

Pediatric Psychosocial Preventative Health Model (PPPHM): Research, Practice, and Collaboration in Pediatric Family Systems Medicine

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A biopsychosocial framework for assessing and treating families of children in pediatric health care settings is presented. Guided by a social ecological perspective on child health, the Pediatric Psychosocial Preventative Health Model (PPPHM) is a 3-tier model based on a public health orientation. The goal of the PPPHM is to conceptualize how families of acutely and chronically ill children might be provided psychosocial support to match their level of need and risk. The largest group of families, Universal, consists of competent and adaptive families confronting health-related stressors. A smaller group of families, Targeted, is at some elevated risk for ongoing psychosocial difficulties. The smallest group of families, Clinical/Treatment, exhibits more evident symptomatology. Examples of family and systems interventions that integrate

care among behavioral health care providers and within multidisciplinary treatment teams, across levels of the PPPHM, are presented and discussed.

Keywords: pediatric, family, prevention, health

All problems are at once, biological, psychosocial and social. (McDaniel, Hepworth, & Doherty, 1992, p. 2)

There are abundant, largely untapped opportunities for work with families when a family member has been diagnosed with either a mental or a physical illness or handicap. (Wynne, Shields, & Sirkin, 1992, p. 5)

Pediatric health care is a natural fit with the biopsychosocial model. Children and their families are embedded in complex multiple systems, from cellular through societal. These multiple contexts become differentially activated when a child has a serious and/or chronic health problem. Indeed, the normal course of development for children and families is potentially disrupted when a child becomes ill or is injured, with reciprocal influences across biopsychosocial realms. When children and families are vulnerable (e.g., with preexisting or concurrent problems), severe, chronic, and/or escalating difficulties are more likely to erupt and have a sustained impact on the child's long-term out-

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come. At the same time, normal child and family development is robust and resilience is common, even in the face of prolonged, intensive, and/or life-threatening pediatric disease and treatment. An important contemporary challenge is developing empirically supported systemic approaches for children and families that are respectful of their inherent competencies and providing effective treatment to reduce or prevent distress.

This article begins with a brief review of a social ecological model for understanding pediatric illness, highlighting linkages with areas in which children and families may experience risk for ongoing psychosocial difficulties. The article then presents the Pediatric Psychosocial Preventative Health Model (PPPHM) for conceptualizing levels of risk for ongoing psychosocial difficulties and related treatment approaches for children and families in pediatric health care systems. The model departs from the treatment approaches used in many pediatric settings in which care remains focused on the individual child and is directed toward patients and families with significant psychopathology. Using a public health framework, the model

provides for consideration of the biopsychosocial needs of *all* families entering the pediatric health care system, with tiered levels of multidisciplinary care. Examples of evidence-based practice across levels of the model are presented, along with a discussion of challenges associated with developing services consistent with the model.

A SOCIAL ECOLOGICAL FRAMEWORK

Social ecology, stemming from the work of developmental psychologist Bronfenbrenner (1979), is a powerful developmental model that conceptualizes the child at the center of a series of concentric circles, representing increasing distal interacting systems that ultimately affect the child's well-being (see Figure 1). Social ecology has been central in guiding the understanding of risk and resilience as development unfolds and supporting a contextualized view of child development and treatment. The application of social ecology to pediatric illness has been described in depth elsewhere (Kazak, Rourke, & Crump, 2003). However, a brief review of the primary systems and some key components of social ecology are provided, along with supporting research evidence regard-

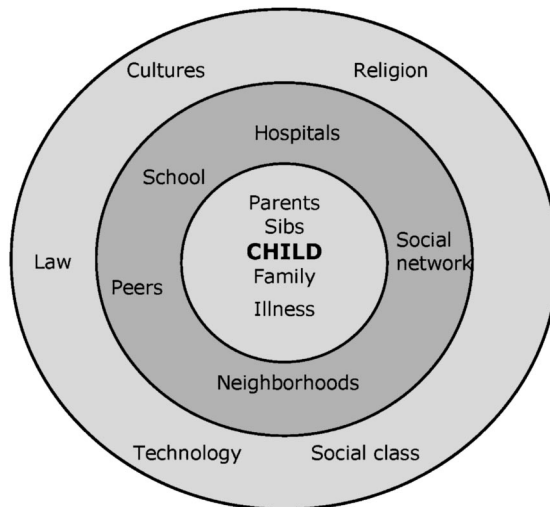


Figure 1. A Social Ecological Model Applied to Child Health.
Sibs = siblings.

ing the adjustment of ill children and their families and specific risk factors that may influence more or less positive adjustment.

The developing child lives and grows within a number of microsystems, or “patterns of activities, roles and interpersonal relations” (Bronfenbrenner, 1979, p. 22). The most apparent, and the most widely studied, is the family and its subsystems. Serious illness or injury in a child can have potentially deleterious effects on normal child development. In addition to the child’s own developmental trajectory, marital, parenting, and sibling relationships are all affected, and there are potential changes in the overall family system (Kazak et al., 2003). There are a number of family microsystem factors associated with risk for ongoing psychosocial difficulties. These include single-parent families, families headed by young (minor) parents, large families, low levels of social support, financial difficulties, parental psychopathology, or behavioral concerns related to other children in the family. Although a subset of families have reactions that are psychopathological, for most initial reactions may be striking—even extreme—but normative for the circumstances. The initial shock and disruption to children and their families tends to moderate, with families re-establishing a workable balance and equilibrium in most cases. This balance may entail permanent changes or ongoing alterations in the family’s structure and function, consistent with the biopsychosocial model.

It is consistent with a biopsychosocial model to include the child’s medical condition as a microsystem in the social ecology. Changes in pediatric medicine have led to higher rates of cure and medical successes over recent decades (e.g., very low birth weight infants surviving, higher rates of survival from cardiac surgery in infancy). The longer term medical, psychological, and family outcomes of these medical advances are currently unfolding.

Diseases and their treatments vary considerably along a number of dimensions (e.g., Rolland, 1994). Even a concept

such as “severity” can be quite complex and illustrate potential discrepancies in perceptions among different family and treatment team members. That is, a chemotherapy regimen described by a physician as mild on the basis of anticipated toxicity may not be experienced in this way by the family who is considering the impact of the diagnosis and illness more broadly. In fact, more “objective” measures of the severity of an illness or the intensity of the treatments associated with it are often unrelated to psychological adjustment, whereas subjective appraisals of health and/or chronic implications of a disease and treatment tend to be more predictive of psychological outcome. Important exceptions are illnesses and treatments that affect the central nervous system, with their potential for adversely affecting the child’s gross mental and physical growth and development, and, relatedly, family development and functioning.

Children and adolescents are also key participants in school and peer microsystems. Although each of these systems is important in its own right, the interaction among systems is central to social ecology. That is, the interactions among the family, school, peer group, and, for children with health concerns, the health care system are fundamental to the eventual outcome of child and family health (Power, DuPaul, Shapiro, & Kazak, 2003). A child’s return to school and reintegration into the classroom after a health crisis, determination of appropriate educational placement and subsequent re-evaluations of placement, and communications among the family, school, and health care team are all essential components of ensuring optimal outcomes. School and peer groups may be overlooked as opportunities for intervention in considering the interactions among related systems (Power et al., 2003).

The impact of broader systems on pediatric patients and their families is less well established. However, a consideration of

families in the context of their multiple ecologies makes it quite apparent that cultures, subcultures, social class, religion, law, technology, and other systems that affect all families are critical in understanding the experience of families entering the health care system. For example, some of the problems experienced by high-risk families in the pediatric hospital setting are associated with poverty, such as lack of financial resources or insurance. Similarly, families living in less rich environments or those struggling with other stressors (e.g., family member in prison, substance use problems) may be less able to access support. As Tucker (2002) has discussed, establishing partnerships across social systems to more broadly advance culturally competent assessment and intervention approaches remains an important challenge in pediatric psychology.

PPPHM

What are the implications of translating a social ecological model to intervention in child health? A contextual model highlights the role of broader systems, necessitating consideration of larger groups of children and families. In doing so, the lens on adjustment broadens, illustrating the diversity of child and family adaptation and the importance of a preventative model. For example, by viewing the child in the context of the family, ways in which the family may contribute to distress or dysfunction may be identified and may point to intervention approaches that address the family (rather than the individual). Alternatively, family-level resources can also highlight family resilience and adaptive functioning. Rather than assuming that families can or should provide the needed support, intervention approaches that support families are necessary in order to facilitate adaptive adjustment over time. As a further example, the vast majority of children are in school or have educational needs that must be addressed through the educational system. Therefore, the

needs of these children in the health care system, even those who have an apparently smooth school experience, must be considered. Social ecology provides a means by which we can look more comprehensively at the psychosocial status of patients and families. In doing so, interventions must similarly reflect the contributions of broader systems.

Building on the prevention framework of the National Institute of Mental Health (1998), the concepts of Universal, Selective, and Indicated from the field of prevention can be adapted to the population of families of children with pediatric illnesses and injuries. The PPPHM (Figure 2) provides a conceptual model to guide screening and services for all families of children entering the pediatric health care system, but with higher levels of care to those families most at risk. The use of the term *Universal* is retained for the largest group of families, but *Targeted* is used to indicate those families at higher risk and in need of services and *Clinical/Treatment* to highlight those families at highest risk.¹

The justification for this approach to patients and their families is provided by the substantive literature on families and pediatric illness. The older literature in this area tended to examine psychological adjustment in families who were referred for psychological assistance, a clinical population. More recent work has more rigorously sampled families to ensure that study participants are representative of the broader population and not a clinical sample. These sampling approaches have yielded data that show that families with and without physically handicapped or chronically ill

¹ These concepts, drawn from prevention frameworks, have been adopted for a variety of applications, often with a minor change in terminology. The language chosen reflects a focus on clinical care for children in pediatric health care and was agreed on by a multidisciplinary workgroup to best describe the levels of risk encountered.

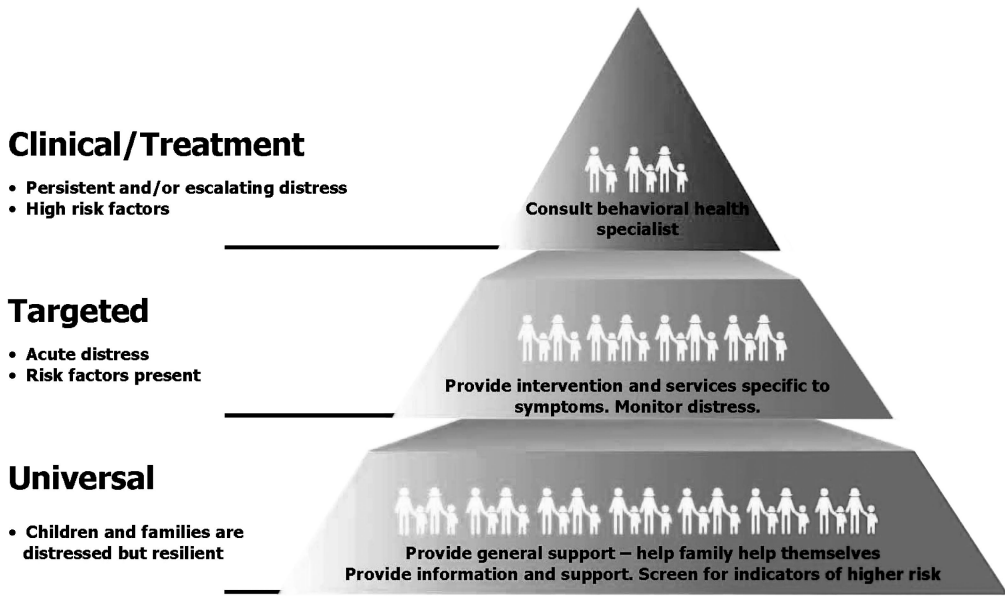


Figure 2. Pediatric Psychosocial Preventative Health Model. Copyright 2005 by the Center for Pediatric Traumatic Stress (Anne E. Kazak, PhD, ABPP, Director), Children's Hospital of Philadelphia.

children are remarkably similar with regard to parent and family adjustment (Kazak, Rourke, & Crump, 2003). Nonetheless, although as a group these families tend to look much like nonaffected families in terms of family functioning and outcome, smaller subsets of families do experience more severe difficulties in adjustment, with these disruptions continuing over time (Kazak, Rourke, & Crump, 2003). A preventative orientation is compelling in that some difficulties may be averted entirely and others may be less likely to escalate with appropriate care.

Across a range of stressful life events, including medical events, it has also become clearer that positive psychological coping can coexist with distress, particularly when the complexities of families are considered. That is, resilience can be thought of as a process in which resources (psychological, social, tangible) are balanced against challenging events and circumstances. This process is difficult to measure and often changes over time. For

example, adaptive coping behaviors shown by a mother in the Emergency Department after her child has been hit by an automobile may not reflect her internal experience and, more important, will not capture distress that emerges over time. Similarly, family members may have quite different concurrent responses and yet be invisible to health care providers who form an opinion of the family's well-being, whether explicit or implicit, based on those present. This example shows the importance of considering the broadest universe of families possible when formulating clinical guidelines in pediatric health care. Health care teams generally see only a few members of a child's family (often only the mother), making it difficult, if not impossible, to accurately understand the family's social ecological status and functioning. There is risk of errors in the direction of either psychopathology (e.g., viewing distress and disorganization at diagnosis as evidence of dysfunction) or minimization (e.g., not recognizing that an absent but powerful family

member may have a very different reaction than those present).

Universal

The pyramid base, Universal, represents the largest group of patients and families entering the pediatric health care system for the diagnosis and treatment of illnesses or injuries. This represents essentially all families entering the health care system. They represent the diversity of the communities in which they reside. They are families who are coping with the unexpected onset of a child's health problem or the exacerbation of an existing condition. An essential underlying assumption is that these are normally functioning families experiencing distress related to their medical experiences. They are seen as being at least moderately resilient and possessing adequate to strong coping abilities. Other significant life stressors or problems may be present but do not appear to impinge on their ability to function adequately. These families are the least likely to receive psychosocial assessment or treatment, as they are assumed to not qualify for such care on the basis of their apparent level of adaptive functioning or because they do not ask for or expect such care. Given the lack of data on these families, it would be inappropriate to conclude that they do not need psychosocial support. Rather, supporting the competence of these families and identifying ways of preventing possible future difficulties is essential.

Targeted

A smaller but substantive set of families necessitate Targeted care. That is, they present with factors that predispose them to ongoing difficulties. They may, for example, have preexisting child problems, psychosocial stressors (poverty, employment difficulties), or family problems (e.g., family conflict). Their coping skills are challenged and may be exceeded, particularly if their child's health deteriorates or necessitates a higher level of medical intervention.

These families are often recognized within the pediatric health care system and offered psychosocial services. The treatment that they receive, however, may be inconsistent, based on services available within a particular unit or hospital or the family's resources for seeking behavioral health care outside of the pediatric health care system. Services may also be related to the amount of time spent in the hospital or clinic settings and the extent to which their problems are recognized by their treatment teams and/or seen as disrupting medical care.

Clinical/Treatment

Families falling within the Clinical/Treatment category at the top of the pyramid have several factors indicative of high risk for ongoing distress, including, for example, elevated and persistent anxiety or depressive symptoms or other comorbid child and family psychosocial problems, such as substance abuse or histories of mental health or legal problems. These families are typically identified as being in need of additional psychosocial support, with the services provided again dependent on the resources of the family and treatment facility. These families, although smallest in number, tend to be the most time and labor intensive to treat and use the greatest number of resources over time and across members of health care teams.

Support for the PPPHM

The Psychosocial Assessment Tool (PAT; Kazak et al., 2001; Kazak, Cant, et al., 2003), a brief screening measure for families of children newly diagnosed with cancer at risk for ongoing psychosocial distress, was developed on the basis of the PPPHM. Two initial studies of the PAT, each with more than 100 families, showed that use of the brief screening tool was feasible and acceptable to staff and families (Kazak et al., 2001) and that three levels of the PPPHM were supported, with 59.2% of families falling in the Universal category, 33.6% in the Selected category,

and 7.2% in the Targeted category (Kazak, Cant, et al., 2003). Risk at diagnosis was also found to be associated with resource utilization (social work services provided) 3 months later (Kazak, Cant, et al., 2003). A revised screening measure for pediatric oncology, the PAT2.0, is now being tested for reliability and validity and is also available in Spanish. PAT2.0 covers the following areas of potential risk: demographic characteristics, child diagnosis, family structure, family resources, family social support, child knowledge (of disease), child school enrollment, child school placement, child problems (internalizing, externalizing, social, cognitive), sibling problems, family problems, family beliefs, and stress reactions.

Two additional screening measures based on the PPPHM have been developed and used at the Children's Hospital of Philadelphia (CHOP). The Family Information Tool was modeled after the PAT2.0 for use in the neonatal intensive care unit. An initial study using the Family Information Tool with 89 families of infants in the neonatal intensive care unit supported the model, with 53.9% of families rated as Universal, 33.7% as Targeted and 12.4% as Clinical/Treatment (Lefkowitz, Evans, Myers, Truitt, & Roggenkamp, 2005). A similar screening measure was used by the Behavioral Health Integrative Service at CHOP on a pediatric gastroenterology inpatient unit. Using two forms of assessment (nurse and family), of 106 families 20.8% were Targeted and 2.8% were Clinical/Treatment (Benton, Robins, & Dorfman, 2005). Although the percentages from these studies vary, they suggest support for the model, with the majority of families seen as being at low risk for ongoing psychological disturbance. Collectively, the data highlight the need to consider the broadest possible range of the pediatric population when designing services. Many, if not most, families are not seen as having significant clinical problems on admission.

EXAMPLES OF CLINICAL INTERVENTION BASED ON THE PPPHM

A model based on a public health perspective necessitates consideration of the needs of all families in the pediatric health care system. Specifically, in the PPPHM a relatively small percentage of patients and families will need more traditional mental health services, including intensive consultation, psychotherapy, and/or psychotropic medications. Many will, however, need support, assistance with issues related to medical procedures and intrusive medical care, and consideration of short- and long-term health needs for their child and family. To match family need with clinical services, focused and empirically supported assessment is necessary. To raise the overall standard of integrated behavioral care for pediatric patients, collaboration with medical and nursing staff members is essential throughout the process.

The types of treatment models that evolve from the PPPHM depart in some significant ways from services that may be found in other pediatric services or hospitals. For example, psychosocial services on pediatric units and in pediatric hospitals are usually organized by discipline, with each discipline operating relatively independently of each other. These professionals serve overlapping patients, but also differ in their target groups. Social workers in these settings focus on identifying families in need of financial and social resources, including referrals for specific services. Some hospital social workers are trained and interested in providing more therapeutic interventions but are limited in their ability to do so by their workloads and pressing emergent needs for basic services to families. Child life specialists focus on children's developmental needs and facilitate coping with illnesses and the hospital experience. Depending on the ratio of child life specialists to patients in a setting, many or most patients may have the option of having contact with a child life specialist. Psy-

chiatrists are typically consulted in more extreme cases in which behavioral concerns are highly evident and disruptive to the delivery of medical care or in which questions of medication and/or neurological and related medical complexity are raised. Psychologists may be consulted across a range of presenting problems, or they may be more specialized in areas such as pain management, adherence, testing, or behavior management. The training and skills of each of these disciplines are necessary for an integrated behavioral health approach.

In practice, a typical pediatric inpatient service uses some combination of social workers, psychologists, child life specialists, and psychiatrists to treat patients. There are several risks and drawbacks to such care. First, although multidisciplinary teams collaborate on the care of complicated patients, this care is often determined after the fact (e.g., when multiple providers are involved) rather than representing a systematic, integrative, planful, and proactive approach. Second, the majority of psychosocial care is provided to patients and families with the most evident need (e.g., Clinical/Treatment), with relative inattention paid to the psychosocial needs of other families, whose concerns or distress risk going unrecognized. Third, limited resources for psychosocial care may be disproportionately allocated to the most disturbed and most difficult-to-treat patients. Fourth, little attention is paid to broader questions related to the efficient and effective delivery of care to all patients and to consumer satisfaction for the majority of patients and families. Fifth, in an economic climate in which cost containment and cost efficiency prevail, the existing approaches to pediatric psychosocial care could be compromised or collapse owing to a lack of resources and failure to document the value added to pediatric health care. Sixth, although the expertise of mental health specialists is important, reliance on behavioral specialists can inadvertently undermine the capability and re-

sponsibility of health care providers to address these concerns as part of their care.

Start With Evidence-Based Assessment

The first step in using the PPPHM relies on evidence-based assessment for all families. This assessment should be brief and ideally implemented by health care team members (e.g., physicians or nurses) as part of their routine assessment of patients during admissions or outpatient visits. This approach integrates medical and behavioral concerns, thus providing a more seamless opportunity to provide treatment for either or both. Obtaining information directly from families is also essential. The PPPHM would predict that the majority of families will be Universal. These families are likely to benefit from services often provided in pediatric health care settings. Treatment plans for intervention for Targeted and Selected families would be based on a review of the data gathered.

Universal Services

For families at the Universal level of risk, standard psychosocial care includes general support, education, and access to resources that support and enhance child and family coping. This may include access to a social worker and child life specialist, nursing education that includes attention to social and emotional aspects of the child's disease and treatment, and multiple components of family-centered care (American Academy of Pediatrics Committee on Hospital Care & Institute for Family-Centered Care, 2003; www.familycenteredcare.org), including family resource libraries, parent consultants, and patient and family advisory groups. Although many (if not most) families classified as being at the Universal level of risk may find existing services satisfactory, there is no implication here that such services should be considered optimal, or even necessarily sufficient. Indeed, services are variable across hospitals and within hospitals, often across de-

partments. An optimal approach to Universal services would focus on preventative approaches, teaching families to use their existing resources and to build on their natural resilience to help their child now and in the future. Indeed, the pediatric health care setting is a natural one in which to partner with families in the development of health promotion activities to address diverse public health problems such as childhood obesity, literacy, and substance use (Black, 2002).

Care for Universal families may also be enhanced by training for health care team members (e.g., physicians, nurses, emergency medical technicians) that supports their efforts to integrate psychosocial approaches into their routine care of patients. For example, pediatric illnesses and injuries may be viewed as potentially traumatic events that may result in an increased likelihood of short- and long-term traumatic stress responses for patients and families (Kazak, Kassam-Adams, et al., 2006). Health care providers working with patients and families at the time of (or shortly after) the traumatic event (e.g., on the oncology unit after a diagnosis of childhood cancer, in the emergency department as a child is stabilized after being in an automobile crash) have the opportunity to provide trauma-informed care without needing to alter their routines and practice substantively. Practical tools and training materials, such as the Pediatric Medical Traumatic Stress Toolkit for Health Care Providers, are available that support ways in which health care providers can assess D-E-F (Distress, Emotional Support, and Family Needs), after ensuring that A-B-C (Airway, Breathing, and Circulation) is complete (Stuber, Schneider, Kassam-Adams, Kazak, & Saxe, 2006).

Targeted Services

More intensive levels of psychosocial support are recommended for these families who indicate having more risk factors. They may, for example, receive more intensive counseling from a social worker, work

individually with a child life specialist around child issues, or be referred to a psychologist for more extensive evaluation and consideration of an evidence-based cognitive-behavioral or family therapy intervention. The literature on family-based interventions for children with pediatric illnesses is growing, particularly for interventions linked to specific common difficulties encountered in clinical practice such as adherence and pain.

Adherence to medical regimens is a frequent concern in pediatric practice and a common reason for referral to a mental health professional. Families with preexisting risk factors may be at higher risk for difficulties with adherence. For example, families in which there is significant conflict may escalate when an adolescent's diabetes care becomes of concern. Alternatively, families whose child's care includes strict dietary guidelines may encounter more difficulty in adhering to these treatment recommendations if the child (patient) or a sibling has significant behavioral concerns. Evidence exists for family treatments to address these difficulties. In diabetes, for example, behavioral family systems therapy (Wysocki et al., 2000) is effective relative to standard treatment and to education and support and is being evaluated as a treatment option for adherence in cystic fibrosis (Quittner et al., 2000).² Approaches using family teamwork models have also been effective in reducing adolescent-parent conflict in diabetes and promoting adherence (Anderson, Brackett, Ho, & Laffel, 2000; Laffel et al., 2003; Svoren, Butler, Levine, Anderson, & Laffel, 2003). Recently, multisystemic therapy, a family- and community-based systems intervention (Henggeler, Schoenwald & Rowland, 2002), has been shown to be effective

² A Web site associated with the book *Effective and Emerging Treatments in Pediatric Psychology* (Spirito & Kazak, 2006) provides access to copies of the treatment manual (<http://www.oup.com/us/companion.websites/0195156153/?view=usa>).

in reducing diabetes-related stress and improving adherence (Ellis et al., 2005; Ellis, Naar-King, Frey, Rowland, & Greger, 2003). Another intervention that incorporates families in the treatment of pediatric adherence is the Behavioral Intervention for Change Around Growth and Energy (Stark, 2000).³ This intervention, which treats parents and children in separate group formats, addresses improvement in dietary adherence in cystic fibrosis (Stark, Bowen, Tyc, Evans, & Passero, 1990, Stark et al., 1996, 2003).

Pain (and its associated anxiety) is one of the most common reasons for referral to a behavioral specialist in pediatric health care. It is also, fortunately, one of the most successful areas of psychological intervention, in terms of evidence-based practice, across procedural pain, headaches, and recurrent abdominal pain (Spirito & Kazak, 2006). Most interventions for pediatric pain are based on individually oriented behavioral or cognitive-behavioral approaches. However, these established techniques (including relaxation, distraction, reframing) can readily be incorporated into a family systems-oriented treatment approach. As an example, Robins, Smith, Glutting, and Bishop (2005) tested a five-session cognitive-behavioral intervention for families that actively addresses the partnership between parents and child in the treatment of recurrent abdominal pain. The study compared standard medical treatment with the addition of cognitive-behavioral therapy and showed that the combined intervention was more effective in reducing pain than medical treatment alone and that combined treatment was furthermore related to better school attendance. In the area of pain associated with invasive procedures such as bone marrow aspirations, parent-directed interventions can be added to pharmacologic intervention to reduce child discomfort (Kazak, Penati, Brophy, & Himelstein, 1998). In the interventions described, an associated change in practice was also described, as

multidisciplinary staff changed their overall approach to children's pain as part of a research study of the intervention protocol (Kazak et al., 1996; Kazak, Blackall, Himelstein, Brophy, & Daller, 1995).

Understanding short- and long-term responses to pediatric illness and injury as a traumatic stress phenomenon has gained increasing empirical support across pediatric illnesses (Kazak et al., 2006; Stuber, Shemesh, & Saxe, 2003). There are many potentially traumatic events that children and their parents experience in the course of medical treatment for injuries and illnesses. These include the experience of accidents, the diagnosis of a life-threatening illness (such as cancer), intrusive and/or painful procedures, the death of others (e.g., others in a car accident, other patients), and urgent treatment in emergency departments or intensive care units. Post-traumatic stress symptoms (PTSS), experienced by parents as well as patients, include reexperiencing, arousal, and avoidance.

PTSS is differentiated from posttraumatic stress disorder (PTSD; American Psychiatric Association, 1994) in representing symptoms of PTSD but without meeting full criteria for a psychiatric diagnosis. Moderate to severe PTSS has been reported by 18% of adolescent survivors of childhood cancer, 32% of adolescent siblings of survivors, 44% of mothers, and 35% of fathers (Alderfer, Labay, & Kazak, 2003; Kazak, Alderfer, Rourke, et al., 2004). Consideration of both parents in a family (when available) is particularly compelling—if only one parent were assessed (rather than two), 40% of the families in which a parent had PTSD would have been missed (Kazak, Alderfer, Rourke, et al., 2004). Across conditions, PTSS are associated with other psychological symptoms (Daviss et al., 2000; Manne et al., 2004;

³ The treatment manual for this intervention may also be downloaded at www.oup.com/us/companion_websites/0195156153/?view=usa.

Young et al., 2003) and lack of social support (Stuber et al., 1997); PTSS, although distressing in their own right, may affect overall engagement with the health care team and treatment process and the utilization of health care resources over time. Given the relative frequency of PTSS and their association with other family stressors, interventions to reduce PTSS are appropriate for Targeted families in particular.

Two interventions that integrate cognitive-behavioral therapy and family therapy to reduce PTSS in childhood cancer have been developed and evaluated. Surviving Cancer Competently Intervention Program (SCCIP) combines CBT with an adaptation of Multiple Family Discussion Groups (Steinglass, 1998) in a multifamily, 1-day intervention for adolescent survivors of childhood cancer and their mothers, fathers, and adolescent siblings (Kazak et al., 1999). In a randomized clinical trial of SCCIP, reductions in PTSS were found across family members, relative to a wait-list control group (Kazak, Alderfer, Streisand, et al., 2004). SCCIP has subsequently been adapted for use with parents or caregivers of children newly diagnosed with cancer (SCCIP, Newly Diagnosed, or SCCIP-ND). With evidence for PTSS during treatment in mothers and fathers of children with cancer (Kazak, Boeving, et al., 2005), the goal of SCCIP-ND is to reduce PTSS during treatment and prevent longer term PTSS. SCCIP-ND is a three-session intervention, based on the original SCCIP model, delivered within the first 6 weeks after a child's diagnosis with cancer. Pilot data support its effect in reducing PTSS (Kazak, Simms, et al., 2005); a randomized clinical trial of SCCIP-ND is underway.

Clinical/Treatment Services

These patients and families necessitate the most intensive clinical services. These are the patients most frequently referred for consultation-liaison or psychology referrals, often after several days or weeks of

escalating problems with adjusting to the illness or hospitalization, difficulty adhering to treatment, or other evidence of disruption to medical care. Patients referred for consultation on pediatric units have significantly higher rates of internalizing (e.g., withdrawal, anxiety) and externalizing (e.g., acting out, aggression) behaviors, as noted by self, parent, and staff report (Carter et al., 2003). Although these families need the most intensive services, it is remarkable to note how small this number of families may be, relative to the overall number of patients/families on a service/unit. As the most difficult and complex patients to treat, they typically involve the higher level of resources, often with the least data available in terms of successful treatment rates or approaches.

Consistent with the PPPHM, two treatment approaches for children with cancer at the Clinical/Treatment level have been developed at CHOP. The first is a family systems-oriented consultation model (Kazak, Simms, & Rourke, 2002) that views the child as one part of the patient-family-staff triad, with framing of the referring problem and treatment based on this systemic understanding. Although an individual child or adolescent may be the target of the intervention, the goal of treatment is not (necessarily) to treat psychopathology or remove the problem; rather, the emphasis is on providing the structure necessary for all participants in the triad to function more competently. Indeed, a focus on competence pervades the treatment approach in order to identify ways in which symptoms may mask underlying competence (Waters & Lawrence, 1992). The intervention approach is highly focused, reflecting realistic goals of ensuring that medical care is provided safely and that acute distress is reduced, without attempting to "cure" more severe and chronic family problems that may contribute to the presenting problem. In our work with staff and families, we continuously emphasize joining. The concept of ARCH (Acceptance,

Respect, Curiosity, Honesty; Micucci, 1998) guides our work.

A second clinical treatment approach is known as the Difficult Family Protocol (Rourke, Reilly, Kersun, McSherry, & Tracey, 2006). This approach is used for those patient–family–staff triads (Kazak et al., 2002) in which frustration and conflict risk escalating and impeding medical care. A survey of oncologists, nurses, and psychosocial staff in our setting highlighted the types of situations that are most difficult for providers (Rourke et al., 2006). Not surprisingly, these include verbal or physical aggression, parents perceived as interfering with medical care, and nonadherence to treatment. For families at the Clinical/Treatment level of the PPPHM, working with consistent team members, strong team leadership, team meetings, and staff supporting one another are effective parts of a protocol developed for working with these families (Rourke et al., 2006).

CONSIDERATIONS AND CHALLENGES

The PPPHM evolved from a contextual model for understanding the role of context in child and family coping with pediatric illness. Bolstered by strong research support, the treatment recommendations of the PPPHM presented in this article advocate for integrated psychosocial services for all families entering the pediatric health care system. Conceptualizing services to all families entering pediatric health care systems, matched to their level of psychosocial risk, differs from what is typically provided. To the extent that such care involves an increase or reallocation of resources and potential changes in practice, discussion of potential barriers and related considerations is important.

First, concerns about expense are reasonable. At the outset, concerns about the cost and reimbursement rates for behavioral health care exist, regardless of the types of services offered. It may indeed cost more upfront to treat more patients. The

costs are likely to be incurred across all behavioral health care disciplines (e.g., social work, child life, psychology, psychiatry). Collaboration and integration are essential in the planning, implementation, and evaluation of this model of care. Such collaborative planning may reduce potential redundancies in care. Systematic assessment and delivery of services matched to family risk may also prove to be a more efficient (and cost-efficient) approach.

Second, however, the preventative implications of care based on the PPPHM have the potential to save significant resources in the longer term. For example, patients who adhere to treatment recommendations are likely to have better health and fewer complications. Early treatment of Targeted families may reduce subsequent hospitalizations and hospital services. One attending gastroenterologist wrote,

I am so grateful that our service was chosen for this pilot. I don't believe that it is simply a coincidence that our "bounceback" admission rate is down, calls to security for assistance with angry parents haven't been placed once, and family meetings to address compliance issues are but a memory. (Benton et al., 2005, p. 8).

Measurement of indicators of cost to health care systems is essential in evaluating this model's usefulness.

Third, a related financial complication is that current reimbursement systems generally pay for medical consultation following a more traditional approach (e.g., a psychiatric consultation for a patient with a *DSM-IV* diagnosis). Billing and reimbursement for services remain a challenge, although recent developments using health and behavior codes are promising ways in which the types of care provided under the PPPHM may be covered (Noll & Fischer, 2004). Some of the services described in this article cannot be billed, highlighting

the importance of seeking alternative sources of funding for services.

Fourth, applying the PPPHM may require changes in practice across disciplines. In some cases, services and resources are available but not integrated. In other cases, integrated teamwork is necessary to develop treatment approaches for groups of families who may not typically have received intervention. Strong partnership with medical and nursing staff in particular is necessary. Integration of brief screening instruments into standard nursing practice requires negotiation with nursing staff and leadership but can enhance care and satisfaction for staff who feel that they are more actively and competently involved in caring for the "whole" patient. The potential resistance of mental health professionals to changes in their roles and practice is another consideration. The model requires endorsement of a collaborative approach, with related skills that may necessitate shifts in practice for psychologists, psychiatrists, social workers, and child life specialists, as well as other health care colleagues.

Fifth, characteristics of the setting and the system will affect how the PPPHM may be used. In our large tertiary care setting, intervention approaches have evolved over many years of translating research into practice. The process may be quite different in other settings, and resources may be severely limited. Securing the support of key leaders, including physicians and nurses, is of central importance in changing practice. The PPPHM is a broad conceptual model that may be interpreted and used differently across settings. Championing the model, establishing support, and monitoring and evaluating it is a time-consuming but necessary process that requires multidisciplinary collaboration.

Finally, increased opportunities for collaborating and disseminating treatment approaches are essential in pursuing the goal of integrated and collaborative care in pediatric health care. Effective treatment

approaches that can be shared and implemented across settings (e.g., the treatment protocols from Spirito & Kazak, 2006) are a beginning step toward making treatments more accessible across a broader range of patients, families, providers, and settings.

CONCLUSIONS

A biopsychosocially oriented model, building on a social ecological framework, holds strong appeal in conceptualizing interventions for acutely and chronically ill children and their families. The PPPHM urges consideration of the behavioral health needs of all patients and families entering pediatric health care systems. Integrated multidisciplinary care, bolstered by evidence-based and innovative treatments and service models, offers a conceptual model to guide the development and evaluation of care for broader groups of families than is often the practice today.

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