

Appendix 4

Evidence review: An analysis of the evidence for parenting interventions for parents of vulnerable children aged up to six years



June 2013

Appendix 4: Data extracted regarding the Well Supported intervention

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interventions for parents of vulnerable children
aged up to six years

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Disclaimer

This analysis of parenting interventions was commissioned by the Families Commission of New Zealand. It was conducted between March and May 2013. Readers are advised to consider new evidence arising post the publication of this review when selecting and implementing parenting interventions.

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Appendix 4: Data extracted regarding the Well Supported intervention

1. Nurse-Family Partnership (NFP)

<p>Study ID (first surname + year) Olds 1986; Olds 1994; Olds 1995; Olds 1997; Olds 1998; Eckenrode 2001; Eckenrode 2000; Zielinski 2009</p>	<p>Initials of person extracting data MT Date 9/5/13</p>
<p>Full citation</p> <p>Olds, D. L., Henderson, C. R. J., Chambelin, R., & Tatelbaum, R. (1986). Preventing child abuse and neglect a randomised trial of nurse home visitation. <i>Pediatrics</i>, 78(1), 65-78.</p> <p>Olds, D. L., Henderson, C. R., Jr., & Kitzman, H. (1994). Does prenatal and infancy nurse home visitation have enduring effects on qualities of parental caregiving and child health at 25 to 50 months of life? <i>Pediatrics</i>, 93(1), 89-98.</p> <p>Olds, D., Henderson, C. R., Kitzman, H., & Cole, R. (1995). Effects of prenatal and infancy nurse home visitation on surveillance of child maltreatment. <i>Pediatrics</i>, 95(3), 365-72</p> <p>Olds, D. L., Eckenrode, J., Henderson, C. R., Jr., Kitzman, H., Powers, J., Cole, R., Sidora, K., Morris, P., Pettitt, L. M., & Luckey, D. (1997). Long-term effects of home visitation on maternal life course and child abuse and neglect: Fifteen-year follow-up of a randomized trial. <i>Journal of the American Medical Association</i>, 278(8), 637-643.</p> <p>Olds, D., Henderson, C. R., Cole, R., Eckenrode, J., Kitzman, H., Luckey, D., Pettitt, L., Sidora, K., Morris, P., & Powers, J. (1998). Long-term effects of nurse home visitation on children's criminal and antisocial behavior - 15-year follow-up of a randomized controlled trial. <i>Jama-Journal of the American Medical Association</i>, 280(14), 1238-1244.</p> <p>Eckenrode, J., Zielinski, D., Smith, E., Marcynyszyn, L. A., Henderson, C. R., Jr., Kitzman, H., Cole, R., Powers, J., & Olds, D. L. (2001). Child maltreatment and the early onset of problem behaviors: Can a program of nurse home visitation break the link? <i>Development & Psychopathology</i>, 13(4), 873-890.</p> <p>Eckenrode, J., Ganzel, B., Henderson, C. R., Smith, E., Olds, D. L., Powers, J., Cole, R., Kitman, H., & Sidora, K. (2000). Preventing child abuse and neglect with a program of nurse home visitation: The limiting effects of domestic violence. <i>Journal of the American Medical Association</i>, 284(11), 385-91.</p> <p>Zielinski, D. S., Eckenrode, J., & Olds, D. L. (2009). Nurse home visitation and the prevention of child maltreatment: Impact on the timing of official reports. <i>Development and Psychopathology</i>, 21(2), 441-453.</p>	

Papers cited/referenced in this paper that relate to this intervention but are not already included in the REA					
Was a cluster design used? If so, clustered by schools, communities, families etc?					
No					
Country in which study was conducted					
USA					
Inclusion criteria					
Children:					
Parents:					
No previous live births; less than 26 weeks gestation; at least one of the following factors (young age <19 years; single-parent status; low socio-economic status). However, any woman who asked to participate and was pregnant with her first child was enrolled.					
Note. Across papers reporting the same RCT (Elmira NY, 1978-1980) the inclusion criteria for gestation varies from 25 th week to 30 th week. Also the terms 'single-parent status' and 'unmarried' are used interchangeably.					
Exclusion criteria					
Children:					
Parents:					
Participant demographics at baseline					
		Group 1	Group 2	Group 3	Group 4
Number assigned to groups	Children				
	Parents	90	94	100	116
Number in final analysis	Children				
	Parents	Refer to Sample size for analysis table below			
Age (mean, SD, range)	Children				
	Parents	*Mean = 19.3 years; SD = 2.9 years		Mean = 19.5 years; SD = 3.1 years	Mean = 19.4 years; SD = 3.7 years
Sex	Children	*55% male		44%	55%

			male	male
	Parents	*100% female	All female	All female
Education	Parents	*Mean = 11.2 years; SD = 1.5 years	Mean = 11.6 years; SD = 1.5 years	Mean = 11.1 years; SD = 1.6 years
Ethnicity/indigenous	Parents	*90% white	91% white	86% white
	Children			
*Aggregate demographic data reported for Group 1 and 2 combined.				
Notes				
High risk sub-group (low SES, unmarried sample) demographic characteristics.				
		Group 1 + 2	Group 3	Group 4
Number assigned	Parents	62	30	38
Age (mean, SD, range)	Parents	Mean 18.6 ± 2.5 years	Mean 19.0 ± 2.8 years	Mean 18.2 ± 3.3 years
Sex	Children	44% male	53% male	49% male
	Parents	All female	All female	All female
Education	Parents	Mean = 10.7 years; SD = 1.4 years	Mean = 10.9 years; SD = 1.4 years	Mean = 10.3 years; SD = 1.5 years
Ethnicity/indigenous	Parents	87% white	87% white	77% white
Sample size for final analysis				
Paper	Follow-up period	Group 1 + 2	Group 3	Group 4
Olds 1994	20 to 50 months	160	85	93
Olds 1995	20 to 50 months	29	14	13
Olds 1997	15 years	Cannot tell	Cannot tell	Cannot tell
Olds 1998	15 years	148	79	97
Eckenrode 2001	15 years	Cannot tell	Cannot tell	Cannot tell
Eckenrode 2000	15 years	Cannot tell	Cannot tell	Cannot tell
Zielinski 2009	15 years	Cannot tell	Cannot tell	Cannot tell
* Represent the number of parents analysed in each study. Demographic characteristics				

were also reported for the sub-sample, but not reported here.

Vulnerability or maltreatment issues (reason this child/parent/family is in this intervention. Select as many as applicable)

	Intervention Yes/no	Comparison Yes/no
History of maltreatment (either parents as abusers or children were abused)		
At-risk of maltreatment (no description of reason)		
Vulnerable, troubled or fragile (use these phrases but not mention of maltreatment)		
Domestic, family or intimate partner violence		
Teen parent	Yes	Yes
Low SES/disadvantaged	Yes	Yes
Parental substance abuse		
Parent was maltreated as a child		
Parent has a physical disability		
Parent has learning disability/difficultly or intellectual disability		
Parent has a mental illness		
Child has a disability or additional needs		
Other (please list)	Single-parent status	Single-parent status
Cannot tell		

Intervention and comparison conditions

What type of approach was the intervention? (refer to definitions)

Approach type	Yes/no
Program	Yes
Service model	
System of care	

What type of comparison condition was used?

Comparison condition	Yes/no
No treatment (no further detail required)	

Treatment as usual/usual care	Yes	
Waitlist		
Alternate treatment		

Brief description of each condition being compared

Group 1 (Comparison) - When children were aged 1 and 2 an infant specialist hired by the research project screened them for sensory and developmental problems and referred those with suspected problems to other specialists for further evaluation and treatment.

Group 2 (Comparison) - Families were provided free transportation for regular prenatal and well-child care at local clinics and physicians' offices through a contact with a local taxicab company, as well as the sensory and developmental screening outlined in Group 1.

Group 3 (Treatment) - Families were provided a nurse home visitor during pregnancy, in addition to the screening and transportation services. The nurses visited families approximately once every 2 weeks and made an average of nine visits during pregnancy. The average visit lasted 1 hour and 15 minutes.

Group 4 (Treatment) - Families received the same services as those in Group 3, but in addition the nurse continued to visit until the children were 2 years of age. For 6 weeks after delivery the nurses visited the families every week; from 6 weeks to 4 months, they visited every 2 weeks; from 4 to 14 months, every 3 weeks; from 14 to 20 months, every 4 weeks; and from 20 to 24 months, every 6 weeks.

Intervention delivery and dose (Select as many as applicable)

		Intervention Yes/no
At what level was it delivered?	Individual parents	
	Individual parent-child dyads	
	Individual children	
	Individual families	Yes
	Groups of parents	
	Groups of parent-child dyads	
	Groups of children	
	Groups of families	
	Household	
	School	
	Community/region	
	Cannot tell	
Setting of delivery	Home	Yes

	School	
	Clinic, medical or health	
	Community	
	Other	
	Cannot tell	
Outcome domains targeted	Child development	Yes
	Child behaviour	Yes
	Safety and physical wellbeing	Yes
	Basic child care	Yes
	Parent-child relationship	Yes
	Family relationship	Yes
	Systems outcomes	Yes
Dose	Number of sessions	Group 3: Average 9 visits (Range = 0-16). Group 4: Average 23 visits (Range = 0-59).
	Duration of sessions	1 hour 15 minutes
	Total duration of program	Pregnancy to 2 years of age
Person delivering	Was it a professional? (person with qualifications, for e.g., social worker, psychologist, nurse, teacher, youth worker)	Yes (nurse)
	Was it a non-professional? (e.g., peer, paraprofessional, person that may be trained but does not have a qualification relevant to family support/education or child welfare etc)	
	Cannot tell	

Results

Olds et al 1986. *Pediatrics*

<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.				<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>	
Avoidance of restriction and punishment	In home observation	Group 1 and Group 2 were combined. Together they represented the control group.			+ (punished and restricted their children less frequently) compared to control. Only in poor and unmarried teenagers.	At 22 months of children's lives
Provision of appropriate play materials	In home observation	Group 1 and Group 2 were combined. Together they represented the control group.			+ (larger number of appropriate play materials) compared to control. Only in poor and unmarried teenagers.	At 22 months of children's lives

Emergency room visits		Group 1 and Group 2 were combined. Together they represented the control group.		+ (Less visits) compared to control	2 nd year of life
Emergency room visits for accidents and poisoning		Group 1 and Group 2 were combined. Together they represented the control group.		+ (Less visits compared to control)	2 nd year of life
Olds et al 1994. <i>Pediatrics</i>					
<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
Hazardous exposure observed in home	In home observation by interviewer	Group 1 and Group 2 were combined. Together they represented the control group.		+ compared to control (fewer hazards)	46 months
No. of behavioural coping problems	Children's paediatric records	Group 1 and Group 2 were combined. Together they represented the control group.		+ compared to control (fewer problems)	25 to 60 months
No. Of emergency department visits for injuries/ingestions	Children's hospital records	Group 1 and Group 2 were combined. Together they represented the control group.		+ compared to control (fewer injuries)	25 to 60 months
No. of days hospitalised	Children's hospital records	Group 1 and Group 2 were combined. Together they represented the control group.		- compared to control (more days in hospital)	25 to 60 months

				NOTE: This is explained in terms of one outlier	
Avoidance of punishment	Caldwell and Bradley Home Inventory	Group 1 and Group 2 were combined. Together they represented the control group.		- compared to control (more punishment)	46 months
Substantiated reports of maltreatment	CPS Records	Not different from control			Between child birth and children's 4 th year of life
Olds et al 1995. <i>Pediatrics</i>					
<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
Hazardous exposure observed in home	In home observation by interviewer	Group 1 and Group 2 were combined. Together they represented the control group		+ compared to control (fewer hazards)	46 months
No. injuries/ingestions	Children's paediatric records	Group 1 and Group 2 were combined. Together they represented the control group.		+ compared to control (fewer injuries)	25 to 50 months
No. Of	Children's	Group 1 and Group 2		+	25 to 50

emergency department visits	hospital records	were combined. Together they represented the control group.		compared to control (fewer visits)	months
Abuse or neglect notations, the presence of different types of maltreatment , combinations of types of maltreatment , or the extent to which children were removed from the home.	CPS Records	Not different from control			Between child birth and children's 4 th year of life
Olds et al 1997. JAMA					
<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
Substantiated reports of child abuse and neglect	CPS Records	Group 1 and Group 2 were combined. Together they represented the control group		+ (less perpetration of child abuse and neglect compared to control). For both whole	15 years after birth of first child

				group and lower SES unmarrie d mothers	
Substance use	Self report at interview – questions adapted from National Comorbidity Survey	Group 1 and Group 2 were combined. Together they represented the control group		+ (less use compared to control). For lower SES unmarrie d mothers only	15 years after birth of first child
Arrests	Self report at interview	Group 1 and Group 2 were combined. Together they represented the control group		+ (fewer arrests compared to control). For lower SES unmarrie d mothers only.	15 years after birth of first child
Convictions	Self report at interview	Group 1 and Group 2 were combined. Together they represented the control group		+ (fewer conviction s compared to control). For lower SES unmarrie d mothers only	15 years after birth of first child
Days in jail NYS arrests	Records from NYS Division of Criminal Justice Services	Group 1 and Group 2 were combined. Together they represented the control group		+ (less days in jail compared to control). For lower SES unmarrie d mothers only	15 years after birth of first child
NYS	Records from NYS	Group 1 and Group 2 were combined.		+ (less conviction	15 years after birth

convictions	Division of Criminal Justice Services	Together they represented the control group		s compared to control). For lower SES unmarried mothers only.	of first child
Subsequent pregnancies	Life history calendar completed at interview	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less pregnancies compared to control). For lower SES unmarried mothers only.	15 years after birth of first child
Subsequent births	Life history calendar completed at interview	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less births compared to control). For lower SES unmarried mothers only.	15 years after birth of first child
Months between birth of first and second child	Life history calendar completed at interview	Group 1 and Group 2 were combined. Together they represented the control group.		+ (more months compared to control). For lower SES unmarried mothers only.	15 years after birth of first child
Months receiving Aid to Families with Dependent Children (AFDC)	Self report at interview	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less months compared to control). For lower SES	15 years after birth of first child

				unmarried mothers only.	
Months receiving food stamps	Self report at interview	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less months compared to control). For lower SES unmarried mothers only.	15 years after birth of first child
Olds et al 1998. JAMA					
<u>Outcomes</u>	<u>Measures</u>	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u>
Outcome reported in results	How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
Incidence of times ran away	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.	+ (less times compared to control). In Low-SES unmarried sample only	+ (less times compared to control). In Low-SES unmarried sample only	Birth to 15 years
Incidence of times stopped by police	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less times compared to control). In whole sample only.	Birth to 15 years
Incidence of	Interviews	Group 1 and Group 2	+ (less	+ (less	Birth to 15

arrests	with children	were combined. Together they represented the control group.	times compared to control). In both whole and Low-SES sample.	times compared to control). In both whole and Low-SES sample.	years
Incidence of convictions and probation violations	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.	+ (less times compared to control). In both whole and Low-SES sample.	+ (less times compared to control). In both whole and Low-SES sample	Birth to 15 years
Incidence of arrests	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less times compared to control). In Low-SES unmarried sample only.	Birth to 15 years
Incidence of days drank alcohol	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less days compared to control). In Low-SES unmarried sample only.	Birth to 15 years
Incidence of days used drugs	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.	- (more days compared to control). In Low-SES unmarrie		Birth to 15 years

			d sample only.		
Incidence of sex partners	Interviews with children	Group 1 and Group 2 were combined. Together they represented the control group.		+ (less compared to control). In Low-SES unmarrie d sample only	Birth to 15 years
Eckenrode et al 2000. JAMA					
<u>Outcomes</u>	<u>Measures</u>	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u>
Outcome reported in results	How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>
No of reports involving mothers as perpetrators	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year
No. of reports involving study child	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year
Mother as perpetrator	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year
Child as victim	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year

Neglect without abuse	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year
Abuse without neglect	CPS records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (fewer reports compared to control)	15 year

Eckenrode et al 2001. *Development & Psychopathology*

<u>Outcomes</u>	<u>Measures</u>	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u>
Outcome reported in results	How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Group 1</u>	<u>Group 2</u>	<u>Group 4</u> (Note. Group 3 was not include in analysis)	Longest point of follow up (i.e., 6 months; 1 year)
Number of early onset behaviours	Self-report of engagement in several potentially problematic health-related behaviours	No association			15 years
Number of maltreatment reports	Child Protection Services Records	Group 1 and Group 2 were combined. Together they represented the control group.		+ (reduction in maltreatment reports compared to control)	15 years

Zielinski et al 2009. *Development & Psychopathology*

<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.				<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>	
All maltreatment	CPS reports	Group 1 and Group 2 were combined. Together they represented the control group.			+ fewer reports compared to control	Over 15 years
Neglect	CPS reports	Group 1 and Group 2 were combined. Together they represented the control group.			+ fewer reports compared to control	Over 15 years

Study ID (first surname + year) Kitzman 1997	Initials of person extracting data MT Date 10/5/2013
Full citation Kitzman, H., Olds, D. L., Henderson, C. R., Hanks, C., Cole, R., Tatelbaum, R., McConnochie, K. M., Sidora, K., Luckey, D. W., Shaver, D., Engelhardt, K., James, D., & Barnard, K. (1997). Of prenatal and infancy home visitation by nurses on pregnancy outcomes, childhood injuries, and repeated childbearing trial: A randomized controlled trial. <i>Journal of the American Medical Association</i> , 278(8), 644-652.	

Papers cited/referenced in this paper that relate to this intervention but are not already included in the REA

Was a cluster design used? If so, clustered by schools, communities, families etc?

No

Country in which study was conducted

USA

Inclusion criteria

Children:

Parents:

No previous live births; less than 29 weeks of gestation; at least two of the following sociodemographic risk factors (unmarried; <12 years of education; unemployed).

Exclusion criteria

Children:

Parents:

Specific chronic illnesses thought to contribute to fetal growth retardation or preterm delivery (Eg. Chronic hypertensive disorders requiring medical treatment, severe cardiac disease, large uterine fibroids).

Participant demographics at baseline

		Group 1	Group 2	Group 3	Group 4
Number assigned to groups	Children				
	Parents	166	515	230	228
Number in final analysis	Children				
	Parents	Cannot tell	Cannot tell	Cannot tell	Cannot tell
Age (mean, SD, range)	Children				
	Parents	Mean = 18.0 years; SD = 3.3 years	Mean = 18.1 years; SD = 3.2 years	Mean = 17.9 years; SD = 2.8 years	Mean = 18.1 years; SD = 3.3 years
Sex	Children				

	Parents	All female	All female	All female	All female
Education	Parents	Mean = 10.1 years; SD = 2.0 years	Mean = 10.3 years; SD = 1.9 years	Mean = 10.3 years; SD = 2.0 years	Mean = 10.1 years; SD = 2.0 years
Ethnicity/indigenous	Parents	4% White	8% White	7% White	11% White
	Children				
Notes					
Prenatal treatment phase evaluation – Group 1 and 2 were combined to represent a comparison group.					
Postnatal treatment phase evaluation – Group 2 was compared to Group 4.					

Vulnerability or maltreatment issues (reason this child/parent/family is in this intervention. Select as many as applicable)

	Intervention Yes/no	Comparison Yes/no
History of maltreatment (either parents as abusers or children were abused)		
At-risk of maltreatment (no description of reason)		
Vulnerable, troubled or fragile (use these phrases but not mention of maltreatment)		
Domestic, family or intimate partner violence		
Teen parent		
Low SES/disadvantaged	Yes (unemployed)	Yes (unemployed)
Parental substance abuse		
Parent was maltreated as a child		
Parent has a physical disability		
Parent has learning disability/difficulty or intellectual disability		
Parent has a mental illness		
Child has a disability or additional needs		
Other (please list)	Unmarried; <12 years of education	Unmarried; <12 years of education
Cannot tell		

Intervention and comparison conditions

What type of approach was the intervention? (refer to definitions)

Approach type	Yes/no
Program	Yes
Service model	
System of care	

What type of comparison condition was used?

Comparison condition	Yes/no
No treatment (no further detail required)	
Treatment as usual/usual care	Yes
Waitlist	
Alternate treatment	

Brief description of each condition being compared

Group 1 (Comparison) – Women were provided free round-trip taxicab transportation for scheduled prenatal care appointments; they did not receive any postpartum services or assessments.

Group 2 (Comparison) – Women were provided the free transportation for scheduled prenatal care plus developmental screening and referral services for the child at 6,12, and 24 months of age.

Group 3 (Treatment) – Women were provided the free transportation and screening offered in Group 2 plus intensive nurse home-visitation services during pregnancy, 1 postpartum visit in the hospital before discharge, and 1 postpartum visit in the home.

Group 4 (Treatment) - were provided the same services as those in Group 3; in addition, they continued to be visited by nurses through the child's second birthday.

Intervention delivery and dose (Select as many as applicable)

		Intervention Yes/no
At what level was it delivered?	Individual parents	
	Individual parent-child dyads	
	Individual children	
	Individual families	Yes
	Groups of parents	
	Groups of parent-child dyads	

	Groups of children	
	Groups of families	
	Household	
	School	
	Community/region	
	Cannot tell	
Setting of delivery	Home	Yes
	School	
	Clinic, medical or health	
	Community	
	Other	
	Cannot tell	
Outcome domains targeted	Child development	Yes
	Child behaviour	Yes
	Safety and physical wellbeing	Yes
	Basic child care	Yes
	Parent-child relationship	Yes
	Family relationship	Yes
	Systems outcomes	
Dose	Number of sessions	Group 3: Average 7 visits (Range = 0-18). Group 4: Average 26 visits (Range = 0-71).
	Duration of sessions	Not indicated
	Total duration of program	Pregnancy to child's 2 nd birthday.
Person delivering	Was it a professional? (person with qualifications, for e.g., social worker, psychologist, nurse, teacher, youth worker)	Yes (nurse)
	Was it a non-professional? (e.g., peer, paraprofessional, person that may be trained but does not have a qualification relevant to family)	

	support/education or child welfare etc)					
	Cannot tell					
Results						
<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.				<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>	<u>Group 4</u>	
No of yeast infections	Prenatal medical record			+ (fewer infections for 3 and 4 together compared to 1 and 2 together)		36 weeks pregnancy
Used other community services	Phone interview with mothers			+ (more services. 3 and 4 versus 1 and 2)		36 weeks pregnancy
Pregnancy induced hypertension	Intrapartum and postpartum records			+ (less hypertension. T3 and T4 versus T1 and T2)		At labour
Total number of healthcare encounters for injuries/ingestions	Children's medical and hospital records				+ (less visits) compared to T2	2 years
Number of outpatients visits for injuries/ingestions	Children's medical and hospital records				+ (less visits) compared to T2	2 years
Number of days of hospitalization	Children's medical and hospital records				+ (Less days compared to T2)	2 years
Breastfeeding	Interview				+ (more	2 years

(attempted)	with mother				attempts compared to T2)	
Beliefs associated with child abuse	Bavolek total score				+ (improve compared to T2)	2 years
Emotional/cognitive stimulation,	HOME total score				+ (greater score compared to T2)	2 years
Subsequent pregnancy	Interview with mother				+ (fewer pregnancies compared to T2)	2 years
Subsequent live births	Interview with mother				+ (fewer births compared to T2)	2 years
Mastery	Mastery/self-efficacy measure developed for this study specifically				+ (greater mastery compared to T2)	2 years

Study ID (first surname + year) Olds 2002		Initials of person extracting data MT		
		Date 10/5/2013		
Full citation Olds, D. L., Robinson, J., O'Brien, R., Luckey, D. W., Pettitt, L. M., Henderson, C. R., Ng, R. K., Sheff, K. L., Korfmacher, J., Hiatt, S., & Talmi, A. (2002). Home visiting by paraprofessionals and by nurses: A randomized, controlled trial. <i>Pediatrics</i> , 110(3), 486-496.				
Papers cited/referenced in this paper that relate to this intervention but are not already included in the REA				
Was a cluster design used? If so, clustered by schools, communities, families etc? No				
Country in which study was conducted USA				
Inclusion criteria Children: Parents: No previous live births; qualified for Medicaid or had no private health insurance. Enrolled any time before delivery.				
Exclusion criteria Children: Parents:				
Participant demographics at baseline				
		Paraprofessional	Nurse	Comparison
Number assigned to groups	Children			
	Parents	245	235	255
Number in final analysis	Children			
	Parents	24-month interviews n=213; 24-month child assessments	24-month interviews n=194; 24-month child assessments	24-month interviews n=223; 24-month child assessments

		n=188.	n=168.	n=204.
Age (mean, SD, range)	Children			
	Parents	Mean = 19.44 years; SD = 3.69 years	Mean = 20.24 years; SD = 4.17 years	Mean = 19.70 years; SD = 4.13 years
Sex	Children			
	Parents	100% Female	100% Female	100% Female
Education	Parents	Mean = 11.00 years; SD = 1.83 years	Mean = 11.24 years; SD = 2.04 years	Mean = 11.22 years; SD = 1.88 years
Ethnicity/indigenous	Parents	17% African American; 35% Caucasians (non-Hispanics); 45% Hispanic (nearly all Mexican American; 4% Monolingual Spanish	16% African American; 37% Caucasians (non-Hispanics); 44% Hispanic (nearly all Mexican American; 3% Monolingual Spanish	16% African American; 35% Caucasians (non-Hispanics); 46% Hispanic (nearly all Mexican American; 4% Monolingual Spanish
	Children			
Notes				
Demographic data presented for a sub-group used in analysis - low psychological resources sample.				
		Paraprofessional	Nurse	Comparison
Number assigned	Parents	115	97	82
Age (mean, SD, range)	Parents	Mean 19.04 ± 3.90 years	Mean 19.74 ± 4.27 years	Mean 19.71 ± 4.43 years
Sex	Children			
	Parents	All female	All female	All female
Education	Parents	Mean 10.54 ± 1.82 years	Mean 10.62 ± 2.10 years	Mean 10.70 ± 1.73 years
Ethnicity/indigenous	Parents	20% African American; 29% Caucasians (non-Hispanics); 47% Hispanic (nearly all Mexican American; 2% Monolingual	22% African American; 28% Caucasians (non-Hispanics); 47% Hispanic (nearly all	16% African American; 27% Caucasians (non-Hispanics); 56% Hispanic (nearly all

		Spanish	Mexican American; 2% Monolingual Spanish	Mexican American; 4% Monolingual Spanish
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Vulnerability or maltreatment issues (reason this child/parent/family is in this intervention. Select as many as applicable)

	Intervention Yes/no	Comparison Yes/no
History of maltreatment (either parents as abusers or children were abused)		
At-risk of maltreatment (no description of reason)		
Vulnerable, troubled or fragile (use these phrases but not mention of maltreatment)		
Domestic, family or intimate partner violence		
Teen parent		
Low SES/disadvantaged	Yes (unemployed)	Yes (unemployed)
Parental substance abuse		
Parent was maltreated as a child		
Parent has a physical disability		
Parent has learning disability/difficulty or intellectual disability		
Parent has a mental illness		
Child has a disability or additional needs		
Other (please list)	Unmarried; <12 years of education	Unmarried; <12 years of education
Cannot tell		

Intervention and comparison conditions

What type of approach was the intervention? (refer to definitions)

Approach type	Yes/no
Program	Yes
Service model	
System of care	

What type of <u>comparison</u> condition was used?		
Comparison condition		Yes/no
No treatment (no further detail required)		
Treatment as usual/usual care		Yes
Waitlist		
Alternate treatment		
<p>Brief description of each condition being compared</p> <p>Paraprofessional (Treatment) – Women were provided the screening and referral services plus paraprofessional home visitation during pregnancy and infancy (first 2 years of child’s life)</p> <p>Nurse (Treatment) – Women were provided screening and referral plus nurse home visitation during pregnancy and infancy.</p> <p>Comparison - Women were provided developmental screening and referral services for their children at 6, 12, 15, 21, and 24 months old.</p>		
<p>Intervention delivery and dose (Select as many as applicable)</p>		
		Intervention Yes/no
At what level was it delivered?	Individual parents	
	Individual parent-child dyads	
	Individual children	
	Individual families	Yes
	Groups of parents	
	Groups of parent-child dyads	
	Groups of children	
	Groups of families	
	Household	
	School	
	Community/region	
	Cannot tell	
Setting of delivery	Home	Yes
	School	
	Clinic, medical or health	
	Community	
	Other	

	Cannot tell	
Outcome domains targeted	Child development	Yes
	Child behaviour	Yes
	Safety and physical wellbeing	Yes
	Basic child care	Yes
	Parent-child relationship	Yes
	Family relationship	Yes
	Systems outcomes	
Dose	Number of sessions	Paraprofessional group: Average 6.3 visits (Range 0-21) (during pregnancy); Average 16 visits (Range 0-78) (during infancy). Nurse group: Average 6.5 visits (range 0-17) (during pregnancy); Average 21 visits (Range 0-71) (during infancy).
	Duration of sessions	Not indicated
	Total duration of program	Pregnancy to the child's 2nd birthday.
Person delivering	Was it a professional? (person with qualifications, for e.g., social worker, psychologist, nurse, teacher, youth worker)	Yes (nurse)
	Was it a non-professional? (e.g., peer, paraprofessional, person that may be trained but does not have a qualification relevant to family support/education or child welfare etc)	Yes (paraprofessional)
	Cannot tell	
Results		

<u>Outcomes</u> Outcome reported in results	<u>Measures</u> How measured (name of measure, self-report etc). List all formal measures or systems level outcomes.	<u>Effect</u> : Post intervention results. Indicate if significant and the direction by using '+' or '-'. If there is no significant effect, leave blank.			<u>Follow-up</u> Longest point of follow up (i.e., 6 months; 1 year)
		<u>Paraprofessional</u>	<u>Nurse</u>	<u>Comparison</u>	
Subsequent pregnancy	Interviews with mothers		+ (fewer pregnancies) compared to control		2 years
Subsequent live births	Interviews with mothers		+ (fewer births) compared to control		2 years
Vulnerable: fear stimulus	Laboratory based monitoring of infants' emotional reactivity		+ (less likely to be vulnerable compared to control). Whole sample only.		6 months
Low vitality: joy stimuli	Laboratory based monitoring of infants' emotional reactivity		+ (less likely to show low vitality compared to control). Low resource only.		6 months
Low vitality: anger stimuli	Laboratory based monitoring of infants' emotional reactivity		+ (less likely to show low vitality compared to control). Low resource only.		6 months
Language delay	In home testing of children		+ (less likely to exhibit language delays compared to		21 months

			control). Both whole and low resource sample.		
Mental development	Mental Development Index in lab		+ (less likely to have slow development compared to control). Low resource only.		24 months

Intervention delivery	Intervention content
<p>Link families to needed services, housing, income and nutritional assistance, child care and educational and vocational training</p> <p>Individualised service plans</p> <p>Nurses “worked directly with mothers”</p> <p>Clarify parent goals</p> <p>Praise and encouragement</p> <p>Structured session guidelines and plans for visits</p>	<p>Health-related behaviour during pregnancy and early years</p> <p>Care parents provide to their child</p> <p>Maternal personal life-course development (family planning, educational achievement, participation in the workforce)</p> <p>Problem solving skills</p>

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