USING ACADEMIC DETAILING TO CHANGE CHILD HEALTH SERVICE DELIVERY IN CONNECTICUT:

CHDI's EPIC Program

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About the Child Health and Development Institute of Connecticut:

The Child Health and Development Institute of Connecticut (CHDI), a subsidiary of the Children's Fund of Connecticut, is a not-for-profit organization established to promote and maximize the healthy physical, behavioral, emotional, cognitive and social development of children throughout Connecticut. CHDI works to ensure that children in Connecticut, particularly those who are disadvantaged, will have access to and make use of a comprehensive, effective, community-based health and mental health care system.

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INTRODUCTION

The Child Health and Development Institute (CHDI) is dedicated to improving health and mental health systems for children in Connecticut. CHDI uses several strategies for assisting pediatric health and mental health providers in reforming their practices to better serve children, including learning collaboratives, workshops and academic detailing.

This report reviews the literature on academic detailing as a strategy for promoting practice change and describes CHDI's five years of experience with the Educating Practices in the Community (EPIC) Program, which uses academic detailing to educate child health providers about ways that they can improve care. We describe the development and content of each EPIC presentation, and share feedback on the presentations from practices that have participated. Available impact-oriented data for certain presentations are also presented. The report concludes with a discussion of lessons learned from CHDI's experiences in providing academic detailing presentations on a variety of health and mental health topics in pediatric and family medicine practices.

Research suggests that traditional methods of education, such as didactic, lecture-based continuing medical education sessions, have little to no effect on the behavior of health professionals.

WHY ACADEMIC DETAILING?

Academic detailing is an educational process that incorporates many of the promotional techniques used by pharmaceutical companies.[1] Academic detailing involves educational outreach through a personal visit by a trained professional to health providers and staff in their own practice settings.[2] As described by Soumerai, the key components of academic detailing interventions include:

(1) Investigating the baseline knowledge and motivations for clinical behavior patterns and potential barriers to behavior change;

(2) Defining clear educational and behavioral objectives;

(3) Establishing credibility through a respected organizational identity;

(4) Referencing authoritative and unbiased sources of information and presenting both sides of controversial issues;

(5) Stimulating active participation in educational interactions;

(6) Using concise graphic educational materials;

(7) Highlighting and repeating the essential messages; and

(8) Providing positive reinforcement of improved practices in follow-up communications.[1]

Academic detailing has consistently demonstrated effectiveness at promoting behavioral change among health care professionals in a variety of clinical decision-making areas...

Successful academic detailing programs are developed as tailored interventions to overcome barriers to behavior change using simple messages, and are delivered by a respected colleague.[3]

Research suggests that traditional methods of education, such as didactic, lecture-based continuing medical education sessions, have little to no effect on the behavior of health professionals.[3,4,5] Other practice change strategies such as audit and feedback, provider incentives, and administrative regulations have been found to vary in effectiveness with no single strategy producing predictable positive results.[5] However, academic detailing has consistently demonstrated effectiveness at promoting behavioral change among health care professionals in a variety of clinical decision-making areas, including blood transfusion practice[6], antibiotic utilization[7] and managing psychiatric disorders.[1,2,3,5,8] Notably, a 2007 review of the literature found academic detailing to be less effective at its initially intended application, changing physician prescribing practices, than at changing other types of practice, such as utilization of screening tests.[2]

More specifically to the population targeted by the EPIC program, educational outreach has been demonstrated to be an effective method of changing the behavior of pediatric primary care providers in a variety of clinical areas. Several studies from Connecticut provide evidence for broad application of academic detailing to address child health issues.

In collaboration with Connecticut's Children's Trust Fund and its Help Me Grow program, CHDI supported the dissemination of a presentation on developmental surveillance and screening to 150 child health practices in 2004. Follow-up chart audits indicated that twice as many children were identified as at risk for developmental delay after practices had the presentation compared to the period before they had the presentation, and twice as many children were identified in practices that had the presentation compared with practices that did not.[9] Another study from Connecticut found improvements in asthma management and patient outcomes following practice participation in office-based education.[10] Schechter et al. found that teaching practice staff pain management techniques to ease children's discomfort with immunizations was effective as measured by families' subsequent reports of pain associated with their children's immunizations.[11] Gaines found that physicians receiving educational outreach visits about developmental coordination disorder (DCD) significantly improved their knowledge about DCD and their ability to identify and diagnose children with this condition.[12]

CHDI has grown the EPIC program over the past five years to include ten modules covering a variety of child health topics that are priority areas for practice improvement in Connecticut.

CHDI's EPIC Program

CHDI created the Educating Practices in the Community (EPIC) program in 2002 as a pilot continuing education program for child health providers in Connecticut. The Pennsylvania Chapter of the American Academy of Pediatrics (AAP) had tested the academic detailing approach and found it to be successful for improving practice in two areas: 1) teaching pediatricians about suspected child abuse and neglect (SCAN) and 2) promoting integration of services for children with special health care needs.[13] CHDI, with funding from its parent organization, the Children's Fund of Connecticut, provided funding to the Connecticut AAP Chapter to disseminate a SCAN module based on the work in Pennsylvania and to expand EPIC to other topics following the SCAN pilot. At this time, two other pediatric academic detailing programs existed in Connecticut. The University of Connecticut School of Dentistry was promoting early preventive dental services and connection of children to dental services through onsite education in practices. At the same time, the Children's Trust Fund, with support from the Commonwealth Fund, was providing office-based education on early detection of children at risk for developmental delay and connection to community-based services. The Children's Trust Fund reached 150 child health sites in 2003 to 2004 and documented the efficacy of their work in changing practice behaviors.[9,14,15] CHDI's plan included bringing the existing academic detailing programs that addressed child health into a coordinated statewide training initiative.

In 2005, CHDI assumed full responsibility for EPIC, and has grown the program over the past five years to include ten modules[a] covering a variety of child health topics that are priority areas for practice improvement in Connecticut. Once a child health topic is identified, CHDI retains pediatric experts to develop EPIC modules according to the criteria in Figure 1.

[a] Note: The SCAN module has been discontinued

Figure 1. Criteria for EPIC Modules

- Lead to improved quality of care for pediatric patients in the primary care setting
- Recognized as relevant to pediatric primary care and reflect a clinical area in which care is not optimal
- Reflect evidence-based practice in children's health or development and cover a content area for which educational opportunities may be lacking
- Is appropriate for all professionals and staff in the office, and training should engage the entire office
- Lead to staff behavior change that is closely tied to important patient outcomes
- Participants must have opportunities to practice new skills and discuss implementation as part of the training
- Based on a Connecticut initiative and have a Connecticut contact to work with the EPIC Steering Committee
- Include a follow-up component to support the practice during implementation
- Include information regarding additional resources

A critical component of EPIC is that the whole practice team learns about opportunities for practice change and engages in practical conversations about making changes.

Trained presenters deliver the modules onsite in pediatric and family medicine practices. Presentations last one hour, include lunch or breakfast, and are provided at no cost to the practice. A critical component of EPIC is that the whole practice team learns about opportunities for practice change and engages in practical conversations about making changes. Therefore, presentations contain information that is relevant to a variety of staff roles in the practice setting. Presenters discuss billing issues to help practices recoup reimbursement for implemented changes and thus involve the office billing staff. Information about distributing patient screening tools and educational materials is included in several modules and addresses the work of front office staff. Each module also provides practical information about resources to improve care by taking advantage of larger policy and/or system supports. Two modules, Autism and Infant Oral Health, carry Continuing Medical Education (CME) credits for physicians. In addition, the American Board of Pediatrics recently approved the Autism module and a related self-chart audit activity for Category Four, Maintenance of Certification credit.[b]

Table 1 contains detailed information about currently active EPIC modules. Practices learn about EPIC in a variety of ways. CHDI staff and module presenters publicize the availability of EPIC at hospital-sponsored CME programs, community pediatrician meetings, and the annual conference of the CT Chapter of Family Physicians. At each practice presentation, the presenter also invites practices to sign up for other modules, and the module feedback form contains a list of available presentations from which attendees can select. CHDI has a full time coordinator who schedules presentations, ensures that lunch and the presentation materials are delivered to the practice site, and collects and maintains feedback data from participants.

[b] The American Board of Pediatrics requires pediatricians to complete two approved practice improvement activities every seven years as part of the Maintenance of Certification process.

Table 1: Content, Presenters, Supports and Resources for EPIC Modules

Module	Learning Objectives	Presenters	Policy/System Supports	Resources Provided
Autism Spectrum Disorders (ASD)	Recognize red flags Use the M-CHAT to screen for ASD Talk with parents about positive M-CHAT results Connect children to evaluation and intervention services Bill for screening and follow-up visits	Primary care and developmental pediatricians	AAP policy for ASD screening Medicaid payment for ASD screening Part C designated ASD centers for evaluation and intervention	Sample M-CHAT with scoring information Billing information for screening services List of evaluation resources Medical chart stamp for maintaining screening record
Children's Behavior Problems: Brief Intervention	Coach and empower parents Collaborate with families and service systems to address behavioral health issues that are within normal developmental themes	Primary care provider with special interest in behavioral health issues	Child developmental Infoline (CDI) inventory of community services[c] AAP Bright Futures materials	Bright Futures parent education materials References for pediatric resources: AAP toolkits, websites, etc. Billing information
Behavioral Health Screening	Understand guidelines for behavioral health screening Implement screening tools Bill for screening Follow up on positive responses to screening	Child psychologist with experience in primary care setting	Payment for screening in primary care System of mental health services to which children who do not pass screening can be referred	Sample screening tools Referral resources for follow up evaluations and intervention Workflow protocols Template for documenting screening results Billing information
Care Coordination In the Medical Home	Understand the elements of care coordination Use available resources to coordinate care for patients	Department of Public Health, Children and Youth with Special Health Care Needs (CYSHCN) Care Coordination Contractors	CYSHCN care coordination services Primary Care Case Management in Medicaid	Contact information and tools for care coordinators Referral forms
Collaborative Health Care	Foster collaboration with behavioral health specialists Use office tools for efficient and effective collaboration in the care of shared patients	Staff from behavioral health agencies in practice's local area Child psychologist with extensive experience in pediatric primary care	CT Behavioral Health Partnership (CT BHP) Enhanced Care Clinic[d] (ECC). Program that facilitates partnerships between primary care and behavioral health	Communication tools

[c] CDI, a component of the United Way's 211 Information and referral system, provides a single point of access for parents, providers and community agencies looking for developmental services for young children.

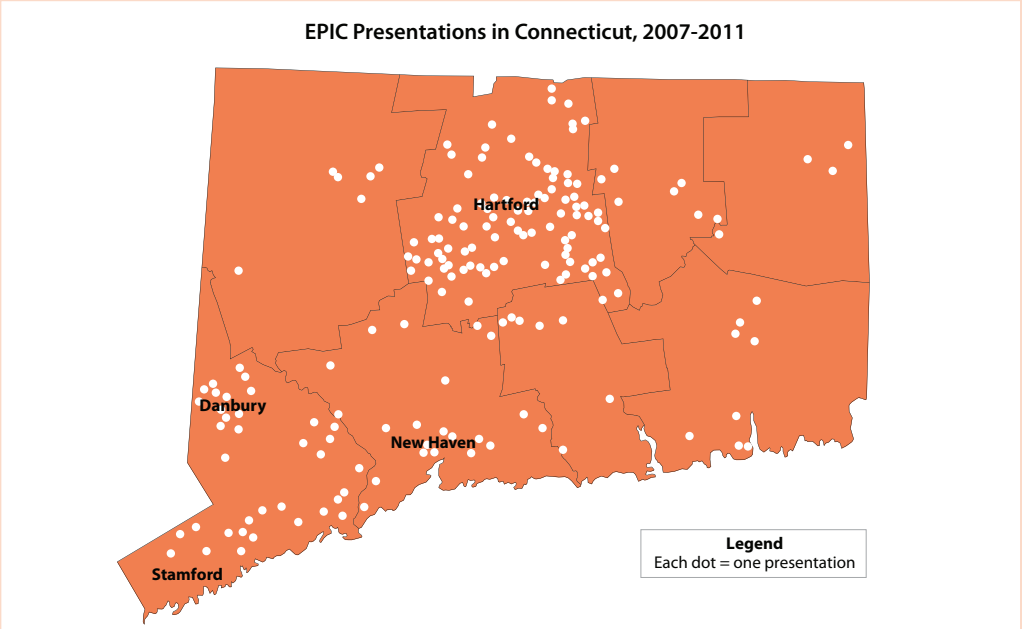
[d] Enhanced Care Clinics are behavioral health agencies that are designated by the State of Connecticut to receive enhanced reimbursement from Medicaid for meeting strict access criteria and for forming formal partnerships with primary care practices.

Table 1: Content, Presenters, Supports and Resources for EPIC Modules

Module	Learning Objectives	Presenters	Policy/System Supports	Resources Provided
Connecting Children to Behavioral Health Services	Learn about the CT BHP services for children insured by Medicaid Identify the right behavioral health services Make referrals to behavioral health services	Staff from behavioral health agencies in the practice's local area Regional staff from Medicaid behavioral health carve out program (CT BHP) Psychologist with extensive experience in pediatric primary care	CT BHP program that ensures access to behavioral health services in ECCs for children insured by Medicaid	Referral information about local community and statewide services
Developmental Surveillance and Help Me Grow	Learn the components of developmental surveillance Implement screening for developmental risks Connect children to evaluation and intervention services through CDI	Staff from state Help Me Grow program and Child Development Infoline (CDI)	AAP Developmental Surveillance and Screening policy Payment for Developmental screening CDI call center	Sample screening tools Magnet with CDI contact information CDI information for patients
Hearing Loss	Learn about the importance of early hearing Follow up from hospital newborn hearing screening Monitor all children's hearing	Pediatricians and audiologists with special interest in early hearing detection and intervention	State Early Hearing Detection and Intervention (EHDI) program Expanded eligibility for early intervention services to children with minor hearing loss	Pediatric audiology services Billing information for hearing screening
Oral Health	Perform early mouth exams and preventive counseling Apply fluoride varnish Bill for early dental services	Pediatric dentist Pediatrician with interest in dental services Pediatric dental hygienists	Increasing number of general dentists who have been trained to provide dental services for young children Payment to pediatric primary care for early dental services	Parent education materials Dental referral services Fluoride varnish kit
Teen Driver Safety	Learn the facts about teen car crashes Learn safety recommendations and laws governing teen driving Engage parents in safe teen driving Integrate teen driving safety into anticipatory guidance	Staff from the children's hospital injury prevention center	Laws governing teen driving Injury prevention center dedicated to promoting safe teen driving	Summary of state laws Parent/teen/provider contract regarding safe driving

Between May 2006 and April 2011, EPIC reached 141 pediatric and family medicine practices in Connecticut with one or more presentations for a total of 226 presentations.

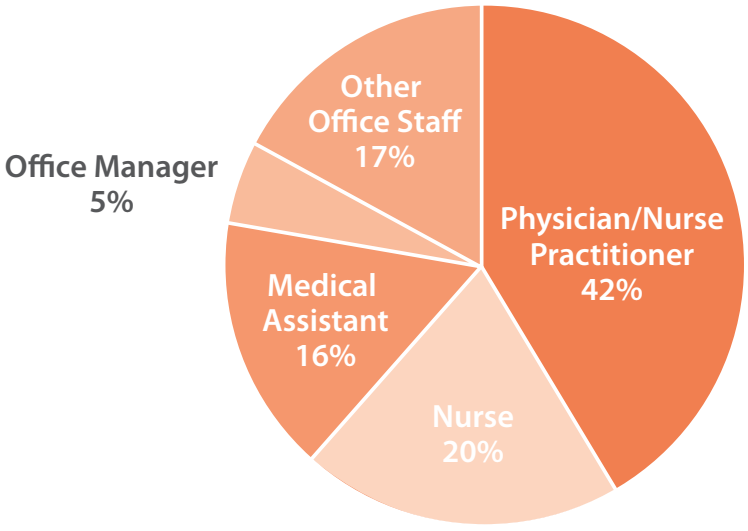
Figure 2: Distribution of EPIC Presentations to Practices Across Connecticut



Between May 2006 and April 2011, EPIC reached 141 pediatric and family medicine practices in Connecticut with one or more presentations for a total of 226 presentations. The map in Figure 2 shows the distribution of presentations over the past seven years. EPIC has been more effective in reaching practices within or near the large urban areas but has completed several presentations in the state's less populated areas, where there are fewer health care providers.

More than 1,400 attendees have completed feedback forms, which provide information on their evaluation of the presentations as well as information about their roles within the practice. Figure 3 shows the range of practice personnel who have participated in EPIC presentations. Although the majority of participants are physicians or nurse practitioners, a sizeable number of nurses, medical assistants, office managers, and other office staff (such as billing personnel and front office staff) personnel have also attended.

Figure 3: Roles of Staff Participating in EPIC Presentations



Participant Feedback from Five Years of EPIC

Participants in every EPIC presentation are asked to complete evaluations of the material presented. CHDI uses this feedback for quality monitoring and improvement purposes. Overall, EPIC presentations have been extremely well-received. More than 90% of these respondents stated that they planned to use the information provided. The most frequently cited barriers to practice change included lack of time (26% believed "might be a barrier") and not enough information provided (15% believed "might be a barrier"). Ninety-five percent reported that the information provided was valuable, and 80% like the convenience of having the presentation in the office.

Practice staff attending EPIC presentations overwhelmingly stated that they planned to use the information they had learned in CHDI's EPIC presentations to make practice changes.

Changing Practice in Connecticut

Practice staff attending EPIC presentations overwhelmingly stated that they planned to use the information they had learned in CHDI's EPIC presentations to make practice changes. To determine whether these changes actually occurred, we used Medicaid billing data, chart audit data, surveys, and interviews to evaluate the impact of participation in certain EPIC modules on practice changes and patient outcomes.

In 2010, a chart audit was conducted to identify the impact of the EPIC Autism Spectrum Disorder (ASD) module on the rate of ASD screening at the 18 month well-child visit. The audited practices were members of ProHealth Physicians, a large primary care network in Connecticut. Nine practices in the network had received the EPIC ASD presentation at the time of the audit and five were selected to assess the impact of the EPIC ASD module. Staff from ProHealth audited 20 charts for 18 month well-child visits going backward sequentially before the EPIC presentation, and 20 charts from 18 month well-child visits moving forward sequentially starting at least three months after the EPIC presentation. A comparable sample of charts from five practices that did not have the EPIC presentation was also audited. Analysis of the chart audit demonstrated that rates of using a formal ASD screening tool at the 18 month well-child visit increased significantly in all five of the practices that had the EPIC training (Table 2).

Table 2: Rates of ASD Screening in Intervention Practices Post-EPIC Presentation, Compared with Pre-EPIC Presentation and with Matched Control Practices (No EPIC Presentation)

	Pre-EPIC Screening Rate	Post-EPIC Screening Rate	Matched Control Screening Rate	P (Pre vs. Post-EPIC) (Post-EPIC v. Control)
Practice 1	25%	85%	0%	<0.001* <0.001*
Practice 2	60%	85%	0%	0.04* <0.001*
Practice 3	40%	100%	100%	<0.001* n/a
Practice 4	0%	65%	70%	<0.001* 0.37
Practice 5	0%	19%	60%	0.04* <0.005*

*$p < 0.05$

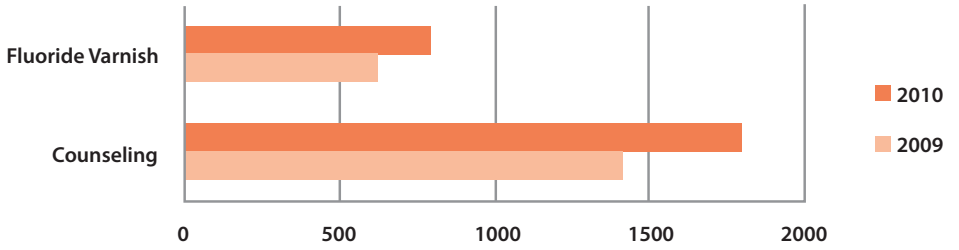
The EPIC ASD presentation was successful in changing pediatric provider practice, increasing the use of an ASD screening tool (the M-CHAT) at 18 month well-child visits.

Rates of utilization of a formal ASD screening tool at the 18 month well-child visit in four of the five practices that had the EPIC presentation were equal to, or higher than, the rates of screening observed in the untrained practices (Table 2). The average rates of screening for the two groups were 70.8% for the EPIC practices and 46% for the other practices. The chart audit showed that the EPIC ASD presentation was successful in changing pediatric provider practice, increasing the use of an ASD screening tool (the M-CHAT) at 18 month well-child visits.

There are other indications that EPIC has contributed to changing pediatric practice in Connecticut. Regional care coordination centers for the Department of Public Health (DPH) Children and Youth with Special Health Care Needs (CYSHN) program have reported that they have received referrals as a result of the EPIC presentations on care coordination. Care coordinators, who participate in the EPIC presentations, believed that the personal contact that they established with practice staff at the presentations allowed for improved contact between the care coordinator and the practice staff as they worked to help families. Similarly, after participating in the Connecting Children to Behavioral Health Services module, staff from mental health agencies believed that collaborative relationships between their agency and their partner primary care practices had been strengthened as a result of the EPIC presentation.

Our ongoing experiences with and assessments of the EPIC program have yielded important lessons for changing child health practice within the context of state and local opportunities for improving child health and integrating health with other child services.

Figure 4: Number of Young Children Younger Than Three Receiving Fluoride Varnish and Oral Health Counseling Services from Child Health Providers



Medicaid claims data also support the impact of the EPIC program on practice change. From 2007, when Medicaid first approved payment for developmental screening, through 2010, Connecticut has seen a 14 fold increase in the number of children younger than three, who received screening as part of their well-child services. During this same time period, EPIC provided screening training in more than 50 pediatric and family medicine sites.

The EPIC Oral Health module reached nine large practices after the Department of Social Services approved it as certification for child health providers seeking reimbursement for counseling and fluoride varnish application for children younger than three. Figure 4 shows the number of children receiving these services from pediatric providers in 2009 and 2010. The EPIC Oral Health training contributed to the statewide growth in the number of pediatric providers counseling parents about oral health and applying fluoride varnish for very young children (Figure 4).

Lessons Learned from Five Years of Academic Detailing

Our ongoing experiences with and assessments of the EPIC program have yielded important lessons for changing child health practice within the context of state and local opportunities for improving child health and integrating health with other child services. These lessons are discussed as follows.

1. Child health providers need information about state policies and systems that support their delivery of services to children.

Although state agencies and national professional organizations are continually changing recommendations, developing programs and implementing supportive policy, pediatric and family medicine providers often know very little about these efforts and continue to practice in the way they have in the past. Practices are overwhelmed with meeting patient needs on a day-to-day basis and often do not keep up with environmental changes that can support their delivery of services.

CHDI has brought EPIC to more than 140 primary care pediatric sites in Connecticut and very rarely encountered a practice that was fully aware of screening guidelines and reimbursement opportunities for screening. Similarly, EPIC trainers have confirmed that practices did not know that the state Department of Public Health had care coordinators available to help them connect children with special health care needs to services, or that certain behavioral health organizations were designated to provide rapid access to services for children insured by Medicaid in their communities. Almost all (95%) participants providing feedback on EPIC presentations rated the information provided as valuable and, more tellingly, the available outcome data demonstrates that practices use the information from the EPIC presentations to make actual changes in their practices, which directly improves patient care.

2. Pediatric providers need time-saving strategies for meeting patient needs.

Lack of time was the most frequently reported barrier to implementing changes recommended in EPIC presentations, with 26% of attendees who completed feedback forms responding that it could be a barrier. Opportunities for reimbursement for some recommended practice activities, such as developmental and behavioral screening and dental care, **do not** seem to affect perceptions that time is a factor in implementing change. Thirty-one percent of attendees responded that time was a barrier for behavioral health screening, for which they could be reimbursed from Medicaid and commercial insurers. Most likely, practices recognize the upfront time requirements of developing and implementing screening systems to ensure that children receive the appropriate screening tool, completed tools are scored and provisions for follow-up are in place. Practices also expressed concern about the time needed to provide brief intervention for behavioral health issues, even though providers can be reimbursed for their time spent counseling families.

Messages to pediatric practices need to stress the value of putting in time up front to change practice systems in order to capture additional reimbursement down the road. Implementing screening tools to identify parental concerns at the outset of office visits can shorten the visit by efficiently prioritizing and addressing parental concerns up front. Almost all providers have

experienced the "oh by the way" phenomenon when the provider believes that he/she has completed the visit, and the parent brings up a concern that requires considerable time to address. EPIC screening modules stress the efficiency of soliciting parental concerns at the outset of the visit by using developmental surveillance and parent-completed screening tools.

3. Practice change is best achieved when community-based service providers commit to collaborating with child health providers.

This lesson was most obvious in the follow-up interviews with participants in the Care Coordination EPIC module and behavioral health specialists who participated in a "Train the Trainer" for several Behavioral Health EPIC modules. In the two DPH CYSHCN areas where the care coordination contractors were most active in EPIC presentations, the contractors received referrals and worked with child health staff in identifying needs, locating resources and connecting children to appropriate community-based services. After participating in a "Train the Trainer" to learn to present several Behavioral Health EPIC modules in primary care practices, behavioral health specialists stated that they had implemented changes to better address children's behavioral health issues by collaborating with primary care providers. Interviews with partner primary care practices confirmed the positive impact of the EPIC training on collaborative relationships between health and mental health providers.

Practices that participated in the Hearing Loss module also demonstrated high rates of intention to make practice changes, which could be related to the availability of support from local pediatric audiologists and early intervention programs. Two recent national reports of screening for ASDs reported that child health providers were more likely to adopt screening programs when they perceived that they had support from Autism specialty services.[17,18]

4. EPIC can help practices use data to monitor their delivery of services and practice processes and improve care.

Beginning in 2009, pediatricians need to complete two practice improvement activities every seven years in order to maintain their certification from the American Board of Pediatrics, which sanctions activities as acceptable under this aspect of the Maintenance of Certification (MOC) requirement. Acceptable activities engage pediatricians in using practice data to assess performance and measure improvement. In June 2011, the ABP approved the EPIC ASD module and follow-up data collection and review as a recertification activity. Providers who wish to receive MOC credit for ASD screening will enter data from appropriate well-child visits and receive feedback on how well they are meeting AAP guidelines for ASD screening and follow-up. Other EPIC modules are appropriate for MOC credit, also, emphasizing the contribution of academic detailing to creating meaningful and measureable practice change within a quality improvement context. As

the field of healthcare moves toward accountable, data-driven care, practices will become increasingly willing to participate in programs, such as EPIC, which can support them in making practice changes to improve care and measuring the impact of those changes on practice and patient outcomes.

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