



AAP SECTION | COMMITTEE | COUNCIL RETROSPECTIVES

Commentary From the AAP Committee on Continuing Medical Education

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AAP COMMITTEE ON CONTINUING MEDICAL EDUCATION

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Formed in 2000, the Committee on Continuing Medical Education (COCME) comprises leading continuing medical education/continuing professional development (CME/CPD) experts dedicated to supporting the American Academy of Pediatrics' (AAP) development of the *Best Pediatric CME/CPD for the Best Pediatric Care* and implementation of the AAP CME/CPD program mission statement. The COCME encourages innovation and active teaching and learning in AAP educational activities, and members have presented on these topics to AAP constituent groups and at national meetings. Also, the [COCME's website](#) includes [tip sheets and scholarly reviews](#) on educational topics and activity formats, along with a [Best Practices Guide to Teaching and Learning](#). Our literature search focused on CME/CPD articles that highlighted teaching techniques, effectiveness, and/or formats. For each time period, 2 COCME members independently narrowed the selection then reached consensus. Articles were chosen if they covered practical CME techniques, showed innovation in medical education for their time, or studied the effectiveness of new teaching methods or CME formats.

First Quarter Century (1948 to 1973)

Setting the Stage for Self-Assessment With a Continuing Education and Lifelong Learning Tool

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Highlighted Article From *Pediatrics*

- Daeschner CW, Hughes GE. [Continuing medical education through self-evaluation](#). *Pediatrics*. 1970;45(5):729-731

The AAP official journal has shaped how the organization brings its mission to life. Since *Pediatrics* launched in 1948, it has evolved. By October 1973, it brought to the fore the AAP mission “to attain optimal physical, mental, and social health and well-being for all infants, children, adolescents, and young adults” by focusing on medical education, research, and advocacy. These pages developed and refined the concept of CME and CPD for pediatricians. The May 1970 commentary by Daeschner & Hughes **set the stage** for how we look at these concepts today—and holds valid 53 years later.

This opinion piece coins the term Continuing Medical Education (as opposed to post-graduate education), defined as “education directed to the practitioners.” The authors of this *Pediatrics* article describe the AAP’s launch of an innovative concept, an educational opportunity called SEEP (Self-Evaluation and Education Program) offered to AAP fellows. SEEP was an asynchronous, self-directed, at-home or office learning program. It was based on self-assessment of knowledge gaps. The program was designed to overcome barriers to learning, including cost, and time away from practice and family. In recognition that practice settings and practitioners are unique, items were divided into 14 categories (general and subspecialty/organ-based content) and balanced between academic and community-based pediatricians. Users were provided with a bibliography and reference material so that they could read further to fill in knowledge gaps. References were provided when the answer sheet was returned or by request if the Fellow preferred to correct his answer sheet. We highlight this article from this era because the innovative medical education ideas and concepts it introduced continue to provide the infrastructure for CME and Maintenance of Certification (MOC).

This piece is one of the first published articles highlighting the importance of lifelong learning for physicians in practice and the importance of a self-assessment tool to increase medical knowledge. This article **set the stage** for concepts such as “educational needs” that underlie the “knowledge gaps,” which are the current building blocks of accredited CME planning. The 1970 SEEP program evolved to become the AAP Pediatric Review & Education Program (PREP) Self-Assessment, a unique and innovative self-directed learning tool that is now the cornerstone concept for MOC Part 2 activities. In addition, this article was the first to outline basic medical education concepts, including tailoring learning to the practice setting to bridge between pediatric education and application in terms of clinical setting (inpatient vs outpatient) or type of practice (academic vs community-based). Customized feedback described here includes references and reading material, an innovative approach to learning that was far ahead of the time and remains effective to this day. It is the basis for contemporary learning activities designated for MOC Part 2 and lifelong asynchronous learning.

Second Quarter Century (1973 to 1998)

Teaching Is Superior to Telling: Entwining Self-Regulation Theory With Pediatric Practice to Improve Patient Outcomes

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“If teaching were the same as telling, we’d all be so smart we could hardly stand it.”

—Mark Twain

Highlighted Article From *Pediatrics*

- Clark NM, Gong M, Schork MA, et al. [Impact of education for physicians on patient outcomes](#). *Pediatrics*. 1998;101(5):831-836

Have you read the Bud Blake comic strip about the boy who taught his dog to whistle? One of the boys is talking to Tiger, the main character of the comic strip, and states, "I taught my dog how to whistle." Tiger leans down next to the dog's ear and argues: "I don't hear him whistling." His friend answers: "I said I taught him, I didn't say he learned it." CME has evolved significantly over the past 75 years as we celebrate this monumental anniversary for *Pediatrics*. Initially, education focused incorrectly on a content expert telling other physicians how to "doctor" and then expecting that this new knowledge would be applied so that patient outcomes would improve. In reviewing articles from 1973 to 1998, the article "[Impact of Education for Physicians on Patient Outcomes](#)" by Clark et al stood out for exemplifying and foreshadowing current best practices in continuing medical education. This article provided new insight on the significant connection between physician education and patient outcomes.

In 1998, Clark et al measured the impact of 5 hours of interactive seminars based on the theory of self-regulation on pediatricians and their patients with asthma. The authors purposely chose to ground their teaching in self-regulation principles due to the association with behavior change. The American Psychological Association defines self-regulation as "the control of one's behavior through self-monitoring, self-evaluation, and self-reinforcement." The seminars were taught over 2–3-weeks and focused on guiding physicians to examine ways to develop a partnership with their patients and families and emphasizing effective clinician teaching and communication skills. The educational intervention was novel for CME at the time because it focused on changing physician behavior to improve patient outcomes.

Interactive teaching is believed to impact learning more powerfully than passive teaching styles, such as didactic sessions or simply "telling" learners what to do. These researchers used many current CME best practices for learning in their interactive seminars, such as case studies, video demonstrations, patient communication self-assessment tools, and patient teaching scripts interspersed with short didactics. The teaching activities focused on building physician teaching and communication skills that reinforce and strengthen positive efforts of patients and families in asthma self-management.

The authors demonstrated innovation in measuring outcomes of their teaching intervention. The researchers measured the following 3 components of clinical care: (1) practice behaviors to decrease implicit bias, (2) parental views of physician behavior, and (3) overall child's health status and emergency medical care utilization of the pediatric patients with asthma. The authors hypothesized that interactive teaching for the physician would encourage physicians to partner with the patient and family and reinforce positive efforts for asthma self-management. It is not surprising that the physicians reported they were more likely to address patients' fears about medicines, provide a sequence of educational messages, and provide a written asthma management plan. Clark et al not only surveyed the physicians but also the parents about their perceptions of the physician's performance. Parents were significantly more likely to report they knew how to make management decisions at home, had received prescriptions for inhaled anti-inflammatory therapy, had been asked to demonstrate how to use a metered-dose inhaler, and had received a written asthma action plan. Despite spending less time on average with their physicians, there was a notable reduction in nonemergency office visits and visits for follow-up of an episode of asthma symptoms among the patients whose physicians participated in the intervention. In short, physicians in the intervention group provided higher quality care that optimized patient outcomes, and their care implementation was more efficient.

Why did this article set the precedent for this quarter century of the past 75 years of *Pediatrics*? Just as we have shifted away from physician-centered to patient-centered communication, we must shift away from teacher-centered to learner-centered instruction to maximize learning. This article highlighted the importance of using interactive teaching modalities and of encouraging physician self-regulation to create effective care plan partnerships with patients and families. CME planners should focus on leveraging interactive learning techniques instead of lecturing. CME activities should focus on equipping physicians with the tools to inform and educate their patients more effectively. Patients and their families are essential tools in this process. If the impact of our education is meant to change patient outcomes, then we also need to engage our patients and families for feedback so that we can continue to do what is right for children. Otherwise, we may end up like Tiger listening for a long time for a whistle that never comes.

Third Quarter Century (1998 to 2023)

Getting on the “Teach Now Learn How” Roadmap: Continuing Medical Education Inspires Practice Changes

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Highlighted Articles From *Pediatrics*

- Cabana MD, Slish KK, Evans D, et al. [Impact of physician asthma care education on patient outcomes](#). *Pediatrics*. 2006;117(6):2149-2157; doi: 10.1542/peds.2005-1055
- González-Espada WJ, Hall-Barrow J, Hall RW, Burke BL, Smith CE. [Achieving success connecting academic and practicing clinicians through telemedicine](#). *Pediatrics*. 2009;123(3):e476-e483; doi: 10.1542/peds.2008-2193

While the first 25 years of landmark articles in *Pediatrics* **set the stage** for lifelong learning as a professional requirement, and the next 25 years showed how to **keep learners engaged**, the 21st century witnessed 2 landmark articles that use accredited CME to **inspire practice change**. Cabana et al brought 2 mornings of physician education in asthma care in regions across the United States, leading to improvements in physician performance and communication, and in patients' asthma health, sustained out to a year. González-Espada et al connected rural practices to academic centers with telemedicine, nourishing the enduring coaching and reciprocal learning relationships.

Accredited education intends to fill pediatricians' gaps in knowledge, competence, or performance in practice, ultimately to improve patient outcomes or a community's health. For each kind of gap or goal, there are different ways to measure the improvement. Few studies before Cabana et al had “examined the impact of physician CME on actual patient outcomes.” This study implemented a Physician Asthma Care Education (PACE) CME event and then evaluated for changes in competence, performance, *and* outcomes in practices across the country, in one of the most rigorous ways: a randomized controlled trial with 1-year follow-up.

Over 100 primary care providers (94% baseline response and 76% 1-year response) in 10 regions across the United States were randomized by site to receive PACE CME now versus later. In each community, local faculty participated in standardized training and then were able to provide the seminar to their local colleagues. Physicians who received PACE CME reported increased confidence (self-efficacy) for skill in developing asthma plans and reviewing these with patients. As a balancing measure, the investigators found no differences in time spent in visits. One year later, 731 of their 870 randomly sampled patients were telephoned about their physician's performance in practice, and they confirmed a higher rate of obtaining full

asthma history among PACE-educated physicians. Patient outcome improvements were sustained through the end of the 1-year follow-up, with fewer days with asthma symptoms across seasons, and decreased emergency department use when controlling for demographic characteristics and for asthma severity. There were no differences in hospitalizations or urgent care visits. The methods in this landmark article by Cabana et al are an example of the modern learning networks and improvement collaboratives we now enjoy that **inspire practice change**. Together, pediatricians earn CME (and now MOC Part 4) credit to learn in communities and to improve their competence (confidence) and performance and, ultimately, they team up with families to help their patients' health outcomes.

Prior to the Covid-19 pandemic, telemedicine and e-learning opportunities were limited and not readily available in formats for clinical medicine and medical education. Nevertheless, there were several e-learning projects distributed prior to recent times, including the pediatric PLACE (Physician Learning and Collaborative Education) project in 2007-2008. This project used videoconferencing to deliver physician and nurse education to rural Arkansas to (1) support rural Arkansas practitioners, (2) build relationships between rural practitioners and tertiary care pediatric specialists, and (3) improve the healthcare of medically underserved children in Arkansas. This landmark project served as an early implementation example of remote tele/e-learning in 2007-2008. Participants gained access to pediatric PLACE from multiple Arkansas locations, and the project took advantage of T1 lines from federal bioterrorism grants in Arkansas hospitals, over a decade prior to the Covid-19 pandemic. At the time, most people did not have Internet access or even what we would now consider low-speed Internet.

Five hundred participants evaluated pediatric PLACE, half of whom were physicians and 26% of whom were nurses. In general, there was high satisfaction with pediatric PLACE. Participants reported an increased knowledge about the subject matter and noted the professional relevance of the sessions and the good potential to translate information into professional practice. E-learning was felt to be an effective learning platform that provided convenience and accessibility and was responsive to learners' needs. Barriers and limitations identified in pediatric PLACE are also familiar: (1) the need for more active learning rather than one-way lectures, (2) the struggle with technology and interfaces, and (3) the need to share best practices with future teachers.

In conclusion, more recent medical learning opportunities have brought a renewed focus on inspiring practice change and elevating efficacy standards for CME programs. Nevertheless, there remain opportunities to ensure use of adult learning principles to improve uptake of lessons learned. In particular, the field remains reliant on passive learning through PowerPoint lectures and one-way teaching. Still, history has shown us that teachers must **set the stage** for active learning, **keep learners engaged** through interactive learning opportunities, and provide repeated learning opportunities through learning networks to **inspire practice change** with adoption of evidence-based practices that will ultimately improve patient outcomes. To "Teach Now Learn How" *now*, go to the AAP COCME website at <https://cocme.courses.aap.org/visitor>