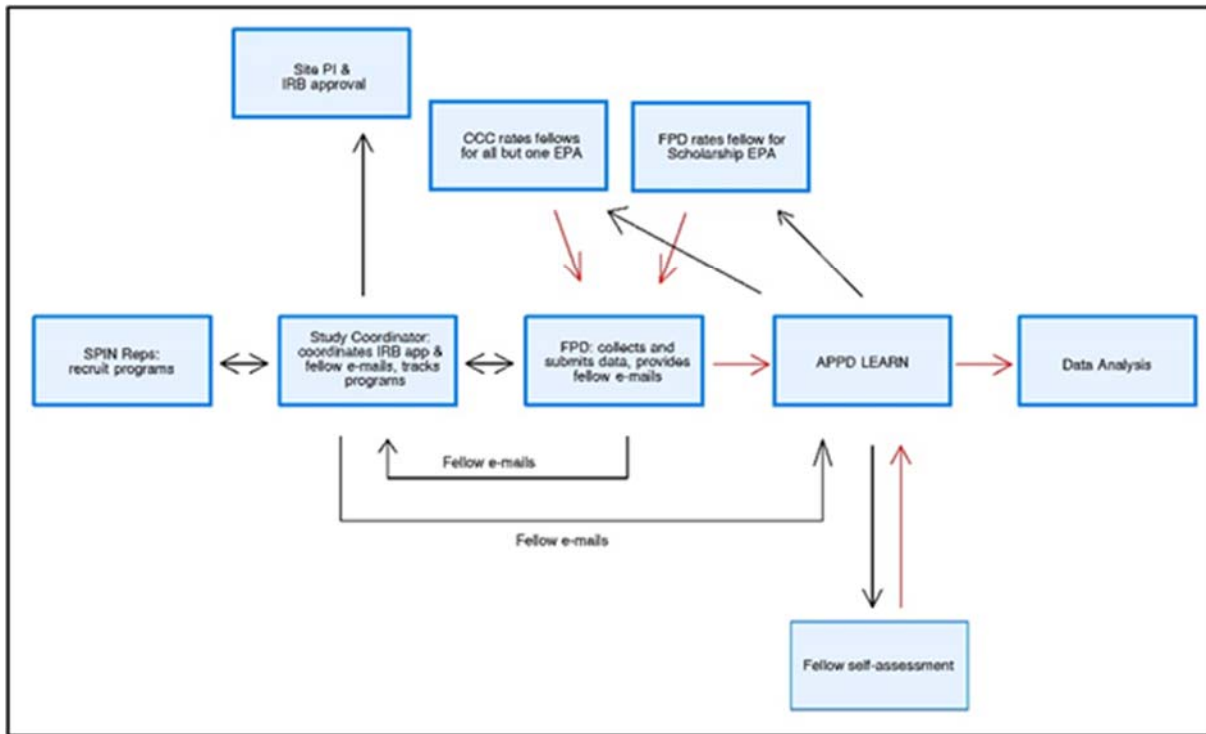


Figure 3. Flow chart of the study. Black lines indicate command and control structure while red lines indicate data flow.

Data Analysis

SA	Description	Analysis(es)
1	Validity evidence for the subspecialty-specific and scholarship EPA level of supervision scales	Analyses similar to that used for obtaining validity evidence for the common EPA level of supervision scales, including measures of internal structure (Cronbach's alpha) and relations with other variables (year of fellowship)
2	Developmental progression of levels of supervision for all EPAs during fellowship	Growth curves based on longitudinal data
2a	Whether graduating pediatric fellows are meeting the previously defined minimum levels of supervision	Describe the proportion of trainees that meet the expected level and compare proportions among the subspecialties with chi-square or logistic regression models
2b	Determine if the time in training at which pediatric fellows meet the previously defined minimum levels of supervision differ among the subspecialties	Compare the time to meet the minimum requirements among the subspecialties using a mixed-effects ANOVA
2c	Determine if there is a level of supervision for any EPA below which remediation for poor performance is performed	Descriptive analysis of survey responses
2d	For learners in which remediation was initiated, to determine if the level of supervision rating guided the decision to do so	Proportion in which rating guided decision
3	Compare level of supervision assessments made by the CCC with those of the pediatric fellow	Spearman Rho Correlation
4	Examine the association between the level of supervision rating and the milestone level for the Scholarship EPA	Spearman Rho Correlation between level supervision and aggregate of milestones mapped to scholarship EPA
5	Investigate the thought process of the rater in deciding what constitutes a simple versus complex case	During first year, ask raters to give examples of cases in each subspecialty that are just barely on the simple side and just barely on the complex side. During second year, present these cases to raters and ask them to classify as simple or complex. We will fit a 2 parameter IRT model to the responses to identify the continuum of complexity for each subspecialty's cases independent of the thresholds of individual raters.
6	Compare the level of supervision assigned to a resident at graduation to the level assigned at first assessment as a fellow for	Spearman Rho Correlation

	the 5 EPAs that cross the generalist to subspecialist roles	
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Sample Size

As in SPIN's initial study, which yielded over 1000 data points in each time period, the aim in this project is to recruit a minimum of 20% of programs in each subspecialty. Based upon the responses to the first two projects, we expect to exceed that target. The sample size focuses on generalizability and will be more than sufficient for any hypothesis tests to be conducted.

Timeline

Time	Action Item
Sept 2017-Jan 2018	Finalize data collection tools
Jan-Mar 2018	Representatives recruit programs. At least 20% of programs in subspecialty agree to participate
Mar-Aug 2018	Site PI identified, IRB approval obtained at each site
Nov 2018-Jan 2019	1st data collection period
May-Jul 2019	2nd data collection period
Nov 2019-Jan 2020	3rd data collection period
May-Jul 2020	4th data collection period
Nov 2020-Jan 2021	5th data collection period
May-Jul 2021	Final data collection period
Aug 2021-Dec 2021	Data analyses
Jan-Jul 2022	Manuscript preparation and submission