PEDIATRICS PERSPECTIVES

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Innovation in Residency Education and Evolving Pediatric Health Needs

The Initiative for Innovation in Pediatric Education (IIPE)[1] is the next phase in a comprehensive reevaluation of pediatric residency education that began with the Residency Review and Redesign in Pediatrics (R^3P) project.[2] As the IIPE begins, it is worth reflecting on questions that arose repeatedly during the R^3P project: Just what role does residency play in child health? Does it make a difference where one trains? Can residency improve later adherence to clinical guidelines? and Can residency modify the frequently steep learning curve of subsequent practice?

What difference can 3 years of residency make in 40 or more years of pediatric learning? This question is in the same category as whether it matters where one goes to medical school. The answer is elusive, but the imagined answer determines the structure and conduct of residency education. One extreme is that 3 years cannot possibly count for much. The other is that residency is all-important, and an attempt should be made to prepare everyone for everything. That ambitious goal governs our current approach to residency education.[3]

The goal was appropriate when virtually every pediatrician's practice was similarly broad. However, pediatric health care is increasingly dichotomized into low-acuity disorders treated exclusively in ambulatory settings, away from academic health centers (AHCs), and complex illnesses treated mostly within AHCs.[4] Career choices follow epidemiology. Only 29% of third-year residents who intend to practice general pediatrics, just 13% of all third-year residents, plan to practice general pediatrics in both ambulatory and hospital settings.[5] This is a different situation from the one for which residency education was intended.

What are the consequences of continuing the current approach? The traditional solution to growth in knowledge has been to grow the residency curriculum accordingly. Given the number of subspecialty bins into which knowledge falls, that means a number of disjointed month-long learning experiences with scant opportunity for the deliberate practice needed to develop competence and self-confidence.[6] Moreover, breadth of experience tends to be defined in terms of just 1 of the 2 halves of the care/career choice dichotomy: the AHC. As such, the curriculum is both enriched and constrained.

The common impression that the kaleidoscopic structure of current residencies is mandated by regulation is mistaken. Although residency accreditation requirements are comprehensive,[3] they permit discretion in the use of up to 16 of 33 total months. Discretionary months are often used for additional months of inpatient, emergency, and/or acute care experiences defined by the need for hospital service; subspecialties that could be selected by residents are also assigned according to service needs, this time defined more by faculty. The concept of the broadest possible experience inadvertently legitimizes almost any request for resident involvement. It is not surprising that residents have indicated that they would prefer learning that is aligned more with their future careers.[7] A recent survey found that more than 60% of generalists (unpublished data) and 80% of subspecialists[8] have made career decisions by their second year of residency.

How might residency change? Having more career-appropriate opportunities does not mean that broad exposure to pediatric medicine should cease but, rather, that there should be balance. This is important for reasons beyond preparation for practice. An unintended message of the broadest possible experience is that graduating residents are prepared for anything, which is more than impractical; it is antithetical to patient safety.[9,10] A more appropriate goal is what might be called "bounded self-confidence," self-confidence to be collaboratively independent when best practices are clear in areas of focused practice and collaboratively cautious otherwise. That means supplementing month-by-month rotations with longitudinal experiences that provide continuity of resident involvement and supervisory oversight and meaningful feedback and evaluation.

If pediatric residency is to remain relevant, it must foster collaborative, reliable patient care integrated with similar experiences before and after residency.[10] It must come to terms with increasing dichotomization of care and careers.[4,5] It must embrace the paradox of accommodating both breadth and career-specific learning. Residents who have made career choices should have access to concentrated, longitudinal learning opportunities that go well beyond continuity clinics. Without an opportunity for faculty and residents to spend concentrated time together, effective career mentoring is difficult. Longitudinal experiences also incorporate what we know from contemporary neurobiology and cognitive psychology (and common sense): skill acquisition requires repetition over time, and progression toward expertise requires deliberate practice and feedback.[6] Longitudinal experiences provide an antidote to another unintended consequence of current residency education: disjointed month-long learning experiences that habituate students and residents to transient, superficial physician-patient relationships.[11]

Can residency improve later adherence to clinical guidelines?[12,13] Educational environments tend to value critique over consistency, to regard consensus thinking as "cookbook medicine," and to value faculty autonomy and innovative thinking over reliable practice. The result can be dramatic changes in patient management when a new attending physician takes over for the week or the weekend. This exasperates patients, parents, and providers. Residents are caught in the middle. Only if collaborative, consensus-based medicine is modeled during residency[10] is it likely to continue.

Can residency modify the frequently steep learning curve of subsequent practice?[7,14] The challenge would surely be ameliorated by a measure of longitudinal immersion in the future practice setting; most important, residents would have a better idea of how to direct their own preparatory learning.

With this thinking in mind, R^{3}P project members selected 3 high-priority goals for residency programs[15,16]: (1) curricula should be weighted toward career choices; (2) programs should reach out to medical schools and postresidency maintenance of certification to make learning a continuum; and (3) programs should document incorporation of attitudes and habits that close the gap between optimal and current health care outcomes (ie, incorporation of qualities that enhance reliable, safe patient care through practice-based learning and improvement). The project concluded that methods of achieving these goals should be based on data. Thus, the mission of the IIPE is "to initiate, facilitate and oversee innovative change in pediatric residency education through carefully monitored, outcome-directed experimentation."[2] The IIPE Oversight Committee represents organizations with regulatory or direct operational responsibility for residency education. Dr. Carol Carraccio serves as Director and is responsible for IIPE operations. The IIPE receives core funding on an annual basis from the American Board of Pediatric Foundation. The Association of Pediatric Program Directors recently committed substantial additional funds to partner with the IIPE in the development of a learning collaborative to address questions of common interest.

The IIPE recently received 24 responses to a request for proposals as to how residency might meet 1 or more of the R^{3}P goals.[17] That response was remarkable and gratifying. Only a fraction of 195 accredited general pediatric residency programs met eligibility criteria, and final selection carries no additional funding.[2] As was often noted during the R^{3}P project, funding of graduate medical education through hospitals is an obstacle to change, but the number and quality of proposals submitted to the IIPE show that there are also ways to overcome that obstacle.

A complex, evolving future demands flexible, evolving solutions. The R^3P project challenged the pediatric community to confront the need for change but, importantly, declined to prescribe solutions. Solutions are more likely to be effective and durable when they are grounded in investigation and analysis. That is what the IIPE is committed to foster.

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