Wraparound has always had implicit associations with various psychosocial theories (Burchard, Bruns, & Burchard, 2002; Burns, Schoenwald, Burchard, Faw, & Santos, 2000); however, until recently only preliminary efforts had been undertaken to explain in a thorough manner why the wraparound process should produce desired outcomes (Walker & Schutte, 2004). Using the foundation supplied by the specification of the principles (Bruns et al., 2004) and practice model (Walker et al., 2004) of wraparound, the National Wraparound Initiative (NWI) has proposed a more detailed theory of change to describe how and why wraparound works.

Figure 1 (see following page) provides an overview of this theory. Beginning at the left, the figure illustrates how, when wraparound is “true” to the principles and practice described by the NWI, the result is a wraparound process with certain characteristics. Moving across the figure to the right, the various boxes summarize the short-, intermediate- and long-term outcomes that are expected to occur. The figure illustrates with arrows several “routes” by which the wraparound process leads to desired outcomes.

It is important to remember, however, that this figure is a highly simplified representation of an extremely complex process. The various routes to change described here are not independent. They interact with and reinforce one another. Furthermore, the changes that emerge as a result of wraparound do not come about in a linear fashion, but rather through loops and iterations over time. Thus, an intermediate outcome that apparently emerges from one of the various “routes” may stimulate or reinforce a short-term
A wraparound process characterized by:

- High-quality planning and problem solving
- Respect for values, culture, and expertise
- Blending perspectives, collaboration, family-driven, youth-guided goals
- Opportunities for choice and decisions
- Evaluation of strategies
- Recognition and celebration of success

Short-term outcomes:
- Follow-through on team decisions
- Service/support strategies that "fit"

Intermediate outcomes:
- Increased self-esteem, optimism, self-efficacy, and coping
- Program-specific outcomes, achievement of team mission

Long-term outcomes:
- Stable, home-like placements
- Improved mental health outcomes (youth and caregivers)
- Increased assets, improved resilience and quality of life

Phases and Activities of the Wraparound Process

Ten principles of the Wraparound Process

Figure 1. A Theory of Change for Wraparound: Overview
outcome that promotes changes through a different route. Finally, because wraparound is a highly individualized process, the various “routes” to change outlined here will operate to a different extent with different families and youth. After discussing the characteristics of the wraparound process and the main theoretical routes or mechanisms of change, we will offer some specific examples of this complexity.

**Process: Effective, Value-Driven Teamwork**

The theory assumes that, when wraparound is undertaken in accordance with the principles and the practice model specified by the NWI, the result is an effective team process that capitalizes on the expertise and commitment of all team members while also prioritizing the perspectives of the youth and family. Various strands of research provide a rationale for why this should be the case.

Research on teamwork across many different types of contexts provides strong evidence about what makes teams likely to be effective in reaching the goals they set for themselves. Specifically, a team is more likely to be successful when team members have decided on an overall, long-term goal or mission for the team (Cohen, Mohrman, & Mohrman, 1999; West, Borrill, & Unsworth, 1998), and when team members have clearly defined a set of intermediate goals specifying the major strands of activity that need to be undertaken to reach the long term goal (Latham & Seijts, 1999; Weldon & Yun, 2000). With this goal structure in place, effective teams work carefully to choose strategies for reaching the intermediate goals.

It is crucial that teams structure strategy selection deliberately, and that team members consider several different strategies before choosing one (Hirokawa, 1990; West, Borrill, & Unsworth, 1998). Research on collaborative problem solving clearly shows that groups and teams have a propensity to jump to strategies and solutions too quickly, without considering a range of options. Generating several options before choosing one is important for at least two reasons. First, options that are generated first tend not to be of as high quality as those generated subsequently; and second, the process of generating options helps team members gain a clearer understanding of the “problem” to be solved. Working through options in this manner enables groups and teams to be more creative and competent than individuals working separately at solving complex problems (Hirokawa, 1990; O’Connor, 1998; West, Borrill, & Unsworth, 1998).

Once strategies have been selected, effective teams set and use clear, objective criteria for judging whether or not the strategies are helping the team reach its goals (Cohen & Bailey, 1997; DeNisi & Kluger, 2000). Using these criteria, the team can then monitor whether or not a strategy is working, and can replace unsuccessful strategies with different ones. Finally, team effectiveness is also enhanced when teams acknowledge and celebrate success (Latham & Seijts, 1999).

The NWI’s practice model for wraparound (Walker et al., 2004) prescribes activities consistent with the elements of effective teamwork described above. Teams must develop a team mission or family vision for the future (long-term goal) and prioritize a small number of needs or goals (intermediate goals) to work on. They generate options and select strategies, which they monitor regularly using indicators of success. When strategies are not working, teams are to select and then monitor different strategies. The principles of wraparound (Bruns et al., 2004) add further expectations to the process of developing goals and strategies. For example, the principles specify teams should focus on developing community- and strengths-based strategies for the plan. These criteria are specific to wraparound (as compared to teams generally), but are easily accommodated within a framework of practices associated with effective teamwork.

Not surprisingly, there is more to team success than simply having these elements of effective planning in place. Other research points for the need for teams to be collaborative—for team members to share the same goals and to feel that their perspectives have an impact in the decision-making process. Collaborativeness is enhanced when teams have clear expectations for how members should interact (Cohen, 1994; Cohen & Bailey, 1997), and when decision making is equitable (Beugre & Baron, 2001; Cohen & Bailey, 1997; Korsgaard, Schweiger, & Sapienza, 1995). Collaborative teams are more effective
than teams whose members do not feel invested in the team goals (Beugre & Baron, 2001; Cohen & Bailey, 1997; Korsgaard, Schweiger, & Sapienza, 1995; Tjosvold & Tjosvold, 1994). Team members who feel that their perspectives are not respected during the decision-making process tend not to follow through on tasks that the team asks of them, thus making the team as a whole less effective (Cropanzano & Schminke, 2001; Kim & Mauborgne, 1993).

Within wraparound, the principles call for a special sort of collaboration. The principle on collaboration emphasizes the general idea that the wraparound process should be characterized by a sharing and blending of perspectives such that all team members feel that their ideas and expertise are respected. Additionally, however, the principles further specify that the wraparound process is driven by family and youth “voice and choice.” Essentially, this means that the perspectives of the youth and family are to have a greater impact on the wraparound process than other perspectives, and the youth and family must have the opportunity to make choices about the goals and strategies for the plan. These essential characteristics of such a wraparound process are summarized in the larger box at the left of Figure 1.

**Routes to Outcomes**

High-quality wraparound teamwork is characterized by collaboration and blending of perspectives, creative problem solving, and respect for each team member’s expertise and background. As noted above, teams that adhere to best practices tend to come up with good solutions to problems, and team members are likely to follow through on decisions that the team makes. Adherence to these best practices thus is expected to directly promote “achievement of team goals” (shown as an intermediate outcome in Figure 1) and, ultimately, “achievement of team mission” (shown as a long-term outcome).

Because the mission and goals in wraparound are selected by youth and family, it is assumed that achieving these goals will contribute to improved family quality of life, as well as other long term outcomes. Wraparound’s underlying philosophy also makes it likely that certain particular types of goals will be included in the plan, and that outcomes reflecting these goals will be part of the plan. For example, the wraparound principle of collaboration; however, skilled facilitation, including a knowledge of group processes and participatory decision making, is essential to make this family- and youth-driven form of collaboration come to pass (Walker & Shutte, 2004).

In sum, when the wraparound process is carried out with fidelity to the principles and the practice model, it is an engagement and planning process that promotes a blending of perspectives and high-quality problem solving, and is thus consistent with empirically supported best practices for effective teamwork. Additionally, the wraparound process is driven by the perspectives of the youth and family. The team learns about youth and family values, strengths, and culture and actively uses this information in the planning process. Youth and family members also have the opportunity to make choices about the goals and strategies for the plan. These essential characteristics of such a wraparound process are summarized in the larger box at the left of Figure 1.

The principles also specify that the wraparound team should learn about the values, culture, and strengths of the youth and family and incorporate these into the goals and strategies for the plan. Various activities in the wraparound practice model are intended to reinforce this special form of collaboration; however, skilled facilitation, including a knowledge of group processes and participatory decision making, is essential to make this family- and youth-driven form of collaboration come to pass (Walker & Shutte, 2004).

**The wraparound team should learn about the values, culture, and strengths of the youth and family and incorporate these into the goals and strategies for the plan.**

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1. There are variations in terminology for certain elements of wraparound plans. Some wraparound trainers and programs emphasize a “family long-term vision” (rather than a team mission) as the central long-term outcome for the wraparound process. Similarly, identifying and prioritizing needs (rather than goals) sometimes represents the intermediate steps on which a team focuses its efforts.
“community based” stresses the importance of promoting family and youth/child integration into home and community life. This principle (which usually reflects family and youth priorities anyway) means that wraparound plans are often focused on increasing stability in relationships and living situation, and helping the youth and families live and thrive—just like their more typical counterparts—in their homes, communities, and other “natural” settings. Similarly, the principle of “strengths based” encourages teams to create goals or missions that reflect building family and youth/child assets, capacities, and resilience. Thus the wraparound team effort will generally include, if not prioritize, these general areas, and related outcomes will be realized through the various routes to change described below.

Additionally, team goals and mission are likely to be significantly influenced by the expectations for the specific wraparound program. This is because wraparound programs or initiatives are typically designed to meet particular needs of their target populations and since agency representatives will bring into the wraparound process perspectives that reflect the goals of the agencies and organizations that sponsor the program. Thus, for example, wraparound teams that are sponsored through a child welfare agency almost always include a focus on child safety, and wraparound that is implemented with youth with co-occurring disorders will likely include a focus on treatment for substance use.

Beyond this general result of achieving team goals, a faithfully implemented wraparound process can be expected to lead to desired outcomes through two main routes (illustrated by the two separate boxes labeled “intermediate outcomes” in Figure 1). In one of these routes, key features of wraparound process contribute to enhancing the effectiveness of the services and supports included in the plan, thus promoting desired outcomes. The second route highlights how increasing family and youth/child empowerment, optimism, and efficacy leads directly to positive outcomes (i.e., independently of therapeutic services/supports provided in the plan) by developing capacity and resources for coping, planning and problem-solving. As noted above, these routes are not independent from one another, and outcomes of different types may have impact on other outcomes and through several routes. After we describe the main routes, we will provide some examples to illustrate these interactions and iterations.

**Enhancing the Effectiveness of Services and Supports**

One of the main routes to outcomes proposed in this theory is that using the wraparound process to select and organize services and supports actually enhances the effectiveness of the chosen service/support strategies. For several reasons, the wraparound process is expected to lead to relatively high levels of youth and family motivation to fully engage in, and continue with, the services and supports that are included in the wraparound plan. Engagement and retention are perennial challenges in the delivery of children’s mental healthcare, and this is particularly true for children with the most severe problems (Kazdin, 1996). No-show rates to first appointments range from 15-35%, and families who initiate treatment have been shown to drop out prematurely at rates as high as 60% (Morrissey-Kane & Prinz, 1999). Not surprisingly, outcomes for children’s mental healthcare tend to be better when families are engaged and retained in services (Huey, Henggeler, Brondino, & Pickrel, 2000; Tolan, McKay, Hanish, & Dickey, 2002).

**Choice and motivation.** Within wraparound, decisions about what services and supports to access are made on the basis of family and youth
voice and choice. There is a wealth of research that compares the experiences of people who feel they are acting by their own choice and those who feel that they are externally controlled. People who feel they have chosen an activity or option tend to have more committed to the course of action and to have more success. (See the review in Ryan and Deci, 2000.) This result has also been found for people who are part of groups or teams.

Relevance and feasibility. Additionally, the wraparound process works carefully to match services and supports with needs (as defined by the youth and family). This increases the likelihood that families and youth will find the individual services and supports, as well as the total “package” of services and supports in the plan, relevant and feasible. Parent perceptions of the relevance and feasibility of treatment has been linked in several studies to better outcomes from treatments (Kazdins, Holland, & Crowley, 1997; Morrissey-Kane & Prinz, 1999). Perceptions of service relevance and feasibility may be particularly important for families from minority populations, and thus participation in wraparound, with its careful attention to community-based and family-driven care and overall cultural competence, may be particularly valuable for them (Morrissey-Kane & Prinz, 1999). Finally, since the entire wraparound plan emerges in a structured way from youth and family perspectives, the wraparound process should result in family and youth perceptions of service coordination. Perceptions of greater coordination of services and supports have been linked to improved retention in services and enhanced outcomes (Bickman, Lambert, Andrade, & Penaloza, 2000; Glisson, 1994; Koren et al., 1997).

Shared expectations. Wraparound teams select service and support strategies to meet specific needs, and the success of a strategy is determined by how it impacts objective indicators of success that the team has chosen. Thus the team establishes clear, shared expectations for treatment—what it’s for, what outcomes are anticipated—that can be shared with service providers. Often, providers become members of the wraparound team, and are thus part of the collaborative effort to define the purpose of service/support strategies. Even when providers do not join the core team, the team often facilitates communication with providers, aimed at clarifying the purpose of services and the criteria by which the success of the service/support is judged. There is evidence supporting the proposition that having shared parent-provider expectations for treatment increases the likelihood that parents will be engaged in/continue with treatment for their children (Morrissey-Kane & Prinz, 1999; Spoth & Redmond, 2000).

Similarly, there is clear evidence that shared client-provider expectations about treatment (as should be the case when children and youth are involved in making decisions for their wraparound plans) also contributes to treatment effectiveness (Dew & Bickman, 2005). Taking this line of reasoning one step further, there is also reason to expect that wraparound will enhance treatment effectiveness when, as often happens in wraparound, the team works with providers to tailor the services and supports to better fit child/youth and family needs. There is evidence that retention in and outcomes from mental health treatment interventions are enhanced when treatment is modified to reflect family concerns and needs (Morrissey-Kane & Prinz, 1999; Prinz & Miller, 1994).

Strengths-based understanding of behavior.
The wraparound process models and communicates a strengths-based understanding of difficult or troubling behavior to team members, including youth and families. This helps youth and families to see that behavior is malleable, rather than dispositional, which in turn increases motivation to engage in therapeutic interventions and contributes to improved outcomes from intervention (Morrissey-Kane & Prinz, 1999).

**Whole-family focus.** Wraparound may also impact service/support engagement, retention, and outcomes by virtue of its focus on the needs of the family as a whole. Providing support to whole family, particularly mothers, appears to improve treatment initiation/retention and outcomes (Morrissey-Kane & Prinz, 1999).

**Capacity and Resources for Coping and Planning**

This route to change highlights wraparound’s potential to increase family and youth resources and capacities related to planning, coping, and problem-solving. These resources and capacities are seen as contributing directly to positive long-term outcomes. In other words, these outcomes may arise directly from participation in wraparound, and do not result only from participation in services and supports (though services and supports may also contribute to these outcomes). These long-term outcomes include increased resilience and developmental assets, higher quality of life, improved mental health, and increased ability to initiate and maintain health-promoting behavior change.

**Self-efficacy, empowerment, and self-determination.** The experiences of making choices and of setting and reaching goals contribute to the development of key human capacities of self-efficacy, empowerment, and self-determination. In fact these three constructs are interrelated, and have at their core the sense of confidence that people have about their ability to overcome obstacles in their lives and to reach goals they set for themselves (Snyder, Rand, & Sigmon, 2002). People develop these capacities in large part because of having successful experiences of achieving personally meaningful goals. Increases in self-efficacy, empowerment, and/or self-determination arise from several types of situations that are central parts of the wraparound process: participating actively in planning, directing services and supports, making choices, and experiencing success in reaching personally meaningful goals (Byalin, 1990; Curtis & Singh, 1996; Foster, Brown, Phillips, Schore, & Carlson, 2003; Maddux, 2002; National Council on Disability, 2004; O’Brien, Ford, & Malloy, 2005; Worthington, Hernandez, Friedman, & Uzzell, 2001). While much of this research focused on adults, similar findings have emerged from the smaller body of research with children and adolescents (Peterson & Steen, 2002), including specifically those with emotional, behavioral, cognitive, learning, and other disabilities (Chambers et al., 2007; Wehmeyer & Palmer, 2003; Wehmeyer & Schwartz, 1997).

There is robust research showing that people who believe that they can achieve the goals they set for themselves experience a variety of positive outcomes, including a variety of outcomes related to mental health and well-being. People with higher self-efficacy tend to be more optimistic and hopeful, and they persist and try harder in the face of obstacles (Maddux, 2002; Ridgway, 2004; Snyder, Rand, & Sigmon, 2002). In turn, people who are more optimistic experience a variety of positive mental health outcomes, and hope is strongly linked to successful psychiatric recovery among adults with serious mental illness.
In general, people with higher self-efficacy cope better with stressful life circumstances. They are also more likely to take action to protect their health, to adopt new, healthy habits, and to maintain behavior change (Maddux, 2002; Thompson, 2002). Children and adolescents who are trained in problem-solving have more optimism and avoid depression (Peterson & Steen, 2002). Adolescents who are optimistic tend to do better in school and college, abuse drugs less, are less angry, have better health and fewer social problems including fewer externalizing problems (Roberts, Brown, Johnson, & Reinke, 2002).

**Social Support.** Social support is seen as an important resource that aids people’s efforts to deal with stress and adversity. There is a large body of research that demonstrates that people who are involved in supportive social relationships experience benefits in terms of their morale, health, and coping (Cohen, Underwood, & Gottlieb, 2000; Cutrona & Cole, 2000; Walker, 2006). Conversely, low levels of social support have been repeatedly linked to poor physical and mental health outcomes. A common element of models of community-based mental healthcare—including wraparound—is the emphasis on strengthening youth and family ties to supportive people within the family’s social environment (Cox, 2005). Within wraparound, the inclusion of family friends, neighbors, and acquaintances on the wraparound team represents an important effort to create and strengthen social support.

This theory of change includes the hypothesis that increasing social support contributes to the positive outcomes mentioned above. Some studies document the role of social support in recovery from psychiatric difficulties or general life troubles (Ridgway, 2004; Werner, 1993; Werner, 1995), and participants in wraparound anecdotally report that the social support offered through the team and its work is an important part of wraparound’s positive impact in their lives. However, to date, there is a lack of definitive research showing that increasing social support for people who lack it actually leads to positive outcomes (Walker, 2006).

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**Conclusion: The “Positive Spiral” of the Wraparound Process**

The dynamic complexity and the looping, iterative nature of the wraparound process is most obvious in the planning process itself, with the child/youth and family, together with the rest of the team, participating in an iterative process of creating, implementing, evaluating, and adjusting successive versions of the wraparound plan. The looping nature of change—and interactions between the various “routes” to change—play out in other ways as well, for example, as improved coping and problem solving contribute to increased self-efficacy, which in turn leads to more opportunities to experience success within the wraparound process, which in turn reinforces self-efficacy.

In this way, wraparound produces a sort of “positive spiral.” Since people with higher self-efficacy are better able adopt and maintain healthy behaviors and behavior change, and to apply what they have learned from treatment (Maddux, 2002), it can be expected that increases in self-efficacy enable families and youth to profit more from therapy and other services and supports. Conversely, people who experience less stress feel more self-efficacy, so people for whom services and supports are working could be expected to contribute more actively and confidently to the wraparound process in general. Parents who have more optimism are more likely to engage in services (Morrissey-Kane & Prinz, 1999); thus increasing self-efficacy and empowerment through the wraparound process represents another route to making services more effective.

Essentially, wraparound can be seen as a driver of a positive, change-promoting spiral that reinforces itself through multiple mechanisms or routes. This seemingly fortuitous confluence of positive impacts occurs not so much because discrete activities or elements of the wraparound philosophy just happen to reinforce one another, but because the whole “package” of wraparound springs from a single, coherent posture or mode of helping that is fundamentally respectful, optimistic, and empowering. The diagram and explanations presented here are thus simultaneously both too simple and too complicated to explain how and why wraparound can be expected to work.
Nevertheless, this theory has clear implications for practice, quality assurance, evaluation, and research. For practice, the theory highlights the importance of adherence to the principles and practice model, since outcomes are predicated on fidelity. For quality assurance, then, measurement of fidelity is essential. Additionally, programs would likely benefit from assessing other key indicators that gauge how well the various “routes” appear to be functioning. Thus, programs might want to consider monitoring plans or assessing team cooperativeness or cohesiveness (for evidence of high quality teamwork and collaboration); assessing family and youth perceptions of service relevance, helpfulness, or coordination (for evidence that the “enhancing the effectiveness of services” route is functioning); and measuring family and youth empowerment, self-efficacy, and/or optimism (for evidence that the “capacity and resources for coping” route is operating).

The most obvious implications of the theory for program evaluation have to do with relevant outcomes. To begin with, the theory places a high level of importance on outcomes that are not often measured in human service contexts. These include the intermediate outcomes mentioned above, as well as long-term outcomes such as quality of life or assets. The theory suggests that evaluation that does not include these outcomes may well understate the effectiveness of wraparound, since these outcomes reflect the potentially profound impacts that wraparound can have in the lives of children, youth, and families. Additionally, the theory highlights the fact that wraparound, because it is an individualized process, will not always be focused on achieving the same outcomes. Prioritized outcomes will vary not only from program to program, but within programs as well. Sometimes the outcomes that are the main focus of a team’s attention will be those that are commonly found on wraparound plans—stability of living situation, academic/vocational progress, etc.—but sometimes the most highly prioritized outcomes may be completely unique to a particular child and family. Again, this points to the need for program evaluation strategies that can capture the diversity of impacts that wraparound is anticipated to produce.

And finally, the theory has research implications simply because it is a theory. The routes to wraparound’s effectiveness are at this point hypotheses in need of testing. In order to support (or disconfirm) the hypotheses, research is needed to test each of the main assumptions that are part of the theory. To do this would require research that measures an appropriate spectrum of the intermediate and long-term outcomes, and that allows for testing assumptions about how these outcomes are interrelated. Knowing more about whether and how these various avenues to wraparound “work” will in turn provide the foundation for future efforts to refine strategies for practice, quality assurance, and evaluation.

**References**


Section 3: Theory and Research

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Over the past 20 years, the wraparound process has become a compelling and highly visible method for working with youth and families with intensive needs. As described in the articles in this Resource Guide, wraparound provides a method through which teams come together to create and implement plans to meet needs, achieve outcomes, and improve lives. At the same time, wraparound provides an “on the ground” mechanism for ensuring that core system of care values will guide planning and produce individualized, family-driven and youth-guided support that is community based and culturally competent (Stroul & Friedman, 1996).

Wraparound’s alignment with system of care values and the aims of the family movement have made it extremely popular with states and communities. A 2007 update to the 1998 State Wraparound Survey shows that 42 of 46 U.S. states (91%) that returned a survey have some type of wraparound initiative in the state, with 62% implementing some type of statewide initiative. Over 100,000 youth nationally are estimated to be engaged in a well-defined wraparound process (Sather, Bruns, and Stambaugh, 2008). Compared to other prominent approaches to serving youth with serious and complex needs, wraparound is implemented through more programs and for more youth. Estimates show, for example, that Multisystemic Therapy (MST; Henggeler & Schoenwald, 2002) is received by about 16,000 youths annually, and that Multidimensional Therapeutic Foster Care (MTFC; Chamberlain, 2002) is received by about 1,000 youths (Evidence-Based Associates, 2007).

That wraparound should be such a frequently deployed service delivery model is not surprising. There is broad con-
sensus that the paradigm reflected in wraparound is an improvement over more traditional service delivery methods that are perceived as uncoordinated, inflexible, professional driven, and deficit based. In addition, the President’s New Freedom Commission Report on Mental Health (US DHHS, 2003) recently concluded that all families with a child experiencing serious emotional disturbance should have an individualized plan of care. This statement further reinforces the need for approaches like wraparound.

In the current era of emphasizing “evidence-based practices,” however, all service delivery decisions are legitimately open to scrutiny, regardless of how well they conform to current values of care. After all, there are many competing paradigms that could be used with youth and families who are experiencing intensive needs. These include traditional case management, uncoordinated “services as usual” (in which families negotiate services and supports themselves or with help of a more specialized provider such as a pediatrician or therapist), residential treatment, or inpatient hospitalization.

The picture is becoming increasingly complicated because wraparound is being used in more and more contexts and for more and more purposes. In juvenile justice, wraparound is being used as a means of diverting youth from detention and to help youth successfully transition to the community from secure placement. In child welfare, some state systems, such as Oklahoma, are experimenting with supporting child welfare care workers to use the wraparound model to achieve permanency, stability, and safety outcomes for children, youth and families (Rast & Vetter, 2007). States and localities are also deploying the wraparound process to help adult prisoners re-enter society (see Chapter 1.4), to improve outcomes for high-risk pregnant women (Calleaux & DeChief, 2006), and to meet the needs of many other populations. All these relatively new deployments of the basic wraparound model are alternatives to more traditional (or at least different) approaches to supporting the target population. As such, each of these examples raises the question: Does wraparound work?

Fifteen to 20 years after “wraparound” became common parlance, this is still not a simple question, because wraparound is not a simple phenomenon. The question is complex for several reasons. First, as noted above, wraparound has been deployed for many different populations. As such, the question “Does wraparound work?” needs to be answered for many different types of populations and proposed outcomes. This makes wraparound different from most treatments or interventions, which were designed to address a specific type of concern, such as, for example, adolescent depression, acting out by young children, or adult panic disorder. Thus, any synthesis of the wraparound evidence base has to ask both about the impact for specific populations as well as its impact overall, across these multiple purposes.

Second, wraparound has been, and continues to be, an evolving phenomenon. Its development lies in “grassroots” movements to care for individuals in the context of their families and communities. No single developer owns wraparound, which means it typically is implemented differently from one site to another. This makes it more difficult to assess the evidence base, because until recently there was little consensus on the specific activities that make up the wraparound process. When a researcher finds no positive impact of wraparound, we must ask “What kind of wraparound was implemented?” and “Was it implemented well?” In addition, since no one “owns” wraparound, the model does not have the same systematic development and testing history as other evidence-based practices, which are often guided through developmental stages by researchers with a significant stake in finding the model to be effective. In contrast, wraparound has been created by family members and provid-
ers whose first priority is not to oversee rigorous research projects but to do whatever it takes to help families in their community.

Third, wraparound is multi-faceted and individualized. It is typically deployed for families (or adults) with complex and multiple needs, whereas many programs have achieved “evidence-based” status by virtue of their focus on a single problem area or diagnostic category. Focusing on broad populations with complex and overlapping needs makes it harder to find positive impact for several reasons. First, the target population is challenging and implementation is difficult. Second, wraparound projects are often “system-level” initiatives, required to enroll a wide range of children and families, as opposed to those with a specific complaint or concern. This means that target outcomes will be different for each participant, making it harder to find impact, especially when only one or two outcome measures are used (e.g., a standardized behavioral or functional scale).

Wraparound often is conceived as both an individual-level intervention (a defined team-based planning process) and as a “system level” intervention (requiring communities to collectively oversee implementation, agencies to collaborate, the service array to be comprehensive, and so on). As such, it is generally difficult to assess what types of outcomes are appropriate and how to interpret findings. For example, in a very interesting paper, Stambaugh et al. (2007) assessed trajectories of behavioral and functional improvement for N=320 in a system of care for youth with serious emotional and behavioral concerns, the majority of which (n=213) received the wraparound process while a small subgroup (n=54) received multisystemic therapy (MST; Henggeler & Schoenwald, 2002), a specified evidence-based intervention for youths. The authors found similar improvements in functioning for the two groups but somewhat better improvement in behavior for the MST group and concluded that MST was overall more effective.

Like “wraparound,” the “science-to-service gap” in children’s mental health is a topic that is receiving increased attention among researchers and service providers. Research finds significant impact of treatments for children and youth under controlled conditions, such as laboratory studies where clinicians have low caseloads and intensive supervision and the children or youth have a single problem. But then, when these treatments are administered in actual community settings, they often don’t produce the same positive outcomes. Thus there is a “gap” between what can work under ideal conditions, and what does work in community settings.

The Evidence Base and Wraparound

In sum, because there are so many variations of “wraparound,” because it has been a grassroots and evolving phenomenon, and because it is a complex approach that impacts systems as well as individuals, the question “Does wraparound work?” has been difficult to answer. Instead of considering the evidence base on wraparound, it may be more appropriate to frame the issue as the evidence base and wraparound. Other articles in this section of the Resource Guide are also geared toward this topic, including a review of the theory of change for wraparound (Chapter 3.1), a discussion of fidelity measurement (Chapter 5e.1), and a review of relevant current outcomes studies (Chapter 3.3). In the remainder of this article, we present some of the major themes from the story about the evidence base and wraparound.

1. Current thinking in children’s mental health emphasizes the importance of joining evidence-based practices to family-driven and individualized service processes like wraparound.

Like “wraparound,” the “science-to-service gap” in children’s mental health is a topic that is receiving increased attention among researchers and service providers. Research finds significant impact of treatments for children and youth under controlled conditions, such as laboratory studies where clinicians have low caseloads and intensive supervision and the children or youth have a single problem. But then, when these treatments are administered in actual community settings, they often don’t produce the same positive outcomes. Thus there is a “gap” between what can work under ideal conditions, and what does work in community settings.
There have been many hypotheses about why this is so often the case. One prominent theory is that clinical services in “real world” communities are not delivered in a way that can achieve positive clinical outcomes. Once transported to a real clinic in a real community, larger case loads, lack of training, limited availability and quality of supervision, staff turnover, and restricted resources all conspire against a treatment that has been found to work under more ideal conditions.

However, research also suggests other problems. First, families tend not to be well engaged with their helping professionals. Second, care is often not well tailored to fit the full range of families’ complex real-world needs. Researchers point to such lack of full engagement, individualization, and comprehensiveness to explain why families often feel the care they receive is not relevant or helpful.

Our interpretation of this broad set of findings is that the science-to-service gap is at least partly due to systems failing to support full engagement of families in the treatments they receive. For families with intensive needs or children with serious emotional and behavioral problems, such full engagement will usually require the creation of highly individualized and creative plans of care that address all the major issues and stresses the family is dealing with. What’s more, such plans will need to respond meaningfully to the needs as expressed by the family. A well-implemented wraparound process provides for procedures to accomplish this for families with these most intensive needs. Thus, it is important that research on overcoming the science-to-service gap considers the potential of the wraparound process to improve outcomes in real-world community settings.

At the same time, researchers, advocates, and practitioners must realize that families participating in a wraparound process should also have available specific treatments (including evidence-based treatments) that might be part of their individualized plan of care. The two are highly compatible; after all, the intent of the wraparound process is to plan and implement the set of services and supports that is most likely to achieve positive outcomes for a family. At the individual youth and family level, this may include one or more empirically supported treatments.

At the organizational and system level, this means developing capacity to make available treatments that will be most beneficial to the target population, and in some cases integrating evidence-based techniques into wraparound itself. For example, a wraparound project in King County, Washington, is training wraparound facilitators in Motivational Interviewing to help address youths’ substance abuse issues. In Maryland, a wraparound project for transition-age youth is making Supported Employment, an evidence-based practice, available as needed. And, as described by Lucille Eber in this Resource Guide (Chapter 5e.4), wraparound as implemented in the context of school-wide Positive Behavior Supports often integrates efforts by clinicians to design effective behavior plans.

The bottom line is that more and more children’s mental health researchers are recognizing the importance of joining evidence-based practices to engagement and service coordination strategies such as wraparound (see, for example, Tolan & Dodge, 2005). The next wave of research on wraparound will likely feature studies of the impact of such innovations.

2. The principles of wraparound are supported by evidence from the research base as well as common sense and social justice.

As described above, current thinking in children’s services supports the idea that the wraparound process holds promise for overcoming
commonly-cited barriers to achieving outcomes for children and families. Additionally, there is research that supports the hypothesis that the wraparound process, when carried out in accordance with the principles, contributes to positive outcomes. This is presented in more detail in Janet Walker’s description of the theory of change for wraparound, found in this Resource Guide. A summary of support for several of the wraparound principles is described below.

**Voice and choice.** We have already described some of the reasons “voice and choice” may be critical to achieving outcomes. As discussed above, lack of full family engagement has been found to be a major impediment to treatment success. Research has shown that outcomes for children’s mental healthcare tend to be better when families are engaged and retained in services (Huey, Henggeler, Brondino, & Pickrel, 2000; Tolan, McKay, Hanish, & Dickey, 2002). In addition, Heflinger et al. (1996) have created methods for better engaging families, and studies examining these approaches have found that family members’ overcoming of negative experiences of past treatments received is critical to achieving engagement, and possibly outcomes. And Spoth & Redmond (2000) have found that family members’ belief in the effectiveness of treatment influences engagement and outcomes. These findings and others provide support for the principles of prioritizing the family’s perceptions of what the family needs to function better.

**Team-based, collaborative planning.** Meanwhile, the wraparound principles of “team-based” and “collaborative” have clear support from research across disciplines. Research on teamwork has shown greater success when teams set an overall, long-term goal or mission for the team (Cohen, Mohrman, & Mohrman, 1999; West, Borrell, & Unsworth, 1998), and when team members have clearly defined intermediate goals that help reach the long term goal (Latham & Seijts, 1999; Weldon & Yun, 2000). Effective teams also work carefully to choose strategies for reaching the intermediate goals, structure strategy selection deliberately, and consider several different strategies before choosing one (Hirokawa, 1990; West, Borrell, & Unsworth, 1998). These are all features of a well-implemented wraparound team process.

In the child services research field, Stone and Stone (1983) found that positive child outcomes were more likely to result when foster parents viewed themselves as part of a team with a goal of positive outcomes. Meanwhile, evaluations such as that conducted by Burns & Santos (1995) have found that team-based care for adults with serious mental illness (SMI) was found to be superior to “brokered” case management models. Assertive Community Treatment (ACT; Bond et al., 2001), which uses a team-based approach to aid adults with SMI, has long been a standard for delivering quality care to this population.

**Community-based care.** One of the signature principles of both wraparound and systems of care philosophy is that care is community based. Though honoring families’ desire to obtain support while keeping their children at home is a principle based in social justice and the family movement, delivering care in the natural environment in which a child and family functions is also grounded in theory and research. Bronfenbrenner’s (1979) and Bandura’s (1977) models stress that to be generalizable, behaviors must be taught in the environment in which they will be practiced. These models underpin many evidence-based approaches to treatment (e.g., behavioral therapies and MST) that are intended to help youth and their families learn the skills they need to adapt more successfully to their everyday environments.

The rationale for insisting on community-based treatment models wherever possible does not stop at theory. Many studies (e.g., Pfeiffer et al, 1990) have found that the best predictor of future out-of-home placements is whether out-of-home placement has been used in the past. Other studies show that both placement stability and youth perception of placement stability are significant predictors of
future outcomes (Dubovitz et al., 1993; James et al., 2006). Thus, assuming that we hope to ensure that young people will eventually live effectively in their home communities, we must strive to prevent unnecessary out-of-home placements. This becomes especially important when we consider that, historically, we have spent a disproportionate amount of our child behavioral service dollars on residential and inpatient care, despite the fact that this treatment approach has the most poorly developed research base of all major child and adolescent treatment options (Burns, Hoagwood, & Maultsby, 1998).

**Individualized care.** Finally, theory and research both support the importance of *individualized* care for individuals with complex needs. This may explain why individualization is a cornerstone of the wraparound process and systems of care, and also why it is prominent among recommendations of the *New Freedom* report. Several influential psychosocial theories of child development, particularly social-ecological (Bronfenbrenner, 1979) and systems (Munger, 1998) theories, stress the importance of understanding the unique relationships between the child and various environmental systems (e.g., family, school, community). Effective intervention thus begins from an understanding of the child’s unique social, cultural, and interpersonal systems environment, and requires the tailoring of services and supports to this unique set of relationships. Meanwhile, literature on case management for adults with serious mental illnesses has been consistent in its support of more intensive and early tailoring of community supports to client needs (e.g., Ryan, Sherman, & Bogart, 1997). Studies of case management have also found that a greater variety of community-based supports leads to greater client satisfaction and retention in services (Burns et al., 1996).

3. **Despite support for the wraparound philosophy, research also has demonstrated a “fidelity problem” in wraparound that is important to overcome.**

As described above, both theory and research support the principles of the wraparound process and its potential for impact. In the classic framework for developing a treatment model, theory and past research are prerequisites for moving forward with model development and tests of effectiveness. However, in the case of wraparound, such empirical testing has been challenged by the very grassroots evolution and individualized nature that has made the model so compelling. Though wraparound is included as a “promising practice” in the Surgeon General’s Reports on Mental Health (USPHS, 1999) and Youth Violence (USPHS, 2001), its inclusion was based on its widespread use and testimonials about its importance within service systems. Typically, references to wraparound come with statements about its lack of specification and thin evidence for effectiveness. For example, in their review of treatments for youth with SED, Farmer, Dorsey, & Mustillo (2004) described the wraparound evidence base as being “on the weak side of positive.”

Perhaps even more problematic, wraparound’s history of being “value based” rather than explicitly described (Malysiak, 1998) has caused a “fidelity problem” that results in confusion for providers and families, and potentially poorer outcomes for children and youth. Even early on, there were warnings about defining the process and maintaining its integrity. As Clark & Clarke stated in 1996:

> The push to rapidly implement wraparound approaches has resulted in a plethora of service models that vary widely in their implementation, processes, structures, and theories. While this push has been an important part of... the shift to less restrictive, more integrated community-based service alternatives, it has also resulted in an unsystematic application of the wraparound process (p.2).

Research eventually supported these early concerns. In observing over 70 wraparound meetings in 11 programs nationally, Walker and colleagues (2003) found that less than one-third of teams maintained a plan with team goals. Only about 20% of teams considered more than one way to meet a family’s stated need. Only 12% of interventions reviewed were individualized or created just for that family. Finally, only about half the teams included a team member in the role of natural or peer support for the family (another 32% had only one such support). Meanwhile,
studies with our Wraparound Fidelity Index (WFI; Bruns et al, 2004) have found similar results about the “fidelity problem.”

The issue of defining, maintaining, and measuring fidelity in wraparound is discussed in another chapter of this Resource Guide (Chapter 5e.1). The point is that, despite the widespread promotion of wraparound principles such as being team based, individualized, outcome based, and relying on natural supports, our research suggests these principles are much more difficult to do in real-world practice than they are to embrace in principle. Programs and communities need help to move from values to high-quality practice if we are to overcome the fidelity problem in wraparound. The pathway to accomplishing this includes ensuring that the wraparound process being implemented is well understood by both core and partner agency staff, and that adequate support is provided to families, teams, and providers to make sure that such a process can occur. The topic of how best to provide such support is also discussed later in this Resource Guide (Chapter 5a.1).

4. When high-fidelity wraparound is delivered, there is a greater potential for positive impact for families.

Research documenting the fidelity problem in wraparound begs the question: How important is it to achieve the wraparound principles when working with families? This question is only now being addressed, but results from some preliminary studies suggest that it may be quite important. Bruns et al. (2004) have found that families with higher WFI scores in the first six months of service achieved better outcomes in areas such as child behavior, residential restrictiveness, and parent satisfaction at both six months and down the line at 12 months after entry to service. Similar results were achieved in a study by Hagen, Noble, and Schick (2003), who studied the impact of different levels of wraparound fidelity on child negative and positive behaviors. Rast and Peterson (2004; described in Bruns et al., 2006) found that facilitators who were more adherent to the wraparound model had youth and families who experienced better outcomes.

5. Achieving high-fidelity wraparound is a big challenge, requiring significant effort and resources.

The findings reported in the previous section provide evidence that communities that wish to achieve positive outcomes for families via the wraparound process must fully support “high-fidelity” wraparound. However, this is more easily said than done. Once a model for wraparound is well understood, with policies and procedures incorporated that reflect it, families, teams, and providers must be well supported to implement it. High quality training and staff support is necessary, as is the overall level of support to wraparound teams provided within the policy and funding context, often known as “the system.” This issue is discussed in a separate article in this Resource Guide, and in influential monograph by Walker, Koroloff, & Schutte (2003; see Appendix 6f). In this monograph, the authors describe the major types of supports required by wraparound teams, all of which need to be present in different ways at the team, organization, and system levels. After further research, these supports were summarized in six major areas, including:

1. Community Partnership. Collective community ownership of and responsibility for wraparound is built through collaborations among key stakeholder groups.
2. Collaborative Action. Stakeholders involved in the wraparound effort take concrete steps to translate the wraparound philosophy into concrete policies, practices and achievements.
3. Fiscal Policies and Sustainability. The community has developed fiscal strategies to meet the needs of children participating in wraparound and methods to collect and use data on expenditures for wraparound-eligible children.

4. Access to Needed Supports & Services. The community has developed mechanisms for ensuring access to the wraparound process and the services and supports that wraparound teams need to fully implement their plans.

5. Human Resource Development & Support. The policy and funding context supports wraparound staff and partner agency staff to work in a manner that allows full implementation of the wraparound model.

6. Accountability. The community has implemented mechanisms to monitor wraparound fidelity, service quality, and outcomes, and to assess the quality and development of the overall wraparound effort.

Research is beginning to show the importance of achieving these types of supports in communities that wish to use the wraparound process. In one study, Bruns, Suter, Leverentz-Brady, & Burrough (2006) administered a survey to officials in ten communities that were implementing wraparound programs. These communities were also using the WFI to monitor wraparound fidelity. Results showed that higher wraparound fidelity was achieved in communities with more system and program supports.

6. What we have learned about wraparound so far is highly encouraging, and tells us we are on the right track.

We have learned much in recent years about wraparound from both experience and research. We have learned that administering individualized, team-based care planning and management to families with intensive needs is a high-priority activity being undertaken in hundreds of communities nationally (Sather, Bruns, & Stambaugh, 2008). In addition, providers and family members alike endorse the effectiveness of the wraparound process. One major survey of 615 providers working within the CMHS-funded systems of care communities demonstrated that 77% of all providers (18% of whom implemented wraparound personally) believed wraparound resulted in positive outcomes for youth and families. Interestingly, this percentile was higher than for several prominent treatment types with evidence for effectiveness, including MST (68%) Treatment Foster Care (67%) and Functional Family Therapy (49%) (Walrath, Sheehan, & Holden, 2004).

Unfortunately, we have learned that it is much easier to embrace the wraparound principles in theory than to actually do them in practice. Nonetheless, when model-adherent wraparound is achieved, it may well pay off in the form of better outcomes for families. To achieve such high fidelity, we need to:

- Have a good understanding of what faithfully implemented wraparound is,
- Provide adequate training and support to providers and partner agencies to do it, and
- Work with our organizations and systems to support it by setting up a hospitable policy and funding context.

Though embracing and supporting the model is a challenge for many, the enthusiasm for wraparound continues to be fueled by success stories from communities, evaluation studies, and individual families. The formal research base, described in detail in another article in this Resource Guide (Chapter 3.3), is small but growing. Such research findings are further supported by lessons that have been learned by local communities. In Milwaukee, for example, Wraparound Milwaukee has served over 700 youths via wraparound. As a result, the county’s expenditures for out-of-
home placements have been drastically reduced (Kamradt, 2001). Similar community-level results found in Ventura County (and later, 3 additional California counties) in the late 1980s and early 1990s (Rosenblatt & Attkison, 1992) were attributed to the implementation of a systems of care approach to integrating services, and a wraparound-style care management model. Other prominent examples abound, including the Dawn Project in Indianapolis. These evaluations have found that youth served by the wraparound program show better improvements in clinical functioning and less likelihood of re-entry to public systems such as juvenile court or probation, at lower overall expenditures, compared to youth served by traditional means (Indiana Consortium for Mental Health Services Research, 2003).

Finally, success stories from families and providers alike abound. Some are captured in monographs (e.g., Burchard, Burchard, Sewell, & VanDenBerg, 1993; Burns & Goldman, 1999; Kedziora, Bruns, Osher, & Mejia, 2001), but many more are found in the stories told by family members and their advocates in communities across the country. Though research on the wraparound process has been challenging and slow to develop, there is a clear alignment between research and the evidence base. Though we will continue to refine the formal research base on wraparound, the enthusiasm for this important service approach, perhaps more than any other evidence, comes from these families’ stories.

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Emotional and Behavioral Disorders.


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A Narrative Review of Wraparound Outcome Studies

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and Associate Professor, University of Washington
School of Medicine

The wraparound process has been described as having a promising body of evidence (Burns, Goldman, Faw, & Burchard, 1999; National Advisory Mental Health Council, 2001; New Freedom Commission on Mental Health, 2003), to the point it has been included in two Surgeon General reports (U. S. Department of Health and Human Services, 1999, 2000), recommended for use in federal grant programs (U. S. Department of Health and Human Services, 2005), and presented as a mechanism for improving the delivery of evidence-based practices for children and adolescents with serious emotional and behavioral disorders ([SEBD] Friedman & Drews, 2005; Tolan & Dodge, 2005; Weisz, Sandler, Durlak, & Anton, 2006). Not everyone, however, is convinced. Bickman and colleagues (Bickman, Smith, Lambert, & Andrade, 2003) have stated that “the existing literature does not provide strong support for the effectiveness of wraparound” (p. 138). Farmer, Dorsey, and Mustillo (2004) recently characterized the wraparound evidence base as being “on the weak side of ‘promising’” (p. 869).

There are several significant concerns about the state of the wraparound evidence base. As presented in Figure 1, though the number of publications about wraparound has grown steadily over time, the number of outcome studies remains relatively small. Many outcome studies that have been published used less rigorous designs and included relatively small samples. Finally, the wraparound model has developed in a “grassroots” fashion and has been driven largely by local priorities. This means that there has his-
torically been a wide range of populations of children and families for which wraparound has been implemented and studied, as well as wide variation in adherence to the core principles of wraparound (Bruns et al., 2004). With many target populations, no real consensus on what exactly constitutes “wraparound,” and no single research group invested in documenting wraparound outcomes, the outcomes research base has been slow to emerge, and results are less consistent than for more strictly defined models. In addition, reviews of outcomes studies of children’s services have tended to mischaracterize some evaluation studies as pertaining to the wraparound process. For example, one widely cited review (Aos, Lieb, Mayfield, Miller, & Pennucci, 2004) cited evaluation studies of “systems of care” (e.g., Bickman, Sumerfeldt & Noser, 1997) as speaking to the evidence base on the wraparound process, even though the two models are quite distinct in practice (Stroul, 2002).

Taken together, these concerns have made it difficult to draw clear conclusions about wraparound’s evidence base. Therefore, it is important to take stock of the full range of existing outcome studies on wraparound. To date, three wraparound narrative reviews have been published (Burchard, Bruns, & Burchard, 2002; Burns et al., 1999; Farmer et al., 2004). However, they did not capture all available outcome studies, and additional studies have been published since those reviews. Given that published research on wraparound seems to be growing at an increasing rate, it is important to conduct regular reviews of the literature to characterize the status of wraparound’s evidence base.

The primary goal of the present narrative review was to identify and summarize the full scope of wraparound outcome studies, to serve as a resource for researchers and practitioners. While traditional reviews of outcome studies may use inclusion criteria to analyze only studies with the most rigorous designs, the current review was intended to be more inclusive of the full breadth of outcome studies on wraparound. Because much of the outcome literature on wraparound is composed of program evaluations, the studies are often not published in traditional outlets (e.g., peer-reviewed journals). Such studies are often referred to as “gray literature” (Petticrew & Rob-erts, 2006, p.90). This does not make them less important for a review (Lipsey & Wilson, 2001), just more difficult to find. Therefore, the authors acknowledge that the present review may not capture all empirical studies on wraparound. With this recognition, this review is conceptualized as a resource as well as a working document that will most likely need to be revised and amended as more studies on wraparound are conducted and identified.

Method

Selection Criteria

Studies chosen for this review evaluated interventions following the wraparound process at the child and family level. Because the goal was to provide a comprehensive resource to the field, selection criteria were chosen that were much more inclusive than most reviews. More specifically, the following selection criteria were chosen.

Intervention. The team-based planning process used in the study must have been identified as wraparound or sufficiently described by the authors as sharing the primary components of wraparound (see related descriptions elsewhere in this Resource Guide). Interventions that included community-based planning for children with emotional and behavioral disorders (e.g., case management), but did not explicitly incorporate other wraparound principles were excluded. Similarly, systems of care evaluation studies that followed similar principles as wraparound but were evaluated primarily at the system rather than the individual family level were also excluded.

Participants. The target population of the study was children or adolescents (5 to 22 years) with SEBD and significant functional impairment. Evidence of significant functional impairment included those at-risk of (or returning from) an out-of-home placement (e.g., psychiatric hospital, residential treatment center, juvenile justice facility, foster care), as this is a common target population for wraparound.

Design. Study design selection criteria were especially liberal to allow a full breadth of outcome studies on wraparound. As such, experimental (e.g., randomized controlled trials), quasi-experimental (e.g., non-randomized group compari-
sons), and non-experimental designs (e.g., single group pretest-posttest) were permitted. Qualitative and quantitative single subject designs were also permitted.

**Outcomes.** Study outcomes must have included measures of child functioning in their homes, schools, or communities. This could include emotional or behavioral functioning, academic or job performance, violence or delinquency, changes in living situation, or substance use.

**Timeframe and Language.** The study must have been made available between January 1, 1986 and February 29, 2008. This timeframe was chosen because the wraparound process, as it is currently conceptualized, was reported to have begun in 1986 (VanDenBerg, 1999). To be accessible to the researchers, the study had to be in English.

**Literature Search**

Eligible studies for this review were identified through electronic and manually based searches of the literature. First, 16 studies identified in previous reviews were included.1 Second, electronic databases (Web of Science, PsycINFO and ERIC) were used to search for the keywords: wrap-around, wrap-around, individualized services, and individualized service plans. Third, a manual search was conducted of the Journal of Child and Family Studies, Journal of Emotional and Behavioral Disorders, and the annual research conference proceedings of A System of Care for Children’s Mental Health: Expanding the Research Base hosted by the University of South Florida, Louis de la Parte Florida Mental Health Institute, Research and Training Center for Children’s Mental Health. These three sources were chosen for a manual search because traditionally they have been the primary outlets for research on wrap-around.

**Findings**

**Study Characteristics**

The literature search yielded 36 studies (20 more than the latest review, Farmer et al., 2004), presented in 56 separate reports. When multiple reports were available for the same study, all citations were included in this review. Additional reports for the same studies seemed to reflect either updates (earlier reports represented preliminary findings; Vernberg, Jacobs, Nyre, Puddy, & Roberts, 2004; Vernberg et al., in press), moves from unpublished to published sources (e.g., conference proceedings to journal article; Anderson, Koooreman, Mohr, Wright, & Russell, 2002; Anderson, Wright, Koooreman, Mohr, & Russell, 2003), or presentation of findings in evaluation reports and publications (Evans, Armstrong, Kuppingher, 1996; Evans, Armstrong, Kuppingher, Huz, & Johnson, 1998). Of these 56 separate reports, the most common outlet (45%) were peer-reviewed journals \((n = 25)\), followed by conference proceedings \((n = 19)\), book chapters \((n = 4)\), doctoral dissertations \((n = 3)\), federal reports \((n = 2)\), paper presentations \((n = 2)\), a manuscript submitted for publication, and a published monograph.

Focusing on the 36 unique studies, over 60% \((n = 22)\) resulted in at least one publication in a peer-reviewed journal. The remaining studies were presented in conference proceedings \((n = 9)\) dissertations \((n = 3)\), 1 published monograph, and 1 paper presentation. Research designs included: 23 pretest-posttest single group designs; 6 quasi-

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1. Studies identified from previous reviews are noted in Tables 2 - 5.
experimental (non-equivalent comparison group designs); 4 randomized clinical trials; and 3 single case design studies (2 qualitative and 1 multiple-baseline). The lead agencies running the wraparound initiatives across the 36 studies included mental health \( (n = 20) \), education \( (n = 6) \), child welfare \( (n = 4) \), juvenile justice \( (n = 4) \), and interagency initiatives \( (n = 2) \). Figure 1 presents a timeline of wraparound outcome publications (including the 36 primary outcome studies and the 19 additional study reports). The most common publication year was 1996 \( (n = 9) \); the year the *Journal of Child and Family Studies* published a special issue on wraparound) followed by 2003 \( (n = 7) \) and 2006 \( (n = 7) \).

**Participant Characteristics**

Initial sample sizes for the 36 studies ranged...
from 6 to 1031 ($M = 183.31$, $SD = 251.34$). However the largest study (Kamradt, Gilbertson, & Lynn, 2005) was an extreme outlier, being a large-scale evaluation of a statewide program. Attrition rates also varied widely, ranging from a low of 0 to a high of 92%. The majority of participant attrition was due to incomplete data rather than participants dropping out of treatment (though typically information on attrition was not reported). For example, one program stated that 324 participants received wraparound, yet data were available for only 27 (Robbins & Collins, 2003). As shown in Table 1, not all studies shared data on participant demographics, and there was great variability among the data that was presented. Participants received wraparound on average from 3 to 36 months. Mean participant ages ranged from 9 to 17 years. Approximately three-quarters of the studies presented information on participant gender (study samples ranged from 0 to 50% female), and less than two-thirds presented information on the race or ethnicity of participants (studies ranged from 0 to 73% participants identified as racial or ethnic minorities).

**Narrative Review**

The outcome studies are summarized in Tables 2-5, which present, respectively, single case design studies, pretest-posttest single group design studies, quasi-experimental group comparison studies, and randomized clinical trials. Each table presents the following information: study citation and source (e.g., journal article, book chapter, etc.), a brief program description, characteristics of the participants, primary measures and study findings, and notable details of study analyses. Each row represents a unique study. In cases where multiple reports exist for the same study, they were included in the same row, and findings from the most complete set of outcomes were presented (in a few cases this involved pooling information across multiple reports). For studies that compared wraparound to a comparison or control group, effect sizes were calculated whenever sufficient information was available (e.g., means, standard deviations). By Cohen’s convention (Cohen, 1992), effect sizes have been classified as small ($d = 0.20$), medium ($d = 0.50$), and large ($d = 0.80$). Grouped by study design, the following sections briefly summarize the findings of these 36 empirical studies highlighting their strengths and limitations.

### Single Case Design Studies

Three single case design studies were identified. Two qualitative case studies described two of the earliest formal applications of the wraparound process (Burchard, Burchard, Sewell, &

### Table 1. Participant Demographics Reported by Wraparound Outcome Studies

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>$n$</th>
<th>$M$</th>
<th>$SD$</th>
<th>Min</th>
<th>Max</th>
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<tbody>
<tr>
<td>Sample size</td>
<td>36</td>
<td>183.31</td>
<td>251.34</td>
<td>6</td>
<td>1031</td>
</tr>
<tr>
<td>Mean number of months receiving wraparound</td>
<td>32</td>
<td>13.61</td>
<td>6.61</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>Mean age</td>
<td>26</td>
<td>13.05</td>
<td>2.40</td>
<td>8.8</td>
<td>17.3</td>
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<tr>
<td>Percentage of study participants identified as female</td>
<td>28</td>
<td>28.58</td>
<td>13.86</td>
<td>0</td>
<td>50</td>
</tr>
<tr>
<td>Percentage of study participants identified as racial or ethnic minority</td>
<td>23</td>
<td>34.73</td>
<td>23.94</td>
<td>0</td>
<td>73</td>
</tr>
</tbody>
</table>
Table 2. Single Case Design Studies on the Wraparound Process

<table>
<thead>
<tr>
<th>Citation(s) / Source(s)</th>
<th>Program Description</th>
<th>Participants</th>
<th>Primary Measures / Findings</th>
<th>Design &amp; Analytic Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Burchard et al., 1993)*</td>
<td>Alaska Youth Initiative (AYI)</td>
<td>N=10 SEBD youth with history of residential treatment Age: 9-21, M=17.1 Sex: 50% female Race/Ethnicity: 60% Caucasian, 30% Native Alaskan, 10% Latino</td>
<td>Structured interviews and record reviews: 9 out of 10 youth stabilized in community settings; 5 no longer requiring services, 4 receiving less intensive services, and 1 not stabilized in community</td>
<td>Qualitative retrospective analysis Participants selected because rated “successful” and “instructive” cases by AYI staff from initial sample of 84</td>
</tr>
<tr>
<td>(Cumblad, 1996)* Cited in (Burchard et al., 2002) Doctoral dissertation</td>
<td>Kaleidoscope Program</td>
<td>N=8 SEBD youth referred due to high-risk behaviors Age: unknown Sex: unknown Race/Ethnicity: unknown</td>
<td>Interviews and record review: At assessment no youth were displaying problems behaviors that led to referral, no evidence of abuse/neglect, four youths reunited with families, two not reunited but ongoing contact (remaining two youths’ parents were deceased)</td>
<td>Qualitative retrospective analysis</td>
</tr>
<tr>
<td>(Myaard et al., 2000)* Journal article (Myaard, 1998) Conference proceedings</td>
<td>Wraparound Initiative</td>
<td>N = 6 SEBD youth (with attrition: N = 4) Age: 14-16, M = 14.7 Sex: 100% male Race/Ethnicity: 100% Caucasian</td>
<td>DAIC: was used to provide daily longitudinal ratings of compliance (improved), peer interactions (improved), physical aggression (improved), alcohol/drug use (eliminated), and verbal abuse (improved) CAFAS: substantial reductions in CAFAS scores</td>
<td>Multiple baseline study Parent provided daily rating of behaviors and was not blind to start of treatment</td>
</tr>
</tbody>
</table>

Note: SEBD = serious emotional and behavioral disorders; DAIC = Daily Adjustment Indicator Checklist; CAFAS = Child and Adolescent Functioning Scales

* Report included in a previous review
VanDenBerg, 1993; Cumblad, 1996). These two studies have frequently been cited in the literature as providing compelling evidence for the positive changes wraparound can achieve for children with SEBD (Burns, 2002; Burns et al., 1999). The first study, conducted as a doctoral dissertation, provided a retrospective qualitative analysis of eight youth with SEBD receiving care through Chicago’s Kaleidoscope Program (Cumblad, 1996). This program targeted children in the child welfare system with histories of abuse and neglect. After receiving services through Kaleidoscope for an average of three years, there was no longer any evidence of maltreatment and none of the participants were removed from their families. Further, the participants no longer presented the behaviors that led to their initial referrals.

Burchard and his colleagues authored a thorough description and evaluation of the Alaska Youth Initiative ([AYI] Burchard et al., 1993). AYI was modeled after the Kaleidoscope Program, and the authors’ description of the model of care closely paralleled that program. This evaluation was also conducted retrospectively using qualitative data from interviews and record reviews of ten children with SEBD. Overall, nine of the youth were successfully maintained in community settings following the intervention (five no longer required services and four needed less intensive supports).

Myaard and his colleagues (Myaard, Crawford, Jackson, & Alessi, 2000) conducted a multiple-baseline study of four adjudicated children participating in a wraparound program in rural Michigan. This design demonstrates the effect of an intervention by showing that outcome change occurs with (and only with) the introduction of wraparound at different points in time. The authors used the Daily Adjustment Indicator Checklist (Bruns, Woodworth, Froelich, & Burchard, 1994) to track five daily behavioral ratings (compliance, peer interactions, physical aggression, alcohol and drug use, and extreme verbal abuse) for each of the youth. Participants began receiving wraparound after 12, 15, 19, and 22 weeks. For all four participants, on all five behaviors, dramatic improvements occurred immediately following the introduction of wraparound.

Bickman and his colleagues (2003) criticized this study on the grounds that it had a small sample size and lacked a control group. These concerns need to be addressed because they represent a misunderstanding of the multiple-baseline approach. The purpose of the small sample size in the multiple-baseline approach is to collect a wealth of data before and after an intervention begins (in this case daily ratings for one year). If the pattern of data changes abruptly with the start of treatment, one can be much more confident about making a causal inference than if only two data points (pretest and posttest) had been collected. While no specific rules exist regarding how many baselines a study should have, Kazdin has suggested “two baselines are a minimum, but another one or two can measurably strengthen the demonstration” (Kazdin, 2002, p. 219). Bickman and colleagues (2003) also implied that causal inferences could not be made because the study did not have a control group. On the contrary, the experimental nature of multiple-baseline designs makes them well suited for addressing threats to internal validity. A more inherent limitation of this design is with external validity (i.e., generalizability of findings); however, this problem pervades many of the between-group designs in the literature as well (Kazdin, 2002).

These case studies provided a wealth of qualitative information regarding both outcomes and implementations of wraparound. As descriptions of the Kaleidoscope Program and AYI, they have been used as rationale and as guides for creating new wraparound interventions around the U.S. However, it is important to note that these case studies do not provide definitive evidence connecting wraparound and positive outcomes. No comparison groups were used, participants were not selected at random (in fact the participants from AYI were selected because they were deemed successful cases), and findings were collected retrospectively. As such, selection bias is a strong threat to validity. Therefore, the studies should be interpreted as offering evidence for potential or best case outcomes.

**Single Group Pretest-Posttest Studies**

The majority of the outcome studies reviewed \((n = 23)\) used a pretest-posttest, no control group design (Anderson et al., 2003; Bartley, 1999; Brothers, McLaughlin, & Daniel, 2006; Bruns, Burchard,
### Table 3. Single Group Pretest-Posttest Studies on Wraparound Process

<table>
<thead>
<tr>
<th>Citation(s) &amp; Source(s)</th>
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</tr>
</thead>
</table>
| (Anderson et al., 2003) Journal article | **Dawn Project** System of Care  
**Lead Agency:** Mental Health  
**Setting:** Marion County Indiana  
**Duration:** 12 months | N = 384 SEBD youth (with attrition: N = 156)  
**Age:** M = 13  
**Sex:** 35% female  
**Race/Ethnicity:** 70% African American or biracial | **CAFAS:** significant improvement in clinical functioning (total scores)  
Decrease in percentage of youth in restrictive living placements  
Completing project was related to a significant drop in recidivism rates | |
| (Anderson et al., 2002)* Conference proceedings | | | |
| (Bartley, 1999) Doctoral dissertation | **Children’s Health and Mental Health Preservation Services**  
**Lead Agency:** Mental Health  
**Setting:** Philipsburg, PA; supports in home & school  
**Duration:** 16 months | N = 25 SEBD youth (5 prematurely discharged)  
No attrition  
**Age:** 6-13, M = 9.8  
**Sex:** 20% female  
**Race/Ethnicity:** not reported | **SCICA:** 60% of participants improved  
**CBCL:** 59% of participants improved  
**TRF:** 40% of participants improved | No tests of statistical significance |
| (Brothers et al., 2006) Conference proceedings | **Project T.E.A.M.** (Tools, Empowerment, Advocacy, & Mastery)  
**Lead Agency:** Juvenile Justice  
**Setting:** Urban; King County, WA  
**Duration:** 12 months | N = 99 SEBD youth involved with court system  
**Age:** 7-17, M = 14.7  
**Sex:** 37.4% female  
**Race/Ethnicity:** 62.6% Caucasian, 18.2% African American, 11.1% Multi-racial, 10.1% American Indian, 2% Asian, 1% Hawaiian/Pacific Islander, (6.1% Hispanic) | No significant changes were found for number or type of parent reported community connections (i.e., relationships).  
**CAFAS:** Significant improvements in CAFAS total score from intake to 12 months | Purpose of study was to compare effects for Caucasian and minority youth. |
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<tbody>
<tr>
<td>(Bruns et al., 1995)* Journal article</td>
<td>Vermont's statewide wrap-around initiative</td>
<td>N = 27 SEBD youth</td>
<td>CBCL: significant improvement on total, internalizing, and externalizing scales</td>
<td>Purpose of study was to examine relationship between fidelity and outcomes, so no analyses were conducted on outcomes alone</td>
</tr>
<tr>
<td>Lead Agency: Mental Health Setting: urban &amp; rural areas Duration: 12 months</td>
<td>Age: 8-18, M = 13.6 Sex: 30% female Race/Ethnicity: not reported</td>
<td>DAIC: significant improvement on total negative behaviors</td>
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<tr>
<td>(Bruns et al., 2005) Journal article</td>
<td>Nebraska Family Central System of Care</td>
<td>N = 36 families with youth with SEBD</td>
<td>Means and standard deviations reported in article showed outcomes moved in negative direction for:</td>
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<tr>
<td>Lead Agency: Mental Health Setting: Rural Duration: 6 months</td>
<td>Sample was split into two overlapping groups to compare fidelity and outcome data. Only one group is included in present review (n = 32). Age: 6-17, M = 12 Sex: 19% female Race/Ethnicity: 100% Caucasian</td>
<td>- BERS Total Score</td>
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<td>- ROLES</td>
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<td>- FSQ Satisfaction with services</td>
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<td>- FSQ Satisfaction with progress</td>
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<td></td>
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<td>One small positive effect was found with CAFAS Total Score</td>
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<tr>
<td>(Clarke et al., 1992)* Journal article</td>
<td>Project wraparound providing individualized services to youth</td>
<td>N = 28 SEBD youth receiving services in home and school [with attrition: school (n=12) home (n=19)]</td>
<td>CBCL (home): significant improvement on total, internalizing, and externalizing scales</td>
<td>Outcomes examined separately for home and school-based wraparound groups</td>
</tr>
<tr>
<td>Lead Agency: Mental Health Setting: rural New England; in home &amp; school Duration: 12-24 months</td>
<td>Age: 5-18, M = 11 Sex: 100% male Race/Ethnicity: 53% Native American 47% Caucasian</td>
<td>TRF (school): no significant improvement on total, internalizing, and externalizing</td>
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<td>SCRS: significant improvement at home but not school</td>
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<td></td>
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<td>Connors Hyperkinesis Index: significant improvement at home but not school</td>
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<td>Child Well-Being Scale: significant improvement</td>
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</table>
| (Copp et al., 2007) Journal article | Georgia SAMHSA Site  
Lead Agency: Mental Health  
Setting: Rural  
Duration: not reported (data collected every 6 months) | N = 15 youth with SEBD with pretest-posttest data (out of a larger group of 45)  
Age: 8-14, M = 10.5  
Sex: 46.7% female  
Race/Ethnicity: 53.3% Caucasian, 46.7% African American | CAFAS (total) and CBCL (total): No statistically significant improvements were found over 6 months | |
| (Eber et al., 1996a)* Journal article | Wraparound in Schools (WAIS) & wraparound Interagency Network (WIN)  
Lead Agency: Education  
Setting: school-based  
Duration: 9 months | N = 44 [2 groups: WIN (n = 25) WAIS (n = 19)]  
Age: not reported  
Sex: 11% female  
Race/Ethnicity: 86% Caucasian, 7% African American, 7% Other | ROLES: positive change (statistical significance not reported)  
CBCL, TRF, CAFAS data provided only for baseline | No tests of statistical significance |
| (Eber et al., 1996b)* Conference proceedings | Emotional and Behavioral Disability Partnership Initiative  
Lead Agency: Education  
Setting: state-wide in Illinois  
Duration: M = 12 months | N = 81 (at baseline) [with attrition: CBCL (n=25), FACES (n=46)  
CAFAS, TRF, ROLES (not reported)]  
Age: 7-19,  
M = 14.64  
Sex: 18% female  
Race/Ethnicity: not reported | CBCL: significant improvement for females on internalizing scale; no significant improvements for males and females on externalizing and males on internalizing  
TRF: no significant changes  
CAFAS: significant improvements in performance and mood scales only; not significant: behavior, thinking, and drugs  
FACES: significant improvement for both adaptability and cohesiveness  
ROLES: positive change (statistical significance not reported) | |
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</table>
Lead Agency: Education  
Setting: public schools in Illinois  
Duration: outcomes measured at 3 months | N = 22 students with EBD  
Age: not reported  
Sex: not reported  
Race/Ethnicity: not reported | Study used internal assessment instruments to compare findings at intake to 3 months:  
- Reported need for behavioral supports in classroom decreased  
- No change reported in classroom behaviors  
- Significant improvements in academic performance  
- Reported improvements in emotional and behavioral functioning at home (not at school)  
- No reported improvements in functioning for medical/safety, social, or spiritual functioning  
- Significant reduction in 3 out of 10 high-risk behaviors  
- Parents were significantly more satisfied with program after 3 months |  |
| (Hyde et al., 1995) Conference proceedings | Family Preservation Initiative of Baltimore City  
Lead Agency: Child Welfare  
Setting: urban  
Duration: M = 9.73 months | N = 70 SEBD youth  
Age: 9-21, M = 15.97  
Sex: 36% female  
Race/Ethnicity: 67% African American, 33% Caucasian | Costs: lower than out-of-state residential placement ($269/day vs. $216/day)  
**ROLES:** shift from 20% to 88% of youth with living situation no more restrictive than group home  
Critical behaviors (suspension, hospitalization, suicide attempts, arrests) assessed post only | No tests of statistical significance |
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| (Illback, Nelson, & Sanders, 1998) Book chapter | Kentucky IMPACT Program  
Lead Agency: Mental Health  
Setting: rural and urban  
Duration: 16.43 months | N = 954 SEBD youth  
With attrition: CBCL (N=431) ROLES (N=953)  
Age: 0-21  
Sex: 29.1% female  
Race/Ethnicity: not reported | CBCL: significant improvement on total, internalizing, externalizing, and social competence scales  
ROLES: significant decrease in participants in hospital placements, but also significant increase in residential placements | No tests of statistical significance |
| (Illback et al., 1993)* Journal article | Wraparound Milwaukee Pilot Project update  
Lead Agency: Mental Health  
Setting: initially residential treatment center then community, urban  
Duration: M = 20.18 months | N = 25 SEBD youth placed in residential services  
Age: M = 14.36  
Sex: 36% female  
Race/Ethnicity: 52% Caucasian, 44% African American, 2% Hispanic | Living situation: At the end of the two-years, the majority of youth had transition to less restrictive living situations: home (n=10), foster home (n=11), residential (n=2), corrections (n=2)  
School performance: 21 participants were rated as improved  
Costs: wraparound service plan less than 1/3 cost of residential placement | |
| (Kamradt et al., 1998; Seybold & Gilbertson, 1998) Conference proceedings  
(Kamradt, 1996)* Paper presentation Cited in (Burchard et al., 2002) | Wraparound Milwaukee  
Lead Agency: Mental Health  
Setting: Milwaukee County, WI, urban  
Duration: at least 12 months | N = 1031 SEBD youth receiving wraparound  
With attrition: CBCL (n=383); YSR (n=278); CAFAS (n=543)  
Age: M = 14.2  
Sex: 20% female  
Race/Ethnicity: 65% African American, 27% Caucasian, 7% Hispanic, 1% Native American | CBCL: Significant reductions in mean T-scores from intake (73) to 6 months (64) to 12 months (55)  
YSR: Significant reductions in mean T-scores from intake (56) to 6 months (50) to 12 months (45)  
CAFAS: Significant reductions in total scores from intake (74) to 6 months (60) to 12 months (54) | Demographics not reported, but available from previous report (Kamradt & Meyers, 1999) |
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<tbody>
<tr>
<td>(Kutash et al., 2002) <em>Journal article</em></td>
<td>School, Family, and Community Partnership Lead Agency: Education Setting: school-based Duration: 2 years</td>
<td>N = 23 ED students With attrition: N = 15 Age: M = 11.7 Sex: 13% female Race/Ethnicity: 78% Caucasian</td>
<td>CBCL: no significant improvements on total, internalizing, and externalizing CAFAS: no significant improvements WRAT-III: no significant improvements reading &amp; math Discipline referrals: significant decrease % of day in special education: no change Absences: no change Fidelity: significantly related to reading scores but no other outcomes</td>
<td>Initially study had a matched comparison group but dropped due to high and differential attrition Fidelity measure</td>
</tr>
<tr>
<td>(Levison-Johnson &amp; Gravino, 2006) <em>Conference proceedings</em></td>
<td>Monroe County Youth and Family Partnership Lead Agency: Interagency Setting: Monroe County, NY Duration: not reported</td>
<td>N = 84; 2 cohort groups: n = 29 &amp; n = 55 Age: not reported Sex: not reported Race/Ethnicity: not reported</td>
<td>CAFAS: Functioning from intake to “most recent CAFAS scores” was measured. 69% of group 1 (and 71% of group 2) showed improvements in CAFAS Total Scores</td>
<td>No tests of statistical significance</td>
</tr>
<tr>
<td>(Lyman &amp; de Toledo, 2002) <em>Conference proceedings</em></td>
<td>Family Advocacy, Stabilization, and Support Team (FASST) Lead Agency: Mental Health Setting: intensive home-based program in Massachusetts Duration: M = 4.5 months</td>
<td>N = 79 SEBD youth Age: 4-19 Sex: not reported Race/Ethnicity: not reported</td>
<td>CAFAS: Reductions in mean total scores from intake (98) to discharge (80) GAF: Increase in mean scores from intake (49) to discharge (56)</td>
<td>No tests of statistical significance</td>
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<tr>
<td>(Robbins &amp; Collins, 2003) Conference proceedings</td>
<td>Bridges Project school-based wraparound Lead Agency: Education Setting: schools in rural Kentucky Duration: 12 months</td>
<td>N = 324 SEBD students With attrition: N = 27 Age: M = 12.4 Sex: 28% female Race/Ethnicity: 97% Caucasian</td>
<td>CBCL: decrease in mean total problems from baseline (71) to 12 months (62) CAFAS: improved mean total scores from baseline (104) to 12 months (79) School indicators: higher grades, fewer suspensions/detentions</td>
<td>No tests of statistical significance Large attrition due to incomplete data for post-treatment</td>
</tr>
<tr>
<td>(Taub et al., 2006; Taub &amp; Pearrow, 2007) Conference proceedings</td>
<td>Coordinated Family Focused Care Initiative Lead Agency: Interagency Setting: 5 sites in Massachusetts enrolled for at least 6 months</td>
<td>Reports present data from two overlapping samples Sample 1: N = 159 youth with SEBD at risk of residential placement Sample 2: N = 377; 6 months (n=343) &amp; 12 months (n=163) Age: not reported Sex: not reported Race/Ethnicity: not reported</td>
<td>Repeated measures analyses revealed significant improvements for the following scales: Sample 1: CAFAS Total Score: intake (142.9) to 9 months (101.7) Child symptoms (YOQ): intake (101.6) to 6 months (92.9) BERS: intake (98.7) to 6 months (104.5) Sample 2: CAFAS School Scale: intake (26.7) to 12 months (22.3) BERS: improvements in all domains (except School) at 6 months School disciplinary data: No improvements at 6 months</td>
<td>Fidelity measure</td>
</tr>
<tr>
<td>(Toffalo, 2000) Journal article</td>
<td>Nonprofit service agency providing wraparound Lead Agency: Mental Health Setting: rural Pennsylvania Duration: at least 6 months</td>
<td>N = 33 SEBD youth With attrition: N = 28 Age: 4-7, M = 8.78 Sex: 39% female Race/Ethnicity: 100% Caucasian</td>
<td>CBCL: significant improvement on total scale score Fidelity metric: not significantly related to outcomes; however metric was not specific to wraparound (mean # treatment hours provided/mean # of hours prescribed)</td>
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</table>
| (Vernberg et al., 2004; in press; 2006 *Journal articles*) | Intensive Mental Health Program, a school-based program with home and service coordination  
*Lead Agency:* Education  
*Setting:* Lawrence, Kansas  
*Duration:* M = 12 months | N = 58 SED elementary school students  
N = 50 with attrition  
*Age:* 5-13, M = 9.6  
*Sex:* 27% female  
*Race/Ethnicity:* 70% Caucasian, 16% African American, 8% Native American, 4% Biracial | CAFAS: average statistical (and clinical) significant improvements from intake to discharge on total scores. 42 of 50 enrolled students showed clinically significant improvement  
CAFAS: statistical improvements on CAFAS subscales: school performance, home performance, behavior, moods, self-harm, thinking; no improvements on community performance, material needs, and family/social support  
BASC: Average ratings moved from “clinically significant” to “at risk” for total behavioral functioning | Fidelity measure (see Randall, et al., in press) |
| (Yoe et al., 1996)*  
*Journal article* | Vermont’s Wraparound Care Initiative  
*Lead Agency:* Mental Health  
*Setting:* urban & rural settings  
*Duration:* at least 12 months | N = 40 SEBD youth  
*Age:* 7-20, M = 16  
*Sex:* 48% female  
*Race/Ethnicity:* not reported | ROLES: significant decrease in mean level of restrictiveness and increase in community placements  
QAIC: significant decreases in total, externalizing, internalizing, and abuse related problems, but not public externalizing problems. |  |

*Note. SED = serious emotional and behavioral disorders

**Outcome measures abbreviations:**

BASC = Behavior Assessment System for Children; BERS = Behavioral and Emotional Rating Scale; CAFAS = Child and Adolescent Functioning Scales; CBCL = Child Behavior Checklist; DAIC = Daily Adjustment Indicator Checklist; FACES = Family Adaptability and Cohesiveness Evaluation Scales; FSQ = Family Satisfaction Questionnaire; GAF = Global Assessment of Functioning; QAIC = Quarterly Adjustment Indicator Checklist; ROLES = Restrictiveness of Living Environment Scale; SCICA = Semi-structured Clinical Interview for Children and Adolescents; SCRS = Self-Control Rating Scale; SSRS = Self-Control Rating Scale; TRF = Teacher Report Form; WRAT-III = Wide Range Achievement Test; YOQ = Youth Outcomes Questionnaire; YSR = Youth Self Report.

*Report included in a previous review*
### Table 4. Quasi-Experimental Group Comparison Studies on Wraparound Process

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<tr>
<td>(Bickman et al., 2003)*</td>
<td>Department of Defense managed care delivery of wraparound</td>
<td>N = 612 SEBD youth With attrition: N = 111 2 Groups: wraparound (n=71) Treatment as Usual (n=40) Age: 4-16, M = 12.2 Sex: 42% female Race/Ethnicity: 72% Caucasian</td>
<td>Service utilization for case management, in-home treatment, and nontraditional services higher for Wrap &amp; lower discontinuity of care Pre-post data (CBCL, YSR, VFI) reported significant improvements over time, but amount of improvement equal across groups 7-wave longitudinal measures (Ohio Scales) reported no significant improvements over time, and no differences between groups Costs were significantly higher (42%) for Wrap group</td>
<td>Analyses only available in federal report Insufficient data to calculate effect sizes</td>
</tr>
<tr>
<td>(Bickman et al., 2002) Federal report</td>
<td>Lead Agency: Mental Health Setting: generally rural across 16 states Duration: 6 months</td>
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<tr>
<td>(Bruns et al., 2006) Journal article</td>
<td>Wraparound in Nevada Lead agency: Child Welfare Setting: urban &amp; rural Duration: 18 months</td>
<td>N = 67 SEBD youth in custody of child welfare 2 Groups: wraparound (n = 33) and traditional case management + mental health services (n = 34) Age: M = 11.9 years Sex: 49% female Race/Ethnicity: 43% Caucasian</td>
<td>Wraparound group showed greater improvements than comparison over time for: -CBCL Total Score (d = 0.71) -CAFAS Total Score (d = 0.25) -ROLES Score (d = 0.62) -School GPA (d = 0.28) -School disciplinary (d = 0.57) No differences between groups were found for -School attendance -Juvenile Justice involvement</td>
<td>Used multi-level modeling to analyze changes between groups over time Fidelity measure</td>
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<tr>
<td>(Rast et al., 2007) Unpublished manuscript</td>
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<tr>
<td>(Peterson et al., 2003; Rast et al., 2003) Conference proceedings</td>
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| (Hyde et al., 1996)* Journal article | Family Preservation Initiative of Baltimore City, Inc. 
Lead Agency: Mental Health 
Setting: urban 
Duration: 6 - 36 months | N = 107 SEBD youth 
4 Groups: 2 received wraparound either following (WR, n=25) or instead of residential treatment (WD, n=24); 2 received traditional services and measured before receiving wraparound (PW, n=39) or did not receive wraparound (NW, n=19) 
With attrition: N = 69 WR (n=21) WD (n=24) PW (n=14) NW (n=10) 
Age: M = 17.28 
Sex: 25% female 
Race/Ethnicity: 63% African American | Community adjustment rating in “good” range: Higher for wraparound groups WR had higher % in good range than PW (d=0.76) and NW (d=1.53) and WD higher than PW (d=0.72) and WD (d=1.49) 
% of youth with more than 10 days community involvement: WR higher than PW (d=0.53) and NW (d=1.94); WD higher than PW (d=0.28) and NW (d=1.69) | No tests of statistical significance |
| (Pullmann et al., 2006) Journal article | Connections Program in Clark County, WA 
Lead agency: Juvenile Justice 
Setting: not reported 
Duration: M = 11.2 months (range: 1 to 24.5 months) | N = 204 juvenile offenders with SEBD 
2 groups: youth in Connections Program (n = 106) and a historical comparison group (n = 98) 
Age: M = 15.2 years 
Sex: 31% female 
Race/Ethnicity: 88% White | Analyses demonstrated lower recidivism for wraparound group for: 
- Any type of offense (d = 0.25) 
- Felony offense (d = 0.26) 
- Whether they served in detention (d = 0.85) 
For those who did serve in detention, 
- Number of days served in detention (d = 0.66) 
- Number of times served in detention (d = 0.76) | Cox regression time-to-event analyses |
CONTINUED: Table 4. Quasi-Experimental Group Comparison Studies on Wraparound Process

<table>
<thead>
<tr>
<th>Citation(s) &amp; Source(s)</th>
<th>Program Description</th>
<th>Participants</th>
<th>Primary Measures / Findings</th>
<th>Analytic Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Resendez, 2002)</td>
<td>Riverside County Department of Mental Health provided “flexible wraparound funding”</td>
<td>N = 485 SEBD youth 2 groups: receiving flexible funds (n=284) and a group receiving services but not flexible funds (n=201) With attrition: flex funds (n=60), attrition for comparison not reported</td>
<td>CAFAS: significant improvement in total scores from intake to discharge for flexible funds (71 to 51) and non-flexible funds (73 to 50); there were no between group differences</td>
<td>Insufficient data available to calculate effect sizes</td>
</tr>
<tr>
<td>Conference proceedings</td>
<td>Lead Agency: Mental Health</td>
<td>Setting: not reported</td>
<td>Duration: not reported intake to discharge</td>
<td></td>
</tr>
<tr>
<td>(Stambaugh et al., 2007)</td>
<td>Nebraska Family Central System of Care</td>
<td>N = 320 SEBD youth 3 Groups: wraparound (n=213), MST (n=54), both (n=53) With attrition: 6 months (n=285), 12 months (n=230), 18 months (n=202)</td>
<td>CBCL: significant improvement in total scores from intake to 18 months for all groups. Significant Group x Time interaction effect with the trajectory of the MST group showing significantly greater improvement than wraparound group. CAFAS: significant improvement in total scores from intake to 18 months for all groups; however, there were no significant between group differences</td>
<td>Linear mixed models</td>
</tr>
<tr>
<td>Journal article</td>
<td>Lead Agency: Mental Health</td>
<td>Setting: Rural</td>
<td>Duration: Months in treatment differed for wraparound (M=15), MST (M=5.5), and wrap + MST (M=10.2) groups</td>
<td>No control group</td>
</tr>
<tr>
<td>(Reay et al., 2003; Stambaugh et al., 2008)</td>
<td></td>
<td></td>
<td></td>
<td>Insufficient data available to calculate effect sizes</td>
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<tr>
<td>Conference proceedings</td>
<td>Duration: Months in treatment differed for wraparound (M=15), MST (M=5.5), and wrap + MST (M=10.2) groups</td>
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<td></td>
<td>Fidelity measure</td>
</tr>
</tbody>
</table>

Note. SEBD = serious emotional and behavioral disorders. Outcome measures abbreviations: CAFAS = Child and Adolescent Functioning Scales; CBCL = Child Behavior Checklist; ROLES = Restrictiveness of Living Environment Scale; TRF = Teacher Report Form; VFI = Vanderbilt Functional Impairment Scale; YSR = Youth Self Report.

*Report included in a previous review
Table 5. Experimental Randomized Controlled Trial Studies on Wraparound Process

<table>
<thead>
<tr>
<th>Citation(s) &amp; Source(s)</th>
<th>Program Description</th>
<th>Participants</th>
<th>Primary Measures / Findings</th>
<th>Analytic Details</th>
</tr>
</thead>
</table>
| (Carney et al., 2003)   | Juvenile Delinquency Task Force Implementation Committee (JDIC) demonstration project | N = 307 youth referred to court or adjudicated and/or entered children’s services for delinquent behaviors With attrition: N=141 2 groups: wraparound (n=73) and conventional services (n=68) 
Age: M = 14.8  
Sex: 38% female  
Race/Ethnicity: 50% Caucasian 48% African American 1% Biracial | Wraparound group missed less school (d=0.48), suspended less (d=0.48), less likely to run from home (d=0.46), less assaultive (d=0.47), and less likely to be stopped by police (d=0.51), but conventional services more likely to have a job (d=-0.39). 
Wraparound group somewhat less likely to be arrested (d=0.23) somewhat more likely to be incarcerated (d=-0.18) | |
| (Clark et al., 1998)*   | Fostering Individualized Assistance Program (FIAP) | N = 132 SEBD youth in foster care 2 groups: FIAP (n=54) and standard practice (SP) foster care (n=78) With attrition: SP (n=77) 
Age: 7-15  
Sex: 40% female  
Race/Ethnicity: 62% Caucasian, 33% African American, 5% Hispanic & biracial | Permanency status: FIAP group significantly more likely to live in permanency-type setting following program 
Significantly fewer days on runaway and fewer days incarcerated for FIAP 
No group differences on rate of placement changes, days absent, & days suspended  
DISC conduct disorder: FIAP males showed significantly less, but FIAP females significantly more  
Delinquency score: FIAP males demonstrated significantly less YSR (n=43) & CBCL (n=41) Internalizing & Total scores: no repeated measures differences; yet significantly smaller % boys (not girls) in clinical range for FIAP 
Externalizing: repeated measures showed significant improvement over time for boys not girls, plus significantly smaller % of FIAP group in clinical range | |
## CONTINUED: Table 5. Experimental Randomized Controlled Trial Studies on Wraparound Process

<table>
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<tr>
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<th>Primary Measures / Findings</th>
<th>Analytic Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Evans et al., 1998)*</td>
<td>Family Centered Intensive Case Management (FCICM) - similar to wraparound and Family Based Treatment (FBT)</td>
<td>N = 42 SEBD youth 2 Groups: FCICM (n=27) and FBT (n=15) Differential attrition among measures Age: 5-13, M = 9 Sex: 10% female Race/Ethnicity: 83% Caucasian, 5% African American, 5% Native American, 5% Biracial, 2% Hispanic CAFAS (n=31): significant improvement for FCICM overtime on behavior and moods subscales but not role performance and cognition CBCL (n=28): no significant improvements for FCICM vs. FBT overtime on total, internalizing, and externalizing scales FACES (n=35): no significant differences between groups Piers-Harris (n=23): no significant differences between groups TRF: dropped due to missing data</td>
<td>Insufficient data available to calculate effect sizes</td>
<td></td>
</tr>
<tr>
<td>(Evans et al., 1998) Book chapter</td>
<td>Evaluation report</td>
<td>(Evans et al., 1996) Journal article</td>
<td></td>
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<tr>
<td>(Rast et al., 2008) Paper Presentation</td>
<td>Wraparound as implemented by child welfare caseworkers or by wraparound facilitators hired and supported by an allied mental health agency. Lead agency: Child Welfare Setting: Urban and suburban Oklahoma Duration: 18 months</td>
<td>N = 108 youth with high level of behavioral health needs. 3 Groups: Wraparound implemented by case-workers (CW Wrap; n=36), Wraparound implemented by MH (MH Wrap; n=36), treatment as usual (n=36). Age: 3-17 Sex: Not reported Race: Not reported Permanency: Significantly more days in permanency placement and a higher percent of youth in permanency placement at 12 and 18 months for both CW Wrap and MH wrap than TAU Residential: Fewer placement changes for CW Wrap than either MH Wrap or TAU; Lower restrictiveness for both wrap groups than TAU Behaviors: Greater reduction in problem behaviors as reported by the Ohio Scales for CW Wrap than MH Wrap or TAU Functioning: Greater reduction in CAFAS scores for CW Wrap than MH Wrap or TAU Caregiver Strain: Greater reduction for CW Wrap than MH Wrap or TAU</td>
<td>Insufficient data available to calculate effect sizes Fidelity measure</td>
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**Note.** SEBD = serious emotional and behavioral disorders. Outcome measures abbreviations: CAFAS = Child and Adolescent Functioning Scales; CBCL = Child Behavior Checklist; DISC = Diagnostic Interview Schedule for Children; FACES = Family Adaptability and Cohesiveness Evaluation Scales; TRF = Teacher Report Form; YSR = Youth Self Report.

*Report included in a previous review*
& Yoe, 1995; Bruns, Suter, Force, & Burchard, 2005; Clarke, Schaefer, Burchard, & Welkowitz, 1992; Copp, Bordnick, Traylor, & Thyer, 2007; Eber & Hyde, 2006; Eber, Osuch, & Redditt, 1996a; Eber, Osuch, & Rolf, 1996b; Hyde, Woodworth, Jordan, & Burchard, 1995; Illback, Neill, Call, & Andis, 1993; Kamradt, Kostan, & Pina, 1998; Kamradt & Meyers, 1999; Kutash, Duchnowski, Sumi, Rudo, & Harris, 2002; Levison-Johnson & Gravino, 2006; Lyman & de Toledo, 2002; Robbins & Collins, 2003; Seybold, 2002; Taub & Pearrow, 2007; Tofalo, 2000; Vernberg et al., 2004; Yoe, Santarcangelo, Atkins, & Burchard, 1996). As such, they conducted within-subjects comparisons across time, typically measuring outcomes at intake and 6 to 12 months later ($M = 11.63$ months, $SD = 5.39$).

The advantage of this design over the qualitative case study design is that it includes larger (and ideally more representative) samples and often employs standardized measures of outcomes. However, due to lack of comparison groups, these studies cannot confirm that any observed changes occurred as a result of wraparound. Consequently, they provide evidence that wraparound may be associated with positive outcomes but do not offer the same level of confidence as provided by comparison studies.

Rather than discuss each of these 22 studies individually, key characteristics about the studies and findings were summarized. Just over half of these studies ($n = 13$) were published in peer-reviewed journals. Although all studies indicated that the participants received wraparound, the interventions were fairly heterogeneous with regard to setting, participants, and the types of outcomes measured. It should be noted that three of the studies used different samples to evaluate the same wraparound initiative (Wraparound Milwaukee, Kamradt et al., 1998; 2005; Seybold, 2002). Many of the interventions provided services in the home and community, though several others also (or exclusively) took place in schools (e.g., Eber et al., 2006). Most of the youth participants were reported to have SEBD, yet referral problems ranged from imminent risk of hospitalization to impaired functioning at school. Some interventions served primarily child or adolescent groups, while others simply targeted anyone 21 years or younger.

Examining outcome analyses from the pretest-posttest no comparison studies, approximately one third ($n = 7$) did not conduct any tests of statistical significance and reported primarily positive effects. Of the studies that did conduct statistical analyses, significant positive effects were found for youth living situation (e.g., youth were able to return to their communities following wraparound) and reported number of negative behaviors. Other findings were more difficult to interpret due to the range of measures used. Examining two of the most commonly used measures revealed mixed results. The ten studies that used the Child Behavior Checklist ([CBCL] Achenbach & Rescorla, 2001) were evenly split between showing significant improvements ($n = 5$) and no improvement or mixed findings ($n = 5$). Nine studies used the Child and Adolescent Functional Assessment Scale ([CAFAS] Hodges, Wong, & Latessa, 1998) with only slightly more than half finding statistically significant improvements in functioning ($n = 5$). Burchard and colleagues (2002) noted that there was some evidence for greater improvements at home than at school (Clarke et al., 1992; Eber et al., 1996b; Kutash et al., 2002; Yoe et al., 1996), however the null findings in the schools could be attributed to the relatively low power of these studies.

**Quasi-Experimental Studies**

Five quasi-experimental studies that compared outcomes for youth enrolled in a wraparound initiative compared to usual care were identified. These studies (Bickman et al., 2003; Bruns, Rast, Peterson, Walker, & Bosworth, 2006; Hyde et al., 1996; Pullmann et al., 2006; Resendez, 2002) adopted pretest-posttest, comparison group designs without random assignment. This design exerts a greater level of control over the independent variable (i.e., provision of wraparound) than either of the previously discussed designs, allowing the researcher to be more confident that changes in outcome may be attributed to the intervention. This does not mean that this type of design allows one to unequivocally make causal inferences. Yet quasi-experimental design represents a major leap forward in methodology compared to single group design, thus each of these studies was reviewed individually.

The earliest of these quasi-experimental studies was conducted in urban Baltimore with children returned or diverted from residential out-of-
state placements (Hyde et al., 1996). The authors examined outcomes for four groups: (a) youth who received wraparound after returning from residential placement (Wrap+Return or WR), (b) youth who received wraparound as an alternative to residential placement (Wrap+Diversion or WD), (c) youth who received traditional services during the year prior to the wraparound program initiating (Prior to Wrap or PW), and (d) children who received traditional services instead of wraparound (No Wrap or NW). The authors stressed that the four groups were not equivalent (e.g., PW group was older, WD had not experienced residential placement), and thus they cautioned against making direct comparisons. A community adjustment scale was developed for this study to provide a single rating of several relevant indicators (restrictiveness of the youth’s living situation, school attendance, job/job training attendance, and serious problem behaviors). Children received ratings of “good” if they were living in regular community placements, attending school and/or working for the majority of the week, and had fewer than three days of serious behavior problems during the course of a month.

After approximately two years of wraparound, 47% of the wraparound groups (WR and WD) received a rating of good community adjustment, compared to 8% of children who received traditional mental health services. Unfortunately, high rates of attrition in the non-wraparound groups further compound the problem that the groups were not equivalent at baseline. As the authors stated, “this is not a comparison study” (Hyde et al., 1996, p. 70), so perhaps the biggest contributions are the identification of these groups for future comparison studies and the creation of a measurement tool that directly assessed the key indicators important to providers and families.

Bickman and his colleagues have conducted experimental evaluations of systems of care at Fort Bragg, NC (Bickman et al., 1995) and Stark County, OH (Bickman et al., 1997). More recently, they completed a quasi-experimental study on a demonstration project of wraparound through the Department of Defense (Bickman et al., 2003). A managed care company oversaw the demonstration, organizing the delivery of services hierarchically with professionals at the family level (case managers), program level (care managers), and system level (clinical management committee). The demonstration group (n = 71) received both traditional (e.g., psychotherapy, psychiatric hospitalization) and nontraditional services (e.g., respite, recreation services, therapeutic foster homes). A comparison group (n = 40, treatment as usual) was formed from families referred to the demonstration project but who refused to participate or were ineligible because the demonstration group had different exclusionary criteria. Outcomes for the two groups were assessed from baseline to six months later.

The authors’ findings included (a) largely no baseline differences between the two groups, (b) higher utilization of “wraparound services” (e.g., case management, in-home supports, and nontraditional services) for the demonstration group, (c) higher costs for the demonstration group (primarily due to this group remaining in treatment longer), and (d) no consistent differences between the groups on the outcome measures. Limita-

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2. Exclusionary criteria for the demonstration that were not exclusionary criteria for TAU included: requiring long-term residential care, history of treatment resistant drug use, persistent antisocial behavior not resulting from a treatable mental disorder, developmental or cognitive disorder that negatively impacts treatment, conviction/adjudication for sexual perpetration, and being amenable to treatment.
tions of this study include the short time span (6 months) and whether the demonstration project truly followed the wraparound process. The authors stated that the services were community-based, included informal services, and included availability of flexible funding. However, they were not aware if any of the remaining seven elements had been followed. Strengths include the similarities between the groups at baseline, use of standardized measures, adequate power, and sophisticated data analyses.

Another quasi-experimental study (Resendez, 2002) compared groups of youth who did ($n = 284$) or did not ($n = 201$) receive “flexible wrap-around funding” (p. 243) while receiving mental health services from the same agency. Flexible funds were primarily directed toward financial aid as well as recreational and social supports. The average amount of flexible funds allotted was $155.81. Participants’ functioning and impairment was measured at baseline and six months later. Like the previously reviewed study, significant improvements were found for both groups over time, but no between-group differences were detected. Limitations include high attrition for the flexible funds group, relatively short time span (6 months), and weak manipulation of the independent variable. With the only difference between groups being an award ranging from $5 to $200, a significant difference on functioning scores seems unlikely. The main strength of this study was the assessment of the impact of a single wraparound element: Flexible Resources and Funding. As researchers begin to question the importance of the hypothesized components of wraparound, dismantling studies (that investigate the impact of specific components or principles) similar to this one will be important. However, it is questionable whether this study truly meets criteria for inclusion in this review of wraparound, given our inclusion criteria.

Pullmann and colleagues (2006) conducted a two-year longitudinal matched comparison study of youth involved in the juvenile justice system and receiving mental health services. Overall, 110 youth enrolled in wraparound were compared to 98 receiving conventional mental health services. Youths in the comparison group were three times more likely to commit a felony offense during the follow up period than youths in the wraparound group. Among youth in the wraparound program, 72% served detention “at some point in the 790 day post identification window” (p. 388), while all youth in the comparison group served detention. Of youth in the wraparound program who did serve detention, they did so significantly less often than their peers. Wraparound youth also took three times longer to recidivate than those in the comparison group. According to the authors, a previous study by Pullmann and colleagues showed “significant improvement on standardized measures of behavioral and emotional problems, increases in behavioral and emotional strengths, and improved functioning at home at school, and in the community” (p. 388) among youth in the wraparound program.

The final wraparound vs. control condition quasi-experimental study was a matched comparison pilot study conducted to demonstrate the effectiveness of the Wraparound in Nevada (WIN) program for youth in custody of the child welfare system due to abuse or neglect. Thirty-three youth with SEBD receiving wraparound were compared to a sample of 34 youth receiving traditional mental health services. The comparison group was matched on location, age, severity of emotional and behavioral symptoms, and residential placement. Findings from this pilot study were presented in a policy paper on wraparound (Bruns et al., 2006), two conference proceedings (Peterson, Rast, Gruner, Abi-Karam, & Earnest, 2003; Rast, Peterson, Earnest, & Mears, 2003), and a manuscript currently under review that was shared by the authors (Rast, Bruns, Brown, Peterson, & Mears, 2007). After 18 months, approximately 82% of youth in WIN moved to less restrictive environments, compared to 38% of comparison group youth, yielding a large estimated effect ($d = 0.93$). In addition, family members were identified to provide care for 11 of the 33 youth in the wraparound group (33.3%) compared to only six in the comparison group (17.6%). Mean scores on the CAFAS for youth in wraparound decreased significantly across all waves of data collection (6, 12, 18 months) in comparison to the traditional services group. More positive outcomes were also found for the wraparound cohort on school attendance, school disciplinary actions, and grade point averages. No significant differences were found in favor of the comparison group.
In addition to the positive impact found for wraparound, the study also reported fidelity data from the Wraparound Fidelity Index (WFI; Bruns et al., 2005). Scores from the WFI were quite high compared to other programs nationally (Bruns et al., 2006; Bruns, Leverentz-Brady, & Suter, in press). These results provide information for the field about the level of adherence that may be necessary to achieve outcomes such as those observed for the wraparound-enrolled youths in this study.

In addition to the five studies described above that compared outcomes for youth enrolled in wraparound to treatment as usual conditions, a unique quasi-experimental study was conducted (Stambaugh et al., 2007) that compared \( n = 213 \) children receiving wraparound to \( n = 54 \) youths receiving Multisystemic Therapy (MST; Henggeler, Schoenwald, Rowland, & Cunningham, 2002) in a single system of care in rural Nebraska. (A third group received a combination of MST and wraparound.) Although MST and wraparound have been conceptually compared (Burns, Schoenwald, Bur- chard, Faw, & Santos, 2000), this study provided a unique opportunity to contrast the two approaches empirically. MST has a more established evidence base than wraparound and meets criteria as an empirically supported treatment for children with conduct problems (Brestan & Eyberg, 1998). Results showed that both groups showed significant improvements in functioning as assessed by the CAFAS and behavior as assessed by the CBCL, and similar downward trajectories in scores for each of these measures. Rates of improvement in behavior problems were significantly better for the MST group; however, rates of improvement in child functioning over time were the same for the two groups.

Though the authors speculate that the results indicate greater benefit of using specific models such as MST as opposed to more general care coordination models such as wraparound, it is difficult to conclude that the results demonstrate the superiority of MST to wraparound, given that youth in the MST group were selected based on meeting criteria for MST while wraparound was used to support a much larger number of youth and families with a much more diverse set of needs. Thus, though statistical controls were used in between-group comparisons, the two groups were inherently non-equivalent at baseline by definition. Nonetheless, the paper points to an important direction in wraparound outcomes studies, and provides interesting information about the types of outcomes that might be achieved for youth receiving care through these two models in a single system of care, as well as potential methods for organizing a system of care to meet the needs of a diverse group of youth and families.

**Experimental Studies**

Four randomized trials (Carney & Buttell, 2003; Clark, Lee, Prange, & McDonald, 1996; Evans, Armstrong, Kupping, Huz, & McNulty, 1998; Rast, Vetter, & Poplin, 2008) constitute the wraparound evidence base employing experimental designs. Experimental studies provide the strongest protections against threats to internal validity, thus allowing researchers to draw more confident connections between interventions and outcomes. However, one cannot assume that the findings will necessarily generalize to other settings or environments (referred to as external validity). This is a particularly noteworthy point for the randomized studies reviewed here because they represent specific groups of children receiving wraparound in several different contexts, including a foster care-based program (Clark et al., 1996; 1997; 1998), an intensive case management approach (Evans et al., 1996; Evans, Armstrong, Kupping, Huz, & Johnson, 1998; Evans, Armstrong, Kupping, Huz, & McNulty, 1998), a program for adjudicated or court-referred youths (Carney & Buttell, 2003), and a program for youth involved with the child welfare system (Rast et al., 2008). These programs were deemed consistent enough with the wraparound process to be included in the evidence base (Burchard et al., 2002); however the findings may not generalize to wraparound programs in other settings.

Clark and his colleagues (Clark et al., 1996; Clark et al., 1998) conducted the most frequently cited empirical outcome study on wraparound. Participants included children in foster care randomly assigned to either the Fostering Individualized Assistance Program ([FIAP] \( n = 54 \)) or standard practice foster care (\( n = 78 \)). The program provided individualized services for children in foster care with the primary goals being to achieve an ef-
fective permanency plan and improve behavioral outcomes. Findings from this study demonstrated significantly fewer placement changes for children in the FIAP program, fewer days on runaway, fewer days incarcerated (for subset of incarcerated youths), and older children were significantly more likely to be in a permanency plan at follow-up. No group differences were found on rate of placement changes, days absent, or days suspended. Significantly fewer boys in the treatment program met criteria for conduct disorder compared to the children in standard practice foster care, but significantly more girls in the treatment group were diagnosed with conduct disorder. No group differences were found for internalizing disorders, but boys in the treatment program showed significantly greater improvement on externalizing problems than the comparison group. Taken together, the findings provided moderate evidence for better outcomes for the wraparound program, though the differences appear limited to boys and externalizing problems.

The second randomized clinical trial (Evans et al., 1996; Evans, Armstrong, Kuppinguer, Huz, & Johnson, 1998; Evans, Armstrong, Kuppinguer, Huz, & McNulty, 1998) assigned children referred for out-of-home placements to either family centered intensive case management (n = 27) or treatment foster care (family based treatment, n = 15). The case management program largely followed the elements of the wraparound process by providing individualized, team-based, and comprehensive services and supports. Significant group differences in favor of the case management program were found for behavioral and mood functioning. No differences were found with regard to other types of functioning (role performance or cognition), behavior problems (internalizing and externalizing), family cohesiveness, or self-esteem. Probably the most serious limitation of this study is the small sample size, plus further loss of data on many of the outcome measures. As a result, the study had very low power to detect differences between the groups.

A third randomized clinical trial (Carney & Buttell, 2003) evaluated the effectiveness of a wraparound program designed to reduce recidivism of adjudicated or court referred youths. Participants included 141 youths (out of 500 invited to participate) randomly assigned to a team-based wraparound program (n = 73) or conventional services (n = 68) after being referred to juvenile court. The two groups were followed for 18 months. Youths receiving wraparound were absent from school less often, suspended from school less often, ran away from home less frequently, and were less assaultive than those in the conventional services group. However, youths receiving conventional services were more likely to obtain a job, and no differences were found for subsequent arrests or incarceration. Thus, though the “weight of evidence” from this study indicates better interim outcomes for the wraparound condition, the study’s proposed ultimate outcomes—subsequent arrests and incarceration—were not found to be significantly impacted by assignment to wraparound.

The most recent randomized trial is currently being completed in the context of the Oklahoma child welfare system (Rast et al., 2008). Though this study is not yet complete, interim findings have been reported at the annual research conference of A System of Care for Children’s Mental Health: Expanding the Research Base hosted by the University of South Florida Research and Training Center for Children’s Mental Health (one of the sources for this review). Participants were 108 children in the child welfare system who were nominated for the study because they were high users of behavioral health services. These children were randomly assigned to three groups (each n = 36): (1) wraparound facilitation conducted by the child welfare caseworker; (2) wraparound conducted by a facilitator employed by a local mental health center; or (3) services as usual. Re-
results found that the group of children and youths receiving wraparound experienced fewer school and residential placement disruptions, more days overall in a permanency setting, and improved behavioral and functional outcomes, when compared to the services as usual group. There was also a trend toward better outcomes for children in the group for which the wraparound process was facilitated by the child welfare caseworker, as opposed to the group for which wraparound was implemented by the local mental health center.

Discussion

This review was intended to present results from the full range of outcome studies on wraparound as a way to both (1) evaluate the weight of the evidence as well as (2) explore the methodologies used. Overall, the findings from this review are encouraging with respect to the potential for wraparound to have a positive impact on youth and families. Though the majority of the studies that have been published and that were reviewed here have serious methodological limitations, there is a growing body of more rigorous research on wraparound that is now emerging. This includes experimental and quasi-experimental studies recently completed or nearly completed (e.g., Pullmann et al., 2006; Rast et al., 2008), as well as additional randomized studies that are now underway, such as an NIMH sponsored study of wraparound compared to intensive case management for youth in the child welfare system in Clark County, Nevada (Walker & Bruns, 2006). Though there may not yet be sufficient evidence in peer-reviewed journals to state that wraparound consistently results in better outcomes than alternative treatments for specific populations, the evidence base is encouraging and certainly growing.

At the same time, if advocates of wraparound hope to provide convincing evidence that wraparound is an effective process for meeting the needs of children with SEBD, a number of methodological limitations must be addressed. First, more studies on wraparound are needed that utilize rigorous methodological design and appropriate comparison groups. This includes comparing wraparound to traditional control groups (e.g., treatment as usual) as well as conceptually relevant alternatives. For example, although wraparound developed as a less restrictive substitute for residential placements, no studies that directly compared these two interventions were found. Without question, increasing the number of studies that included randomized selection of participants would be a major benefit to the field.

Second, many of the studies provided incomplete data on participant demographics and outcomes. As noted in one previous narrative review (Burchard et al., 2002), few of the reviewed studies specified how participants were selected for inclusion. Most likely, the researchers chose youth based on staff nominations or simply by using all available data. More care needs to be taken in future studies to specify how samples were selected in order to determine if they are truly representative of their programs or children with SEBD in general. Similarly, several studies presented detailed findings only when the effects were statistically significant. In order to better synthesize the evidence base, it is crucial for authors to include basic information (e.g., means, standard deviations, effect sizes) for all analyses.

Third, outcomes were measured on average from 3 to 36 months after baseline, often as post-

3. Although Hyde and her colleagues (1996) examined outcomes for youth assigned to both wraparound and residential treatment, comparisons were explicitly not conducted.
tests with children still engaged in services. A goal of wraparound is to create long-standing changes in the youth in family. Thus, more longitudinal follow-ups are necessary to see if changes last beyond the end of treatment.

And fourth, one cannot conclude that all reviewed studies offered equivalent versions of wraparound. The programs varied on a number of factors including setting, target population, stated goals, and outcomes measured. Only seven (19%) of the studies reported systematic assessment of the degree to which wraparound was delivered as intended (Bruns et al., 2006; Bruns et al., 2005; Kutash et al., 2002; Rast et al., 2008; Stambaugh et al., 2007; Taub & Pearrow, 2007; Vernberg et al., 2004). Without evaluating the fidelity of an intervention, it is difficult to determine if the program offers wraparound or merely “wannabe wraparound” (Walker & Bruns, 2003). Fortunately, it appears that recent studies of wraparound have more consistently reported results of fidelity assessment using tools that are widely available. The accumulation of evaluation results that include reports of fidelity assessments will facilitate interpretation of the results as well as help synthesize findings across studies.

Conclusions

As summarized above, this review of wraparound outcomes studies yielded a large number of publications describing a wide array of target populations and study designs, most of which were far from rigorous. Regardless, because of the diverse ways in which wraparound is applied for children and families, it is important to keep a “catalog” of the breadth of the overall evidence base on this model, especially in the absence of a well-developed set of randomized controlled studies. By presenting this summary in this way, we hoped to provide a format that can be updated over time, and create a resource for program developers, administrators, practitioners, and researchers who wish to seek out published studies on a specific target population or context in which wraparound has been implemented. This review can also serve as a tool for answering more specific research questions, such as typical trajectories in behavioral or functional improvement over time, or the relationship between wraparound fidelity and outcomes. Finally, with greater recognition of the broad range of wraparound outcomes studies, perhaps more local evaluators will be encouraged to publish their results, and/or design their evaluations to feature greater rigor, integrate fidelity assessment, and otherwise help the field move forward.

While the goal was to be exhaustive, we recognize that this review may not include all relevant wraparound outcomes studies. As a result, we are continuing to search for additional gray literature not identified by the inclusion criteria used for this review (e.g., unpublished local evaluation reports). Such findings will likely expand our understanding of outcomes typically found for systems as well as children and families and may facilitate a future exercise of benchmarking commonly measured outcomes such as behavior, functioning, and residential placement.

In addition, as results emerge from the controlled studies of wraparound currently underway, a more systematic appraisal of the quality of the wraparound evidence base is needed, which will make reviews such as this one more complete as well as “evidence based” unto itself. At that point, we can also identify the specific gaps in the literature (e.g., specific target populations, specific types of outcomes), beyond simply noting that “more needs to be done.” Finally, we need to translate the results of quasi-experimental and experimental studies into a meta-analysis that can generate average effect sizes for different types of outcomes, as determined by between group comparisons of wraparound and control groups. Given that we have now identified 8-10 unique studies that provide some type of ability to generate estimates of the size of effects of implementing wraparound, this can be an immediate next step that further informs the field about wraparound’s potential for positive impact on the lives of children and families.

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National Trends in Implementing Wraparound: Results from the State Wraparound Survey, 2007

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One of the most frequently cited studies on the wraparound process is a national survey conducted in 1998 examining wraparound implementation across the U.S. This study (Faw, 1999), conducted by Duke University and the Georgetown National Technical Assistance Center for Children’s Mental Health and published in the Burns & Goldman (1999) monograph on wraparound, used surveys of state mental health directors to estimate that wraparound was available in 80%-90% of states and U.S. territories. Based on estimates provided by 24 of the responding 49 states and territories, the authors also estimated that as many as 200,000 youth may be served by the wraparound process annually.

Though the number of youth served by wraparound was impressive, the study also found that fewer than half the states had any defined standards for wraparound implementation, that only about half had dedicated resources to support wraparound training and professional development, and that few states measured fidelity or were conducting program evaluation. The authors concluded that there was a “lack of a concurrent definition” of wraparound at the time of the survey, and that results pointed to “a need for a definition as well as an established set of standards” (p.64).

Nearly 10 years later, Dr. Faw (now Dr. Stambaugh) partnered with the National Wraparound Initiative (NWI) and the University of Washington Division of Public Behavioral Health & Justice Policy, to conduct a follow up of the 1998 survey. With wraparound having indeed become better un-
derstood and standards more consistently established in the intervening years, the purpose of the new study was to gain an updated and more refined estimate of the number of wraparound initiatives and participating youth. As with the original study, the intent was also to better understand how wraparound implementation was being supported in different places across the country, and collect qualitative information about implementation successes, barriers, and lessons learned. In the rest of this article, we will present an overview of the methods and results from this nine-year follow-up to the State Wraparound Survey.

Methods

A 17-item survey about wraparound implementation in the respondent’s home state was created, based on the original 13-item survey used in 1998. This survey was mailed to Children’s Mental Health Directors (as identified by the National Association of State Mental Health Program Directors or NASMHPD) in all 50 states, 4 U.S. territories, and the District of Columbia.

For this update to the original 1998 study, wraparound was defined using more precise language, using descriptions based on the model specification work of the National Wraparound Initiative (Walker & Bruns, 2006). Specifically, respondents were asked to report on initiatives in their state that adhered to the following definition:

Wraparound is a team-based process to develop and implement individualized service and support plans for children with serious emotional and behavioral problems and their families. Wraparound implementation is typically facilitated by a trained wraparound facilitator or care coordinator, who works with a team of individuals relevant to the youth and family. The wraparound process also ideally includes the following characteristics:

1. Efforts are based in the community;
2. Services and supports are individualized to meet specific needs of the children and families;
3. The process is culturally competent and strengths-based;
4. Teams have access to flexible funding;
5. Family and youth perspectives are sought and prioritized;
6. Team members include people drawn from family members’ natural support network;
7. The wraparound plan includes strategies that draw on sources of natural support;
8. The team monitors progress on measurable indicators of success and changes the plan as necessary.

Respondents could complete the survey online, via hard copy, or via email. Respondents that did not return surveys were sent two email reminders, after which they were reminded by phone calls from the study team. For approximately 10 states whose identified respondent did not respond to email or phone reminders, the research team contacted colleagues in the state for potential alternate respondents who would be adequately knowledgeable about wraparound implementation in the state to complete the survey. Five states’ surveys were completed through this mechanism.

Results

Response rates. Surveys were ultimately completed for 47 states, one territory, and D.C., for a total return rate of 89.1% (49 out of 55 possible states and territories). This is the same overall return rate as for the 1998 survey, when 46 states, two territories and D.C. responded. (For convenience sake, we will refer to responding states, territories, and D.C. collectively as “states” in the rest of this report.)

Numbers of programs and youth served. Of the 49 states who responded to the survey, 87.8% (n = 43) reported having some sort of wraparound program in their state in 2007. This is exactly the same number and percent that reported wraparound availability in 1998. Of the 43 states reporting a wraparound initiative, 42 gave estimates of the number of children served statewide. Among states that could provide estimates, a total of 98,293 children were estimated to be served by wraparound, in a reported 819 unique
programs across the 43 responding states. The mean number of youth served in states reporting wraparound programs was 2,337, and the median was 852.5. This is compared to a mean of 3,802 in 1997 (median 1,162).

There were wide variations in the number of children served per state, which was very positively skewed and ranged from 66 to 18,000 (SD = 3,676). Five states (North Carolina, Arizona, Kentucky, Maine, and Florida) reported over 5,000 youth served annually, while there were also five states reporting fewer than 100 youth served annually and 21 that reported under 1000 served annually. There were also vast differences in the number of unique wraparound initiatives or programs estimated to be operating in each state, which ranged from 1 to 134 (SD = 30.5). Five states (Georgia, Ohio, Michigan, Illinois, and Indiana) reported at least 50 unique wraparound programs in the state.

**Statewide or local implementation.** In 2007, 60% of states with wraparound projects (26 of 43) reported that wraparound is a statewide effort, as opposed to 17 (40%) which were implemented through one or more local effort(s). This is a decrease in reported state wraparound initiatives from 1998, when 81% of states (35 of 43) reported that wraparound was a statewide effort. States reporting statewide implementation reported a mean of 3,227 youth served (SD = 4367) versus only 946 youth served (SD = 1366) for states with local implementation only ($t(39) = 2.47; p < .05$). Overall, 13 of the 16 states serving 2,000 or more youth via wraparound reported having a statewide wraparound initiative.

Not surprisingly, states with statewide implementation also had a higher mean number of wraparound programs. States with statewide implementation reported a mean of 22.5 (SD = 36.2) unique wraparound programs in the state compared to 14.3 (SD = 18.9) for states with local implementation only. At the same time, about half (7/16) of the states serving 2,000 or more youth reported only one “unique wraparound program or initiative” in the state, and all of these states said that wraparound is a statewide initiative. This suggests that the reported number of wraparound programs in a state may be influenced by semantics, with some respondents considering a statewide initiative to be a single program, with others reporting unique programs in terms of local catchment areas, counties, or lead provider agencies implementing wraparound within an overall statewide effort.

**Agencies taking part in wraparound initiatives.** Figure 1 presents the percent of states for which different child-serving agencies were reported to be involved in the state’s wraparound initiative(s), both in 1998 as well as 2007. As shown, the agencies most frequently involved in implementing wraparound efforts in 2007 were, in order of frequency: (1) Mental Health (100%); (2) Child Welfare (90%); (3) Juvenile Justice (90%); and Education (81%). These agencies were represented at similar rates in wraparound initiatives in 1998. However, more states are reporting active involvement by health, substance abuse, and developmental disabilities agencies in 2007 than was reported in 1998. Overall, in 2007 a mean of 5.26 (SD = 1.69) agencies were reported to be involved in the state wraparound initiative(s), compared to 4.67 (SD = 1.62) in 1998, a marginally significant difference ($t(39) = 1.704; p < .10$).

We also investigated whether statewide implementation of wraparound was associated with greater number of agencies involved. Indeed, states reported to be implementing wraparound statewide were found to have a mean of 5.54 agencies involved (SD = 1.56), compared to 4.94 (SD = 1.77) for states in which wraparound was being implemented locally. This difference, however, was not significant.

**Agencies in lead role.** The agencies most
Figure 1. Agencies Involved with State Wraparound Initiatives

1a. Agencies Involved in State Wraparound Initiatives

1b. Agencies in Lead Role in State Wraparound Initiatives
often identified as taking the lead role in wrap-around efforts were: (1) Mental Health (93%); (2) Child Welfare (52%); (3) Juvenile Justice (24%); and Education (24%). As shown in Figure 1, child welfare, juvenile justice, and developmental disabilities were all much more likely to be in a lead role in 2007 than in 1998. However, it is important to note that more agencies in general were reported to be in a “lead role” in 2007 than in 1998.

Wraparound by any other name. In 2007, 76% of states reported that terms other than “wraparound” were used to describe their programs. This was compared to only 54% of states in 1998. The most common terminologies used for wraparound-type initiatives in 2007 were: (1) Child & Family Teams (34% of states had at least one program that used this term); (2) Care Coordination/Coordinated Services (14%); (3) Individualized Treatment Plan or Individualized Service Agreement (14%); and (4) Team (or Family) Decision Making (14%). Other reported terms included: Children’s System of Care Initiative, Family Centered Practice, Intensive Community Based Treatment & Supports, and Family Support Teams.

Wraparound standards. The 2007 survey showed that 23 of the 41 states (56%) with wraparound programs (and that responded to the item) reported having some type of written standards for wraparound. This is an increase in use of written standards for wraparound from 1998, when 17 states (40%) reported having written standards.

Though this increase may be viewed as a positive change toward greater accountability, it should be noted that many of the respondents who provided details said that standards were from a training entity or that are incorporated into a fidelity scale that is being used in the state. Thus, the number of states that have incorporated practice standards directly into provider or agency contracts or reimbursement codes is likely to be much fewer than the 23 that reported having some type of standards.

Interesting differences emerged for states

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>States with Written Standards (n = 23)</th>
<th>States without Written Standards (n = 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide wraparound initiative</td>
<td>74%**</td>
<td>44%</td>
</tr>
<tr>
<td>Local initiative(s) only</td>
<td>26%</td>
<td>56%</td>
</tr>
<tr>
<td>In-state resources for training and professional development</td>
<td>74%</td>
<td>61%</td>
</tr>
<tr>
<td>No such state resources</td>
<td>26%</td>
<td>39%</td>
</tr>
<tr>
<td>Fidelity is monitored in the state</td>
<td>83%**</td>
<td>50%</td>
</tr>
<tr>
<td>Fidelity is not monitored</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>Mean number of agencies involved (SD)</td>
<td>5.65 (1.37) *</td>
<td>4.78 (1.87)</td>
</tr>
<tr>
<td>Mean number of programs (SD)</td>
<td>25.4 (34.2)</td>
<td>12.7 (25.6)</td>
</tr>
<tr>
<td>Mean number of youth served (SD)</td>
<td>2914 (4274)</td>
<td>1823 (2852)</td>
</tr>
</tbody>
</table>

**p < .05;  *p < .1
with standards versus those without standards. (See Table 1.) First, among states with written standards, more reported having statewide wraparound initiatives (74%) than among states without standards (44%) (chi-square (1) = 3.69; \( p < .05 \)). Second, as shown in Table 1, 83% of states with written standards reported formal fidelity monitoring in the state, versus only 50% of states without standards (chi-square (1) = 4.96; \( p < .05 \)). Third, states with written standards also reported more agencies being involved in their wraparound initiative than states without written standards, 5.65 on average versus 4.78 (t(39) = 1.73; \( p < .1 \)). Finally, states with written standards also tended to have more sites implementing wraparound in their state (25.4 versus 12.7 on average); and served more youth overall (2,914 versus 1,823).

**Implementation resources.** In the current survey, 71% of states that reported having wraparound in their state also reported that there were in-state resources available for wraparound training and professional development. Though fewer than three-fourths of states reported having in-state resources for training, 97% of states reported having some sort of in-service training in the last 5 years. This is compared to 86% in 1998. Interestingly, unlike existence of standards, availability of in-state resources for wraparound implementation did not differ significantly for states with statewide versus local wraparound initiatives.

**Fidelity measurement.** Of the 42 states that responded, 28 (67%) stated that fidelity measurement was conducted. As shown in Table 2, whether states collected fidelity data did not differ by statewide versus local implementation. Among states that measured fidelity, a higher percentage reported having standards for wraparound, compared to the percentage among states not measuring fidelity (68% versus 31%; chi-square (1) = 4.96; \( p < .05 \)). States that measured fidelity were also more likely to have an in-state training and TA resource (75% versus 61%), but this difference was non-significant. In summary, states that measured wraparound fidelity were more likely to have written standards and in-state resources for training and professional development. Whether a state measures fidelity does not appear to relate to the existence of statewide vs. local initiatives.

**Evaluation.** In 2007, 42 states responded to an item inquiring about whether a formal evaluation had been conducted in the state on one or more of its wraparound programs. Thirty-one respondents reported that one had been conducted (74%). This is in comparison to only 9 of 31 states (29%) that responded affirmatively to this item in 1998. As shown in Table 3, states that reported formal evaluation were more likely to have a statewide

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**Table 2. Characteristics of States that Report Conducting Fidelity Monitoring**

<table>
<thead>
<tr>
<th>States Reporting Fidelity Measurement (n = 28)</th>
<th>States without Fidelity Measurement (n = 14)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide wraparound initiative</td>
<td>61%</td>
</tr>
<tr>
<td>Local initiative(s) only</td>
<td>39%</td>
</tr>
<tr>
<td>Written standards for wraparound</td>
<td>68%</td>
</tr>
<tr>
<td>No written standards</td>
<td>32%</td>
</tr>
<tr>
<td>In-state resources for training and professional development</td>
<td>75%</td>
</tr>
<tr>
<td>No such state resources</td>
<td>25%</td>
</tr>
</tbody>
</table>

*\( p < .05 \)
wraparound initiative, to have written standards, and to measure fidelity of implementation. The only significant difference among these, however, was for measurement of fidelity (chi-square (1) = 3.018; p < .05).

**Responses to open-ended questions.** Respondents were asked “what lessons have you learned from your experience with implementing wraparound in your state?” Thirty-six of the 43 states reporting wraparound programs responded to this item, providing a total of 92 unique statements. As shown in Table 4, over two-thirds of these statements were related to three issues: Maintaining fidelity (n=28), ensuring stakeholder buy-in and engagement (n=18) and maintaining active family and youth participation and engagement (n=17). After these, funding/sustainability (n=13), interagency collaboration (n=8), outcomes (n=6), and definitional issues regarding wraparound (n=4) were all identified as themes.

Regarding the topic of maintaining quality and fidelity, the majority (n=15) of statements emphasized the importance of training, quality assurance, and maintaining fidelity to the wraparound model. For example, one respondent reported “Fidelity processes are very important but are time consuming and it is difficult to find funds to support the process.” Others reported that staff training and coaching were important for ensuring certain aspects of the model were achieved, such as using a strengths based approach or including natural supports on teams and in plans.

In other statements (n=5), respondents noted specific types of data collection necessary to support wraparound implementation. For example, one respondent stated, “treatments should be monitored for congruence to the plan, otherwise you end up with two distinct plans/approaches.” Finally, n=5 respondents reported specific approaches in their state for ensuring fidelity, training, and/or support. Examples included using national experts, developing local training entities, and/or efforts to train and mobilize family advocates. One respondent gave this advice: “utilize technical assistance from the “experts,” but don’t be afraid to challenge them to look ‘outside the box’ of unique characteristics of your local area.”

Of the 18 statements pertaining to stakeholder engagement and buy-in, the vast majority simply
emphasized the need to “build community buy-in and meaningfully engage stakeholders before implementing wraparound.” Stakeholders were identified broadly as individuals such as partner agency leaders and middle managers, as well as partner agency staff and members of the provider team.

Table 4. Summary of Statements (n=94) Coded from Qualitative Data in Response to the Question “What Lessons Have you Learned About Implementing Wraparound in Your State”

<table>
<thead>
<tr>
<th>Theme</th>
<th>N Statements</th>
<th>Percent of Total (n=96)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fidelity and Quality Assurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General - important to maintain fidelity</td>
<td>15</td>
<td>16%</td>
</tr>
<tr>
<td>Developed specific methods for monitoring</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Specific models for Training/Professional Dev.</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Problems with staffing/turndover</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Buy-in/Stakeholder Engagement</strong></td>
<td>18</td>
<td>19%</td>
</tr>
<tr>
<td>Community &amp; Stakeholders engagement</td>
<td>16</td>
<td>17%</td>
</tr>
<tr>
<td>Staff engagement and buy-in</td>
<td>2</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Family &amp; Youth Voice</strong></td>
<td>17</td>
<td>18%</td>
</tr>
<tr>
<td>Importance of having family/youth engagement</td>
<td>9</td>
<td>10%</td>
</tr>
<tr>
<td>Family members as Facilitators/Trainers</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td>Family Voice at the Service Delivery Level</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Funding Needs/Cost</strong></td>
<td>13</td>
<td>14%</td>
</tr>
<tr>
<td>General - fiscal issues</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>Importance of flex funds</td>
<td>5</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Interagency Collaboration</strong></td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td>Methods to develop/importance of</td>
<td>8</td>
<td>9%</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td>Importance of and difficulty documenting</td>
<td>6</td>
<td>6%</td>
</tr>
<tr>
<td><strong>Defining Wraparound</strong></td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td>General concerns</td>
<td>4</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>94</td>
<td>100%</td>
</tr>
</tbody>
</table>
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community.

In a related theme, n=17 statements pertained to the importance of youth and family member participation at the community as well as engagement at the individual family level. Most of these statements underscored the importance of this buy-in and participation across all levels of effort, but a number (n=5) also referred to the importance of or local efforts to train youth and family members as navigators, facilitators, and support partners.

Respondents’ statements related to funding and sustainability were very diverse. Five of the 13 statements in this theme highlighted the importance of flexible funding to implementing wraparound on the ground level. The remaining open-ended feedback provided a range of insights, including the following statements:

- “Seed funding is artificial. Better to make agencies commit to blending funds and recapturing savings.”
- “Financial support for families’ involvement is hard to come by, but it is very important.”
- “Whenever you share funds, you share accountability.”
- “Need to set up payment mechanisms very carefully so that they do not become unwieldy as program services grow.”
- “The importance and difficulty of blended funding... we struggle when children fit many funding silos.”
- “Joint funding gave communities the initiative to create other funding sources.”
- “Fundraising is critical key to sustainability.”
- “Need to ensure that planning activities with the model are reimbursed through either Medicaid or state funding.”

Eight statements presented suggestions, challenges, and lessons learned about creating infrastructure for collaboration. For example, “training [is needed] on how to integrate different plans from different systems into a single plan of care.” And, “although it has been a positive process for coordinating services among multiple agencies, [wraparound] has not been able to address the development of specialized services and supports that are not available within traditional funding streams.” Another respondent noted that “The team approach is what sustained wraparound through funding cuts, leadership changes, and overall changes in our system.”

The remaining coded statements fell into two categories. Regarding outcomes (n=6), most respondents lamented not having better ability to measure and document outcomes. One was much more specific, stating that, “we have been doing ‘low fidelity wraparound’ for 15 years. It is costly and we have little data to demonstrate effectiveness.” Finally, four respondents provided responses related to understanding the wraparound model. One simply said that “understanding what ‘wraparound’ is, is a challenge,” while another said, “after seven years, communities still struggle with the term.” Another stated, “the wraparound process should be considered as a strategy, not as a model—the strategy is more adaptable to each specific community and populations, while the model is more restricted and less flexible.”

Discussion

This paper presents some basic results of a follow-up survey about the scope and nature of wraparound implementation nationally. Identical to 1998 results, 49 states returned a survey and 43 (88%) reported one or more wraparound efforts in their state. Among the six states that reported no wraparound availability in 2007, four also reported no wraparound in 1998. Only one state—Virginia—reported having wraparound in 1998 but not in 2007, and follow up conversations with officials in Virginia reveal that a state wraparound conference and initiation of two wraparound efforts occurred in late 2007. Thus, the official number of states implementing wraparound in 2007 might be more accurately reported as 44 of 49.

Though the number of states reporting wraparound implementation may be stable or increasing, the total estimated number of youth served nationally was found to be lower than the 1998 estimate of 200,000. This is likely due to the more stringent definition of wraparound used in the 2007 survey, which was provided in order to ensure that estimates of wraparound reflect im-
plementation of a more specific model, such as that defined by the National Wraparound Initiative (Walker & Bruns, 2006). Though the definition presented in the 2007 survey includes components of the previous description, it also specifies, for example, that wraparound features a specific individual who serves as a care coordinator or facilitator, that there is a team, and that certain activities are occurring, such as engaging sources of natural support, monitoring progress on measurable indicators of success, and regularly reviewing and changing an individualized wraparound plan. In general, movement in the past decade toward viewing wraparound as a definable team-based care coordination model for youth with the most serious and complex needs (rather than a philosophy of care for all youth with behavioral and emotional concerns) is likely to have led to lower estimates of total enrolled youth.

A number of states that reported that wraparound is overseen by local efforts nonetheless reported having state standards. In general, this trend toward use of standards probably reflects recent emphasis on defined and/or manualized “evidence based practices,” more specific descriptions of the wraparound process, and a growth in literature on system and program conditions required to implement wraparound (e.g., Bruns, Suter, & Leverentz-Brady, 2006; Walker, Koroloff, & Schutte, 2003). Thus, there seem to be trends toward addressing a concern that was prominent in the children’s services field in the late 1990s: that wraparound was not well-enough specified to be implemented consistently and subjected to research (Clark & Clarke, 1996; Rosenblatt, 1996).

Along with greater prominence of standards, a number of seemingly positive trends were observed from the 2007 survey results. For example, states are reporting a greater number of agencies being actively involved in wraparound implementation, and a greater diversity of child-serving systems taking a lead role, including child welfare, juvenile justice, and education. This latter finding likely reflects the expansion of the wraparound model toward serving a more diverse set of purposes and populations (see John VanDenBerg’s article on this phenomenon elsewhere in this Resource Guide). In addition, results show that 71% of states providing wraparound have in-state resources for wraparound training and professional development, 67% report measuring fidelity, and 97% have had some sort of training provided in the past five years (an increase from 86% in 1998). Perhaps not surprisingly, all the trends reported above, particularly involvement of multiple agencies and fidelity monitoring, are associated with the presence of written standards for wraparound implementation, and nearly all of these associations are statistically significant.

Finally, 74% of states report having conducted formal evaluation of their wraparound initiative(s) in 2007, compared to only 31% in 1998. States with formal evaluation studies were significantly more likely to report measuring fidelity as well. This finding may speak to a greater overall attention to evaluation in these states; however, it may also mean that the evaluation that is being conducted in these states is largely focused on fidelity or implementation assessment, more so than out-
comes. This hypothesis is supported by responses to open-ended questions in which many respondents reported difficulty in collecting outcomes data and documenting outcomes in general.

**Implications & Recommendations.** Extrapolating from current results leads us to an estimate of over 800 wraparound programs nationally, serving approximately 100,000 youth and their families. As mentioned above, this number is lower than was derived from the 1998 survey. The estimate may be considered more accurate, however, given that it is based on a more stringent definition based on work done in the intervening decade to better specify wraparound (Walker & Bruns, 2006). Unfortunately, the definitional change makes it difficult to determine trends in numbers of youths served via the wraparound process over time. The fact that the same number of states report implementation of wraparound in 2007 as did in 1998, however, suggests that efforts to deploy wraparound (however it may be conceptualized) have been relatively stable over the past 10 years. But it remains difficult to say with any real certainty.

Nonetheless, if accurate, the estimate provided from this survey would mean that wraparound is being employed far more often than other prominent community-based treatment models for youth with serious and complex needs. This includes five times as many youth as multi-systemic therapy (MST; Henggeler et al., 1998), which is estimated to serve 19,000 youths; three times more youth than Functional Family Therapy (FFT; Alexander, Pugh, Parsons, & Sexton, 2000), which is estimated to serve 30,000 youth annually; and many times more youth than Multidimensional Treatment Foster Care (MTFC; Chamberlain & Reid, 1998), which is estimated to serve 1,000 youth annually (Evidence-Based Associates, 2008).

This is probably not surprising, given that wraparound is conceived as a system-level intervention that has the capacity to serve children with a range of concerns, as opposed to MST, FFT, and MTFC, which are tailored to serve children who meet specific eligibility criteria. But nonetheless, one major implication of the current research is that the wraparound process, even with the greater specification and narrowing of its definition, is quite extensively implemented relative to other community-based models for the same population. As such, it deserves significant attention from researchers and developers so that the likelihood of its successful deployment for these many youth is as likely as possible. Given that MST, FFT, and MTFC generally are considered to have been tested through more rigorous research than wraparound, this implication becomes all the more important.

Fortunately, far from a reluctance to deal with these issues, results of this study show that there has been an increase in the attention paid to wraparound quality and fidelity over the past decade. Results indicate that use of state-level standards, in-state training and TA resources, fidelity monitoring, evaluation, and other implementation supports are all on the rise. This is also being reflected in an increase in the number and rigor of research studies on wraparound in the past five years (see review by Suter and Bruns in this Resource Guide).

At the same time, however, fewer states report that their wraparound initiatives are being overseen at the state level. This may be unfortunate, because results suggest state-wide initiatives are associated with greater deployment of standards, active involvement by more agencies, and more consistent fidelity and quality monitoring. Even if counties or local programs are now more likely to oversee wraparound efforts, it may be advantageous for states to be in the business of overseeing implementation efforts in some way, such as through establishment of standards and/or monitoring of adherence to standards of quality.

A final conclusion to take from the open-ended question posed to respondents is that

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In 2007, nearly every state and approximately 100,000 children and their families had some involvement with the wraparound process.
around implementation remains challenging for states, communities, and providers. Though the majority of comments suggested that wraparound is viewed as a major asset to states and their communities, many respondents noted the difficulty of maintaining fidelity to wraparound components such as flexible funds, individualization, and team-based coordination in the face of siloed systems, staff turnover, and limited and increasingly inflexible resources. It may be that, over the years, the accumulation of implementation failures related to such barriers is what has led to the term “wraparound” being used less and less frequently (as was found in this survey), in favor of finding new names for team-based individualized care programs that are less associated with past disappointments.

Conclusion

The State Wraparound Survey is one part of a broad research agenda to better identify national trends and challenges regarding wraparound implementation. Though the research base on wraparound is progressing, it has been slow to develop due to its individualized and grassroots nature. Wraparound is also conceived as both a systems intervention as well as a strategy for working with individual children and families (Stroul, 2002; Walker, Bruns, & Penn in press), making it all the more challenging to implement. In general, much more research is needed on what factors lead to high-quality implementation of wraparound and improved health and well-being for the individuals who are engaged in it. This is particularly important when one considers that, in 2007, nearly every state and approximately 100,000 children and their families had some involvement with the wraparound process.

Though 100,000 may seem like a large number, one possible implication of the current study could be that far too few children and youth receive wraparound. According to the most recent estimates, there are 5-8 million youths with a serious emotional disturbance (SED) nationally (Costello, Messer, Bird, Cohen, & Reinherz, 1998; Friedman, Katz-Leavey, Manderscheid, & Sondheimer, 1998) and about one out of five of these youth receives mental health services of any kind (Kataoka, Zhang, & Wells, 2002). This means that, at best, assuming no overlap in treatments received per youth, only 1-2% of youths with SED are engaged in the wraparound process and another 1% in one of the other intensive community-based treatments mentioned above. As for those 20% of youths with SED who receive some kind of service, our findings raise questions about the nature of supports provided to these youth, given that over 90% apparently do not receive wraparound or one of these other intensive community-based treatments. Though not all youth with SED require the intensity of wraparound, MST, FFT, or MTFC, it is unlikely that so few as 2-3% annually would benefit from engagement in one of these models.

References


ous emotional disturbance: An update. In R. Manderscheid & M. Henderson (Eds.), Mental health, United States (pp.110-112). Rockville, MD: USDHHS, Substance Abuse and Mental Health Services Administration.


**Authors**

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**April Sather** works with Eric Bruns at the University of Washington, with the Wraparound Evaluation & Research Team. April coordinates various research activities and works closely with the Wraparound Fidelity Assessment System development and training.

**Leyla Stambaugh,** Ph.D., conducted the first national survey of wraparound in the U.S. in 1999. She recently completed postdoctoral training with Barbara J. Burns, Ph.D., at Duke University, during which she examined wraparound outcomes from a CMHS system of care site in Nebraska. In 2007, she joined the Child and Family Program at RTI International as a Research Psychologist.

**Suggested Citation:**

Summary of the Wraparound Evidence Base: April 2010 Update

Eric Bruns, Co-Director, National Wraparound Initiative, and Associate Professor, University of Washington School of Medicine
Jesse C. Suter, Research Assistant Professor, University of Vermont

Wraparound is a team-based planning process intended to provide coordinated, holistic, family-driven care to meet the complex needs of youth who are involved with multiple systems (e.g. mental health, child welfare, juvenile justice, special education), at risk of placement in institutional settings, and/or experiencing serious emotional or behavioral difficulties (Walker & Bruns, 2008). Wraparound provides an “on the ground” mechanism for ensuring that core system of care values will guide planning and produce individualized, family-driven and youth-guided support that is community based and culturally competent (Stroul & Friedman, 1996).

In the children’s services field, there is broad consensus that for youth and families with multiple and complex needs, the wraparound paradigm is an improvement over more traditional service delivery methods that are uncoordinated, professional-driven, deficit-based, and overly reliant on out of home placement. This is reflected in wraparound’s widespread adoption nationally and worldwide. A 2007 survey shows that 91% of U.S. states have some type of wraparound initiative, with 62% implementing some type of statewide initiative. Over 100,000 youth nationally are estimated to be engaged in a well-defined wraparound process (Bruns, Sather, & Stambaugh, 2008).

Regardless of how popular an intervention is with providers or families, or how well it conforms to current values of care, such criteria can not be used as the sole basis for policy making or treatment decision making. In the current era...
Section 3: Theory and Research

of “evidence-based practice,” decisions regarding how we invest our scarce health care resources—as well as decisions about what treatment approaches will be used with a given youth or family—must also be based on evidence derived from properly designed evaluations. After all, youth with complex needs may be served via a range of alternative approaches, such as via traditional case management or through uncoordinated “services as usual” (in which families negotiate services and supports by themselves or with help of a more specialized provider such as a therapist). Other communities may choose to invest in an array of more specialized office- or community-based evidence-based practices that address specific problem areas, in the absence of wraparound care coordination. And of course, many communities continue to allocate significant behavioral health resources to out-of-community options such as residential treatment, group homes, and inpatient hospitalization. The range of options in which states and localities may invest, combined with resource limitations, demands that we develop evidence for what models work for which youth under which conditions.

Increasingly, investment in wraparound is backed by controlled research. As of 2003, when the first meeting of the National Wraparound Initiative was held, there were only three controlled (i.e., experimental or quasi-experimental) studies of wraparound effects published in peer-reviewed journals. As of 2010, there are now nine controlled, published studies. Several of these newer studies include fidelity data as well as cost data, increasing our understanding of wraparound’s potential for impact and what is required to achieve that impact. In addition, the first meta-analysis of wraparound has now been published (Suter & Bruns, 2009). As a result of this expansion in controlled research, as well as the greater availability of dissemination materials, Wraparound is currently being reviewed for inclusion in the Substance Abuse and Mental Health Services Administration (SAMHSA) National Registry of Evidence-based Programs and Practices (NREPP).

Kazdin (1999) says there are four criteria for assessing the status of an intervention’s evidence base: (1) A theory to relate a hypothesized mechanism to a clinical problem; (2) Basic research to assess the validity of the mechanism; (3) Outcome evidence to show that a therapeutic approach changes the relevant outcomes; and (4) Process-outcome connections, which display the relationships between process change and clinical outcomes.

With respect to criteria 1 and 2, for youth and families with complex and overlapping needs, the theory of change for wraparound (Walker, 2008) provides rationale (with supportive basic research) for why wraparound treatment planning is likely to be more effective than services provided in the absence of this process. Some of the specific mechanisms of change include better treatment acceptability and youth/family engagement; better teamwork; an emphasis on problem solving; and an emphasis on increasing optimism, hope, self-efficacy, and social support.

For condition 4, research is increasingly showing associations between system-, organizational, and team-level fidelity and child and family outcomes. Bruns et al. (2005; 2006; 2008) as well as other authors (e.g., Walton & Effland, 2010) have shown that communities that adhere more closely to the wraparound principles as assessed via measures such as the Wraparound Fidelity Index tend to show more positive outcomes. On the flip side, communities with better developed system supports for wraparound tend to demonstrate higher fidelity scores. (You can see an entire section in the Resource Guide to Wraparound on this evidence).

Ultimately, however, it is outcomes evidence from rigorous studies (criterion no.3) that is most relevant to evaluating an intervention’s evidence base. As described in our review of wraparound research, as of 2008, we found 36 published outcomes studies of wraparound. However, only a small number of these (n=7) were controlled studies that used random assignment or some type of comparison group design. In 2009, we published a meta-analytic review of these seven studies (Suter & Bruns, 2009). This analysis found that, on average across these studies, significant effects of wraparound were found for all four outcome domains we examined, including living situation, youth behavior, youth functioning, and youth community adjustment. Mean effect sizes across these domains (calculated as the difference between wraparound and control group means at posttest divided by the pooled standard
deviation, or Cohen’s d) ranged from .25 to .59, with the largest effects found for living situation outcomes (e.g., youth residing in less restrictive, community placements and/or greater stability of placement). The mean effect size across all outcomes was .33-.40, depending on whether studies for which effect sizes were imputed were included (d=.33) or excluded (d=.40). These effect sizes are quite similar to effects found for established EBPs implemented under “real world” conditions and compared to some type of alternative treatment condition (Weisz, Jensen-Doss, & Hawley, 2006).

As of 2010, there have been nine controlled studies of wraparound that have been published in peer reviewed publications. In the rest of this document, we present a summary of each of these studies (Table 1), followed by a summary of all significant behavioral outcomes found across the controlled studies (Table 2).

Though many of these studies have significant methodological weaknesses, the “weight of the evidence” of these studies indicates superior outcomes for youth who receive wraparound compared to similar youth who receive some alternative service. On the strength of these studies, as well as others currently being completed, it is likely that wraparound will increasingly be referred to as an “evidence-based” process in the future.

At the same time, much more wraparound research is needed. The diversity of contexts in which wraparound is implemented (e.g., for youths from birth to transition age as well as adults, and in contexts as varied as mental health, juvenile justice, child welfare, and schools) demands more effectiveness studies, so that we can better understand for which individuals and in what contexts wraparound is most likely to be effective. The many ways in which wraparound can be implemented also demand an expansion of the implementation research base on wraparound. For example, what are outcomes and costs of achieving different levels of fidelity? What modifications to the practice model achieve the best results? What training, coaching, and supervision yield the best fidelity, staff, and youth and family outcomes? What is needed at the organizational and system level to support high-quality wraparound implementation? Though the wraparound research base continues to grow, so does the list of questions for which we seek answers.

References

References for Outcomes Review


References continued on p. 6

1 Two notes on the studies included in Tables 1 and 2 and the Suter & Bruns (2009) meta-analysis are worth making. First, one study included in Table 1 (Myaard et al., 2000) studied outcomes for N=4 youths participating in wraparound with outcomes assessed using a multiple baseline experimental design. Given this research design, this study is worthy of inclusion in a review of rigorous wraparound studies; however, due to its unique multiple baseline design, this study was not included in the 2009 meta-analysis nor are its outcomes included in Table 2. Second, one of the studies included in the meta-analysis (Bickman et al., 2003) presented evidence indicating that the “wraparound” condition that was evaluated did not conform to the principles or practice model of wraparound and was not meaningfully different from the comparison condition. Thus, while this study was included in the meta-analysis to be conservative, it is not included in Table 1 or 2.
### Table 1. Summary of Nine Published Experimental and Quasi-Experimental Outcomes Research Studies of Wraparound**

<table>
<thead>
<tr>
<th>Study</th>
<th>Citations</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Randomized control study (18 months) of youth in child welfare custody in Florida: 54 in wraparound vs. 78 in standard practice foster care.</td>
<td>Clark, Lee, Prange, &amp; McDonald, 1996; Clark et al., 1998.</td>
<td>Significantly fewer placement changes for youths in the wraparound program, fewer days on runaway, fewer days incarcerated (for subset of incarcerated youths), and older youths were significantly more likely to be in a permanency plan at follow-up. No group differences were found on rate of placement changes, days absent, or days suspended. No differences on internalizing problems, but boys in wraparound showed significantly greater improvement on externalizing problems than the comparison group. Taken together, the findings provided moderate evidence for better outcomes for the wraparound program; however, differences appear somewhat limited to boys and externalizing problems.</td>
</tr>
<tr>
<td>Matched comparison study (18 months) of youth in child welfare custody in Nevada: 33 in wraparound vs. 32 receiving MH services as usual</td>
<td>Bruns, Rast, Walker, Bosworth, &amp; Peterson, 2006; Rast, Bruns, Brown, Peterson, &amp; Mears, 2007</td>
<td>After 18 months, 27 of the 33 youth (approximately 82%) who received wraparound moved to less restrictive environments, compared to only 12 of the 32 comparison group youth (approximately 38%), and family members were identified to provide care for 11 of the 33 youth in the wraparound group compared to only six in the comparison group. Mean CAFAS scores for youth in wraparound decreased significantly across all waves of data collection (6, 12, 18 months) in comparison to the traditional services group. More positive outcomes were also found for the wraparound cohort on school attendance, school disciplinary actions, and grade point averages. No significant differences were found in favor of the comparison group.</td>
</tr>
<tr>
<td>Matched comparison study (12 months) of N=210 youth in child welfare custody in Los Angeles County: 43 discharged from Wraparound vs. 177 discharged from group care.</td>
<td>Rauso, Ly, Lee, &amp; Jarosz, 2009</td>
<td>Initial analyses for a larger matched sample of youth (n=102 wraparound vs. n=210 for group care) found that 58% (n=59) of youth discharged from wraparound had their case closed to child welfare within 12 months, compared to only 16% (n=33) of youth discharged from group care. Of those youth who remained in the care of child welfare for the full 12 months follow-up period (n=43 for wraparound vs. n=177 for group care), youth in the wraparound group experienced significantly fewer out of home placements (mean = 0.91 compared to 2.15 for the comparison group). Youth in the wraparound group also had significantly fewer total mean days in out of home placements (193 days compared to 290). During the 12-months follow-up, 77% of the Wraparound graduates were placed in less restrictive settings while 70% of children who were discharged from RCL 12-14 were placed in more restrictive environments. Mean post-graduation cost for the wraparound group was found to be $10,737 compared to $27,383 for the group care group.</td>
</tr>
</tbody>
</table>

**NOTE: The research selected for inclusion in this Table includes the nine experimental and quasi-experimental outcomes research studies published in peer-reviewed journals relevant to the wraparound process (8 controlled studies and 1 multiple-baseline study). Studies are organized by the population studied. These include four studies of youths served through the child welfare system, two studies of youths served because of their involvement in (or risk of involvement in) juvenile justice, and four studies of youths served because of their intensive mental health needs.
Table 1. (CONTINUED) Summary of Nine Published Experimental and Quasi-Experimental Outcomes Research Studies of Wraparound**

<table>
<thead>
<tr>
<th>Study</th>
<th>Citations</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Child Welfare</strong></td>
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<tr>
<td>Matched comparison study (6 months) of N=126 youths involved in the child welfare system in Clark County, NV: 96 in wraparound vs. 30 in traditional child welfare case management.</td>
<td>Mears, Yaffe, &amp; Harris, 2009</td>
<td>Youth in the wraparound group approach showed significantly greater improvement in functioning (d=.50) as assessed by the Child and Adolescent Functional Assessment Scale (CAFAS) compared to youth receiving traditional child welfare services. Youth in the wraparound group also showed significantly greater movement toward less restrictive residential placements (d=.71) as assessed by the Restrictiveness of Living Environment Scale (ROLES). More wraparound youth experienced a placement change during the 6 month follow up (23% vs. 49%); however, this was due to youth in the wraparound group being more likely to move to less restrictive placements during the study period. No differences were found for child behavior as assessed by the CBCL, school, or juvenile justice outcomes.</td>
</tr>
<tr>
<td>Randomized control study (18 months) of “at risk” and juvenile justice involved (adjudicated) youth in Ohio: 73 in wraparound vs. 68 in conventional services</td>
<td>Carney &amp; Buttell, 2003</td>
<td>Study supported the hypothesis that youth who received wraparound services were less likely to engage in subsequent at-risk and delinquent behavior. The youth who received wraparound services were less likely to miss school unexcused, get expelled or suspended from school, run away from home, or get picked up by the police as frequently as the youth who received the juvenile court conventional services. There were, however, no significant differences, in formal criminal offenses.</td>
</tr>
<tr>
<td>Matched comparison study (&gt;2 years) of youth involved in juvenile justice and receiving MH services: 110 youth in wraparound vs. 98 in conventional MH services</td>
<td>Pullmann, Kerbs, Koroloff, Veach-White, Gaylor, &amp; Sieler, 2006</td>
<td>Youths in the comparison group were three times more likely to commit a felony offense than youths in the wraparound group. Among youth in the wraparound program, 72% served detention “at some point in the 790 day post identification window” (p. 388), while all youth in the comparison group were subsequently served in detention. Of youth in the Connections program who did serve detention, they did so significantly less often than their peers. Connections youth also took three times longer to recidivate than those in the comparison group. According to the authors, a previous study by Pullman and colleagues also showed “significant improvement on standardized measures of behavioral and emotional problems, increases in behavioral and emotional strengths, and improved functioning at home at school, and in the community” (p. 388) among Connections youth.</td>
</tr>
<tr>
<td><strong>Juvenile Justice</strong></td>
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<td>Randomized control study (12 months) of youths referred to out-of-home placements for serious mental health problems in New York State: 27 to family centered intensive case management (wraparound) vs. 15 to treatment foster care.</td>
<td>Evans, Armstrong, &amp; Kuppinger, 1996; Evans, Armstrong, Kuppinger, Huz, &amp; McNulty, 1998</td>
<td>Significant group differences were found in favor of the case management/wraparound program for behavioral and mood functioning. No differences were found, however, with respect to behavior problems (internalizing and externalizing), family cohesiveness, or self-esteem. No differences found in favor of the TFC group. Overall, small sample size plus loss of data on many of the outcome measures resulted in the study having very low power to detect differences between groups.</td>
</tr>
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</table>
Section 3: Theory and Research

Table 1. (CONTINUED) Summary of Nine Published Experimental and Quasi-Experimental Outcomes Research Studies of Wraparound**

<table>
<thead>
<tr>
<th>Study</th>
<th>Citations</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quasi-experimental (24 months) study of youths with serious mental</td>
<td>Hyde, Burchard, &amp; Woodworth, 1996</td>
<td>Primary outcome was a single rating that combined several indicators: restrictiveness of youth living situation, school attendance, job/job training attendance, and serious problem behaviors. Youths received ratings of “good” if they were living in regular community placements, attending school and/or working for the majority of the week, and had fewer than three days of serious behavior problems during the course of previous month. At 2-year follow-up, 47% of the wraparound groups received a rating of “good,” compared to 8% of youths in traditional MH services. Limitations of the study include substantial study attrition and group non-equivalence at baseline.</td>
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<tr>
<td>health issues in urban Baltimore: 45 returned or diverted from</td>
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<td>residential care to wraparound vs. 24 comparison youths.</td>
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<tr>
<td>Experimental (multiple-baseline case study) study of four youths</td>
<td>Myaard, Crawford, Jackson, &amp; Alessi (2000).</td>
<td>The multiple baseline case study design was used to evaluate the impact of wraparound by assessing whether outcome change occurred with (and only with) the introduction of wraparound at different points in time. The authors tracked occurrence of five behaviors (compliance, peer interactions, physical aggression, alcohol and drug use, and extreme verbal abuse) for each of the youths. Participants began receiving wraparound after 12, 15, 19, and 22 weeks. For all four participants, on all five behaviors, dramatic improvements occurred immediately following the introduction of wraparound.</td>
</tr>
<tr>
<td>referred to wraparound because of serious mental health issues in</td>
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<td>rural Michigan.</td>
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</table>

References (CONTINUED)


Rauso, M., Ly, T. M., Lee, M. H., & Jarosz, C. J. *References continued on p. 8*
Table 2. Summary of All Behavioral Outcomes for the Wraparound Process with Supporting Citations from Eight Controlled Studies

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Effect Size</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less assaultive</td>
<td>0.30</td>
<td>Carney &amp; Buttell, 2003, p. 561</td>
</tr>
<tr>
<td>Ran away less</td>
<td>0.45</td>
<td>Carney &amp; Buttell, 2003, p. 561</td>
</tr>
<tr>
<td>Suspended from school less</td>
<td>0.47</td>
<td>Carney &amp; Buttell, 2003, p. 561</td>
</tr>
<tr>
<td>Missed less school</td>
<td>0.47</td>
<td>Carney &amp; Buttell, 2003, p. 561</td>
</tr>
<tr>
<td>Less likely to be picked up by police</td>
<td>0.49</td>
<td>Carney &amp; Buttell, 2003, p. 561</td>
</tr>
<tr>
<td>Less likely to be suspended from school</td>
<td>0.22</td>
<td>Clark et al., 1998, p. 529</td>
</tr>
<tr>
<td>Less likely to spend more time incarcerated</td>
<td>0.31</td>
<td>Clark et al., 1998, p. 529</td>
</tr>
<tr>
<td>Fewer days on runaway</td>
<td>0.34</td>
<td>Clark et al., 1998, p. 528</td>
</tr>
<tr>
<td>Residing in more permanency-type settings</td>
<td>0.17</td>
<td>Clark et al., 1998, p. 526</td>
</tr>
<tr>
<td>Less likely to spend time on runaway</td>
<td>0.22</td>
<td>Clark et al., 1998, p. 529</td>
</tr>
<tr>
<td>Less likely to experience a high number of placement changes</td>
<td>0.25</td>
<td>Clark et al., 1998, p. 529</td>
</tr>
<tr>
<td>Improved behavioral functioning on CAFAS</td>
<td>0.61</td>
<td>Evans et al., 1998, p. 566</td>
</tr>
<tr>
<td>Improved moods / emotions on CAFAS</td>
<td>0.61</td>
<td>Evans et al., 1998, p. 566</td>
</tr>
<tr>
<td>Improved overall functioning on CAFAS</td>
<td>0.50</td>
<td>Mears et al., 2009, p. 682</td>
</tr>
<tr>
<td>Residing in less restrictive placements</td>
<td>0.71</td>
<td>Mears et al., 2009, p. 682</td>
</tr>
<tr>
<td>Reduced recidivism for any offense</td>
<td>0.25</td>
<td>Pullman et al., 2006, p. 386</td>
</tr>
<tr>
<td>Reduced recidivism for felony</td>
<td>0.26</td>
<td>Pullman et al., 2006, p. 388</td>
</tr>
<tr>
<td>Fewer days served in detention</td>
<td>0.66</td>
<td>Pullman et al., 2006, p. 388</td>
</tr>
<tr>
<td>Fewer episodes in detention</td>
<td>0.75</td>
<td>Pullman et al., 2006, p. 388</td>
</tr>
<tr>
<td>Less likely to serve in detention</td>
<td>0.85</td>
<td>Pullman et al., 2006, p. 388</td>
</tr>
</tbody>
</table>

Note on effect sizes: The effect size reported for these outcomes is the standardized mean difference, typically referred to as Cohen’s d (1988). Effect sizes were calculated as the difference between wraparound and control group means at posttest divided by the pooled standard deviation. Effect sizes were generated using an effect size program created by Wilson (2004) and presented such that positive values always indicated positive results for youth receiving wraparound relative to youth in control groups. All effect sizes were adjusted using Hedges’ small sample size correction to create unbiased estimates (Hedges & Olkin, 1985). The magnitude of effects is typically interpreted using Cohen’s (1988) guides for small (0.20), medium (0.50), and large (0.80) effects.
Table 2. (CONTINUED) Summary of All Behavioral Outcomes for the Wraparound Process with Supporting Citations from Eight Controlled Studies

<table>
<thead>
<tr>
<th>Section 1: Statistically Significant (p&lt;.05) Behavioral Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Improved school GPA</td>
</tr>
<tr>
<td>Improved overall functioning on CAFAS</td>
</tr>
<tr>
<td>Fewer disciplinary actions</td>
</tr>
<tr>
<td>Moved to less restrictive living environments</td>
</tr>
<tr>
<td>Fewer emotional and behavioral problems on CBCL</td>
</tr>
<tr>
<td>Fewer out-of-home placements</td>
</tr>
<tr>
<td>More stable living environment</td>
</tr>
<tr>
<td>Residing in less restrictive placements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 2: Behavioral Outcomes That Were Not Statistically Significant, But with Positive Effect Sizes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
</tr>
<tr>
<td>Less likely to be arrested</td>
</tr>
<tr>
<td>Less likely to be in clinical range on CBCL or YSR</td>
</tr>
<tr>
<td>Fewer unexcused absences</td>
</tr>
<tr>
<td>Combined rating indicating lower restrictiveness of placement, improved school attendance, and fewer negative behaviors.</td>
</tr>
</tbody>
</table>

References (CONTINUED)


Other References


Chapter 3.5: Bruns & Suter


Authors

Eric Bruns is a clinical psychologist and Associate Professor at the University of Washington School of Medicine in Seattle. He spends much of his professional life conducting research on innovative community-based models for helping youth and families with complex needs, including family treatment drug courts, treatment foster care, parent support programs, and the wraparound process. He is a lead developer of the Wraparound Fidelity Assessment System and, with Janet Walker, co-directs the National Wraparound Initiative.

Jesse Suter is a faculty member at the University of Vermont with interests in the research, development, and evaluation of community- and school-based programs for preventing and responding to emotional and behavioral challenges. He was introduced to wraparound by working with John Burchard on the Wraparound Fidelity Index, and he continues to work on the Wraparound Evaluation and Research Team with two other former students of John’s: Eric Bruns and Kristen Leverentz-Brady.

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