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REPORT FROM THE FIELD

Population-Based Provider Engagement in Delivery of Evidence-Based Parenting Interventions: Challenges and Solutions

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Abstract Population-wide interventions do not often address parenting, and relatively little is known about large scale dissemination of evidence-based parenting interventions. Most parenting interventions are not designed to reach the majority of parents in a geographic area or to influence prevalence rates for a problem, nor do they take full advantage of the existing workforce. Implementation of parenting interventions on this scale is a complex process; examination of such efforts can inform both research and policy. The US Triple P System Population Trial, designed to reduce child maltreatment at a population level, affords a unique opportunity to examine the steps involved in launching positive parenting support at a population level via an existing provider workforce. The implementation process is described; challenges and solutions are discussed.

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Population-wide interventions have long been used in public health but have rarely addressed issues related to parenting. Relatively little information is available about dissemination of evidence-based parenting interventions on this scale of magnitude. Existing studies of dissemination of evidence-based interventions in general often target a single service sector such as mental health or substance abuse (Henggeler et al. 2008; Schoenwald et al. 2008), focus on a limited pool of providers such as nurses (Olds et al. 2007), or target only a small segment of the population such as in Multisystemic Therapy for youth with serious clinical or conduct problems (Henggeler 1999). Even universal prevention programs involving large groups of participants, such as substance use prevention or promotion of character development programs disseminated via school curriculum models, provide limited guidance in understanding how to effectively engage a large, multidisciplinary group of providers in delivering evidence based programs (Beets et al. 2008; Sloboda et al. 2008). Unless evidence-based programs are deployed by a wide range of providers and used by a significant portion of the population, the impact on the population will remain quite limited because relatively few parents are exposed to intervention.

Adoption of evidence-based programs has been the subject of recent research, often focusing on issues related to program creation and community engagement to allow uptake and use (Connor-Smith and Weisz 2003; Biglan and Taylor 2000; Wandersman 2003). Successful interventions must balance acceptability and feasibility with efficacy; these considerations impact program development, implementation, and dissemination (Smith et al. 2008; Weisz et al. 2004). In addition to acceptability and feasibility, there are a number of additional factors that influence adoption of evidence-based programs. These include systemic, organizational, program, and individual provider-level variables (Greenhalgh et al. 2004; Henggeler et al. 2008; Sanders and Murphy-Brennan in press; Sanders and Prinz 2008a; Schoenwald et al. 2008). Launching of a population-wide intervention therefore requires activities that address variables at each of these levels in order to be successful in reaching a large, diverse provider pool.

One example of an emerging population-wide (public health) approach to parenting that has been successfully disseminated is the Triple P-Positive Parenting Program system of interventions (Triple P), developed by Sanders (1999, 2008), Sanders et al. (2003b), Sanders and Morawska (2006). Triple P is a suite of parent-only interventions designed to improve parenting confidence and competence on a broad scale. The intervention explicitly promotes parental self-sufficiency and independent problem solving, which represents a unique approach to parenting interventions. Within Triple P, parents acquire effective parenting strategies within a self-regulatory framework designed to improve parental knowledge, skills, and confidence (Sanders 1999). Derived from behavioral family interventions, Triple P interventions have been evaluated in multiple service delivery contexts (e.g., home, primary care, and school settings; Markie-Dadds and Sanders 2006a, b; Turner and Sanders 2006a) with a wide variety of populations including toddlers and preschoolers, as well as children with conduct problems, attention deficit hyperactivity disorder, and developmental disabilities (Bor et al. 2002; Hoath and Sanders 2002; Morawska and Sanders 2006, Roberts et al. 2006; Sanders et al. 2000). Common outcomes from Triple P interventions include reductions in parent-reported child behavior problems, reductions in aversive parenting practices, and improvements in parental self-efficacy (Bor et al. 2002; Hoath and Sanders 2002; Sanders et al. 2000; Sanders et al. 2003a). Four different meta-analyses have documented the positive effects of Triple P (e.g., de Graaf et al. 2008; Nowak and Heinrichs 2008). The strong evidence base, coupled with the availability of standardized program materials, manualized training procedures, and an infrastructure to support implementation, has resulted in wide spread dissemination (Sanders et al. 2002) and population-level trials (Prinz et al. 2009; Sanders 2008; Zubrick et al. 2005). Triple P has also been used to effectively train a broad range of providers to deliver parenting interventions (Sanders et al. 2003b; Shapiro et al. 2008). Core Triple P interventions consist of five levels of increasing intensity and reach. These include a universal media-based parenting information strategy (Level 1), Selected Triple P to provide advice about a specific parenting concern (Level 2), narrow-focus parent skills training (Level 3, Primary Care Triple P), broad-focus parent skills training (Level 4, Standard or Group Triple P), and more intensive behavioral family intervention (Level 5, Enhanced Triple P; Sanders et al. 2003b). When these core levels of the intervention are utilized as a system, it can be conceptualized as an approach to prevent or reduce child maltreatment through positive impact on family-based risk factors for maltreatment (Sanders et al. 2003a).

Use of the Triple P System as a child maltreatment prevention strategy has been the focus of an ongoing study, the US Triple P System Population Trial. The goals of the project, rationale, and conceptual framework for this approach have been previously described (Prinz and Sanders 2007). Even more important, outcome data from the population trial indicate evidence of positive impact of this systems approach on three separate population-level indicators related to child maltreatment (substantiated child maltreatment cases, out-of-home placements, and child-maltreatment related injuries; Prinz et al. 2009). Here we provide a detailed description of the implementation strategies used to engage a large and diverse group of providers (nearly 900) in the use of Triple P as an evidence-based parenting intervention. These providers had no prior exposure to Triple P in their work with parents of young children. We focus on the systemic, organizational, program, and provider-level variables that might influence implementation and broad dissemination.

Implementation strategies for a population-level parenting intervention are complex and multifaceted. In addition to funding streams (a systems-level variable), major steps to launching a population-level parenting intervention include identification of a target region or population, identification of a population of providers to deliver the intervention (systemic and organizational variables), methods to engage and train providers to uptake the intervention (program-level variables), implementation of post-training provider support and consultation (program and provider variables), and finally, implementation of strategies to disseminate information about parenting and parent support resources to the recipients of the intervention (i.e., parents of young children). We will describe the methods used for the population trial at each step in the process.

Identification of Target Geographic Areas and Target Population

Selection of geographic areas for implementation of a program would typically involve systems-level data on needs and resources. For example, data to consider prior to broad implementation of a parenting intervention would include rates of targeted outcomes such as child behavior problems, youth substance abuse, or child maltreatment. Also important to consider are the community resources that could be brought to bear on the identified problem. From a public health perspective, this would include knowledge of potential media outlets for dissemination of information, as well as an understanding of the potential workforce available within a target area of interest. Financial resources for the dissemination effort must also be considered, as this will directly impact the scale and depth of implementation. A final consideration involves the availability and ease of implementation support, which is especially critical for efforts to disseminate programs or services that are novel to an area.

The population trial was located in a state with high rates of child maltreatment compounded by poverty and with the availability of implementation support (via a university) for the intervention being disseminated. Level of funding and associated staffing limited the population trial to a subset of available counties. The trial included 18 medium-sized counties (i.e., counties between 50 and 175 thousand in population) with no prior exposure to the intervention program. Counties within this population range were selected for multiple reasons: (a) to have reasonably comparable counties for the research design, (b) to have a sufficient pool of service providers who could deliver the intervention, (c) to avoid a service-provider pool that exceeded fiscal and training capacity, and (d) to have sufficient numbers of families such that changes in child maltreatment could be detected. The counties included a mix of both semi-urban and rural areas. The identified counties were matched based on population size, poverty level, and the child maltreatment prevalence rate, and then randomly assigned to intervention or control. The focus of the trial was on preventive reduction of child maltreatment. Because younger children experience the highest rates of child maltreatment (US Department of Health and Human Services 2006), the population of interest included all parents of children ages 0–8 who resided in the participating counties (Prinz and Sanders 2007).

Identification of Providers

Project staff did not provide direct services to families. The basis for the population trial was to test dissemination of Triple P to the existing workforce. Using project staff to achieve population impact would have required a large staff of providers, which was neither feasible nor desirable. The focus instead was on up-skilling the existing workforce of providers serving parents of young children in a variety of capacities and settings in each county, relying on in-service training efforts. These providers, drawn from a wide range of service delivery settings that made use of several modalities of service delivery, were in a position to provide parenting and family support to parents whom they were already serving.

One initial challenge involved the identification of providers, primarily because there is no single agency or system within which they operate. Organizational and provider systems for parenting services are frequently fragmented with little or no infrastructure to support effective communication between these systems. This is a national issue which has resulted in large scale efforts to increase collaboration among

agencies and organizations that impact the lives of young children, such as the Early Childhood Comprehensive Systems Initiative launched by the US Maternal and Child Health Bureau (The Lewin Group 2007). This systemic lack of infrastructure and organization is a barrier to population-level strategies.

For the trial, our solution to this barrier was a systematic identification of governmental and non-governmental agencies and organizations that provided services to parents of young children. Although the trial specifically focuses on children under age eight, we sought out organizations and individuals serving youth from birth to age 10 because most providers working with young children are embedded in organizations serving parents through middle and late childhood. These include critical service sectors such as elementary schools that reach a large number of parents. Such organizations are essential to establishing a population-level intervention. We also identified other service delivery systems including mental health, health, school readiness, social services, juvenile justice, child care, and child advocacy organizations.

Within each of these service systems, identification of and access to a provider pool required determination of key state-, county-, and/or local-level leaders as a starting point. Knowledge of how service delivery systems are structured and organized is critical to the identification of service workers who can be successful in delivering the intervention. In some regions, key decision makers may reside at the state level; in other areas, state-level organizations hold relatively little decision-making authority over services at a regional or local level. Within the state chosen for the population trial, most service delivery systems are organized at the state level but also have regional- or county-level structures. Therefore, we began by identifying and contacting state-level organization leaders (e.g., agency or organization directors, assistant directors), which typically resulted in face-to-face meetings to acquaint them with the population trial and to discuss their interest and opportunities for involvement. This level of contact was deemed necessary because of the novelty of the Triple P intervention to the communities and because of our understanding of the importance of direct contact with key individuals in these service delivery systems. For larger groups of providers, initial contact took place by mail using existing lists for various professions as well as lists of schools, school districts, and licensed childcare centers. Letters were sent to social workers, counselors, nurses, physicians, psychologists, school district superintendants, elementary school principals, childcare center directors, and other professionals operating within the target counties that described the Triple P approach and the availability of professional Triple P training opportunities.

Provider Engagement and Training

One major challenge for large scale dissemination of evidence-based programs is the relative lack of awareness of such interventions among many providers. In our case, there was lack of name recognition for Triple P. Provider engagement across multiple service delivery sectors was further hampered by the lack of infrastructure or organization for parenting support. Such duties are typically spread across a variety of organizations. Provider engagement for population-wide parenting interventions specifically is a challenge because many organizations are limited by their funding streams or mandates to serve parents with high needs or who are deemed to be at high risk. Furthermore, Triple P is not a single program. It is a system of interventions; therefore, agencies and organizations must make choices about which levels of intervention to provide. These barriers meant that direct contact needed to be made with key individuals across multiple organizations.

Typically, a series of meetings and presentations ensued within each organization, often beginning at the state level and proceeding to the regional or county level. These meetings were necessary to introduce Triple P and to assist organizations in selection of which level of Triple P best fit their service delivery model. This process is consistent with early stages of preparation for adoption of evidence-based innovations noted in implementation research such as awareness, persuasion, and ability to address concerns prior to adoption (Greenhalgh et al. 2004). Consistent with Rogers's diffusion of innovation theory, organizations used these initial meetings to examine the compatibility of Triple P with their agency mission, manner of service delivery, and client base. Organizations found the Triple P system of interventions appealing with respect to compatibility (the fit with agency needs regarding provision

of parenting support and interventions), trialability (i.e., the ability to obtain training and materials supported through a grant funding stream), and the significant amount of built-in flexibility (consistent with the notion of reinvention; Rogers 1995; Greenhalgh et al. 2004). Decisions were then made regarding which providers to train within these organizations. Supplemental strategies were also used to contact providers, such as phone contact, direct mail, and creation of a project website. Promotional materials used in meetings or distributed by mail included an overview of the Triple P levels of intervention and available training opportunities; contact information for project staff was included to allow follow-up as necessary.

In most organizations, managers or directors expressed clear interest in having their workforce trained in delivery of Triple P interventions to families. However, such support and interest did not always mean that line staff were properly prepared for the training. Recognizing that this could be the case, individual providers received written information about training once they were registered for a training course. Despite this step, one problem encountered early in the project involved line staff arriving for training not knowing the name of the program in which they were being trained, or being unprepared to complete the training days because of other commitments. Our solution involved making changes in the way providers registered for training courses. Project staff made direct contact with individual providers, prior to training, to assure adequate understanding of the training and expectations regarding subsequent use of Triple P with parents they were currently serving. Depending on organizational structure and preference, such pretraining contact occurred via telephone or face-to-face with groups of staff. Such pretraining contact with organizations and providers is resource intensive. Our decision to use this strategy was based on the belief that extensive pretraining contact is necessary to prevent unnecessary expenditure of resources for providers and organizations without sufficient capacity to deliver Triple P services (Sanders and Murphy-Brennan 2010, in press). It is important to note that the greater the level of pretraining contact on an agency level, the more prepared an organization and their staff are to receive the training. For larger geographic regions, such pretraining contact could occur using advanced meeting technology (e.g., video or telephone conferencing).

Though most agencies were interested in having staff trained, some were not. Our strategy with these organizations was to allow autonomy in decision making about participation. Barriers for these organizations included staff density (only one or two staff who provided parenting services within a larger agency), lack of time for training, and perception of lack of fit of Triple P with agency services. Importantly, because the population trial occurred over a 5-year period, we had the opportunity to re-contact organizations that we initially approached. Organizations that initially were not interested in Triple P became so over time. These second-wave adopters were influenced by a number of factors, including increased name recognition for Triple P, increased understanding of the interventions, and awareness of compatibility with existing services. In many cases, changes in leadership had occurred within these agencies with new directors and managers making decisions to participate.

Provider Training

Although funding for Triple P training was available through the project, many barriers exist to the training of service providers to use empirically supported treatments (Connor-Smith and Weisz 2003). Contact hour production, necessity to use personal leave time for continuing education, and agency staffing concerns all represented barriers to training and were issues raised by providers and organizations involved in the population trial. Several solutions to this challenge were used in the population trial. These included on-site training, alterations to the training delivery schedule, and selective scheduling of training to coincide with preexisting in-service training days. The choice of solution was influenced by organization-level variables such as type of services provided and organization size. For example, for educators in school settings the interest was in using preestablished in-service training days, while mental health centers preferred on-site training so that client coverage for emergencies could be maintained. In smaller organizations, such as in child care settings, the staffing issues required that training be held on a weekend or evening. Each solution had advantages

and disadvantages. For example, on-site training was convenient for staff but had the disadvantage of providers being more likely to become involved in work issues that arose during training. Alterations to the training schedule, including using evenings or weekends for training days, was appealing to some agencies but not to others.

Despite these training barriers, a total of 886 providers in the intervention counties were trained to deliver Triple P interventions over the 5-year dissemination period. Figure 1 includes a cumulative record of individual provider involvement in training over this time frame. The uptake of Triple P by such a large group of providers was in part assisted by key individuals. Such individuals are identified in the dissemination literature in various ways but are often labeled as opinion leaders or champions (Greenhalgh et al. 2004). These individuals play a critical role in adoption of new technologies because of their social influence (Chrusciel 2008; Zakocs et al. 2008). These individuals may not have been directly trained to deliver the intervention, but their support was critical to dissemination of Triple P within their agency or organization.

These opinion leaders were identified and engaged in several ways. In some instances, these individuals were early innovators who learned of Triple P and quickly saw the value of this evidence-based parenting approach for their community or organization. They acted on this by facilitating opportunities for project staff to present information on Triple P to others, engaging in training themselves, or establishing training courses for organization staff. Project staff reinforced their interest and support by fostering positive relationships with these individuals that lasted over the course of the trial. Other opinion leaders emerged after they or others in their organization began implementation of Triple P. In these instances, positive experiences with the intervention lead these individuals to seek further training and staff consultation. As consultative relationships with population trial staff grew stronger over time, the method of influence became bidirectional. That is, the longer that key providers implemented Triple P, the more contact these individuals had with project staff. Project staff then supported these relationships further by enlisting the key providers for local advisory boards to assist in further dissemination.

To assure the integrity of implementation of Triple P training during the population trial, monitoring systems were established which included several levels. All population trial training consultants were accredited to provide Triple P training, having themselves undergone an extensive training course that included both knowledge assessments and demonstration of key competencies in delivery of training. Consistent with the self-regulatory framework of Triple P, each training consultant completed a content fidelity checklist for every training conducted as part of the trial. Based on a review of these fidelity checklists, all required elements of the training were delivered for every course. In order to provide more objective indices of performance, randomly selected units of training were observed and videotaped during the first year of training for use in supervision. Ongoing supervision of training consultants then occurred monthly for the remainder of the trial. Taken together, these measures helped to support a high degree of fidelity to the provider training process by staff of the population trial.

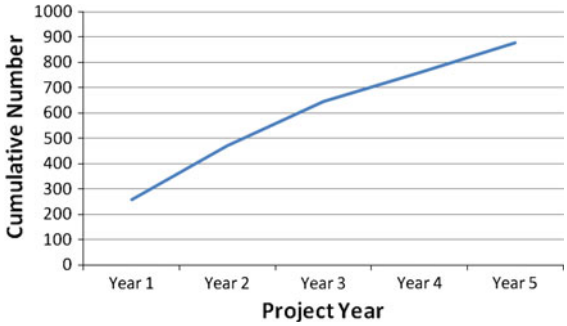

Fig. 1 Cumulative number of service providers trained in Triple P over the 5-year dissemination period

Posttraining Provider Support and Consultation

Professional training is a necessary but insufficient step in terms of assuring program adoption and delivery of services to the intended population (Wandersman et al. 2008). Provider factors such as confidence and organizational factors such as support for program implementation are among the many factors identified as influences on program dissemination (Turner and Sanders 2006b). A multi-pronged approach was used to create posttraining support for providers, including direct consultation with agencies and providers,

formation of local advisory boards, and communication strategies to distribute information to providers.

Our goals in sharing information with providers were twofold. One goal involved encouraging and reinforcing providers for completion of training; the second goal was to increase provider use of Triple P with families. To help address these goals, we created provider newsletters in which general information on Triple P was shared and the activities of key Triple P providers or organizations in each county were highlighted. We attempted to make use of technology by emailing these newsletters to all Triple P providers who completed training; however, providers in many organizations were not able to receive such communications (e.g., the organization electronic communication system would block attachments). We surmounted this obstacle by mailing these newsletters directly to all providers who completed training.

Within the first two years of the project, we began to make use of technology to advance our dissemination efforts by creating a website for our population trial. Our initial goals for the website were to disseminate information about Triple P and training opportunities to providers and to establish lists of providers trained in each target county. These lists were designed to support providers (and facilitate program adoption) by allowing providers to establish referral networks (e.g., providers trained in brief interventions needing to access providers trained in more intensive levels of the intervention). A second major function of the website was to assist implementation by dissemination of information to parents directly by enabling them to locate trained providers in their area (see next section for a more detailed discussion of strategies used to disseminate information to recipients of the intervention).

One final form of posttraining support provided by the population trial were Triple P parenting materials that providers could access for direct use with parents in delivery of Triple P services. We created a system for providers to easily request additional materials so that program materials would be readily accessible as needed. For example, Triple P Tip Sheets are designed to assist providers in delivery of face-to-face parenting advice on specific, common behavior issues such as infant sleeping, disobedience in toddlers, birth of a new sibling, or mealtime behavior. During the population trial, more than 100,000 Tip Sheets were distributed to providers who completed training, and more than 1,500 workbooks used in delivery of Level 4 Group Triple P services with parents were provided by the population trial.

Strategies to Disseminate Information to Recipients of the Intervention

In addition to training a large number of providers, implementation of a population-wide intervention requires, at minimum, an increase in awareness of the intervention by the intended recipients. The assumption is that increased awareness of a resource is a necessary but not sufficient step to engagement in services. In fact, use of the mass media is an effective population-level strategy for strengthening parenting (Sanders and Prinz 2008b). For the population trial, a media and information strategy to increase parent knowledge and awareness of Triple P was launched after providers were trained in the target counties. This activity corresponds to the Universal Triple P intervention (Level 1) within the public health framework of Triple P (Sanders 2008). Though one important goal of these strategies is to increase awareness of an intervention, a second and related dissemination goal is to increase the number of parents who directly access the intervention. The messages disseminated include a call to action; that is, these messages include both parenting information about a given topic as well as specific information for parents about where to go to seek help if it is needed. Thus, it is essential that a workforce be trained and ready to respond to parent requests for service prior to the launching of strategies to increase awareness of an intervention among the intended recipients.

The randomized design of the population trial posed unique challenges in implementation of the media and information strategies. Several intervention counties were geographically contiguous to comparison counties (i.e., shared borders). Therefore, use of television for dissemination of information about Triple P was not possible because available television market spread across intervention and comparison counties. To overcome this barrier, media and information strategies were limited to local media outlets, such as small radio stations, local newspapers, and localized community events.

For radio, 30- and 60-s public service announcements (PSAs) were distributed to all local radio

stations within the intervention counties. These PSAs had three goals. The first goal was to provide parenting education directly to parents and the larger community. The second goal was to increase name recognition for Triple P. The third goal was to increase program adoption by encouraging parents who wanted or needed additional information or who were seeking a local provider to visit the project website. To accomplish these goals, each PSA contained an introduction, a parenting tip on managing a common, everyday problem like shopping with a toddler, and lastly, an invitation to visit the project website for additional information. It is important to note that radio stations are not required to track use of PSAs; therefore, these data are not available.

To draw on the print media, a variety of Triple P materials were distributed to all local newspaper offices within intervention counties. These materials included press releases with local stories, parenting question/answer columns, and brief positive parenting articles grounded in Triple P strategies. Print media stories were designed to serve an educational function by providing information on specific parenting strategies in common situations as well as to increase awareness of Triple P within the community. Consistent with a behavioral journalism approach, media articles included stories of parents (as well as providers) who had used the intervention (McAlister et al. 2000). Print media stories were also accompanied by information to assist parents in locating local providers. For our trial, two potential barriers arose regarding print media. One barrier involved how to engage print media outlets to run our stories; the second barrier involves the tendency of print media professionals to potentially alter information in such a way as to inadvertently disseminate misinformation.

We addressed the initial barrier of engaging the print media in several ways. We began by having one project staff position dedicated to media and communication strategies. This afforded the opportunity for the project to develop relationships with editors and staff of local newspaper outlets. This was a critical step for the project, as it is important for media outlets to trust that sources of information are credible and not driven by commercial interests; the fact that the population trial was associated with a university helped in this regard. The second solution to the barrier of engaging print media involved project staff generating various types of parenting articles including brief press releases and a parenting question and answer column. Local print media outlets were much more likely to run a story that included an interview with a Triple P provider local to that community or with commentary from project staff identified as being affiliated specifically with the local county in which the paper resided. In addition, over time, we increased the number of stories we generated to provide media outlets the ability to self-select which parenting materials were a best fit for the space available in the newspaper as well as for their current interests and readership.

In order to address the second potential barrier of media professionals inadvertently altering information (in ways that could lead to misinformation), we aimed to provide brief, complete press releases and generated them on a regular basis. This typically resulted in local newspapers using the press releases in their entirety. Over time, the relationship between the project and media outlets fostered interest among local newspaper staff in parenting issues, and several reporters generated stories based on use of Triple P by local families or providers. Overall, more than 300 published articles about Triple P appeared in localized print media outlets over a 5-year period.

To further increase parent awareness of and access to Triple P advice, Triple P video resources were distributed to all local libraries with the intervention counties. On several occasions, direct mail strategies were used to alert parents to the presence of Triple P in their community (e.g., videos at the library) or to promote awareness of a website designed for the population trial. The website contained Triple P information for parents as well as lists of providers accredited to deliver Triple P services within their community. The website was launched after providers had been trained within each county; therefore, data on website hits is only available for the latter 3 years of the trial. During this time period, the website received nearly 6,000 hits; however, it is not possible to distinguish whether these hits were due to parents or providers from our target communities. Similarly, data on the checkout history for videos placed at libraries is not available. Figure 2 contains a cumulative record of newspaper articles published and website hits over the course of the population trial.

To target parents of young children more specifically, Triple P newsletters were created and

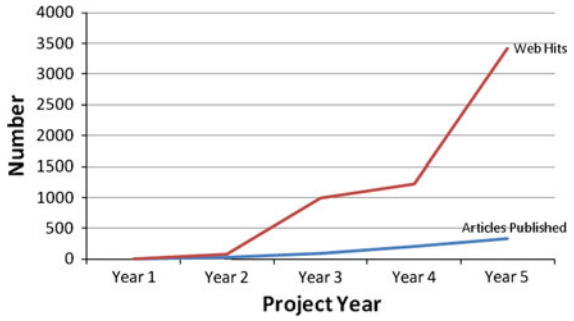

Fig. 2 Cumulative number of positive parenting and Triple P newspaper articles published and website hits over the 5-year dissemination period

distributed after provider training had commenced. The first newsletter was delivered to parents using direct mail to 26,000 households; however, subsequent newsletters were sent to childcare centers and schools for distribution to parents. We made this change in delivery strategy in order to integrate communication strategies with other forms of intervention delivery, which is a key feature of the tiered levels of intervention available within the Triple P System. For example, in many cases, these schools or centers had staff that had become accredited Triple P providers and who could provide direct services to parents as needed. We contacted all child care centers and schools within the target counties via mail to offer the newsletters; we then sent to each center or school the number of newsletters that they requested for distribution to parents that they served. During the 4th and 5th years of dissemination, more than 85,000 newsletters were distributed to parents via elementary schools and child care centers (39,867 were distributed in Year 4 and 46,345 were distributed in Year 5). These newsletters were created to cover a variety of topics, such as back to school issues, promoting positive self-image, disobedience, homework, and bullying. All newsletters alerted parents to their local library for Triple P resources as well as to the project website for local lists of accredited Triple P providers in their area. However, data regarding how many parents actually read these newsletters is not available.

Participation in local community events grew over the course of the trial as another venue to increase parent awareness of Triple P. Initially, project staff would attend these events and distribute promotional materials or the newsletters noted above; however, over the course of the trial, providers trained in Triple P would attend such local events in order to promote the availability of services for parents.

Discussion

There are a number of specific lessons learned from our experiences with implementation of this population trial that may be useful for the field to consider. One lesson learned is the amount of time necessary for large-scale implementation. As can be seen from our data on provider training as well as media and information strategies and from our initial outcomes as noted in Prinz et al. (2009), it can take years for momentum to be gained to the degree necessary to impact population-level parameters. Therefore, from a research perspective, time is a variable that must be considered, which impacts both the type and the amount of funding necessary to fully implement interventions on a population level. From a policy perspective, advancing a population-level behavioral health agenda requires the will and support of political leaders, who typically operate under relatively short time frames (i.e., from one election cycle to another). Understanding that changes may not be evident for years may hamper the engagement of key political or governmental leaders whose support is needed to fund such interventions in the first place.

A second lesson learned involves the amount of coordination and support necessary to implement parenting interventions on a population level. At a policy level, it is important to assure that support for and coordination of parenting services is a priority for organizations serving parents of young children. This priority must also be consistent with funding sources. For example, a health provider in a public health clinic may identify a parenting concern but be unable to address this issue due to service reimbursement being tied only to treatment of a medical concern. In addition, as previously noted, organizational and provider systems for parenting services are fragmented and lacking infrastructure to support coordination and communication between these systems. Alignment of these resources would allow for more streamlined implementation of parenting interventions at a population level.

A system for ongoing support is also necessary to promote implementation of parenting interventions

by providers and organizations once training has occurred. At a population level, each provider organization is likely to deliver parenting support and interventions in slightly different ways. Therefore, time needs to be taken to help organizations fit the intervention into their service delivery system, which can involve support of program implementers. Implementation at a community level also requires that provider training be coordinated so that organizations are trained and ready to deliver services prior to the launching of media or communications strategies to increase awareness of the intervention among the target population. Coordination of media and communication strategies is also necessary. In order to maintain stakeholder interest, media and information materials must be timely, be interesting, and present new information. This requires that local implementers be attuned to topics of interest for the target population and are able to craft media messages that are responsive while incorporating the parenting messages or strategies that are part of the intervention.

A third lesson learned which impacts future research is the tradeoff between the control available to a clinical trial with the scale of implementation necessary for a population trial. The area in which this question arises most is fidelity of implementation. It is simply not feasible to obtain provider- or organization-level fidelity or outcome data within the context of a population trial unless those providers and organizations are part of a single service delivery system. For parenting interventions on a population level, it is highly unlikely that parenting providers will come from one delivery system; in fact, providers are embedded in multiple organizations that rarely provide only parenting services. Therefore, for future research on population-level interventions, it will be important to develop fidelity monitoring systems that are akin to an environmental scan but are focused on identifying potential issues impacting fidelity.

A fourth lesson that particularly impacts the design of future research studies of this nature is the location of the geographic units of interest. In the Population Trial, the intervention and comparison counties were contiguous in many instances, which had an unintended impact on dissemination. For providers, many agencies serve an area that included both intervention and comparison counties. This presented a challenge for provider recruitment, as some providers within such agency were eligible for the training by virtue of the area they served, while others were not; also, one agency may serve families from multiple counties. A second major issue involved implementation of the universal communication strategies (Level 1 Triple P). For future research, it will be important to understand the size of the geographic area targeted for implementation in comparison to the media service areas for television, radio, and newspapers. For the Population Trial, we were unable to include television or larger radio stations in our universal media-based efforts because we could not limit exposure through these mediums to our target counties only. The use of television is a powerful medium for behavior change; we might have been able to achieve greater name recognition and possibly greater penetration of the intervention had this communication medium been available to us (Sanders and Prinz 2008b).

One final point to consider is the geographic location of this trial in moderately sized communities and how this would work in larger geographic regions. The key steps of the dissemination process would be similar in larger regions, although the scale of the operations would require greater coordination and the involvement of government officials to a greater degree, as the funding streams need to be present to allow a large number of providers from multiple service systems to be involved in dissemination efforts. Importantly, the Triple P system of interventions has been successfully implemented in large metropolitan areas as well as in rural and remote communities. Several large scale implementations have been undertaken on a whole state or provincial basis in Australia (e.g., Queensland, New South Wales, Western Australia), Canada (e.g., Manitoba), and the US (e.g., Wyoming).

Conclusion

The implementation of a population wide parenting strategy as seen in the US Triple P Population Trial is a major undertaking. To ensure that sufficiently large numbers of service providers are engaged and subsequently deliver the interventions, a systems contextual perspective is required (Sanders and Murphy-Brennan in press). Such an approach ensures workforce issues that constitute barriers and enablers of provider

participation and use of evidence based tools are given adequate attention. The use of a multidisciplinary and multiagency workforce requires organizations who service a geographical catchment area to work more collaboratively and, ideally, as an ultimate step, to develop a shared vision along with other agencies concerning the contribution their service may play in increasing parental confidence and competence at a whole of population level. Embracing a population-level vision is a significant challenge when many services are funded exclusively to serve a high need or high-risk group. However, our experience has been that over time more providers start to embrace the population-level approach that envisions a situation where all parents in a community, regardless of circumstance, are able to access appropriate evidence-based parenting and family supports that meet their needs, with the ultimate goal of reducing the prevalence of child and family problems.

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