

Evidence Summary

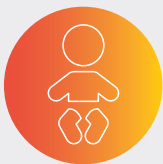


PEDIATRIC CARE • SUPPORTING • PARENTING
A Program of ZERO TO THREE



The HealthySteps approach is supported by a multi-site randomized controlled trial and subsequent site-level evaluations

Demonstrated positive outcomes for:



Children



Families



Practices and Providers

To learn more visit healthysteps.org/the-evidence.

HealthySteps Improves the Lives of Young Children and Families

Based on the most recent scientific understandings of how early childhood development works

The early years are important to all of us – the capacities and skills developed during this critical period become the basis of a prosperous society.

The innovative HealthySteps model is based on the most recent scientific understandings of how early childhood development works, and how it can best be supported to ensure individual, family, community, and societal well-being.

ZERO TO THREE's HealthySteps program promotes nurturing caregiving, which supports families and improves healthy development and well-being of babies and toddlers, preparing them for school and life.

We aim to achieve this goal by weaving together the expertise of a child development expert, the HealthySteps Specialist, and the pediatric primary care provider. Together, just at the time when the brain is developing most rapidly, these experts bring focus to the important skills needed for families to foster healthy child development and life-long well-being: social emotional development; language and literacy skills; cognition skills; and perceptual, motor and physical development.

Child Impacts



HealthySteps identifies whether children are reaching developmental milestones and addresses any challenges early by successfully connecting families and their children to the services they need.

SCREENING AND CONNECTION TO SERVICES

- Children were **8x more likely to receive a developmental assessment** and had significantly **higher rates of developmental and other nonmedical referrals**^{1,2,3}
- One HealthySteps practice with a dedicated family services coordinator **quadrupled its Early Intervention successful referral rate** after implementing HealthySteps⁴
- Across a network of HealthySteps practices the **median age of autism diagnosis for children who screened at the high-risk level was two years earlier** than the national median⁵



HealthySteps improves child health and well-being by supporting perceptual, motor and physical development, strengthening early social development, and promoting timely and continued care.

BREASTFEEDING AND AGE-APPROPRIATE EARLY NUTRITION

- Mothers felt significantly **more supported to breastfeed** and had **higher rates of continued breastfeeding** (longer than 6 months)^{4,6,7}
- A case study in one HealthySteps practice with integrated maternal mental health treatment demonstrated **a reversal of concerning infant weight loss**⁸
- Mothers were significantly **less likely to prematurely give newborns water or introduce cereal**¹
- A quality improvement project in two HealthySteps practices serving high proportions of children with Medicaid found a **lower prevalence of childhood obesity at age 3 compared to state-level rates**⁹
- HealthySteps children “at risk” of social-emotional challenges had significantly **lower rates of obesity at age 5** than comparable children not participating in HealthySteps¹⁰



SOCIAL-EMOTIONAL DEVELOPMENT

- A quality improvement project in one HealthySteps practice **increased social-emotional screening from 17% to 51%**^{i,9}
- Children whose mothers reported childhood trauma **scored better on a social-emotional screening** after receiving HealthySteps than comparable children¹¹

TIMELY AND CONTINUED CARE, AND VACCINATIONS

- Children were more likely to attend **all of the first 10 recommended well-child visits** and were twice as likely to **attend specific visits** and for **visits to be on time**^{1,7,12,13,14}
- A quality improvement project in three HealthySteps practices **reduced the disparity between well-child visit attendance and insurance coverage**; attendance rates for practices serving high proportions of children with Medicaid were on par with rates for commercially insured children⁹
- **Continuity of care was significantly better** for both total and well-child visits and families were **nearly 2x as likely to remain with the practice** through 20 months^{15,16}
- Children were up to 1.6x more likely to receive **timely vaccinations** and 1.4x more likely to be **up to date on vaccinations by age 2**^{1,7,12}



Photo: Heather Hazzan, SELF Magazine

Family Impacts



HealthySteps identifies family needs early and successfully connects families with services.

SCREENING AND CONNECTION TO SERVICES

- Mothers were significantly **more likely to discuss their depressive symptoms** and pediatric providers were significantly more likely to discuss postpartum depression with mothers^{1,7,12}
- Mothers had significantly **higher rates of maternal depression referrals** and were **4x more likely to receive information on community resources**¹
- A quality improvement project in two HealthySteps practices **increased maternal depression screening from 41% to 95% in just 19 weeks in one site** and **from 31% to 60% in just 11 weeks in the other**⁴
- **96% of HealthySteps mothers** in one practice **were screened at least three times for maternal depression by six months postpartum** compared to 73% of comparable mothers not participating in HealthySteps³
- A quality improvement project in one HealthySteps practice **increased maternal depression referral follow up from 49% to 67%**; another practice reported a **70% follow up visit rate** for mothers with maternal depression^{17,18}

ⁱ National rates of social-emotional screening are not available and rates of developmental screening – completed more often than social-emotional screening – remain low at 37%.



HealthySteps improves family health and supports a child's early learning and overall well-being.

MATERNAL DEPRESSION

- Mothers with depressive symptoms **reported significantly fewer symptoms** after receiving HealthySteps and that symptoms **decreased at a faster rate** than comparable mothers^{6,19}

KNOWLEDGE OF INFANT DEVELOPMENT

- Families received significantly **more anticipatory guidance** on child development topics and reported that the guidance matched their needs^{12,16}
- Families demonstrated a significantly **better understanding of infant development**⁶
- Families were significantly **more likely to notice behavioral cues and provide age-appropriate nurturing**^{1,20}

RISK FACTORS FOR CHILD ABUSE AND NEGLECT

- Families were significantly **less likely to report harsh punishment** (yelling, spanking with hand) and **severe discipline** (face slap, spanking with objects)¹⁷
- A randomized evaluation in two HealthySteps practices found HealthySteps participation was significantly associated with **greater security of attachment and fewer child behavior problems**²⁰

EARLY LITERACY AND SCHOOL READINESS

- Families were significantly more likely to **share pictures books and play with their infants daily**¹
- Families were significantly more likely to report their **child looked at or read books weekly**¹⁶
- Families were significantly more successful in **establishing routines and limiting television time**²¹



CHILD SAFETY PRACTICES

- Families were **24% less likely to place newborns on their stomachs to sleep**, reducing SIDS risk¹
- Families **scored higher on an injury control index** and were significantly more likely to use stair gates and have access to a number for poison control^{6,7}
- Children were **23% less likely to visit the emergency room** for injuries in a 1-year period¹

Practice and Provider Impacts



HealthySteps supports pediatric primary care practices to improve their patient's experience and provider satisfaction, while lowering health care costs.

- Families were significantly more likely to report **practice staff went out of the way for them** and that they **relied on practice staff for advice** (rather than a friend or relative)¹
- Families **rated their provider as more competent and caring** and were significantly more likely to believe that the health plan cared about them⁶
- Physicians reported significantly **higher satisfaction** with HealthySteps and that they **felt emotionally supported** by the HealthySteps Specialist^{1,22}
- Physicians were over **5x more likely to be very satisfied with the ability of clinical staff to meet children's developmental and behavioral needs**¹
- A quality improvement initiative in one HealthySteps practice resulted in **improved use of tools to address childhood obesity** and significantly **increased follow-up visit attendance**²³
- One HealthySteps practice with integrated behavioral care found that **families received equitable advice regardless of race, ethnicity or language**, suggesting that HealthySteps can help mitigate existing disparities in the quality of pediatric primary care²⁴
- A financial analysis in one HealthySteps practice serving a diverse pediatric population found that **estimated costs averted exceeded program operating costs** (\$641–\$959 compared to \$575 per child)²⁵



Endnotes

- 1 Guyer, B., Barth, M., Bishai, D., Caughy, M., Clark, B., Burkom, D., Genevro, J., Grason, H., Hou, W., Keng-Yen, H., Hughart, N., Snow Jones, A., McLearn, K.T., Miller, T., Minkovitz, C., Scharfstein, D., Stacy, H., Strobino, D., Szanton, E., & Tang, C. (2003). *Healthy Steps: The first three years: The Healthy Steps for Young Children Program National Evaluation*. https://ztt-healthysteps.s3.amazonaws.com/documents/139attachments/2003_HS_National_Evaluation_Report.pdf?1539967.
- 2 Hughes, S., Herrera-Mata, L., & Dunn, J. (2014). Impact of Healthy Steps on developmental referral rates. *Family Medicine*, 46(10), 788-791.
- 3 Chooley, J.W., Scott, M., Patterson, P., Jordan, B., Roy, D.S. & Flake, E. (2021, October 8 – October 11). *Military HealthySteps Pilot Program Outcome Study*. [Poster session] American Academy of Pediatrics Virtual National Conference and Exhibition.
- 4The HealthySteps National Office. (2020). *Embracing Growth: 2019 Annual Report*. https://ztt-healthysteps.s3.amazonaws.com/documents/309/attachments/Embracing_Growth_2019_Annual_Report.pdf?1596829170.
- 5 Mitchell, J., Levine, S., & German, M. (2020, April 29 - May 6) *Screening for Autism at 18 months in primary care and age of diagnosis of Autism Spectrum Disorder* [Poster Session]. Pediatric Academic Societies. <https://plan.core-apps.com/pas2020/abstract/cb127010d9c607e3e85e9f1586f1b73e>. Note: this conference was canceled due to COVID-19.
- 6 Johnston, B.D., Huebner, C.E., Tyll, L.T., Barlow, W.E., & Thompson, R.S. (2004). Expanding developmental and behavioral services for newborns in primary care: Effects on parental well-being, practice and satisfaction. *American Journal of Preventive Medicine*, 26(4), 356–366.5
- 7 Johnston, B.D., Huebner, C.E., Anderson, M.L., Tyll, L.T., & Thompson, R.S. (2006). Healthy Steps in an integrated delivery system: Child and parent outcomes at 30 months. *Archives of Pediatrics & Adolescent Medicine*, 160(8), 793–800.5
- 8 Herbst, R.B, Ammerman, R.T., Perry, S.P., Zion, C.E., Rummel, M.K., McClure, J.M., & Stark, L.J. (2019). Treatment of maternal depression in pediatric primary care. *Clinical Pediatrics*, 58(13), 1436-1439.5
- 9 Preliminary data from HealthySteps Outcome Pilot Study.
- 10 Gross, R.S., Briggs, R.D., Hershberg, R.S., Silver, E.J., Velazco, N.K., Hauser, N.R., & Racine, A.D. (2015). Early child social-emotional problems and child obesity: Exploring the protective role of a primary care-based general parenting intervention. *Journal of Developmental and Behavioral Pediatrics*, 36(8), 594–604.
- 11 Briggs, R. D., Silver, E.J., Krug, L.M., Mason, Z.S., Schrag, R.D.A., Chinitz, S., & Racine, A. D. (2014). Healthy Steps as a moderator: The impact of maternal trauma on child social-emotional development. *Clinical Practice in Pediatric Psychology*, 2(2), 166–175.
- 12 Buchholz, M., & Talmi, A. (2012). What we talked about at the pediatrician's office: Exploring differences between Healthy Steps and traditional pediatric primary care visits. *Infant Mental Health Journal*, 33(4), 430–436.
- 13 Wolcott, C., Buchholz, M., Ehmer, A., Stein, R., & Talmi, A. (2017, Nov 29 - Dec 2) *Adversity and well-child visit attendance: The role of a preventative primary care intervention* [Poster Session]. ZERO TO THREE Annual Conference, San Diego, CA.9
- 14 Ammerman, R. T., Herbst, R., Mara, C.A., Taylor, S., McClure, J.M., Burkhardt, M.C., Stark, L.J. (2021). Integrated Behavioral Health Increases Well-Child Visits and Immunizations in the First Year. *Journal of Pediatric Psychology*, online ahead of print.
- 15 Niederman, L.G., Schwartz, A., Connell, K.J., & Silverman, K. (2007). Healthy Steps for Young Children Program in pediatric residency training: Impact on primary care outcomes. *Pediatrics*, 120(3), e596–e603.
- 16 Minkovitz, C. S., Strobino, D., Mistry, K.B., Scharfstein, D.O., Grason, H., Hou, W., Ialongo, N., & Guyer, B. (2007). Healthy Steps for Young Children: Sustained results at 5.5 years. *Pediatrics*, 120(3), e658–e668.
- 17The HealthySteps National Office. (2022). *CQI Snapshot: Improving the Rate of Mothers Reached During Referral Follow-Up Attempts*. <https://www.healthysteps.org/resource/cqi-snapshot-improving-the-rate-of-mothers-reached-during-referral-follow-up-attempts/>.
- 18 Fried, E., Hernandez, C., Ringwood, H., & Tomcho, M. (2019, Oct 2 - Oct 5) *Creative solutions to postnatal Care: Mom-baby dyad visits in a pediatric setting* [Conference Session]. ZERO TO THREE Annual Conference, Hollywood, FL.
- 19 Kearns, M.A., Fischer, C., Buchholz, M., & Talmi, A. (2016, Dec 7 - 9) *More than the blues? Comparing changes in pregnancy related depression symptoms based on enrollment in Healthy Steps* [Poster Session]. ZERO TO THREE Annual Conference, New Orleans, LA.
- 20 Caughy, M.O., Huang, K., Miller, T., & Genevro, J.L. (2004). The effects of the Healthy Steps for Young Children program: Results from observations of parenting and child development. *Early Childhood Research Quarterly*, 19(4), 611–630.
- 21 Piotrowski, C.C., Talavera, G.A., & Mayer, J.A. (2009). Healthy Steps: A systematic review of a preventive practice-based model of pediatric care. *Journal of Developmental and Behavioral Pediatrics*, 30(1), 91–103.
- 22 Davis, A., Vivrette, R., Carter, T., Eberhardt, C., Edwards, S., Connors, K., & Reavis, K. (2021). Impact of an approach to integrated care for young children in low-income urban settings: Perspectives of Primary Care Clinicians. *Clinical Practice in Pediatric Psychology*, online ahead of print.
- 23 Herbst, R.B., Khalsa, A.S., Schlottmann, H., Kerrey, M.K., Glass, K., & Burkhardt, M.C. (2019). Effective implementation of culturally appropriate tools in addressing overweight and obesity in an urban underserved early childhood population in pediatric primary care. *Clinical Pediatrics*, 58(5), 511-520.
- 24 Fields, D., Wolcott, C., Buchholz, M., Xiong, S., Asherin, R., Millar, A. & Talmi, A. (2021, August 12-August 14). *HealthySteps toward equity: Addressing health disparities at the 4-month well-child visit*. [Poster session] American Psychological Association Annual Conference.
- 25 Buchholz, M., Burnett, B., Margolis, K.L., Millar, A., & Talmi, A. (2018). Early childhood behavioral health integration activities and HealthySteps: Sustaining practice, averting costs. *Clinical Practice in Pediatric Psychology*, 6(2), 140-151.