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TRANSFORMING HEALTHCARE

Pediatric Hospital Medicine: A Strategic Planning Roundtable to Chart the Future

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Given the growing field of Pediatric Hospital Medicine (PHM) and the need to define strategic direction, the Society of Hospital Medicine, the American Academy of Pediatrics, and the Academic Pediatric Association sponsored a roundtable to discuss the future of the field. Twenty-one leaders were invited plus a facilitator utilizing established health care strategic planning methods. A "vision statement" was developed. Specific initiatives in 4 domains (clinical practice, quality of care, research, and workforce) were identified that would advance PHM with a plan to complete each initiative. Review of the current issues demonstrated gaps between the current state of affairs and the full vision of the potential impact of PHM. Clinical initiatives were to develop an educational plan supporting the PHM Core Competencies and a clinical practice monitoring dashboard template. Quality initiatives included an environmental assessment of PHM participation on key committees, societies, and agencies to ensure appropriate PHM representation. Three QI collaboratives are underway. A Research Leadership Task Force was created and the Pediatric Research in Inpatient Settings (PRIS) network was refocused, defining a strategic framework for PRIS, and developing a funding strategy. Workforce initiatives were to develop a descriptive statement that can be used by any PHM physician, a communications tool describing "value added" of PHM; and a tool to assess career satisfaction among PHM physicians. We believe the Roundtable was successful in describing the current state of PHM and laying a course for the near future. *Journal of Hospital Medicine* 2012;7:329–334. © 2011 Society of Hospital Medicine

Hospitalists are the fastest growing segment of physicians in the United States.[1] Given the growing field of Pediatric Hospital Medicine (PHM) and the need to define strategic direction, the Society of Hospital Medicine (SHM), the American Academy of Pediatrics (AAP), and the Academic Pediatric Association (APA) sponsored a strategic planning meeting in February 2009 that brought together 22 PHM leaders to discuss the future of the field.

PHM is at a critical juncture in terms of clinical practice, research, workforce issues, and quality improvement. The field has developed sufficiently to produce leaders capable of setting an agenda and moving forward. A discussion with the American Board of Pediatrics (ABP) by PHM leaders from the AAP, APA, and SHM at the Pediatric Hospital Medicine 2007 Conference regarding subspecialty designation stimulated convening the PHM Strategic Planning Roundtable to address the task of coordinating further development of PHM (Table 1).

The objective of this article is to describe: (1) the Strategic Planning Roundtable's vision for the field of pediatric hospital medicine; (2) the generation and progress on specific initiatives in clinical practice, quality, research, and workforce identified by the Strategic Planning Roundtable; and (3) issues in the designation of PHM as a subspecialty.

METHODS

The PHM Strategic Planning Roundtable was conducted by a facilitator (S.M.) during a 2-day retreat using established healthcare strategic planning methods.[2]

Participants were the existing PHM leaders from the AAP, APA, and SHM, as well as other national leaders in clinical practice, quality, research, and workforce. Development of the "vision statement" was a key step in which the participants developed a consensus-based aspirational view of the future. The draft version of the vision statement was initially developed after extensive interviews with key stakeholders and

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TABLE 1. PHM Strategic Planning Table Objectives

Develop a strategic vision for the role of PHM in the future of children's health care
Describe the current gaps between the vision and today's reality
Develop a common understanding regarding current initiatives in PHM domains of clinical practice, quality, research, and workforce
Determine the method(s) by which participants can be organized to accomplish additional initiatives to implement the vision
Identify and prioritize key strategic initiatives
Assign accountability and determine next steps and timeline to implement the selected initiatives

Abbreviation: PHM, pediatric hospital medicine.

experts in PHM, and was revised by the participants in the course of a facilitated group discussion during the retreat. Following creation of the vision statement, the group then defined the elements of transformation pertaining to PHM and detailed the components of the vision.

Analysis of internal and external environmental factors was critical in the strategic planning process. This type of analysis, detailing the "current state" of PHM practice, permitted the strategic planners to understand the gaps that existed between the aspirational vision statement and today's reality, and set the stage to identify and implement initiatives to achieve the vision. Several months before the meeting, 4 expert panels comprised of PHM specialists representing a variety of academic and clinical practice settings were brought together via e-mail and conference calls to focus on 4 domains of PHM: clinical practice, quality of care, research, and workforce. These groups were asked to describe the current status, challenges, and opportunities in these areas. Combining literature review and key stakeholder interviews, their findings and recommendations were distilled into brief summaries that were presented at the Roundtable meeting. Following the presentations, the participants, working in small groups representing all areas of focus,-provided additional feedback.

Following the creation of a consensus vision statement and review of internal and external factors, the participants worked to identify specific initiatives in the 4 domains that would advance the field towards the goals contained in the vision statement. These initiatives were grouped into categories. Initiatives by category were scored and prioritized according to predetermined criteria including potential impact, cost, operational complexity, and achievability.

For each initiative selected, the group developed targets and metrics that would be used to track progress. Assigning leadership, accountability, and a timeline to each of the selected projects completed the implementation plan. In addition, the group developed an organizational structure to provide oversight for the overall process, and designated individuals representing the sponsoring organizations into those roles. In conclusion, the group discussed potential structures to guide the future of PHM.

CLINICAL PRACTICE

The Roundtable defined clinical practice for PHM as the general medical care of the hospitalized child, including direct patient care and leadership of the inpatient service. Clinical practice is affected by a number of current national trends including: fewer primary care providers interested in, or with the time to provide, inpatient care; resident work hour restrictions; increasing complexity of clinical issues; and increasing availability of pediatric hospitalists. At the hospital level, clinical practice is affected by increasing need for quality and safety measures, electronic health records and computerized physician order entry, and mounting financial pressures on the hospital system. Hospitalists are assuming more roles in leading quality and safety initiatives, creating computerized systems that address children's needs, and creating financially viable systems of quality pediatric care.[3] Hospitalists' clinical care and leadership roles are emerging, and therefore the field faces training and mentorship issues.

Progress to date in this area includes 2 textbooks that define a scope of knowledge and practice, and a newly developed journal in PHM. Core competencies in PHM have been published and provide further refinement of scope and a template for future training.[4]

Multiple opportunities exist for hospitalists to establish themselves as clinical leaders. Hospitalists can become the preferred providers for hospitalized chronically ill children, with specific initiatives to improve care coordination and multidisciplinary communication. In addition to care coordination and decreasing length of stay, hospitalists, with their intimate knowledge of hospital operations, can be leaders in hospital capacity management and patient flow to increase operational efficiency. Hospitalists can expand evidence-based guidelines for, and data about, inpatient conditions, and explore the effect of workload and hours on patient care. In addition, there is an expanding role into administrative areas, as well as alternate care arenas, such as: intensive care support (pediatric and neonatal), transport, sedation, palliative care, and pain management. Activities in administrative and alternate care areas have profound direct affects on patient care, as well as providing value added services and additional revenue streams which can further support clinical needs. Finally, achieving quality targets will likely be increasingly linked to payment, so hospitalists may play a key role in the incentives paid to their hospitals. Meeting these challenges will further solidify the standing of hospitalists in the clinical realm.

QUALITY

National and governmental agencies have influenced quality and performance improvement measurements in adult healthcare, resulting in improvements in adult

healthcare quality measurement.[5] There is limited similar influence or measure development in pediatric medicine, so the "quality chasm" between adult and child healthcare has widened. Few resources are invested in improving quality and safety of pediatric inpatient care. Of the 18 private health insurance plans' quality and pay for performance programs identified by Leapfrog, only 17% developed pediatric-specific inpatient measures.[6] Only 5 of 40 controlled trials of quality improvement efforts for children published between 1980 and 1998 addressed inpatient problems.[7]

There have been recent efforts at the national level addressing these issues, highlighted by the introduction of *The Children's Health Care Quality Act*, in 2007. Early studies in PHM systems focused on overall operational efficiency, documenting 9% to 16% decreases in length of stay and cost compared to traditional models of care.[8] Conway et al. identified higher reported adherence to evidence-based care for hospitalists compared to community pediatricians.[9] However, Landrigan et al. demonstrated that there is still large variation in care that exists in the management of common inpatient diagnoses, lacking strong evidence-based guidelines even among pediatric hospitalists.[10] Moreover, there have been no significant studies reviewing the impact of pediatric hospitalists on safety of inpatient care. Magnifying these challenges is the reality that our healthcare system is fragmented with various entities scrambling to define, measure, and compare the effectiveness and safety of pediatric healthcare.

These challenges create an opportunity for PHM to develop a model of how to deliver the highest quality and safest care to our patients. The solution is complex and will take cooperation at many levels of our healthcare system. Improving the safety and quality of care for children in all settings of inpatient care in the United States may best be accomplished via an effective collaborative. This collaborative should be comprehensive and inclusive, and focused on demonstrating and disseminating how standardized, evidence-based care in both clinical and safety domains can lead to high-value and high-quality outcomes. The success of PHM will be measured by its ability to deliver a clear value proposition to all consumers and payers of healthcare. The creation of a robust national collaborative network is a first step towards meeting this goal and will take an extraordinary effort. A PHM Quality Improvement (QI) Collaborative workgroup was created in August 2009. Three collaboratives have been commissioned: (1) Reduction of patient identification errors; (2) Improving discharge communication to referring primary care providers for pediatric hospitalist programs, and (3) Reducing the misuse and overuse of bronchodilators for bronchiolitis. All the collaborative groups have effectively engaged key groups of stakeholders and utilized standard QI tools, demonstrating improvement by the fall of 2010 (unpublished data, S.N.).

RESEARCH

Despite being a relatively young field, there is a critical mass of pediatric hospitalist-investigators who are establishing research career paths for themselves by securing external grant funding for their work, publishing, and receiving mentorship from largely non-hospitalist mentors. Some hospitalists are now in a position to mentor junior investigators. These hospitalist-investigators identified a collective goal of working together across multiple sites in a clinical research network. The goal is to conduct high-quality studies and provide the necessary clinical information to allow practicing hospitalists to make better decisions regarding patient care. This new inpatient evidence-base will have the added advantage of helping further define the field of PHM.

The Pediatric Research in Inpatient Settings Network (PRIS) was identified as the vehicle to accomplish these goals. A series of objectives were identified to redesign PRIS in order to accommodate and organize this new influx of hospitalist-investigators. These objectives included having hospitalist-investigators commit their time to the prioritization, design, and execution of multicenter studies, drafting new governance documents for PRIS, securing external funding, redefining the relationships of the 3 existing organizations that formed PRIS (AAP, APA, SHM), defining how new clinical sites could be added to PRIS, creating a pipeline for junior hospitalist-investigators to transition to leadership roles, securing a data coordinating center with established expertise in conducting multicenter studies, and establishing an external research advisory committee of leaders in pediatric clinical research and QI.

Several critical issues were identified, but funding remained a priority for the sustainability of PRIS. Comparative effectiveness (CE) was recognized as a potential important source of future funding. Pediatric studies on CE (eg, surgery vs medical management) conducted by PRIS would provide important new data to allow hospitalists to practice evidence-based medicine and to improve quality.

A Research Leadership Task Force was created with 4 members of the PHM Strategic Planning Roundtable to work on the identified issues. The APA leadership worked with PRIS to establish a new Executive Council (comprised of additional qualified hospitalist-investigators). The Executive Council was charged with accomplishing the tasks outlined from the Strategic Planning Roundtable. They have created the governance documents and standard operating procedures necessary for PRIS to conduct multicenter studies, defined a strategic framework for PRIS including the mission, vision and values, and funding strategy. In February 2010, PRIS received a 3-year award for over

$1 million from the Child Health Corporation of America to both fund the infrastructure of PRIS and to conduct a Prioritization Project. The Prioritization Project seeks to identify the conditions that are costly, prevalent, and demonstrate high inter-hospital variation in resource utilization, which signals either lack of high-quality data upon which to base medical decisions, and/or an opportunity to standardize care across hospitals. Some of these conditions will warrant further investigation to define the evidence base, whereas other conditions may require implementation studies to reliably introduce evidence into practice. Members of the Executive Council received additional funding to investigate community settings, as most children are hospitalized outside of large children's hospitals. PRIS also reengaged all 3 societies (APA, AAP, and SHM) for support for the first face-to-face meeting of the Executive Council. PRIS applied for 2 Recovery Act stimulus grants, and received funding for both of approximately $12 million. The processes used to design, provide feedback, and shepherd these initial studies formed the basis for the standard operating procedures for the Network. PRIS is now reengaging its membership to establish how sites may be able to conduct research, and receive new ideas to be considered for study in PRIS.

Although much work remains to be done, the Executive Council is continuing the charge with quarterly face-to-face meetings, hiring of a full-time PRIS Coordinator, and carrying out these initial projects, while maintaining the goal of meeting the needs of the membership and PHM. If PRIS is to accomplish its mission of improving the health of, and healthcare delivery to, hospitalized children and their families, then the types of studies undertaken will include not only original research questions, but also comparative implementation methods to better understand how hospitalists in a variety of settings can best translate research findings into clinical practice and ultimately improve patient outcomes.

WORKFORCE

The current number of pediatric hospitalists is difficult to gauge[11]; estimates range from 1500 to 3000 physicians. There are groups of pediatric hospitalists within several national organizations including the AAP, APA, and SHM, in addition to a very active listserve community. It is likely that only a portion of pediatric hospitalists are represented by membership in these organizations.

Most physicians entering the field of PHM come directly out of residency. A recent survey by Freed et al.[12] reported that 3% of current pediatric residents are interested in PHM as a career. In another survey by Freed et al., about 6% of recent pediatric residency graduates reported currently practicing as pediatric hospitalists.[13] This difference may indicate a number of pediatricians practicing transiently as pediatric hospitalists.

There are numerous issues that will affect the growth and sustainability of PHM. A large number of pediatric residents entering the field will be needed to maintain current numbers. With 45% of hospitalists in practice less than 3 years,[11] the growth of PHM in both numbers and influence will require an increasing number of hospitalists with sustained careers in the field. Recognition as experts in inpatient care, as well as expansion of the role of hospitalists beyond the clinical realm to education, research, and hospital leadership, will foster long-term career satisfaction. The increasingly common stature of hospital medicine as an independent division, equivalent to general pediatrics and subspecialty divisions within a department, may further bolster the perception of hospital medicine as a career.

The majority of pediatric hospitalists believe that current pediatric residency training does not provide all of the skills necessary to practice as a pediatric hospitalist,[14] though there is disagreement regarding how additional training in pediatric hospital medicine should be achieved: a dedicated fellowship versus continuing medical education (CME). There are several initiatives with the potential to transform the way pediatric hospitalists are trained and certified. The Residency Review and Redesign Project indicates that pediatric residency is likely to be reformed to better meet the training demands of the individual resident's chosen career path. Changing residency to better prepare pediatric residents to take positions in pediatric hospital medicine will certainly affect the workforce emerging from residency programs and their subsequent training needs.[15] The American Board of Internal Medicine and the American Board of Family Medicine have approved a "Recognition of Focused Practice in Hospital Medicine." This recognition is gained through the Maintenance of Certification (MOC) Program of the respective boards after a minimum of 3 years of practice. SHM is offering fellow recognition in tiered designations of Fellow of Hospital Medicine (FHM), Senior Fellow of Hospital Medicine, and Master of Hospital Medicine. Five hundred hospitalists, including many pediatric hospitalists, received the inaugural FHM designation in 2009. Organizational recognition is a common process in many other medical fields, although previously limited in pediatrics to Fellow of the AAP. FHM is an important step, but cannot substitute for specific training and certification.

Academic fellowships in PHM will aid in the training of hospitalists with scholarly skills and will help produce more pediatric hospitalists with clinical, quality, administrative, and leadership skills. A model of subspecialty fellowship training and certification of all PHM physicians would require a several-fold increase in available fellowships, currently approximately 15.

TABLE 2. PHM Vision Goals

We will ensure that care for hospitalized children is fully integrated and includes the medical home
We will design and support systems for children that eliminate harm associated with hospital care
We will develop a skilled and stable workforce that is the preferred provider of care for most hospitalized children
We will use collaborative research models to answer questions of clinical efficacy, comparative effectiveness, and quality improvement, and we will deliver care based on that knowledge
We will provide the expertise that supports continuing education in the care of the hospitalized child for pediatric hospitalists, trainees, midlevel providers, and hospital staff
We will create value for our patients and organizations in which we work based on our unique expertise in PHM clinical care, research, and education
We will be leaders and influential agents in national health care policies that impact hospital care

Abbreviation: PHM, pediatric hospital medicine.

Ongoing CME offerings are also critical to sustaining and developing the workforce. The annual national meetings of the APA, AAP, and SHM all offer PHM-dedicated content, and there is an annual PHM conference sponsored by these 3 organizations. There are now multiple additional national and regional meetings focused on PHM, reflecting the growing audience for PHM CME content. The AAP offers a PHM study guide and an Education in quality improvement for pediatric practice (eQIPP) module on inpatient asthma, specifically designed to facilitate the MOC process for pediatric hospitalists.

Some form of ABP recognition may be necessary to provide the status for PHM to be widely recognized as a viable academic career in the larger pediatric community. This would entail standardized fellowships that will ensure graduates have demonstrated proficiency in the core competencies. PHM leaders have engaged the ABP to better understand the subspecialty approval process and thoughtfully examine the ramifications of subspecialty status, specifically what subspecialty certification would mean for PHM providers and hospitals. Achieving ABP certification may create a new standard of care meaning that non-certified PHM providers will be at a disadvantage. It is unknown what the impact on pediatric inpatient care would be if a PHM standard was set without the supply of practitioners to provide that care.

STRUCTURE

The efforts of the Roundtable demonstrate the potential effectiveness of the current structure that guides the field: that of the cooperative interchange between the PHM leaders within the APA, AAP, and SHM. It may be that, similar to Pediatric Emergency Medicine (PEM), no formal, unifying structure is necessary. Alternatively, both Adolescent Medicine and Behavioral and Developmental Pediatrics (BDP) have their own organizations that guide their respective fields. A hybrid model is that of Pediatric Cardiology which has the Joint Council on Congenital Heart Disease. This structure assures that the leaders of the various organizations concerned with congenital heart disease meet at least annually to report on their activities and coordinate future efforts. Its makeup is similar to how the planning committee of the annual national PHM conference is constructed. Although PHM has largely succeeded with the current organizational structure, it is possible that a more formal structure is needed to continue forward.

CONCLUSION

The Roundtable members developed the following vision for PHM: "Pediatric hospitalists will transform the delivery of hospital care for children." This will be done by achieving 7 goals (Table 2).

Attaining this vision will take tremendous dedication, effort, and collaboration. As a starting point, the following initiatives were proposed and implemented as noted:

Clinical

- Develop an educational plan supporting the PHM Core Competencies, addressing both hospitalist training needs and the role as formal educators.
- Create a clinical practice monitoring dashboard template for use at PHM hospitals and practices (implemented July 2010).

Quality

- Undertake environmental assessment of PHM participation on key quality and safety committees, societies, and agencies to ensure appropriate PHM representation in liaison and/or leadership positions.
- Create a plan for a QI collaborative by assessing the needs and resources available; draft plans for 2 projects (1 safety and 1 quality) which will improve care for children hospitalized with common conditions (started July 2009).

Research

- Create a collaborative research entity by restructuring the existing research network and formalizing relationships with affiliated networks.
- Create a pipeline/mentorship system to increase the number of PHM researchers.

Workforce

- Develop a descriptive statement that can be used by any PHM physician that defines the field of PHM and answers the question "who are we?"
- Develop a communications tool describing "value added" of PHM.
- Develop a tool to assess career satisfaction among PHM physicians, with links to current SHM work in this area.

Structure

- Formalize an organizational infrastructure for oversight and guidance of PHM Strategic Planning Roundtable efforts, with clear delineation of the relationships with the AAP, APA, and SHM.

This review demonstrates the work that needs to be done to close the gaps between the current state of affairs and the full vision of the potential impact of PHM. Harm is still common in hospitalized children, and, as a group of physicians, we do not consistently provide evidence-based care. Quality and safety activities are currently dispersed throughout multiple national entities often working in silos. Much of our PHM research is fragmented, with a lack of effective research networks and collaborative efforts. We also found that while our workforce has many strengths, it is not yet stable.

We believe the Roundtable was successful in describing the current state of PHM and laying a course for the future. We developed a series of deliverable products that have already seen success on many fronts, and that will serve as the foundation for further maturation of the field. We hope to engage the pediatric community, within and without PHM, to comment, advise, and foster PHM so that these efforts are not static but ongoing and evolving. Already, new challenges have arisen not addressed at the Roundtable, such as further resident work restrictions, and healthcare reform with its potential effects on hospital finances. This is truly an exciting and dynamic time, and we know that this is just the beginning.

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