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Original Article

Training residents/fellows in paediatric cardiology: the Emory experience*

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Abstract Pediatric cardiology fellowship is a very busy time, with new responsibilities, new knowledge, new technology and fast pace. Above and beyond the science and art of pediatric cardiology, we emphasize that our cardiology fellows are in the middle of the "people business", with additional roles and responsibilities as they serve their patients and communities. This manuscript provides insight into these opportunities for our pediatric cardiac professionals.

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What has 14 passengers and moves 1000 miles per hour? The answer is the paediatric cardiology fellowship at Emory University School of Medicine/Children's Healthcare of Atlanta Sibley Heart Center. This fellowship training programme, temporarily and voluntarily put on hold in the late 1990s, was re-instituted in 2002. It currently has a reputation as a high-volume, high-acuity programme in the south-east United States of America. Comprehensive services are rendered, with virtually no patients routinely outsourced for care elsewhere. It is a fast-paced programme, which should be attractive to learners who thrive in a high-volume, hands-on environment.

Our programme, similar to others across the United States of America, is regulated by the American Board of Pediatrics, which defines core requirements, including 12 months of research or scholarly activity. Our programme is accredited by the Accreditation Council for Graduate Medical Education (ACGME) and overseen by a local residency review committee. Fellows are currently assessed using the six ACGME competencies: patient care, medical knowledge, practice-based learning and improvement, systems-based practice, professionalism, and interpersonal skills and communication (www.acgme.org). These have been modified now towards competency milestones, which address a fellow's progress through a continuum of novice to expert. A fellow's progress is measured using a competency-based evaluation, and the development of "entrustable professional activities".

Since my fellowship at the University of Michigan (1981–1984), there has been an explosion of new knowledge, technologies, procedures, and rules and regulations. Our fellows now learn with work-hour restrictions. They live in a world of electronic medical records and use new learning techniques, which has required old teachers to learn new ways to educate. Over the past few years, there have been significant changes in clinical rotations, including dedicated time on the cardiology floor (Cardiac Step Down Unit) and within the Cardiac Intensive Care Unit, with 24/7/365 coverage regulations. Paediatric fellows now rotate through adult CHD programme services and have electives with cardiac anaesthesia.

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Approximately 50% of our fellows pursue a 4th-year fellowship, and approximately half the fellows will continue with research after finishing the Emory paediatric cardiology fellowship. The recent polling of our fellowship programme directors revealed their perceived top 3 strengths of the programme: clinical volume, collegiality with faculty, and opportunity for research through associated programmes in the metropolitan Atlanta area including, but not limited to, Centers for Disease Control and Prevention, Rollins School of Public Health at Emory University School of Medicine, Georgia Tech, Emory, and with allied cardiovascular faculty within the larger Emory community. Likewise, they listed their top three weaknesses, which include a very busy workload, the absence of a dedicated paediatric cardiac pathologist, and the lack of a formal mentoring programme.

As you can see, high clinical volume as well as acuity and pace are listed both as strengths and weaknesses. It speaks about the opportunity for hands-on learners, but also the need for disciplined learning and endurance. It reminds me of the saying "in your thirst for knowledge, be sure not to drown in all the information".

Our fellows must be clinically well trained and competent, and able to demonstrate entrustable professional activity competencies. They not only need book knowledge but also need street knowledge, the real-world application of this profession. I believe that additional skills and activities are an important part of their learning and exposure during the 3-year categorical fellowship. It is important for our fellows to be leaders, people of intentional influence, and for them to be able to become champions of clinical research, teaching, advocacy opportunities, and to follow their internal passions. I would like to speak further about these.

Team function

All of our residents and fellows are incredibly smart. Through the process of high school, college, medical school, internship, residency, and fellowship, each has demonstrated the ability to achieve at a high level, in virtually every front on a 'me versus you' basis. There is intense competition for the number 1 ranking in the class, for the best medical school, and for acceptance to the "best" residency programme; however, quickly within their busy clinical fellowship at Emory, they understand the need to function well within a team framework. No one person can have all the knowledge, nor can any one of the fellows do all of the work, all the time. They need to collaborate, share, make others better and smarter; it becomes critical to set others up to be successful by coordination and good communication. Our group has stressed the learning that we have gathered by becoming engaged in consultation with the Table Group, led by Pat Lencioni. Pat Lencioni's book, *The Five Dysfunctions of a Team*,[1] describes how teams fail, but also how teams succeed. Trust, ability to engage in constructive conflict, commitment to one another, accountability to one another, and then finally focus on collective outcomes and results becomes a pyramid of escalating team function. The team leader holds a key role, leading by example. We believe that our fellows need to function well as team members, in order to be successful in the real world. In 2015, the American College of Cardiology issued a health policy statement regarding cardiovascular team-based care, emphasising the opportunity to enhance team effectiveness and efficiencies with all team members functioning at top of licence.[2] Our new physicians will operate in this new reality.

Communication

Some fellows are introverts and quiet, whereas others are extroverts and more engaging. Some fellows think through decisions, and then verbally express an opinion; others talk their way through the discussion process as they work towards a proposed solution. We have seen evidence in letters of recommendations and performance evaluations that a candidate's interest and competency in teaching may help to profile them as an individual who will communicate well. Communication – the ability to learn from others and to make others around you better by sharing knowledge – becomes key in the above-mentioned team function. The book, *Crucial Conversations,*[3] makes several points: (1) it is easy to communicate when things are going well, and harder to communicate when there are difficult conversations to be held or problems that need to be addressed; and (2) there are specific strategies that can enhance the ability to communicate when times are tough. Good communication enhances team function, as it relates to clarity and completeness – for example, during shift change and patient "hand-offs". Communication allows us to set clear expectations of performance and behaviour and helps to guide the constant world of change management. Good communicators will teach well, educate well, and reassure well, which also enhances customer service and patient experience. Data demonstrate that poor communication can lead to bad outcomes.

Leadership

There is a rapidly evolving role for physician leaders within healthcare systems. As mentioned above, leadership may be defined as exhibiting "intentional

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influence". John Maxwell's book, *The 360° Leader*,[4] stresses the point that leadership can be manifested at any level in an organisation, not just by the chief. Leaders will be required to negotiate the rapid change in healthcare, as evidenced by the renewed focus on business metrics such as quality, outcomes, access, and cost, as well as the anticipated shift from pay-for-volume to pay-for-quality. Physician leadership aptitude can be objectively assessed and leadership competencies measured. Leadership performance can be developed.[5]

A concept within the leadership world is described as "dyad leadership", the close partnering of two individuals or groups with complimentary roles[6] – for example, an administrative chief and service line clinical chief may have very different individual roles within a dyad leadership model, but are then held mutually accountable for the performance of the service line. Fellows or junior faculty interested in further development in a physician leadership role may be interested in joining the American Association for Physician Leadership (www.physicianleaders.org), a national organisation that can provide training, networking, and professional development. Likewise, professional organisations such as the American College of Cardiology provide leadership training opportunities.

Customer service/patient experience

Customer service may be thought of as what we do for patients; patient experience is slightly different, perhaps best defined as what the patient reports about our customer service. It seems reasonable to consider that customer service and patient experience will be clearly linked to the still developing concept of transparency and public reporting. Engagement with parents and patient support groups will be ever more important. Public reporting of data will help guide patient and family selection for healthcare providers and systems. The book *If Disney Ran Your Hospital*[7] provides an interesting comparison/contrast for the worlds of customer service and patient experience.

Advocacy

Advocacy can be defined as the act of pleading or arguing in favour of something, such as a cause, idea, or policy. Busy clinical programmes may feel that they do not have the time for advocacy, but a different point of view is that advocacy is actually more important for big and busy programmes, because of the potential impact that change and support will have on huge numbers of patients/people. Benefits for the cardiac service line include support for research, enhanced reimbursement for evaluation and management codes, and ACGME support for graduate education, to name a few. There are likewise benefits for the advocacy champion. The champion can act on his or her passion to impact change. Advocacy provides a leadership role locally or even nationally within organisations such as the American College of Cardiology, American Heart Association, American Academy of Pediatrics, grass-root organisations, or on committees or writing groups. Advocacy protects member interests, increases volunteering engagements, builds partnership and alliances, and can advance a cause. We understand that advocating for what you believe in is crucial. If you do not ask, people assume you do not need anything.

Business

In 2010, I was honoured to present the 9th Annual William J. Rashkind Lecture at the Cardiology 2010: 13th Annual Update Pediatric Cardiovascular Disease annual meeting.[8] I spoke about the evolution of pediatric cardiology leaders; in the "old world", there were triple threat individuals who could be the best clinician, best researcher, and best teacher. They often were the programme chief; however, given the rapid advancement of knowledge, volume, regulations, decreased reimbursement, work-hour restrictions, and changes in healthcare care delivery and models, triple threat individuals alone will no longer suffice. The "new world" requires a quintuple threat organisation, with expertise in clinical care, research, teaching, leadership, and business. It is a distinct possibility that, over the next several years, medicine will move from a pay-for-volume reimbursement schedule to a pay-for-quality schedule. The Institute of Medicine has defined six domains of quality – safe, timely, effective, efficient, equitable, and patient-centred[9] – which may form a basis around which we are measured and reimbursed. For many years, the American College of Cardiology has described a triple aim, which includes quality, cost, and access. It will be up to our next generation of leaders – within the service line or within dyad leadership in healthcare systems – to define true quality. Through public reporting and transparency, our programmes need to demonstrate, objectively, true quality. Families are seeking these providers and programmes. No family was ever interested in travelling for "good enough" procedural outcomes or service line care.

In summary, it is mandatory that our new learners – residents and fellows – continue lifelong learning, demonstrating the ability to confidently and competently demonstrate their entrustable professional activities; however, above and beyond,

I would like to think that our fellows will find the passion to become leaders in allied areas of our people business including, but not limited to, team function, communication, leadership, customer service/patient experience, advocacy, and/or business. These leaders will guide change, ensuring that change is not just for change's sake but for improvement.

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