Report from the Pediatric Education Forum, Uniformed Services Pediatric Seminar San Diego, CA March 2010

The State of Military Pediatric Training

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Editor
Purpose: Produce a document that describes the state of pediatric military residency training from several perspectives based on the collective wisdom and experience of thought leaders in our community.

Rationale:

1. To answer questions from within and outside DoD as to the purpose of military pediatric GME.
2. To have a plan of instruction for present and future educational leaders in our community.
3. To be introspective and self-reflective in our roles as thought leaders in our pediatric community.

Demographics:

49 participants: 15 USN, 18 USAF, 15 USA

14 Pediatric program directors or associate program directors

5 pediatric fellows

5 pediatric residents

25 pediatric staff representing MTF’s in CONUS and OCONUS

Present were representatives from all services, generalists and specialists, HPSP and USUHS gradates as well as at least one member who completed a civilian residency.
Pediatric training in the military: Outlook, Operation and Outcomes

Active duty physicians have been training as pediatricians since shortly after the end of World War II (ref 1). All three services have pediatric training programs at MTF's from the East Coast to Hawaii. In 2010 there were approximately 233 active duty physicians training to be pediatricians (70 Army, 48 Navy and 115 Air Force). Pediatricians have deployed with active duty forces, staff remote CONUS and OCONUS clinics, and teach in our major teaching hospitals.

In March 2010 a group of 50 military pediatric educators from across the nation convened an educational forum in San Diego California. The purpose of the forum was to formulate and record the opinions and thoughts of leaders in military pediatric medicine about the state of the specialty, the future of pediatric specialty training, and the outcomes to be measured in our military pediatric trainees. The group was divided into three working groups to answer specific self-reflective questions. The following is a summary of discussions form each group.

Group 1: What will be required of military pediatricians in the next 5 years?

The consensus of the group was that humanitarian and disaster relief missions will be increasing alongside standing tri-service operational requirements for pediatricians in the war zones. Relief missions include Army and Air Force medical assistance missions in Central America and Navy missions in the Pacific, the Caribbean and Africa. The recent humanitarian missions in Indonesia and Haiti involved military pediatric expertise working alongside non-governmental aid organizations. Increasingly, demand for international health experiences involving pediatricians are being created across all three services and the training for these skills is being delivered by pediatric training programs. Examples include the Humanitarian Military Medical Assistance course (MMHAC) and the Combat Casualty Care Course (C4) which is now completed by many pediatric residents. In all of these cases, military pediatric training programs have provided residents and staff to train in these new requirements and to deliver care.

Skills to operate in a battlefield environment will continue to be needed and supported by the pediatric community to allow pediatricians to successfully complete their mission in those dangerous environments. Delivering just-in-time operational training after completion of residency training is the most appropriate model. Operational deployments, either in war or in
humanitarian relief, will be expected of pediatric medical officers at some time in their careers for the foreseeable future.

As a corollary to the increasing requirements for operational and humanitarian missions, maintenance of competency in pediatric skills may need to be refreshed upon returning to the pediatric clinical environment at their home base. Examples include refresher training in pediatric and neonatal intensive care, subspecialty specific procedural skills, neonatal resuscitation/ pediatric advanced life support skills, and general pediatric skills such as lumbar puncture and endotracheal intubation. The Navy has created an instruction detailing such refresher training for pediatricians which could be the basis for a tri-service program. [ref 2]:

Lastly, this group sees the future of pediatric practice as centered on the medical home concept of care. A medical home is a team of providers delivering care to patients. This team concept involves colleagues (to include physician extenders), ancillary support staff, patients and families, community partners, commanders, and administrators all focused on the patient and their family. Keeping this team up to date with patient care by electronic means and social networking sites will not only increase, but will be expected of pediatricians. New curricula will have to be developed to teach pediatric trainees the new skills that will be needed to succeed in the medical home concept.

**Group 2: Why does Military Pediatrics Exist? What skills should be taught in the current training curriculum? Are there military unique competencies?**

This group sought consensus on the knowledge skills and attitudes that military pediatric training programs should contain. Military pediatric hospitals introduce trainees, many of whom were trained in civilian medical schools, to the unique character of the patients and medicine practiced in the military. Since we employ all of our pediatric trainees to work in our system, training to our standards is the epitome of outcomes based education required by accrediting bodies and regulatory agencies [Ref 3].

**Why does pediatrics training take place in MTF’s and why does military pediatrics exist?**

Pediatricians in the military health system care for a unique population of patients and this population drives a set of skills that is not easily taught in a typical civilian pediatric residency training program. Some of these unique features include a diverse patient population from all over the nation who experience unique stressors inherent to a military family such as PCS moves, war, prolonged separation, and separation from extended family. Understanding the culture of military families and the demands of service in uniform are necessary skills for
pediatricians in our community. In the language of the ACGME competencies, we realize that a civilian only program will not emphasize some of the professional, communication and systems based practice inherent in military medicine. Examples include officership, leadership, service specific language and nomenclature. Systems based practice examples include: AHLTA, EFMP, ECHO, TRICARE, CHCS, DMHRSi and many other acronyms unfamiliar to someone who is going to come on active duty after their formative years of training. Most civilian only training programs not closely tied to a military mission will not be as invested in teaching a trainee to wear the many hats they will assume upon completion of training such as department and division head duties, responsibilities of a chief of service, MTF committees, family advocacy committees, overseas screening, and EFMP. The degree of responsibility and accountability that is expected of all our military residency programs is not always found in civilian programs whose graduates usually do not practice in the resource limited environments our graduates will be assigned to. Military training programs emphasize the need for critical care experience and the ability to keep a very ill patient stable for up to 72 hours until emergency transport arrives. This is not the case in most civilian training programs. One very junior pediatrician in our focus group remarked that she thought she had done “too many neonatal ICU rotations in residency but when you get ‘out there’ you’re really glad you did that [much intensive care].”

Why does military pediatrics exist? Recent events in downsizing the pediatric community in the navy taught us valuable lessons: line commanders, hospital commanders, patients, families and our military communities want pediatricians in uniform, especially given data that suggest increased stress on our children and families in wartime [ref 4]. Line commanders may be less trusting of a civilian trained pediatrician who is unfamiliar with military culture, tradition and officership. Hospital commanders know that a military trained physician should have an easier time acclimating to their role and functioning effectively in a military health care system in any location. Military families also want their uniformed pediatricians, whom they feel can more specifically understand the myriad of issues impacting the physical, emotional and social well being of the child and the family. Additionally, the insight of a uniformed pediatrician into the impact of unit deployments on young, inexperienced parents who are geographically displaced from their extended families and spouses can set into motion unique military support systems that will not only provide for the well being of the child but have a greater likelihood of preventing abuse and neglect. It is the uniformed pediatrician who has the foresight to recognize potential adverse outcomes of the stressors of a military family lifestyle and the intimate awareness of systems based practice to guide and support families rather than merely responding to adverse events.

The group recognized that there were several core competencies that all military pediatricians should maintain now and in the future, regardless of assignment. They include the rapid recognition of sick children and the ability to stabilize critically ill children before transport to high-level care. Attention to developmental and behavioral health of children as well as
training in mental health counseling will be important for patients and their families. Staying proficient in pediatric procedures and the ability to interpret pediatric x-rays were felt to be core skills. Increased emphasis on teaching skills should begin in residency training, as many of our graduates go on to teach nurses and corpsmen, physician's assistants, medical students and other health practitioners in many duty stations.

**What skills should be taught in the current training curriculum?**

The consensus of the group is that the current three year military pediatric training program is sound. Data from graduate trainees confirm that the training programs do emphasize inpatient and outpatient care and provide a sound basis for independent practice after residency. The training does have more depth than breadth and is designed to prepare trainees to work independently but with multidisciplinary teams in either large medical centers or remote clinics with equal confidence. Training programs balance the demands of training for diverse environments of care with the need to prepare residents for board certification by learning about complex patients and less common disease states. In acknowledging the difficulties in teaching “everything” was a realization that we need to impart skills for lifelong learning in our trainees. Maintaining high standards and specialty board pass rates is necessary to attract quality candidates to our training programs now and in the future. The future trend in civilian residency programs to begin tracking residents into inpatient, outpatient or fellowship lanes prior to completion of training was deemed not viable for military residents. The group consensus was that maintaining a wide breadth of training was preferable to tracking in light of the need to be able to do all facets of pediatric care (inpatient, outpatient and some specialty care) in a remote duty location. It was noted however, that there are only about 24 months of prescribed training dictated by accrediting bodies and that opportunities do exist for residents to focus on their learning interests in their elective choices.

**Are there ‘Military Unique’ Competencies?**

Is there a core set of competencies that should be in all military pediatric programs? The consensus of the group was that almost all “military unique” issues could fit within the six ACGME competencies. (see Table 1) .
<table>
<thead>
<tr>
<th>ACGME Competency</th>
<th>Military Unique Aspects</th>
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<tbody>
<tr>
<td>Patient Care</td>
<td>Care for the military child and family, deployment and post deployment effects, deployment related immunizations, post war/disaster medicine, general medical officer medicine, trauma.</td>
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<tr>
<td>Professionalism</td>
<td>Military custom and tradition, officership, leadership, military bearing and fitness standards.</td>
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<tr>
<td>Interpersonal and Communication Skills</td>
<td>Learning each service’s language and customs, communications within the chain of command, and military mentoring. Learning to communicate effectively with medical providers in other countries upon who military pediatricians rely upon for higher levels of care.</td>
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<tr>
<td>Practice Based Learning</td>
<td>After action reports, lessons learned analyses, annual FITREPS, OER’s, OPR’s, junior leader courses, personal awards.</td>
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<tr>
<td>Systems based practice</td>
<td>TRICARE, EFMP, ECHO, ALHTA, ESSENTRIS, DMHRSI, QI projects within the MHS, disaster preparedness, joint commands, Family Readiness Groups, New Parents Support Groups, active duty service member chain of command.</td>
</tr>
<tr>
<td>Medical Knowledge</td>
<td>CBRNE skills, combat casualty care, humanitarian care, Professional Medical Education (war college, staff colleges etc).</td>
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In addition, group members voiced support for a formalized period of training after residency to gain specific operational or utilization skills in a timely manner. A department head short course in running a small remote clinic, formalized Ground/Flight/or Undersea training prior to an operational assignment, or earlier junior leadership training (e.g. the advanced course in the US Army) prior to reporting to their first duty station are examples of formalized training. This would certainly be difficult to implement with the resulting delay in reporting to a duty station, but should be given serious consideration by policy makers. Creative methods like videoteleconferencing, webinars, etc… could create ‘learning collaboratives’ to initiate and continue this training from the end of residency through the first 6 months of practice in a variety of settings.

**Group 3: How should our trainees be evaluated in our military pediatric training programs? What outcomes should we look for and what tools should we use? How should the resident graduate be evaluated after training ends?**

Trainees enter pediatric military residency programs from USUHS and a variety of medical schools across the nation through the HPSP. Career officers have long come from both pathways. The diverse training pool coming from medical school, residency and subspecialty training insure that there is diversity of ideas, discovery and practice in our young pediatricians thus keeping our military academic centers strong. During training and afterwards, the evaluation of the trainee to competently perform the duties of a pediatric medical officer is critical to producing successful professionals. The group members agreed that residents should be provided formative evaluations during each clinical rotation in their pediatric residency training and these evaluations should be assessed in combination with other evaluation tools (e.g. simulated patient encounters, direct observations in clinical environments, parent and patient questionnaires, etc) on regular intervals to provide a summative evaluation of resident performance. This summative evaluation must ensure that the totality of the resident’s performance is considered, but also must recognize when deficiencies in single competencies recur in multiple venues (i.e. unprofessional behavior, poor interpersonal communication skills, etc). The use of a Clinical Competency Committee is encouraged in the evaluation of resident performance during training. Such a committee is usually made up of the program director(s), key teaching faculty, PGY-3 residents and the chief of residents. Less that 50% of military pediatric residency programs have a Clinical Competency Committee at their site, and some were in the process of forming them. The purpose of such committees is to assess resident performance over time using data coming from multiple sources (e.g. inpatient evaluations, outpatient evaluations, multisource or “360” evaluations from nursing and ancillary staff, etc). The Clinical Competency Committee could
determine if each resident’s rate of development is appropriate for their level of training or if remediation is required to improve the likelihood of promotion to the next academic year. The Clinical Competency Committee would make the final determination if the resident met minimum standards and was ready to supervise (promotion from PGY-1 to PGY-2) or ready for independent practice (graduation of PGY-3s). These committees can also insure that even the best performers are maximizing their achievements within training. All levels of performers deserve challenging feedback and evaluation to insure maximum achievement for our military clinicians and leaders.

*What outcomes should we look for and what tools should we use?*

Outcomes that should be measured in all military pediatric trainees must be consistent with the six domains specified by the ACGME and include the military unique competencies outlined in Table 1. Multiple evaluation tools are currently in use at military pediatric training programs to evaluate these competencies. We divided these evaluations into two types: Global Evaluations and Direct Observations of resident performance:

**GLOBAL EVALUATIONS OF RESIDENT COMPETENCIES**
- Monthly rotation evaluations
- Continuity Clinic evaluations
- Clinical Competency Committee Evaluations
- Bi-Annual Program Director Evaluation
- Pre rotation and Post rotation tests of knowledge
- In-Training Examinations from the American Board of Pediatrics
- OER/FITREPS/OPR’s
- Self Evaluation (via Pedialink and ILP)
- Multi-source evaluations (Peers, patients, parents, nurses, clerks)

**DIRECT OBSERVATION OF COMPETENCY**
- Structured Clinical Observations
- Presentation evaluations
- Chart Reviews
- Procedure performance evaluations
- Simulation Scenario evaluations
- Videotaped clinical encounters
- Journal Club Evaluations

The Evaluation Group emphasized the importance of faculty development in the evaluation process. Faculty development is critical to ensure feedback is meaningful and the evaluation method that is used is valid and reliable. Critical to the evaluation process is that every faculty understand what to observe and comment on during the evaluation period to help ensure that any assessment is reliable. In addition, knowing the performance standards upon which a trainee should be held accountable to progress to the next level of training is necessary
to ensure the process is valid. Regular evaluation of the curriculum is also necessary to ensure that the goals and objectives of each rotation remain consistent with the evaluation process in each clinical rotation.

**How should the resident graduate be evaluated after training ends?**

The Evaluation Group agreed that evaluation after residency training is essential for feedback to the training program. Evaluations of the resident graduate should include:

- Brigade Surgeon/Operational evaluation of the resident graduate by Division Surgeon/Operational Supervisor
- Self Evaluation of the resident graduate post residency
- Supervisor Evaluation of the resident graduate
- Patient Evaluations at the new duty station
- Evaluation of the resident graduate by subspecialists at referral centers
- Certifying board scores and pass rates
- Peer Review
- OERs/FITREPS/OPR’s
The forum concluded with consensus being reached on the topics discussed in this document. The authors and facilitators hope that the questions raised and the answers provided will help guide present and future training and assessment in military pediatrics. We hope that policy makers, leaders and those interested in military medicine will embrace this data to make wise decisions about future healthcare delivery in the MHS.

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**Acronyms Defined either outside of text or within text:**

ACGME - Accreditation Council for Graduate Medical Education

AHLTA - Armed Forces Health Longitudinal Technology Application

APD – Associate Program Director

C4 – Combat Casualty Care Course

CBRNE - chemical, biological, radiological, nuclear, and high yield explosives

CHCS - Composite Health Care System

CONUS - Continental United States

DMHRSi - Defense Medical Human Resources System - internet

DoD – Department of Defense

ECHO - Extended Care Health Option

EFMP – Exceptional Family Member Program

ESSENTRIS – DoD Inpatient electronic medical record system

FITREPS – Fitness Reports

HPSP – Health Professions Scholarship Program

ICU – Intensive Care Unit

MHS – Military Health System

MMHAC – Military Medical Humanitarian Assistance Course

MTF – Military Treatment Facility

NICU – Neonatal Intensive Care Unit

OCONUS - Outside Continental United States

OER – Officer Evaluation Report

OPR – Officer Performance Report

PD – Program Director

PGY – Post Graduate Year
References:


2. BUMED-M3B6; Establishment of Provider Clinical Proficiency, Sustainment/Provider Re-Entry Program (CPSPRP).
