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Comprehensive Screening and Referral Programs

Title	Author(s)	Year	Publication Source	Sample Size	Sample Composition	Data Source	Independent Variable(s)	Dependent Variable(s)	Summary of Findings	Limitations to Causal Inference	Exclusion Criteria
Randomized Controlled Trial of Universal Postnatal Nurse Home Visiting: Impact for Emergency Care	**Dodge et al.**	**2013**	**Pediatrics**	**531**	**Families with births between July 2009 and December 2010 in Durham, North Carolina**	**Durham County hospital administrative records**	**Durham Connects**	**• Total infant emergency medical care use • Overnight hospital stays • Emergency department visits**	**• Beneficial impacts on total infant emergency medical care use in first 12 months • Larger effects for infants with more birth risks, those with Medicaid or no insurance, and "nonminority" families**		
Implementation and Randomized Controlled Trial Evaluation of Universal Postnatal Nurse Home Visiting	**Dodge et al.**	**2014**	**American Journal of Public Health**	**531**	**Families with births between July 2009 and December 2010 in Durham, North Carolina**	**• Durham County hospital administrative records • In-home interviews**	**Durham Connects**	**• Emergency medical care use 6 months following birth • Mother-reported parenting and health outcomes • Interviewer-reported home environment quality**	**• Beneficial impacts on number of emergency episodes and overnight hospital stays in first 6 months • More community resources accessed • Mixed impacts on parenting and home environment outcomes • Reduced clinical anxiety but null impacts on depression and substance use • Benefit-cost ratio of $3.02**		
Randomized Controlled Trial of Family Connects: Effects on Child Emergency Medical Care From Birth to 24 Months	**Goodman et al.**	**2019**	**Development and Psychopathology**	**531**	**Families with births between July 2009 and December 2010 in Durham, North Carolina**	**Durham County hospital administrative records**	**Family Connects**	**• Emergency medical care use at 24 months • Emergency billing costs at 24 months**	**• Beneficial impact on total infant emergency medical care use at 24 months, but null impact between 12 and 24 months • Null impact on maltreatment- and accident-related emergency room visits • Interaction tests show impact on emergency medical care use only significant for "nonminority" mothers • Benefit-cost ratio of $3.17 at 24 months**		
Effect of a Community Agency-Administered Nurse Home Visitation Program on Program Use and Maternal and Infant Health Outcomes: A Randomized Control Trial	**Dodge et al.**	**2019**	**JAMA Nework Open**	**316**	**Families with births between January 1 and June 30, 2014 at Duke University Hospital**	**• State administrative records • Interviews with mothers**	**Family Connects**	**• CPS investigations • mother-reported service use • mother-reported health and health care use • mother-reported parenting behaviors**	**• Null impact on CPS investigations • More community resources accessed at 6 months • Null impact on maternal mental health, parenting bheaviors, pediatric appointments, and postpartum visits at 6 months • Null impacts on infant emergency department visits and overnight hosptial stays • Small increase in emergency deperatment visits for mothers**		
Early Effects of the Healthy Steps for Young Children Program	**Minkovitz et al.**	**2001**	**Archives of Pediatrics and Adolescent Medicine**	**1987**	**Mothers with children ages 2 to 4 months at assessment (RCT sites only)**	**Parent interviews September 1996 to 1998 at child age 2 to 4 months**	**Healthy Steps for Young Children Program (RCT sites only)**	**• Safety practices • Feeding practices • Parenting practices that promote development**	**• Mixed impacts on safety practices (positive only for sleeping position) • Mixed impacts on feeding practices (null for breastfeeding) • Null impacts on practices promoting development**		

Bolded studies indicate strong causal evidence.

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A Practice-Based Intervention to Enhance Quality of Care in the First 3 Years of Life: The Healthy Steps for Young Children Program	**Minkovitz et al.**	**2003**	**American Medical Association**	**1593**	**Mothers with children ages 2 to 4 months at assessment (RCT sites only)**	**• Mother interviews at child age 30 to 33 months • Medical records**	**Healthy Steps for Young Children Program (RCT sites only)**	**• Timeliness of child health care • Emergency department use and hospitalizations • Parenting behaviors • Child behaviors • Matneral mental health**	**• Higher odds of being informed about community resources • Higher odds of timely well-child visits and vaccinations • Null impacts on emergency department use and hospitalizations • Null impacts on parenting behaviors and discipline practices • Detrimental impacts on child behavior**		
Healthy Steps for Young Children: Sustained Results at 5.5 Years	**Minkovitz et al.**	**2007**	**Pediatrics**	**1308**	**Mothers with children ages 2 to 4 months at assessment (RCT sites only)**	**Mother interviews at child age 61 to 66 months**	**Healthy Steps for Young Children Program (RCT sites only)**	**• Discipline practices • Child behavior and social skills • Parenting practices to promote development • Emergency department use and hospitalizations**	**• Null impacts on discipline practices • Null impacts on child behavior and social skills • Null impacts on parenting practices • Null impacts on emergency department use and hospitalizations**		
The Effects of Healthy Steps for Young Children Program: Results from Observations of Parenting and Child Development	**Caughy et al.**	**2004**	**Early Child Research Quarterly**	**• 378 mothers at Time 1 • 233 mothers at Time 2**	**Subsample of original RCT sample in Amarillo, Texas and Florence, South Carolina**	**Home observations and mother interviews at child age 16 to 18 months and 34 to 37 months**	**Healthy Steps for Young Children Program**	**• Quality of mother-child interaction • Security of attachment • Child behavior • Home environment**	**• Null impact on parenting and child outcomes at Time 1 • More sensitive interactions at Time 2, but null impacts on all other parenting and child outcomes at Time 2 • For subsample who responded at both time points, larger effects on sensitive interactions and small beneficial impact on child attachment • No significant subgroup differences**		
The Effects of Healthy Steps on Discipline Strategies of Parents of Young Children	**Caughy et al.**	**2003**	**Applied Developmental Psychology**	**• 378 mothers at Time 1 • 233 mothers at Time 2**	**Subsample of original RCT sample in Amarillo, Texas and Florence, South Carolina**	**Home observations and mother interviews at child age 16 to 18 months and 34 to 37 months**	**Healthy Steps for Young Children Program**	**• Discipline behaviors**	**• Higher use of inductive (positive) discipline strategies (null on punitive strategies) at Time 1 • Null impact on both inductive and punitive discipline at Time 2 • Null moderating impacts of race and SES at Time 1 • At Time 2, positive impact on inductive discipline higher only for White mothers and those <200% of the FPL**		
Family Risk as a Predictor of Initial Engagement and Follow-Through in a Universal Nurse Home Visiting Program to Prevent Child Maltreatment	Alonso-Marsden et al.	2013	Child Abuse and Neglect	2279	Families with births between July 2009 and December 2010 in Durham, North Carolina	Hospital records	• Levels of family health • Demographic risk	• Program engagement (scheduling a visit) • Follow-through (completed a scheduled visit)	• 78% of eligible families scheduled a visit, and 85% of scheduled visits were completed • 66% of eligible families completed a least one visit • High demographic risk and low infant health risk were predictive of scheduling a visit • Low demographic and infant health risk were predictive of visit completion	Implementation study	

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Evaluation of the Family Connects Northeast Program in the North Carolina Race to the Top Early Learning Transformation Zone: Final Report	Goodman, Christopoulos, and Quinn	2016	Duke Center for Child and Family Policy	517	Families with births in the Early Learning Transformation zone between February 2014 and December 2015	Family interviews at child age 4 to 8 months	Family Connects	• Understanding FC implementation • Community connections • Parenting • Mother & infant wellbeing • Emergency medical care usage at 4-8 months	• Program implementation can be quick and successful outside of Durham • FC successful in reaching large percent of families, delivering home visits with adherence to protocol, reliable risk assessment, & referring to community services • Interventions predicted greater father involvement • Reductions in overnight hospitalizations • Increases in maternal social support and safe sleep practices	Not an RCT	
Universal Early Home Visiting: A Strategy for Reaching All Postpartum Women	Handler et al.	2019	Mental and Child Health Journal	18	Illinois Family Connects staff, hospital staff, health agency staff	Qualitative interviews	Illinois Family Connects (IFC)	Implementation measures	• Successful implementation depends on pereived value of the program, agency adoption of practices, strategies to engage women after leaving the hospital, and ongoing marketing of the program	Implementation study	
Best Start LA Pilot Community Evaluation Focus Group Report 1	Hill and Adams	2011	Urban Institute	37	Participants in focus groups for clients who had received at least the 3 to 4 month postpartum visit, home visitors, and community stakeholders	5 focus groups held in Los Angeles in December 2010	Welcome Baby	• Parent and home visitor views of the program • Home visitor's early experiences • Stakeholders views	• Mothers expressed great satisfaction with the WB program (only critique was a strong desire for additional home visits overall) • Home visitors echoed mothers' beliefs but also felt the model was not meeting the most high-risk families • Community stakeholders reported that they were still in the early stages of establishing a structure and process for identifying needs & mobilizing community members	Qualitative implementation study	
Best Start LA Pilot Community Evaluation Focus Group Report 2	Adams, Hill, and Benatar	2012	Urban Institute	60	Participants in focus groups for clients who had received at least the 3 to 4 month postpartum visit, home visitors, and community stakeholders	6 focus groups held in LA in April 2012	Welcome Baby	• Parent and home visitor views of the program • Home visitor's early experiences • Stakeholders views	• Mothers expressed great satisfaction but felt that the lack of a visit between child age 4 and 9 months was a shortcoming • Mothers were largely unaware of the broader Best Start LA initiative • Home visitors expressed desire to add visits at child age 6 and 12 months • Community stakeholders expressed greater excitement over community progress, but frustration with the "inefficient" process	Qualitative implementation study	
Best Start LA Pilot Community Evaluation, Annual Outcomes Report Year 2	Benatar et al. (Urban Institute) and Franke et al. (UCLA)	2011	First 5 LA Report	67	Comparison of women who have received Welcome Baby and were in target Los Angeles community and (1) women who had received Welcome Baby but not in target community, (2)	Focus groups and Child & Family Survey Data	Welcome Baby	• Parent and home visitor views of the program • Home visitor's early experiences • Stakeholders views • Program demographics	• Welcome Baby and enrollees could benefit from more visits • Those served are largely Latinx, high-need, low-income, unmarried, and unemployed	Implementation study	

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Best Start LA Effects of Welcome Baby: Findings From the 12-Month Child & Family Survey	Benatar et al. (Urban Institute) and Grodzicki et al. (UCLA)	2013	First 5 LA Report	740	Comparison of families who had received Welcome Baby (in & outside Los Angeles) and women who lived in LA but were not offered the service	12 month survey conducted between March 2011 and September 2012	Welcome Baby	• Family & maternal wellbeing • Child health & nutrition • Parent-child relationship • Quality of the home environment • Child development	• Beneficial impacts on breastfeeding, support networks, home environment quality, engagement in learning, and risk of developmental delay. • Null impacts on maternal depression, health insurance coverage, and health care use	Not an RCT	
Effects of Welcome Baby Home Visiting: Findings From the 24-Month Child & Family Survey	Benatar et al. (Urban Institute) and Grodzicki et al. (UCLA)	2014	First 5 LA Report	724	Comparison of families who had received Welcome Baby (in & outside Los Angeles) and women who lived in LA but were not offered the service	24 month survey conducted between January 2012 and September 2013	Welcome Baby	• Family & maternal wellbeing • Child health & nutrition • Parent-child relationship • Quality of the home environment • Child development	• Beneficial impacts on positive parenting and child development • Null impacts on health insurance coverage and maternal mental health	Not an RCT	
Welcome Baby Home Visiting: Findings from the 36-Month Child & Family Survey and 3-Year Longitudinal Results	Sandstrom et al. (Urban Institute) and Franke et al. (UCLA)	2015	First 5 LA Report	670	Comparison of families who had received Welcome Baby (in & outside Los Angeles) and women who lived in LA but were not offered the service	36 month survey conducted between January 2013 and August 2014	Welcome Baby	• Quality of parenting & parent-child interactions • Child development • Home environment & activities • Child nutrition • Maternal health • Family wellbeing	• 24 months: beneficial impacts on child social competence and communication skills, home environment quality, home learning activities, and maternal responsiveness • 36 months: impacts became null for home environment quality and home learning activities	Not an RCT	
A Psychometric Study of the Modified Bridges for Newborns Screening Tool	Stucky et al.	2017	RAND Corporation (Research Report for First 5 LA)	31	All hospital liaisons in participating LA hospitals	Liaisons at 13 hospitals in the LA Metro area	Modified Bridges Newborn screening tool	Accurate assessment of risk	• Hospital liaisons performed at acceptable levels, but experience as a liaison and using Modified Bridges protocol improved performance • Modified Bridges might over-identify mothers as being high risk - revisions should be made to more accurately assess • Nearly half of mothers qualified as high risk	Review of screening tool, not evidence of program effectiveness	
First 5 LA Welcome Baby Expansion: Early Implementation Experiences	Hill, Wilkinson, and Benatar	2014	Urban Institute	94	Providers that implemented Welcome Baby as part of the expansion process	Interviews of 10 Welcome Baby Providers and focus groups	Welcome Baby	• Implementation of Welcome Baby • Staff experiences	• Providers were encouraged by the positive impacts of Welcome Baby • Implementation challenges: providers felt under-prepared and needed more training • Providers struggled with boundaries of 'universal' program	Qualitative implementation study	

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Effects of Welcome Baby Home Visiting on Maternal and Child Medi-Cal Enrollment and Utilization	Howell et al.	2017	RAND Corporation	456	Women who enrolled in Welcome Baby from June 2010 to September 2011 and comparison group in Los Angeles that was not enrolled in Welcome Baby	Participant interviews	Welcome Baby	• Length of enrollment in Medi-Cal • Rates of preventative visits • Rates of postpartum visits • All physician visits • Emergency department visits • Rate of repeat delivery in first 2 years postpartum	• Participant mothers had longer Medi-Cal enrollment, higher likelihood of postpartum visits, and lower likelihood of having Medi-cal covered delivery within 2 years • Participant children had more total physician visits, more well-child visits, and lower likelihood of having an emergency department visit in year 1 and year 2 postpartum	Not an RCT	
The Welcome Baby Program: An Implementation and Outcomes Evaluation	Hunter et al.	2018	RAND Corporation	Varied by site and group	12 Welcome Baby sites in Los Angeles	• Interviews • Focus groups • Observations of home visits • Client surveys • Staff surveys	• Demographic characteristics • Maternal employment	• Program fidelity • Outcomes compared to national benchmarks	• Better-than-benchmark outcomes for positive parenting practices, breastfeeding, and safe sleep environments. • Worse-than-benchmark outcomes for family planning and exclusive breastfeeding	• No control group (national benchmarks) • Not an RCT	Implementation study
Healthy Steps in an Integrated Delivery System: Child and Parent Outcomes at 30 Months	Johnston et al.	2006	Archives of Pediatrics and Adolescent Medicine	439	Pregnant women receiving care at one of 5 clinics in an integrated delivery system in the Pacific Northwest	• Administrative data • Telephone interviews • Mailed questionnaires	• Healthy Steps • Healthy Steps plus PrePare prenatal component	• Child health and development metrics • Parenting practices • Parental wellbeing	• Beneficial impacts on timely well-child care, immunization rates, breastfeeding, injury prevention, and discipline strategies • Healthy Steps + PrePare associated with larger vocabularies at child age 24 months • Negative association with number of depressive symptoms, but no association with the proprotion with clinically significant depression		Quasi-experimental
Expanding Developmental and Behavioral Services for Newborns in Primary Care: Effects on Parental Well-Being, Practice, and Satisfaction	Johnston et al.	2004	American Journal of Preventative Medicine	275	Pregnant women receiving care at one of 4 outpatient clinics in an HMO in the Pacific Northwest	Telephone interviews at 1 week and 3 months postpartum	• Healthy Steps • Healthy Steps plus PrePare prenatal component	• Parental wellbeing • Parental knowledge and parenting practices • Satisfaction	• Beneficial impacts on depressive symptoms, breastfeeding, likelihood of reading with child, knowledge of infant development, discipline practices, and satisfaction with care		Quasi-experimental

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Expanding Developmental and Behavioral Services for Newborns in Primary Care: Program Design, Delivery, and Evaluation Framework	Huebner et al.	2004	American Journal of Preventative Medicine	439	Pregnant women receiving care at one of 4 outpatient clinics in an HMO in the Pacific Northwest	Telephone interviews at 1 week and 3 months postpartum	• Healthy Steps • Healthy Steps plus PrePare prenatal component	• Family social support and capacity for parenting • Parenting behaviors • Satisfaction • Loyalty to the health plan	• PrePare component caused minimal disruption to practice style • Nearly all families were familiar with their Healthy Steps specialist by 3 months postpartum • More care services received		• Quasi-experimental • Implementation study
Healthy Steps for Young Children in Pediatric Residency Training: Impact on Primary Care Outcomes	Niederman et al.	2007	Pediatrics	363	Children born between July 1, 1997 and March 31, 1998 at Ravenswood Hospital or University or Illinois Hospital in Chicago	Medical charts	Healthy Steps for Young Children Program	• Continuity of care • Longitudinal care in the practice • Quality of primary care services • Rates of behavioral, developmental, and psychosocial diagnoses	• Better continuity of care (total visits and health maintenance visits) • No effect on longitudinal care or quality of primary care services		Quasi-experimental
Healthy Steps as a Moderator: The Impact of Maternal Trauma on Child Social-Emotional Development	Briggs et al.	2014	Clinical Practice in Pediatric Psychology	124	First time parents with children less than age 2 months at time of intervention	• Ages and Stages Questionnaires: Social Emotional (ASQ:SE) at child age 36 months • Family Psychosocial Screen	Healthy Steps for Young Children Program as moderator	Relationship between caregiver childhood trauma and child social-emotional development, moderated by Healthy Steps	• Caregiver childhood trauma related to child social-emotional development • Healthy Steps appeared to moderate the effect - lower proportions of children had scores above the risk cutoff		Quasi-experimental
What We Talked About at the Pediatrician's Office: Exploring Differences Between Healthy Steps and Traditional Pediatric Primary Care Visits	Buchholz and Talmi	2012	Infant Mental Health Journal	76	Children ages 2 to 18 months at the same primary care physician practice in March 2007	Medical records	Healthy Steps for Young Children Program	• Pediatric outcomes • Developmental topics discussed during well-child visits	• 12 developmental topics were discussed more frequently among Healthy Steps participants, including child care, postpartum depression, and social support • Higher likelihood of timely well-child visits and timely vaccinations • No effect on number of emergency department visits or sick visits	Not an RCT	
Social-Emotional Screening for Infants and Toddlers in Primary Care	Briggs et al.	2011	Pediatrics	3,169	Toddlers ages 6 to 36 months at same pediatric practice	Ages and Stages Questionnaires: Social Emotional (ASQ:SE)	Infant-Toddler Specialist (ITS)	Child social-emotional development scores between ages 6 and 36 months	• ITS associated with larger improvements in ASQ scores among those with initial high-risk scores	Not an RCT	
PrePare: A Program of Enhanced Prenatal Services Within Health-Maintenance Organization Settings	Huebner et al.	2001	Health Education Research	203	Women under age 46 in second trimester of pregnancy at one of 5 Puget Sound clinics in July 1998	• Observations by Healthy Steps Specialists • Parent interviews	• Healthy Steps • Healthy Steps plus PrePare prenatal component	• Program implementation measures • Satisfaction with program	• Clients satisfied with prenatal home visits • Fathers participating in prenatal visits		• Implementation study • Early findings of ongoing study

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Early Child Social-Emotional Problems and Child Obesity: Exploring the Protective Role of a Primary Care-Based General Parenting Intervention	Gross et al.	2015	Journal of Developmental & Behavioral Pediatrics	336	Mothers ages 18 or older who completed at least one universal social-emotional development screen during their child's first 3 years of life	• Phone interviews • Medical records	Infant Toddler Specialist as moderator	Relationship between social-emotional problems before age 3 and child feeding practices and child weight, moderated by Infant Toddler Specialists	• Early social-emotional problems related to obesity at age 5 • Infant Toddler Specialist may have been protective against child obesity at age 5 • At risk participants and at-risk nonparticipants not compared	No comparison group without screening receipt	

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