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Families and health in the urban environment
Implications for health programs, research and policy

Summary

In this article the strong evidence of the influence of the family on the health of its members is analyzed to reinforce the potential of family-based intervention programs. How definitions of family and health affect research and programs is examined. The characteristics of successful research and intervention programs for families are analyzed. Reports of health programs and research are used to demonstrate the complexity of issues facing urban families and to explicate the process for developing effective family-based intervention programs. The isolation among agencies and disciplines is noted, and the potential benefits of linking the complementary components of the personal health and public health paradigms are discussed. Directions are provided for the formation of policy-relevant, comprehensive, interdisciplinary family-based programs to improve the health outcomes and sustain programs for urban children and their families.

Key-words: Family-intervention, health-programs, parenting, early-childhood.

Introduction

In all countries, the health of urban youth, particularly those who are impoverished, are affected by their environment and their access to social and health services. Recent changes in health and social delivery systems have increased the challenges for access (Szilagyi,1998; Wood, Saarlas, Inkelas & Matyas, 1999). These changes are occurring at a time when there is increasing evidence that morbidity and mortality are directly linked to individual and family behaviors, and comprehensive, multifaceted interventions are required to change risk behaviors. The purpose of this article is to raise awareness of the contributions of family-based or parenting programs to the health of children, and the benefits of these programs for improved health outcomes for all family members. What we know about families and the characteristics of successful programs is summarized. Programs of health research of children and families are analyzed. Recommendations are made for research that will inform health policy to improve [1] the health of family members through health programs directed at the family unit.

The initiation of risk behavior patterns begins in early childhood and these patterns are fostered by the environment (family, social, and economic) in which the child lives (National

Institute of Nursing Research, 1993; National Institutes of Health, 1991; National Research Council, 1994). While there is increasing acknowledgment that the family is the central influence on health behaviors this fact has not been applied consistently to the development and implementation of health programs for children. In this article, the factors that constitute the family context are identified, and the characteristics of effective family-based interventions presented with examples from a) single research projects, b) comprehensive programs, and c) integrative reviews of health-related programs for children.

The health of the family and its members is interdependent with broader social, economic, and political systems (Bronfenbrenner, 1986, 1994; Burr, Herrin, Day, Beutler & Leigh, 1988; Feetham, 1984, 1991; Milio, 1970, 1995; Small, 1990; Szilagyi & Schor, 1998). For example, poverty and the conditions associated with it are identified as the correlates to the 16-fold difference in asthma hospitalizations across the United States with the highest prevalence in the city's poorest areas (Gergen, Mullally & Evans, 1988; Ray, Thamer, Fadillioglu & Gergen, 1998). In a study of adolescents in Scotland, Sweeting and West (1995) reported that family life may have more direct effects on health than material factors, and through social mobility, may be indirectly linked to health inequalities in adulthood.

There is overwhelming evidence of the dramatic increase in high-risk personal behaviors in youth, such as smoking, alcohol use, limited exercise, and excessive caloric consumption. This increase particularly in the industrialized nations results in new epidemics (Breslow, 1998). For example, since the 1960's, the burden of illness for adolescents has shifted from traditional disease etiology to behavior-related morbidity and mortality that result from sexually transmitted diseases, motor vehicle accidents, gun-related homicides and accidents, depression leading to suicides, and substance abuse (Breslow, 1998, 1999; Carnegie Council on Adolescent Development, 1995; National Center for Health Statistics, 1995).

These trends have implications for intervention programs, research, and policy. Since the family is described as the 'primary social agent in the promotion of health and well-being' (World Health Organization, 1976, p. 17), our knowledge of the family and its relationship to the health of its members is central to changing these trends. Health programs for urban children require four characteristics in order for them to achieve the greatest and most lasting effect in changing health behaviors and health outcomes. First, programs must be comprehensive and focus on more than one health or risk behavior. Second, they must start in early childhood and continue through out life (Breton, 1999; Washington, 1999). Third, the interventions must be framed in the broader context of the community, which includes social, economic, and political environments (Ehiri & Prowse, 1999). The fourth, health programs must be conducted in the context of the family (Carnegie Council on Adolescent Development, 1995; Doherty & Campbell, 1988; Dryfoos, 1990; Small, 1990).

Families and health

In the last 20 years, researchers have increased their efforts to understand the influence of the family on the health and illness of its members (Campbell & Patterson, 1995; Doherty & Campbell, 1988; Litman, 1974; Litman & Venters, 1979; National Institute of Nursing Rese-

arch, 1993). Publications by Litman (Litman, 1974; Litman & Venters, 1979) are cited as pivotal in the increase in research about the relationship of health and families. Their work prompted a significant amount of research on the relationships between family characteristics and health, family focused health promotion in community and school based programs, and family interventions (Campbell, 1986; Doherty & Campbell, 1988; Feetham, 1984, 1991; Fisher, Terry & Ransom, 1990; Foxcroft & Lowe, 1995; Gilliss, 1983; Green, Macintyre, West & Ecob, 1991;Turk & Kerns, 1985). Specially, the relationship between family structure and functioning and health-related outcomes for children has been reported by a number of investigators (Campbell & Patterson, 1995; Gilliss & Davis, 1993; Kazak, 1989; Patterson & Garwick, 1994; Pokorni, Katz & Long, 1991).

The influence of culture has also been examined (Szapocznik et al. 1997). Cooper and Denner (1998) note that psychological theories and research often assume nations are culturally homogeneous and stable. But global demographic, political, economic changes and massive immigration have resulted in the necessity to examine cultural diversity and change within nations. In their review Foxcroft and Lowe (1995) note that given the established cultural variation in adolescent drinking behavior and parent-child relations, direct comparisons across countries are inappropriate. Recognizing regional variations they recommend that measurements be taken from different regions in countries.

Research on the family's impact on health has some common characteristics. For example, while the relationship between families and health is well documented, scholars have noted that much of the existing research on family and health is not grounded in theory, and the research does not test the components of these relationships to determine their direct effect on health outcomes (Doherty & Campbell, 1988; Feetham, 1984, 1991; Gilliss & Knafl, 1999; Klein & White, 1996; McCubbin, 1999). Historically this research has been derived from a disease model, so the onset of illness has been the independent variable and the consequences to the individual family members or the family the dependent variable. This model suggests a linear causality between the illness and problem within the family, and the outcomes or consequences to the family. Scholars are challenging the conceptual and methodological deficit or disease perspective (Antonovsky (1994); Cowen, Wyman & Work, 1996; Feetham, 1984, 1991; Wyman, Cowen, Work & Hoyt-Meyers,1999). Whittaker (1996) noted that our research questions should be to determine what goes right in development rather than the focus on what goes wrong. He recommends our research should study whole populations to identify success stories and frame our research on resilience rather than pathology (p 115).

More recently, research has begun to address the interdependence of the multiple factors affecting the family and its members (Gilliss & Knafl, 1999; Klein & White, 1996; McCubbin, McCubbin & Thompson, 1988; McCubbin, 1999). For example, Green and colleagues report that in Britain social class and gender must be accounted for and smoking and drinking examined separately in studies of risk behaviors in parents and their children (Green Macintyre, West & Ecob, 1991). They also state that to avoid the ecological fallacy of relating social groups and determinants of risk behaviors, parent/child dyads must be examined and not the aggregate comparisons of all parents to all children. In reviews of the effectiveness of family interventions in the treatment of physical illness, Campbell and Patterson (1995) and

Gilliss and Davis (1993) noted that although researchers demonstrate the family's strong influence on physical health, there is less evidence of the effectiveness of family-based interventions. Such conceptual and methodological changes provide new frameworks for research of families and new information for health and social policy.

Health and health promotion

A consistent concept across many definitions of health, is that it is a dynamic state of being in which the developmental and behavioral potential of an individual is realized to the fullest extent possible (Broering, 1993, Irwin & Vaughan, 1988; Pender, 1990; U.S. Office of Technology Assessment, 1991). Health promotion builds on this concept and is interpreted as actualizing the health potential of the individual (Huch, 1991), with the expectation that the individual will perform the actions to fulfill this potential (Igoe, 1991). Effective interventions in health promotion incorporate an understanding of what health means to individual family members, to the family as a unit, and how the environment influences their health actions.

Research on health promotion contributes to the understanding of the role of the family in the health of its members. Research has shown that health risk factors cluster in families since members often have similar diets, activity patterns, behaviors such as smoking and alcohol abuse, and a common physical environment (Campbell & Patterson, 1995; Carnegie Council on Adolescent Development, 1995; National Institute of Nursing Research, 1993). Health promotion is a multidimensional concept that occurs on a continuum that ranges from disease prevention to optimal health, and emphasizes physical capabilities, and social and personal resources. Most causes of mortality and morbidity in children and adolescents are due to behavior and lifestyle, and could technically be prevented through behavior change (U.S. Office of Technology Assessment, 1991). Health promotion actions are the primary means of achieving this change.

The advantage to focusing on health promotion is that a disease-prevention approach tends to blame the victim, and is limited to the reduction or elimination of specific health compromising behaviors. Health promotion is more inclusive than prevention because in addition to risk reduction, it focuses on health-enhancing behaviors, and views behavior as integrated within the environment (Guthrie, Loveland-Cherry, Frey & Dielman, 1994). This environmental concept is also consistent with Breslow (1983, 1998, 1999) who states that this concept of health promotion will require social action to strengthen individuals and families by changing societal conditions and institutions.

Health promotion activities occur at the level of the individual, family, community, and the larger social institutions (Carnegie Council on Adolescent Development, 1995; National Institute of Nursing Research, 1993). Conducting such activities in schools, work sites, the health care agencies, and communities will extend benefits to all persons and is critical to successful health promotion in urban families. Coordination and collaboration among all related systems, including health care, education, and social support systems, are essential to the success of this approach (Daka-Mulwanda, Thornburg, Filbert & Klein, 1995; Weissberg & Elias, 1993).

While progress is being made in understanding how factors such as health attitudes of the family, behaviors, social norms, peer pressure, and the media affect health in children, there is still much to be learned. It is particularly important to learn how knowledge of cognitive, emotional, genetic, and social influences can be transferred to the health practices of children.

The research and programs included in this review are categorized as health promotion to demonstrate the potential of this framework in affecting the health of urban families. For example, programs for the care of children with asthma may be more successful if interventions are targeted toward overall health promotion and not limited to the treatment of the condition. In addition, the health promotion framework provides a broader context for interventions (Milio, 1998).

Family and family functions

No universal definition of family has been adopted by family scientists and the clinical disciplines that work with or study families. How the family is defined determines the factors that will be examined to evaluate their effects on individual family members and the family unit. More recent definitions of family are based on its characteristics and functions and not its structure. When examining health in the context of the family, the family constitutes the group of persons acting together to perform functions required for the survival, growth, and health of family members. The family is a system of which its members may or may not be related, and may or may not contain children, where there is a commitment and attachment among the unit members, there is a future obligation. Within a family systems framework family is defined as a complex structure consisting of an interdependent group of individuals, who have a shared sense of history, experience some degree of emotional bonding, and devise strategies for meeting the needs of individual family members and for the family (Anderson & Sabatelli, 1994).

Burr and colleagues (1988) add to the definition of family through their discussion of the characteristics that differentiate the family from other social institutions. They conclude that our knowledge of family has been limited by research and program outcomes that do not distinguish the family from other social institutions, such as governments, religions, and educational systems. Their conclusion is that when the family is viewed strictly as a social institution, biological, environmental, nutritional, and other phenomena are not addressed. The unique dimensions that make families different from other social institutions are their:

- generational relationships and familial memories;
- unique sets of rules, standards, ethics, priorities, and processes;
- unique sets of aspirations, feelings, temporal orientations, achievements, and interactions;
- cultural influences.

These unique dimensions affect family functions, and for a family-based intervention to be effective, they must be considered in program planning and research.

Family functions are considered generic across all families and cultures and include managing identity tasks of family members, regulating boundaries, managing the emotional climate, maintaining the family environment or household and managing changes in the family

structure over time (Sabatelli & Bartle, 1995). It is generally accepted that family functions include providing basic resources and safety, supporting the development of family members, socializing family members to perform in the larger social environment, and serving as a mediator between family members and the broader environment. Safety functions include not only protection from harm but also, as noted by Small (1990), protection of the physical, psychological, spiritual, and cultural integrity of family members from threats by the natural and social environments. The uniqueness in families comes from the processes used to meet the functions of the family. The culture, social, economic and political environments of the family all influence the processes the families use.

The family functions identified by family scientists have tended to be psychological rather than societal or economic functions. In an analysis of research constructs and measures of successful families, only one of fifteen groups of family theorists explicitly included a function related to the health of the family or its members (Krysan, Moore & Zill, 1990). The omission of the health function is one reason for the lack of attention to the family in health-related programs and research.

It is well documented that many factors can deter a family from fulfilling its basic functions and meeting the needs of its members. These deterrents include health problems of family members, and inadequate social and economic resources that are confounded for urban families who also lack safe neighborhoods along with inadequate and unsafe transportation and housing. A primary goal of family-based health-related interventions is to increase the ability of the family to fulfill its basic functions.

Family context

Evaluations of health programs frequently result in recommendations for the inclusion of a family context in future work. However, what constitutes such a family context is not described. The constructs that support a family context from a health and illness perspective are that: (a) the family constitutes perhaps the most important social context within which illness is resolved, (b) interactions within the family system affect the health outcomes of family members, (c) progression of disease and disability can be linked to the family, and (d) patterns of health service utilization are related to family structure and health beliefs (Wright & Leahey, 1994).

Constructs that underlie health promotion programs within a family context are that: (a) more than one serious health risk behavior tends to occur in the same individual, (b) risk behaviors often have interrelated antecedents in early childhood, and can even be intergenerational, (c) there is interdependence among and between circumstances in an individual child's life, (d) behaviors seen in one individual may be evident in other family members of the same and previous generations, and (e) the activities of an individual are interdependent with their families and the environment in which they live (National Institutes of Health, 1991; National Institute of Nursing Research, 1993).

To clarify the concept of family context further, Coleman (1988, 1990) suggested that the assessment of family context could be enhanced through the recognition of two constructs

-human capital and social capital. Human capital is defined as those resources that originate in the skills and knowledge of the family. Social capital is defined as those resources that derive from the quality of relationships among family members. Feetham's (1984, 1991; Feetham & Meister, 1999) criteria for the research of families can be used to provide direction for distinguishing the context of family-based interventions from other interventions. In family interventions, knowledge of family structure and functions is used in the assessment, intervention, and measure of the outcomes of the intervention.

Although identified as a necessary component of successful health promotion programs for children and families, the inclusion of family members or the family context in such programs has been limited. For example, in a review of more than 100 programs reported as successful in changing high-risk behaviors of delinquency, substance abuse, teen pregnancy, and school failure in adolescents, Dryfoos (1990) found 60% were school-based interventions, 30% were community-based or multi-agency programs, and only about 10% included a family-based intervention. While many of the school and community-based programs did include recognition of the family context, the primary focus of the intervention was not the family system. While a goal of the Maternal Child Health Bureau's *Healthy Tomorrows Partnership for Children* program is to assist children and their families to achieve their developmental potential, many of the 54 projects in the program are categorical and focus only on children (National Center for Education in Maternal and Child Health, 1995).

In order for a program to be classified as having a family context, it must recognize the family environment as a significant variable affecting the outcomes of health-related interventions for the members. Programs meeting these criteria can be conducted in any setting, including the home, and can include either an individual family member or all members of the family (Szapocznik, Kurtines, Foote, Perez-Vidal & Hervis, 1983; Szapocznik, et al., 1997; Wright & Leahey, 1994; Wright, Watson & Bell, 1996).

Many factors are responsible for the paucity of programs conducted in the context of the family. One factor may be the complexity of the methodological and measurement requirements for effective problem assessment. Another factor may be that assessment and intervention tend to occur at the personal health level (individual family member or family), while the problem is identified through epidemiological methods at the public health level. The result is a disconnect between the personal and the public health perspectives, and scientists or practitioners from one perspective may not see the merit of another perspective. In addition, program teams may not include expertise in family theory, family research, and clinical issues. Finally, the family context may not be recognized as an essential factor in programs directed to the health of children.

When the family context is addressed in program development and research, different theoretical frameworks are used, different questions are asked, and different measures and analyses are required.

Research on urban families and health

A multifaceted process was used and several factors were considered to identify the programs and research discussed in this article. Several database searches were conducted using the terms 'family' and 'health' From these searches abstracts were reviewed for the relevancy of the publications to the health of urban children and their families. References from the selected articles were also used to identify other possible reports of research or programs focusing on the health of urban children and their families. From these searches more than 300 publications were analyzed for their contribution to our knowledge of the health of urban children and their families. Some research or programs that were categorical and did not focus on families, were retained if they contributed knowledge to the characteristics of successful interventions and/or included recommendations for family-based programs. These categorical programs include programs directed to one behavior or condition such as drug abuse, teen pregnancy, or improving home safety practices for children (Dryfoos, 1990; Newcomb & Bentler, 1989; Small, 1990).

The results of this process are reported in two ways. First, some programs have been selected as exemplars of health-related interventions conducted in the context of urban families. Characteristics of interventions that achieved success in sustaining improved health outcomes are also identified. These programs or research related to critical health issues for urban children and their families are presented as exemplars to guide future research and the development of intervention programs. Characteristics of interventions that achieved success in sustaining improved health outcomes are also identified. Second, an analysis across reviews of child health programs is presented in order to identify the characteristics of family-based interventions. Throughout the article, research theory and methods for many of the challenges in family-based intervention research are described.

Exemplars of family-based health interventions

Low Birth Weight Infants and Their Families. In the United States, the incidence of giving birth to low birth weight (LBW) infants is highest in minority women and women living in poverty. Interventions to improve the health and developmental outcomes of these infants serve as one example of family-based health promotion programs and demonstrate the need for the early initiation of these programs.

A transitional care program developed by nurse scientists at the University of Pennsylvania has been documented to improve health outcomes of at-risk populations following discharge from the hospital (Brooten, Brooks, Madigan & Youngblut, 1996; Naylor et al, 1999). The first study in this program of research examined the outcomes for LBW infants who received follow-up care in the home by advanced practice nurses. Of note is that earlier hospital discharge along with the support of an APN can result in enhanced parent-infant interaction, a potential reduction in child abuse and foster care, and increased support of the family unit (Brooten et al., 1986; Brooten et al., 1988; Donahue et al., 1994; Brooten et al., 1998). This family intervention to support the development of LBW infants is a clear example of a health promotion activity.

A more comprehensive project with a longer follow-up for mothers of high-risk infants has also shown improved outcomes (Olds, Henderson, Chamberlin & Tatelbaum, 1986; Olds, Henderson, Tatelbaum & Chamberlain, 1986; Olds, Henderson, Tatelbaum & Chamberlin, 1988). This project, based on an ecological model, recognizes the multiple factors affecting high-risk, young families. The intervention in this project is based on evidence that parental behaviors have significant influence on the health of high-risk infants. Nurses delivered the comprehensive intervention in the home. That the 400 women were enrolled during the prenatal period, a time known to contribute to high retention of subjects following the delivery of the infant, was key to this program's success. The home intervention continued for one group through the first two years after the birth of the infant with follow-up of the families for 15 years. Significant differences observed in the experimental group included fewer emergency visits, and lower incidences of child abuse and neglect. Mothers in the intervention group had an 82% better employment history, and 43% fewer pregnancies. Adolescent mothers returned to school more quickly than the control group. This study demonstrated a cost-effective program with improved outcomes to the mothers and infants (Olds, et al., 1997, Olds, Henderson & Kitzman, 1994; Olds, Henderson, Phelps, Tatelbaum & Chamberlain, 1993). At the time of the 15 year follow up the children of the single, lower SES mothers receiving the nursing intervention reported fewer incidences of risk factors for antisocial behaviors such as running away, smoking, arrests, and number of sex partners. There were no program effects on other behavioral problems (Olds, et al., 1998).

Other family-based interventions in urban families with high-risk low birth weight and full term infants have demonstrated similar results. To be effective, these programs required that the nurse or other home visitor conducting the intervention facilitate the family in responding to crises and survival problems, in addition to focusing on the infant (Hardy & Streett, 1989; Meyer et al., 1994). For example, if the family had no heat or food, an intervention to teach the mother about her infant would be less effective until these survival needs of the family were met. These studies demonstrate the complexity of issues that must be considered with at-risk urban families, and show that multidimensional interventions conducted over time are required for positive outcomes for the infants and their families.

Smoking Prevention and Cessation. Cigarette smoking is a leading cause of health problems in the United States. It is estimated that 3,000 teenagers in the United States begin smoking each day (Pierce, Fiore, Novotny, Hatziandreu & Davis, 1989). In their review, Doherty & Allen (1994) reported a high correlation between parental smoking behaviors and the initiation of smoking in adolescence. The limited success of smoking cessation education programs is thought to be due to the multiple factors affecting the initiation and cessation of smoking. Foxcroft and Lowe, 1991,1995) also support the multi-factorial nature of risk behaviors in children and adolescents. They report gender differences and perceived family life as factors in smoking and other substance use. They also address the interdependence of family members noting that the children are shown to affect the behaviors of the parents. Therefore, programs targeted at children should consider the family and social context to increase the potential for success of the programs (Campbell & Patterson, 1995). Doherty and Allen (1994) urge that

family functioning be given a high priority in health research related to the onset of smoking, and that family factors be addressed in planning anti-smoking programs for children. Because of the multiple factors affecting risk behaviors and families, smoking prevention must be combined with other health-related programs, such as those directed at nutrition, physical fitness and exercise.

Families with Children with Asthma. Asthma is a multi-factorial condition with interactions among genetic, immune, and environmental factors. African-American children are more likely to have asthma than Caucasian children (4.4% vs. 2.5%). Social and environmental factors are known to exert a measurable influence on the incidence of asthma, and account for much of the racial and economic difference in the prevalence rates. Poverty status, maternal cigarette smoking, family size, size of the home, low birth weight, and maternal age are all associated with the occurrence of asthma in urban African-American children (Gergen, Mullally & Evans, 1988; Weitzman, Gortmaker & Sobol, 1990). During the 1980's, hospitalization rates across the United states increased 4.5% annually for persons with asthma less than 17 years of age. New York City, with less than 3% of the nation's population, accounted for around 6% of all asthma hospitalizations (American Academy of Pediatrics, 1994).

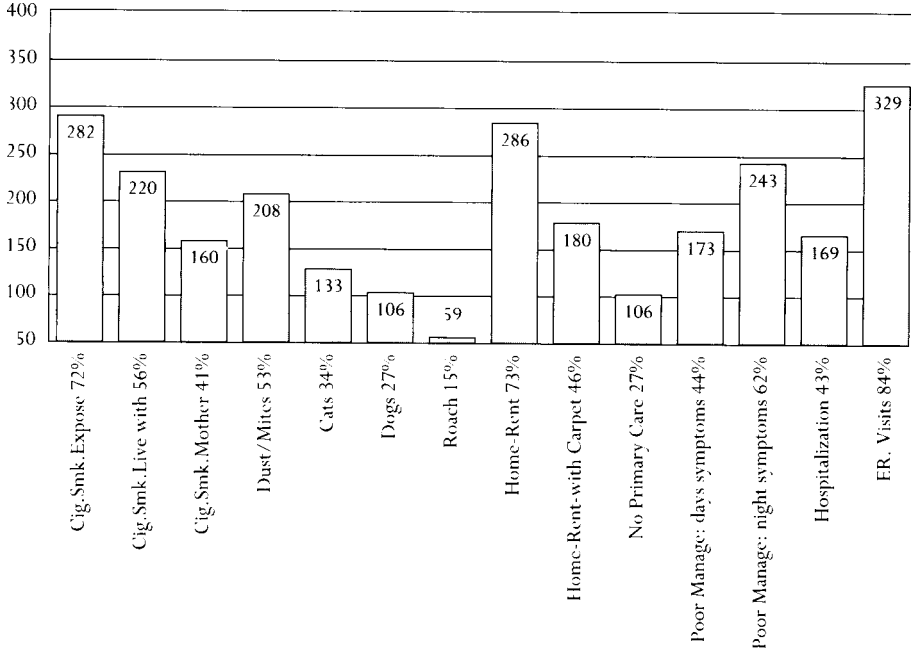
The diagnosis and treatment of children with this condition requires consideration of family variables. Traditionally, family interaction has been seen as one antecedent to the incidence of asthma episodes. Recent studies challenge this assumption. Researchers have found that contrary to studies conducted retrospectively, prospective studies of families at risk for asthma demonstrate that family interactions are affected once the onset of asthma occurs, rather than being an antecedent to respiratory symptoms (Campbell & Patterson, 1995; Gustafsson, Bjorksten & Kjellman, 1994; Klinnert, Mrazek & Mrazek, 1994; Wissow, Gittelsohn, Szklo, Starfield & Mussman, 1988).

Research conducted with urban families of children with asthma demonstrates the interaction of the multiple factors affecting their outcomes (Butz et al., 1994). From a random selection of 42 schools in two eastern cities in the United States, 392 children were identified as having asthma (approximately 10% of the children). Trained lay Community Health Workers were able to reach 88% of the families of these children to obtain baseline health and family data. While the treatment of asthma usually requires close medical follow-up, 27% of the families reported no primary care provider, and only a few reported specific asthma care-although 87% reported being on medications. Even for those families reporting primary care providers, there was a significant incidence of the misuse and misunderstanding of the medications (Huss et al., 1994; Malveaux & Fletcher-Vincent, 1995). This lack of adequate health care for children with asthma has also been reported by Wissow, Gittelsohn, Szklo, Starfield & Mussman (1988). In addition, 43% (N= 169) of the children had been admitted to the hospital, and 84% had been treated in an emergency room with 56% having been treated in the last six months. The average number of school days missed in the past year related to asthma was 9.8 (Malveaux & Fletcher-Vincent, 1995).

Adapting the physical environment of the child to limit exposure to allergens is an important component of care. The ability to change the environment was limited for many of

these families--73% were renting their homes and 61.5% reported smokers in the household (Huss et al., 1994; Malveaux & Fletcher-Vincent, 1995). As reported by Fish et al. (1996) the presence of smokers in the environment has additional effects on asthma management. In a study of 179 families, non- attendance rates for asthma education programs were 24%, 42%, and 78% in non-smoking, one smoker, and two smoker families respectively. Noting that the number of smokers in the home is predictive of parental participation in asthma education and the degree to which the asthma is recognized in the child attention to the family environment is essential in asthma management programs.

Figure 1. *Family context factors affecting environmental exposure of 392 urban minority children with asthma**



The family factors identified in the first Butz and colleagues' study have led to a second study in which lay Community Health Workers have been augmented with home health nurses, and the length of the intervention has been extended from five months to two years. The nurses respond to the families' questions about the management of the illness, and serve as case managers to provide linkages between the families and the multiple agencies- such as primary care providers, teachers, and social services (A. M. Butz, personnel communication, May 21, 1996; Hill, Bone & Butz, 1996).

The cumulative effect of poor medication management, inadequate access to care, emergency and hospital admissions, school days missed, and effects on family interaction docu-

ments the challenges that asthma presents to families (Eggleston, Malveaux, Butz, Huss, Thompson, Kolodner & Rand, 1998). Family-based interventions need to provide opportunities for improving problem solving capabilities and the ability to determine strategies to respond to situations related to the child's condition. These studies of children with asthma demonstrate that improved health outcomes result from comprehensive family-based interventions, and explain why single dimension, short-term programs do not achieve sustained improvement in these children. While single intervention research can add to our knowledge of the particular components/factors affecting health outcomes in families, these programs have significant limitations for urban families with complex social and health needs.

Gergen states that the complex, multifactorial problem of increasing asthma morbidity, especially in minority communities, will not be solved by single dimensional programs, and that multidimensional programs appropriately targeted to the individuals and their families are required (Gergen & Goldstein, 1995). The 10% incidence of asthma in these urban school-aged of children is considered representative (Malvauex & Fletcher-Vincent, 1995). It can also be surmised that the problems reported in these families are also representative, and reinforce the significance of asthma as a national concern for children and families. Parental smoking behaviors were also reported as a significant predictor of attendance for an education program for parents of children with asthma.

Substance Abuse. Substance abuse is a significant public health problem affecting individuals, families, communities, and society. In a recent decade review, a resurgence in adolescent drug use was reported (Weinberg, Rahdert, Colliver & Glantz, 1998). Family environment factors as well as biological factors are emerging as important etiological factors. Substance use is also associated with other problems resulting in increased morbidity and mortality in urban children, including accidents and violence (Millstein, 1988; Weinberg, et al., 1998). Familial clustering and familial factors are shown to mediate vulnerability to substance abuse. However, interventions tend to be conducted as single-dimensional at the level of primary prevention, with short, time-limited educational programs for groups of children in schools and other community settings and not in the family context (Anderson, 1996; Gloss, 1995). Of concern is that school-based programs may not reach those at greatest risk, as they are most likely to be truant, have dropped out, and/or have significant family disruptions. In their review Weinberg and colleagues note that new treatment modalities are emerging with family-based interventions receiving the most study (Weinberg, et al.,1998).

While various family-based approaches to reducing or eliminating drug use and abuse have been tested, they represent only 4.1% of published studies related to children and adolescents (Kazdin, Bass, Ayers & Rodgers, 1990; Liddle and Dakof, 1995). Although reporting small samples and some measurement problems, the advantages of family-based drug treatment for adolescents over other approaches are evident from the findings of 10 controlled studies reviewed by Liddle and Dakof (1995). The Midwestern Prevention Program demonstrated the effectiveness of the multicomponent community drug abuse prevention program that included school, parent, community leader and mass media components (Johnson et al. 1990).

The work of Szapocznik and colleagues is considered a landmark in establishing family interventions as an effective treatment for adolescent drug abuse (Liddle & Dakof, 1995. Weinberg, et al., 1998). These investigators have conducted a family-based program of research over the last two decades and have made significant contributions to clinical, theoretical, and measurement issues in research with high-risk adolescents and their families. They report a change in abstinence rates from 7% at admission to 80% at termination (Szapocznik et al., 1983; Szapocznik, Kurtines, Foote, Perez-Vidal & Hervis, 1986; Szapocznik et al., 1988). A basic premise of their program of research is the recognition that therapeutic interventions must be responsive to the constant changes in societal conditions (Szapocznik, Kurtines, Santisteban & Rio, 1990; Szapocznik et al., 1993, 1997). While addressing the issue of acculturation, these scientists have moved from a single-culture intervention in Hispanic adolescents to a multi-cultural, intergenerational conflict resolution intervention. Family effectiveness training, in the form of a 12 lesson psycho-educational modality, has been developed to enhance bicultural skills in all family members.

Two common problems in clinical work with high-risk families have been difficulties in implementing family therapy techniques, and inability to engage family members. Frequently, only one family member may seek resolution of family issues, and often times even the family member who initiates contact with a resource may not continue past the initial consultation. Szapocznik and his colleagues, have tested two program arms- a model for one-person family therapy, and a model for engaging hard to reach families (Santisteban et al. 1996; Szapocznik, Hervis, Kurtines & Spencer, 1984).

This program of research has extended to testing the effectiveness of this model with other populations such as families with children who have health problems, and HIV-positive women (Malow, Ireland, Halpert, Szapocznik, McMahon & Haber,1994). They are refining the interventions through further testing of the structural ecosystem approach, recognizing that all social contexts are embedded within a complex set of cultural influences (Szapocznik et al., 1993, 1997). A focus on methodological issues is another component including testing the efficiency of a tool for screening for maladaptive family functioning in adolescent drug abusers (Problem Oriented Screening Instrument for Teenagers) (Santisteban, Tejeda, Dominicis & Szapocznik, 1999).

While health promotion outcomes are difficult to measure, there is clearly enough evidence to justify greatly increased attention to family-based health promotion programs, and the expenditure of human and financial resources for these programs at the community, state, and national level. However, the dissemination and implementation of these programs remain incomplete and research on barriers to implementation of effective preventive interventions is needed. Schorr (1991, 1997) and Feetham and Meister (1999) provide some direction to overcoming these barriers.

Characteristics of family-based programs

Eight categories of characteristics were identified from the analysis of over 20 reviews of child health programs. The eight categories were determined by the author following the content

analysis of characteristics reported as contributing to the success of health programs for children. The components addressed by the various programs are described for each category as a basis for recommendations for health interventions for urban families and their children (See Table 1 for summary). While many of the reviews did not include specific family-based interventions, these characteristics of successful programs apply to family-based programs. The eight categories of characteristics are interdependent; for example, in order to address the broader social systems, the program would be comprehensive (provide many health services) and would need collaboration across multiple agencies and services. A significant component of the program would be to assure the active inclusion (both what is and what should be) of the family and its members within these systems.

The characteristics of successful programs are not specific to a target group or issue, such as the prevention and reduction of risk behaviors in the cases of smoking, poor nutritional intake, or exposure to HIV. The characteristics are consistent across programs whether they are age related (school-aged), behavior related (abstinence), or targeted risk groups (the poor, HIV/AIDS). There are substantial data, based on analysis of the reviews, to support that these characteristics are critical if sustained change is to occur. Whittaker (1996) describes a related set of characteristics as building blocks for effective prevention programs that also recognize the strengths and resiliency of families, the interdependence of families with their environment, and collaboration with families through mutuality and reciprocity.

Family context

Considerable research has shown that the family has a strong influence on lifestyle, and that health behaviors are developed, maintained, or changed within the family. Nevertheless, there is a paucity of research on family-based health related interventions and service programs that incorporate a family-based context.

While most of the reviews identified the family as a factor in successful health programs for children, few gave specific examples of inclusion of families in any phase of the program from initial assessment through implementation. It is known that programs that do not address the perspective of the family may have reduced participation and less effect (Millstein, 1988; Small, 1990; Spoth, Redmond, Kahn & Shin, 1997).

Who constitutes the family is another consideration. Dilworth-Anderson (1989) urged attention to the different family forms. While family functions remain constant, how they are performed and the resources they require are affected by different family forms. For example, while single-parent households may need assistance from external sources to meet the caregiving needs of a child with asthma, the two-parent family may have the flexibility and support to handle the care, and the multi-generational family may be able to reach beyond the immediate family system for support (Campbell & Patterson, 1995; Dilworth-Anderson, 1989).

Frequently, the family is identified as an antecedent of risk behaviors in children. Mortimer (1993) suggests that involving parents at all levels in school-based programs could result in more effective partnerships to reduce risk behaviors. In summarizing 100 successful programs, Dryfoos (1990) was more direct and suggested targeting outreach to parents through

Table 1a. *Characteristics of Health Related Programs for Children and Adolescents*

Program review	*Review / Program Focus*	*Family context**	*Appropriate to target group*	*Comprehensive / multiple services*	*Research & Theory*	*Broader social context*	*Time Factors*	*Environmental support*	*Policy*
Schorr, L. B. (1988). *Within our reach: Breaking the Cycle of Disadvantage.* New York: Anchor Press, Doubleday.	Disadvantage	F R	X	X		X		X	X
Millstein, S. G. (1988). *The potential of school-linked center to promote adolescent health and development* (Working paper for Carnegie Council on Adolescent Development). Washington, DC: Carnegie Corporation of New York.	School based health	F R	X	X	X	X			X
Dryfoos, J. G. (1990). *Adolescents at risk.* New York: Oxford University Press.	100 studies cataegorical -risk	R	X	X	X	X	X	X	X
Small, S. A. (1990). *Preventive programs that support families with adolescents* (Working Paper for Carnegie Council on Adolescent Development). Washington, DC: Carnegie Corporation of New York.	41 Preventive programs-families & adolescents	F	X	X	X	X	X	X	
Kirby, D. (1991). School-based clinics: Research results and their implicatios for future research methods. *Evaluation and Program Planning, 4,* 35-47.	6 studies								
Kirby, D., Short, L., Collins, J., Rugg, D., Kolbe, L., Howard, M., Miller, B., Sonenstein, F. & Zabin, L.S. (1994). School-based programs to reduce sexual risk behaviors: A review of effectiveness *Public Health Reports, 109,* 339-360.	23 studies of school based clinics & sexual behavior		X		X			X	
Mortimer, A. M. (1993). *Consultation on afterschool programs.* Washington, DC: Carnegie Corporation of New York.	After school programs	F	X	X	X	X		X	
Weissberg, R. P. & Elias, M. J. (1993). Enhancing young people's social competence and health behavior: An important challenge for educators, scientists, policymakers and funders. *Applied and Preventive Psychology, 2,* 179-190.	School based health programs	I	X	X	X	X	X	X	X

F: Family based intervention, R: Recommended family based intervention, I: Inferred family-based intervention

Table 1b. *Characteristics of Health Related Programs for Children and Adolescents*

Program review	*Review/ Program Focus*	*Family context**	*Appropriate to target group*	*Comprehensive/ multiple services*	*Research & Theory*	*Broader social context*	*Time Factors*	*Environmental support*	*Policy*
Christopher, F. S. (1995). Adolescent pregnancy prevention. *Family Relations, 44* (4), 384-391.	Pregnancy prevention		X	X	X	X			
Kelly, J. A. (1995). Advances in HIV/AIDS education and prevention. *Family Relations, 44*, 345-352.	HIV Prevention	R						X	
Campbell, T. L. & Patterson, J. M. (1995). The effectiveness of family interventions in the treatment of physical illness. *Journal of Marital and Family Therapy, 21* (4), 545-584.	Families & children with physical illness	F R			X		X		
Liddle, H. W. & Dakof, G. A. (1995). Efficacy of family therapy for drug abuse: Promising but not definitive. *Journal of Marital and Family Therapy, 21* (4), 511-543.	Drug abuse	F R	X		X	X	X		X
National Center for Education in Maternal and Child Health (1995). *Healthy tomorrows partnership for children: Abstracts of active projects FY 1995*. Arlington, VA: Author.	Child health	F	X			X		X	X
Nelson, D. W. (1995). *The path of most resistance: Reflection on lessons learned from new futures*. Baltimore: The Annie E. Casey Foundation.	Health programs			X		X		X	X
Daka-Mulwanda, V., Thornburg, K. R., Filbert, L. & Klein, T. (1995). Collaboration of services for children and families: A synthesis of recent research and recommendations. *Family Relations, 44*, 219-223.	Services for children & families	F	X	X	X	X			X
Bogenschneider, K. (1996). An ecological risk/protective theory for building prevention programs, policies, and community capacity to support youth. *Family Relations, 45*, 127-138. programs	5 Models for youth prevention	F R	X	X	X	X	X	X	

F: Family based intervention, R: Recommended family based intervention, I: Inferred family-based intervention

home visits, and provide them with specifically defined roles such as classroom aides and advisory board members. As was demonstrated in the research of low birth weight infants and children with asthma, the most effective programs used health professionals (specifically nurses) who work directly with families in the home, and provide intensive interventions for problems that extend beyond the care of the target child.

Interventions conducted in the context of the family can occur in any setting and with one or more family members. For example, applying what is known regarding the family variables affecting the care of urban children with asthma, any intervention would include obtaining information on the family's history of allergies, living environment, and smoking exposure to the child.

Interventions appropriate to the target groups

Many concepts were described in the reports related to expectations for target groups. While it may be assumed that programs would be developmentally appropriate and sensitive to the culture and ethnic orientation of the target groups, these concepts are not central to many programs. In order to design relevant programs, children and their families should be involved in program planning. Family members should serve on program advisory boards, and be integral to the evaluation of the programs. The work of Szapocznik and colleagues demonstrates the process for developing culturally and ethnically relevant family-based interventions (Szapocznik, et al., 1990, 1993, 1997).

Historically, research has focused on pathologies and deficits in the functioning of minority families rather than the range of family experiences. As a result, little is known about the strengths and processes that enable families with limited economic and social resources to meet their family functions. Frameworks that are culturally sensitive, recognize varying family structures, and contribute to our knowledge of building family strengths are needed (Bogenschneider, 1996; Breslow, 1998, 1999; Bronfenbrenner, 1994; Dilworth-Anderson, 1989). Intensive individualized interventions are reported to be more successful than nonspecific group interventions (Butz et al., 1994; Meyer et al., 1994; Olds et al., 1988, 1993, 1999). While these programs may be more costly initially, they may have a better cost-benefit ratio than group interventions that have no sustained effect on health outcomes. Conducting these interventions in the context of the family also increases the potential for sustained change because the behavior would be supported in the 'real world' of the child (Anderson, 1996; Dryfoos, 1990, 1998; Hardy & Streett, 1989).

When considering the target group, school-based programs appear to be the logical setting for health and family-based interventions. However, Dryfoos (1990, 1998) and Small (1990) have noted that some of these programs do not provide developmentally appropriate or individual interventions, and only a few programs address the context of the family. In several programs, contact with the families was limited to parental permission for the child to receive health services. For these programs to be appropriate to children and their families, Mortimer (1993) recommends that the students and families be involved in the development and evaluation of the programs.

Comprehensive services

Health programs targeted to one condition or behavior are known to be less effective because risk behaviors often occur in clusters. Comprehensive school-based programs can be designed to integrate health services, health teaching, and community-based outreach. However, Weissberg & Elias (1993) reported that while there is increasing agreement for the need for comprehensive long-term (K-12) school programs for students and their families, there is little evidence of such programs. What is occurring are multiple categorical programs targeted to specific groups or behaviors with little or no integration among the programs (Dryfoos, 1990, 1998; Weissberg & Elias, 1993).

Reviews of categorical programs related to reducing pregnancy in adolescents have similar findings (Christopher, 1995; Kirby, 1991,1999; Kirby et al., 1994). The programs reporting higher levels of success in changing pregnancy-related behaviors in adolescents were multidimensional programs that went beyond limited contact with the targeted youth, and made use of community networks. Nevertheless, parents were only included in the outreach efforts of one program (Vincent, Clearie & Schluchter, 1987).

Research and theory

One reason for the perpetuation of unsuccessful programs is that empirical evidence from earlier programs, scientific studies and research reviews is not applied in the development of new programs (Gilliss & Knafl,1999). While there may be methodological problems with the research on health in children and families, considerable knowledge has been generated that can be applied to intervention programs, as well as used to inform policy makers.

The application of intervention theory and a five-stage model for prevention program development can contribute to advancing the science and improving the quality and outcomes of family-based health programs (Christopher, 1995; Coie et al., 1993; Dumka, Roosa, Michaels & Suh, 1995). The five-stage process of problem analysis, program design, pilot testing, advanced testing, and dissemination has recursive - or feedback components for each stage. Attention to these components for the development of intervention programs would result in program developers and scientists determining the perspective and needs from members of the target group, planning for the introduction into the community, developing recruitment and retention strategies, and determining outcome measures using the appropriate theory and research findings (Dumka, et al., 1995).

Broader social context

A frequent recommendation emanating from the reviews analyzed for this article, is that programs should address the realities of the broader social system. A consistent theme is the difficulty in effecting and sustaining change in the behavior of individuals, let alone families and communities. It is acknowledged that to have an opportunity for change programs must be multidimensional, and that communities, in and of themselves, cannot alter poor educational, social, and health outcomes (Breslow, 1983, 1998,1999; Milio, 1992). Nelson (1995) repor-

ted that change strategies must include social-capital and economic development initiatives that target entire communities. This concept also applies to school-based programs, where in order to optimize the student's potential for learning, their social, emotional, and physical well being must be addressed (Dryfoos, 1990, 1998; Weissberg & Elias, 1993).

The work of Milio (1970) serves as a classic example of a program designed within the broader social context. As a public health nurse in Detroit, Michigan, Milio determined that her work with families would be limited unless they were seen within the broader social, economic, and political context of their lives. From this perspective, she worked with officials from the city, the Visiting Nurses Association, and the Public Health Department to establish the Moms and Tots Center. In contrast to traditional public health services, the Center provided comprehensive services where family members received preventive health care and social services, and participated in Head-Start programs. The concepts implemented by Milio match recommendations in more recent reviews of health programs (Dryfoos, 1990,1998; Millstein, 1988; Small, 1990) such as incorporation of community groups in the development of the center, inclusion of all family members in the delivery of health services, and collaboration with policy makers to build ongoing funding into the program. Milio also recognized that to improve outcomes for children and their families, social and economic factors must be addressed concurrently with health concerns.

The success of this program is evident in its protection by the community and survival during the Detroit race riots of 1967, and its continuation into the 1980's when the center was closed, due to the cutbacks in Federal funding. At that time, some programs such as the day care program were discontinued, and others were dispersed among other city programs. Those programs funded through Medicaid continue but not at the community-based setting (N. Milio, personal communication, June 11, 1996). Today, two programs applying the concepts used by Milio are being conducted to serve the same area of Detroit. However, in contrast to the Moms and Tots Center, these two programs, INREACH (Fry-McComish, Lawlor & Laken, 1996), and Family Road (Lienert, 1995) are conducted from traditional health care settings.

Time factors

Program timing has two primary dimensions. First, interventions must be implemented prior to the assumption of risk behaviors. For health behaviors this must occur in early childhood since many risk behaviors are well established in the early school years. Second, interventions must be administered over an extended period of time to sustain changes in health behaviors. For example, Weissberg and Elias (1993) proposed school-based health programs that are integrated with educational programs from kindergarten through high school. School and family-based interventions that target the middle and high school years are too late for many behaviors, including smoking, substance abuse, and sexual activity (Breton, 1999).

Environmental support

Societal norms and public policy contribute to the environment of children by the kinds of behaviors they reinforce. The activities that children observe in their communities and in the media influence patterns of initiation or abstinence. In describing school-based programs, Small (1990) cautions that health programs must teach skills applicable to the 'real life' of the children. Programs presented in isolation without reinforcement in the child's environment have little chance to be sustained. For example, Anderson (1996) reported in a study of incarcerated female adolescents, that while the young women proclaimed commitments to sobriety and the discontinuation of other risk behaviors following their release, they also expressed concern that they would not be able to maintain these behaviors when they encountered the same people and situations that originally led them to substance abuse.

Recommendations for enhancing the environmental support for healthy behaviors range from the application of intervention theory, to developing collaborative partnerships with the media in order to change societal norms to decrease risk behaviors in children and families.

Policy

Comprehensive policy directed specifically to the health of children and families is not a tradition in the United States. Policy for children and families tends to be directed to specific conditions or circumstances such as pediatric AIDS or Head-Start (Huston, 1994; Langley, 1991). This categorical approach addresses social and health issues with respect to the family and its members apart from their larger environmental context. We also have been an adult rather than child-oriented society in which risks perceived to affect adults are more often acknowledged and more apt to receive attention and resources than risks perceived to affect children (Lum & Tinker, 1994).

Several factors contribute to the continued inattention to the issues of children and families, particularly those living in poverty. These families are not active, vocal constituents of policy makers, and their issues are presented categorically rather than through unified coalitions with a common voice seeking coordinated programs (Huston, 1994; Langley, 1991; Meister, 1993). The data from the research of family-based programs can help to change the perspective of policy makers and ultimately change the health outcomes of urban children and their families.

A primary source for influencing the formulation of policy that strengthens urban families rests with researchers, who can frame their programs and findings to inform policy. As noted in Table 1, policy recommendations are not included in all program reviews let alone in reports of single studies. There are three types of policy-relevant research: (a) policy analysis, (b) policy research, and (c) discipline research (Huston, 1994; Milio, 1984). As expected, most scientists conduct discipline research. However, in the discipline research, few investigators consider policy implications when planning their studies and disseminating their results (Feetham & Meister, 1999). An example where this was effective was in the research on low birth weight infants. Scientists collected economic data in their studies and conducted cost-benefit analyses. As a result, this research provides data of interest to policy makers- i.e., the

cost-effectiveness of these interventions (Brooten et al., 1986; Huston, 1994;Naylor, Brooten, Campbell, Jacobson et al. 1999; Olds, et. al. 1998).

Fortunately, family scientists and others are beginning to frame their research to inform policy, and there is increasing information in professional publications to provide direction for these efforts (Huston, 1994; Langley, 1991; Meister, 1993; Milio, 1984,1992). Several factors must be considered in framing research to inform policy. Two distinct paradigms have emerged in the study of health and illness - the personal health, and the public health paradigm. A critical need is for programs to build on the complementary strengths of the personal health and public health perspectives. While health programs and research emanate from both paradigms, policy is more apt to be informed by the public health paradigm. Different methodologies tend to be used in each paradigm. Public health researchers use epidemiological approaches with large samples and quantitative methods. In contrast, studies of personal health constructs may have small samples (from 10 to hundreds) and use quantitative and qualitative methods. While interventions stemming from public health and personal health studies are often community-based, public health programs may utilize mass media information campaigns, rather than the small group or individual interventions associated with personal health practice.

To bridge the personal and public health paradigms, scientists whose research focuses at the level of the individual child and family must consider the implications of their work beyond the individual family system to multiple families, the community, and society. Research synthesis through meta-analysis and integrative reviews can be used to aggregate information from these smaller, convenience, non-representative samples to strengthen the application to the broader social systems. Research from the personal health perspective can also inform those who conduct research from the public health view and narrow the gap between the two perspectives. An exchange of perspectives is critical to the synergistic relationship required to achieve comprehensive, interactive health programs at all levels - from the individual child and family, to society.

In order to frame traditional discipline research to inform policy, the following questions should be asked during the planning stages for family-based interventions: (a) Will the research improve health outcomes? (b) What outcome or effect will the research have on health care services, including costs? (c) Which institutions, or agencies of government may be interested in the research? (d) How will the results of the research be shared and disseminated? and (e) How can the results be made a permanent component of services for urban children and their families? (Meister, Feetham, Durand & Girouard, 1991). Feetham and Meister (1999) report the analysis of several policy frameworks to provide direction to scientists to increase the correspondence of their research with policy. The design of all research should address the components of policy development (Richmond & Kotelchuck, 1983) and the policies affecting families. For intervention research, building from multiple policy frameworks such as Schorr (1997), they describe steps to position research to inform policy in order to sustain programs.

To inform policy, reliable outcome data are required. These data must be accessible, timely, and framed to the policy makers' interests and understanding. When reporting rese-

arch results, scientists should begin with information that personalizes the issue or provides a tangible example of the critical nature of the problem in relation to families. Aggregate data can then be presented to describe the scope of the problem in relation to families and reinforce its economic significance. The report should conclude with the critical 'so what' question to explain what the research suggests for individual families and the larger aggregate of urban families. For example, in the report of the program of research on children with asthma, the data clearly show the growth of this problem in urban children. This work by Butz and colleagues (Butz et al., 1994; Butz et al., 1995; Eggleson et al., 1998; Huss et al., 1994; Malveaux & Fletcher-Vincent, 1995) can be quantified to the cost of emergency visits, hospitalizations, missed school days, and missed parent work days to care for the children. The decrease in emergency visits, hospitalizations, and missed school days that result from their intervention can be quantified as tangible improvement in the health of the children and costs of care. These data can then be linked to existing policy with action recommendations for changes in the policy.

Policy relevant research should also provide evidence that the recommendations for future programs and research are based on outcome data from related work (Shelov, 1994). The policy analysis by Weissberg and Elias (1993) does this very well. Their recommendations for coordinated education and health programs for grades K-12 are based on a systematic analysis of research on and evaluation of school-based programs. However, to inform policy makers, this comprehensive review should then be reframed to one to two pages, including endorsements from related groups, scientists, and health professionals to demonstrate broad agency and system support.

The program reviews analyzed in this article document the considerable evidence of what constitutes a successful intervention. Nevertheless, many parallel, categorical, single-dimension programs continue to be tested and reported in spite of evidence that such programs are not effective with children and families, particularly with urban, high-risk families.

Research and program recommendations

Using empirical data and integrated reviews, recommendations have been proposed to improve family-based research and programs (Bogenschneider, 1996; Coie, et al., 1993; Daka-Mulwanda, et al., 1995; Dumka, et al., 1995; Gilliss & Knafl, 1999; Farrow, 1991; Feetham, 1984, 1991; McCubbin, 1999; Muehrer & Koretz, 1992; Weissberg & Elias, 1993). Many of these recommendations are central to any child health program or research, and others are essential for the success and effectiveness of family-based interventions. These recommendations are interdependent and have implications for family theory development, family interventions, and policy formulation.

Several factors have been identified in this article regarding the paucity of family-based research and programs. One is the different lens or focus of the disciplines within which the research is conducted and the lack of family expertise of those conducting the studies. Multidisciplinary research is required to bridge these gaps and develop the most appropriate, comprehensive, policy relevant family-based programs to improve the health of urban children.

Another deterrent to family based research is the complexity and cost of conducting family-based programs, particularly community-based programs. Multi-site, comprehensive, coordinated programs that demonstrate what is known to work, may be more cost-effective than the current single faceted, categorical programs in the long-run. To achieve support for these coordinated family-based programs, coalitions need to be formed across the various policy and scientific interest groups. For example, clinicians and scientists interested in substance abuse may not obtain the resources necessary to prevent and treat children unless such coalitions are formed. Due to historical neglect of family policy in the United States, coalitions are even more critical if these programs are to be family-based (Breslow, 1999; Huston, 1994; Langley, 1991; Shelov, 1994).

Future directions

- Broaden the concept of prevention to the full continuum of health promotion.
- Apply appropriate family theoretical frameworks to the research.
- Develop multidisciplinary teams with experts at the levels of public health and personal health, and those with theoretical and clinical knowledge of family interventions.
- Design research to inform policy.
- Develop programs with a goal to strengthening families.
- Develop empirically based comprehensive, flexible, multidimensional programs.
- Identify all stakeholders in program outcomes.
- Include children and their families in program planning.
- Assess and build from the strengths of the children, their families and the community.
- Develop interventions that start in early childhood and continue through the life span.
- Address cultural, ethnic, and family diversity in research and programs.
- Develop programs that are a win-win across the age continuum to avoid resource competition between vulnerable populations.
- Apply complementary knowledge from the personal health and public health paradigms.
- Develop collaboration across and among agencies and programs.
- Frame the programs within the context of social and health policy.
- Frame research findings to inform policy.
- Target policy change along a continuum from the inception of programs at the child and family level through community, city, state, and national systems.

Note

1. Adapted with permission from Feetham S., (1997). Families and health in the urban environment: Implications for programs, research and policy. In O. Reyes, H. J. Wallberg & R. P. Weissberg (Eds.) *Interdisciplinary Perspectives in Children and Youth*. Thousand Oaks, CA, SAGE Publications.

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