

A COMPARISON OF THREE EVIDENCE BASED HOME VISITING PROGRAMS
AIMED AT THE PREVENTION OF CHILDHOOD MALTREATMENT

by

Messina Michelle Michalsky

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DEDICATION

I dedicate this educational journey to my son, Zen, for the inspiration and drive he provided me in wanting to make a difference.

I would like to dedicate this to children and families I work with. Their experiences and challenges drive my passion to bring awareness and change to the way society views childhood/adult mental illness.

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TABLE OF CONTENTS

1. INTRODUCTION TO THE STUDY	1
Introduction.....	1
Background.....	3
National Social Crisis and Financial Issue.....	7
History of Home Visiting Programs	9
Statement of Problem.....	13
Montana	14
Montana’s Evidence-Based Home Visiting Programs.....	15
Purpose.....	17
Project Objectives	17
Conceptual Framework.....	18
Urie Bronfenbrenner’s Ecological Systems Theory of Human Development	18
Microsystem.....	19
Mesosystem.....	21
Exosystem	21
Macrosystem	22
Chronosystem	22
Assumptions.....	24
Limitations	24
Definition of Terms.....	25
2. REVIEW OF LITERATURE	26
Introduction.....	26
Data Extraction	29
Inclusion Criteria	29
Search Methods.....	30
Findings.....	30
Childhood Maltreatment.....	31
Results of Positive Parenting/Attachment	34
Result of Domestic Violence Impact on Childhood Maltreatment	37
3. PROCEDURES.....	39
Introduction.....	39
Program Review.....	40

TABLE OF CONTENTS-CONTINUED

4. PROGRAM COMPARISON RESULTS 41

 Parents as Teachers 41

 Nurse Family Partnership 43

 Early Headstart Home Visiting 45

5. CONCLUSION..... 53

 Discussion 53

 Literature on the Ecological
 Effects of Childhood Maltreatment 53

 Literature on Three Home Visiting Programs 54

 Comparison of Three Home Visiting Programs 54

 Future Practice 59

REFERENCES 61

LIST OF TABLES

Table	Page
1. Comparison of Three Home Visiting Programs.	48
2. Summary of the Outcome Effects of Three Models of Home Visitation	50

ABSTRACT

Childhood maltreatment has lifetime consequences to a child's mental and physical health. For decades childhood maltreatment has been recognized as a public health crisis. In 2010, The Patient Protection and Affordable Care Act (ACA) of 2010 created the Maternal, Infant and Early Childhood Home Visiting Program (MIECHV) to promote and improve the health, development and well-being of at risk children and families through evidence based home visiting programs. This initiative has recognized home visiting programs as an early intervention preventative step in reducing incidence of childhood maltreatment. Urie Bronfenbrenner's Ecological Systems Theory of Development was used as the theoretical framework. This paper outlines and compares the effectiveness of the Nurse-Family Partnership, Parents as Teachers, and Early Head Start Home Visiting programs. The objectives of the paper are to provide a literature review exploring the ecological effects of childhood maltreatment, compare three home visiting programs delivery, efficacy, staffing, and costs. The Nurse Family Partnership is implemented in two cities in Montana. The fidelity of the program requires baccalaureate nurses. Appropriately trained personnel and funds must be available to implement. Parents as Teachers is the most widely used program in Montana accounting for sixteen programs. It costs the least of the three programs and is implemented by paraprofessionals. Early Headstart Home Visiting is offered in ten Head Start facilities throughout Montana. This is an option offered to families, but not utilized by all. Nurse Family Partnership showed favorable results in both reduction of childhood maltreatment and positive parenting practices. Parents as Teachers and Early Headstart Home Visiting findings enhanced positive parenting practices, but had mixed results in the prevention of childhood maltreatment. Much of the research of home visiting programs did not identify childhood maltreatment as a main intervention, which was evidenced by mixed results of effectiveness among the programs. Evidenced based home visiting programs are new to Montana. It may take years of implementation before effectiveness is assured. Home visiting programs need further study and a clear focus of program goals and measurements in order to correlate interventions with the reduction of childhood maltreatment.

CHAPTER ONE

INTRODUCTION TO THE STUDY

Introduction

Childhood maltreatment is a serious problem that threatens a child's early development and exists at epidemic levels throughout the United States (U.S.). In 2009, over three million children were reported as potential victims of maltreatment (U.S. Department of Health & Human Services [DHHS] Administration of Children & Families [ACF], 2011). Childhood maltreatment is recognized internationally as a serious public health issue (World Health Organization [WHO], 2006). Maltreatment is defined by the National Association of Counsel of Children (NACC), as a general term used to describe all forms of child abuse and neglect (National Association of Counsel for Children, 2012).

Certain conditions among disadvantaged populations exacerbate the possibility of maltreatment. Those conditions include: lower socioeconomic status, extreme poverty, caregivers who suffer from substance abuse or other mental health conditions, single parent households, teenage mothers, and/or victims or witnesses of domestic violence (U.S. Department of Health & Human Services [DHHS] Administration of Children & Families [ACF], 2011). As previously noted, maltreatment is defined by the National Association of Counsel of Children (NACC), as a general term used to describe all forms of child abuse and neglect (National Association of Counsel for Children, 2012). Each state adheres to their own unique definition of child abuse and neglect based on standards

set by federal law (U.S. Department of Health & Human Services, Administration for Children and Families, 2011). The Child Abuse Prevention and Treatment Act (CAPTA), defines child abuse and neglect as “Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm The Child Abuse Prevention and Treatment Act (CAPTA) Reauthorization Act of 2010 (P.L. 11-320).

Today, childhood maltreatment is considered a national crisis and has been identified as one of the important prevention initiatives in the Patient Protection and Affordable Care Act of 2010 (P.L. 111-148). Some of our nation’s most serious health concerns can be linked to maltreatment early in life. Depression, substance abuse, and obesity are a few of the health problems linked to childhood maltreatment. A high percentage of children who experience maltreatment are enrolled in emotional disturbance (ED) special education classes and are more likely to be involved in the juvenile/adult criminal system (Lee, & Jonson-Reid, 2009; Fromm, 2001). Childhood maltreatment and lack of parental affection can have long-lasting effects (Nauert, 2013). In fact, emotional and physical damage may last a lifetime. Negative early life experiences affect physical and mental health into adulthood.

“Toxic” stress has been defined as the prolonged activation of the stress response systems in the absence of protective relationships (Center on the Developing Child, Harvard University, 2014). It has been linked to elevated cholesterol, cardiovascular disease, metabolic syndrome or other physical conditions that could pose significant

health risks (Center on the Developing Child, Harvard University, 2014). Some of our nation's most serious health concerns can be linked to trauma from abuse and neglect early in life. Scientific evidence now shows that an emotional and physically healthier population among adults begins in childhood. It is better and more efficient to "get it right from the start" by preventing maltreatment rather than trying to fix the many problems that result from early trauma later in life (Zimmerman & Mercy, 2010). Interventions to prevent childhood maltreatment are critical to reducing incidence. Evidence based home visiting from a professional nurse, social worker, paraprofessional, or an early childhood expert has been recognized as a prominent entity in the prevention of childhood maltreatment (Mathematica, 2014).

The following chapters will discuss the background and impact of childhood maltreatment, history of home visiting programs and provide an overview of three home visiting programs implemented in the State of Montana.

Background

Childhood maltreatment has played a vital role globally and within American history, spanning centuries. In 1935, Douglas Falconer, a social worker, stated, "If children are to be protected from neglect, the service must be performed by public agencies" (Myers, 2008. p. 452). Falconer's advocacy assisted in the creation of the Social Security Act of 1935 (P.L. 74-271, 49 Stat.620). Title IV of the Social Security Act (P.L. 74-271, 49 Stat.620) provides aid to dependent children, protection from homelessness and care for neglected children (Ross, 1985). Title V of the Social Security

Act (P.L. 74-271, 49 Stat.620) established the Maternal, Infant, and Early Childhood Home Visiting Program. This was the first enactment in which the Federal Government assumed responsibility in assisting states in child protection and welfare services (Ross, 1985). Furthermore, in 1946, John Caffey, a pediatric radiologist brought the subject of childhood maltreatment to the forefront of pediatric health when he reviewed six childhood cases with unexplained fractures, which hinted toward abuse (Caffey, 1946). Until Caffey's publication addressing childhood maltreatment, the subject was not considered a possible cause of illness, disease, or determinant of unexplained injuries in pediatric care. In 1962, pediatrician Henry Kempe and colleagues published "The Battered-Child Syndrome," an article that forever changed the way healthcare providers provided treatment to children with injuries (Leventahal et al., 2012). Kempe's article sparked media, medical, and social interest in child abuse awareness.

The chronological understanding of childhood maltreatment continued into the 1970s with recognition of the extraordinary number of children in long-term foster care. Consequentially, several Congressional Acts were designed to protect children from maltreatment and to encourage services to work with parents in keeping these children within the home. In 1974, the Child Abuse Prevention and Treatment Act (CAPTA) became law. This law assisted in creating today's nationwide federal child protective services program.

Congress enacted the Indian Child Welfare Act (ICWA) in 1978 to reduce the number of Native American children being placed in non-native families through adoption and/or foster care. ICWA also seeks to ensure that only tribal courts can decide

abuse and neglect cases involving a child who permanently resides on an Indian reservation (Indian Welfare Act of 1978). In the 1980s, new research emerged identifying the long term consequences of childhood maltreatment. These new findings prompted an increase in public awareness and prompted community- led intervention and preventions of childhood maltreatment. Also, in 1980, the Adoption Assistance and Child welfare Act (AACWA) was established. The AACWA required states to make “reasonable efforts” to avoid removal of maltreated children from their parents. (Adoption Assistance and Child welfare Act of 1980).

In 1989, the United Nations Convention on the Rights of the Child (CRC) stated that all countries are legally bound to comprehensively address child maltreatment which states that each child has the right to life, survival, and development (UNICEF, 2009). The expected measures to be enacted by all states in the prevention of childhood maltreatment includes that all states should be responsible in creating social programs for children and caregivers; and to identify, treat and follow up known cases of maltreatment (World Health Organization, 2006).

An explosion of new research in the study of neurobiology, developmental psychobiology, genetics and social sciences emerged in the 1990s. During this time, the importance of a child’s first three years of life was identified as a critical time in development and this changed the way the nation looked at pediatric healthcare. The influences of psychosocial and socioeconomic aspects of a child’s development were also identified as critical issues which highly influence a child’s health and development (Connolly, 2013). In 1991, the U.S. Advisory Board on Child Abuse and Neglect

identified Hawaii's Healthy Start model as an efficient program in the prevention of childhood maltreatment and in 1993 home visiting became recognized as a significant intervention in the prevention of childhood maltreatment (Duggan et al., 2007).

The government passed two pieces of legislation in 1996 that reshaped the social safety net for children and families. Those two legislative acts include the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) which terminated the open-ended federal commitment to ongoing financial assistance for poor families and Title XXI of the Social Security Act known as the State Children's Health Insurance Plan (SCHIP) which created \$20 billion worth of funding to provide access to health insurance for impoverished children and families who did not qualify for Medicaid (The Personal Responsibility and Work Opportunity Reconciliation Act of 1996), (Connoly, 2013). During this era, legislation placed an emphasis on building support for every parent and child beginning prenatally and continuing through school age. The American Recovery and Reinvestment Act (The American Recovery and Reinvestment Act of 2009) provided \$2.1 billion for Head Start and Early Head Start services. In addition, \$1.1 billion was provided to focus on the expansion of programs from prenatal care to age three. Due to the large increase in federal funding, home visitation programs began to emerge during this time.

In 2010, the Patient Protection and Affordable Care Act (Affordable Care Act of 2010 [ACA]) was established which included, among other critical provisions, \$1.5 billion in mandatory funding over five years for high quality, evidence-based, voluntary early childhood home visitation services (National Head Start Association, 2012). Under

this program states are required to select specific home visiting programs or models to provide home visiting services to pregnant women and young children (National Head Start Association, 2012). The ACA requires that the services be focused on improving children's outcomes in a range of areas including childhood maltreatment and that the home visiting model selected can show measures of evidence of effectiveness (Schreiber, 2010).

National Social Crisis and Financial Issue

According to the Centers for Disease Control and Prevention (CDC) lifetime costs of childhood maltreatment is \$124 billion each year (CDC, 2013). In addition, local and state agencies receive three million referrals for childhood maltreatment each year; nearly six referrals every minute (CDC, 2013). Identifying childhood maltreatment is a continuum that requires a community to prevent and intervene appropriately in order for the child, family and community to be emotionally and physically healthy.

Recent research has identified that home visiting programs have proven to be effective in preventing child maltreatment. A systematic review showed, on average, a 40% reduction in child maltreatment by parents and other family members participating in home visiting programs (CDC, 2003). Early home visiting programs were created in order to provide outreach to at-risk families during critical prenatal and postnatal development. At risk families are defined as those who currently experience one or more of the following:

- Economic stress issues (loss of job, unable to pay bills, loss of primary income source, homeless);
- Substance abuse, child abuse and neglect issues, or domestic violence in the home;
- Parent is failing/dropping out of an educational program;
- Recent divorce or loss of family members due to death or estrangement;
- Child development issues (low score on the developmental screen or issues noted from recruitment notes, health history, or general observation);
- Extreme or questionable health, mental health, or nutrition issues;
- Changes in otherwise typical behavior;
- Families involved with community agencies where a current family plan exists;
- Children with documented disabilities;
- Other factors which contribute to a family's inability to deal with stress in a way that is healthy and productive;
- Family literacy issues

(Umatilla-Morrow Head Start, 2014, p.1).

Certain factors included in labeling a family “at risk” may stigmatize a family. In addition, determining eligibility of services by demographic risk, gender, race, or disability results in mismatches between family needs and services provided (Goodman & Sato, 2013). “The extent to which each of these risk factors is causally related to the occurrence of maltreatment is hard to establish” (Gilbert et al., 2009, p.72). Not all of these factors are easily modifiable.

Childhood maltreatment is now recognized as a predictor of poorer health and social outcomes. Public health and child welfare laws for the prevention of childhood maltreatment continue to evolve within social sectors of the U.S. as a primary preventative measure in childhood maltreatment. Today's research suggests that evidenced-based home visiting programs are an effective intervention in the prevention of childhood maltreatment. For example, in 2008, the Supporting Evidence-Based Home Visiting to Prevent Child Maltreatment (EBHV) initiative was designed to build knowledge about how to build the infrastructure and service delivery systems necessary to implement, scale-up, and sustain evidence-based home visiting program models as a strategy to prevent child maltreatment (U.S. Department of Health & Human Services, Administration for Children and Families, Children's Bureau, 2014). The following paragraphs provide a basic historical timeline of home visiting programs.

History of Home Visiting Programs

Home visiting programs are embedded in the history of the U.S. European population (Finello, 2012). The first home visiting programs began in the 1800s. Initially, home visiting programs in the 1800s began as a way to assist the influx of immigrant families' transition to American culture. During this time, home visiting programs were established by philanthropists who wanted to assist new immigrant families of lower socioeconomic status with health, education, and environmental conditions (Finello, 2012). The kindergarten movement, the establishment of Settlement houses, and the promotion of public education are considered three of the major social justice movements which contributed significantly to the evolution of home-community

visits from 1870 to 1920, also known as the Reform Era (Bhavnagri & Krolikowski, 2000).

The early kindergarten movement in the United States also began in the 1800s and focused on immigrant populations living in poverty in large urban areas (Bhavnagri & Krolikowski, 2000). Philanthropic kindergarten teachers followed the practices of Friedrich Froebel, a German educator whom focused on the emphasis of play (Bhavnagri & Krolikowski, 2000). The focus of the Kindergarten movement embraced the family and community as a whole. This philosophy consisted of educational instruction during the first half of the day and home visits, later in the day, with the families (Bhavnagri & Krolikowski, 2000). This movement focused on the correction and prevention of academic failure, building supportive relationships, referrals to community resources, and educating families in the importance of play and development (Bhavnagri & Krolikowski, 2000).

Settlement Houses were founded in the United States in 1886 (United Neighborhood Homes, 2013). Settlement Houses were developed to assist under privileged, poor immigrant families with transition to the United States (United Neighborhood Homes, 2013). They provided daily living education which included health education, language classes, classroom instruction (schooling) for immigrants children, job clubs, after-school recreation, public health services, and advocated for improved housing for the poor working class (United Neighborhood Homes, 2013). Today, Settlement Houses are known as community or neighborhood centers which promote community health and wellness (United Neighborhood Homes, 2013).

In 1893, Lillian Wald founded the Henry Street Settlement in New York City (Wilkerson-Buhler, 1993). She was responsible for coining the term *public health nursing*, which allowed nurses the opportunity to fill the gap between families' social, economic, and health needs (Wilkerson-Buhler, 1993). Wald's belief was a communities health impacted individual health (Visiting Nurse Service of New York, 2013). The "visiting nurse" focused on educating patients about disease prevention and establishing hygienic practices (Visiting Nurse Service of New York, 2013).

In 2010, the Federal Affordable Care Act (H.R. 3590 and H.R. 4872) section 2951 of the law amended Title V of the Social Security Act (National Conference of State Legislatures, 2010) established the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV). This act provides one and a half billion dollars over five years to states that voluntarily provide families with young children access to evidence-based home visiting programs. The program requires that seventy- five percent of grant funding be spent on evidence based models that are proven effective (United States Department of Health and Human Services, Health Resources and Services Administration, 2010). The Health Resources and Services Administration (HRSA) in collaboration with the Administration for Children and Families (ACF) head the programs in the implementation. MIECHVs purpose is to provide evidence based home visiting services to families who qualify for services such as those identified as low income, pregnant women and families with children birth through five years old (National Conference of State Legislatures, 2010). The purpose of the MIECHV program is to identify the best options for success within programs offered. In,

September 2010, the Health and Human Services (HHS) awarded grants to states to develop and implement early childhood home visitation programs. Program requirements include state provisions for quantifiable, measurable improvements in benchmark areas for participating families in each of the following areas:

- Improvements in maternal/prenatal health, infant health, child health and development,
- Reductions in the incidence of child maltreatment,
- Improvement in school readiness and achievement,
- Reduction in crime or domestic violence,
- Improved parenting related to child development outcomes;
- Improved family socio-economic status, and
- Improvements in the coordination and referral of community resources and supports

(U.S. Department of Health and Human Services, Health Resources and Services Administration, 2010 p.1).

Thirteen home visiting programs have been federally recognized as national evidence-based home visiting models which include the following programs:

- Child FIRST, Early Head start-Home Based Option,
- Early Intervention Program for Adolescent Mothers,
- Early Start (New Zealand),
- Oklahoma Community-Based Family Resource and Support Program,
- Play and Learning Strategies,
- Safe Care Augmented,
- Maternal Early Childhood Sustained Home Visiting Program,

- Nurse-Family Partnership,
- Parents as Teachers,
- Family Check Up,
- Healthy Families America, and
- Healthy Steps
(U.S. Department of Health and Human Services, Health Resources and Services Administration, 2010, p.3).

The purpose of MIECHV is to respond to the diverse needs of children and families in communities at-risk and to provide an opportunity for collaboration and partnerships at the Federal, State, and community levels to improve health and development outcomes for at-risk children through evidence-based home visiting programs (U.S. Department of Health & Human Services Administration for Children and Families, 2011). Evidence-based home visiting programs focus on improving the wellbeing of families with young children (U.S. Department of Health & Human Services Administration for Children and Families, 2011).

Statement of Problem

Child maltreatment has long term physical, psychological, behavioral and economic consequences (CDC, 2014). Many early interventions such as home visiting assist families in bonding, cognitive development, and school readiness; however, are home visiting programs as effective in the prevention of childhood maltreatment? The wide variability in program implementation and fidelity makes it difficult to draw solid conclusions about the conditions under which home visiting is most effective especially

in childhood maltreatment (Howard & Brooks-Gunn, 2009). Few home visiting programs measure child maltreatment and even fewer have been able to document that home visiting had any significant impact on childhood maltreatment (University of Pittsburg, OCD, Special Report, 2010). Because of the subjective nature of the home visit, these programs are often difficult to evaluate or quantify success. Some of the problems associated with measuring effects on maltreatment include low reporting rates, difficulty in identifying substantiating cases, program fidelity, attrition, and the fact that the definition of abuse and neglect may vary from state to state (University of Pittsburg, OCD, Special Report, 2010). Also, how do home visiting programs implement care to those most vulnerable living in vast rural areas and which models are identified as effective? Despite the growing emphasis on early intervention and high-quality prevention programs we are not seeing the benefits that had been anticipated.

Montana

The state of Montana consists of fifty-six counties, which include seven Indian reservations. Montana consists of a large rural population with forty six of its fifty six counties considered “frontier.” A frontier county is defined as having an average population of six or fewer people per square mile. Counties that include Native American reservations are among the poorest in the country (Missoula County, 2012). In 2010, Montana had 12, 919 total referrals for child abuse and neglect. Of those, 7,419 reports were referred for investigation. In addition, 1,442 of these children were

identified as victims of abuse or neglect (CWLA, 2010). Nine of the fifty-six counties offer home visiting programs.

Montana's Evidence-Based Home Visiting Programs

The Montana Maternal and Early Childhood Home Visiting (MT MECHV) Program is a network of programs around the state which provide voluntary family-centered services in the home to expectant families and families with new infants and young children (Montana Public Health and Safety Division, 2012). The MT MECHV website lists Parents as Teachers and the Nurse-Family Partnership as the only evidenced-based models implemented in Montana. Early Head Start Home Visiting is offered in Montana, but is not listed as an Evidence-Based Program (EBP) recognized by MT MECHV. The MT MECHV Program funds home visiting services in the following counties: Cascade, Custer, Flathead, Hill, Lake, Lewis and Clark, Mineral, Missoula, and Yellowstone.

Montana's MECHV Program goals include:

- Support evidence-based home visiting services in Montana,
- Improve coordination of services for communities,
- Identify and provide comprehensive services to improve outcomes for families,
- Improve maternal and child health outcomes which include:
 - child development and school readiness,
 - child health,
 - family economic self-sufficiency,
 - maternal health,
 - positive parenting practices,

- reductions in child maltreatment, and
- reductions in juvenile delinquency, family violence, and crime
(Montana Department of Public Health and Human Services, 2012, p.1).

In accomplishing such goals, the state created a program called Best Beginnings. Best Beginnings of Montana, established in 2011, is an advisory council represented by interested constituency groups, governmental agencies, the public, child care providers, state and local government, and tribal communities (Montana Department of Public Health and Human Services, 2013). Their mission is to create a statewide plan for an effective early childhood service system that will assist in four objectives:

1. Children will have access to high quality early childhood programs.
2. Families with young children will have community support.
3. Children will have access to a medical home and health insurance, and
4. Improving the social, emotional, and mental health needs of young children and families.

(Montana Department of Public Health and Human Services, p. 5, 2013).

Currently, Montana has twenty-three local coalitions state wide including six reservations (Montana Department of Public Health and Human Services, 2013). The local coalitions work to increase coordination across child serving systems to ensure school readiness for children from birth to age eight. It is funded by the federal Child Care and Development Fund through the Montana Department of Public Health and Human Services/Early Childhood Services Bureau (Montana Department of Public Health and Human Services, 2013). They are designed to enhance the quality of early

care and education for young children and families in Montana (Montana Department of Public Health and Human Services, 2013).

Purpose

The purpose of this research paper is to discuss the impact of childhood maltreatment using Urie Bronfenbrenner's Ecological Systems Theory of Development, (1994) and to review literature in determining the effectiveness of three home visiting programs implemented in Montana in the prevention of childhood maltreatment. This paper will outline and compare three evidenced based home visiting programs offered in Montana, which are the Nurse-Family Partnership, Parents as Teachers, and the Early Head Start Home Visiting related to the impact on reducing childhood maltreatment.

Project Objectives

The purpose of this paper will be addressed through the following five objectives:

1. Review of literature in exploring the ecological effects of childhood maltreatment.
2. Review literature of three home visiting programs effectiveness in the prevention of childhood maltreatment: Parent as Teachers, Nurse Family Partnership, and Early Headstart Home Visiting programs
3. Compare the three home visiting programs delivery, efficacy, staffing, costs, and outcomes.

Conceptual Framework

The conceptual framework used for this project is Urie Bronfenbrenner's Ecological Systems Theory of child development. The Ecological Systems Theory was chosen for the conceptual framework because it is considered a meta- theory which combines individual theories (biological and behavioral), interactional (attachment and family theories), social theories (social and economic, social support) in explaining the phenomenon of child maltreatment (Bryans et al., 2009).

Urie Bronfenbrenner's Ecological Systems Theory of Human Development

Urie Bronfenbrenner an American psychologist developed the Ecological Systems Theory. This theory aims at understanding the factors that influence a child's development which include the Microsystem (biological, family), Mesosystem (interpersonal and peer experiences), Exosystem (extension of meso, neighborhood, social services), Macrosystem (cultural contexts), and the Chronosystem (sociohistorical influences). The framework incorporates five different views of environmental influences related to childhood maltreatment. Based on evidence that no single factor can explain why some people or groups are a higher risk of interpersonal violence (Bryans et al., 2009). Bronfenbrenner's work emphasizes the environmental factors that influence interpersonal violence in childhood maltreatment (Bryans et al., 2009). The Ecological Systems Theory of Human Development incorporates multiple integrated levels which have special relevance for understanding and developing health visiting activity across various levels of intervention (Bryans et al., 2009).

The theory promotes cross-agency coordination, which creates holistic, continuity of care and integrates children's services (Bryans et al., 2009). The following paragraphs discuss the five environmental influences directly correlated to childhood maltreatment as related to Bronfenbrenner's Ecological Theory of Human Development.

Microsystem. Genetics and past experiences influence behavior and increase the individual risk of becoming a victim or a perpetrator of violence (Dahlberg & Krug, 2002). Factors include being a victim of child maltreatment, mental illness, substance abuse, and history of violent acts or aggression (Dahlberg & Krug, 2002). Prevention strategies at this level may include education and life skills training (Dahlberg & Krug, 2002)

Lamb et al. (1985) used a laboratory procedure design in assessment of security of infant-adult attachment of thirty-two maltreated (abused and/or neglected) children (M = 18.4 months of age). The children were observed with their biological or foster mothers. This group was then compared to 32 children and non-maltreating mothers matched on sex, age, ethnic background, parental occupation, and parental education. Maltreatment by the mothers was associated with a marked increase in the number of insecure-avoidant relationships, especially toward the maltreating biological mothers. 21 of the 32 children in the maltreatment groups behaved insecurely (avoidant or resistant), compared with six in the comparison group. 53% of the children in the maltreatment groups behaved avoidant compared to 19% in the comparison group. The proportion of insecure patterns was at its highest among the children who were still living with their maltreating mothers.

The study concluded that maltreatment increases the likelihood of insecure attachments. Threats to an attachment bond, such as illness, pain, or stress caused from separation will activate attachment behavior (Mikulincer & Shaver, 2007). Healthy development depends on the child's interactions with the primary caregiver (Cohen et al., 2012).

The emotion-processing circuits of the limbic system, which are directly influenced by attachment experiences, are related to the right hemisphere (Schoore, 2001). Attachment is mediated by nonverbal emotional communication (Schoore, 2001). The right brain's implicit self lies at the core of psychoanalysis (*Psychoanalytic Dialogues*, 21:5-100). Insecure attachments are linked to a variety of mental disorders which include depression, clinical anxiety, obsessive-compulsive disorder, post-traumatic stress disorder, suicidal tendencies, and eating disorders (Mikulincer & Shaver, 2012).

The Adverse Childhood Experiences (ACES) study identified the longitudinal effects of childhood maltreatment. The ACES study conducted by Kaiser Permanente from 1995-1997 included 17,000 participants identified through their Health Maintenance Organization (HMO). Participants completed a confidential survey that contained questions about childhood maltreatment in addition to questions regarding their current health status and behaviors. ACEs include verbal, physical, or sexual abuse, as well as family dysfunction (incarcerated, mental illness, domestic violence, substance abuse, or absence of a parent due to divorce or separation) (CDC, 2010). The study concluded that the more ACEs experienced in childhood dramatically increased the risk of experiencing future physical/mental health which included substance abuse, depression, cardiovascular

disease, diabetes, cancer, and premature mortality (CDC, 2010). Both of these studies identify the dramatic impact that childhood maltreatment has on development.

Mesosystem. Family, friends, intimate partners, and peers influence the risks of engaging or becoming a victim of violence (Dahlberg & Krug, 2002). Lack of social services, neighborhoods with high residential turnover, and high unemployment effect rates of childhood maltreatment. Teaching problem solving skills, promoting healthy relationships, and mentoring peer programs designed to decrease conflict are appropriate interventions during this level (Dahlberg & Krug, 2002).

Exposure to domestic violence and co-occurrence of maltreatment continues to remain a societal ill. In homes where domestic violence occurs, children are physically abused and neglected at a rate fifteen times higher than the national average (Osofsky, 2003). Overall, domestic violence has serious immediate and longitudinal term effects within every aspect of the child's ecological developmental system.

Exosystem. Relationships with schools, neighborhoods, and workplaces influence violence (Dahlberg & Krug, 2002). Factors may include level of unemployment, population density, mobility and the existence of a local drug or gun trade (Bryans, et al., 2009).

Prevention strategies at this level include modeling and marketing of healthy relationships within the community (Dahlberg & Krug, 2002).

Freisthler et al. (2005) used a cross-sectional design, which examined neighborhood rates of child maltreatment for all 304 block groups in one northern

California City. This study found that higher concentration of bars ($\mathbf{B} = 6.66, \mathbf{p} < .05$) and higher numbers of incidents of drug possession ($\mathbf{B} = .53, \mathbf{p} < .001$) were positively related to rates of child maltreatment in neighborhoods when controlling for neighborhood demographic characteristics. Thus, areas with more bars and drug possession incidents per 1000 population have higher rates of child maltreatment.

Macrosystem. Economic and social policies that maintain socioeconomic inequalities between people (Dahlberg & Krug, 2002). The availability of weapons, social and cultural norms such as male dominance over women, parental dominance over children and acceptable acts of violence as an acceptable method in resolving conflict all increase risk of victimization (Bryans et al., 2009). Prevention strategies involve making changes or bringing awareness to the political sector influencing health, economic, educational and social policies (Dahlberg & Krug, 2002).

Wood et al. (2012) examined the relationship between local macroeconomic indicators and physical abuse admission rates to pediatric hospitals over time. Abuse and high risk TBI admission rates increased in relationship to local mortgage delinquency and foreclosure trends. Between 2000-2009, rates of physical abuse and high-risk TBI admissions increased by 0.79% and 3.1% per year, respectively.

Chronosystem. Institutional Racism is defined as the systematic distribution of resources, power and opportunity in society that result in differential access to resources and power based on race (Mendez, 2010). Today, Institutional Racism remains prevalent in the United States (U.S.) healthcare system. This can be witnessed by health disparities

amongst persons of color (Casey-CSSP Alliance for Racial Equality, 2006). Social services must take into consideration families' uniqueness and cultural norms when working in the community. Children of color, especially African American and American Indian children, experience significantly worse outcomes in the child welfare system than do non-minority children (Casey-CSSP Alliance for Racial Equality, 2006). In 2000, children of color represented approximately 33% of all children in the United States, but represented 55 % of the foster care population (National Council of Juvenile and Family Court Judges, 2011). African American children represent 36% of the foster care population, yet they are 15% of the child population and Native American children represented 2.6% of the foster care population, yet represent only 1.2% of the general child population (National Council of Juvenile and Family Court Judges, 2011). Currently, this situation has been declared as a national "chronic crisis" (Casey-CSSP Alliance for Racial Equality, 2006).

Dufour et al. (2008) conducted a descriptive study of the Children Protective Service (CPS) in Canada. The goal of the study was to identify the disproportionate representation of children from certain visible minority groups in the Canadian CPS system. The authors compared the report profiles of Caucasian, Aboriginal, and other visible minority children whose cases were assessed by child protective services in Canada. The results show that children of Aboriginal ancestry and from visible minority groups are selected for investigation by child protective services 1.77 times more frequently than are children in the general population. These results may reflect a certain

degree of racial bias in the identification and reporting of maltreatment cases to child protective services and in decisions about the substantiation of maltreatment.

Assumptions

Home visiting programs have an overall positive effect on the prevention of childhood maltreatment as determined through an exhaustive literature review of home visiting programs effectiveness in the prevention of childhood maltreatment.

Limitations

Several home visiting programs exist, each unique and specific to their implementation and to the population they serve. As previously mentioned, this study reviews three of several home visiting programs since several studies have researched the effectiveness of home visiting programs. The three programs to be reviewed are specific to the State of Montana. A review of all home visiting programs utilized in all states and countries would have to be conducted to conclude the true effectiveness of home visiting programs and their impact on the prevention of childhood maltreatment; however, a review of all programs would be a major undertaking beyond the scope of this paper.

Challenges in the evaluation of home visiting programs are attrition rates, consistency in delivery of curriculum, an unknown theoretical approach, and the impact of multiple goals on the visits (Herkert, 2008). Parent as Teachers will be the only home visiting program reviewed which focuses on working with a primary caregiver rather than

both the caregiver and child. Nurse Family Partnership and Early Headstart Home Visiting programs focus their interventions on both the primary caregiver and the infant.

Definition of Terms

Childhood Maltreatment:

Any act or series of acts of commission (child abuse) or omission (child neglect) by a parent or other caregiver (clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child (Centers for Disease Control and Prevention, 2012).

Early Childhood development:

A period of human development which occurs prenatally to school age in which cognitive, social, emotional, and physical processes develop. (The World Bank, 2013)

Effectiveness:

The extent to which a treatment achieves its intended purpose (MediLexicon, 2014).

Evidence-based models:

The integration of best research evidence with clinical expertise and patient values to facilitate clinical decision making (Institute of Medicine, 2001)

Family Health:

Overall health and wellbeing of not just the individual, but the entire family across the lifespan which includes medical, dental, psychosocial, spiritual, and behavioral effects on the health of its members (Biology Online, 2005).

Home visiting services:

Services provided in the family's home, which may include opportunities for group connections and other community activities. (Montana Department of Public Health and Human Services, 2013).

Outcome:

The overall effect of an intervention performed which provides an end result (Donabedian, 1980).

CHAPTER TWO

REVIEW OF LITERATURE

Introduction

This comparison study explores the effectiveness of three home visiting programs in the prevention of childhood maltreatment. Numerous studies are in place to support the effectiveness of home visiting programs. This paper will review evidenced based articles which identify home visiting effectiveness and outcomes. A review of existing literature is vital in identifying the best evidence-based practices of home visiting programs and their effectiveness or failure in the prevention of childhood maltreatment. Although the focus of this literature review is on childhood maltreatment, home visiting research has found that positive parenting practices has a significant impact in decreasing childhood maltreatment. The following paragraphs will review three home visiting programs currently used in Montana. The programs being reviewed are Parents as Teachers, Early Head Start Home Visiting, and Nurse Family Partnership. Many factors were explored that may place families at risk of maltreatment which include living in poverty, unemployment rates, single parent households, teenage mothers, families educational level, a parents own history of maltreatment, substance abuse, mental illness, and/or domestic violence occurring in the home.

The U.S. Department of Health & Human Services of the Administration for Children & Home Visiting Evidence of Effectiveness (HomVee) literature is the first review. HomVee was designed to identify and report the most relevant research on

selected home visiting program models and to evaluate the strength of the research. The HomVee evaluation included a systematic search, screening, review of the research quality, and finally an assessment of the program's effectiveness. The HomVee team reviewed and summarized implementation information for each program model. They included published and unpublished research through database searches, a call for studies, Web searches, and reference lists from recently published reviews. Studies were screened for eligibility using criteria based on the primary service delivery strategy. HomVee identified eight target domains in assessment of the efficacy of home visiting programs. These eight domains include the following:

- Child development and school readiness
- Family economic self-sufficiency
- Maternal health, reductions in child maltreatment
- Child health
- Linkages and referrals
- Positive parenting practices
- Reductions in juvenile delinquency, family violence, and crime
(U.S. Department of Health & Human
Services, Administration for Children and
Families, Outcomes, p. 1,

As of July 2012, a HomVee literature search yielded fourteen thousand and seventy-one unduplicated citations, including four hundred and seventy-seven articles submitted through the HomVee calls for studies and two-hundred and fifty-four web search hits. As of July 2012, the HomVee team had reviewed thirty-two program models, including two-hundred and seven impact studies and one hundred and ninety-

eight implementation studies about the thirty two models (Avellar & Supple, 2013). For the purpose of this study, I have conducted a research review of two of the HomVee domains which include child maltreatment and positive parenting. The other source of data included a review of the following data bases: Psych Info, Pub Med, and CINAHL. Keywords used to review the literature included: infancy home visiting; childhood maltreatment; positive parenting practices.

Each of the three home visiting programs was then searched using a combination of keywords. The word “effectiveness” was then placed before and after the key words in limiting the studies to outcomes. Limitations of the articles were then reduced by articles within ten years, design, and outcomes.

Article references were also reviewed in the literature search which pertained to the subjects in review. Reviews of articles were further reduced by eliminating subjects that were unrelated or highly specific to this paper. Web searches of several federal and state websites were also accessed in the review which include the Centers for Disease Control and Prevention, National Association of counsel for children, U.S. Department of Health and Human Services, Administration for children and families, Montana Department of Public Health and Human Services. Further searches conducted by google web searches included names of the three programs in review which are Nurse Family Partnership, Early Headstart, and Parents as Teachers websites. Review of literature was retrieved from these websites in order to evaluate the effectiveness of programs. Titles and abstracts were also assessed for relevance.

Data Extraction

Data extraction or exclusion included the objective or background of the paper, the design of the study, the setting sample, intervention conducted, tools or measures used to evaluate the impact, and outcomes of the intervention conducted. The types of studies reviewed for this project were Randomized Controlled Trials, Follow-up of Randomized Controlled Trials, and systematic reviews. Exclusion criteria included women older than forty-five years of age, living above poverty level, and other programs that do not include home visiting.

Inclusion Criteria

Inclusion criteria included low income households, pregnant women ages twelve to forty-five, voluntarily enrollment in a home visiting program, and families with children from newborns to five years of age. Randomized controlled trials, follow-up of randomized controlled trials, and systematic reviews were the choice of design for review.

Due to the large amount of research within this area, only articles published within the last ten years were included. Several of the impacts of effectiveness within the review included research conducted over ten years ago with several articles reviewed from follow-up studies of the past original research. Limited evidenced-based research was found specifically for Parents as Teachers. The approach to the research was to identify “home visiting” rather than specifics of the three programs in review. Much research was conducted prior to 2000 in home visiting; in this case the most up-to-date

review was included in the inclusion. Family Nurse Partnership's three main randomized controlled trials were conducted more than ten years ago, but follow-up of the randomized controlled trials were assessed and included in this evaluation of programs.

Journal articles were also searched using bibliographic databases. Journal articles were accessed by using an ancestry and descendant approach, and the articles chosen were reviewed for testing, outcomes, and population.

Search Methods

Databases used in the review of literature included Psych Info, CINAHL, and Pub med. The Psych Info database was utilized first and a basic search was conducted using the following key words: infant home visiting, childhood maltreatment, and positive parenting practices. The results are as follows:

- Infant home visiting; thirteen results, ten excluded due to nonspecific information pertaining to this project.
- Childhood Maltreatment: twenty-six results, three inclusions for this project.
- Positive Parenting Practices resulted in four inclusion studies for this project.

“Apply related words” was then chosen and Psych Info- Criteria was identified by searching articles within the last ten years. Pub med and CINAHL were then reviewed resulting in duplicated articles identified through Psych Info.

Findings

The characteristics most significantly identified in today's home visiting programs have Evidence Based Practice (EBP) research showing that these programs

enhance cognitive development from birth to five years. In addition, infant-caregiver relationships are enhanced, parenting skills are improved which secondarily impacts the reduction of childhood maltreatment. Though there are promising results there were several barriers identified within the literature review which hindered the effectiveness of home visiting. These barriers include attrition rates, perinatal depression, domestic violence, teen mothers, measurement and awareness of what is considered maltreatment and a lack of a theoretical approach to home visiting programs and lastly quality measurements and program fidelity all appear to hinder the effectiveness of home visiting programs effectiveness of childhood maltreatment. The Nurse Family Partnership seemed to have the most research conducted in prevention of childhood maltreatment and EHSV and PAT had very limited research specifically to the prevention of childhood maltreatment. All three programs had an impact on positive parenting attributes. Since Montana only recently established home visiting programs the effectiveness of the home visiting programs in prevention of childhood maltreatment is still largely unknown.

Childhood Maltreatment

Macmillan et al. (2005) conducted a randomized controlled trial and enrolled one hundred and sixty-three families with a history of one child being exposed to physical abuse or neglect who received home visitations by nurses compared to those who received standard treatments. Interestingly, after a review of hospital records the intervention group showed higher recurrence of maltreatment than the standard group.

At three years, recurrence of child physical abuse (31 [43%] in the control group vs 29 [33%] in the intervention group) and neglect (37 [51%] vs. 41 [47%]) did not differ significantly between groups. However, hospital records showed significantly higher recurrence of either physical abuse or neglect in the intervention group than in the control group (21 [24%] vs 8 [11%]). There were no differences between groups for the other secondary outcome measures. Despite the positive results of home visitation by nurses as an early prevention strategy, this visit based strategy does not seem to be effective in prevention of recidivism of physical abuse and neglect in families associated with the child protection system. The results indicated that more effort needs to be directed towards prevention before a pattern of abuse or neglect is established in a family.

Stevens-Simon et al. (2000) conducted two studies which included teen mothers 13-19 years old voluntarily enrolled in the Colorado Adolescent Maternity Program (CAMP). The study included 171 participants (49% White, 28% Black, 20% Hispanic, and 3% other), poor (94% Medicaid recipients), predominantly unmarried (95%), primiparous (96%) who scored 25 or higher on The Family Stress Checklist and identified CAMP as the infant/mom primary health care provider at delivery. The first study used the Family Stress Checklist in identifying women at risk of dysfunctional parenting behavior. Women who scored 25 or higher were at a higher risk of maltreating their children in the first two years of life. The purpose of the second study was to determine whether the addition of an intensive home visitation component to CAMP would decrease the frequency of maltreatment and/or the dysfunctional parenting behavior. The home visitor was to serve as a link between the CAMP clinic staff, the

adolescent and her family and as a linkage to community based social and mental health services. All 171 mother-infant dyads were randomly assigned to receive in home parenting instruction. (N=84) and control (N=87). This study concluded that the prediction efforts in identification of at-risk infants were effective, but the intensive home and clinic based intervention did not alter the incidence of child maltreatment or maternal life course development. The McMillan and Stevens-Simon studies had minimal effects on the prevention of childhood maltreatment.

Montana currently has no research data specifically related to rural home visiting. The following studies identify rural home visiting programs in Hawaii and Alaska and their effects in the prevention of childhood maltreatment. In comparison to Montana, Alaska is also considered a frontier state.

Duggan et al. (2004) conducted a randomized trial to assess the impact of home visiting in preventing child abuse and neglect in the first three years of life. Families identified as at-risk of child abuse through population-based screening at the child's birth took place through the Hawaii Healthy Start Program (HSP). The trial was conducted from 11/94 to 12/95, 643 families were enrolled and randomly assigned to intervention and control groups. Results showed that HSP home visitors rarely noted concern about possible abuse. The HSP and control groups were similar on measurements of maltreatment. Overall, the program did not prevent child abuse or promote use of nonviolent discipline. The program did have a moderate impact in preventing neglect.

Duggan et al. (2007) used a collaborative, experimental study to assess the impact of a voluntary, paraprofessional home visiting program in preventing child maltreatment.

The study focused on six Healthy Families Alaska (HFAK) programs; 325 families were enrolled in 2000-2001. Families were randomized into treatment and control groups. Follow up data was collected when children were two years old (85% follow-up rate). The study concluded that there was no overall program effect on maltreatment reports, parental risks, or outcomes for families with a high dose of home visiting. Home visitors often failed to address parental risks and seldom linked families with community resources.

Home visiting focuses on educating and modeling positive parenting techniques which enhances attachment. Research shows that positive impacts on improving protective factors such as parenting practices and quality of parent-child interaction may reduce the occurrence of childhood maltreatment (Promising Practices Network, 2010).

Results of Positive Parenting/Attachment

A Randomized Controlled Trial conducted by: Cheng and colleagues (2007) assessed the effectiveness of a community health services early home based program interventions in evaluating the influence of both early maternal depression and mother-infant relationships on child behavioral problems at age two in a longitudinal setting. Ninety five mother infant pairs were randomly assigned to the intervention (48) or control (47) groups. The intervention groups received monthly specific home visits between the infant ages of five and nine months while the control group received only routine center based services. Maternal depression and the mother infant relationship were assessed by medical checkups at the ages of four and ten months. Child behavioral problems were assessed at age two. The intervention had a significant impact on child

behavioral problems. However, for mothers who had disturbed relationship with their infants, the rate of improvement in the quality of the relationship was higher in the intervention group, a 35% higher rate of change to an adapted relationship than those who did not receive intervention ($P=0.039$). Disturbed mother-infant relationships at ten months and early maternal depression significantly impacted the scores on the Child Behavior Checklist (CBCL). These findings indicate that early interventions are more likely to have a positive impact on the quality of the mother/ infant relationship. Disturbed relationships between mother/infant and maternal depression have great impacts on the future mental health of the child. To prevent difficulties in child functioning, more prolonged interventions focusing on disturbed mother infant relationships may be required. Overall this identifies how maternal sensitivity to the infant is a crucial factor in the development of secure attachment.

Horodynski & Gibbons (2004) conducted a longitudinal study to identify the quality of mother-child interaction as they entered and exited a rural Early Head Start (EHS) program and compare their interactions with a normed national sample. Participants included thirty predominantly Caucasian mothers (16 -41 years of age) and their children (newborn to three years of age), residing below the federal poverty level. Trained data collectors measured mother child interaction using the Nursing Child Assessment Satellite Training (NCAST) Teaching Scale. The observers recorded such behaviors as vocalization, physical and eye contact, facial gestures, body language, interaction styles, affect, cognitive and physical development, communication patterns, maternal pauses, turn taking, clarity of cues, and sensitivity and responsiveness to cues.

At exit from the program, although no significant differences in mother-child interactions were found Mothers' Mean NCAST score on entry was 37.1 (SD=6.1) and on exit, 39.3 (SD=6.1), more than half of the mothers maintained or improved their ability to read cues and respond to their child. However, over 40% of the mothers remained a risk for poor interaction. Differences in program outcomes may be a result of family participation and involvement levels. Poor maternal health may also adversely affect mother-child interactions. The results showed that mothers were more at risk for interactive problems than the children. From these results, EHS staff was able to identify additional program plans and strategies for working with at risk mother child dyads.

Barlow et al. (2013) sought out to examine the effectiveness of Family Spirit, a paraprofessional-delivered home-visiting program used to improve American Indian teen mothers' parenting outcomes and both mother and child emotional and behavioral functioning twelve months postpartum. The study included pregnant American Indian teens (n=322) from four southwestern tribal reservations whom were randomly assigned in equal numbers to an intervention group which received the Family Spirit intervention plus optimized standard care or to the control group who received optimized standard care alone. Data were collected at 2, 6, and 12 months postpartum using self-reports, interviews, and observational measures. Results show that at twelve months postpartum mothers in the intervention group had significantly improved parenting knowledge, parenting self-efficacy, and home safety attitudes and fewer externalizing problems.

Today, there has been minimal research conducted regarding home visiting programs and the effectiveness when implemented in American Indian and Alaska Native

communities. The authors note that there is limited understanding of the unique implementation needs of reservation settings (Barlow et al., 2013). In addition, the current home visiting research has shown preference to nurse home visiting programs, but this may be difficult due to the shortage of local Native nurses and tribal stakeholder preference for Native home visitors (Barlow et al., 2013).

Result of Domestic Violence Impact on Childhood Maltreatment

Eckenrode et al. (2000) conducted a fifteen-year follow-up of a randomized controlled study in a semirural community in upstate New York. Participants included four-hundred socially disadvantaged pregnant women with no previous live births. Three hundred and twenty-four mothers and their children participated in the follow-up study with the group enrolled consecutively between April 1978 and September 1980.

Researchers investigated whether real life experiences of domestic violence limit the effects of nurse home visitation interventions in reducing childhood maltreatment. Families were randomly assigned to receive routine perinatal care (control group; n=184 participated in follow up), routine care plus nurse home visits during pregnancy only (n=100), or routine care plus nurse home visits during pregnancy and through the child's second birthday (n=116). Reports were retrieved from state records over a fifteen-year period and were analyzed by treatment group and level of domestic violence in the home measured by the Conflict Tactics Scale. Eckenrode et al. found that families receiving home visitation during pregnancy and infancy had significantly fewer child maltreatment reports involving the mother as perpetrator ($P=.01$) or the study child as subject ($P=.04$)

than families not receiving home visitation. The number of maltreatment reports for mothers whom received home visitation during pregnancy was not different from the control group. For mothers who received visits through the child's second birthday, the treatments effect decreased as the level of domestic violence increased. Of women who reported twenty-eight or fewer incidents of domestic violence(79% of sample), home visited mothers had significantly fewer child maltreatment reports during the fifteen-year period than mothers not receiving the longer term intervention ($P=.01$). However, this intervention did not significantly reduce child maltreatment among mothers reporting more than 28 incidents of domestic violence (21% of sample). The research concludes that the presence of domestic violence may limit the effectiveness of interventions to reduce incidence of child abuse and neglect.

The literature review resulted in limited effects on prevention of childhood maltreatment. Factors such as maternal depression, teen parenting, attrition rates, and presence of domestic violence in the home, all showed to have significant impacts on the home visiting effectiveness on childhood maltreatment. The literature review did identify that early intervention is important in preventing recidivism of maltreatment and home visiting appeared to have positive effects on positive parenting practices when the program was initiated early.

CHAPTER THREE

PROCEDURES

Introduction

The three programs were compared and included Parents as Teachers, Nurse Family Partnership, and Early Headstart home visiting programs. The three programs were chosen based on home visiting programs utilized in Montana. A literature review of the three programs was conducted on home visiting program models serving pregnant women or families with children from birth to age five. Comparison of the studies involved using the HomVee systematic review. The search was limited to research on home visiting models that aimed to improve outcomes in the following areas: reductions in childhood maltreatment and positive parenting practices.

When reviewed, Nurse Family Partnership showed favorable results in both reduction of childhood maltreatment and positive parenting practices. Parents as Teachers findings included a positive impact on positive parenting practices, but not for childhood maltreatment. Early Headstart Home Visiting provided favorable outcomes in positive parenting practices and also had limited effects on the prevention of childhood maltreatment (U.S. Department of Health and Human Services, Administration for Children and Families, 2010). Databases Psych Info, CINAHL, and Pub Med were used in the literature search based on key words related to the service delivery approach, population, and the outcome of the domains of interest. The comparison of the home visiting programs were examined using the related characteristics established by each of

the programs which include the programs history/founder, curriculum used, theory, cost, goals, evaluation and testing, and the outcome of the service.

Program Review

The Google search engine was utilized to identify existing literature and the effectiveness of each program for the three programs in review. Review of existing literature was used in the programs. The use of comparable outcomes in the home visiting programs provided a guideline in determining factors among the three programs which included home visiting as the primary service delivery, duration, goals, quality measures, curriculum used, and program outcome. A literature review of the three programs included randomized controlled trials, longitudinal, and systematic reviews.

CHAPTER FOUR

PROGRAM COMPARISON RESULTS

Parents as Teachers

Parents as Teachers (PAT) is an evidenced based home visiting program which is designed to serve families throughout pregnancy to entry into kindergarten. The goals of PAT include the following:

1. Increase parent knowledge of early childhood development and improve parenting practices,
2. Provide early detection of developmental delays and health issues,
3. Prevent child abuse and neglect,
4. Increase children's school readiness and school success.

(Parents as Teachers National Center, 2013, p. 1).

Parents as Teachers was established in the 1970s when Missouri educators observed children's' varied levels of school readiness when beginning kindergarten. They identified through research that parent involvement is critical to a child's development of learning, including reading and writing (Parents as Teachers, 2013). This early development encouraged early childhood professionals to create a program to provide early detection of developmental delays and health issues, and parent education to empower parents in their role in their child's development from birth which could assist in school readiness in the future (Parents as Teachers, 2013). Parents as Teachers

became state funded in Missouri in 1985 and today has expanded to fifty states and six different countries (Parents as Teachers, 2013).

The program offers families a minimum of twelve sixty minute home visits annually and twelve group connections or meetings annually. Services last at least two years (U.S. Department of Health and Human Services, Home Visiting Evidence of Effectiveness, 2013).

The Parents as Teachers program uses the curriculum Born to Learn (BTL). BTL is a comprehensive, neuroscience research based curriculum used in the delivery of Parents as Teachers services (Parents as Teachers National Center, 2006). BTL's curriculum is focused on childhood development, school readiness, and empowerment of parents in the confidence of raising their infants. The program enlists training for early childhood professionals, and certifies supervisors and parent educators to deliver the Born to Learn model (Parents as Teachers National Center, 2006). Certified instructors teach and guide parents in appropriate ways to interact with their infants in order to promote healthy cognitive development, healthy attachment, social skills, and positive parenting. Qualifications needed to become a BTL educator include one or all of the following:

- College degree in early childhood education,
- Supervised experience or related experience working with children and families, or
- Successful completion of the Born to Learn Institute, training and certification as a parent educator.

Parent educators receive comprehensive training in neuroscience research on early development and learning (prenatal through age 3), stages of early childhood development, developmental screenings, parent-child attachment and interaction, diverse families, recruitment and program organization, in addition to the four main goals. This program was designed to enhance the quantity and quality of the relationship between parent and infant (Smilkstein, 2003). The program's core focus of implementation includes personal home visits by certified parent educators, parent group meetings about early childhood development and parenting, developmental and health screenings for young children, and linkages and referrals to community networks and resources (Parents as Teachers national center, 2006). The program is flexible, diverse, and culturally appropriate. It can be adapted for use in an array of settings because of its focus on all persons as learners.

Parent as Teachers is funded by public and private funding. The average cost of implementation for each family receiving home visits twice a month and a group connection one time a month is \$2,652.00 annually.

Nurse Family Partnership

Nurse Family Partnership (NFP) is an Evidenced Based, community health program designed to assist low income first time mothers. NFP is a home visiting program made up of nurses whom make home visits to first time mothers. NFP's goals include the following:

- Improve pregnancy outcomes,
- Improve child health and development, and
- Improve the economic self-sufficiency of the family
(Nurse Family Partnership, 2013).

Women are accepted before and/or at twenty-eight weeks gestation and are followed through their child's second birthday. Nurse Family Partnership was developed in the 1970s by David Olds, professor of pediatrics, psychiatry, and preventive medicine (Nurse Family Partnership, 2013). David Olds was inspired in developing such a program after he had worked in an inner city daycare and became empathetic and interested in the societal difficulties and of health risks of the children living in low income households he served. At this time he was determined to create a program which would assist young children and families in developing healthy lives by creating an in home visiting program which would assist new first time mothers in healthy pregnancies, births, and childhood development.

As of today, NFP provides services in forty-three states. Dr. Olds and his colleagues continue research on the long term effects and the improvement of the NFP model at the Prevention Research Center for Family and Child Health at the University of Colorado Denver (Nurse Family Partnership, 2013). The NFP program consists of baccalaureate nurses. Nurses assist and educate first time mothers about healthy attachment, nutrition, vital health signs and precautions during pregnancy. The program's overall focus is to educate participants and their families in adapting healthy pregnancies in addition to positive parenting skills and to become economically self-sufficient after birth. NFP uses a visit by visit guideline which focuses on specific

themes which are specific to the client's needs at that time. The curriculum was developed by Dr. Olds and colleagues and is specific to the NFP program in which staff is trained in Denver, Colorado in learning and implementation of the program. The program offers sixty to seventy minute in home visits which include weekly home visits for the first month after enrollment and then every other week until birth.

The visits continue weekly for the first six weeks after birth and then every other week until twenty months. The last four visits are monthly until the child is two-years old (Department of Health and Human Services, Home Visiting Evidence of Effectiveness, 2011). The FNP program is funded by a non-profit organization funded by private and government funding. Funding sources include Medicaid and Temporary Assistance for Needy Families (TANF).

Early Headstart Home Visiting

The Early Headstart home based program (EHS-HV) is one of Head Start's comprehensive program options designed to meet the needs of low-income pregnant women and families of infants and toddlers from birth to age three whom are at or below the federal poverty level. (U.S. Department of Health & Human Services, Administration for Children & Families, Head Start, 2013). The home-based option is designed for families in which the home is the child's primary learning environment, either due to family choice or life circumstances that prevent them from participating in a more structured environment (U.S. Department of Health & Human Services, Administration for Children & Families, Head Start, 2013). The program's goals are founded on nine

principles which aim to enhance development of infants and toddlers and strengthening families. The nine principles include the following:

- Provide high quality services,
- Activities that promote healthy development and identify atypical development at the earliest stage possible,
- Positive relationships and continuity with an emphasis on the role of the parent as the child's first, and most important, relationship,
- Activities that offer parents a meaningful and strategic role in the program's vision, services, and governance,
- Inclusion strategies that respect the unique developmental trajectories of young children in the context of a typical setting, including children with disabilities
- Cultural competence that acknowledges the profound role that culture plays in early development ,
- Comprehensiveness, flexibility, and responsiveness of services that allow children and families to move across various program options over time as their life situation demands,
- Transition planning, and
- Collaboration with community partnerships that allow programs to expand their services.

(United States Department of Health & Human Services, Administration for Children and Families, Head Start, 2011, p.1).

Early Head Start was developed following the recommendations of the Secretary's Advisory Committee on Services for Families with Infants and Toddlers in 1994, the Administration on Children, Youth and Families (ACYF). Early Head Start is a two-generation program developed to enhance children's development and health and strengthen family and community partnerships. Early Headstart is an expanded version

of the Head start program, concentrating on focusing on intensive services beginning before birth and enhancing development and supporting the family during the critical first three years of a child's life (Vogel et al., 2010). Early Head start programs try to meet families' and communities' needs through one or more program options which include home based, center based or a combination of services in which families receive both in home and center based services.

EHS-HV provides ninety-minute in home visits and two group socialization activities per month for parents and their children. The home visiting option must make at least ten percent of their clientele available to children with disabilities whom are eligible for Part C services under the Individuals with Disabilities Education Act. Qualifications specify that the home visitor have knowledge and experience in child development and early childhood education; principles of child health, safety, and nutrition; adult learning principles; and family dynamics (U.S. Department of Health & Human Services, Administration for Children & Families, 2013). There is no specific curriculum, though programs must select an in-home and group-based curriculum that teaches development of secure relationships, trust and emotional security, and opportunities for each child to explore a variety of sensory and motor experiences, and that focuses on the social, emotional, and physical development.

Table 1. Comparison of Three Home Visiting Programs.

Home Visiting Programs	Mission/Goal	Population Served	Staff	Length	Cost
Early Headstart Home Visiting Program	Provide high quality services that promote cultural, healthy development of the child and family in promoting positive relationships and an emphasis of the parent as the child's first, and most important, relationship. Provide services that allow children and families to move across various program options over time. Collaborate with community partners.	Pregnant women and families with children from birth to three years of age. Ten percent of enrollment must include children with disabilities.	Para-professional	Minimum two years. Ninety minute weekly visits and two group socialization activities per month	\$9-12,000 annual
Family-Nurse Partnership	Improve pregnancy outcomes, improve child health and development, and to improve the economic self-sufficiency of the family	First time, low income pregnant women no later than 28 weeks gestation up to two years.	Bachelor Nurses	Two years. 60-70 minute weekly home visits for the first month after enrollment and then every other week until the baby is born. Weekly visits for the first six weeks after birth, and then every other week until 20 months. Last four visits are monthly until child is two years of age.	\$4,100 annual per family (2011)
Parents as Teachers	Increase parent knowledge of early childhood development and improve parenting practices, provide early detection of developmental delays and health issues, prevent child abuse and neglect, increase children's school readiness and school success.	Pregnant women to kindergarten	Para-professional	At minimum two years. Twelve, sixty minute home visits and twelve group or connection meetings annually	\$2,652 Annual Per family (2013)

Table 1. Comparison of Three Home Visiting Programs, continued

Model	Author/Yr	Study Design	Positive Parenting Behaviors	Childhood Maltreatment	Outcome
Early Head-Start	Love et al. (2005)	Randomized Trial of 3,001 families of low income, diverse in race-ethnicity, age, having first-and later born children, living in urban, suburban, or small town areas in 17 Early Head Start programs	Early Head Start parents were rated as more supportive than were control parents (responding to the child's bids for attention, encouraging learning during play, and showing positive regard toward the child). The mean score for Early Head Start parents was 0.1 scale point higher than the control group mean of 3.9 out of a possible 7 (p=0.1). Early headstart parents read to their children every day (56.8%) compared to control parents (52.0%).	Early Head Start parents (46.7%) were less likely than control parents (53.8%) to report that they had spanked their child in the previous week.	Early Head Start children evaluated at three years of age performed better than control children in emotional engagement, had less aggressive behavior. Parents were more emotion-ally supportive, provided more language and learning stimulation, read to their children more, and spanked less.
Nurse/Family Partnership	Olds et al. (2002)	Follow up of Randomized Controlled Trials Elmira, New York (N=400) initially, 324 (fifteen yr. follow-up),	Elmira,NY Less punishment and restriction increase in appropriate play materials at 10 and 22 months. More language stimulation and education materials at 46 months, fewer safety hazards in home at 34 and 46 months, more punishment of child at 46 months	Elmira, NY. Reduced children's injuries detected in medical records. Rates of state verified reports of child maltreatment reduced in the first two year postpartum (p=.07).and at the 15 year follow up. Fewer ER visits from 0-12 months. Fewer ER visits for injuries, ingestions 12-24 mo. 15 yr. follow up FNP parents compared to control mothers as perpetrators of child abuse and neglect 0.29 vs. 0.54.	Participants had fewer verified child abuse and neglect reports compared to the control group.

Table 2. Summary of the Outcome Effects of Three Models of Home Visitation

Model	Author/ Yr	Study Design	Positive Parenting Behaviors	Childhood Maltreatment	Outcome
	Olds, et al (2010)	Memphis, TN (N=1135). Low income, Primigravida, unmarried adolescents (>19 yr.). Tested the effect of prenatal and infancy home visits by nurse on 12 yr. old, firstborn children (n=613) of primarily African American, low income, disadvantaged women (743 randomized during pregnancy)	Memphis, TN In the first two years of the child' life: mothers had fewer beliefs associated with child abuse.	Memphis, TN. Fewer health- care encounters for injuries/ ingestions, compared to comparison group (0.43 vs. 0.56, p=0.01). fewer outpatient visits for injuries/ingestio ns, fewer days hospitalized for injuries/ingestio ns compared to comparison group (0.04 vs. 0.18, p<.001).	
	Drotar, et al (2008)	Based on random assignment, 227 families of infants received the Born to Learn (BTL) curriculum conducted in monthly home visits, and 237 families received general child development education only.	At 36 mo. the BTL group demonstrated beneficial effects of mastery motivation by enhancing parents' abilities to provide an environment that enhanced problem solving and persistent novel tasks.	No effect	

Table 2: Summary of the Outcome Effects of Three Models of Home Visitation, continued

Model	Author/ Yr	Study Design	Positive Parenting Behaviors	Childhood Maltreatment	Outcome
Parents as Teachers	Wagner, M. & Clayton, S. (1999)	Two randomized trials in California. The first included PAT with families and children six months and younger. 497 families participated. Intervention group (n=298), control group (n=199). Large Latino population. The second demonstration included Teen PAT in addition with case management. Randomized Trial of mothers less than 19 yr. of age pregnant or had a child less than six months old from diverse ethnicity and sociodemographic. Randomized in to four groups.	Both trials had little effect on parenting knowledge, attitudes or behaviors as measured in these demonstrations.	The combined PAT plus case management with teens was associated with significantly fewer opened cases of child abuse and neglect.	The BTL curriculum had no overall effect on children's cognitive development, adaptive behavior, and a range of other outcomes, including conceptual skill, early reading readiness, expressive language, and parent and teacher ratings of social skills. Both demonstrations showed little or no benefit on most outcome measures for either parents or children. The programs have not demonstrated consistent success in addressing child abuse rates. Attrition rates were high in both demonstrations, but significantly higher in the teen PAT trial.

Overall, FNP has more research data to support the program's effectiveness compared to EHS-HV and PAT. Lack of research specifically toward evidence based rural home visiting programs is limited and data related to the effectiveness of evidence based home visiting programs in Montana are limited. Evidenced based home visiting programs are relatively new to Montana. Overall, the prevalence rates of childhood maltreatment are similar to that of urban populations but the treatment options, if they exist at all for rural areas can be severely limited by virtue of remoteness and isolation

(Paul, et al., 2006). Overall, reviews of the literature of home visitation as a strategy to prevent child maltreatment have been mixed. All programs appear to positively impact childhood development, parenting practices, and school readiness, but the specific outcomes related to childhood maltreatment need more study.

CHAPTER FIVE

CONCLUSION

Discussion

The purpose of the project was to address the following objectives:

1. Review of literature in exploring the ecological effects of childhood maltreatment.
2. Review literature of three home visiting programs effectiveness in the prevention of childhood maltreatment: Parents as Teachers, Early Head Start home visiting, and Nurse Family Partnership programs.
3. Compare the three home visiting programs delivery, efficacy, staffing, costs, and outcomes.

Literature on the Ecological
Effects of Childhood Maltreatment

Urie Bronfenbrenner's Ecological Systems Theory of Child Development correlates to every aspect of the Ecological model which identifies every level of environmental and biological factors that influence childhood maltreatment in every system identified. The model explains factors that influence the occurrence of childhood maltreatment and helps prevent simply blaming the parent. This paper identified ecological factors such as substance abuse, mental illness of a parent, domestic violence,

neighborhoods, schools, communities, institutions, and socioeconomic factors which all play a role in childhood maltreatment.

Literature on Three Home Visiting Programs

Parents as Teachers, Early Head Start home visiting, and Nurse Family Partnership were reviewed for effectiveness in prevention of childhood maltreatment. Each program is unique in its delivery, cost, staff, goals, and theoretical approach. Each of the programs in review was voluntary, financially restricted to those who qualify and identified as at-risk, and are young mothers. Overall the literature review identified mixed results specifically to the prevention of childhood maltreatment in home visiting's effectiveness in the prevention of childhood maltreatment. Assessing the prevalence of childhood maltreatment involves several barriers which include varying definitions, low reporting rates, and difficulties in providing evidence in such cases (Howard & Brooks-Gunn, 2009). Further research is needed in home visiting programs prevention of childhood maltreatment.

Comparison of Three Home Visiting Programs

The Nurse Family Partnership model provided the most evidenced based research available in the prevention of childhood maltreatment. The NFP is the most well developed home-visiting program in the United States (Howard & Brooks-Gunn, 2009). Research was conducted using randomized control trials on three different occasions with the findings published in 1978, 1990, and in 1994 (Children's Services Council, 2007). The Elmira trial showed promising results in the prevention of childhood maltreatment

which resulted in a 48% decline in childhood maltreatment in a fifteen year follow up (Howard &Brooks-Gunn, 2009). The greatest effects were found among low-income, first-time adolescent mothers. The families with the most risk factors tended to gain the greatest benefits from the program (Howard &Brooks-Gunn, 2009). The NFP is implemented by baccalaureate nurses. According to the NFP model the expertise of the nurse visitor is a critical aspect to delivery due to their specialized training in improving pregnancy outcomes and promoting child health (Howard &Brooks-Gunn, 2009). A cost-benefit analysis was conducted on the Elmira trial on two separate occasions. Originally the study was conducted by Lynn Karoly at RAND and again by Steve Aos at the Washington State Institute for Public Policy (Howard &Brooks-Gunn, 2009). Both of these analyses indicated benefits outweighed the cost (Howard &Brooks-Gunn, 2009).

Savings were identified in four areas: increased tax revenues associated with maternal employment, lower use of public welfare assistance, reduced spending for health and other services and a decrease criminal justice system involvement. In the Elmira trial, each dollar invested yielded \$5.70 in savings. For the lower-risk group, the saving was \$1.26 per dollar invested. An overall benefit cost ratio of \$2.88 (Howard & Brooks-Gunn, 2009, p.6)

Today, the NFP operates in over one hundred sites in twenty-six states. Four states (Colorado, Louisiana, Oklahoma, and Pennsylvania) have statewide initiatives with families being served in every county (Howard &Brooks-Gunn, 2009). The NFP plans to increase their services to reach as many as 100,000 families by 2017 (Howard &Brooks-Gunn, 2009). The NFP, at the time of this project had two programs in Montana but with additional sites anticipated. Both Montana NFP programs are relatively new to the state with the first program launching in Missoula in 2012 and the Billings program started in

2013. Due to Montana's vast rural area, NFP may be limited to areas where there are baccalaureate nurses available to implement the program, a community need, and available resources and funding to sustain its program.

Parents as Teachers is the most common home visiting program implemented in the state of Montana. Currently there are sixteen programs in Montana. The program is implemented by paraprofessionals whom are described as being state certified as a family support specialist, having an Associate's Degree in general or social services or being certified in a particular model or program (Family and Community Health Bureau, 2010).

The Early Headstart Home Visiting program is implemented in ten communities in Montana. The cost of the program is incorporated into the entire cost of the Head Start program. The home visiting program through Head Start is an optional service and though the services are offered they are not necessarily utilized.

Overall, home visiting programs have been a component of nursing care of families for decades. As effective as home visiting can be, the growing body of research indicates that not all programs are equally effective. Research fails to show that the programs consistently reduce child maltreatment rates; however, home visiting programs have some benefits that indirectly affect risk for child maltreatment such as parenting education, emotional support for the parent, and home safety lessons (Stevens-Simon et al, 2001). The Nurse Family Partnership provided promising results in the Elmira study as shown by the fifteen year follow up, but unfortunately to date there has been no follow-up research that has proven to maintain the effective results. Both Early Head Start home visiting and Parents as Teachers did not show significant effectiveness in

prevention of childhood maltreatment and many of the trials reviewed within these two programs was difficult to evaluate since there was very limited literature available regarding program effectiveness in childhood maltreatment. New research has indicated the importance of program quality, fidelity, delivery, evaluation and measurable outcomes as key strategies in home visiting programs preventing childhood maltreatment (Howard & Brooks-Gunn, 2009)

The critical question has become not just “What works?” but what process works for whom and under what circumstances. Being truly evidence-based is an ongoing process that goes beyond model selection to include continual data monitoring, analysis, feedback, experimentation, and testing to improve quality and maximize outcomes for children and families. Programs need to maintain a strong focus on relevant content areas such as parenting skills and maltreatment to achieve positive outcomes for children and families. When adequate community infrastructure is in place, low cost universal access approaches to home visiting can provide short-term positive returns on investment through triaging families into the appropriate level of services. Families who may not be first time mothers can also benefit from home visiting services. Home visiting remains highly effective, even when servicing a population that includes most or all families (PEW, 2012). Choosing models with a strong existing research base, or choosing promising models and evaluating them rigorously, are important first steps in achieving the best possible results for children and families. Even models that have proved effective in one environment, or with a specific population, may not work when applied in new contexts with different families (PEW, 2012).

In the prevention of maltreatment a theoretical approach in implementation of programs such as the Ecological Model must be established in order to understand what is being done and how to achieve goals. Identifying which home visiting program works for a specific community is dire to the growth of our children. Overall, home visiting programs have modest effects, attenuated by factors such as the characteristics of participants and programs as well as expected goals and outcomes.

How we approach this problem continues to be a work in progress. Relationship based interventions with parents is proving to be successful. Identifying the cultural diversity of each family and understanding that not one shoe fits all is another attempt. Another need in home visiting is the knowledge to recognize maltreatment when it is occurring.

Maltreatment as mentioned throughout the paper has lifelong consequences and effects overall development, emotionally, cognitively, medically, economically and socially. Overall, Howard & Brooks Gunn summed up the need for improvement of effectiveness in home visiting programs in their article Preventing Child Maltreatment (2009, p.8).

“Development of more precise measures for assessing child maltreatment, using professional staff whose credentials are consistent with program goals, intervening prenatally with at-risk populations, and carrying out the programs fidelity to their theoretical models will make it possible to evaluate home-visiting programs more adequately so that their promise can be fully realized.”

Montana is a rural state with great diversity. Thus, there should be needs assessment conducted within each community in identifying interventions that assist mothers and families in raising healthy children. Telemedicine delivered in the home is

one approach to service delivery to at risk families residing in rural areas (Paul, et al. 2006).

Home visiting is at the forefront of research and with the government reimbursing for evidenced based program models, home based organizations are working to discover what works best. Finally, good epidemiological data related to evidence based prevention program outcomes and local experimental studies of what is effective in prevention research is needed.

Future Practice

Two promising approaches and responsive practices have developed to better monitor outcomes related to home visiting programs. First, John Hopkins Children's Center has created a home visiting research network which is a national network formed to strengthen the role of home visiting as part of a comprehensive system of services through developing a national home visiting research agenda, advancing the use of innovative research methods and advancing the professional development of emerging home visiting researchers (Home Visiting Research Network, 2013). This program provides a national resource data bank available for all organizations in submission of new research and provides resource links for evidence based home visiting models. Finally, Jon Korfmacher and his colleagues have developed a Home Visiting program quality rating tool which objectively monitors and measures the services that programs deliver and their quality. This tool is the first to measure program quality across home visiting models, thereby creating a tangible benefit for states, most of which use multiple

models. The tool contributes to a shared vocabulary, common definitions, and ways of measuring program practice (Korfmacher et. al, 2012). This tool along with the national resource data bank could provide valuable resources to better understand and manage the prevention of childhood maltreatment in the United States and Montana.

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