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ABSTRACT

This review of the literature on early childhood intervention with special needs children provides a Canadian perspective on theory, models, program development, effects, and training. After an introductory chapter, the second chapter identifies theoretical influences on early childhood intervention, including the work of Piaget, Bronfenbrenner, Sameroff, and Minuchin. The next chapter looks at various models and approaches including the developmental, functional, biological, and convergent models. Increasing emphasis in all current models is the important role of family support. The fourth chapter addresses the design and delivery of early intervention programs and compares development of child-centered services, family-focused services, and family-centered services (in which the child and family are served in the context of society). The fifth chapter summarizes results of studies showing effects of early intervention on children. Issues for families are identified in the sixth chapter, including lack of information, economic stressors, and formal/informal support networks. Chapter 7 discusses the training of professionals and covers team models, the role of the early intervention professional, basic competency areas for early intervention professionals, and preservice training. Finally, future challenges, especially in Canada, are discussed in the context of resource needs, research and training of professionals, coordination and information, cultural diversity, and the trend towards family-oriented intervention. A major concluding recommendation is for increased emphasis on the empowerment of families as the goal of intervention practices. (Contains 106 references.) (DB)

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A LITERATURE REVIEW OF EARLY INTERVENTION

A LITERATURE REVIEW OF EARLY INTERVENTION

by

The Roeher Institute

for

Health Promotion Directorate, Health Canada

prepared by Melanie Panitch

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I. INTRODUCTION AND BACKGROUND

The field of early intervention although young, is growing rapidly. Its roots can be traced to the diverse influences of philosophy, psychology, medicine, special education and early childhood education which have converged in recent years (Summers, Innocenti, 1991; Meisels, Shonkoff, 1993). Early intervention has been described as having four objectives (1) to maximize the child's development; (2) to prevent later secondary disabilities; (3) to enable and support families; and (4) to provide cost-effective services (Bricker, 1989).

Currently, early intervention is based on two basic assumptions. The first of these is the recognition that no one discipline can provide the variety of services to address the diversity of problems young vulnerable children may experience, hence the need for interdisciplinary activity. The second is the acknowledgement that because children need to be seen within their family unit, and the family within the larger social system, there is a need for early intervention services which support and enhance the family's strength and capacity to facilitate their child's development (Meisels, Shonkoff, 1993).

Prior to the late 1960s or early 1970s very few early intervention programs existed for infants or preschool-aged children who had an intellectual disability or who had multiple disabilities. While there were residential options where care was primarily custodial (Bailey, Bricker, 1984), it has only been during the past twenty-five years that early intervention programs have been established to serve infants or preschoolers with moderate to severe disabilities.

In Canada, the development and implementation of early intervention programs coincided with changes in perceptions about people with disabilities as well as the emergence of a strong parent advocacy movement in the post World War II period.

The rationale for early intervention for children with disabilities was rooted in the same conceptual framework that inspired programs for disadvantaged children, namely, the importance of early experience for later development (Marfo, Cook, 1991). Two scholarly works published in the 1960s (Hunt, 1961; Bloom, 1965) were influential in drawing attention to the early years, the importance of environmental enrichment and the plasticity of intellectual functioning. These stimulated questions which challenged prevailing assumptions about the genetic determination of intelligence and which disputed the myth that people with an intellectual disability were of "fixed intelligence".

At the same time, parents of children with disabilities were reaching out to other parents, claiming their children should be entitled to live in their own communities. The growth of parent organizations in the forties and fifties was fuelled by the desire on the part of parents for educational opportunities for their children. In the 1960s, in response to the pressing need for early diagnosis, home support and early education, services were developed which were meant to be comprehensive, community centred, and which would provide a continuum of care.

In the 1970s there were substantial changes in policy and program delivery in Canada and the United States. In Canada, the introduction of federal-provincial cost-sharing under the Canada

Assistance Plan (CAP) in 1966 enabled parents and professionals to think about sources of funding for non-institutional alternatives. The impact of CAP on early intervention services was however, minimal, and most programs began without government funding (Marfo, 1991). By the mid-1970s so many new programs were being established across the country that The Roeher Institute (then known as the National Institute on Mental Retardation) organized a national conference on early intervention in Banff, Alberta in 1976, a key event coming at such a strategic time.

Important theoretical and philosophical texts such as Wolf Wolfensberger's book Normalization were published during this period. The Commission on Emotional and Learning Disorders in Children (CELDIC) Report recommended that children with emotional and learning disorders should not be isolated or segregated. As a result of the political, professional and public interest, as well as increased public funds, the 1970s saw the growth of many services for children and infants with disabilities. By the mid-1980s, programs were operating in every province and territory (Keith, 1992/3). In April, 1992, the second national conference on early childhood education was held in Mississauga, Ontario.

The majority of infant development programs which emerged during this period were the result of collaborative efforts on the part of professionals and parent organizations, particularly the local and provincial Associations for Community Living (or as they were then called, Associations for the Mentally Retarded) (Brynelson, 1990; The Roeher Institute, 1981).

Research played a significant role in the development and implementation of early intervention programs. In the United States, government research dollars, and university affiliated programs influenced the focus of many intervention programs, as well as the services provided and the staff employed (Brynelson, 1990).

Brynelson notes that the development of early intervention programs in Canada has been characterized by several factors which continue to prevail today. These include a reliance on American research; professional territoriality, and inadequate public funding. While American research has influenced program development in Canada, Brynelson stresses that programs in Canada have also relied to a substantial degree on consumer or parental involvement and input. The issue of professional territoriality originated with the inception of early intervention itself. The emergence of a new service in a new field, employing people previously not recognized as professionals gave rise to a host of issues and responsibilities. Funding for early intervention programs has been an issue from the very start as well. A number of Canadian programs started without government funds, drawing on charitable organizations and parental fees. Government funding increased through the 1970s, but nowhere in Canada is early intervention mandated through legislation. Funding in the 1990s remains precarious and regional disparities continue to determine the availability of services (Marfo, 1991). In his overview of early intervention in Canada, Marfo (1991) identifies a trend towards greater coordination of individual programs within provinces which he describes as a positive step towards setting standards, providing greater equity and access, and achieving a political voice for early intervention in future.

II. THEORETICAL INFLUENCES ON EARLY CHILDHOOD INTERVENTION

For many years the basic rationale for early intervention was based on a belief in the importance of the early years for future development (Hunt, 1961; Bloom, 1964). But there was no comprehensive theoretical rationale that went beyond this belief. Theoretical discussion appeared to take a back seat as activity flourished with the establishment of new programs. In the late 1960s the theoretical underpinnings of early intervention began to be questioned (Marfo, Cook, 1991). Challenges were directed to the central rationale of the primacy of early experience and questions were raised as to whether the timing of intervention was the only issue or whether developmental change might interact with timing to influence outcome. With little other theory in place, concern was growing with regards to the atheoretical nature of much of the work in early intervention (Marfo, Cook, 1991). Zigler identified a "new theoretical paradigm" that propelled the field forward in the 1970s and which contributed to a better understanding of developmental change and in particular the utility of early intervention with children with disabilities (Zigler, 1993).

Bronfenbrenner is frequently cited in the literature as having had a major influence with his ecology of human development theory. This theory proposed that neither a child's biological make-up nor their environment influenced development independently, but that both occurred jointly and interactively (Bronfenbrenner,1975; 1979). He suggested that for early intervention services to be effective, all aspects of a child's environment needed to work together. He borrowed from Piaget's theory of cognitive development and argued that ongoing accommodation between the child and his/her environment, in which the child was an active participant, was necessary. (Barrera, 1991). He claimed that involving parents directly in child development activities at a young age produced greater benefits for the child.

Bronfenbrenner's theory influenced Sameroff's transactional model which provided a framework for conceptualizing the intervention process based on the relationship between the caretaking environment and the child (Sameroff, 1975). The importance of family involvement was reinforced by intervention activities which were designed to reflect the constant and dynamic interplay occurring within that relationship (Sameroff, 1975). Equal emphasis was placed on the child's development and the experience provided by the family and the social context (Sameroff, Fiese, 1991).

Minuchin's family systems theory also contributed to the theoretical base of early intervention (Minuchin, 1974). Family systems theory identified the family as an interactional system accommodating to internal and external stresses and operating within a larger ecological system (community organizations, services, friends) as well as in various layers of the family unit (parents, siblings, extended family). The family as a social system operated as an interactive unit; members were interdependent; events and changes in one unit reverberated and produced changes in other social units; what affected one member would affect all members (Glazer, 1991). Later, synthesized family systems theory emphasized the impact on families living with children with disabilities and examined behaviours and needs of individual children in intervention programs, including the relationships and interactions among all family members (Turnbull, Turnbull, 1986).

As a result of these theoretical developments the approach to early intervention began to change. Whereas former solutions might have involved removing the child to save the child or perceiving a disability as a deficit to be corrected, the significance of this breakthrough was that the problems of children were no longer seen as being restricted to children (Sameroff, Fiese, 1993). Recognizing the full magnitude of the problems when highlighted by the ecological framework, Zigler cautioned that early intervention could only ever have limited success given the scale of the problems families experienced when they were confronted with finding affordable housing, safe neighbourhoods and integrated opportunities for their child to learn from peers (Zigler, 1993).

III. MODELS AND APPROACHES

For many years early intervention programming has been based on distinct models of practice. The early model projects focused on content and method of instruction for children (Vincent, Salisbury, Strain, McCormick, Tessier, 1993).

A. Developmental Model

The developmental model emphasized the importance of the child acquiring age-appropriate and sequenced skills in various developmental categories (Marfo, Cook, 1991). The primary goal of the developmental model (Mallory, 1992; Bredekamp, 1987) was to move children into higher levels of cognition and development, enabling them to become increasingly independent in their thinking, social skills and physical abilities. Characteristics of this model included a set curriculum, adult-child interactions, a relationship between the child's home and program and a commitment to age appropriateness and individual appropriateness. (Bredekamp, 1987). Assessment focused on the achievement of milestones within a normative framework (Mallory, 1992). Independence was believed to be fostered through play, discovery, problem solving and practice (Bredekamp, 1987). Critiques of the traditional developmental model focused on the didactic teaching of normative skills, the dependence on parents as instructors, and the indiscriminate utilization of whatever packaged assessment and curriculum materials that might be available (Berkeley, Ludlow, 1989; Marfo, Cook, 1991). The emphasis on the acquisition of cognitive skills over other developmental gains was a further area of concern (Zigler, 1993;

Marfo, Cook, 1991).

B. Functional Model

The functional model emphasized systematic instruction, a designed curricula based on specific functional contexts, and the acquisition of adaptive behaviours. These contexts or domains, referred to as external cues and contingencies that shaped a child's repertoire of behaviour, were viewed as external forces that affected a child's competence. This model advocated that the more severe the disability, the more powerful these external cues had to be (Mallory, 1992). Curricula was designed to foster the acquisition of generic and specialized social skills and the ability to perform tasks independently. In the functional model independence was viewed as a means to social acceptance and social value, the clearest sign of independence being personal self-sufficiency in adulthood (Mallory, 1992).

C. The Biological Model

The biological model started with the biological/genetic status of infants as they adapted and responded to environmental stimuli (Mallory, 1992). The adaptive responses were assumed to be manifested initially in the ability of young children to acquire stable and regular states of sleep, arousal and wakefulness. As they grew, innate characteristics such as activity levels, temperature, and drives for arousal, satisfaction, and social interaction superseded the early sensorimotor responses. From the perspective of this model, primitive involuntary responses were replaced by voluntary and increasingly differentiated movements that paralleled cognitive and linguistic maturation. This model proposed that individual differences in rates and quality of development were primarily due to the child's constitutional/biological make-up rather than environmental factors. In the biological model, independence was thought to be achieved when children became sufficiently stabilized and mature and could deal with complex stimuli on their own without adult mediators.

D. Convergent Approaches

Generally, models and approaches to early childhood intervention were characterized by their distinctiveness from one another. However, the onset of the "new theoretical paradigm" (Zigler, 1993) inspired new thinking about how to adapt practice to fit this paradigm. The convergence of theoretical perspectives resulted in a significant move towards transdisciplinary assessment and convergent intervention models. The new convergent approach reinforced the idea that the goal of intervention was to facilitate conventionalized interactive competencies by fostering collaboration and continuity among specialists and to a shift in the balance of power toward the child. Mallory (1992) and Dunst (1988) recommended early intervention programs not be based on one model but on an overlap in theoretical models because adherence to a rigid approach based on distinct developmental domains obscured the more integrated "whole child approach" (Zigler, 1993) to human development.

Recognizing potential difficulties with the use of multiple theoretical perspectives in program designs, Berkeley and Ludlow (1992) have argued that the time was ripe for the adoption of a theory of child development that represented an integration or unification of arbitrarily established separate domains of development. They analogized to a stage or set to convey an integrated view of development where development represented a set, and the domains of development individual elements in the set. In an integrated view, these elements were united, with the domains superimposed on one another so no separate boundaries or other defining limits existed except those resulting from the child's lack of experience (Berkeley and Ludlow, 1992).

Theorists involved in program design have emphasized the importance of the relationships between theories, particularly the relationship between ecological and developmental approaches and have suggested that as these approaches complemented each other, they could be used together to develop effective early intervention programs (Thurman, Widerstrom, 1990).

E. Family Support

Key to the shifting models of practice are the number of concepts which view family support as the primary goal of early intervention. Parent empowerment (Dunst, 1985) and enablement (Dunst, Trivette and Deal, 1988; Dunst and Trivette, 1987) are two concepts which are widely used. Enablement has been defined as creating opportunities for all family members to display and acquire competencies that strengthen family functioning. Empowerment has been defined as a family's ability to meet needs and achieve aspirations in a way that promotes a clear sense of intrafamily mastery and control over important aspects of family functioning. Other concepts include family focused (Bailey, Simeonsson, Winton, Huntington, Comfort, Isbell, O'Donnell, Helm, 1986) and family centred (Shelton, Jeppson, Johnson, 1987). Although they differ in some respects, each approach incorporates certain common assumptions: (i)because children and families are so intertwined, intervention with one necessarily influences the other; (ii)involving and supporting families is likely to be a more a powerful intervention than one focusing exclusively on the child; (iii)family members should be able to choose their level of involvement; (iv)professionals should be able to attend to family priorities for goals and services even when they contradict what professionals might prefer (Bailey, Buysse, Edmondson, Smith, 1992).

These proactive approaches are based on the recognition of family competence; failure to display competence represents not the failure of individual families but the failure of social systems to create opportunities for competencies to be displayed. Enabling represented a way of creating opportunities for competency to be displayed so that individuals could attribute behaviour change to their own actions (Dunst et al., 1988). Unless family needs could be met in a way that made the family more competent to negotiate its course of development, the opportunity to strengthen family functioning would be lost. The concepts of enablement and empowerment are rooted in the belief that parents have the rightful role in deciding what is important for themselves and their family and that they have responsibility for deciding which course to follow to ensure their family's well-being and rights are protected.

Proponents of these views understand the role of a professional to be one which supports and strengthens the family's ability to nurture and promote the development of its members in a way that is enabling and empowering (Dunst, 1988). Glazer argues for a shift from a deficit oriented and reactive model of intervention to a strength oriented, proactive model to identify family strengths and functioning style so families become less dependent on the service system for help (Glazer, 1991).

IV. DESIGN AND DELIVERY OF EARLY INTERVENTION PROGRAMS

Early intervention programs range in intensity from rocking of low birth weight infants to more long-term comprehensive medical, educational and psychological intervention for children with multiple health problems and developmental disabilities. Delivery mechanisms for such programs may include some or all of the following: centre based and home based programs, separately or in combination; clinical, rehabilitation services, hospitals, in-home visits, segregated, transitional or integrated day care programs, consultation and referral services.

Traditionally, early childhood intervention has been viewed as a child oriented endeavour with the major purpose of enhancing developmental outcomes for young children with disabilities. In recent years, however, it has been argued that supporting families should be the principal focus, with efforts being directed at the reform of existing policies and practices to empower families and strengthen their capabilities.

The design and delivery of early intervention programs reflect both approaches. Programs can be categorized according to whether they are child oriented or family oriented. Those assuming a family orientation may be further subdivided as to whether they take a family focused approach or a family centred approach. A review of programs subscribing to these approaches indicates variations in focus, program design and activities, and in the role of parents and professionals. The chart below illustrates five aspects of the child oriented and family oriented (family focused and family centred) approaches.

	Child Centred	Family Focused	Family Centred
Focus of program	Child as a distinct unit Child's weaknesses, deficit, developmental delays	Child and family Focus on family-child interaction	Child and family in the context of society Focus on family needs, strengths and uniqueness
Program design	Program adapted to child through assessments.	Individualized Family Service Plans (IFSP)	Development of IFSP's involves cooperation with parents & professional collaboration
Program activities/ services	Activities focus on the developmental needs of infants.	Skill teaching for parents, activities fit into family routine. Give support to parents: funds or emotional	Enablement and empowerment: Respecting the autonomy of families Fostering the skills, knowledge and competencies necessary for gaining access and control over resources
Involvement of parents	Role not prescribed for parents. Limited involvement	Involvement ranges from voluntary non-involvement to participation	Parents are actively involved in design and implementation of program
Role of professionals	Experts who work in isolation with child	Advise, teach parents, assist them with their needs.	Cooperate as equal partners with parents Parents determine role for case manager regarding the kind of support and resources they need.

A. Child Centred Services

1. Focus

The first child centred intervention programs focused on the amelioration of developmental deficits through sensory stimulation or therapy. One of the most common forms of intervention involved the administration of prescribed programs to an infant as the primary target, by trained intervention workers assuming the role of teacher or therapist (Simeonsson, Bailey, 1973). The rationale for this approach was that extra environmental stimulus was necessary because children with developmental problems required more and/or different early experience(Bricker, Veltman, 1993). Programs in the 1960s and the 1970s focused exclusively on the developmental needs of infants and on addressing their problems with remedial activity (Barrera, 1991; National Information Centre for Children and Youth with Handicaps, 1988).

2. Program Design and Activities

The child centred approach is based on behavioral and developmental theory. In child focused programs, goals directly related to children or their behaviour become priorities although differences exist across programs as to the focus on child-initiated activity or teacher initiated instruction (Bricker, Veltman, 1993). Bricker and Cripe described "activity based intervention," a child directed, transactional approach involving intervention in a child's individual goals and objectives by particular strategies included such as routine, planned, or child initiated activities and the use of logically occurring antecedents and consequences to develop functional skills that could be generalized to different circumstances (Bricker, Cripe, 1992).

3. Role of Parents and Professionals

Parents were not designated an active role within child centred programs. While parents might accompany their child to therapy, trained personnel would be expected to then take over. Mittler and Mittler (1983) identified a framework articulating the traditional and evolving relationship between parent and professionals in a series of stages. The first stage involved professional perceptions of disability through the lens of a deficit model. In this stage the child was viewed separately from his/her family unit and the parents were considered a hindrance to their child's development, a useful justification for excluding parents from the program. The second stage consisted of limited parent involvement, generally determined by a professional following a curricula with a prescribed specific set of activities. The parent (mother) became the target of intervention as the professional (expert) transferred skills to her. The third stage represented a growing recognition of the importance of parents and professionals developing and sharing a cooperative working relationship. This approach assumed that there was no best way for parents to help a child, but that each family ought to be offered assistance to solve its own problems by working in partnerships with professionals (Brynelson, 1990). The parent/professional relationship in child centred intervention can be characterized by the first (or in some cases the second) stage of Mittler and Mittler's framework.

B. The Movement Toward Family Oriented Approaches

The movement toward family oriented intervention was partly a response to criticisms of the child centred approach. Child centred programs were criticized for their failure to recognize both the ability of the child and the role that parents could play in the intervention process. It overlooked the dynamic relationship between the child's development and his/her environment and the dynamic relationship in an ecological context within the family and between the family and the community (Barrera, 1991). In the late 1970s and early 1980s intervention programs began to shift their focus away from the infant alone towards the parent-infant interaction (Affleck, McGrade, McQueeney, & Allen, 1982; Allen, 1987, Barrera & Rosenbaum, 1986; Bromwich, 1981; Bromwich and Parmlee, 1979). Since there were problems with child centred programs, two fundamental changes were suggested to improve intervention services. The first of these was the development of systematic approaches to early intervention that linked assessment, intervention and evaluation as a process. The second suggested change was the creation of intervention approaches to develop functional skills that capitalized on the daily interactions of children with their social physical environment.

The conceptual contributions of Sameroff's transactional model of child development (1975), Bronfenbrenner's ecological framework (1979) and family systems theory (Minuchin, 1974) enabled early intervention to become more diverse. "Prevention-intervention" for example, recognized that not all problems could be fixed, but impairments and secondary disabilities could be minimized through concentrating on strengths and helping the child learn alternative or compensatory learning strategies (National Information Centre for Children and Youths with

Handicaps, 1988). In addition to becoming more diverse, there was growing interest in the field to focus attention on greater family involvement. Families came to be seen as recipients of intervention services in their own right (Simeonsson, Bailey, 1993). They had their own needs for supports which early intervention programs could offer, such as information, training, child care, community service, case management, or financial assistance (Bailey, Simeonsson, 1991).

Gradually the importance of involving families of children with disabilities was recognized although the role was not always clearly defined. Dunst identified four broad classes of family oriented early intervention programs all of which adhered to a social systems framework and viewed the family as the unit of intervention. In professional centred programs the family was considered deficient, unable to solve their own problems and in need of an expert to determine what they needed. In family allied programs families became the agents of the professionals where one form of early intervention involved training parents to extend the teaching role of the interventionist. In family focused programs families and professionals collaborated to determine what the family needed; while families were viewed more positively, they were still regarded as needing professional advice and guidance to identify professional networks of service. In family centred programs, families determined all aspect of services and resources and the professional role was one of promoting family competence and decision-making and strengthening the family's own ability to meet their own needs (Dunst, Johanson, Trivette, Hamby, 1991; Dunst, Trivetto, Starnes, Hamby, Gordon, 1993).

C. Family Focused Programs

1. Focus

The family focused intervention model described by Bailey et al.,(1986) was based on a functional approach and consisted of six steps: a comprehensive child and family assessment; generating a hypothesis about intervention goals; an interview to discuss family needs and negotiate intervention goals; operationalizing of goals; implementing of intervention services; evaluation. Family focused intervention promoted an active role for families, recognizing their unique needs and characteristics and the importance of individualized services (Bailey and Simeonsson, 1991).

2. Program Design and Activities

The underlying assumption to this model was that the web in which the child developed included the home environment, family members and relationships, and therefore it was important that early intervention activities similarly occur within that web (Bronfenbrenner, 1979). The Portage program, developed by Jesien represented one family focused approach to program design and activities. The four fundamental elements of Portage involved advocating for the rights of parents and working to identify necessary resources to meet family needs; relying on the home as natural learning environment (classroom programs needed to be concerned with carry-over into home); recognizing each child and parent as unique with their own needs and strengths; relying on a practical, observable, changeable, behavioural approach (Jesien, 1988). The integration that would naturally occur as a result of learning about culture, values and lifestyle in a familiar environment with one's own family, enhanced the likelihood that the behaviour would be maintained (Saskatchewan Association for Community Living, 1989). Recommended assessment practices were those that were largely restricted to family needs as they related to child development; goals and outcomes were mutually selected by families and professionals; case management practices primarily promoted the family's use of professional services (Dunst et al., 1991).

3. Role of Parents and Professionals

Parents have been designated a significant role in family focused approaches to early intervention. They are recognized as natural reinforcing agents who, with training, can be expected to acquire skills to deal with new behaviours. The family, particularly the mother, would become a principal agent of change (Saskatchewan Association for Community Living, 1989). This approach was seen as heightening the family's awareness regarding their important role in facilitating, guiding and supporting their baby's development and enabling them to cope with the day-to-day realities of living with a child with a disability (National Information Centre for Children and Youths with Handicaps, 1988). In-home instruction would provide a realistic opportunity for full family participation in the teaching process, including father, sibling and extended family involvement (Saskatchewan Association for Community Living, 1989).

Parents recognize the drawback in being taught to teach their children and to integrate therapeutic activities into their child's daily routine because of the tendency towards more directive, less natural and enjoyable mother and child interactions (Odom and Karnes, 1988).

The challenge for professionals then, becomes one of developing strategies for teaching parents to incorporate developmental activities without interfering with their capacity to be sensitive and responsive (Odom and Karnes, 1988).

One of the main roles early intervention professionals assume is that of advising parents. The professional acts as a consultant who focuses on family needs as well as the child's growth and development, rather than on the more narrow correction of a child's perceived problem. Parents are taught therapeutic and educational tasks but professionals move away from the role of experts. Instead, they become partners with parents who are seen as prime contributors in the decision making process (National Information Centre for Children and Youths with Handicaps, 1988).

D. Family Centred Programs

1. Focus

Family centred services emerged during the mid 1980s and 1990s inspired by family systems theory. The family systems approach can be defined in terms of resources, life cycles, functions, and interactions of the family (Turnbull, Turnbull, 1986). Family systems services focus on the child and family in the context of society and the family's needs, strengths, and uniqueness.

In family centred services the family is the unit of intervention, rather than the child. The family is the focus of service and the home is the centre around which programming is built. The child is viewed in the context of their family and larger social network (Glazer, 1991; Thurman, Widerstrom, 1990; Healy, Keesea, Smith, 1989). The focus continues to move away from the narrow concentration on treating problems and preventing negative outcomes, and towards promoting growth-producing behaviours (Glazer, 1991). Minuchin's family systems theory views the family as an interactional system in which the symptomatic behaviour of children is embedded. The family systems approach recognizes that children need to be an integral part of the wide range of concerns - economic, domestic/health care, recreation, socialization, affection, self-identity, and educational/vocational - addressed by their family and community (Callwood, 1989).

2. Program Design and Activities

Family support is a core service and a primary goal for family centred services (Healy, Keesea, Smith, 1989). Social support can be defined as the emotional, physical, informational, instrumental, and material assistance provided to others on a day-to-day basis or in times of crisis (Glazer, 1991). The focus on family needs involves several aspects. First, this approach aims to assist the family with those needs that are directly related to parenting and caring for a child with a developmental delay (Bailey and Simeonsson, 1988). Second, it helps families recognize and build on their competencies enabling them to acquire a sense of control over how their family functions (Glazer, 1991). Concepts of enablement and empowerment are fundamental to this approach (Dunst, Trivette, Deal, 1988). Finally, family centred services are based on a broad definition of needs and supports; programs do not focus merely on material well-being but on the emotional well-being of the family. Fostering a stable family environment as well as the child's development are goals (Healy, Keesea, and Smith, 1989).

With a focus on enabling and empowering families broad-based family concerns drive the assessment process. Respect for family autonomy, independence, and decision making is achieved through parent and professional collaboration in the development of individualized program plans or family service plans. Nothing is written on these plans without the family's clear permission. Whatever role the case manager will have will be determined by the family's particular needs and life-style (Dunst, et al. 1991; Dunst, Trivette, 1987). It is important that program design needs to communicate a respect for differences in family structure, roles, values, beliefs and coping styles as well as racial, ethnic, and cultural diversity (Glazer, 1991).

Family centred programs focus on helping parents make optimum use of available services, enlarging their knowledge of factors pertinent to growth and development of their child, and learning skills that will enable them to encourage development (Thurman, Widerstrom, 1990). Family centred services are flexible, accessible, and responsive to family needs (Glazer, 1991).

3. Role of Parents and Professionals

The literature refers to a new role for the professional which requires increased knowledge about how to support and empower families; an ability to cooperate with parents as equal partners; valuing interdisciplinary skills; listening to the family and supporting their decisions; understanding the means by which parents can become empowered to gain competence and control of their own and their child's lives (Healy, Keesea, and Smith, 1989; Thurman, Widerstrom, 1990; Newspatch, 1992; Callwood, 1989; Dunst, 1988; Glazer, 1991).

A recognition of the important role of parents is crucial to the relationship between early intervention workers and care givers. It is incumbent on workers to acknowledge that parents have a capacity for creative problem solving and coping that needs to be respected, promoted, and encouraged because they are essential change agents. The quality of care a child may receive is determined by the extent to which the early intervention worker is able to create opportunities for the parent to mobilize resources necessary to cope, adapt and grow in response to life's changes. Parents and professionals both benefit from their ability to share their differing perspectives, experiences, and goals for a child (Healey, Keesea, Smith, 1989).

A family centred approach involves an open process of assessing, listening, and negotiating with families to achieve a mutually acceptable and meaningful plan for services (Glazer, 1991). When a child with a disability is involved, professional sensitivity to family emotions such as anger, guilt, grief, stress, or shock, is important (Thurman, Widerstrom, 1990). Professionals can support family functioning through assisting in developing and strengthening informal support systems, helping rank priority needs based on the family's viewpoint, and providing access to formal services (Odom & Karnes, 1988). It is noted that insufficient time and discontinuity of personnel are powerful barriers to effective parent-professional collaboration (Healy, Keesea, Smith, 1989).

Since all aspects of early development are interrelated, an interdisciplinary coordinated approach is most appropriate although this requires changes in professional and agency concepts of territory (Healy, Keesea, Smith, 1989).

V. EFFECTS ON CHILDREN

In a decade review of published studies focusing on the effects of early intervention on disadvantaged and disabled children between 1977 and 1986, Farran (1993) concluded there were very few studies scientifically valid enough to summarize. Marfo and Cook (1991) identified a growing trend over the past ten years towards an attempt to understand factors related to the effectiveness of early intervention with children with disabilities based on research and analysis with that particular population, a significant departure from earlier attempts to extrapolate from the literature on environmentally at risk or culturally disadvantaged children. This knowledge, they claim, provides sufficient basis for enhancing the quality of early intervention services for children with disabilities (Marfo, Cook, 1991).

From earlier studies (1983) and an analysis of over 400 research studies, White and Casto (1989) found that successful programs were likely to have: (1) more attention spent determining the suitability of a program; (2) thorough documentation; (3) long-term, comprehensive and highly structured programming; (4) a greater focus on motor functions, cognitive stimulation and language development. Other research suggests successful intervention is related to the child's age (the earlier the better), the type and severity of the child's disability (children whose disability is less severe being more responsive to the intervention), and the quality and degree to which families are involved (Guralnick, 1991).

There is a growing body of evidence which concurs that early intervention programs are generally effective and can be measured in short and long terms gains; however, there is less agreement over what types of intervention work best and with what types of children interventions are most effective (White and Casto, 1989). Benefits for children who are disabled, at-risk, and disadvantaged are indicated in the areas of cognitive, language, motor, and social emotional growth, as well as improved functioning of family members (Casto and Mastropieri, 1986). Guralnick (1991) reports the results of research studies in which consistent, if modest, benefits are translated into improved I.Q. scores. Evidence suggests interventions designed for disadvantaged children result in higher educational attainment and employment rates and reduced crime.

Less data exists with regards to children with disabilities for two reasons: (1) many studies have lacked credibility due to the absence of rigid research criteria and (2) the presence of other variables such as the role of families and support systems which complicate measurements. A major problem exists with regards to evaluating programs for infants with disabilities irrespective of whether they are in child or family oriented programs because of the difficulty of obtaining control groups. An ethical question arises with regards to withholding educational services if resources are available in order to determine whether improvements might be a result of intervention or would have occurred naturally (Seitz, Provence, 1993).

Grant's study was based on homeless children aged 2-4 years, seen at a welfare hotel (Grant, 1990). These children exhibited signs of emotional disturbance and/or speech and language delay and appeared restless, distractible, over-active with short attention spans. They improved to within normal limits in most or all areas after 2 to 3 months in an early intervention program which provided a safe space within a harsh and restrictive environment, a predictable routine, age appropriate materials and experiences, supervision and protection that allowed for controlled exploration. The findings suggest that many of the functional delays of homeless children are environmentally induced.

Children who are medically at risk also benefit from early intervention according to data from White's study of 326 cases involving children with disabilities (mental retardation), disadvantaged children, and medically at risk children (White, 1985-86). Results showed a gain of approximately 8 IQ points. Data also indicated an improvement from the 10th to 22nd or 30th to 50th percentile in motor functioning. In addition, a reading level equivalent to second grade was achieved after approximately 10 months of reading. These results were similar for every domain and program regardless of philosophical approach.

Although the study produced sound data which was able to be replicated, it did not produce data on long term effect (White, 1985-86). Sharav and Schlomo (1986) found that children with early infant stimulation functioned at higher levels than did children who were also cared for at home but who did not participate in an early intervention program. Motor and mental development scores compared until about 18 months, but at that point the children who were cared for at home but were not participating in early intervention dropped in development while the children in the early intervention program sustained improvement until three years of age. The decline of IQ with age was more gradual in the stimulated group. The Sharav and Schlomo study also found that living at home had positive effects on children with Down Syndrome. Significant amongst their study's findings was the importance of continuity of training; children with and without intellectual disabilities lost the benefit of early stimulation when it was stopped; and working with parents proved to be particularly beneficial in the area of language. A recent study also revealed the positive effects of early intervention for preventing or minimizing developmental problems associated with disadvantage and disability (Bloom, 1991).

The Abecedarian Project generated two important findings: a) certain children and families benefit much more than others from early intervention activities, and b) new evidence of long term positive effects of early intervention on IQ and academic achievement (Ramey and Ramey, 1992). The Abecedarian Project was an experiment confirming that intellectual disability allegedly caused by inadequate environments could be prevented by providing intensive high quality pre-school programs, medical and nutritional supports from birth through to kindergarten. The majority of children with a mild to moderate intellectual disability came from families with extremely limited economic and educational resources. Early intervention appears to have had a particularly powerful preventative effect on children whose mothers had low IQ's, or who come from economically, socially or educationally disadvantaged backgrounds. The follow up study conducted when the children were twelve years old revealed that intensive early intervention can produce long lasting benefits in intellectual performance and academic achievement dependent on the quality of school programs received after early intervention.

Project CARE yielded similar results (Ramey and Ramey, 1992). This project involved families with low socio-economic status. It compared early intervention located in the home where mothers learned more about how to provide good developmental stimulation for infants and toddlers, to centre based intervention. The intellectual benefits associated with receiving home based and centre based interventions are almost identical to the Abecedarian Project. The study revealed that the home visit approach did not improve the intellectual performance of these children. The Infant Health and Development Project focused on premature infants and infants with a low birth weight (Ramey and Ramey, 1992). The project compared home and centre based intervention for families within a wide socio-economic range, but the majority of data was collected from families with low socio-economic status and low educational resources. The children included in the study ranged from 12 months to 3 years old. Infants from the low birth weight category benefitted from early intervention, with the heavier children benefitting twice as much as the lighter ones. The degree to which families and children participated had a significant effect; the most active participants had an almost nine-fold reduction in the incidence of intellectual disability compared to the control group.

Early intervention programs for children with sensory disabilities can involve alternative stimulation to encourage sensory development and discourage inappropriate behaviours that can arise in the absence of sensory input. Sensory stimulation in the case of hearing impaired children can improve residual hearing as well as reinforce communication practices such as handsigns in the early stages of infancy. In the case of visually impaired children, sensory stimulation and touch during early stages of infancy can prevent the development of autistic-like behaviour common to institutionalized infants. Early intervention programs can assist development and remove barriers for children with a physical disability through exercise, massage, and appropriate positioning techniques.

Perinatal outreach programs have been initiated in Canada and the United States to attempt to prevent low birth weight. These programs focus on families who are living in poverty and many focus on adolescent and single parents, or those with low education levels. Such programs set out to improve health risks such as poor nutrition, smoking, alcohol and drug abuse as intermediate goals to achieving healthy birth outcomes. In one program offered in British Columbia, 70-85% of the participants were in receipt of social assistance and more concerned with their basic needs for food and shelter than issues of pregnancy and infant health. The results of the B.C. Pregnancy Outreach Projects in 1989-1990, according to clients, were an increase in self-esteem and sense of control over maternal and infant health due to food supplementation, woman-to-woman support and health information. Eighty per cent of respondents reported positive changes in health behaviours. The outreach staff reported positive program effects in 71% of their clients, and that the program facilitated successful access to difficult to reach high risk women (Canadian Institute of Child Health, 1992).

In cases of biological and utero-risk, many risks can be detected through genetic counselling. Education and pre-natal care can do much to reduce the number of premature and low birth weight babies in 60-70% of cases. Through interactive coaching parents can learn strategies to recognize body signals and techniques to enhance physical intimacy with their infants

(Anastasiow & Harel, 1993).

White's study revealed little difference between programs that were centre based, home based, or home and centre based; whether parents or parents and children were the target of the intervention; and the degree to which the program intended to involve parents (White, 1985-86). Tingey's study of 225 cases showed that half-day programs produced as many gains as full-day programs (Tingey, 1986). Tingey did not compare home based and centre based programs for effectiveness but Shonkoff and Hauser-Cram (1987) found no significant differences between the two; however they did find that home based programs tended to start six months earlier. Whether programs were home based or centre based depended on program philosophy as well as practical considerations such as cultural compatibility, financial factors, and availability of transportation. The location did not affect the dynamics of the program since in both home and centre, programs could be either teacher-child, or teacher-mother-child, and that although structure was good for some children it was not the case for others (Tingey, 1986).

There is evidence that positive outcomes occur for children with and without disabilities when they participate in inclusive programs. (Guralnick, 1990). However, the field lacks research evidence of positive outcomes which tend to be approached anecdotally (Irwin, 1992).

VI. ISSUES FOR FAMILIES

The maximal intervention for a child has been identified as that which is provided naturally through being part of "a good secure family" (Zigler, 1993). The increased emphasis on families in the field of early intervention has arisen from a number of factors. There has been a growth in parental involvement in services and programs involving their children (Turnbull, Turnbull, 1986). The growing recognition that children affect and are affected by their families in a reciprocal relationship has focused greater attention on effectiveness now that the target for intervention has gone beyond the child alone (Simeonsson et al., 1982). Families have specific needs related to caring for a child with a disability and have come to be seen as recipients of intervention services in their own right. Many families confront difficulties which arise from society's values and assumptions pertaining to the family, their responsibility for providing care and their need for additional resources (Jones, 1989). Accounts by parents themselves describe the need for support and assistance and elevated levels of stress (Turnbull, Turnbull, 1985).

The ongoing responsibility of caring for a child can affect parental health and stamina especially in communities where resources are scarce and when this responsibility is long term, stressful, labour intensive, and demands a wide range of supports. During the last five years the survival rate of babies with exceptional health care needs has increased dramatically due to advances in medical science and technology, subsequently lengthening the care families are required to provide. There is an increasing number of children who require continuing technological support for survival and quality of life (Continuing Care Committee, 1991: Norton, Schom-Moffat, 1990; Norton, 1993). Parents, administrators and staff identify lack of resources as their greatest concern (Norton, Schom-Moffat, 1990; Norton, 1993). Suggested additional supports to families include tax incentives, readily available respite at home and in alternative community settings, technical devices, and regular supervision by on-call staff. If funding requirements and family supports are not met, then the resultant physical and emotional stress may lead to re-hospitalization of child and adverse effects on family, sibling care, parental lifestyle/functioning, and family finances (Continuing Care Committee, 1991). Many people with disabilities or chronic illnesses can with appropriate support services, participate in community living (Catherine Mather & Associates Consultants Inc., 1990). Barriers exist, however, which prevent participation in community living in relation to existing levels of support, the level of care required, extra costs and lack of awareness (Catherine Mather & Associates Consultants Inc., 1990).

Lack of information is a significant barrier. Without a comprehensive system which enables single access to all supports and services, families and professionals do not know about resources and possible options. Lowered self esteem and depression, feelings of inadequacy, guilt and helplessness are common amongst mothers (primary caregivers) of children with disabilities when the limited support available hinders their ability to meet societal expectations (Jones, 1989). Additional pressures on parents to assume a multiplicity of roles as therapist, teacher, trainer and transporter, in addition to those required in parenting can place family integration at risk. Overbearing professionals erode parental confidence and cultivate feelings of insecurity and overdependence on staff; parents may resent the teacher role placed on them, feeling this forces them into an unnatural relationship with their children. (Brynelsen, 1990).

Economic stressors include the high costs of equipment, a prolonged period of care and the consequent difficulty with entering the labour market (Jones, 1989). Families generally lack access to services they need; community based services that are delivered through the family tend to have a low profile and are consequently less visible than those delivered through institutional settings; in families the effects of reduced services are felt immediately (Jones, 1989). Additional stress is contributed by professionals who may be more interested in a clinical diagnosis of the child than in supporting the family by identifying resources and strengthening social networks (Trute, Hauch, 1987).

In the movement away from child centred programs there has been an growing interest in the wider environment of the child that extends beyond the family to formal and informal support networks. The literature suggests a strong relationship between the presence of informal supports and family adaptation. Maintaining a healthy social network has been found to be tied to successful family functioning in situations where the demand for caring for a child with a disability is high (Trute, Hauch, 1987; Jones, 1989). This challenges professionals to provide support to families by strengthening their informal support systems (extended family, friends, neighbours) and by helping them access the formal support systems (health care, social services, education) so that families can make informed decisions and take control over their own lives (Dunst, 1985). Pizzo (1993) identified the value of mutual support groups and described parent advocates as a resource for early intervention. She identified their power in terms of mobilizing, organizing to promote the establishment of early intervention programs in every community so that all children can receive the services they need without having to travel, and reforming established institutions to validate and empower parents and families as the centre of young children's lives (Pizzo, 1993).

A number of qualities have been identified which can influence the success of early intervention programs: these are related to a family's strength, cohesiveness and interaction (Bailey, Simeonsson, 1988). Factors include the family's effort to spend time and do things together, formally or informally; the extent to which actions and achievements are appreciated and individuals are encouraged; the family's flexibility and adaptability to procure resources and meet needs; the family's sense of purpose and commitment that provides the basis for "going on" in both good and bad times (Glazer, 1991).

VII. TRAINING OF PROFESSIONALS

The effectiveness of early intervention for children and their families is influenced by the extent to which early intervention professionals are trained (Bailey, Simeonsson, 1991). The need for professionals to respond to the range of new family dimensions is becoming more integral to early intervention programs and will have a significant impact on professional training. Approaches to staffing, the role of the early intervention worker, competency areas, pre-service and in-service training are important aspects of the training of early intervention professionals.

A. Team Models

There are three predominant approaches to the staffing of early intervention programs: multidisciplinary, interdisciplinary and transdisciplinary (Hanson, Lynch, 1989). In a multidisciplinary approach, professionals from different disciplines work on different aspects of the same case; disciplines remain distinct, and there is little collaboration between professionals. An interdisciplinary approach involves some collaboration between professionals who develop separate assessments of the child, but who work in cooperation to a minimal degree. The transdisciplinary approach involves extensive collaboration, communication and shared responsibility between team members. Professionals assume blended roles as opposed to distinct disciplines and team members collaborate to develop a program in accordance with the child's needs. One team member acts as the primary liaison with families to decrease the number of professionals with whom the family has to relate. This approach requires mutual professional respect and trust. While this approach does not rule out individual therapies, it emphasizes shared professional skills and the blending of disciplinary roles; early intervention is felt to be best served by transdisciplinary teams (Hanson, Lynch, 1989; Bruder, Bologna, 1993; Gibbs, Teti, 1990).

B. Role of the Early Intervention Professional

Bricker outlined the role of the early intervention worker as conceptualizer, instructor and evaluator, synthesizer, instructor, evaluator and counsellor (Bricker, 1986). As conceptualizer, the early interventionist teaches from a broad based concept. As instructor and evaluator the early interventionist delivers the program. As synthesizer, the early interventionist coordinates the input from professionals (Bricker, 1986; Hanson, Lynch, 1989; Dunst, 1988). The two most significant changes in the role of the early intervention worker are the movement toward a generalist approach, and the emphasis on working with families.

A trend is identified in the field away from specialization in infant development toward a more generalist approach to coordinate therapeutic input from professionals (Brynelsen, Ferguson, 1991; Ferguson, Anglin, 1985). Coordination and collaboration between professionals is viewed as essential to the success of early intervention programs (Burton, Higgins, Haines, Hanline, Mclean, and McCormick, 1992).

The role of the interventionist increasingly involves communication and cooperation with families and gradually this emphasis is being reflected in training programs for early intervention workers (Ferguson, Brynelsen, 1991; Anastasiow, 1981; Tingey, Boyd, and Casto, 1987). Many professionals need to learn new skills; those from disciplines such as social work and psychology will have had some training in working with families whereas others such as early childhood educators and special educators, physical therapists, occupational therapists and speech language therapists will have had more child focused training. Traditional approaches will need to be broadened with each professional discipline assuming greater sensitivity to family needs and priorities for service (Simeonsson, Bailey, 1993).

A family centred philosophy challenges the view of the professional as expert; new skills are demanded to learn to relinquish control and support families to make the decisions themselves (Bailey et al.,1992). Many early intervention professionals have limited training in the collaborative process necessary for gathering information about family needs, strengths, resources and preferences; in knowing the full range of resources needed by families; and in enabling and empowering families to identify and mobilize resources to meet these needs (Glazer, 1991).

C. Basic Competency Areas for Early Intervention Professionals

Brynelsen and Cummings described three basic groupings of competencies for personnel working in early intervention programs: knowledge, skills and personal characteristics (Brynelsen, Cummings, 1987). The knowledge base includes normal growth and development, learning theories, understanding the impact of a delay or a disability on child and family, assessment, program planning and evaluation, roles of other professionals, and community resources. Critical skills include those of effective communication, counselling and organizational skills.

Personal characteristics considered important include acceptance and respect for children with disabilities and their families, a belief in the ability of persons to change and adapt, personal maturity, independence, flexibility, humour, and direct parenting experience (Ferguson, Brynelsen, 1991).

Five basic competency areas for early intervention personnel have been identified (Zeitlin, S. du Verglas, G, & Windhover, R., 1982). These competencies provide the basis for a core curriculum for early intervention pre-service training (Ferguson, Brynelsen, 1991) and include the following:

Child Development

- Typical Child Development
  - Pre- and perinatal development
  - Development in the early years
  - Interaction between the environment and the developing child
  - Interactions among familial, cultural, social, and physical environments that enhance a child's development
  - Theory and research in typical child development

- Atypical child development
  - Pre- and perinatal developmental risk
  - Handicapping and at-risk conditions and their effects on early development
  - Interactions among the familial, cultural, social, and physical environments that prevent the child from achieving maximum growth and development
  - Theory and research in atypical child development

Family Involvement

- Understand the family
- Establish and maintain relations with the family
- Assess issues within family programs

- Meet family needs
- Encourage the child's development through family programs
- Help families use support systems
- Theory and research

Program Implementation

- Research in the area of program intervention
- The planning of intervention programs for children and families
- The ability to implement intervention programs for children and families
- Evaluate intervention programs for children and families

Assessment

- Use assessment practices appropriate to the child with special developmental needs
- Select and administer assessment instruments appropriately
- Interpret and report test results

Administration

- Articulate program philosophy and goals
- Follow legal and professional guidelines
- Select, train, and evaluate staff
- Develop personal strengths and interpersonal communication
- Involve the community
- Manage fiscal responsibilities
- Evaluate program
- Disseminate procedures

*reprinted from Hanson and Lynch, original source Zeitlin, S. du Verglas, G, & Windhover, R. (1982). Basic competencies for personnel in early intervention programs. Mammoth, Oregon: Westar (Hanson & Lynch, 1989).

D. Pre-service Training

Pre-service training is gained through formal under-graduate or graduate programs in post-secondary academic institutions where the student earns a certificate, diploma or degree upon successful completion of the course of studies. A critical review of pre-service training for early intervention revealed that training programs lacked coordination; in addition, they did not teach skills necessary for working as a generalist, as a member of an interdisciplinary team, or as a partner with families (Ferguson, Brynelsen, 1991).

Training for early intervention can be gained from a variety of disciplines, including early childhood education, psychology, occupational therapy, physiotherapy and social work. A need has been identified for the development of principles and guidelines in order to coordinate and standardize early intervention training programs (Ferguson, Brynelsen, 1991) along the lines of the basic competencies identified in Hanson and Lynch (1989) and described earlier.

Since most early intervention workers specialize in one discipline, they are trained for a multidisciplinary staffing model in which they operate as experts in their particular area, rather than working as a team member. Ferguson and Anglin emphasize the need to overcome problems of professional territoriality and move towards an interdisciplinary or a transdisciplinary approach (Ferguson, Anglin, 1985).

A shift in role emphasis for the early interventionist is required to support the recognition that a child is a member of a family system and that events both within and outside of the family impinge on the success of early intervention efforts. Programs that employ a broad family systems approach are more likely to have a positive effect on all family members than the more traditional child centred approach but most early interventionists have had little contact with families and have little knowledge or training in family intervention, critical for there to be a positive effect (Dunst, Trivette, Deal, 1988; Anastasiow, 1981; Tingey, Boyd, Casto, 1987; Slater, Wikler, 1986; Solomen, 1985; Dunst, Trivette, 1987). In addition to pre-service training, in-service training involving skill development, workshops, semnars and conferences would be another vehicle for enabling staff to achieve greater competence in new skill areas.

VIII. FUTURE CHALLENGES

A. Resource Needs

Both parents and service operators require resources to ensure the success of early intervention programs. The right for parents and children to be supported to enjoy a normalized life experience needs to be guaranteed by flexible and accessible resources that recognize the changing developmental needs of the child and the natural caregiving environment. Otherwise, it is argued that higher medical expenses are incurred by caregivers whose own health suffers resulting in higher costs associated with placement outside the family. If parents and their children are to be supported by generic services these services require additional funding, personnel and flexible policies. However until public policy makers view child care as a societal concern rather than the private responsibility of individual families, conflict in accessing resources will continue (Jones, 1989).

B. Research and Training of Professionals

The need for pre-service training in infant development and early intervention at the undergraduate and graduate levels in Canadian Universities is recognized (Brynelson, 1990; Marfo, 1991) . There is also a need for enhanced Canadian research activity to determine how best to design and deliver quality services to children with disabilities and their families in Canada. Individual researchers and partnerships between government and universities are both identified as vehicles for developing evaluation tools and curricula that are sensitive and responsive to Canadian culture(s) (Marfo, 1991; Marfo, Cook, 1991). Additional research is looked to for influencing services to adapt to meet the needs of families in the diverse and rapidly changing society. Program models designed in 1970s now need to reflect the changing family unit (single parent, mother-led families), two income earners, as well as issues concerning regional differences, cultural diversity, language differences, recent immigrants, Native Canadians, parents with disabilities, families where addiction or violence is a problem, parents and children with HIV/AIDS (Brynelson, 1990).

C. Coordination and Information

The current trend in Canada towards bringing programs within provinces together under a provincial coordinating umbrella has been identified as a positive direction for collecting data and creating a unified political voice for early intervention (Marfo, 1991). Dissemination of information and greater access to the knowledge being acquired through the operation of services and new research could be facilitated by establishing a national clearinghouse in Canada, either through government, a national organization or a university (Marfo, 1991).

D. Cultural Diversity

Early intervention workers face challenges presented by a pluralistic society in the linguistic and cultural diversity of families with whom they are increasingly becoming involved. Linguistic diversity suggests that language may impose a barrier to effective communication; in addition, cultural values and individual differences in families influence differing perception of disability. It has been recognized that the foundation of early intervention programs is predicated on an Anglo-American cultural viewpoint: independence, an ability to control one's environment, positive change, a direct approach, and an active role for parents. By contrast other cultures may stress the social self over the individual, interdependence over independence; may find the direct approach intrusive and take an alternative view of the role of the families (The Roeher Institute, 1993).

Hanson and Lynch (1992) offer several recommendations for working with families from diverse cultural backgrounds. They suggest guiding principles of respect for values, beliefs, and traditions and a series of activities which might include hiring staff with diverse cultural and language backgrounds; gathering information about the cultures of families represented; conducting in-service sessions; reading and inviting speakers to discuss aspects of a culture and especially its relationship to families' perceptions of disability and intervention services (Hanson, Lynch, 1992).

E. The Trend Towards Family-Oriented Intervention

Problems in the delivery and operation of early childhood intervention programs suggests the necessity for change towards a system that better reflects and responds to the needs of families and children. Rethinking intervention involves changes in perspective, focus, emphasis, and roles.

A new and expanded definition of intervention could result from the adoption of a social systems perspective of families (Dunst, 1985; Dunst and Trivette, 1989). There would be movement beyond the child as the sole focus of intervention toward the family as the unit of intervention.

The goals would represent the priorities of families as the primary target of intervention, not the needs and aspirations identified by professionals (Dunst and Leet, 1987). Since infants and toddlers require the services of a variety of disciplines and agencies, families and professionals have noted the need for a multidisciplinary and interagency approach to providing services (Harbin, McNulty, 1993).

There are several recommendations regarding the future emphasis of intervention. The major emphasis would be on the empowerment of families as the goal of intervention practices (Rappaport, 1981; 1987). A proactive stance toward families would require a major emphasis on the promotion of growth producing behaviour rather than on the treatment of problems or the prevention of negative outcomes (Dunst and Trivette, 1987). It is also suggested that the emphasis of intervention concentrate on identifying and building upon family capabilities as a way of strengthening families; and upon strengthening the family's personal social network and utilizing this network as a primary source of support and resources for meeting needs (Trute, Hauch, 1987).

The quality of life of the whole family merits consideration; respite services and in home support such as homemaker services assure that parents get a break from the ongoing provision of care (Teasedale, Sherk, and Associates, 1987). Teasedale and Sherk proposed a comprehensive model for respite services based on surveys and interviews with families and service agencies which would broaden eligibility criteria to include families whose children have physical disabilities or complex health care needs, develop respite agencies throughout the area and introduce training programs for respite workers.

There is a growing emphasis on the natural environment as the preferred environment for intervention, with child initiated, adult supported play viewed as the preferred context for learning within which families are increasingly being viewed as central partners in the delivery of early intervention services and supports (Burton et al, 1992). Meeting the needs of parents and children recognizes the importance of creating opportunities for participation in inclusive programs within the neighbourhood. (The Roeher Institute, 1993). The general concept of family support and education includes identifying the family as the recipient of early intervention services and offering universal, preventative services to broad groups of families, using peer support and parent staff relationships as key service delivery mechanisms (Burton et al, 1992).

The recognition of the need to shift intervention from a focus on infant curriculum and teaching skills to a child, towards strengthening the family environment through accessing resources, and facilitating social networks and supports raises numerous questions about early intervention in the future. A number of questions currently being asked include: Will there be a place for direct skill instruction in the more diffused family oriented approach? Do early intervention programs as they exist actually have the capacity to empower families? What skills will intervention workers need to operate in this new framweork? Will evaluation research provide evidence of exemplary practices to influence future directions? Will the promotion of family well-being (through the social support models) translate into measurable progress for the developing child? (Marfo, Cook, 1991; Marfo, 1991)

F. Policy Recommendations

A number of recommendations aim to embed this new way of thinking in policy. Broad policy recommendations for early childhood intervention include increasing flexibility, taking a multidisciplinary approach, and paying greater attention to the human infrastructure that is critical to a young child's development. Burton suggests a more flexible lens through which to view child and family strengths and needs for intervention services is required and recommends that intervention could best proceed through family centred services, case management and a well qualified personnel force (Burton, et. al, 1992).

There is pressure to re-evaluate current policies in order to develop a more individualized approach. A position paper by The National Association for the Education of Young Children recommends that early childhood programs be responsive and ready themselves for individual differences among children rather than expect children to fit into predetermined types of programs or curricula.

Both a family systems approach and an approach that is sensitive to individual needs is suggested by the current recommendations from associations of Early Childhood Educators and Early Childhood Special Educators (ECE and ECSE). Both fields share a focus on recognizing families as the primary social units through which children's development proceeds, redefining appropriate relationships between families and early childhood professionals, making multidisciplinary services comprehensive enough to provide children and families with a complete array of required supports. The unification of the two professional fields has been identified as a means to improve the direct delivery of services to young children and their families (Burton et al, 1992).

Recommendations made by the Division for Early Childhood (DEC) focus on accessibility, coordination, program development, and parent support. To increase accessibility, DEC calls for mandated services for all children with disabilities from birth foreword. To achieve coordination of programs for the provision of services for young children with disabilities, it proposes that collaboration and joint planning occur among federal agencies at the highest levels and that there be strong support for the development of integrated programs for children ages three to five. To strengthen the role of parents it recommends that parent services and support for parent decision making be included in all programs that receive government funds.

There is a growing recognition that the change that is being proposed is of such magnitude that its implementation will present major challenges especially since many programs still provide services that are very child focused in approach (Bailey et al., 1992). What is needed is the recognition that one size does not fit all and the development of a flexible range of service alternatives based on the individual child's needs and the family's priorities (Burton et al, 1992).

Finally, the concept of "risk" for developmental problems in children grows with the broader impacts of changing social and economic conditions as manifested in increased child hunger and abuse (Upshur, 1993). While resources and supports for families shows positive potential for preventing family stress, they tend to be fragmented, uncoordinated, poorly funded, and come into effect after the damage is done (Continuing Care Committee, 1991). The need for attention at the highest levels of government is strongly identified. There is a call for action that would provide for preventive intervention through policy and an infrastructure making available medical care, education, therapy, recreation, housing and child care to all families while addressing the fundamental causes of poverty (Upshur, 1993; Zigler, 1993).

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