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Supporting Quality Through Evidence-Based Practices

THIS ISSUE AND WHY IT MATTERS

Evidence-based practice (EBP) is a complex and evolving concept in the early childhood field. There is no consensus on the precise definition of EBP as researchers, clinicians, educators, and policymakers continue to grapple with the fact that services to children and families must be individualized and culturally appropriate, must incorporate the latest knowledge, and will always involve uncertainties. Furthermore, an evidence-based process demands that professionals become informed about the different types of research that provides the "evidence" for a particular intervention. Understanding the research base and why a particular intervention works is essential to selecting the EBP that is most appropriate for the families in a particular program or community. Most important, practitioners need to understand the core features of the intervention that must be adhered to in order for it to be effective. The task of implementing a program or practice the way that led to its positive research evidence presents numerous challenges and raises a host of questions about whether a program or practice can generalized to a larger scale or adapted to different audiences.

Despite this complexity, early childhood professionals need to pay attention to the EBP movement for two important reasons: (a) Effective programs are more likely to make a difference in the lives of infants, toddlers, and their families. For a program to be effective in meeting its goals, it's vital to understand why an intervention "works" so that practitioners are focusing their time and effort on the activities and experiences that will accomplish its goals; and (b) Scarce and valuable resources should be directed to where they will really pay off. Funders and policymakers are increasingly calling for EBPs to ensure accountability for their investments. To meet these goals, there are a variety of resources now available for selecting programs and practices that are deemed to be evidence-based, such as RAND's Promising Practices Network (www.promisingpractices.net/) as described in an article in this issue. Other examples include the What Works Clearinghouse (http://ies.ed.gov/ncee/wwc/), the Coalition for Evidence-Based Policy (http://coalition4evidence.org/wordpress/) and the National Registry of Evidence-Based Programs (SAMHSA) (www.nrepp.samhsa.gov/). However, each source of information varies in how they identify practices and programs that are evidence-based. Some of the differences to be aware of include the types of programs and practices; the evidence of effectiveness; and how they review, categorize, and synthesize the evidence. In addition, the evidence for programs and practices that serve infants and toddlers is in the early stages of development with many gaps in the knowledge-base. In this case, professional judgment must be used along with what is known through research, with careful monitoring to collect data that will help build the evidence for what is effective.

The articles in this issue of *Zero to Three* provide a variety of different lenses through which to view and implement EBP. The authors share their experiences and insight with defining, selecting, and implementing programs and practices as they engage in an evidence-based process to best support children and families. As a philosophical approach, EBP can best be understood as a decision-making process that demands a thoughtful integration of science, practice, and policy, and relies on the knowledge and experience of skilled providers.

Stefanie Powers, Editor
spowers@zerotothree.org

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Sally Provence, Editor 1980 –1985
Jeree Pawl, Editor 1985–1992
Emily Fenichel, Editor 1992–2006

Editor
Stefanie Powers

Director of Production
Jennifer Moon Li

Design Consultant
Heroun + Co.

Production
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Understanding Evidence-Based Information for the Early Childhood Field

Tips From RAND's Promising Practices Network

TERYN MATTOX
M. REBECCA KILBURN
RAND Corporation
Santa Monica, California

Abstract

With the growing and diverse use of the term *evidence-based practice* it can be difficult for policymakers, funders, program officers, and other professionals to separate the good evidence from the flawed. Furthermore, once good evidence has been identified, it can be difficult to know how to use it. This article discusses key issues to consider when using evidence-based practice resources, as well as some basic frameworks for using them. In particular, we examine the use of the term *evidence-based*, we discuss some considerations that should be taken into account when implementing evidence-based practices, and we describe frameworks that have been used to support decision making around the appropriate use of evidence-based practices. We also describe the work of the Promising Practices Network, a comprehensive Web-based resource where users can access unbiased information on programs and practices that have been evaluated in rigorous research studies.

Do an Internet search for "early childhood evidence-based practices" [EBPs] and you will obtain about 3.5 million hits, which includes an assortment of scholarly articles, Web sites of foundations devoted to funding efforts related to early childhood, and information about programs and services for children and their families. In this digital age, information on how to improve outcomes for children and families is available in abundance. However, with the overwhelming amount of information available, it can be difficult to distinguish effective programs from those that are simply effectively marketed. Despite these challenges, for many professionals who work directly or indirectly with young children and their families, it is important to be able to identify those programs or practices that are truly successful at achieving their goals.

This expanding supply of literature related to what works for young children and their families is coupled with a growing demand from the federal government and other funders that scarce dollars be used on those programs that have a high-quality scientific evidence base (Maynard, 2006). In fact, government agencies involved in children and youth services use scientific evidence more frequently on average than other agencies in their policy and funding decisions (Jennings & Hall, 2009). However, research in this area is of varied quality and often accessible in scientific articles requiring not only advanced training to find and decipher, but also in many cases the reader must purchase them. In short, there is a critical need for research to be reviewed, synthesized, translated, and made available for use by non-researcher professionals.

This article discusses issues related to evidence-based information that are critical to its use in the area of early childhood policy and practice, and describes one resource for finding evidence-based early childhood research—the Promising Practices Network (PPN). The issues we discuss include the use of the term *evidence-based*, considerations to take into account when implementing EBPs, and some frameworks that can guide the incorporation of EBPs into decision making. We describe PPN because it is an evidence-based resource that is likely to be of particular

interest to policymakers and practitioners in the early childhood field and because it helps users access all of the highest quality early childhood EBP resources rather than posting information only from one organization.

Evidence-Based Information for the Early Childhood Field

In the last decade, the early childhood field began to participate in the evidence-based information movement that was spilling over from medicine into other social service and education fields at the same time (Buysse & Wesley, 2006). Rather than a consensus developing around the term evidence-based, definitions have proliferated, becoming more specific but also more diverse. Early in the decade there appeared to be a trend toward supplementing evaluation findings with professional expertise, client values and characteristics, and other forms of knowledge in definitions of evidence (American Psychological Association, 2001; Buysse & Wesley, 2006; Institute of Medicine, Committee on Quality of Health Care in America, 2001). More recently, definitions of evidence-based programs issued by federal agencies have moved in the other direction, specifying narrow evidence criteria that focus almost exclusively on the scientific rigor of the evaluations (U.S. Department of Education's Institute of Education Sciences, 2011; U.S. Department of Health and Human Services, 2011). In addition, professional organizations, such as the Society for Prevention Research, have developed standards for identifying effective interventions that include overlapping tiers of standards to distinguish those that are *efficacious* (program demonstrates benefits under optimal evaluation conditions) as distinguished from *effective* (program effects under real-world conditions; Flay et al., 2005). Given the growing quantity and diversity of evidence-based standards, it is little wonder that a concept that promised to bring some of the rigor and credibility of medical testing to the early childhood field has generated some fog in addition to light.

Rather than producing an extensive commentary on evidence-based information for the early childhood field, below we summarize a few key issues that are currently relevant to the use of evidence-based information. These include some important limitations that should be borne in mind when using PPN or any resource that disseminates EBPs.

The Definition of Evidence-Based

The Society for Prevention Research reports a "proliferation of lists of evidence-based prevention programs and policies" (Flay et al., 2005, p. 151) and one can even find cataloguing of evidence-based program and practice lists (Metz, Espiritu, & Moore, 2007; National Early Childhood Technical Assistance Center, 2011). A comparison of the standards used to produce EBP lists indicates that they use many definitions of evidence-based. Rather than viewing the appropriate definition as being generated by the purveyor of the lists or being a subject of debate (Marston & Watts, 2003), it may be more productive to have various definitions that are relevant for particular applications. For example, some subfields such as infant foster care have few randomized trials and few studies with long-term follow-up, so using the best available information necessarily would involve a different standard than home visiting, an area where there is a considerably larger set of research studies. It would be misleading to use blanket terms, such as *evidence-based programs* that suggested that equivalent standards of evidence informed decisions across fields, when in fact the fields have a body of research with evaluations of different rigor. Articulating subtleties in evidence standards may be beyond the scope of training for many decision makers in the field of early childhood, so an important way that EBP lists can add value to their use is to help decision makers understand and communicate the richness of the research information rather than simply providing names and descriptions of the programs or policies that met that EBP registry's particular standards. In short, given the current volume and diversity of EBP resources, to say that something is evidence-based is nearly meaningless without providing a substantial amount of additional information.

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It can be difficult to distinguish effective programs from those that are simply effectively marketed.

Another distinction that matters in the discussion of evidence-based information in the early childhood field is the difference between a *program* and a *practice*. Metz and colleagues (2007) provided a very clear discussion of these two terms. They described the former as being multicomponent interventions organized into bundles, and the latter as being the core components of a larger intervention. In this article, we discuss issues related to both programs and practices.

The Importance of Study Population and Context

EBP resources such as PPN are a valuable step in understanding which of the numerous available program models have been shown to have an impact on outcomes for children and families and might be worth considering for implementation. However, even EBPs implemented with full fidelity can fall short in the field. There are no guarantees that the implementation of an EBP will necessarily produce the same impact that the program had in a research study (Flay et al., 2005). One issue that is important to consider is that evaluation studies are conducted within a particular population and in a particular context. This population and context can be as narrow as one particular school in a particular community, or as broad as an entire country, but the results of any given evaluation study are applicable only to the population and environment in which the study was conducted. No matter how well a study is designed, this is a limitation that cannot be overcome. Evaluations are typically conducted among a relatively small study population and in specific setting, and what

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There is a growing demand from the federal government and other funders that scarce dollars be used on those programs that have a high-quality scientific evidence base.

works for one demographic group or in one context will not necessarily work for another group or in another setting. An example of this can be seen in Hip-Hop to Health Jr., a program that was developed to prevent overweight among preschool-aged children. A well-designed randomized controlled trial, considered the "gold standard" of research evidence, was conducted in 12 Head Start programs in Chicago among a largely African American population. The evaluation found exceptional results: significant long-term reduction in subsequent body-mass index increases compared to the control group, a previously elusive achievement in such a young population.

The same program was then implemented again by the same research team, again in 12 Head Start centers located in the city of Chicago. This time, however, the Head Start programs involved predominantly served Latino children. The change in population and setting made a significant difference: this time, no program effects were found. While Hip-Hop to Health Jr. was well-received by the participating families, it did not result in any significant differences between treatment and control groups (Fitzgibbon et al., 2005, 2006).

Programmatic decision makers who elect to implement an EBP must think carefully about the population that they are serving and the setting in which they will be implementing the program and compare it to the populations and settings that have been studied. If the population or setting is substantially different, decision makers must weigh the advantages and drawbacks of modifying a program in order to make it more culturally relevant or to adapt to other local conditions, such as labor availability or transportation. There is never a guarantee that an EBP with untested modifications would retain the elements critical to its success, but similarly there is no guarantee that the same program applied to a different population or context would be able to achieve the expected outcomes.

The Challenge in Identifying a Program's Effective Elements

Despite extensive theoretical support underlying the development of most programs, at the end of the day a program's effectiveness can be something of a black box. That is, program evaluations are largely designed to test the entire program as a package, rather than each of the programs' component parts. For this reason, it is difficult to know which components were the critical components. Small programmatic adaptions may have a significant impact on outcomes for good or ill, and without testing the adaptations, there is no way to determine how the adaptions will affect program performance.

For this reason, it is not possible to implement only the essential aspects of the intervention, because those aspects are unknown for most interventions. Any change to a program model might weaken (and may also strengthen) a program's benefit. For instance, just because some interventions that deliver services through home visits have been shown to be effective at improving certain outcomes, such as reducing child maltreatment, it is not necessarily true that home visiting itself always generates those outcomes. In fact, despite conclusive evidence that certain home visiting interventions such as Nurse Family Partnership are effective at reducing child maltreatment (Kitzman et al., 1997; Olds, Henderson, Chamberlin, & Tatelbaum, 1986; Olds et al., 2002), studies have found that certain other home visiting interventions are not (Howard & Brooks-Gunn, 2009), demonstrating that a home visiting component by itself isn't all that is needed to bring about change.

Frameworks for Effective EBP Implementation

The material on PPN and other EBP lists is used by many different audiences, but the core audience of PPN users consists of professionals engaged in some way in programmatic decision making. These professionals use the PPN site as a resource to determine which programs have been shown to make an impact on the lives of children and families. Identifying an EBP, however, is only one of several important steps in selecting and implementing a program in order to have an impact. In addition to being evidence-based, selected programs must meet the needs of the agencies and the communities that the agencies serve, be feasible given the implementing agency's capacities, and be implemented in such a way that program fidelity is maintained. Service delivery frameworks support decision makers in this work by guiding them through the process of program model selection taking into account community context. We briefly review a couple of service delivery frameworks that have been used in real-world settings in tandem with EBP information.

One such framework, entitled "Needs-Assets-Best Practices," was developed to assist a community in Louisiana with identifying specific programmatic priorities within predetermined general focus areas (Kilburn & Maloney 2010). The framework uses locally available data to assemble these critical elements that can be used to set priorities:

1. Needs assessment
2. Asset mapping
3. Identification of best practices

It is at the intersection of these three elements where decision makers should focus their efforts on identifying the optimal strategies for their constituents. That is, this framework helps decision makers identify EBPs that help address the community's greatest needs using resources that are available in the community (see the Learn More box for a link to more information on this framework).

A different type of framework that guides decisionmakers in the selection and implementation of EBPs is the Getting to Outcomes™ (GTO) process for promoting accountability through methods and tools for planning, implementation, and evaluation (Chinman, Imm, & Wandersman, 2004). The GTO process was developed in the context of substance abuse prevention but since its development has been used in a much broader range of prevention applications. The GTO process is also unique in that the process itself has been evaluated and found to be effective at improving certain aspects of service delivery (Chinman et al.).

The GTO process can itself be considered an intervention, and GTO resources include a manual, face-to-face onsite training, and technical assistance (see the Learn More box for a link to the GTO manual). The GTO process consists of 10 steps framed as *accountability questions*. These questions are:

1. What are the underlying needs and conditions in the community?

2. What are the goals, target populations, and objectives (i.e., desired outcomes)?
3. Which evidence-based models and best practice programs can be useful in reaching the goals?
4. What actions need to be taken so the selected program "fits" the community context?
5. What organizational capacities are needed to implement the plan?
6. What is the plan for this program?
7. How will the quality of program and/or initiative implementation be assessed?
8. How well did the program work?
9. How will continuous quality improvement strategies be incorporated?
10. If the program is successful, how will it be sustained?
(Chinman et al., 2004, p. 2)

The frameworks presented here represent two different approaches to identifying the context in which an intervention is being delivered and selecting a program and implementation strategy to best fit that context. Decision makers can use this information to tailor interventions to their communities, thereby improving the chances of making an impact in a sustainable way.

An Overview of the PPN

The PPN is one EBP resource that is likely to be particularly useful for decision makers in the early childhood field, because it helps users access all of the highest-quality early childhood EBP resources rather than posting information from only one organization. PPN translates research information using a straightforward format for policymakers, program officers, and others interested in understanding what works to improve outcomes for children and their families (see the Learn More box for a link).

PPN is unique in a few ways that reflect the fact that it was founded by policymakers and social service providers so that they could have access to scientific literature on what is known about different approaches to improving child and family outcomes that have been tried and tested. These policymakers and social service providers were four state-level organizations that assist public and private organizations in improving the well-being of children and families: the Colorado Foundation for Families and Children, the Family and Community Trust (Missouri), the Family Connection Partnership (Georgia), and the Foundation Consortium for California's Children & Youth. These state partners shared a common belief in the movement toward evidence-driven decision making and their goal when creating the site in 1998 was to encourage this movement by providing easier access to information on EBPs through the Internet. The RAND Corporation was chosen in 2000 to be PPN's operating partner because of RAND's reputation for high-quality, unbiased, and nonpartisan research on topics related to children and families. The project would also be able to draw upon RAND's established infrastructure which included more than 150 staff members conducting relevant research, professional Web programmers, and editors to support its work (Cannon & Kilburn, 2003).

Photo: Kiwi Street Studios

What works for one demographic group or in one context will not necessarily work for another group or in another setting.

One of the ways that PPN is different from other EBP projects is that it provides tiered and easily comprehensible evidence standards for programs. This is so that users can gather rich information about programs and policies that have been evaluated, not just get information on the relatively small number that meet the most stringent EBP standards. In other words, the goal of the site is not just to screen for EBPs but also to help users obtain other information based on high-quality research that will help them meet their goals of improving children's outcomes.

Another way that PPN is different from many EBP intervention-list projects is that in addition to presenting information on programs that have been evaluated, PPN also provides other types of evidence-based information to decision makers. The "Programs that Work" section is the heart of the PPN site, and three additional sections provide users with important supplementary information to support their understanding of programs, practices, and policies related to children and families:

- In the "Expert Perspectives" section, leading child policy experts from around the country answer PPN user questions on a broad range of topics where there is some degree of professional disagreement and often prevalent confusion. Topics have included child care quality, educational videos and programming for young children, and the effectiveness of the Head Start program.
- "Resources and Tools" includes links to databases, fact sheets, screening tools, seminal reports, and a variety of other resources that are among the best research-based materials available on children and families. This section also contains the PPN Issue Brief series. Issue Briefs are written by PPN staff and RAND researchers and serve to clarify topics of interest with apparent contradictory evidence or information. This section also includes a topic related to service delivery, linking to the highest quality research related to vital activities such as program planning and implementation.
- The "Research in Brief" section is updated monthly and provides links to current research articles related to the four PPN outcome areas that meet the PPN evidence criteria. These include

epidemiological, economic, demographic, and other research studies from a broad range of sources. This research is disseminated via our monthly newsletter which has become a trusted source of high-quality research in the field of early childhood.

PPN also distributes a regular email newsletter approximately monthly that summarizes all content that has been recently added to the site. Users report that they value the newsletter as an easy way to stay abreast of newly released high-quality research about child and family programs and policies from many sources.

PPN is also unusual in that many other EBP resources focus more narrowly on specific topics (see the Learn More box for a sample of these). Instead, PPN focuses on translating research evidence across four broad outcome areas related to children and families:

- Healthy and Safe Children
- Children Ready for School
- Children Succeeding in School
- Strong Families

Each of these outcome areas is associated with a set of indicators that comprise PPN's specific emphases in that area. These include such indicators as "Babies born weighing more than 5.5 pounds" under the "Healthy and Safe Children" outcome area, or "Fathers maintaining regular involvement with their children" under the "Strong Families" outcome area. This is likely to be valuable for individuals in the early childhood field because there are many types of programs and practices that affect young children indirectly, through their parents' educational attainment or mental health, for example.

An additional way that PPN differs from some EBP sources is that PPN updates information on an ongoing basis. PPN's research staff continually works to identify new and established programs that have shown that they have had a positive impact on children or families in one or more of these outcome areas. Programs are identified in scans of research literature, but also by submissions to the site. Once identified by research staff, each program is subjected to a rigorous review by a scientific review panel. This panel focuses on evaluating the rigor of the program's evidence base using PPN's evidence criteria and a two-tier system which deems programs either *Proven* or *Promising* (see box What Is Evidence-Based?). The Proven designation indicates that a particular program has met the most rigorous of our evidence requirements, while Promising indicates that the program has met rigorous standards, but there are some reservations. These reservations are thoroughly detailed for each program in the "Issues to Consider" section of the program summary.

Learn More

The Promising Practices Network on Children, Families and Communities
www.promisingpractices.net

Other Evidence-Based Practice Resources:

Mental Health
SAMHSA's National Registry of Evidence-Based Programs - http://nrepp.samhsa.gov/

Juvenile Justice
Office of Juvenile Justice and Delinquency Prevention Model Programs Guide - www.ojjdp.gov/mpg/

Violence Prevention
Blueprints for Violence Prevention - www.colorado.edu/cspv/blueprints/

Education
United States Department of Education What Works Clearinghouse - http://ies.ed.gov/ncee/wwc/

Resources to support implementation:

Needs-Assets-Best Practices Framework
www.rand.org/pubs/technical_reports/TR821.html

Getting to Outcomes Framework
www.rand.org/pubs/technical_reports/TR101.html

Promising Practices Network Resources and Tools page
www.promisingpractices.net/resources.asp

What Is Evidence-Based? The Promising Practices Network Evidence Criteria

At PPN, we classify the programs listed on our site as either Proven or Promising, with Proven indicating the highest level of evidence. We have six main evidence requirements, and the research literature supporting a program can be classified as either Proven, Promising, or Do not List in each of these categories. In order for a program to be listed on our site as Proven, it must be rated as Proven in each of the categories below. Similarly, for a program to be listed on the site as Promising, it must be rated as at least Promising in all of the categories below.

1. Type of outcome affected:

Proven programs must be shown to directly impact one or more of the indicators of interest to PPN.

Promising programs are shown in the literature to indirectly impact one or more of these indicators by impacting an intermediate indicator.

2. Substantial effect size:

Proven programs must effect change of at least 20% on at least one indicator measured.

Promising programs must effect change of at least 1%.

3. Statistical significance:

Proven programs must show statistical significance equal to or less than p=0.05 for any indicators being considered.

Promising programs must show statistical significance equal to or less than p=0.10 for any indicators being considered.

4. Comparison groups:

Proven programs must be evaluated with at least one study using a convincing comparison group to identify program impacts. This includes randomized-control trial (experimental design) or some quasi-experimental designs.

Promising programs must also be evaluated with at least one study using a convincing comparison group, but the comparison group may show some weaknesses

5. Sample size:

Proven programs must have a sample of at least 30 participants in each of the treatment and comparison groups.

Promising programs must have a sample of at least 10 participants in each of the treatment and comparison groups.

6. Availability of program documentation:

All documentation that PPN reviews must be publicly available; however it does not need to have been published in a peer-reviewed journal.

While these standards are at the core of the PPN program reviews, more than a dozen additional considerations also factor into program reviews as relevant. These may include sample attrition and the quality of outcome measures, for example.

A final distinguishing feature of PPN is that we aim to help users access high-quality research information from many sources on the Internet, rather than restricting users to information on PPN. This reflects our goal to promote users' access to information by identifying and screening information for them as one of the ways we add value. We discuss this as it relates to evidence-based program reviews below.

Programs with evidence deemed suitable for the site are written up by PPN staff in a standardized process that incorporates feedback from the program developers, evaluators, or both, and from our scientific reviewers. Scientific reviewers include leading researchers from RAND as well as other institutions around the country. Any feedback received from the program developers or evaluators is assessed by our review panel and staff for its accuracy and lack of bias prior to incorporation in the document. The final product is posted in the "Programs that Work" section of the PPN site. In addition, some programs are identified within the "Programs that Work" section as Screened Programs. These programs have not undergone a full review by PPN, but evidence of their effectiveness has been reviewed by one or more credible organizations that apply similar evidence criteria. By leveraging the important work that other similar resources are doing in this way, PPN can serve as a "one-stop shop" for evidence-based information without duplicating efforts, and it ensures that users have access to the full universe of high-quality evidence-based information.

Conclusion

In the last two decades, the field of early childhood has seen an unprecedented growth in the number of research studies testing interventions designed to improve the lives of children and families. At the same time, projects promoting evidence-based information with varying definitions of what counts as "robust" have also multiplied. With the concomitant growth of the Internet, the result is that early childhood decision makers now have a flood of best practices information at their fingertips, but it is of highly variable quality. We have discussed some of the recent trends in the provision and use of evidence-based information related to early childhood and argued that the phrase evidence based is highly context-dependent. We also provided some information that might help decision makers in this field better put evidence-based information to use: some frameworks that assist in selecting and implementing EBPs and a description of PPN, a Web-based resource that helps users access high-quality evidence-based information on early childhood from many sources.

In previous eras, the risk for early childhood decision makers might have been that they had not captured all of the research evidence that might inform their efforts to improve child and family outcomes. In the current era, the problem is different: huge amounts of information can be captured easily, and the challenge is to sift through it and include only the right information.

Teryn Mattox, *MPA, is a senior project associate at the RAND Corporation. As content manager of the Promising Practices Network on Children, Families and Communities (PPN), she oversees the teams that conduct content reviews including research assistants, graduate students, and senior expert reviewers. In addition, she has been responsible for creating original content, including lead-authoring the PPN Issue Brief* Head Start: What Do We Know. *Finally, she has supported work on refining the PPN evidence criteria to reflect evolving standards in evaluation methodology, including the use of regression discontinuity and other quasi-experimental designs and adjusting effective sample size for group randomization.*

M. Rebecca Kilburn, *PhD, is a senior economist at the RAND Corporation, and she has served as the director of the Promising Practices Network for more than 10 years. In addition to her work on PPN, she also conducts research that focuses on the effects of public and private investments in children, and many of her projects involve program evaluation and cost-benefit analysis.*

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Active Implementation Frameworks for Program Success

How to Use Implementation Science to Improve Outcomes for Children

ALLISON METZ
LEAH BARTLEY
National Implementation Research Network at the Frank Porter Graham Child Development Institute
Chapel Hill, North Carolina

Over the past decade the science related to developing and identifying evidence-based programs and practices for children and families has improved significantly. However, the science related to implementing these programs with high fidelity in real-world settings has lagged far behind. Several recent reports from groups such as the Institute of Medicine (2000, 2001, 2007) have highlighted the gap between researchers' knowledge of effective interventions and the services actually received by vulnerable populations who could benefit from research-based interventions. In fact, the lag time between translating research into practice has been documented as 20+ years.

The research-to-practice gap is a critical issue because children and families cannot benefit from services they don't receive. In 2005, the National Implementation Research Network released a monograph (Fixsen, Naoom, Blase, Friedman, & Wallace) that synthesized implementation research findings across a range of fields and developed four overarching frameworks, referred to as the Active Implementation Frameworks, based on these findings.

Although creating practice and systems change is a nonlinear, interconnected process, for the purpose of this article we will discuss these frameworks individually.

1. **Implementation Stages**—Conducting stage-appropriate implementation activities is necessary for successful service and systems change.
2. **Implementation Drivers**—Developing core implementation components, referred to as Implementation Drivers, results in an implementation infrastructure that supports competent and sustainable service delivery.
3. **Policy–Practice Feedback Loops**—Connecting policy to practice is a key aspect of reducing systems barriers to high-fidelity practice.
4. **Organized, Expert Implementation Support**—Implementation support can be provided externally through active purveyors and intermediary organizations or internally through Implementation Teams. There is evidence that creating Implementation Teams that actively work to implement interventions results in quicker, higher-quality implementation.

Implementation Stages

There is substantial agreement that planned change is a recursive process that happens in discernable stages. It is clear that implementation is not

Abstract

Over the past decade the science related to developing and identifying evidence-based programs and practices for children and families has improved significantly. However, the science related to implementing these programs in early childhood settings has lagged far behind. This article outlines how the science of implementation and the use of evidence-based Active Implementation Frameworks (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005) can close the research-to-practice gap in early childhood and ensure sustainable program success. Four implementation frameworks include: Implementation Stages; Implementation Drivers; Policy–Practice Feedback Loops; and Organized, Expert Implementation Support. The authors provide examples and discuss implications for early childhood settings.

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The research-to-practice gap is a critical issue because children and families cannot benefit from services they don't receive.

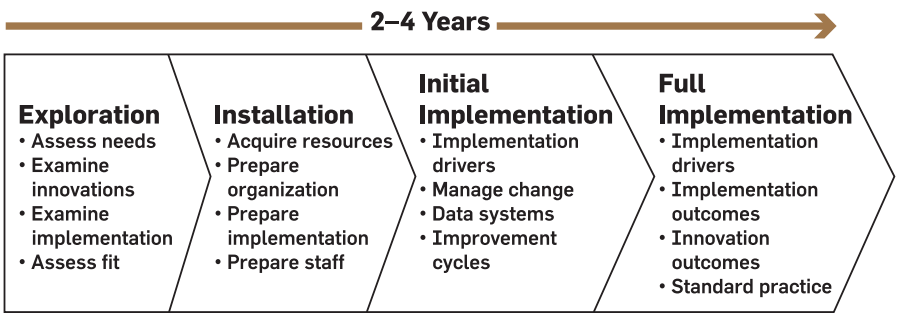
an event, but a process, involving multiple decisions, actions, and corrections to change the structures and conditions through which organizations and systems support and promote new program models, innovations, and initiatives. Implementing a well-constructed, well-defined, well-researched program can be expected to take 2 to 4 years (Bierman et al., 2002; Fixsen, Blase, Timbers, & Wolf, 2001; Panzano & Roth, 2006; Prochaska & DiClemente, 1982; Solberg, Hroscikoski, Sperl-Hillen, O'Conner, & Crabtree, 2004).

There are four functional stages of implementation (see Figure 1). Sustainability is embedded within each of the four stages rather than considered a discrete, final stage. Each stage of implementation does not cleanly and crisply end as another begins. Often they overlap with activities related to one stage still occurring or reoccurring as activities related to the next stage begin. The following section describes each of the four stages in more detail.

Exploration Stage

The overall goal of the exploration stage is to examine the degree to which a particular model, program, or approach meets the community's needs and whether implementation is feasible. In this first stage of implementation, communities must assess the goodness of fit between potential program models and the needs of the children and families they serve. Requirements for implementation must be carefully assessed and potential barriers to implementation examined. Involvement of key stakeholders and the development of program champions are key activities during this stage. A prerequisite for implementation is to ensure that core intervention components are identified and fully operationalized. Even with existing evidence-based and evidence-informed practices, more program development work might need to be done during the exploration stage before final implementation decisions can be made.

Figure 1. Implementation Stages



Installation Stage

The installation stage is often overlooked in implementation. Once a decision is made to adopt a program model, many structural and instrumental changes in a number of settings and systems must be made in order to initiate the new practices. Practical efforts to initiate the new program are central to the installation stage and include activities such as developing referral pathways, ensuring that financial and human resources are in place, and finding physical space or purchasing equipment and technology. Developing the competence of practitioners is a key component of this stage to ensure that programs are implemented with fidelity.

Initial Implementation Stage

During the initial implementation stage, the new program model or initiative is put into practice. Attempts to implement a new program or innovation often end or seriously falter during the installation stage or early in the initial implementation stage. The key activities of the initial implementation stage involve strategies to promote continuous improvement and rapid cycle problem solving. Using data to assess implementation, identify solutions, and drive decision making is a hallmark of this stage. It is critical to address barriers and develop system solutions quickly rather than allowing problems to re-emerge and reoccur.

Full Implementation Stage

Full implementation occurs as the new learning at all levels becomes integrated into practice, organization, and system settings and practitioners skillfully provide new services. The processes and procedures to support the new way of work are in place, and the system, although never completely stable, has largely been recalibrated to accommodate and, it can be hoped, fully support the new ways of work. The time it takes to move from initial implementation to full implementation will vary depending upon the complexity of the new program model, the baseline infrastructure, the availability of implementation supports and resources, and other contextual factors.

Sustainability

Sustainability planning and activities need to be an active component from the initial stages of implementation. To sustain an initiative, both financial and programmatic sustainability are required. Financial sustainability involves ensuring that the funding streams for the new practice are established, reliable, and adequate. Programmatic sustainability is related to ensuring that sustainable supports are in place to continue effective training, coaching,

and performance assessment protocols; to measure fidelity and make data-driven decision for continuous improvement; and to ensure that facilitative policy-making and procedural decisions continue to support full implementation.

Questions to Consider

The following are questions to consider when conducting stage-based activities to support evidence-based practices in early childhood:

- How might stage-based work support early childhood program implementation?
- How can the careful assessment and selection of early childhood interventions be supported?
- What role can fit and feasibility assessments play in early childhood programming?
- How can issues of readiness and buy-in be assessed and addressed?
- What types of stage-based data collection are important to consider before moving to the next stage?

Implementation Drivers

The implementation drivers are the core components or building blocks of the infrastructure needed to support practice, organizational, and systems change. The implementation drivers emerged on the basis of the commonalities among successfully implemented programs and practices (Fixsen et al., 2005; Fixsen, Blase, Duda, Naoom, & Wallace, 2009) and the structural components and activities that make up each implementation driver contribute to the successful and sustainable implementation of programs, practices, and innovations (see Figure 2).

There are three types of implementation drivers[1] and when used collectively, these drivers ensure high-fidelity and sustainable program implementation: competency drivers, organization drivers, and leadership drivers.

Competency Drivers

Competency drivers are mechanisms to develop, improve, and sustain practitioners' and supervisors' ability to implement a program or innovation to benefit children and families. The four competency drivers include selection, training, coaching, and performance assessment. The competency drivers are described below.

[1] The Active Implementation Frameworks consist of three types of drivers: competency, organization, and leadership. For the purpose of this article, only competency and organization drivers are discussed.

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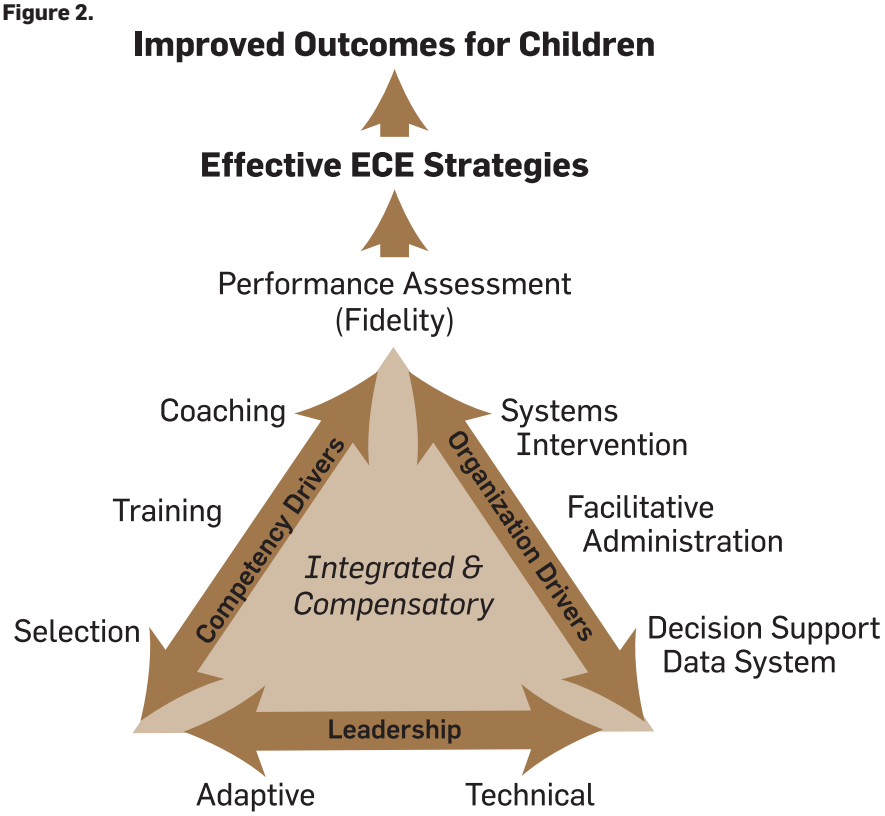
Communities must assess the goodness of fit between potential program models and the needs of the children and families they serve.

- **Selection**—Effective staffing requires the specification of required skills, abilities, and other model-specific prerequisite characteristics. Once these prerequisites have been identified, agencies must identify methods for recruiting likely candidates who possess these skills and abilities, protocols for

Figure 2.



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Note: ECE = Early childhood education

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Most new skills can be introduced in training but must be practiced and mastered on the job with the help of a coach.

interviewing candidates, and criteria for selecting practitioners with those skills and abilities.

- **Training**—Direct service practitioners and others involved at the agency need to learn when, how, and with whom to use new skills and practices. Training should provide knowledge related to the theory and underlying values of the program, use adult learning theory, introduce the components and rationales of key practices, provide opportunities to practice new skills to meet fidelity criteria, and receive feedback in a safe and supportive training environment.
- **Coaching**—Most new skills can be introduced in training but must be practiced and mastered on the job with the help of a coach. Agencies should develop and implement service delivery plans for coaching that stipulate where, when, with whom, and why coaching will occur; use multiple sources of data to provide feedback to practitioners including direct observation; and use coaching data to improve practice and organizational fidelity.
- **Performance Assessment**—Evaluation of staff performance is designed to assess the application and outcomes of skills that are reflected in selection criteria, taught in training, and reinforced in coaching. Agencies should develop and implement transparent staff performance assessments, use multiple sources of data to assess performance, institute positive recognition so assessments are seen as an opportunity to improve performance, and use performance assessment data to improve practice and organizational fidelity.

Organization Drivers

Organization drivers intentionally develop the organizational supports and systems interventions needed to create a hospitable environment for new programs and innovations by ensuring that the competency drivers are accessible and effective and that data are used for continuous improvement. The organization drivers are described below.

- **Decision-Support Data Systems**—Data are used to assess key aspects of overall performance of an organization and support decision making to ensure continuing implementation of the intervention over time. Decision-support data systems include quality assurance data, fidelity data, and outcome data. Data need to be reliable, reported frequently, built into practice routines, accessible at actionable levels, and used to make decisions.
- **Facilitative Administration**—Administrators provide leadership and make use of a wide range of data to inform decision making, support the overall processes, and keep staff organized and focused on the desired innovation outcomes. Agencies should ensure leadership is committed to the new program and is available to address challenges and create solutions, develop clear communication protocols and feedback loops, adjust and develop policies and procedures to support the new way of work, and reduce administrative barriers.
- **Systems Interventions**—These are strategies to work with external systems to ensure the availability of financial, organizational, and human resources required to support the work of practitioners. The alignment of external systems to support the work is a critical aspect of implementation.

Questions to Consider

The following are questions to consider when installing implementation drivers to support evidence-based practices in early childhood:

- How are the implementation drivers relevant to early childhood program implementation?
- Within early childhood, which drivers have your program given the most and least attention to? Why?
- How can the drivers framework improve the implementation infrastructure of early childhood programs?

Systems Alignment in Early Childhood: The Cascading Logic Model

The implementation drivers framework demonstrates that organization and systems change is in service to practice change. The organization drivers ensure that hospitable environments are developed to host the required changes for practitioners and for the competency drivers to be used effectively. It is important to remember that "systems don't change; people do." (J. Wotring, personal communication, 2004). Therefore, systems change will require the implementation of strategies to change and maintain the behavior of every individual at every level of the current early childhood system in order to create hospitable organizational systems and ensure practitioners are working differently with children and families.

How can a program define and measure the changes that need to take place at each level of the early childhood system to ensure that practice change occurs and, ultimately, there are improved outcomes for children and families? "We tend to focus on snapshots of isolated parts of the system and wonder why our deepest problems never seem to get solved" (Senge, 1990, p.7). The cascading logic model (Blase, 2010; Metz, 2011) demonstrates the relationships between early childhood interventions and their accompanying implementation strategies.

On the next page we provide an example related to the implementation of early care and education professional development strategies (see Figure 3). The top row of the cascading logic model represents the theory of change related to the proposed intervention. In this case, we propose that the intervention—evidence-based implementation practices in early care and education settings—will lead to high-quality early care and education practices and, consequently, improved outcomes for children.

From this point on, the cascading logic model helps to clarify which adults need to change their practices in order to support the full and effective implementation of the early care and education evidence-based practices. Early care educators are the adults who interact directly with children and families.

All of the benefits to children and families are derived from those adults providing

services fully and effectively. Therefore, in the next level of the cascade, the focus shifts from children and families to early care educators who will provide effective services. How will they gain the knowledge, skills, and abilities needed to provide effective services? In this logic model, the early care educators will be supported by their agency managers, who will use best implementation practices to ensure that early care educators receive the training, coaching, and support they need.

At the next level of the cascade, the managers of the early care provider agencies will be supported by regional and state early care and education trainers, quality consultants, and technical assistance providers to ensure that they can deliver the necessary supports to their early care educators.

At the next level of the cascade, trainer, quality consultants, and technical assistance providers will need to be supported by the state-level program and agency administrators who will operate using best implementation practices. To develop this implementation infrastructure, it will be necessary for changes to be made at multiple levels of the early childhood systems simultaneously, to develop implementation capacity to support and sustain effective supports and practices.

Implementation Teams and Expert Implementation Support

Traditional approaches to disseminating and implementing evidence-based and evidence-informed practices for children and families have not been successful in closing the research-to-practice gap. In extensive reviews of the dissemination and diffusion literature (Greenhalgh, Robert, MacFarlane, Bate, & Kyriakidou, 2004; Hall & Hord, 2011), past efforts to support implementation have been characterized as "letting it happen" or "helping it happen"(Greenhalgh et al., p. 593). Approaches that let implementation happen leave it to agency administrators, practitioners, and policymakers to make use of research findings on their own. Approaches that help it happen provide manuals or Web sites to help implementation happen in real world settings. Both of these approaches have been found to be insufficient for promoting the full and effective use of innovations (Balas & Boren, 2000; Clancy, 2006). Greenhalgh et al.(2004) identified a new category they called "making it happen," (p. 593) in which expert implementation teams can play a role in using evidence-based strategies to actively support implementation of a new innovation or initiative.

Implementation teams provide an internal support structure to move selected programs and practices through the stages of implementation in an early childhood organization or system. The teams focus on:

1. Increasing "buy-in" and readiness,
2. Installing and sustaining the implementation infrastructure,
3. Assessing fidelity and outcomes,
4. Building linkages with external systems, and
5. Problem-solving and sustainability.

An advantage of relying on implementation teams is that the team collectively has the knowledge, skills, abilities, and time to succeed. Collectively, the core competencies of the implementation team include: knowledge and understanding of the selected intervention and its linkages to outcomes; knowledge of implementation science and best practices for implementation; and applied experience in using data for program improvement.

Implementation teams might actively work with external purveyors of

Figure 3. Early Care and Education Professional Development Systems Cascading Logic Model

Population	Intervention Strategies (WHAT)	Intervention Outcomes
Early care educators skillfully implement effective early care and education strategies	Early care educators skillfully implement effective early care and education strategies	High quality early child care and education practices Positive child outcomes
Population	**Implementation Strategies (HOW)**	**Implementation Outcomes**
Early care educators	Provision of skillful, timely training, coaching, performance assessments in supportive administrative environments organized by early care and education providers, networks, and leadership	Early care educators competently and confidently use effective early care and education strategies
Early care and education provider managers	Agreements with trainers, quality consultants, and technical assistance providers Plans for release time for training, coaching, and ongoing consultation services Installation of data systems to monitor fidelity	Skillful, timely training, coaching, performance assessments and supportive administrative environments for early care educators
Regional and state early care and education trainers, quality consultants, and technical assistance providers	Professional development system planners develop standardized and centralized approach to professional development services in order to develop core knowledge and skills of professional development providers	Timely and skillful provision of services by regional or state early care and education trainers, quality consultants, and technical assistance providers
Early care and education policy makers, funders, and state leadership	Common mission for professional development in early care and education developed Formal structures created to build policy–practice feedback loops Changes in funding streams to support new functions and new relationships Collaborative partnerships to build professional development system infrastructure Fidelity and outcome data systems developed and maintained	Skillful professional development system leadership and planning to ensure high quality, consistent training for early care and education professional development consultants and technical assistance providers

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There must be good policy to enable good practice, but practice must also inform policy.

evidence-based practices and programs in early childhood. Early childhood purveyors represent a group of individuals very knowledgeable about the innovation who actively work to help others implement the new innovation with fidelity and good effect. Purveyors are often affiliated with researchers and training and technical assistance centers. External implementation support could be provided from intermediary organizations. Intermediaries facilitate the adoption, implementation, and sustainability of a number of evidence-based programs by:

- Broadly educating and stimulating interest
- Assessing the evidence and the program developers and purveyors
- Connecting program developers and purveyors with implementing agencies
- Ensuring effective implementation and fidelity
- Building capacity and integrating efforts
- Managing scale-up shifts
- Assisting with alignment
- Working simultaneously at multiple levels of the systems

Questions to Consider

The following are questions to consider when creating teaming structures to support evidence-based practices in early childhood:

- How might linked teams and communication protocols help implementation efforts in early childhood settings?
- How can frontline staff be included in implementation decision making?

What might be the benefits a ground-up approach to program implementation?

Improvement Cycles: Policy–Practice Feedback Loops

Connecting policy to practice is a key aspect of reducing early childhood systems barriers to high-fidelity implementation. There must be good policy to enable good practice, but practice must also inform policy. Many times early childhood practitioners experience barriers to service delivery that can be solved only at the policy level. There needs to be a system in place that ensures practice experiences are being fed back to the policy level to inform decision making and continuous improvement.

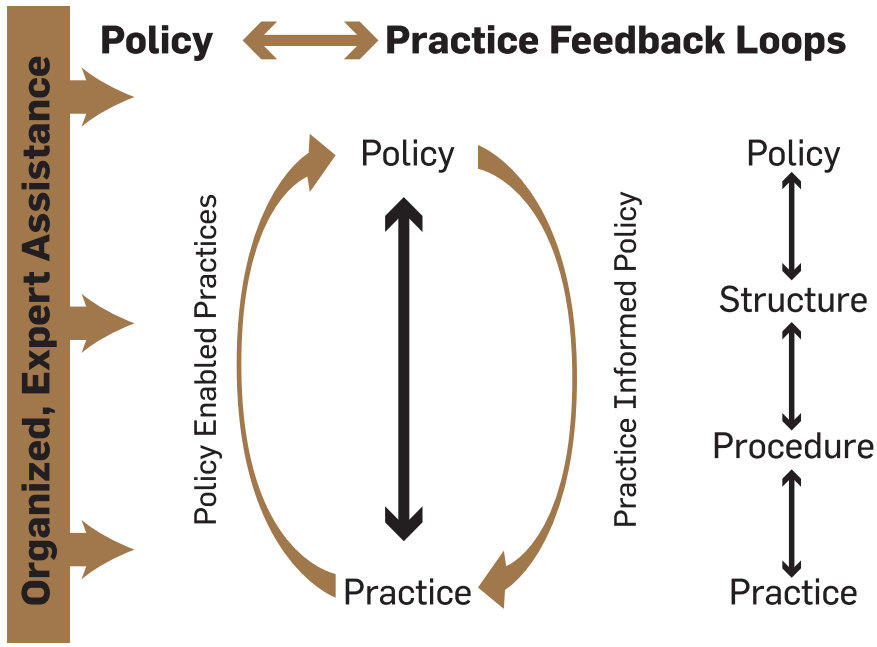
Policy–practice feedback loops (see Figure 4) are one type of improvement cycle and, therefore, follow the Plan, Do, Study, Act cycle (Deming, 1986; Shewhart, 1931) that signifies all improvement cycles.

- **Plan**—Specify the plan that helps move service and interventions forward
- **Do**—Focus on facilitating the implementation of the plan
- **Study**—Develop assessment to understand how the plan is working
- **Act**—Make changes to the next iteration of the plan to improve implementation

Policy–practice feedback loops demonstrate the Plan, Do, Study, Act cycle on a larger scale where moving through the cycle takes longer than when the Plan, Do, Study, Act is happening at one level of the system (e.g., rapid cycle problem solving at the practice level).

Effective policy–practice feedback loops must be institutionalized into the agency's way of work to ensure that change happens on purpose. New practices do not fare well in existing organizational structures and systems. Too often, effective interventions are changed to fit the system, as opposed to the existing system changing to support the

Figure 4.



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effective interventions. Embedded policy–practice feedback loops promote system change to support service change. Figure 5 depicts the role that implementation teams can play in promoting policy–practice feedback loops and linked communication up and down an early childhood system.

Questions to Consider

The following are questions to consider when instituting Policy–Practice Feedback Loops to support evidence-based practices in early childhood:

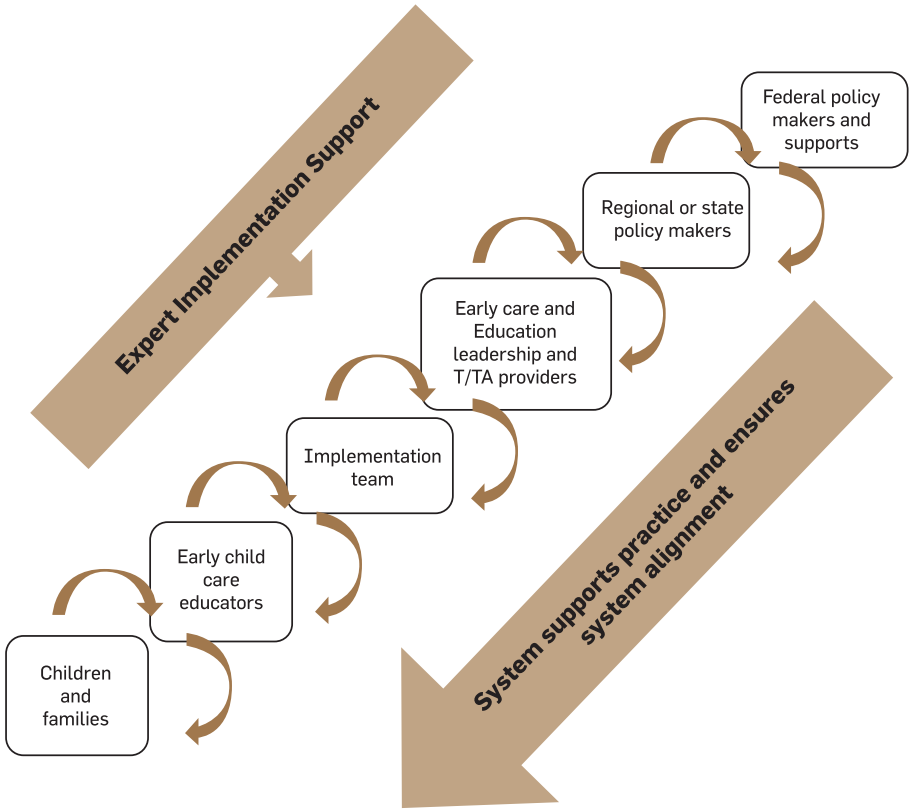
- How can formal, transparent, and regular methods for hearing from the practice level about what's working in early childhood—and then moving information up the system and back down—support effective implementation of evidence-based practices?
- What are the next right steps in creating a more hospitable policy, funding, and regulatory environment for effective early childhood interventions to thrive?

Summary

Science-based implementation strategies promote the full and effective use of evidence-based and evidence-informed practices and innovations so that child and family outcomes are improved. The following activities will improve the uptake of evidence-based practices by early childhood practice:

- Carefully assess and select effective and feasible early childhood innovations that are well-defined with clearly articulated fidelity measures, expected outcomes, and guidelines for adaptation if necessary.
- Use a science-based implementation framework to support the change process so that effective early childhood practices can become embedded and sustained in socially complex settings. This framework consists of stage-matched activities that guide the implementation process and implementation drivers that build the infrastructure necessary to promote and sustain the new way of work.
- Develop and build the capacity of expert implementations teams that will serve as an accountable structure to move through the stages of implementation successfully.
- Institute continuous improvement processes and data feedback loops between policy and practice levels to ensure that changes are made at every level of the system to support the new program model.

Figure 5. Implementation Teams and Policy–Practice Feedback Loops



Allison Metz, *PhD, is a developmental psychologist and associate director of the National Implementation Research Network and scientist at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. Dr. Metz specializes in the effective implementation and scaling-up of evidence-based and evidence-informed programs and strategies in early childhood, early care and education, and child welfare settings. She has expertise in the areas of organizational and systems change, implementation science, capacity building, training and technical assistance, and coaching. Dr. Metz is the principal investigator of a multiyear project funded by The Duke Endowment in Catawba County, North Carolina. Dr. Metz is also the co-principal investigator of an evaluation of a professional development system anchored in an online Associates degree for infant and toddler teachers for the Office of Head Start. She also directs the provision of implementation science technical assistance to the State of Ohio regarding the scaling-up of their Alternative Response Model within child welfare statewide. Dr. Metz provides implementation-informed training and technical assistance as part of the Children's Bureau's Permanency Innovations Initiative Training and Technical Assistance Center which provides support to six grantees funded nationally to reduce the number of children in long-term foster care.*

Learn More

The National Implementation Research Network
www.fpg.unc.edu/~nirn/
The mission of the National Implementation Research Network is to close the gap between science and service by improving the science and practice of implementation in relation to evidence-based programs and practices.

State Implementation and Scaling up Evidence-based Practices Center
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The purpose of the State Implementation and Scaling up Evidence-based Practices Center is to help states establish adequate capacity to carry out effective implementation, organizational change, and systems transformation strategies to maximize the academic achievement and behavior outcomes of students statewide.

Leah Bartley, *MSW, is an implementation specialist with the National Implementation Research Network at the University of North Carolina's Frank Porter Graham Child Development Institute. Leah obtained her BSW at North Carolina State University with a focus on child welfare and advocacy. While in North Carolina, Leah worked at SAFEChild Inc., Dorothea Dix Hospital, The National Association of Social Workers–NC Chapter, and Congressman Brad Miller's Office. Ms. Bartley currently works with the National Implementation Research Network providing active implementation support to state and federally funded programs in child welfare and education. She has supported the State Implementation and Scaling Up Evidence-based Programs, Permanency Innovations Initiative, and Ohio's Differential Response System. Her current research interest includes: organizational effectiveness, implementation, systems change, effective intermediary organization characteristics, and capacity development.*

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Evidence-Based Practice and Early Childhood Intervention in American Indian and Alaska Native Communities

PAUL SPICER
University of Oklahoma

DOLORES SUBIA BIGFOOT
BEVERLY W. FUNDERBURK
University of Oklahoma Health Sciences Center

DOUGLAS K. NOVINS
University of Colorado Denver

Although the push to require evidence-based practice has some laudable motivation, it presumes an evidence base that does not exist for many communities. Moreover, what researchers know is by no means all they would like to know about meeting the needs of children and families (Schorr & Farrow, 2011). Communities seeking to comply with these mandates (which are increasingly required for funding) necessarily must select from the limited (albeit growing) menu of available options in ways that are informed by their cultural values. All American communities confront these pressures to adopt and implement evidence-based practice, but American Indian and Alaska Native communities are uniquely sensitized to these requirements owing to a legacy of more than 500 years of forced cultural change and more than 200 years of direct experience with such efforts by the U.S. government. Reaction to these mandates in tribal communities is also shaped, in important ways, by the assertions of tribal sovereignty that have shaped tribal life since the mid-twentieth century. In what follows, we explore the issues in play as tribes confront mandates to adopt and implement evidence-based practice for infants, toddlers, and families, such as the Maternal, Infant, and Early Childhood Home Visiting Program (funded by the Administration for Children and Families) and Project LAUNCH (funded by the Substance Abuse and Mental Health Services Administration), and suggest ways forward that may meet the needs of both tribal communities and funders. We highlight the opportunities for adapting or enhancing existing evidence-based practices, taking the example of Parent-Child Interaction Therapy (PCIT) articulated by the Indian Country Child Trauma Center at the University of Oklahoma Health Sciences Center to illustrate some key points. But we also emphasize the opportunities for continuing to develop an evidence base that can support tribal communities in developing interventions that make sense, not only in terms of their cultural values and orientations, but also for their existing workforces.

Some Background on American Indian and Alaska Native Parenting and Family Caregiving

Traditional American Indian and Alaska Native beliefs hold that children need and desire the warmth, concern, and encouragement they gain from parents, grandparents, aunts, uncles, brothers, and sisters (BigFoot, 1989). This nurturance by the

Abstract

This article explores the problems that tribal communities confront when forced to select from menus of evidence-based practice that were not developed with their unique challenges and opportunities in mind. The authors discuss the possibility for adapting or enhancing existing approaches but also point out the need for much more research and intervention development efforts for tribal communities. The push for evidence-based practice has generated much needed attention to the intervention needs of American Indian and Alaska Native communities and new research models offer hope that these will emerge from true partnerships between researchers and communities.

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Mandates to use evidence-based practice often seem to work at cross purposes to those supporting tribal sovereignty and self-determination.

extended family was conceptualized as the "planting of good seeds" within the child to direct their thoughts and actions. When an indigenous woman discovered she was carrying a child within her, she would actively engage in song and in conversation with the yet unborn child. This ensured that the infant knew it was welcome and planted early seeds of respect and love. This new life was viewed as being eager to learn, a willing seeker of traits that would guide understanding of the self and others. Traditional beliefs assumed that each child possessed the qualities to develop into a worthwhile human being. Tribal community expectations for good behavior were designed to serve as an impetus for children to flourish within their cultural communities (Atkinson, Morten, & Sue, 1998).

Critical to these processes was the understanding that a child was received by all relatives and that the child was affected by all interactions. Identity with clan, band, and group took precedence over individuality (Atkinson et al., 1998; Garcia, Meyer, & Brillon, 1995; Wilburn, Ballew, & Sullivan, 2004;). Indigenous child-rearing duties were seen as a cooperative communal effort (Forehand & Kotchick, 1996; Glover, 1999; Masse, Goffreda, BigFoot, McNeil, & McNeil, , 2004), a responsibility of all members of the tribal group, which included grandparents, great-aunts and -uncles, younger aunts and uncles, as well as adopted relatives (BigFoot, 1989).

Caregivers' responsibility was to cultivate the positive nature of the child, to touch the child with honor and respect (BigFoot, 1989). Because a child was considered a gift from the Creator, caretakers had the responsibility to return to the Creator a person who respected himself and others. Children, parents, and grandparents were secure in their relationships within the family. Children learned respect for their parents from the way they were valued and respected by their own parents, and by the respect shown to elders.

Tribal teachings held that one could positively reinforce American Indian and Alaska Native children by honoring them through ceremonies, name-giving, or recognition events (e.g., honorary dinners, dances, giveaways). Indigenous parents and relatives encouraged correct behavior by acknowledging traits that would be helpful as the child grew into adulthood. Examples would include "My son brings me pride because he helps me keep the shelter warm. Our family is protected from the cold by his willingness to help with the fire," or "My daughter is considerate of my old bones because when I move about, she watches and helps me as I rise." Even small efforts on the part of children were honored by the different family members who tended that good seed. A child's efforts and accomplishments may have been indirectly acknowledged by a giveaway, dinner, or renaming. In a giveaway to honor a child, family members might assemble highly valued items to be given to nonrelated individuals who exemplified the good traits developing in the child. For example, a grandfather might stand before the gathering and announce the reason for the giveaway was to honor his grandchild. Sometimes a giveaway was spontaneous, with the caregiver removing personal items of clothing, jewelry, or other possessions to acknowledge the occasion. Many times small items would be given inconspicuously to a child by an adult with a comment such as, "I am giving this to you because you always listen to your parents, you always seem happy to obey them" (BigFoot & Funderburk, 2011).

Present day disparities within American Indian and Alaska Native populations can be traced to changes in the political, economic, social, cultural, and spiritual pathways that previously served to hold tribal or village groups together and provided the structure for family relations and social order. Boarding schools, missions, military conflict, broken treaties, oppression, exploitation, and removal undermined the structure of that order. Even with the ongoing reinvigoration of tribal communities, major concerns remain about the ability of vulnerable American Indian and Alaska Native parents to parent their children in a stable, healthy, nonviolent environment.

Cultural Enhancements to Parent-Child Interaction Therapy

The Indian Country Child Trauma Center at the University of Oklahoma Health Sciences Center designed a series of American Indian and Alaska Native transformations of evidence-based treatments, including PCIT. The result of this work, which is called Honoring Children—Making Relatives in the case of PCIT, embeds the empirically based, assessment-driven PCIT model within a framework that honors American Indian and Alaska Native traditional beliefs of well-being and parenting practices. Honoring Children—Making Relatives recognizes the old wisdom that was applied to parenting and family relationships for many generations, the teachings and practices that were interrupted when the structure of indigenous social composition was almost destroyed (BigFoot & Funderburk, 2011).

Examination of components of traditional parenting practices reveals that PCIT, an evidence-based treatment which combines elements of social learning, family systems, and play therapy techniques, actually reflects some traditional practices. PCIT uses live coaching of the parent during a play/discipline situation to attain specific skills in nurturing parent–child play interactions, effective instructions, and consistent consequences. American Indian and Alaska Native cultural consultants assisted with the adaptation process to ensure that the beliefs, practices, and understandings incorporated were consistent with American Indian and Alaska Native cultures. Developers or leading trainers were included to maintain fidelity to the model and clarify their perspectives.

The nurturance practices in PCIT target goals compatible with traditional American Indian and Alaska Native beliefs about the planting of good seeds, such as directing a child's thoughts and actions, encouraging positive behaviors, and believing that the

interaction between adult and child is important and worthwhile.

In the typical PCIT protocol there is little or no discussion of family traditions and family values, particularly regarding discipline. The Honoring Families—Making Relatives approach allows for discussion of traditions and beliefs about discipline. Children were not granted unlimited freedom in traditional American Indian and Alaska Native practices (BigFoot, 1989). A concept that has been widely described in American Indian and Alaska Native cultures is that of noninterference—let things happen the way they are meant to be. Although the concept of noninterference is important in the traditional context of living in close quarters, maintaining peaceful relations with extended family, or allowing natural consequences to happen, noninterference was never intended to result in inaction in the face of grave potential harm. Presenting an alternative to an unsuccessful condition is not interfering but allowing a person to have choices. Historic skills in negotiations, treaty making, and especially, tribal protocol demonstrate that there was a place for active resolution of problems in American Indian and Alaska Native traditions. It is helpful to view discipline as the teaching of self-control as opposed to only punishment. For many tribes, self-discipline is highly prized, as demonstrated by traditions of fasting, vision quests, endurance during ceremonies, or self-denial in ceremonies.

There is great beauty in American Indian Plains dancers in full regalia with twin bustles made of eagle feathers and coordinated beadwork on leggings, armbands, and moccasins. There is not only form but there is function to their movements. There is great sophistication in tribal protocol depending on status (chief, headman, elder, visitor), activity (ceremony, meals, blessing), or purpose (recognition, sacrifice). Following protocol to accomplish a positive outcome is not new for indigenous people. Describing PCIT, or indeed any evidence-based treatment, as a structured protocol that provides boundaries and encourages respectful behaviors much the way a traditional dancer complies with dance protocol is helpful for many families. Once American Indian and Alaska Native parents understand the structure and sequence of the protocol (e.g., behavioral coding, learning specific words, and meeting criteria) which serves to accomplish the broad outcome of improved warmth, cooperation, and mutual respect, they tend to not be distracted by it (BigFoot & Funderburk, 2011).

With the mindset of following a proven protocol to achieve a desirable goal, the individual components of the evidence-based practice can be discussed using words that avoid jargon and incorporate familiar terms. For example, the PCIT clinical term *behavioral description* (an important skill acquired in PCIT) was reframed as telling the story of the child's play.

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All interventions presume certain desired outcomes that are, themselves, inscribed in local cultural notions of the good life.

Another difficult requirement of PCIT is that of giving very specific praise to the child. Culturally, recognition of accomplishments often is given indirectly in American Indian and Alaska Native families. For example, a parent might say "Your uncle will be proud when I tell him how well you listened today." Using culturally appropriate praise words like "honor" or "respect" or calling a child after a namesake such as "little grandma" or "little grandpa" might be comfortable praises for the indigenous adult to use. This is another method in which a transformation of the wording was used while the basic intent and outcome remain unchanged.

As this example emphasizes, there is much that is of potential value to American Indian and Alaska Native communities in existing evidence-based practices if they can be presented in terms that make sense in local cultural worlds. At the same time, current requirements to use only existing evidence-based practices likely cut opportunities to develop new models short.

An Evidence Base for American Indian and Alaska Native Communities?

Tribal reactions to mandates for evidence-based practice also emphasize the continued need to begin to develop an evidence base for tribal practices. Virtually no evidence-based practices have been developed specifically for tribal communities, and relationships with research institutions that could support the development of this knowledge are often strained.

Mandates to use evidence-based practice often seem to work at cross purposes to those supporting tribal sovereignty and self-determination, which should enable the development of local approaches tailored to the needs and opportunities of specific tribes (Novins et al., 2011). A particularly significant limitation is a lack of high-quality research, which impedes the ability of tribes to offer evidence in support of the approaches that they would like to implement. Numerous analyses point to a lack of trust between tribal communities and university-based researchers as a particular limitation in the development of this evidence and point to the relevance of community engagement and control as a way forward (Spicer, 2010; Thomas, Donovan, Little Wing Sigo, & Price, 2011). Unfortunately researchers and communities who would like to follow the tenets of these tribal- and community-based practices often find themselves left out of federally funded programs that require starting with an already existing evidence-based practice.

Clearly researchers who work in tribal communities share some of the responsibility for this situation, especially insofar as they failed to devote earlier energies to intervention development. Tribal communities have long lamented research that does little to improve existing health disparities. Had earlier research

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It is quite likely that parents from all cultural traditions are concerned with continuities of tradition across the generations and with questions of moral development.

addressed these needs, then it is quite likely that at least some evidence-based practice models specifically for tribal communities would exist. At the same time, funders need to appreciate that research between tribal communities and university-based researchers takes additional time. One cannot simply jump in with a randomized controlled trial, especially because such research is especially likely to be seen as exploitative if not done in a careful manner. The good news is that it appears that researchers are on the cusp of trials for numerous intervention models, with some already published for home visiting (Walkup et al., 2009). This work underscores the very real possibility of developing and evaluating, through experimental design, intervention models that fit tribal communities and cultures.

As we discuss above, available experience in enhancing intervention models for tribal communities suggests that many possible cultural biases can be addressed while preserving the integrity of the underlying intervention model. As with PCIT, emerging experience with both motivational interviewing and cognitive behavioral therapy also finds a considerable amount of common ground between these approaches and those found in tribal communities (Venner, Feldstein, & Tafoya, 2007). Both of these approaches have the additional advantage of sharing an emphasis on understanding and working with individual's conceptions of themselves and their worlds, which opens them up to flexible adaptation to the systems of meaning that shape all cultural worlds.

Questions of Meaning and Intervention

All interventions presume certain desired outcomes that are, themselves, inscribed in local cultural notions of the good life. While many of these are likely quite general and applicable across a wide range of communities, others are more likely to be more specific. This is especially likely for interventions that seek to affect changes in comportment, language use, and emotional expression in parents, all of which are shaped, in important ways, by cultural traditions (Schieffelin & Ochs , 1986). As our experience with PCIT emphasizes, there are ways around these problems if researchers and practitioners recognize that there are alternate approaches to many common parenting and caregiving dilemmas, but they are likely on more solid ground if they build these up from local conceptions. Indeed, one of the fundamental hopes of this approach is that researchers may, in the process, learn important lessons that may not have occurred in the context of other cultural horizons. Here one thinks, in particular, about the importance of spirituality and cultural integrity that emerges from American Indian and Alaska Native communities but that have not historically been emphasized in home visiting interventions. It is quite likely that parents from all cultural traditions are concerned with continuities of tradition across the generations and with questions of moral development. Although the specific content of these concerns inevitably will vary, even within American Indian and Alaska Native communities, work in American Indian and Alaska Native communities foregrounds these concerns and offers them as ways of framing and approaching interventions.

Workforce Constraints

Work in tribal communities also underscores the need for interventions that can be delivered by a broad range of providers because all too many tribal communities continue to be impacted by disparities in educational attainment. Indeed, it is precisely these disparities that often serve to mobilize communities for early childhood intervention in the first place. Unfortunately all too many evidence-based practices have been developed in academic medical centers for practitioners with advanced education and clinical credentials. While we recognize the importance of providers with these skills (and continue to critique a lack of resources that contributes to a lack of specialty mental health care in all too many tribal communities), we also firmly believe that more broad-based public health approaches to interventions can also be developed. Indeed, while these intervention models respond especially to the needs of tribal communities, we know that many U.S. communities—especially minority communities plagued by ongoing disparities in income, education, and health—would benefit from models capable of being delivered by the individuals who live there, as are at least some of the current evidence-based home visiting models.

A core component of this work is the development of materials that can be delivered by paraprofessionals with remote clinical supervision, which can extend available specialty mental health providers. While this approach limits the clinical sophistication of the intervention and constrains the flexibility of direct service providers, it opens up new categories of practice that may be much more broadly available in poor and underserved communities. This work also points toward more general media campaigns that can increase awareness of specific issues and can serve to mobilize community efforts (e.g., approaches that raise awareness of child traumatic stress and prepare people to respond through psychological first aid). For example, in the work to adapt PCIT described above, materials to support enhanced parent–child interaction outside of the lab setting were developed. These simple cards remind parents that it starts with them: "As a parent I can greet my child each morning by name, have one family sit-down meal each day, read to my child each day, and let my child hear me pray each day." These four simple reminders were derived from the enhancement of PCIT and were designed to support the

parent–child interaction developed in the more intensive lab-based interactions.

Conclusions

American Indian and Alaska Native communities are not unique in sharing a heightened level of concern about what mandates for evidence-based practice may mean for them. And, insofar as these mandates continue to undermine local tribal control and autonomy, these concerns are appropriate and need to be taken seriously. At the same time, we have argued that a variety of approaches to evidence-based practice may also advance tribal interests in improving children's health and development. The first, and most expedient, is to engage intervention developers in a dialogue about their approaches, including the recognition that there are different means to the same ends. As the example of culturally enhanced PCIT emphasizes, this approach can be quite productive and helps to build a cross-cultural intervention knowledge base. This approach is quite consistent with the effort to abstract common elements from evidence-based practices (Chorpita & Daleiden, 2009). Insofar as the efficacy of existing evidence-based practices relies on these elements rather than their packaging in specific manuals, such dialogue about approaches can contribute to their generalization and application in new settings. But beyond this dialogue is the continued need to engage American Indian and Alaska Native communities in discussions about what kinds of interventions may make the most sense for them. These discussions have seldom occurred, but there is every reason to believe that this conversation can be a rich source of ideas and inspiration for future efforts. Of course taking these ideas from this stage to the randomized controlled trials that are required to meet the criteria for evidence-based practice requires much investment in research designs that recognize the needs of all families (including those in comparison conditions) as well as on-going dialogue about when and where these are truly necessary so that American Indian and Alaska Native communities do not find themselves inundated with unnecessary experiments. Evidence from the Safe Care trial at the University of Oklahoma Health Sciences Center showed that such research is quite possible given the appropriate investments in the relationships between researchers, providers, and communities (Aarons, Sommerfeld, Hecht, Silovsky, & Chaffin, 2009).

While one may have wished for a less pressured discussion about evidence-based practice and research in tribal communities, there are encouraging signs that both communities and researchers have used this opportunity to engage in an important discussion about how research can support tribal goals for children and families. It is unfortunate that the available evidence base for American Indian and Alaska Native communities was not ready for these mandates as they began to appear, and we certainly would continue to call for a critical evaluation of the limits of this evidence base, especially insofar as it privileges categories of providers who may be in short supply in many communities, but there appear to be numerous ways forward for tribes and researchers interested in taking this opportunity to continue to develop knowledge that is of value for American Indian and Alaska Native children and families.

Paul Spicer, *PhD, is professor of anthropology and member of the board of directors at the Center for Applied Social Research at the University of Oklahoma. He is a cultural anthropologist specializing in research and intervention development in early childhood and mental health in American Indian communities. He is a member of the boards of ZERO TO THREE and the Oklahoma Association for Infant Mental Health and currently serves of the Secretary's Advisory Committee for the evaluation of the Maternal, Infant, and Early Childhood Home Visiting Program as well as advisory committees for the Center for Early Care and Education-Dual Language Learners and National Center for Parent, Family, and Community Engagement.*

Dolores Subia BigFoot, *PhD, is an enrolled member of the Caddo Nation of Oklahoma and is an assistant professor in the Department of Pediatrics, University of Oklahoma Health Sciences Center. Dr. BigFoot directs the Indian Country Child Trauma Center that is part of the National Child Traumatic Stress Network. As a doctoral-level counseling psychologist she provides consultation, training, and technical assistance to tribal, state, and federal agencies on child maltreatment, child trauma, and cultural issues. Dr. BigFoot is recognized for her efforts to bring traditional and spiritual practices and beliefs into the formal teaching and instruction of American Indian people as well as the professionals working with Indigenous populations. She directs Project Making Medicine, a national clinical training program built on the cultural adaptations of evidence-based interventions titled the Honoring Children Series. Dr. BigFoot developed an American Indian parent training program which builds on the strengths of Indian parents, families, and communities to parent children.*

Beverly W. Funderburk, *PhD, is an associate professor of research at the Center on Child Abuse and Neglect in the University of the Oklahoma Health Sciences Center's Department of Pediatrics. She conducts treatment and training in Parent-Child Interaction Therapy. Dr. Funderburk's research interests include issues of training and dissemination in PCIT and cultural applications of PCIT. Dr. Funderburk is a member of the board of directors of PCIT International and is active in developing treatment and training materials and methods to promote the adoption and application of PCIT in a variety of settings.*

Douglas K. Novins, *MD, is professor of psychiatry and public health at the Centers for American Indian and Alaska Native Health on the University of Colorado's Anschutz Medical Campus. He is a child and adolescent psychiatrist specializing in the improvement of mental health preventive and clinical services in American Indian and Alaska Native communities. He is principal investigator of the Tribal Early Childhood Research Center, which is focused on advancing research with tribal Maternal, Infant, and Early Childhood Home Visiting as well as Head Start and Early Head Start programs and serves as a deputy editor of the* Journal of the American Academy of Child and Adolescent Psychiatry.

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Evidence-Based Practice

Foundation for the CONNECT 5-Step Learning Cycle™ in Professional Development

VIRGINIA BUYSSE
PAMELA J. WINTON
University of North Carolina at Chapel Hill

BETH ROUS
University of Kentucky

DALE J. EPSTEIN
CHIH-ING LIM
University of North Carolina at Chapel Hill

In 2006, ZERO TO THREE published *Evidence-Based Practice in the Early Childhood Field* (Buysse & Wesley, 2006). The purpose of this edited volume, which included contributions from a number of scholars, was to take a critical look at a contemporary concept that was sweeping the country and having a significant impact on the discourse about how research knowledge is generated, disseminated, and used across a number of professions. In early childhood, the term *evidence-based practice* had only recently entered the lexicon, but it was cropping up everywhere—in conference programs, grant announcements, journal articles, college courses and continuing education activities, and, of course, search engines on the Internet. At a time when the early childhood field was attempting to integrate scientific knowledge about the critical role of early experiences that support or inhibit children's development (National Research Council & Institute of Medicine, 2000), there was a sense of urgency and importance surrounding the term evidence-based practice. The volume editors suggested evidence-based practice had become a movement that was expected to have a significant impact on all aspects of the field. But there were also questions about how the early childhood field arrived at the need for evidence-based practice and what precisely it would mean for early childhood professionals. The book represented an attempt to address these questions at a very early stage in reaching consensus on the relevance of this concept for early childhood. It called for changes that would lead to more useful forms of practice knowledge. Such changes would require organizing knowledge in a way that would respond to the immediate needs and specific problems in practice, focus directly on improving outcomes for children and families, integrate various sources of evidence, and be made widely available and accessible to practitioners, families, and other end users.

In this article, we reflect on the evolution of the field's understanding of evidence-based practice since the book was released. We begin by reviewing the origins of the movement and definitions associated with it. Next, we identify resources for identifying programs and practices that have been evaluated through research and found to be effective. Finally, we share an application of evidence-based

Abstract

The movement toward evidence-based practice has had a tremendous impact on the early childhood field over the past 6 years. In this article, the authors describe the origins of the evidence-based practice movement for the early childhood profession and various definitions associated with it. They provide resources for identifying programs and practices that have been evaluated through research and found to be effective, and they share an application of evidence-based practice that has led to a recent innovation in professional development in early childhood: the CONNECT 5-Step Learning Cycle™.

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practice that has led to a recent innovation in professional development in early childhood—the CONNECT 5-Step Learning Cycle™.

Origins and Definitions

The evidence-based practice movement was born in medicine in the 1990s and embodied in a pocket-size, blue book titled *Evidence-Based Medicine: How to Practice and Teach EBM* (EBM; Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). Written for the busy practitioner who did not have time for detailed discussions on theory as the basis for treatment, EBM turned clinical practice and the way in which it was taught on its head. Sackett and colleagues offered the following definition: "Evidence-based medicine (EBM) is the integration of best research evidence with clinical expertise and patient values" (p. 1). A careful examination of this definition reveals exactly what was so innovative about this definition and why it has influenced the thinking of so many other professions outside medicine, including early childhood, education, and the mental health professions, among others. The word "integration" suggested, for the first time, that clinical decisions would be based on more than a single source of knowledge. Moreover, these sources of knowledge would have to be integrated when making a decision about a particular course of treatment. The EBM definition also used the term "best research" which suggested that, if necessary, a practitioner could use the "best available" research evidence in making a clinical decision, even if the only research available wasn't directly applicable to a particular situation or group of patients. The term "clinical expertise" referred to one's craft knowledge, an acknowledgment of the wisdom practitioners gained through their professional experience. And finally, the term "patient values" represented a paradigm shift in medicine, requiring that clinicians consider patient beliefs and expectations as additional important sources of evidence in decision-making.

Drawing on these transformational ideas from EBM, Buysse and colleagues offered the following definition of evidence-based practice for the early childhood profession field: "Evidence-based practice is a decision-making process that integrates the best available research evidence with family and professional wisdom and values" (2006, p. 12; Buysse, Wesley, Snyder, & Winton, 2006). With direct parallels to the definition of EBM, this definition reflected the field's values around (a) family engagement and (b) the wisdom and core beliefs of both families and the profession. However, proposing a definition of evidence-based practice proved to be only the beginning step in helping the field move in this direction. Since this definition was proposed, early childhood professionals have continued to debate the meaning of this term. However, several recent publications suggest that the definition of evidence-based practice proposed in 2006 is beginning to catch on in the early childhood field (IOM & NRC, 2012; Love, 2011; National Association for the Education of Young Children/National Association of Child Care Resource & Referral Agencies, 2011). Even when there is an agreed-upon definition, the decision to adopt an evidence-based approach leads to the challenge of finding reliable information about practices that have been evaluated through research.

Resources for Identifying Research-Based Practices

Today it is possible to identify a number of Web sites across professions that provide information clearinghouses on the efficacy of specific treatments, programs, interventions, and practices. These Web sites and related resources are a direct outgrowth of the evidence-based practice movement in the U.S. and elsewhere. The Cochrane Collaboration is perhaps the most well-known clearinghouse of information on research-based medical treatments and interventions. The Campbell Collaboration was modeled after the Cochrane site and focuses on practices in the social sciences (e.g., social work, criminal justice, family support). The What Works Clearinghouse is the official site of the U.S. Department of Education and focuses on disseminating educational practices and interventions that are research-based. The National Registry of Evidence-Based Practices and Programs sponsored by the Substance Abuse and Mental Health Services Administration focuses on mental health interventions. Each of these sites allows users to search for specific interventions and provides summaries of the research findings on the effectiveness of the intervention, along with appraisals of the quality and quantity of research related to a practice. And these are only a few examples. The evidence-based practice movement has spawned hundreds of these sites, some that are officially sanctioned by a federal agency and many others that were created by funded projects, professional organizations, or state and local agencies. Although many clearinghouses exist, there are relatively few early childhood practices that have been evaluated through research and the study findings summarized. For instance, the What Works Clearinghouse offers only a select number of research syntheses in relation to the many early care and education practices that early childhood practitioners need in their work settings. One example of a relevant research synthesis in early childhood is the summary on dialogic reading provided by What Works Clearinghouse (U.S. Department of Education, 2007). Another example is the summary of research-based home visiting programs provided by the Home Visiting Evidence of Effectiveness Project available on the U.S. Department of Health and Human Services (Administration for Children and Families) Web site.

Applications for Professional Development

In 2010, the National Council of Accreditation for Teacher Education released a seminal report that called for a transformation of professional development through the adoption of clinical practice and teaching, an approach that was consistent with evidence-based practice. This call for reform represented a paradigm shift in the field of education away from the traditional focus on content knowledge toward a clinical teaching model that is practice-centered, research-based, and driven by measures of teaching effectiveness. With funding from the U.S. Department of Education, Office of Special Education Programs, the CONNECT project, a partnership between the Frank Porter Graham Child Development Institute and the University of Kentucky, was established to develop Web-based modules that corresponded to this shift to a clinical teaching model. The CONNECT

modules (Winton, 2010) are organized around specific research-based practices that higher education faculty and professional development providers can use to enhance teacher education in early childhood. The CONNECT modules reflect a clinical teaching model, a direct by-product of EBM, and, more recently, the evidence-based practice movement outside of medicine. The CONNECT modules are designed for faculty of students earning early childhood degrees or credentials at the 2- or 4-year degree level. The modules are free, and contain resources for both learners and instructors (e.g., activities, handouts, video and audio clips, and instructor guides with suggested assessments and facilitation tips), and are easily located by using an online search engine. This innovation was described in a recent report on the early care and education workforce (IOM & NRC, 2012).

Each module is centered around the CONNECT 5-Step Learning Cycle™ adapted from the 5-step process used in EBM to prepare health care professionals, and each module also corresponds to the shift to a clinical teaching model that National Council for the Accreditation of Teacher Education (2010) referenced. The 5-Step Learning Cycle and the CONNECT approach to professional development is best understood by viewing the modules and accompanying resources, and better yet, by experiencing the modules as either an instructor or learner. However, a brief explanation of each of the five steps is provided here to help the reader gain more insight into how this approach can be used to enhance professional development. Figure 1 illustrates the CONNECT 5-Step Learning Cycle that serves as an organizing framework within each of the modules.

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Defining a practice is critically important within a clinical teaching or evidence-based approach to professional development.

In Step 1, the learner is introduced to a real-life practice dilemma, a problem that requires the learner to look beyond the immediate situation to seek information about a particular practice from various sources. The CONNECT modules draw on real-life situations experienced by early childhood practitioners, children, and families and provides videos, scripts, activities, and handouts that make these dilemmas relevant to issues faced in practice settings.

In Step 2, the learner is shown how to turn this dilemma into an answerable question using a mnemonic called PICO which was borrowed from medicine (see box, The Meaning of PICO). The question is then used to generate terms that can be entered into a search engine or library database to locate research reviews and syntheses about a particular practice. The goal of Step 2 is to help faculty and learners understand how such a search could be conducted to locate research knowledge and to use this information to inform decisions in practice.

The Meaning of PICO

P – Person (characteristics of the children who will receive the intervention)

I – Intervention being considered

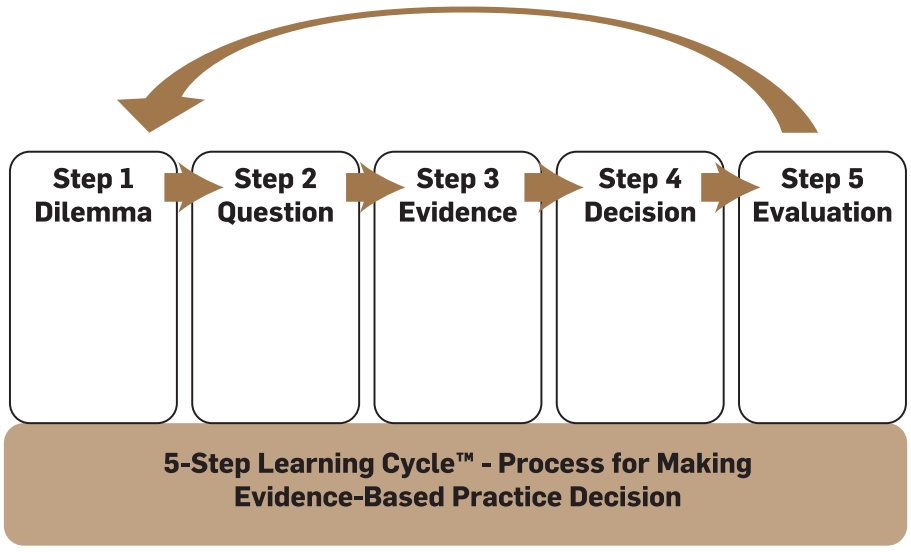
C – Comparison to other interventions (if there is research that compares two or more interventions)

O – Outcomes desired

Source: CONNECT: The Center to Mobilize Early Childhood Knowledge (2012)

In Step 3, the learner turns to broader sources of evidence to address the question about a particular practice posed in Step 2. The sources of evidence include research as well as policies and experience-based knowledge. Let's look more closely at each of these sources of evidence. Each CONNECT module provides a summary of existing research syntheses or, if a research synthesis does not exist, CONNECT creates a research summary from other sources. Policies, position statements and other consensus documents related to the practice are summarized in each CONNECT module within a "policy advisory." CONNECT modules also incorporate experience-based knowledge by featuring voices from the field and from families who have experience and perspectives to share related to a particular practice.

Figure 1. The CONNECT 5-Step Learning Cycle™



Source: CONNECT: The Center to Mobilize Early Childhood Knowledge (2012)

Photo: ©iStockphoto.com/Kim Gunkel

Every practitioner must consider whether a particular practice is appropriate for a particular child or family within a specific local context.

Learn More

CONNECT: The Center to Mobilize Early Childhood Knowledge
http://connect.fpg.unc.edu/
The CONNECT project is developing Web-based, instructional resources for faculty and other professional development providers that focus on and respond to challenges faced each day by those working with young children and their families in a variety of learning environments and inclusive settings.

Evidence-Based Practice Empowers Early Childhood Professionals and Families, FPG Snapshot #33
http://dev.community.fpg.unc.edu/sites/community.fpg.unc.edu/files/imce/documents/FPG_Snapshot_N33_EvidenceBasedPractice_09-2006.pdf
FPG Child Development Institute (2006) Chapel Hill, NC: FPG Child Development Institute.

The Cochrane Collaboration
www.cochrane.org

The Campbell Collaboration
www.campbellcollaboration.org

What Works Clearinghouse
http://ies.ed.gov/ncee/wwc/

National Registry of Evidence-Based Practices and Programs
http://nrepp.samhsa.gov/

Home Visiting Evidence of Effectiveness
http://homvee.acf.hhs.gov/

Defining a practice is critically important within a clinical teaching or evidence-based approach to professional development, yet these definitions are rare and not widely available in early childhood. To address this need, each module includes a brief, memorable definition focused on clearly observable practices. In addition, each module includes a number of brief video demonstrations of the practice (e.g., embedded interventions, collaborating with families, assistive technology interventions, attending and active listening communication skills) being used effectively by practitioners in real life settings

In Step 4, the learner is asked to integrate the unique perspectives and contexts from the dilemma (Step 1) with various sources of evidence (Step 3) to make a decision about whether to adopt a particular practice. The learner is also given support in planning for implementation. Implementation plans and checklists provided within the modules can be used in multiple ways. They can be used by faculty to provide corrective feedback to learners who are acquiring new skills and by learners to support implementation in practice settings.

In Step 5, the learner considers ways to evaluate the practice. Resources are provided to guide the learner in determining what information will be gathered to monitor implementation and evaluate the results of the intervention.

The list below shows CONNECT modules currently available and one that will be released soon.

Module 1: Embedded Interventions
Module 2: Transition
Module 3: Communication for Collaboration
Module 4: Family-Professional Partnerships
Module 5: Assistive Technology Interventions
Module 6: Dialogic Reading Practices
Module 7: Tiered Instruction (Coming Spring 2012)

Conclusion

In this article, we examined the evolution of evidence-based practice in early childhood and we considered how this movement has influenced the shift toward a clinical teaching model reflected in the CONNECT 5-Step Learning Cycle. We conclude by noting that it is not sufficient to determine whether a practice is research-based. Every practitioner must consider whether a practice is appropriate for a particular child or family within a specific local context. This means that to become an evidence-based field, early childhood practitioners will need to be equipped with the knowledge and skills to judge the relevance and feasibility of a particular practice and to integrate multiple sources of evidence to enable sound decision-making in practice.

Virginia Buysse, *PhD, is a senior scientist at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill and a graduate fellow of the ZERO TO THREE Leadership Development program. Her research interests include early care and educational practices for diverse learners; the Recognition & Response model; program evaluation; and innovative models of professional development, collaboration, and change. In 2011, she served on the Institute of Medicine and National Research Council committee on the early childhood care and education workforce.*

Pamela J. Winton, *PhD, is a senior scientist and director of outreach at Frank Porter Graham and research professor in the School of Education at University of North Carolina at Chapel Hill. She has taught interdisciplinary graduate courses in the areas of families, diversity, and teaming; and has been involved in research, outreach, and professional development related to early childhood for the last 25 years.*

Beth Rous, *EdD, is associate professor of Educational Leadership Studies in the College of Education and director of the Kentucky Partnership for Early Childhood Services at the Human Development Institute at the University of Kentucky. Dr. Rous' research and professional interests include state and local policy and*

systems, specifically in the areas of accountability, transition, and professional development.

Dale J. Epstein, *PhD, is an investigator at Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. Her research and professional interests include policy at the state and national levels, and professional development related to early childhood.*

Chih-Ing Lim, *PhD, is an investigator at Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. Her research and professional interests include cultural, linguistic, and ability diversity related to early childhood professional development.*

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Using Evidence-Based Programs to Support Children and Families Experiencing Homelessness

NANCY L. SEIBEL
ZERO TO THREE
Washington, DC

ELLEN BASSUK
DEBRA MEDEIROS
The National Center on Family Homelessnes
Needham, Massachusetts

Program leaders and practitioners hear a lot about the importance of using evidence-based programs (EBPs) especially when funders are urging and often requiring their adoption. Professionals, policy makers, funders and consumers want to know that interventions are likely to yield the sought-after results. Child and family-serving programs use EBPs to increase the likelihood that time and money is well spent and will make a positive difference in the lives of young children and their families (Love, 2009; Strain & Dunlop, n.d.).

While program leaders understand and support these goals, it can be hard to know what interventions to select when definitions of "evidence-based" and criteria for "evidence-based programs" vary. Further, when seeking evidence on programs that target homeless populations and families with very young children, the evidence base can be limited or lacking (Center for Mental Health Services, n.d.; Love, 2009; Strain & Dunlop, n.d.). The evidence has not always been gathered from families who match the racial, cultural, social or economic factors that are typical of the families programs are targeting for services (Strain & Dunlop). The circumstances under which studies are done may not match the circumstances in communities that wish to replicate evidence-based approaches. These issues can make it difficult to find relevant EBPs and decide which of these to adopt.

How can practitioners and program leaders respond to these dilemmas? How are they to find the best evidence-based programs and implement them successfully? This brief offers a definition of evidence-based programs and provides guidance in selecting EBPs for families with young children. It also discusses issues related to implementing EBPs and addresses some common dilemmas encountered by program leaders. These include approaches to using the best available evidence when relevant evidence-based programs are not available, as well as issues related to costs and adaptations for local populations and communities.

Defining Evidence-Based Programs

A program is judged to be evidence-based if (a) evaluation research shows that the program produces the expected positive results; (b) the results can be attributed to the program itself, rather than to other extraneous factors or events; (c) the evaluation is peer-reviewed by experts in the field; and (d) the program is "endorsed" by a federal agency or respected research organization and included in their list of effective programs (Cooney, Huser, Small, & O'Connor, 2007).

Studies using experimental design (quantitative, randomized control trials) are pointed to by many sources as the best form of evidence available, with quasi-experimental designs as the next best approach. Non-experimental designs are considered by some to be questionable due to difficulty in establishing a cause-and-effect relationship between an intervention and outcome.

Among the strengths of experimental and

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Photo: Emily J. Rivera

Child and family-serving programs use EBPs to increase the likelihood that time and money is well spent.

quasi-experimental designs is the ability to study large groups of people, to test cause and effect, and to collect precise, quantitative data. Experimental designs with a control group that is well matched to the group receiving the intervention create a high level of confidence that the outcomes measured resulted directly from the intervention and not from some other source. Quasi-experimental designs can also address cause and effect questions. However, since they don't use a randomly created control group, there may be less certainty that the outcomes result from the intervention. While experimental and quasi-experimental studies are designed to answer causal questions, depending on the study's goals and the research questions, another approach to gathering evidence may be more appropriate (Lauer, 2004).

When the research questions relate to understanding what is happening and how and why it is happening, a descriptive research design (qualitative) is most useful. Descriptive studies can show how factors co-occur and can aid in understanding how a particular intervention leads to specific outcomes. They are likely to collect data from documents, detailed observations and verbal information, and carefully analyze these for themes. The rigor of qualitative studies is enhanced by using multiple information sources, checking researcher interpretations with participants, exploring rival explanations and searching for disconfirming evidence (Lauer, 2004). Combining quantitative and qualitative methods can answer a range of descriptive and causal questions and can help study and understand complex phenomenon (Brewer & Hunter, 2006).

Combined with research, gathering evidence through reflection on practice builds a basis for sound practice. Fellitti (2004) offers an example of combining reflection on practice and research to build new evidence. Fellitti wondered about the higher drop-out rate among patients most successfully losing weight through an obesity treatment program. Reflecting upon this unexpected observation led to further study. The researchers learned that overeating and obesity were often protective strategies related to early adverse experiences. This finding led to a new theory about the origins of addictive behavior (Fellitti, 2004).

Evidence gathered through reflection on experience can be called "craft knowledge" or "professional wisdom" (Buysse & Wesley, 2006). Buysse and Wesley argue for building an evidence base in the early childhood field by integrating a variety of research methods. They define evidence-based practice as "...a decision making process that integrates the best available research evidence with family and professional wisdom and values" (p. xiv).

Understanding Sources of Evidence

Research-based and non-research based literature provide different types of information. Each contributes to the base of evidence for what works in serving young children and their families.

- Quantitative research provides a foundation for evaluating outcomes, determining efficacy and discussing readiness for dissemination.
- Qualitative research and non-research literature can provide in-depth descriptions of a practice, the context in which the services are provided, participants' perspectives, and tools for implementation.
- Mixed methods research brings together qualitative and quantitative data, often with information that helps interpret outcomes and understand their context. (Center for Mental Health Services, n.d.)

This definition allows room for programs to select practices whose evidence base consists of a variety of evaluation designs integrated with the knowledge gained through reflecting upon and learning from practice.

One way to achieve this is by creating communities of practice to integrate the varied approaches to building evidence. Communities of practice can bring together researchers and practitioners to reflect on issues, as well as questions and dilemmas that arise in professional practice. Research questions that are relevant to practitioners' concerns can be identified, and researchers and practitioners can together select acceptable and practical ways of gathering the needed evidence (Buysse & Wesley, 2006).

Benefits and Challenges of Using Evidence-Based Programs

Selecting an evidence-based approach to working with young children and their families can help assure that they receive the best available services. Staff members receive guidance in delivering services as intended by the model developer, helping to assure that no matter where families receive services and who is providing them, families have access to the same quality of care. Using the most effective services can help with family recruitment and retention, with raising needed funds to support services, and can support systems and cross systems initiatives to target the right outcomes (California Evidence Based Clearinghouse, n.d.). While there are a number of benefits to adopting EBPs, there can be some challenges too. These include:

Finding Evidence-Based Programs

A number of clearinghouses offer information on evidence-based programs. These generally focus on evidence developed through studies using experimental and quasi-experimental designs. Some also identify promising practices for which the evidence base is limited. Clearinghouses generally identify levels of evidence to aid in selecting an EBP. While level of evidence guidelines vary, they identify the strength of the evidence supporting a particular program or intervention, and clarify the clearinghouse's decision making rules in rating an EBP. Using various scales, they identify those EBPs with strong support, those that are promising, those not demonstrating positive effects, and those that cannot be rated. Some identify programs that could not be rated or are not recommended.

As you consider programs to meet the needs of the families and communities you serve, these clearinghouses are among those where you can seek out EBPs:

- ED/IES What Works Clearinghouse
  http://ies.ed.gov/ncee/wwc
- RAND Corporation's Promising Practices Network
  http://www.promisingpractices.net
- Coalition for Evidence-Based Policy
  http://coalition4evidence.org/wordpress
- California Evidence Based Clearinghouse on Child Welfare
  http://www.cebc4cw.org
- Home Visiting Evidence of Effectiveness (HomVEE) Project
  http://homvee.acf.hhs.gov
- National Registry of Evidence-Based Programs (SAMHSA)
  http://www.nrepp.samhsa.gov
- Early Head Start Research to Practice Guidance (Administration for Children and Families)
  http://www.acf.hhs.gov/programs/opre/ehs/ehs_resrch/index.html
- Research and Training Center on Early Childhood Development.
  http://www.researchtopractice.info/products.php

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Communities of practice can bring together researchers and practitioners to reflect on issues, as well as questions and dilemmas that arise in professional practice.

LACK OF EVIDENCE-BASED MODELS

It may appear as though there are only a few programs meeting the highest standards of evidence that focus on very young children and their families (Strain & Dunlop, n.d.). This is especially true when seeking evidence-based practices in the homelessness field (Center for Mental Health Services, n.d.). Yet in reality it is likely that there are additional effective programs which due to a lack of resources (or because of the program's stage of development) have not yet been rigorously evaluated (Baron & Sawhill, 2010). In addition to challenges related to timing or funding, conducting randomized control trials may raise ethical concerns and pose difficulties in tracking outcomes for the control group (which is the group that is matched to the treatment group but does not get services; Center for Mental Health Services, n.d.). Newly developed programs will not immediately be ready for randomized control studies. Allowing time for new programs to conduct descriptive studies and to improve as a result supports innovations and can build readiness for later quasi-experimental and experimental studies. For these reasons grantees receiving funding from the federal Affordable Care Act Maternal, Infant and Early Childhood Home Visiting program are permitted to use up to one-quarter of their award for promising approaches that do not yet have a strong evidence base (*Supplemental Information Request...*, n.d.).

EXPENSE

It can be expensive to purchase the right to use an evidence-based program. The developer may require the purchase of materials, a curriculum and specialized training in order to implement it. Staff may need to have certain degrees or credentials (Cooney et al., 2007).

FIDELITY TO THE MODEL

A program developer may require that a program is implemented exactly the way it was designed, limiting the ability to adapt it to local conditions, cultural values and needs (Cooney et al., 2007).

Recognizing these challenges, program leaders can develop strategies to successfully address them. The sections below discuss selecting and successfully implementing EBPs.

Choosing an Evidence-Based Program

Each clearinghouse on evidence-based practice has its own way of categorizing evidence-based practices and its own criteria for organizing them from the most highly supported to least well-supported by available evidence. Standards for what can be considered evidence-based are evolving quickly, and new studies are continuously being published, so revisiting these clearinghouses regularly will be helpful (Strain & Dunlop, n. d.). These clearinghouses typically emphasize outcome-based, generalizable studies while excluding other types of evidence (Center for Mental Health Services, n. d.).

The following questions can assist in making selection decisions. They are adapted from the *What Works, Wisconsin's Research to Practice* series (Small, Cooney, Eastman, & O'Connor, 2007). The authors suggest asking questions related to program match, program quality, and organizational resources.

In considering program match, one critical issue is the match between the EBP, the

organization and the community to be served. A team representing administrators, program directors, supervisors, staff and parents can be convened to discuss these questions:

- How well do the program's goals and objectives reflect what your organization hopes to achieve?
- How well do the program's goals match those of your intended participants?
- Is the program of sufficient length and intensity (i.e., "strong enough") to be effective with this particular group of participants?
- Does the program require potential participants that are willing and able to make a time commitment?
- Has the program demonstrated effectiveness with a target population similar to yours?
- To what extent might you need to adapt this program to fit the needs of your community? How might such adaptations affect the effectiveness of the program?
- Does the program allow for adaptation?
- How well does the program complement current programming both in your organization and in the community?

Program quality is also a critical component. If a program ranks high on an established evidence-based clearinghouse's ranking, it likely has a strong body of randomized control trial and other quantitative research evidence supporting its effectiveness. The review team may also wish to seek out additional evidence about the programs as discussed in the pull out box on understanding sources of evidence and the sections above about evidence. If there are no highly ranked evidence-based programs to meet the needs of the target population it may be necessary to select a program supported by the best available evidence. This may include programs supported by a small number of experimental studies or by descriptive studies. Some questions to consider about program quality include:

- What is the quality of this evidence?
- Is the level of evidence sufficient for your organization?
- Is the program listed on any respected evidence-based program registries? What rating has it received on those registries?
- For what audiences has the program been found to work?
- Is there information available about what adaptations are acceptable if you do not implement this program exactly as designed? Is adaptation assistance available from the program developer?

Photo: Marilyn Nolt

Selecting an evidence-based approach to working with young children and their families can help assure that they receive the best available services.

- What is the extent and quality of training offered by the program developers?
- Do the program's designers offer technical assistance? Is there a charge for this assistance?
- What is the opinion and experience of others who have used the program (Small et al., 2007)?

Having selected an EBP to use, program leaders have a critical role in successfully integrating the new program into their organizations and in supporting staff in implementing the model as intended by its developer.

Leaders' Role in Implementing an Evidence-Based Program

A program's quality rests on the capacities of its staff members. Program leaders play a key role in supporting staff in its implementation. A Child Trends study noted that program managers that successfully implemented effective out-of-school time programs addressed a range of issues including: selecting, supporting and training qualified staff members; orienting new staff to program goals and mission; communicating information about program changes, and enlisting the support of key stakeholders, including staff, participants, funders, community partners and policy makers. Successful program managers developed systems for collecting data about the program's progress and used that information to collaboratively establish goals and improve the program's strategies. They also create a positive organizational climate by supporting staff members and responding to their concerns so that they were able to establish positive relationships with participants (Small et al., 2007).

Program leaders may also need to address existing staff members' concerns about adopting a new EBP. They may need to help staff members recognize the benefits of the EBP for children and families. They can provide information on the relationship between the costs involved in the EBP and reaching the desired outcomes for families that may have intensive service needs. Program leaders can address concerns of those who may fear their work is undervalued or is at risk of being discontinued. Some specific strategies that can help in addressing possible concerns for existing staff include: sharing funds, training, tools, and knowledge among all organizational programs; encourage teamwork and collaboration across organizational programs; developing a clear process for recruitment and referral of families that matches need to intervention; identifying and valuing the unique contributions of each program in the organization (Coffee-Borden & Paulsell, 2010).

Working with young children and their families, particularly with those in difficult life circumstances, challenges staff members' intellectual, emotional and physical capacities. If left on their own to manage this stress, quality of services can be affected, particularly if staff members experience burnout. Signs that staff members may be suffering burnout can include fear of taking needed time off, failure to use vacation time, persistent negative thoughts, overreaction to

minor issues, loss of motivation for the work, decreased work performance, not sleeping enough or not getting restful sleep, increased arguments with family and decreased social life (Volk, Guarino, Grandin, & Clervil, 2008). Burnout can ultimately lead to staff turnover. Turnover is detrimental to program outcomes when young children and their families lose relationships with staff members they have come to trust. A powerful way to combat these challenges is through reflective supervision which allows staff members to step back from the pressure of providing services to think carefully, deeply and with support and to learn from their work. Assuring that staff members have access to support from well-trained supervisors who themselves have access to supervision is essential to program quality. Such supervision enhances staff members' sense of support in their close and demanding work with young children and families. It helps reduce frustration and stress, which is likely to improve staff retention and quality of services.

Close oversight by supervisors also aids in quality control, improves record keeping and fidelity of implementation of the EBP. Supervision provides an opportunity for teaching and for practicing interventions before trying them with families (Coffee-Borden & Paulsell, 2010).

Conclusion

Participants, policy makers, funders and program leaders all have a stake in assuring the best outcomes for young children and their families. This interest has promoted an increasing emphasis on the adoption of EBPs. While recognizing the importance of using EBPs, program leaders are challenged to find evidence-based programs that meet the needs of very young children and of families affected by homelessness. Expanding the definition of evidence to include experimental, quasi-experimental and descriptive research, as well as professional and family wisdom, and guiding program leaders to select programs supported by the best available evidence can increase the array of programs to consider. Program leaders play a key role in the selection and successful implementation of EBPs. Information gathered through their experiences in implementing EBPs can help to expand the existing knowledge base for successfully serving very young children and their families, including those at risk of or experiencing homelessness.

STRong: Strengthening Our New Generation: Adopting an Evidence-Based Practice

Minneapolis, MN

Part of the Conrad N. Hilton Foundation's *Strengthening At-Risk and Homeless Young Mothers and Children Initiative (the Initiative)*, STRong is a partnership between The Family Partnership[1] and St. Stephen's Human Services, both located in Minneapolis, MN.

One of STRong's key components is parenting education. When the program began, the staff used a variety of parent education techniques and strategies. However, the STRong team noted that they lacked some direction and consistency in their work. They shared that services would be strengthened and outcomes would be improved by standardizing and enhancing their parenting education practices. To address these goals, the program team identified and evaluated several home visiting models. Based on their analysis, the evidence-based Parents As Teachers (PAT) program was consistent with STRong's values, vision and goals. It was well matched to clients' needs and program staff felt it was well-aligned with their approach to working with families.

PAT is one of the 9 home visiting models rated as evidence-based by the federally funded Home Visiting Evidence of Effectiveness study (HomVEE). The Department of Health and Human Services defines an evidence-based early childhood home visiting program one for which

> *... there are at least 2 high or moderate quality impact studies using different samples with 1 or more favorable, statistically significant impacts in the same domain. At least 1 of these impacts is from a randomized controlled trial and has been published in a peer-reviewed journal. At least 1 of the favorable impacts from a randomized controlled trial was sustained for at least a year after program enrollment.*

More information about the HomVEE study is available at http://homvee.acf.hhs.gov/

In using PAT, STRong staff reported that they were able to better serve their families and that they were experiencing improved outcomes. Kate Fay, STRong Family worker, stated, "Introducing PAT into our work made a huge difference. I felt that I had a guide for performing my job. As a result, my stress levels were reduced and I was better able to help my clients." Other staff members had similar comments. Since funders are now more focused on the use of evidence-based practices, as an agency, The Family Partnership is now better positioned to access new funding sources.

[1] Reuben Lindh Family Services merged with The Family Partnership on January 1, 2010.

Using Evidence-Based Programs to Support Children and Families Experiencing Homelessness *was written by Nancy L. Seibel, director of special initiatives, ZERO TO THREE: National Center for Infants, Toddlers and Families with support from Ellen Bassuk, president, The National Center on Family Homelessness and Debra Medeiros, senior advisor, The National Center on Family Homelessness. This brief is a product of ZERO TO THREE on behalf of the* Strengthening At Risk and Homeless Young Mothers and Children Coordinating Center, *which is a partnership of The National Center on Family Homelessness, National Alliance to End Family Homelessness and ZERO TO THREE. The Coordinating Center provides technical assistance to program sites, conducts cross-site process and outcome evaluations and develops a range of application products from the study sites.*

Strengthening At Risk and Homeless Young Mothers and Children *is an Initiative of the Conrad N. Hilton Foundation.*

For more information on this Initiative, *please contact The National Center on Family Homelessness, 200 Reservoir Street, Needham, MA; (617) 964-3834 or at www.familyhomelessness.org*

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Talking With Practitioners

How to Integrate Best Practices With Evidence-Based Treatment

RICHARD COHEN
Project ABC
Los Angeles, California

The emphasis on using evidence-based interventions with young children and families has increased dramatically of late. It's understandable, really. Armed with new knowledge of brain development and research showing the importance of the early years, early childhood professionals have become much more powerful advocates for investments in the work that they do. However, these increased demands for attention and support come at a time of limited resources, so it's not a surprise that those who hold the purse strings would hold these professionals accountable to use methods that have been proven successful. Also, of course, practitioners go into the field to make a difference and want to work in ways that help children and families.

On the surface, that seems like the end of the story: Use what has been proven successful. However, there are complexities and paradoxes built into the process that can make the simple formulation much more difficult. The paradoxes begin with the fact that the worlds of the researchers and the practitioners are very different and, as Buysse and Wesley (2006) pointed out, often in conflict. Depending on the definition of evidence, the methods a researcher uses to determine the effectiveness of an intervention can make that intervention hard for the practitioner to use with fidelity.

In a traditional empirical model, the researcher narrows her questions and holds as many things constant as possible to test the effect of the variable she is studying. If she's testing the effectiveness of a curriculum, she'll want to make sure that it's implemented exactly the way it was written. She will want to ensure that the people who teach the curriculum have a specific kind of training and supervision. She'll also want to be sure that the learners are just the right ones to benefit most from the curriculum. They may need to speak a particular language or be in an age range or have a specific condition, but no others.

Practitioners, on the other hand, often have very little control over those types of variables. In general, the population they serve is determined by where they work and the contracts their agencies or schools have. The evidence-based treatments they work with may address specific aspects of their clients' needs, but likely not all of them. The most effective child development curriculum won't help a home visitor who comes to the home and discovers domestic violence, and the best domestic violence curriculum won't help a practitioner whose family has just become homeless.

So what is a practitioner to do?

The premise of this article is that a grounding in the basic principles of working with young children and their families can help practitioners as they implement evidence-based treatments. Whatever the intervention, practitioners will be more successful using it if they keep in mind what they know deeply about working with families. For example, the practitioners' goals are for children's healthy growth and development; children depend on their relationships for their growth and development, and because practitioners are in the family's life only temporarily, they can be most effective when theye support the relationships.

Grounding Evidence-Based Practices (EBPs) With Best Practices

The idea for this article gelled for me when I was watching a tape of Bruce Perry with the therapists and counselors in the therapeutic preschool at Children's Institute, Inc. In the Neurosequential Model of Therapeutics, he talked about his experience working with children at the ChildTrauma Academy (Perry, 2008). Perry and his colleagues there noticed that, no matter what kind of treatment they used, the efficacy varied widely. When they looked into this further, they discovered that a key factor was the relational milieu

of the child. That is, children with greater relational health and better connection to the important people in their lives progressed more regardless of the treatment mode.

Perry's observations were further validated in Brandt and Murphy's (2010) study with home visiting nurses. The nurses used an evidence-based curriculum visiting first-time mothers. A group of them also received a 3-day training on the Touchpoints model (discussed later), with a focus on supporting the development of the relationship between the mothers and their babies. Compared with the mothers whose home visitors had not completed the training, the mothers in the Touchpoints model group continued breastfeeding longer and were more likely to bring their babies in for well-child visits.

Of course, it makes sense that the curriculum practitioners use and the decisions they make in using it should improve when they know how to create relationships with families and how to support relationships between parents and children. I was fortunate to interview 3 people who were eloquent in describing how supplementing their core knowledge and skill base in working with children from birth to 3 years old affected their ability to implement evidence-based treatments. They have different jobs and are at different points in their careers. They are all involved with evidence-based treatments they like and believe in. However, all of them recognize that these interventions have to be nested in a wider milieu based more generally on evidence drawn from research and wise practice. Two of them identified Touchpoints (Brazelton Touchpoints Center, n. d.) as important in establishing that milieu; the third discussed infant massage.

Vanessa

Vanessa is a home visitor at Children's Institute, Inc., in Los Angeles, CA. She has a bachelor's degree in child and human development and works in Project Stable Home, which has federal funding from Abandoned Infants Assistance. The home visitors from Project Stable Home use Growing Great Kids (GGK; Great Kids, Inc., 2010), which describes itself as an evidence-based curriculum that supports the development of nurturing and empathetic parent–child relationships for children from birth to 3 years old.

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In a traditional empirical model, the researcher narrows her questions and holds as many things constant as possible.

Vanessa likes using GGK. She feels that it has "backbone." She experiences it as "friendly and easy to use," especially with very young children. She appreciates the handouts and values the activities, particularly because they help parents learn to use things they already have to interact with their children. One concern that Vanessa has about GGK is that the conversations described in the guide can become "robotic." She works with a wide range of families from very young mothers to grandparents and foster parents. Every family is different, and she uses the curriculum to meet a wide variety of family needs.

In 2010, Vanessa had learned infant massage in the program called Infant Massage Communication in Parenting with Kalena Babeshoff, founder of A Foundation for Healthy Family Living. She has found it a very useful addition to her work. So many parents, she says, "think of babies as so small, so fragile, and they just eat, sleep, and poop. But there's so much more." Teaching infant massage to moms, she finds, leads to "more connection, more bonding." So many of the caregivers Vanessa works with have little experience with "appropriate touch." Through infant massage, they can learn that "there is this other touch that is pleasurable."

How has the massage supported her work with GGK? Vanessa gives the example of one dyad she worked with. The infant was placed in relative foster care from the hospital after having been removed from her birth family and failing to thrive in her first foster placement. The second foster mom had no children of her own and a history of sexual abuse, yet she was motivated to do a good job and was open to support.

In discussing the concerns the foster mother had about the baby's development, Vanessa learned that she was particularly concerned about the baby's breathing and constipation. Vanessa saw an opportunity to teach the foster mother how to massage the baby. Once she learned the techniques, the foster mother worked massage into some of the daily routines, particularly after bath time. She felt successful and competent and felt more connected to her little charge. Notably, she was also much more aware of the infant as an individual with strengths who could participate in a relationship.

The foster mother's stronger relationship with the infant is what really helped in implementing the GGK activities. For example, Vanessa felt that the foster mother was much more engaged in the "daily do's" of noticing, commenting on, and praising the baby's accomplishments. In short, Vanessa's experience with

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The worlds of the researchers and the practitioners are very different and often in conflict.

infant massage increased the depth of her understanding about the relationship between a caregiver and an infant. The combination of her deeper understanding and another set of tools allowed her to enhance her relationship with the foster mother and increase the effectiveness of her evidence-based intervention.

Misty

Misty is a licensed marriage and family therapist who provides therapy to families in Project Stable Home at Children's Institute, Inc., in Los Angeles. Among the modes of therapy in which Misty is skilled is Parent-Child Interaction Therapy (PCIT). PCIT is an evidence-based treatment designed for children as young as 2 years old who have serious behavior problems. The first phase of treatment, which is based on attachment theory, focuses on improving the secure relationship between parent and child.

The second phase is based on social learning theory and is designed to teach parents how to improve their children's behavior by reshaping patterns of interaction. The therapist sits behind a one-way mirror and observes the parent and child in a playroom. The parent, wearing an earphone, receives instructions from the therapist on when to praise, when to stop, and when to ignore behavior.

Misty likes PCIT and has experienced how effective it can be in helping parents control their children's difficult behaviors. As a young therapist, she felt "the draw of structured models like PCIT." Then in 2011, Misty participated in a 3-day Touchpoints training in which professionals working with young children and their families learned principles and strategies that support parents to become competent and confident caregivers by ensuring that families are knowledgeable and have the tools to be effective caregivers, meeting the health, emotional, and learning needs of their children.

Misty was already familiar with the relationship-based concepts that Touchpoints stresses, so the training "re-immersed" her in a "language [she] already had." Of note, she explained that Touchpoints "became a bridge I could use between a theory I had come to love and respect and a practice I was trying to make the theory fit into." Switching metaphors, she added that Touchpoints became a lens, a filter to use in understanding PCIT.

Of particular importance was one of Touchpoints' guiding principles: For practitioners to recognize what they bring to the interaction. She recognized more deeply that her "plate of theories" will color her interactions with families. The blending of the theories on her plate came for Misty while working with a mother–child dyad. They got through Phase 1 successfully, but Misty couldn't understand why the mother had become so stuck in Phase 2. Although she seemed effective during sessions, it seemed that there was no progress at home. Although PCIT works by changing parent–child interactions, the mother was insistent that her child was the problem.

Misty was beginning to see the mother's resistance as a barrier to progress, but then she invoked another Touchpoints guiding principle: For practitioners to value passion where they find it. As part of the coaching, she validated the mother's concerns about her child and recognized the mother's strengths and accomplishments thus far in the therapy. This freed up both therapist and parent to move forward with the treatment. The results were good. The Parenting Stress Index (Abidin, 1995) showed improvement in all three areas that it assesses: the mother's report of her stress, the quality of the relationship with her child, and her perception of how difficult the child is.

Misty feels strongly that the Touchpoints training made her a better PCIT therapist. PCIT doesn't seem as rigid to her, and she has learned to use the modality while remaining flexible and fluid. She does not see the relational and social learning theory models as separate or as challenging each other. Instead, she says, "I'm able to use the best parts of both because they've become integrated into myself as a therapist."

Jackie

Jackie is a program officer in the Provider Professional Development practice area at Children's Services Council of Palm Beach County, a special district funded by taxpayers with the purpose of providing leadership, funding, and research on behalf of

Palm Beach County's children so they are born healthy, growing up safe and ready to learn.

In 2005, the Council sponsored a community-based initiative to bring the Touchpoints Approach to Palm Beach County. The goal, Jackie explained, was to "use Touchpoints as the foundation of how we are with families." Service practitioners across the county received Touchpoints training with the goal of developing a shared language and a shared approach to "entering into relationship with families." According to Jackie, the approach has been "well accepted."

Several years ago, the Council made the decision to focus funding on evidence-based programs that will enable it to achieve its goals for children in Palm Beach County. Key among these is Triple P (n.d.), a multilevel system of family intervention developed in Queensland, Australia. The levels range from universal information for all parents, to brief and flexible consultation, to more intensive interventions.

Jackie and some of her colleagues were concerned about practitioners' understanding the connections between Touchpoints and the new EBPs. EBPs, they knew, must be implemented with fidelity. Initially, Triple P training, particularly, appeared prescriptive according to some practitioners, who attended the training, whereas Touchpoints encouraged practitioners to be collaborative. Practitioners began to question which to use, Touchpoints or Triple P. They wondered if Touchpoints would be a barrier to the successful implementation of Triple P. As a funder, Jackie's major question became how to "scaffold our practitioners to integrate Touchpoints while implementing an EBP?"

It turned out that the Touchpoints Approach could actually help trainees focus on the relational base of Triple P. Jackie and her colleagues "saw commonalities right away during training experience." Instead of seeing the program as prescriptive, they saw that "implementing is about joining the parent expert who chooses goals" for the intervention.

They had some specific concerns about whether the Touchpoints Approach to that initial "joining" with the family would be an issue, based on trainees' initial feedback. However, while attending Triple P training, Jackie used Touchpoints relational strategies in the role-play activities. She received positive feedback from the trainers.

Ultimately, the Provider Professional Development staff developed a "crosswalk" comparing the two training initiatives to assist practitioners.

Initially, then, the blending has been successful. As Jackie noted,

Triple P isn't directive at all. Parents don't want us to tell them. And through reflective questions, we prompt parents to think, leading to Ah-ha moments. They figure it out for themselves. It's always about parents choosing. That builds confident, self-sufficient parents, which is the Triple P goal. And we help them reach that goal by holding on to our own assumptions.

Training of the two initiatives continues and there are still challenges. Jackie sees her role now as supporting the ongoing implementation of Triple P and helping practitioners understand how using the Touchpoints Approach facilitates implementation. She sees peer support and reflective supervision of Triple P practitioners as the critical point where this can happen.

An Evolving Field

The field of early intervention for infants, toddlers, and their families is expanding rapidly. In the process, it is maturing, as can be seen in the state-by-state movement toward endorsement across disciplines. Part of the maturation is an increasing need to ensure that what practitioners do makes a difference.

The growth in services to families with young children coincides with the rapid spread of the expectation and availability of evidence-based interventions in many fields. Conceptions of EBPs are themselves maturing, particularly in their relatively recent application in programs serving infants, toddlers, and families. As Finello and her colleagues (Finello, Hampton, & Poulsen, 2011) pointed out, research shows us that services for young children are best provided in the framework of parent–child relationships involving interdisciplinary approaches that take the complexity of family circumstances into account. However, the choices of EBPs are still quite limited, and most are narrowly focused.

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A grounding in the basic principles of working with young children and their families can help practitioners as they implement evidence-based treatments.

Over time, this will change. As Schorr and Farrow (2011) have recommended:

[T]he next wave of evidence needed to improve outcomes for children, families and communities will come from learning (a) how complex intervention strategies (not just programs) interact with community conditions, opportunities, policies and practices and (b) what impact these interactions have on the well-being of children and families. (p. 47)

In the meantime, an important part of the job for practitioners is to keep their frameworks in mind as they implement

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A Foundation for Healthy Family Living
www.healthyfamily.org/pub/htdocs/Infant_Massage_home.htm

Parent-Child Interaction Therapy
http://pcit.phhp.ufl.edu/

the evidence-based interventions that they have. Fidelity to models is important, of course. The stories of the three women in this article give a range of motivating examples of ways to maximize the effectiveness of these interventions by integrating them into what practitioners know about how to effectively support children and their families.

Richard Cohen, *MEd, PhD, is director of Project ABC, an early childhood system of care program in Los Angeles, CA, funded by the Substance Abuse and Mental Health Services Administration. In the past, Richard has been a teacher, a Head Start director, director of the Pacific Oaks Research Center, and the executive director of a multiservice agency serving young children and families in West Los Angeles. He is a certified Touchpoints trainer and is coauthor of* Snail Trails and Tadpole Tails, *a book on nature education for early childhood educators.*

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A Problem in Our Field

Making Distinctions Between Evidence-Based Treatment and Evidence-Based Practice as a Decision-Making Process

KRISTIE BRANDT
Parent-Infant & Child Institute
Napa, California

JAMES DIEL
Aldea Children and Family Services
Napa, California

JOSHUA FEDER
Interdisciplinary Council on Developmental and Learning Disorders
San Diego, California

CONNIE LILLAS
Interdisciplinary Training Institute
Pasadena, California

The term *evidence-based treatment* (EBT) is often used synonymously with the term *evidence-based practice* (EBP). If a practitioner is applying an EBT, it is assumed that one is "practicing" the evidence. Within the infant–family and early childhood field, this confusion threatens the quality and appropriateness of services provided for infants, young children, and their families. In this interdisciplinary field, practitioners share a desire to provide services that are developmentally appropriate, grounded in sound theory, and support children and families in achieving and maintaining lifelong optimal health and well-being. This shared desire drives practitioners to exclusively use EBTs in infant–family and early childhood work, without understanding that EBTs are only a part of the more useful concept of EBP.

What EBTs Offer...And What They Don't

Practitioners recognize the importance of research on treatment, where they define what they are doing, to whom, for what purpose, and how they are measuring outcomes. Thus, EBTs are typically discreet, manualized, or prescriptive approaches to care that have been researched and replicated to determine their effect in specific conditions (e.g., high risk, low socioeconomic status), with a specific diagnosis (e.g., depression), or with a specific discipline of provider (e.g., educator, psychotherapist, nurse), or a combination of these. Use of EBTs requires fidelity to the approach with limited latitude for tailoring to meet the unique needs of the child, family, and context. Still, EBTs technically require a specific presenting condition, diagnosis, or history in order to use the intervention, such as a history of trauma, low socioeconomic status, being a primipara under 28 weeks gestation, or being a child in a divorcing family. So although EBTs can be shown to be effective in these specific circumstances, they rarely address the richness and complexity of the family with multiple challenges, conditions, or risks, and are often directed at outcomes that may not be those the family is seeking or the

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Use of evidence-based treatments requires fidelity to the approach with limited latitude for tailoring to meet the unique needs of the child, family, and context.

clinician is hoping for. The structure of EBTs emerging from singular diagnostic criteria and narrow contexts risks mismatches with the complex families practitioners serve. Over the course of about 25 years, the recognition of this limitation in the broader fields of clinical science have led to a more functional conceptualization of how to understand and use research in a manner that can be applied to real clinical situations. This more global and functional approach is referred to as an EBP decision-making process.

The History and Definitions of EBP

The concept of EBP grew from the work of Bennett et al., 1987; Bennett & Bennett, 2000; Graham-Smith, 1995; Malterud, 1995, 2006, and others, and was conceptually advanced by Sackett et al. in 1996 noting the problems inherent in relying on either research alone or on subjective clinical judgment alone. Sackett's concerns are now considered prerequisite to true informed consent and were adopted in 2001 by the nonpartisan American Academy of Sciences Institute of Medicine. The Institute of Medicine's decision-making process integrates three prongs: (a) the best of what research and published findings can provide; (b) the best of professional wisdom, judgment, and experience; and (c) the desires and consent of the family (Sackett et al., 1996). While other professional organizations have adopted the Institute of Medicine's definition into their philosophical statements, Buysee and Wesley (2006) have led the way in applying this definition of EBP to the early childhood field, in the context of working with infant caregivers.

The professional culture that limits practice to static lists of EBTs serves to undermine critical thinking and integrated clinical wisdom (theory and practice), and can disenfranchise the families practitioners are trying to help. Practitioners are robbed of the right to weigh several factors at once while working within complex, contextual processes with a family and lose the scientific enterprise of a hypothesis-driven formulation that is systematically reviewed and inevitably shifts dynamically as cases unfold. EBP as a decision-making process offers the best approach to complex situations, and more so to protect families from the tyranny of static lists on the one hand and the tyranny of unfounded practices on the other.

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EBP offers the most efficient use of limited resources in difficult economic times by flexibly matching treatments to situations, avoiding inefficient mismatches that result in poor outcomes.

Mismatches Between EBTs and Clinical Practice

Below we review some of the ways in which the sole use of EBTs creates clinical dilemmas to highlight the importance of understanding and using EBP.

Developmental Versus Chronological Age

EBTs may require capacities on the part of the child or parent linked to chronological age, such as the child having a coherent narrative, but may neither require nor prepare the provider of the EBT to determine the child's or parent's developmental age across domains relevant to the treatment. Often, providers of an EBT are not educated in the stress arousal continuum and the need to observe during each session for changes in functional developmental age based on activation of the arousal system.

Some models of care provide a more global EBP approach, such as Brazelton's Touchpoints Model (Brazelton,1992; Brazelton, O'Brien, & Brandt, 1997), Perry's (2006; Perry & Hambrick, 2008) Neurosequential Model of Therapeutics (NMT), and the Neurorelational Framework by Lillas and Turnbull (2009). These models support providers in understanding development and building therapeutic alliances. For example, Brazelton's Touchpoints approach offers an understanding of disorganizations and functional regressions before each step in a child's development, and helps providers discern typical developmental disorganization from worrisome deviations and consider the meaning of this to the parent. Using the model's relational components, parent and provider co-construct a therapeutic direction. While Touchpoints in general is an EBP, applications of Touchpoints in specific settings and populations, such as Touchpoints-based home visiting, can be EBTs.

The NMT (Perry, 2006) provides an integrated understanding of the sequencing of neurodevelopment embedded in the experiences of the child and supports biologically informed practices, programs, and policies. Coupled with the NMT's brain mapping matrix, this global EBP model guides providers to identify specific areas for therapeutic work, selecting appropriate therapies, including EBTs, within a comprehensive therapeutic plan. NMT-based interventions, such as NMT therapeutic child care, can also be EBTs.

Lillas and Turnbull's (2009) Neurorelational Framework also offers a functional approach to brain mapping, wherein four brain systems allow one to look at multiple dimensions at the same time. Within these brain systems, distinctions between "bottom-up" and "top-down" aspects to neurodevelopment are emphasized. Bottom-up processes

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For the sake of the children and families practitioners serve, they must safeguard and staunchly adhere to EBP as a decision-making process.

include nonverbal and automatic habits, routines, and reactions to relationships, while top-down processes include verbal and cognitive capacities with the ability to inhibit behavior. This distinction allows providers to clinically match EBTs and other salient clinical perspectives to the child and family's neurodevelopment.

Static Lists of EBTs Versus Informed Consent and Professional Wisdom

Global EBP often includes EBTs and helps families decide which EBT might be the best fit. Perhaps a family with a child that has experienced severe trauma is working to decide between Trauma-Focused Cognitive Behavioral Therapy and Child Parent Psychotherapy—both of which are EBTs. In the current fiscal climate, a therapeutic approach may be offered to a family with limited latitude on the part of the agency to take into consideration multiple diagnostic possibilities and neurodevelopemental needs of the child and family. This may happen because of reimbursement restrictions, because the agency is invested in only one therapeutic approach, because clinicians are trained in a single therapeutic modality, etc. Regardless of the cause, the role of the provider is not simply to offer what the agency can provide but to think with the family about each approach, discuss what the intervention looks like in a session, the cost and who pays, relevant issues like transportation and child care, how the family feels about the proposed type of therapy (e.g., Parent-Child Interaction Therapy, Floortime, speech and language therapy), explore issues related to stigma or concerns about therapy, and to be with the family as a decision is made. It is crucial to have an understanding of whether a more affectively driven approach (Child Parent Psychotherapy) or a cognitively driven perspective (Trauma-Focused Cognitive Behavioral Therapy) provides the best neurodevelopmental match for the client and family. This process lies at the heart of informed consent.

EBP is critical for children with autism spectrum disorders. Therapeutic options might include DIR/Floortime, Applied Behavior Analysis, Discrete Trial Training, specialized speech and language (communication) therapy, occupational therapy for sensory processing and praxis, parent training, and school placements of various kinds. All have evidence to suggest effectiveness in certain circumstances. Some are listed on national and statewide lists of EBTs. How to choose? In EBP, the provider must understand the research on these options, know who is judging the studies, and how the circumstances in the published studies resemble a specific child and family. Providers work with the family to understand how they are coping and what type of program they might want. This is the critical juncture where providers offer their clinical experience and judgment about what might be a good match.

The above are abbreviated examples of EBP as an advanced, dynamic, state-of-the-art practice, far more complex and multifaceted than providing an EBT. Consider the needs of child with intrauterine malnutrition, physical abuse after birth, multiple placements, no opportunity to attach, having experienced profound neglect, and now severe developmental delays. No single EBT can address all these challenges. The commitment of the provider to think globally and developmentally about this child, work thoughtfully and respectfully with her caregivers, to share professional wisdom, and jointly create a developmentally grounded therapeutic plan is at the heart of EBP.

EBPs in Policy and Practice

EBP offers the most efficient use of limited resources in difficult economic times by flexibly matching treatments to situations, avoiding inefficient mismatches that result in poor outcomes. Given the impact of a well-documented global economic crisis on community resources and support for very young children and their families, a widespread scarcity of services and access to treatment has increasingly been a tragic shared experience. Waiting times for psychiatric consultation can be several months, dyadic psychotherapies may be unavailable in a given region, and eligibility requirements for some treatments are becoming more stringent. These diminished resources only intensify and complicate the presenting problems. The use of EBP as

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Weighing the Evidence: Evidence-Based Practice & Evidence-Based Treatments in Infant Mental Health

C. Lillas, J. Feder, J. Diel, & K. Brandt. (in press). In Infant & Early Childhood Mental Health: Core Concepts and Clinical Applications. *Arlington, VA: American Psychiatric Publishing.* The book *Infant & Early Childhood Mental Health: Core Concepts & Clinical Applications* is scheduled to be published by American Psychiatric Publishing early in 2013. With chapters authored by specialists from a wide variety of disciplines, this book will offer cutting-edge information on neuroscience, theoretical foundations, and assessment and intervention in this vital and expanding field.

a decision-making process helps providers and policymakers engage in more completely informed determinations related to multiple complex variables such as service frequency, type, access point, location, and other relevant aspects of care for the ultimate benefit of the child and family who seek assistance. Through appreciating the dynamic tension between the three strands of EBP, practitioners can help a family select developmentally appropriate and effective treatment approaches that they can embrace. Then practitioners stand the best chance of alleviation of distress and restoration of health and well-being.

EBP can exist without use of an EBT, but EBTs are sadly often delivered without being grounded in EBP. Practitioners can no longer allow the term EPB to be co-opted and used interchangeably with EBT. While the field is rich with EBTs, practitioners must remain committed to a practice that includes the best of research, the wishes and desires of the family, and the best of professional wisdom. For the sake of the children and families practitioners serve, they must safeguard and staunchly adhere to EBP as a decision-making process. It is in weighing all three forces that a practitioner can provide an individualized decision with the clear understanding that the "evidence does not make decisions, people do" (Haynes, Deveraux, & Guyatt, 2002, p. 1350).

Kristie Brandt, *CNM, MSN, DNP, has a private practice in Napa, CA, and consults and teaches internationally on children birth to 5 years old and their families. She directs the Parent-Infant & Child Institute, and is an assistant clinical professor of Pediatrics VF at the University of California, Davis School of Medicine, a Child Trauma Academy fellow, and visiting faculty with the Brazelton Touchpoints Center. She co-developed and directs the UMass Boston Infant-Parent Mental Health Fellowship in Napa, CA, authored* Facilitating the Reflective Process: An Introductory Workbook *(2009), and conducts workshops on reflective facilitation for professionals of all disciplines. In these capacities, she works to support providers in evidence-based practice through consultation, quality training, and the reflective process.*

James Diel, *MEd, holds a master's degree in community counseling from the University of Oklahoma, is a licensed marriage and family therapist, and has worked in social service and mental health service provision for nearly 20 years. He works for Aldea Children and Family Services in Napa and Solano counties as the director of Mental Health Services, and operates a private practice as a therapist. James is an active participant in program design and implementation of all of Aldea's mental health services, with special emphasis on early childhood mental health. He is a graduate of the 2010-2011 University of Massachusetts, Boston Infant-Parent Mental Health Post-Graduate Certificate Program in Napa, CA, and regularly participates in advocacy efforts on behalf of birth to 5 years populations in regional policy meetings.*

Joshua Feder, *MD, child and family psychiatrist, is the director of the Department of Research in the Graduate School of the Interdisciplinary Council on Developmental and Learning Disorders and serves as medical director at SymPlay, developing interactive technology and distance learning systems to support relationship based interventions. He is a voluntary assistant professor at the University of California at San Diego School of Medicine, and he is involved in teaching, research, and advocacy activities for family choice in evidence-based practice in psychiatry in general and specifically in Infant and Early Childhood Mental Health and Developmental Disorders. Dr. Feder can be reached at jdfeder@pol.net.*

Connie Lillas, *PhD, MFT, RN, is in full-time private practice with a specialization in servicing children birth to 5 years old and their families. As director of the Interdisciplinary Training Institute, she trains nationally and internationally in the Neurorelational Framework. Based upon her co-authored book,* Infant/Child Mental Health, Early Intervention, and Relationship-Based Therapies: A Neurorelational Framework for Interdisciplinary Practice *(Lillas & Turnbull, 2009), the Framework provides a systematic format for assessing individual neurodevelopment, clinical theories, and identifying where diagnostic categories and funding streams are weighted. As such, this Framework is useful in providing neurodevelopmental guidance for the decision-making process involved in evidence-based practice.*

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Research and Resilience

Creating a Research Agenda for Supporting Military Families With Young Children

DORINDA SILVER WILLIAMS
KATHLEEN MULROONEY
ZERO TO THREE
Washington, DC

Abstract

The decade of war since the attacks of 9-11 have meant lengthy and repeated combat deployments for millions of service members, many of whom are parents of very young children. In addition to the many challenges inherent to the deployment cycle, issues such as injury, combat stress, and the death of a service member parent are important realities that military families with young children must also contend with. This article reviews relevant studies that contribute to knowledge of how to best support military families with young children around deployment, injury, and loss. It describes ZERO TO THREE's Research and Resilience initiative, which serves as a call to researchers for continued studies specific to military families with young children.

It has been nearly a decade since military service members and their families began navigating the challenges of post 9-11 wartime deployment. As of October 2009, an estimated 2 million service members have been deployed to Iraq or Afghanistan as part of Operation Iraqi Freedom (OIF)/Operation Enduring Freedom (OEF; Tan, 2009). Many of these service members have been deployed multiple times; according to Army personnel officers, of the 513,000 soldiers deployed since 2003, more than 197,000 have been deployed more than once, and 53,000 have been deployed 3 or more times (Shanker, 2008). Some of the costs of deployment are reflected in the number of service members who have returned home injured and in the number of service members who will not be returning home at all. As of July 2010, more than 71,000 U.S. service members had been wounded during their OEF/OIF deployment, and almost 7,000 service members had been killed (icasualties.org, 2010).

As of June 2009, approximately 890,000 of the service members who had been deployed to Iraq or Afghanistan since 9-11 were parents (Ramirez, 2009), many of whom had very young children at home. According to a 2009 report (Office of the Deputy Under Secretary of Defense, 2009,), 42% of the children of active duty members are from birth to 5 years old, with more than 300,000 children age 3 years or younger. For these military parents and their families, early parent–child relationships are shaped and molded against a backdrop of separation, injury, or loss.

ZERO TO THREE established its Military Family Projects division in 2007 to support young children in military families across the US and throughout several of its international military locations. With the support of the Department of Defense, ZERO TO THREE launched its Coming Together Around Military Families® initiative which has served thousands of military and civilian providers, across multidisciplinary fields, who support military families with young children through provision of training and resource materials. The work in developing training curriculum was done using most recent trends and research known through various reports and studies. It was clear, however, that research studies—particularly those which targeted the experiences of very young children—were extremely rare.

In 2010, through support of the Iraq Afghanistan Deployment Impact Fund of the California Community Foundation, Military Family Projects launched another initiative entitled Research and Resilience. The purpose of Research and Resilience is to

promote a research agenda that specifically addresses the needs and interests of military families and their infants and toddlers. On March 24 and 25, 2011, an interdisciplinary expert workgroup was convened at the ZERO TO THREE headquarters in Washington, DC. The purpose of the meeting was the following:

- Explore research questions that would generate information and knowledge relevant to military families and their very young children.
- Share current or recent studies that addressed military family and early childhood issues.
- Discuss useful methodologies for addressing identified research questions.
- Address ethical issues in relation to facilitating research on behalf of military families and their very young children.
- Explore cultural sensitivity in relation to approaching the targeted research.
- Share challenges, as well as strategies, to facilitate the research.

A small follow-up meeting was held on May 10 to review the primary workgroup transcript and to discuss additional strategies, methodologies, and collaborative efforts to advance the research on behalf of infants and toddlers in military families. The discussions from these meetings will inform the development of written materials designed to promote continued interest in generating knowledge about the effects that circumstances of military life can have on early childhood health and development and to spur a call to action for further research efforts on behalf of young children in military families.

In this article, we aim to disseminate a thorough review of current literature from across different fields and sources which inform the work with military families with infants and young children. We will also summarize the research questions and categories that were articulated as a result of the Research and Resilience forums as a call for additional research on behalf of the youngest children in military families.

The Impact of Deployment on Today's Military Families

There has been considerable concern over the impact of extended, repeated combat deployments on military families (American Psychological Association, 2007; Chartrand & Siegel, 2007; McFarlane, 2009). Although generally regarded as a strong and resilient population (Cozza, Chun, & Polo, 2005), the military has been exposed to a gauntlet of extended, repeated deployments, the effects of which could engender destabilization or impaired functioning—even in the most robust of families. Experts, however, have encouraged temperance in drawing broad assumptions over the impact that OEF/OIF deployments might ultimately have on military families and children (Cozza & Lieberman, 2007); it is likely that the short- and long-term implications of these extended wars will be mediated and moderated by the unique balance of strengths and vulnerabilities which each individual family brings to their particular deployment events and circumstances.

Young children may be particularly vulnerable to the stressors associated with their family's deployment experience because of their limited coping skills and strong dependence on the adults in their lives. Babies and toddlers' developing cognitive capacity can limit their understanding of the deployment experience, resulting in misconceptions and internalizations of blame that can further complicate their response to incidents of deployment-related stress and loss. Furthermore, young children have neither the language nor the affective regulation skills to effectively express and regulate their strong emotions, increasing their dependence on the adults in their lives to help them manage their feelings and navigate stressful events. Separation from the military parent, as well as contextual stressors that interfere with the availability of the remaining parent or caregiver, can place a young child at risk for compromised developmental or relational outcomes or both (Cozza & Feerick, 2011; Gorman, Fitzgerald, & Blow, 2010).

Cognitive, Psychological, and Physical Health of Service Members

Exposure to the hazards of war may precipitate a wide range of physical and psychic wounds with which the service member and his family must contend against the backdrop of reunification. Observable injuries may include amputation, gunshot wounds, burns, or orthopedic damage (Kennedy et al., 2007). Less discernible, or hidden, injuries may include cognitive impairment, such as traumatic brain injury (TBI), or psychological wounds, such as posttraumatic stress disorder (PTSD; Kennedy et al., 2007), depression (Schell & Marshall, 2008), or substance abuse (Kennedy et al., 2007). In addition to TBI or PTSD, chronic pain has emerged as another deployment-related hazard that can further impair service members' health and well-being (Gironda, Clark, Massengale, & Walker, 2006).

Although any one of these injuries may constitute a significant stressor, the comorbidity of these conditions can engender additional layers of distress for the returning

Photo: Kiwi Street Studios

It has been nearly a decade since military service members and their families began navigating the challenges of post 9-11 wartime deployment.

veteran and her family. Indeed, researchers have begun to examine the potentially interactive effects of multiple injuries, or polytrauma. In their examination of TBI, PTSD, and chronic pain as a constellation of injuries, Walker, Clark, and Sanders (2010) conceptualized a new syndrome, *postdeployment multi-symptom disorder*, to capture this particular triad of symptoms which, according to the authors, may be more resistant to treatment than individual conditions. PTSD and TBI, specifically, share overlapping symptoms, including sleep disruption, impaired concentration and attending, slowed thinking, and memory difficulties (Kennedy et al., 2007). Distress from one disorder may precipitate the development of another, thereby creating a tangle of psychological and physiological outcomes, potentially more emotionally debilitating and stigmatizing than visible physical injuries (Kennedy et al.).

COGNITIVE INJURY

Every war is different, grounded in its own unique sociopolitical terrain and operational characteristics. The modern landscape of today's Global War on Terror is marked not only by the duration and repetition of deployments, but by the pervasive use of improvised explosive devices, resulting in an array of injuries including head trauma. According to data compiled by the U.S. Army Institute of Surgical Research (Okie, 2005),

Photo: Kiwi Street Studios

Although generally regarded as a strong and resilient population, the military has been exposed to a gauntlet of extended, repeated deployments.

22% of injured soldiers who have passed through the U.S. Army's Medical Center at Landstuhl Regional Medical Center in Germany have suffered wounds to the head, face, or neck. Military medical officials indicated that this number serves as a rough estimate of the percentage of service members who have experienced TBIs. The prevalence of TBIs in today's wars can be largely attributed to the use of Kevlar body armor and helmets; while this protective wear has decreased the frequency of penetrating, mortal injuries, it has been less effective in preventing closed head injuries (Okie, 2005). Consequently, many service members are surviving the blast, but contending with a range of TBI symptoms.

PSYCHOLOGICAL INJURY

From the perspective of someone working with Veterans who were injured years ago, my observation is that the primary injury rarely wrecks their lives...But the complications of psychological injury are disastrous and can be fatal.

(Shay, 2009, p. 292)

The literature is filled with studies examining the deleterious impact of combat deployment on the OEF/OIF veteran's psychological health, including PTSD (Gewirtz, Polusny, Khaylis, Erbes, & DeGarmo, 2010; Grieger et al., 2006; Kline et al., 2010; Ruscio, Weathers, King, & King, 2002; Schell & Marshall, 2008), depression (Grieger et al., 2006; Kline et al., 2010; Schell & Marshall, 2008) and substance abuse (Kline et al., 2010). In their large-scale survey of previously deployed OEF/OIF veterans, Schell and Marshall (2008) found that 14% of respondents met the screening criteria for PTSD and 14% met the screening criteria for depression. Furthermore, approximately two thirds of those with PTSD also met the screening criteria for depression. In another study, involving soldiers who were administered screenings 1 year post-deployment, the authors found that 16.6% met the screening criteria for PTSD (Hoge, Terhakopian, Castro, Messer, & Engel, 2007). In comparison to the U.S. general population's 12-month prevalence of PTSD and depression (3.5% and 6.7%, respectively), the rates of PTSD and depression in previously deployed veterans appear markedly higher.

CHRONIC PAIN

It is difficult to deal and live with constant pain...and no one can explain, cure, or decide what it is and/or what to do. My life is changed forever...I have to learn to live with pain.

(a soldier, as cited in Jennings, Yoder, Heiner, Loan, & Bingham, 2008, p. 273)

Researchers and clinicians are increasingly recognizing the role that pain can play in the veteran's post-deployment health and reintegration (Clark, Scholten, Walker, & Gironda, 2009; Gironda et al., 2006; Hoge et al., 2007; Kline et al., 2010). Gironda et al. found that, of those OEF/OIF veterans seeking treatment at a southeastern Veterans Administration medical center who had been administered a pain intensity rating scale during their initial medical visit, 46.5% reported current pain; of this subset, 59.3% reported pain that was considered clinically significant and likely to impede functional activities. Hoge et al., in their study involving post-deployment soldiers, found a strong, significant relationship between respondents' positive screening for PTSD and reported somatic symptoms, indicative of the potential layering of psychosocial stressors that can impact injured veterans and their families.

PHYSICAL INJURY

...is that a different me or is that the same me? Is that a different person than who I am now? Physically, absolutely it is, you know missing half of my body...That's the first thing that people notice. But who am I here (pointing to chest)? That's really the question I ask myself.

(a young injured service member, as cited in Messinger, 2010, p. 160)

As indicated, more than 71,000 service members have been injured as a result of their OEF/OIF deployment (icasualties.org, 2010). In addition to TBI, physical wounds can take the form of musculoskeletal injuries (Jennings et al., 2008), burns (Cancio et al., 2007), shrapnel wounds (Moriatis & Bucknell, 2010), war-related illness symptoms (Amin, Parisi, Gold, & Gold, 2010), amputation (Beltran, Kirk, & Hsu, 2010), and spinal cord injury (Goldman, Radnitz, & McGrath, 2008). These injuries can have a wide range of implications for service members and their families, potentially overlapping with, or exacerbating, additional physical and psychological symptoms (Goldman et al.; Moriatis & Bucknell). These physical wounds can affect the service member's overall sense of self (Messinger, 2010), perceptions of manhood or womanhood relating to gender roles and sexuality (Messinger), family roles (Messinger), military service roles (Jennings et al.; Messinger), and roles in the broader community (Messinger). Issues relating to dependency, efficacy, loss, wholeness, pity, and honor play into the service member's physical and emotional rehabilitation, as he and his family strive to make meaning out of a powerful, and potentially life altering, experience (Messinger).

Research on the Effect of Combat Deployment and the Military Family

All of these combat related stresses—parental deployment, injury, postcombat health consequences, and death—can have profound effects on the military family, with young children being most vulnerable.

(Cozza & Lieberman, 2007, p. 27)

Until very recently, there had been a paucity of research examining the effects of combat deployment on military families and children. Although a small number of studies involving Vietnam veterans helped to elucidate relationships between veterans' psychological injuries and maladaptive child or family outcomes (Glenn et al., 2002; Gold et al., 2007; Kulka et al., 1990; Rosenheck & Fontana, 1998), much of this research was conducted years, even decades, after the veteran's return home (Jakupcak et al., 2007), potentially limiting the interpretation and application of the studies. Furthermore, as every war takes on its own sociopolitical personality and operational demands, caution must be taken in extrapolating the experiences of Vietnam families to the experiences of today's military families, who are still immersed in the ongoing cycle of modern-day war and reunion.

Contemporary research exploring the effects of OEF/OIF deployments on the health and well-being of military families and their children is emerging rapidly. Each of the recently published studies has contributed to an evolving understanding of the complex web of risk and protective factors which mediate and moderate family outcomes. Recent findings have suggested a positive relationship between nondeployed caregiver's emotional health and child emotional health (Chandra et al., 2010; Flake, Davis, Johnson, & Middleton, 2009; Lester et al., 2010), as well as between greater total months of deployment and increased child difficulties (Chandra et al.; Lester et al.).

For young children, the caregiver's emotional well-being and life circumstances profoundly affect the quality of infant-caregiver relationships.

(Osofsky & Lieberman, 2011, p. 120)

Child and family wellness, in the context of OEF/OIF combat injury, has emerged as an area of focus in military research. In a study by Cozza et al. (2010), the authors examined child outcomes, within several domains, in 41 families whose service member had been combat injured and hospitalized at a military tertiary care treatment center, which is a highly specialized medical center with the most cutting-edge and sophisticated technology and highly skilled personnel. Using spouse perceptions of the children's distress, the authors found a positive relationship between high pre-injury deployment-related family distress and high child distress post-injury. In addition, the authors found a positive association between high family disruption post-injury and high child distress. After controlling for pre-injury deployment-related family distress, the authors found no relationship between injury severity and high child distress. These findings underscore the role that contextual family stress can play in a child's response to adverse circumstances and the importance of promoting family emotional health as a means of fostering child resilience.

Photo: Kiwi Street Studios

Very young children grow and develop in the context of a relationship, sensitive to the moods and responses of their primary caregivers.

Injury communication has emerged as an important area of focus for professionals working on behalf of families and children affected by combat injury. Injury communication relates to fostering appropriate, helpful communication patterns among both family members and community professionals and providers, in an effort to facilitate an ongoing understanding of the military parent's injury and associated issues (Cozza, 2009; Cozza & Guimond, 2011 as cited in Cozza & Feerick, 2011). Injury communication, as it specifically relates to the needs of very young children, is embedded in the use of developmentally appropriate language that conveys information which is neither too limited nor too excessive in its breadth and depth. Professionals can support parents and caregivers in considering their child's evolving understanding and perception of the family's situation, as well as to tailor their ongoing communication about the injury in a way that is emotionally sensitive and developmentally informed (Cozza & Guimond, 2011 as cited in Cozza & Feerick, 2011).

Psychologically Injured Veteran Parents and Their Children

The budding military family research is also beginning to capture the experiences of families who are negotiating the normative stressors—as well as the complications—of postdeployment reintegration. Although still sparse, these new studies specifically address the effects of service member psychological injury on family and child outcomes (Gewirtz et al., 2010; Gorman et al., 2010; Lester et al., 2010; McFarlane, 2009; Sayers, Farrow, Ross, & Oslin, 2009). In a cross-sectional study by Sayers et al., involving OEF/OIF veteran men and women who had been referred by their primary care physicians for a behavioral health evaluation, the authors found an association between veteran's depression or PTSD and higher probability of feeling like a guest in one's home. Furthermore, of those respondents with children, there was an association between the veteran's PTSD and a perception of the veteran's children acting afraid of, or not warm toward the veteran. In another important new study, focusing on the contemporaneous relationship between OEF/OIF veterans' psychological health and their children's psychological health, the authors (Lester et al.) found that the veteran parent's PTSD symptoms predicted a range of child outcomes, including both internalizing and externalizing behaviors. Most recently, Gewirtz et al. completed a longitudinal study, following a group of National Guard soldiers

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For a child who is enveloped in the ongoing care of a responsive, attuned parent, the soothing ministrations of her caregiver can buffer the impact of stressful experiences and events.

from in-theater status through 1-year post-deployment. The authors found both direct and indirect relationships between the veteran parent's PTSD and family functioning, including maladaptive parenting behaviors. These, and other issues, are mirrored in Gorman and colleagues' conceptual model of the myriad of theoretical pathways, including actual injury, individual factors, dyadic factors, contextual factors, and family dynamics, through which veteran parental injury—both visible and invisible—may influence the social–emotional health and development of a very young child. Testing is warranted to examine the network of variables that undergird this intricate theoretical model.

Parental Brain Injury and Children

I basically just feel sad because he's there physically. I suppose I've still got a Dad but he's not my Dad. It's not like I remember him, he has a total personality change, this is not my Dad.

(12-year-old child of a parent with acquired brain injury, as cited in Butera-Prinzi & Perlesz, 2004, p. 89)

Although there is little, if any, research specifically relating to the impact of veteran parents' deployment-related TBI on their children, some information can be mined from the extant, albeit limited, literature on parental brain injury in the civilian community (Butera-Prinzi & Perlesz, 2004; Ducharme & Davidson, 2004). These studies capture the wide range of symptoms which parents, to varying degrees, may experience as they attend to the physical and emotional needs of their children. These symptoms—including anger control issues, impulsivity, depression, disorganization, reading impairment, memory impairment, headaches, fatigue, and vision problems—are not easily reconciled with the inherently demanding tasks of parenting, creating additional layers of physical and psychological fatigue that can compromise family functioning (Ducharme & Davidson). In Butera-Prinzi and Perlesz's qualitative study, the authors discovered several emerging themes relating to children's experiences of their parents' acquired brain injuries, including the following: the perceived "loss" of the injured parent; the decreased availability, or secondary loss, of the noninjured parent, who is likely experiencing her own distress and tending to the needs of the injured parent; coping with, and reconciling, changes in the injured parent, including diminished parenting competency and difficult behaviors; secondary losses in other areas of life, including compromised availability of support systems; and complex emotions, such as sadness, embarrassment, guilt, ambivalence, anger, and frustration. In spite of these complicated and painful family dynamics, it should be noted that the children in this study also demonstrated positive coping skills and resilience, attributed partly to the buffering presence of their grandmothers, who appeared to moderate the impact of the injury on the children's emotional health and well-being (Butera-Prinzi & Perlesz).

Parental Chronic Pain and Children

Although no literature was found specifically relating to military parents with chronic pain, rich information could be pulled from the research investigating parental chronic pain in the general population. In a study by Evans, Shipton, and Keenan (2005), the authors found that mothers with chronic pain experienced more difficulties in a range of outcomes related to physical health, mental health, coping capacity, family environment, and parenting tasks, than did mothers without chronic pain. The authors indicated that mothers' mental health and psychosocial difficulties predicted compromised parenting efficacy. In another study, Evans and Keenan (2007) found that children of mothers with chronic pain experienced more painful body sites, increased sickness behavior, more anxiety, and worse parent-reported health than did children in a control group. In addition, the children of fathers with chronic pain experienced more externalizing behaviors than did control group children. Evans, Keenan, and Shipton (2007) further addressed the implications of parental chronic pain in their study involving children 6 to 12 years old and their mothers. The authors found that children in the maternal chronic pain group had more internalizing behaviors, externalizing behaviors, insecure attachment, social difficulties, and health difficulties than did children in the control group. These findings, along with the findings of Evans and Keenan, intimate a potential intergenerational transmission of compromised wellness from parent to child. Taken as a whole, the parental pain literature suggests the importance of comprehensive programs and services which attend both to the physical and emotional needs of the parent and to the integrity of the parent–child relationship.

MALTREATMENT RISKS

Because of the self-referential cognitive frame of early childhood, young children tend to believe that only their own behavior or intrinsic badness could explain the parent's punitive or violent behavior.

(Lieberman & Van Horn, 2008, p. 22)

Parental stress has been identified as a risk factor in child maltreatment (Hillson & Kuiper, 1994 as cited in Gibbs, Martin, Kupper, & Johnson, 2007). The repeated, extended OEF/OIF deployments have been widely recognized as a potential source of severe and chronic stress for military families (American Psychological Association, 2007; Flake et al., 2009; National Military Family Association, 2005), possibly increasing the risk for increased child abuse and neglect in those families. Nonetheless, the research on military child maltreatment during the OEF/OIF conflicts has yielded somewhat uneven data—perhaps speaking to the ongoing tension

between risk and resilience, as experienced by a community under severe and chronic stress.

In their study of families of enlisted soldiers in the U.S. Army who had at least one substantiated report of child maltreatment, Gibbs and colleagues (2007) found a higher overall rate of child maltreatment when the active duty parents were deployed (42% higher) than not deployed. In another study, the rate of substantiated maltreatment in military families within the state of Texas approximately doubled on or after October 1, 2002, as compared to before October 2002 (Rentz et al., 2008).

In a 2008 study by McCarroll, Fan, Newby, and Ursano, the authors examined the rates of child maltreatment, as entered in the Army Central Registry in U.S. Army families from 1990 to 2004, a period in which two major U.S. Army deployments to the Middle East took place (1990–1991 and 2001 to the present). The authors found that, from 1990–2004, the rate of child physical abuse in the U.S. Army decreased by 65% (in comparison to a 40% decrease in child physical abuse within the U.S. national society). During this same time period, the rate of neglect increased in 1991. From 2000 to 2004 the rate of neglect increased by 40%, reaching its highest point in 2004. The data suggests divergent trends, with physical abuse going down and neglect going up during the period under study. Additional research is needed to capture additional data over time and, perhaps, elucidate the factors that undergird these relatively unexpected findings.

According to the Office of the Deputy Under Secretary of Defense, Military Community and Family Policy (2009), the rate of child abuse and neglect, both reported to and substantiated by the Family Advocacy Program, the agency tasked with addressing military family abuse and neglect, has decreased from fiscal year 2000 to fiscal year 2009. The rate of reported child abuse and neglect per 1,000 children decreased by 18.3%; the rate of substantiated child abuse and neglect per 1,000 children fell by 31.8% during this 2000–2009 time period. The declines have been tentatively attributed to a number of possible factors, including effective prevention services, family members returning to their home of record during the active duty member's deployment, the overall effects of the deployment of military service members during OEF/OIF, or a combination of the aforementioned.

FOSTERING RESILIENCE

Even so, since the course of subsequent development is not fixed, changes in the way a child is treated can shift his pathway in either a more favorable direction or a less favorable one (Bowlby, 1988, p. 136).

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Exposure to the hazards of war may precipitate a wide range of physical and psychic wounds.

In their introductory article to a 2010 issue of *Child Development*, devoted entirely to disasters and their effects on children, editors Masten and Osofsky heavily emphasized the role of promotive and protective factors in safeguarding healthy developmental outcomes in the face of extreme adversity. These factors, including caregiving quality (Masten & Osofsky), level of exposure to post-trauma difficulties, and socioeconomic conditions (Klasen et al., 2010) may serve as buffering or deleterious agents, depending on how they play out in the child's recovery environment. In a study focusing on children's adjustment following the 2007 Kenyan political conflict (Kithakye, Morris, Terranova, & Myers, 2010), the authors found a relationship between the children's emotional regulation and postconflict outcomes, specifically less aggression and more prosocial behavior. For babies and toddlers, who do not yet have the capacity to regulate themselves, these findings underscore the need for sensitive, attuned caregivers who can support their children in developing their self-regulation skills—even, and perhaps especially, in the face of adversity.

The Unique Needs of Young Children

In every nursery there are ghosts. They are the visitors from the unremembered past of the parents, the uninvited guests at the christening.

(Fraiberg, Adelson, & Shapiro, 1975, p. 387)

Young children may be particularly vulnerable to situations or events which create shifts in family functioning. Very young children grow and develop in the context of a relationship, sensitive to the moods and responses of their primary caregivers. Attachment theory is predicated on the notion that babies who are feeling safe and secure, assured that their core needs are being met, are able to focus their energies on their developmental tasks. In this respect, parents who provide consistent, attuned caregiving are able to serve as a secure base from which their children may venture forth and explore their world, knowing that a trusted, protective caregiver awaits their return. From these earliest experiences and interactions, babies draw meaning about themselves and others, shaping the lens by which they view the world. These internalized representations, or working models, can have lasting implications, affecting how that child will navigate ongoing relationships and experiences across his developmental lifespan.

Early childhood is a period of tremendous opportunity and vulnerability, in which the mapping of the brain and nervous system is profoundly impacted by environmental factors, including the quality of the caregiving milieu. Biological substrates become overlaid with relational experiences, creating complex patterns of neurophysiological wiring, which are heavily influenced by everyday activities and interactions. In this respect,

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Parenting young children in the context of trauma, loss, and chronic injury can exacerbate normative parenting stressors.

early experiences, mediated and moderated by parents and caregivers, help structure the very architecture of the brain (Schechter et al., 2004; Siegel, 1999; Cicchetti, as cited in Toth, Rogosch, Sturge-Apple, & Cicchetti, 2009).

Very young children, whose immature physiological systems are still under development, rely heavily on their caregivers for affective modulation and containment. A parent who is able to hold her child's affect, responding contingently and sensitively to her child's emotional state, can, over time, facilitate the child's capacity to attend to, and regulate, his own internal states (Siegel, 1999; Tronick, 1989). In this respect, parent and child are able to co-construct an affective template which, once integrated, will help the child to negotiate his emotional response to ongoing experiences and events.

For a child who is enveloped in the ongoing care of a responsive, attuned parent, the soothing ministrations of her caregiver can buffer the impact of stressful experiences and events, thereby safeguarding the child's optimal developmental trajectory. On the other hand, for a child whose parent is struggling with, or immersed in, his own distress, the effects of stressful experiences on that child may be complicated, even exacerbated, by her caregiver's compromised capacity to respond. Parents who are experiencing chronic stress or psychological impairment may be at risk for becoming less emotionally available to their children, thereby creating a pattern of relational rupture and compromised repair. For these families, the invisible line between normative and toxic stress may become blurred, threatening the integrity of the parent–child relationship and, ultimately, the health and well-being of the child.

There is robust literature explicating the relationship between parental depression and early childhood outcomes. The authors of the extant research have examined the deleterious effects of maternal depression in relation to a wide range of short- and long-term implications, including parent–child attachment (Eiden, Edwards, & Leonard, 2002; Toth et al., 2009), children's affective regulation (Maughan, Cicchetti, Toth, & Rogosch, 2007), children's temperament (Eiden et al., 2002; Toth et al., 2009), children's cognitive functioning (Cicchetti, Rogosch, & Toth, 2000), children's perceptions of competence (Maughan et al., 2007), and adolescents' depressive symptomatology (Duggal, Carlson, Sroufe, & Egeland, 2001). Early childhood vulnerability to parental distress is further underscored in a study by Toth et al. (2009), in which the authors emphasized increased risk associated with early, versus later occurring, maternal depression. The authors theorized that because of the rich, exponential growth that occurs in the areas of cognitive, emotional, and neurobiological functioning during the period of early infancy, young babies may be particularly susceptible to compromised caregiving and its potential impact on developing neurobiological structures.

Although there is extensive literature focused on maternal depression, there is a scarcity of research specifically addressing paternal depression in relation to child and family outcomes. Nonetheless, the studies that do exist are compelling, warranting further examination of an issue which has become increasingly relevant in a post-modern society, marked by changing and expanding parental roles. In a study by Huang and Warner (2005), the authors validated paternal depression as a true phenomenon, indicating that, following the birth of their children, fathers experienced depression at rates ranging from 6.6% to 19.0%. Furthermore, the authors found that rates of paternal depression may fluctuate by father's relationship status with the mother. Additional research has generated findings suggesting relationships, direct or indirect, between parental depression and children's prosocial challenges, children's peer behavioral difficulties (Davé, Sherr, Senior, & Nazareth, 2008), and fathers' weakened involvement with their children (Roggman, Boyce, Cook, & Cook, 2002). Using a wider lens to explore the relational implications of paternal emotional health and well-being, Buist, Morse, and Durkin (2002) found a relationship between elevated paternal distress and suboptimal father–child attachment.

The early childhood literature is rich with research and theory exploring the potential effects of relational trauma on adult parental capacity (Lyons-Ruth & Block, 1996; Schechter et al., 2004; Schwerdtfeger & Goff, 2007). Attachment theory has been used to explicate the almost untenable relationship between extreme parental distress, emanating from early interpersonal trauma, and the tender, attuned responsiveness that is essential to forming secure parent–child attachments. Indeed, Main & Hesse (as cited in Lyons-Ruth & Block) theorized that a mother's perpetual state of fear, grounded in her own interpersonal trauma, could bubble up in the form of frightened, or frightening, behaviors in relation to her child, placing the child in the paradoxical position of running toward and running from the parent who is, at once, the source of both his comfort and his distress.

Although the literature relating to relational trauma is expansive, there are few studies which examine the relationship between adult-occurring trauma and early childhood parenting. In one such study involving adult survivors of partner abuse, Lieberman, Van Horn, and Ozer (2005) found that maternal PTSD predicted children's behavioral difficulties. However, the PTSD could not specifically be attributed to adult

occurrences of domestic violence, versus earlier occurring traumatic life events. More recently, Lieberman and Van Horn (2008) addressed the deleterious effects of adult domestic violence on the emerging parent–child relationship, describing interactions between mothers and their young children, whom the mothers associated with their abusive partners. The children, in effect, became transference objects, unwittingly evoking strong, negatively charged emotions in their mothers—engendering a troubling cycle of noncontingent responsiveness in the caregiving system. This concept of the child serving as a trigger is echoed in a descriptive study of Vietnam veteran families by Matsakis (1988), in which the author vividly captured the phenomenon of children serving as reminders of their parents' experiences or unresolved feelings about the war.

Parenting young children in the context of trauma, loss, and chronic injury can exacerbate normative parenting stressors, potentially engendering a caregiving system that is bathed in the parent's loss and recovery. For the OEF/OIF veteran parent who is negotiating hidden injuries related to neurological and psychological trauma, the demands of parenting may weigh particularly heavy on her shoulders. For the youngest child, who still lacks the cognitive capacity to understand and make sense of an intangible, invisible injury, the meaning he attributes to his parent's altered behavior may be distorted or internalized (Gorman et al., 2010), further jeopardizing the quality of the emerging parent–child relationship. Research is needed to identify and investigate programs and interventions which not only target the veteran parent's symptoms but foster relational growth and resilience in the context of parental injury.

What About the Babies?

While there appears to be a growing groundswell within the research community to investigate the impact of combat deployments on military families and children, the voice of the youngest child remains largely silent. In a study by Chartrand, Frank, White, & Shope (2008), involving children from 1½ to 5 years old enrolled in child care centers on a Marine base, the authors found that children 3 years or older who had a deployed parent had higher reported behavioral problems than did children in that age group without a deployed parent. Curiously, children younger than 3 years with a deployed parent were not reported as having more difficulties, a finding which the authors theorized could be attributed to the primacy of the mother–child early attachment bond and its buffering effect on the stress of deployment.

Additional literature emphasizing the unique needs and vulnerabilities of the youngest child in the context of deployment has emerged (Arata-Maiers & Stafford, 2010; Cozza & Lieberman, 2007; Gorman & Fitzgerald, 2007; Gorman et al., 2010; Mogil et al., 2010; Williams & Rose, 2007; Yeary, 2007). However, most of this literature has been circumscribed to theoretical explications and awareness-raising, elucidating pathways to early childhood research that have yet to be traveled. Additional studies investigating the complex interplay of variables that moderate or mediate the effects of complicated military deployment, as well as efficacy studies which endorse evidence-based practices that foster early attachment and safeguard early childhood health and well-being, are warranted.

Research Questions

The participants in the Research and Resilience discussions articulated several research questions, methodologies, and recommendations to promote a call for new research. The following research questions emerged from the group:

1. How do services, as well as perception of services, influence parenting and outcomes for babies in military families?
2. What strategies and strengths are military families using which support positive early childhood development?
3. How does deployment affect parental health behaviors during the period from prenatal through age 3 years? (pre- and postnatal health risks of particular focus)
4. What policies and practices would redress the costs of separation (e.g., developmental regressions/delays, impact on relationships/attachment) on young children in military families?
5. What is the quality of social–emotional development of children from birth to 3 years old in military families (looking especially at attunement and parental sensitivity to child's strengths and needs)? Participants articulated the benefits of collecting data on these social–emotional constructs from military families in order to compare findings within the military population, as well as between the military and nonmilitary populations.
6. What is the cognitive–language development of children from birth to 3 years old in military families?
7. What is the prevalence of children from birth to 3 years old with special needs in military families?

In regard to suggested methodologies, there was consensus on the strong need for collaboration in approaching research, including the use of existing data sets for multiple research efforts. The participants recommended that, in this same spirit of collaboration, it is important that researchers convene across disciplines to develop new studies. Qualitative, quantitative, and mixed-methods approaches were recommended as well as gathering data with a range of instruments, including psychophysiological measures, narration, and journaling. Separate and mutual methodologies for both intervention and evaluation research needed to be identified. Methodologies and measures need to be culturally sensitive, including knowledge and sensitivity to military culture, policies, and practices.

The Research and Resilience group recommended the following considerations and strategies as a call to action for interested researchers:

- Explore existing data
- When possible, couch or include data within support services
- Explore community participatory approach—raising awareness of special circumstances of today's military families with young children, fostering community and engaging both military and civilian communities, and encouraging investment in research.
- Increase familiarity with, and sensitivity to, military culture and the diversity within military cultures.
- Recognize the need and importance of program evaluation components and consider building these in for all new program efforts.
- Work collaboratively across disciplines, using military and civilian expertise.
- Contextualize research within the context of military life—consistent with mission for optimal support from command.
- Identify and specify the public health implications of research for babies and toddlers and their families.

The "call to action" (Arata-Maiers & Stafford, 2010, p. 22) to the research community provided an important opportunity to promote resilience, through research, in babies, toddlers, and families.

Dorinda Silver Williams, *MSW, LCSW-C, is the director of Military Family Projects at ZERO TO THREE. As a licensed clinical social worker, she has worked primarily with the military population and has experience as well with early childhood parent education, home*

visitation, and family violence. Ms Williams was one of the seminal staff responsible for the creation, implementation, and expansion of Coming Together Around Military Families® ZERO TO THREE initiative supported by the U.S. Department of Defense. Ms. Williams headed the research division at Military Family Projects and is responsible for implementing the Research and Resilience initiative.

Kathleen Mulrooney, *MA, LPC, is the associate director of Military Family Projects at ZERO TO THREE. She is a licensed professional counselor with more than 25 years of clinical, training, and supervisory experience, specializing in infant and preschool mental health. She was among the original cadre of consultants to the Coming Together Around Military Families® initiative in 2007 and now works full time with Military Family Projects providing training and consultation throughout the US and its territories in support of military families with young children.*

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Field Notes

ZERO TO THREE Fellows share news and information about research, policy, and practice innovations in their work with infants, toddlers, and families.

BABIES Learning Collaborative: Preparing Early Intervention Professionals to Work With Infants With Special Health Care Needs

Joy V. Browne, University of Colorado Anschutz Medical Campus, Aurora, Colorado; Queen's University School of Nursing and Midwifery, Belfast, Northern Ireland

Ayelet Talmi, University of Colorado Anschutz Medical Campus and Children's Hospital Colorado, Aurora, Colorado

Fragile newborns and infants who are born with a likelihood of lingering health or developmental concerns require specialized assessment and intervention that is based on their unique developmental needs. This growing population of vulnerable babies requires that there is specialized training to prepare professionals to evaluate, intervene, and support the infants' unique fragility and emerging developmental competencies. Emerging evidence points to the lack of state of the art educational preparation for professionals who interact with these infants and their families and also to the complexity of working with the population.

To meet this need, we collaborated with Early Intervention Colorado and the State Department of Public Health and Environment to develop the BABIES Learning Collaborative, a statewide training program to prepare early interventionists and community providers to address the complex needs of newborns, young infants, and their families after discharge from the hospital or after initial identification in the community. The learning collaborative is comprised of transdisciplinary professionals (e.g., early intervention providers, public health nurses, service coordinators, infant and early childhood mental health providers, supervisors, and program administrators) who provide early intervention services to babies with special health care and developmental needs and their families.

The 1-year learning collaborative includes in-depth training modules for each of the components of the BABIES Model (Browne and Talmi, 2008). The BABIES Model details developmental steps of newborns and young infants from birth to 6 months old across six domains: Body Functions, Arousal and Sleep, Body Movements, Interaction with Others, Eating, and Self-Soothing.

Guided practicum experiences for mid-level professionals prepare them specifically in areas of assessment and intervention that address the needs of babies and young children with special health care needs and their families during a particularly vulnerable time: transition to home after birth or hospitalization. Facilitators provide case-based learning and opportunities for integration and reflection during training sessions. Providers bring videotapes from their own work with families to discuss during training sessions. Training faculty provide ongoing technical assistance, facilitated monthly discussions, and reflective opportunities.

Participating in a learning collaborative training experience, cohorts of highly skilled professionals gain competence in providing services to families of young children with complex circumstances, ultimately building a skilled statewide workforce and a more integrated system of care. Such a system of care includes identifying, assessing, coordinating services, and providing developmental supports for newborns, infants, and young children with special health care needs and their families. The vision of providing ongoing professional preparation to enhance infant and family outcomes can be a realized when state systems and organizations recognize and support the specific needs of the most fragile of these vulnerable babies. The BABIES Learning Collaborative is a unique educational program that provides current evidence-based knowledge and application to clinical practice. The program emphasizes concepts from neurobehavioral development, special education, health care, and socioemotional development to provide a solid foundation for working with babies with special health care and developmental needs and simultaneously creates a highly trained early childhood workforce.

Browne, J. V., & Talmi, A. (2008). *BABIES manual.* Aurora: Center for Family and Infant Interaction, University of Colorado School of Medicine.

The *Life Skills Progression*: Documenting Family Outcomes on a National Scale

Linda Wollesen, Life Skill Outcomes, LLC

Sandra Smith, Center for Health Literacy Promotion, Seattle WA; University of Washington, Health Services Department

Life Skills Progression™ *(LSP): An Outcome and Intervention Planning Instrument for Use With Families at Risk* was created by Linda Wollesen and Karen Peifer to provide the evidence basis for the effectiveness of (a) home visitation programs serving at-risk families with children from birth to 5 years old. It is used in 21 states by various models and statewide systems. The 43-item instrument enables home visitors to monitor Relationships/Parenting, Education/Employment, Health

Care, Mental Health/Substance Use, Basic Essentials, and Child Development. Home visitors can obtain training in how to administer the scales from the author, the publisher (Brookes On Location), and trainers from the national Parents as Teachers home visitation program. The LSP allows home visitors to collect and manage data electronically through PC software or on-line data entry across a wide range of life skills to demonstrate the effectiveness of their services.

The purpose of the LSP is to:

- Profile service population characteristics for individual parent/child/family, caseload and cohort at baseline/intake, 6-month increments, and closure
- Produce evidence-based outcome data to demonstrate progress (to) for Mother Infant Early Childhood Home Visitation Program (MIECHV) benchmarks
- Demonstrate family progress toward adequate to optimal skills (called a "target range")
- Identify parent and child strengths, needs, progress, regression, and goals for collaborative reflective practice and intervention planning
- Compare different service population outcomes
- Help link outcomes to practice elements (e.g., number of visits, months of service, intervention models, staffing, curriculum)
- Support multiple-variable data analysis (e.g., functional health literacy)

AFFORDABLE CARE ACT BENCHMARKS

The Maternal, Infant, Early Childhood Home Visitation Program (MIECHV) mandates that grantees engage in data collection for each of six benchmark areas to demonstrate the effectiveness of the home visiting programs. In 2011, because of the frequent use of the LSP to measure benchmarks, the federal Health Resources and Services Administration released the *Life Skills Progression Brief: Information and Guidelines for Use in Meeting MIECHV Benchmarks* (Ryan & Filene, 2011) to help home visitors use the LSP to document progress in meeting the federally mandated benchmarks.

RESEARCH

In a 2011 study (Smith & Moore, 2011) of more than 2500 parents, data from the LSP demonstrated that parents in home visitation programs achieved significant improvement in managing health and health care. Lower functioning parents, those with lower estimated reading levels, and depressed mothers made the greatest gains.

Data from the LSP has shown statistically significant outcomes exists across the evidence-based home visiting models that were represented in areas such as the use of health care, information and resources, and developmental support. We are on the threshold of being able to refine baseline characteristics of at-risk families and their improved life skills (such as education and employment), and to demonstrate the health care cost benefit of home visitation.

Ryan K., & Filene J. (2011). *Design Options for Home Visiting Evaluation Life Skills Progression Brief: Information and Guidelines for Use in Meeting MIECHV Benchmarks.* Retrieved from www.mdrc.org/dohve/LSP_Brief.pdf

Smith, S. A., & Moore, E.J. (2011). Health literacy and depression in the context of home visiting. *Maternal and Child Health Journal.* Available as ePub ahead of print at www.springerlink.com/content/kh50033h81681j11/fulltext.pdf

Wollesen, L., & Peifer, K. (2006). *Life Skills Progression: An outcome and intervention planning instrument for use with families at risk.* Baltimore: Brookes.

ZERO TO THREE Announces 2012 Class of Leaders for the 21st Century

ZERO TO THREE is pleased to announce the **2012 Class of Leaders for the 21st Century Fellows**. The Fellowship program has been in existence since 1981 and now has a national and international network of more than 265 Graduate Fellows representing a broad diversity of disciplines and sectors whose work impacts the health, development, mental health, education, and well-being of infants, toddlers, and families. The goal of the Fellowship program is to support the career advancement of emerging and current leaders across multiple disciplines and to expand their knowledge of infant–toddler research, practice, and public policy. The Fellowship experience provides intensive mentoring, leadership development, public policy and advocacy training, media training, networking, and the opportunity to establish lifelong, collaborative, and rewarding professional relationships.

The 10 Fellows in the 2012 class were selected through an intensive review process from a competitive pool of applicants. The new Fellows represent five different disciplines including psychology, child development, psychiatry, social work, and early childhood special education. All Fellows will implement a project related to their work with ongoing guidance and support from ZERO TO THREE Board members, staff, Graduate Fellows, and other experts. In addition, Fellows have an opportunity to engage with a ZTT program or project that is related to their professional interests.

For more information regarding the Fellowship program please visit our Web site at www.zerotothree.org/about-us/funded-projects/fellowship/ or contact Lynette Aytch, PsyD, Director, Leadership Development Initiative, ZERO TO THREE: National Center for Infants, Toddlers & Families, 1255 23rd Street, NW, Suite 350, Washington, DC 20037, laytch@zerotothree.org (202) 857-2967.

Elizabeth Bicio, LSCW
Program Manager, Early Childhood Consultation Partnership, Advanced Behavioral Health, Inc., Middletown, Connecticut. Interest Area: *Develop and operationalize a comprehensive set of evidence-informed prevention and early intervention strategies for infants and toddlers*

Jean Clinton, MD
Child Psychiatrist, Offord Centre for Child Studies, McMaster University & Children's Hospital, Hamilton, Ontario, Canada. Interest Area: *Creating a population health measure of developmental health at 18 months of age*

Lauren Franz, MBChB, MPH
Child Psychiatry and Global Health Fellow, Duke University Medical Center, Durham, North Carolina. Interest Area: *Cross-cultural, developmentally sensitive adaptation of an autism diagnostic tool*

Sarah Gray, MA
PhD candidate in Clinical Psychology, University of Massachusetts Boston, Boston, Massachusetts. Interest Area: *Targeting parent insight in young children's trauma exposure*

Sherryl S. Heller, PhD
Associate Professor, Tulane University, Institute of Infant & Early Childhood Mental Health, New Orleans, Louisiana. Interest Area: *Reflective supervision and reflective functioning*

Nucha Isarowong, LCSW
Early Intervention Social Emotional Specialist and Evaluator, PhD candidate in Social Work, School of Social Service Administration, University of Chicago, Chicago, Illinois. Interest Area: *Building professional interdisciplinary collaboration to support positive infant, toddler, and family outcomes in the Illinois early intervention program*

LaShawnda Lindsay-Dennis, PhD
Assistant Professor of Education, Paine College, Augusta, Georgia. Interest Area: *Project AMPP (Adolescent Mothers Preparing for Parenthood)*

Evelyn Brooks Ridgeway, PhD
Child Development and Mental Health Manager, Early Head Start Program at Children's Hospital of Philadelphia, Philadelphia, Pennsylvania. Interest Area: *Making infant mental health accessible to African-American church leadership*

Amy C. Thomason, PhD
Assistant Professor of Education, Elizabethtown College, Elizabethtown, Pennsylvania. Interest Area: *Building collaborative relationships to support the development of self-regulation in infants and toddlers*

Robin A. Wells, PhD
Associate Professor of Special Education, Eastern New Mexico University, Portales, New Mexico. Interest Area: *Identification, planning, and quality support for Native American families, infants, and toddlers in New Mexico*

UPCOMING ISSUES

May: Parenting From a Distance
July: Stories From the Field—2012
September: Understanding School Readiness for Infants & Toddlers

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To provide a forum for thoughtful discussion of important research, practice, professional development, and policy issues in the multidisciplinary infant, toddler, and family field.

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We are a national, nonprofit organization that informs, trains and supports professionals, policy makers and parents in their efforts to improve the lives of infants and toddlers.

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