

HEALTHY TOMORROWS - FINAL REPORT AND ABSTRACT

PROJECT IDENTIFICATION:

Project Title: Successful Learning in Vulnerable Preschool Children Through Improved Mental Health

Project Number: HTPC HRSA-07-011

Project Director: Phyllis Cavens, MD, FAAP

Grantee Organization: Child and Adolescent Clinic

Address: 971 11th Avenue, Longview, WA 98632

Phone Number: 360-577-1771

E-mail Address: pcavens@pacifier.com

Home Page: www.candac.com

Project Period: March 1, 2008 – February 28, 2013

Total Amount of Grant Awarded: \$250,000

ABSTRACT OF FINAL REPORT: Many vulnerable children entering Kindergarten are not ready to learn due to poverty, lack of insurance, lack of a Medical Home, or maternal and child Adverse Childhood Experiences (ACEs) and resultant mental health issues. Through the Healthy Tomorrows project, these children and families were identified and received support and behavioral health care from a Medical Home and a collaboration of community, child-serving organizations.

In 2007, 51 percent of children entering Kindergarten in the Longview School District in Cowlitz County were at “Some Risk” or “At Risk” of not being ready to learn to read on DIBELS (Dynamic Indicators of Basic Early Literacy Skills) testing. This is related to a high

level of poverty in the community with associated maternal depression resulting in inadequate nurturing, poor parenting skills, and childhood emotional and developmental difficulties. Now, 73% of children entering Kindergarten in the Longview School District are prepared and ready to learn with age-appropriate cognitive, literacy, and social-emotional skills (see Appendix 1: WaKIDS Chart).

The primary goal of the project was to improve the social and emotional development of vulnerable children from pre-birth to age six so that they were better prepared to learn when they entered school. This involved: 1. Identifying vulnerable children pre-birth to age six living in poverty with high parental ACE scores and behavioral health issues, and engaging them in Medical Home services, 2. Evaluating the developmental and behavioral health of the vulnerable children and the emotional status of their mothers using evidence-based screening tools, 3. Referring identified children and parents to the collaborating agencies for additional assessment and assistance, 4. Providing parent education and support so that families are better prepared to nurture their young children, 5. Conducting a community and family awareness campaign through the collaborating agencies.

The Healthy Tomorrows Project grantee and Program Director facilitated and led in the efforts to develop Medical Homes, build coalitions to address the unmet health care needs of children 0-6 years of age, innovate existing child-serving organizations, and implement new programs.

The Medical Home model of coordinated, family-centered, community-based care was further developed by implementing an Electronic Medical Record, applying for NCQA Patient Centered Medical Home certification, and providing open access to all patients, regardless of

insurance type.

Several Cowlitz Coalitions of child-serving organizations and clinics were developed to address the unmet health care needs of children in the area, including Medicaid Outreach and Enrollment, Birth to Three, Early Learning, Children's Justice and Advocacy Center, Foster Care Excellence, plus Autism, ACEs, and Mental Health Coalitions.

Existing child-serving organizations were innovated by performing inter-agency staffing of mutually served children, bi-directional exchange of patient information, program data sharing, and co-management of common care plans directed by Care Coordinators.

We implemented new programs such as the Newborn Home Visiting Project, Foster Care Excellence, and Reach Out and Read, plus developmental screening utilizing evidence-based screening tools (Ages & Stages, ASQ Social-Emotional, the Modified Checklist for Autism in Toddlers, and the Edinburgh Maternal Depression Scale) that were performed by multiple collaborating agencies.

As a Healthy Tomorrows project, we partnered with Washington Title V Maternal Child Health (MCH) and Children with Special Healthcare Needs (CSHCN) agencies, the Washington Medical Home Leadership Team, and the Washington Universal Developmental Screening Partnership, plus the Washington Mental Health Regional Support Network, Department of Health, the Developmental Disabilities Administration, and the Washington Chapter of the American Academy of Pediatrics (AAP). Lead staff members from these agencies provided in-kind consultation and support so that, together, both locally and statewide, we could build the Medical Home, increase services for children with special health care needs, and implement a community approach to addressing ACEs (both to prevent and mitigate their effects on children),

behavioral health, autism, child abuse, and developmental screening.

Care Coordinators were funded by non-federal grants and in-kind contributions to provide oversight of the Medical Home and collaborating agencies' shared care plans. The immediate effectiveness was measured by the increased number of children in a Medical Home and the number of referrals to other child-serving organizations, as the collaborating pediatric clinics transformed their primary care to Medical Home care. Of the approximately 30,000 children in Cowlitz County and surrounding service area, the Child and Adolescent Clinic provides a Medical Home to 16,000 of those children. The long-term success is noted by the increase in the number of healthy children entering school ready to learn with adequate cognitive, literacy, and social-emotional skills.

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NARRATIVE

PURPOSE OF PROJECT AND RELATIONSHIP TO SSA TITLE V MATERNAL AND

CHILD HEALTH (MCH) PROGRAMS: The Healthy Tomorrows project was a new initiative to improve the emotional and social development of vulnerable children and enhance the ability of the community to meet the medical, behavioral health, and social-emotional needs of children experiencing Adverse Childhood Experiences by connecting children of low-income families, aged pre-birth to six years, with a Medical Home; screening children and mothers for impaired mental and behavioral health; providing early intervention; and creating community awareness of the importance of early learning. Prior to the Healthy Tomorrows project, Cowlitz County lacked formal collaboration among pediatric clinics and community-based organizations caring for children; there was no program or staff commitment to build such collaboration. Therefore, a Program Director was engaged to develop and implement a collaborative program to improve medical and behavioral health services for preschool children and better prepare them to learn when they enter Kindergarten. The Program Director was responsible to the Child and Adolescent Clinic, the Healthy Tomorrows Grant Recipient, and was advised by a Children's Health Collaborative, Children's Community Resources (CCR), and the CCR-sponsored Child Psychiatry Coalition.

The primary purpose of this project was to improve the early childhood behavioral health of children, identify mothers with high ACE scores and resultant mental health issues, and mitigate the effects on their preschool children in order to prepare them to learn when they entered Kindergarten. The program's goals were to identify vulnerable children pre-birth to age six years and provide treatment and preventative measures to those children and families; plus

ensure that all medical clinics, mental health clinics, community organizations, local agencies, and schools provided services in a collaborative children's behavioral health system of care in order to implement the Collective Impact model of the broad sector coordination (see Appendix 2: Collective Impact, Kania & Kramer, 2011).

Cowlitz County has an inordinate number of children born of parents in poverty and with low educational attainment. Given that the risk of depression is higher in such circumstances, the concern that parents are less able to parent their children in a supportive manner is apparent. The way in which parents interact with their children, the physical environment of the home, and the parents' emotional health all impact a child's cognitive, social, and emotional development (4. Zahn-Waxler, C. Radke-Yarrow, M., Wagner, E., & Chapman, M. 1992.) Therefore, it becomes important to screen for mental health problems in mothers and for learning and behavioral health problems in children in order to identify those in need of early intervention to improve school readiness.

The Healthy Tomorrows program was funded under Title V of the Social Security Act as a Special Project of Regional or National Significance. The Maternal and Child Health Bureau (MCHB) identified six key components of systems of care for Children and Youth with Special Health Care Needs (CYSHCN) and their families: partnership and satisfaction; care in the Medical Home; early and continuous screening; adequate insurance; organizing community services to be accessible; and transition to adult life. The goals of this project closely align with MCHB's key components.

Washington State Department of Health, Health Care Authority (HCA), and Washington American Academy of Pediatrics collaboration occurred throughout the project with Kathy

Blodgett, Program Consultant, ESIT; Pat Justis, Manager, Washington Healthcare Improvement Network; Maria Nardella, Program Manager, DOH-CSHCN Program; Barbara Lantz, Manager, Quality and Care Management, Washington State Health Care Authority; Katherine TeKolste, Pediatrician & Co-Director, UW Medical Home Partnerships Project; Kate Orville, Co-Director, Medical Home Partnerships Project, UW Center on Human Development & Disability; Gail Kreiger, Autism Manager, Health Care Authority; Hilary Gillette-Walsh, Nurse Manager and ACEs Coordinator, Cowlitz County Health Department; and Jill Sells, MD, Washington Reach Out and Read.

During the grant period, the Child and Adolescent Clinic was awarded two CATCH grants from the National AAP entitled: Community Medical Home for Mental Health and Community Medical Home for Early Learning. The Child and Adolescent Clinic had previously been awarded two additional AAP CATCH grants.

GOALS AND OBJECTIVES: Four major goals, along with objectives, were developed to improve children's readiness to learn. Our first goal was to identify vulnerable children pre-birth to age six years and provide treatment and preventative measures to those children and families. The objectives for this goal included determining the criteria that classified a child as "vulnerable," ensuring that all identified children had a Medical Home, training personnel at participating pediatric clinics to use the identified evidence-based surveillance and screening tools with all children for their development and behavioral health status, and to identify a screening tool and train personnel at participating pediatric clinics to use an evidence-based instrument to screen the children's mothers for depression and refer appropriately based on the findings.

Our second goal was that all pediatric clinics, mental health clinics, community organizations, and schools will provide services in a collaborative, children’s behavioral health system of care and promote the Medical Home. The objectives included providing support and education to parents to nurture their children through easily read educational materials, parenting classes, support groups or one-on-one advising, and public media presentations; designing and establishing operational procedures for the coalition; designing and establishing a data collection and tracking program; and creating a community awareness campaign to provide education about methods to help children acquire academic readiness, such as United Way’s “Born Learning”, the American Academy of Pediatrics’ Early Learning materials, and Reach Out and Read to ensure that the community and family awareness campaign impacted everyone in the community, not just a subpopulation.

The Healthy Tomorrows Logic Model (see Appendix 3) succinctly outlines the program’s goals, target audience, inputs, activities, outputs, and outcomes.

METHODOLOGY: To assure children are ready to learn when they enter school, the Healthy Tomorrows project included four direct service activities: 1. Connect vulnerable children of low-income families, ages pre-birth to six years, to a Medical Home; 2. Screen children and mothers for impaired behavioral and mental health using the Ages and Stages Questionnaire (ASQ), the Ages and Stages Questionnaire Social-Emotional (ASQ-SE), the Modified Checklist for Autism in Toddlers (M-CHAT), or the Edinburgh Maternal Depression Scale; 3. Provide early intervention for children and mothers with concerning screening results; and 4. Create community awareness of the importance of early learning and an integrated approach to supporting child development through SERIES: Screening, Early Identification, Referral, Intake,

Evaluation and Eligibility, and Services (see Appendix 4: SERIES: An Integrated Approach to Supporting Child Development, The Children's Hospital Philadelphia, 2012).

Children of preschool-age were determined to be vulnerable to not being ready to learn if they had one or more of the following risk factors: living in poverty, single parent household, uninsured for medical and/or dental coverage, no health care, mother without prenatal care, parent with mental health disorder, parent with alcohol or chemical dependency, homeless, chronic health condition, inadequate nutrition, unmet developmental milestones for age-group per the scored ASQ or ASQ-SE after adjustment for gestational age, or exposed to neglect or abuse within the home or family. This criterion was used in addition to our established system of identifying the vulnerable child during well child examinations.

The Ages and Stages Questionnaire (ASQ) staff training was conducted initially and then provided to all newly hired staff. At the Child and Adolescent Clinic, all patients between 4 and 60 months (approximately 2,500 children) received developmental surveillance at every visit using Bright Futures. This cohort of 2500 children were also referred to the WA State Immunization Registry Child Profile to receive nurturing and developmental handouts plus enrolled in Progress Center's (Early Intervention Neurodevelopmental Program) Tracking Learning Children (TLC) program for mailing and scoring ASQs according to the well child examination schedule. ASQs were administered in the clinic at the 9-month and 30-month well child examinations. The M-CHAT was administered at the 18- and 24-month well child examinations. We offered technical assistance and support to other clinics in the community to implement developmental screening programs within their practices as well. We created a Medical Home outreach program with local partners Early Head Start, Head Start, Parent's Place,

and Family Health Center. A written referral procedure was developed as part of the developmental screening program: children, birth to three years with identified concerns, are referred to Progress Center; those three years and older are referred to the school district in which they reside, where they receive a comprehensive developmental and learning assessment.

At each well child examination from birth through the child's 3rd year, the mothers were screened for depression using an evidence-based, two-prong questionnaire. If a positive screen was obtained, staff administered the Edinburgh Maternal Depression Scale. If mental health concerns were noted, an immediate referral was made to the mother's mental health provider of choice. If no preference was indicated, a referral was made to Lower Columbia Mental Health where an on-site/our site intake was completed.

We actively promoted and supported activities provided by local partner agencies. United Way, the Birth to Three Coalition, Head Start, Early Head Start, and the Cowlitz Early Learning Coalition continued to promote community awareness for early learning and brain development. We collaborated with Progress Center and Head Start on grant applications to support parent education and early learning initiatives. Child and Adolescent Clinic provided an in-kind contribution of the services of a pediatrician medical director to lead and facilitate all coalitions in this project, a new concept in Cowlitz County.

EVALUATION: Children received the benefit of connection to insurance and a Medical Home, social-emotional behavioral screening, and early intervention with referral to child psychiatrists, psychologists, therapists, and educators. Parents of these children also received the benefit of screening for depression and referred for early intervention. The end results are preschoolers whose brains can develop to their full potential and are ready to succeed in school.

The key to measuring process activities is to establish an information gathering and data tracking system. During the grant period, but not funded by the grant, the Child and Adolescent Clinic implemented a new data management system, an Electronic Medical Record through Office Practicum. This software tracks and reports data for Meaningful Use Requirements and for the Patient Centered Medical Home (PCMH) Standards from National Committee for Quality Assurance (NCQA) requirements. Information was gathered by staff at each of the collaborating clinics and agencies, measuring the following process activities: the increase in numbers of children in a Medical Home; the number of children assessed with a social-emotional behavioral screening tool; the number of children referred and treated for developmental and behavioral problems; the number of educational materials distributed; the number of support group meetings; and the number of media events. Prior to the Healthy Tomorrows grant, in 2007 the Child and Adolescent Clinic (CAC) referred 576 children to six different community-based, child-serving agencies. By the end of the grant period, 2008 – 2013, CAC co-managed shared care plans with 19 community child-serving agencies. In 2012, 1231 children with special health care needs were served by a Pediatric Medical Home and one or more community child-serving agencies.

Developmental Surveillance is now conducted at every child visit and developmental screening is conducted according to the AAP schedule of well child examinations. The project goals are in line with the goals and objectives of the Bright Futures for Infants, Children and Adolescents initiative and incorporate the *Bright Futures Guidelines for Health Supervision of Infants, Children and Adolescents, Third Edition*, and AAP Policy Position Papers. Screening at these prescribed intervals are identifying children with possible developmental delays. Those

children are being referred to the appropriate agencies and receiving appropriate services, yielding healthy children ready to learn at Kindergarten.

Initially, the Children's Mental Health Advisory Board met monthly with the focus that every child in Cowlitz County is connected to a coordinated, family-centered, community-based Medical Home to ensure every child is healthy and ready to learn when entering school. The board addressed issues surrounding unmet health needs, including children's mental health needs and delivery of care system challenges.

RESULTS/OUTCOMES: The major results of the project included an increase in the number of children who receive timely and comprehensive preventative care in a Medical Home; an increase in the number of well child visits utilizing evidence-based screening tools to assess children's and mother's development and mental health status; an increase in the number of children assessed, referred, and treated for developmental and mental health problems in a coordinated, family-centered, community based collaboration; an increase in the amount of selected educational materials regarding child development and nurturing distributed to families and the community; and an increase in the number of parenting classes and support groups available to parents.

In 2007, 51 percent of children entering Kindergarten in the Longview School District in Cowlitz County were at "Some Risk" or "At Risk" of not being ready to learn to read. This is related to a high level of poverty in the community with associated maternal depression, resulting in inadequate nurturing, poor parenting skills, and childhood emotional and developmental difficulties. In 2012, 73% of Longview School District children entered Kindergarten prepared with age-appropriate cognitive, literacy, and social-emotional skills (3. WaKIDS, 2012).

Pediatric clinics and child-serving organizations followed the standard of care using HIPAA agreements and signed release of information as the basis of coordinated, comprehensive, family-centered, community-based care. United Way, the Early Learning Coalition, WA Child Profile, and Reach Out and Read promoted community awareness of the importance of early learning and brain development. United Way posted *Born Learning* trail signs in our community parks and on trails to boost parent education.

This model of comprehensive, coordinated care to implement evidence-based surveillance, screening, and neurodevelopmental referral and assessment between Medical Homes and child-serving organizations is an exemplary model of care that improves child outcomes early, better preparing children for Kindergarten.

The population of Cowlitz County is composed primarily of Caucasian, English speaking residents. The largest minority group is Hispanic, (4.6% of the population in 2000). Since the inception of the Healthy Tomorrows program, there has been a significant increase in the Hispanic population in Cowlitz County, identifying a need for and resulting in Spanish-speaking staff and educational materials.

PUBLICATIONS/PRODUCTS: As a result of this grant, publications and products were developed to increase awareness of the need of early identification of developmental and mental health concerns in young children and their mothers, to strengthen coalition building and activities, and to educate the community that school success depends on early childhood health and development. Many modes were utilized to educate the community. A family awareness campaign was created to provide education through printed materials (pamphlets, brochures, the Child and Adolescent Clinic's Child Nurturing Guide) and WA Child Profile Developmental

Program. Newspaper, television, radio programs, public events and electronic media informed families of ways to help children reach school readiness. Websites of the coalition partners inform and educate families and communities, including Child and Adolescent Clinic (www.candac.com), Early Head Start / Head Start (http://lowercolumbia.edu/Common/services-for-students/childcare/head_start/), Parents Place (<http://www.parentsplacelongview.org/programs.htm>), Family Health Center (<http://cowlitzfamilyhealth.org/>), United Way (<http://cowlitzunitedway.org/>), and the Progress Center (<http://theprogresscenter.org/>).

Three DVDs were created as a direct result of the Healthy Tomorrows grant. They include “Creating A Children’s Advocacy Center,” April 16, 2009, a forum with 55 community leaders; “Explosion of Learning! Healthy Children Ready to Learn!” May 2010, The Early Learning Community Forum with Keynote Speaker: Jill Sells, MD and Blaine Tolby, MD, Bob Johnson, Sandy Junker, Phyllis Cavens, MD, Rick Wollenberg, Alex Perez, Dr. James McLaughlin; “Children’s Community Resources Presents the 2011 Early Learning Community Forum.” Keynote Speaker: Dannette Glassy, MD, Chair of the AAP Section on Early Learning. Featuring: Phyllis Cavens, MD, Sandy Junker, James McBride, Brian Hewett, Ron Hutchison, Mike Hamilton, Mark Hottowe, Kalei LaFave.

The PowerPoint presentation “Healthy Tomorrows Progress Report and AAP Technical Assistance Visit: June 2, 2009” (see Appendix 5) was created and presented to local and state professionals as well as to the Pediatricians at Child and Adolescent Clinic.

A common framework for collecting patient data, tracking patient care, and exchanging it among participating entities was established through HIPAA compliant, bi-directional exchange

of information utilizing e-faxing between collaborating agencies and pediatric clinics to add data to each organization's database in order to develop a shared care plan.

DISSEMINATION/UTILIZATION OF RESULTS: Phyllis M. Cavens, MD was invited to be a guest faculty member at the Washington Healthcare Improvement Network / Healthy Communities Washington Health Home Conference to present on Exemplary Practices in Behavioral Health Integration. She developed a PowerPoint presentation to enhance her discussion of the Medical Home Model for primary care and behavioral health integration for the care of children (see Appendix 6: Healthy Communities Washington). Additionally, the results of this grant have been integral components for applying for additional grants to improve healthcare for children.

FUTURE PLANS/SUSTAINABILITY: The plans to sustain this program of connecting vulnerable children of low-income families, ages pre-birth to six years, to a Medical Home, screening children and mothers for impaired mental health, providing early intervention, and creating community awareness will be ongoing and directed by an advisory coalition composed of representatives from the pediatric clinics and child-serving organizations.

The community-based Healthy Tomorrows Advisory Coalition reflects a partnership of the local pediatricians and their clinics, mental health clinics, consumers, schools, governmental agencies, and public and private organizations. It has and will continue to provide the leadership for the Healthy Tomorrows Partnership for Children grant and shared responsibility for the identification and maximization of resources. The Coalition will continue to build community ownership to sustain the project services beyond the project period because child identification procedures, family support programs, parent education, agency communication, and referral and

treatment patterns have been established in the member organizations. The program quality and cost effectiveness has become apparent to the entities involved so that the positions of in-kind staff coordinators will continue to be supported by the individual members' organization.

Staff training and complete integration of the developmental screening process into the pediatric clinics' and child-serving organization's operations were the key mechanisms to sustain these activities. Outreach to commercial insurance companies, state Medicaid programs, and Medicaid managed care organizations is conducted to educate regarding the importance of recognizing the medical care cost-savings of investing in the medical home, including reimbursement for developmental screening and early intervention coordination services. Grant writing to support community education, pediatric clinic and child-serving organization outreach and Medical Home promotion continue. We work closely with all of our community's child-serving coalitions to promote parent education, the Medical Home, developmental screening, mental health services, and early intervention services.

Children's school readiness will be apparent on the WaKIDS testing results each year. The far-reaching effects of this continued practice will be healthier children, better learning, grade level achievement, higher rate of high school graduation and college attendance, and improved community economics. State-funded health care costs will decrease by addressing ACEs and interrupting the cycle of intergenerational poverty.

ANNOTATION: This report outlines the Healthy Tomorrows grant project awarded to Phyllis M. Cavens, MD and the Child and Adolescent Clinic in Longview, WA to improve the emotional and social development of vulnerable children, pre-birth to age six, so they are better prepared to learn when they enter school. Children of preschool-age were determined to be vulnerable to not being ready to learn if they had one or more of the following risk factors: living in poverty, single parent household, uninsured for medical and/or dental coverage, no health care, mother without prenatal care, parent with mental health disorder, parent with alcohol or chemical dependency, homeless, chronic health condition, inadequate nutrition, unmet developmental milestones for age-group per the scored ASQ or ASQ-SE after adjustment for gestational age, or exposed to neglect or abuse within the home or family. Through the development of a coordinated, community-based model of care, vulnerable children were identified and surveillance, screening, and assessment for neurodevelopmental concerns were conducted and interventions implemented. Medical Homes were developed, coalitions formed to address unmet health care needs of young children, existing child-serving organizations innovated, and new programs implemented.

KEY WORDS: Poverty, learning, low income, families, Adverse Childhood Experiences, ACES, vulnerable children, children's behavioral health, maternal depression, early learning, Medical Home, community collaboration, community educator, care coordinator, kindergarten, social-emotional development, pre-birth to six years, ASQ, Ages and Stages Questionnaire, M-CHAT, Edinburgh Maternal Depression Scale, Coalition, ready to learn, pediatrician, neurodevelopmental, shared care plans

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4. Zahn-Waxler, C. Radke-Yarrow, M., Wagner, E., & Chapman, M. 1992. Development of concern for others. *Developmental Psychology*, 28, 126-136.

Students who Demonstrate Characteristics of Entering Kindergartners

State/District Filter:	Longview SD
Demographic Filter:	Total

What This Chart Shows:

This chart shows the percent of students that demonstrate characteristics of entering kindergartners.

How to Read the Chart:

Each bar represents the percent of students that demonstrate expected skills of entering kindergartners in a single area assessed by WaKIDS. For example, across the state, a little over 50% of students assessed using WaKIDS demonstrated the expected skills of an entering kindergartner in Math (bar on the right).

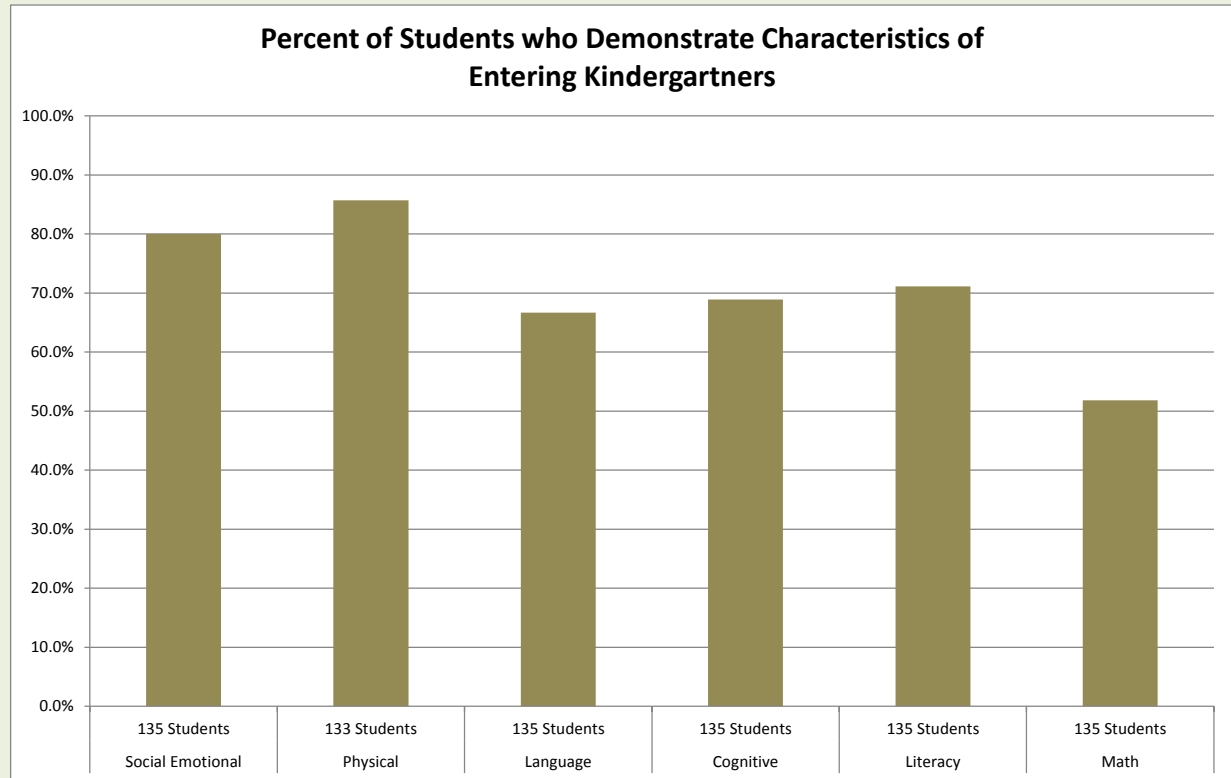
The six areas assessed are listed across the bottom of the chart, along with the number of students assessed in each area. The number of students assessed will change depending on any filter applied. If this number is below 10, all data will be suppressed due to student privacy laws.

How to Filter the Chart:

This chart is capable of filtering by individual districts, or by limited demographic information.

If you click on Cell G1 (White cell with an initial value of 'State') you will bring up a dropdown menu with a list of all districts participating in WaKIDS during the 2012-13 school year. Clicking on any of these districts will update the chart with data from that district.

If you click on Cell G2 (White cell with an initial value of 'Total') you will bring up a dropdown menu with a list of filters.



Stanford SOCIAL INNOVATION REVIEW

Collective Impact

By John Kania & Mark Kramer

Stanford Social Innovation Review
Winter 2011

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Collective Impact

LARGE-SCALE SOCIAL CHANGE REQUIRES BROAD CROSS-SECTOR COORDINATION, YET THE SOCIAL SECTOR REMAINS FOCUSED ON THE ISOLATED INTERVENTION OF INDIVIDUAL ORGANIZATIONS.

BY JOHN KANIA & MARK KRAMER

Illustration by Martin Jarrie

The scale and complexity of the U.S. public education system has thwarted attempted reforms for decades. Major funders, such as the Annenberg Foundation, Ford Foundation, and Pew Charitable Trusts have abandoned many of their efforts in frustration after acknowledging their lack of progress. Once the global leader—after World War II the United States had the highest high school graduation rate in the world—the country now ranks 18th among the top 24 industrialized nations, with more than 1 million secondary school students dropping out every year. The heroic efforts of countless teachers, administrators, and nonprofits, together with billions of dollars in charitable contributions, may have led to important improvements in individual schools and classrooms, yet system-wide progress has seemed virtually unobtainable.

Against these daunting odds, a remarkable exception seems to be emerging in Cincinnati. Strive, a nonprofit subsidiary of KnowledgeWorks, has brought together local leaders to tackle the student achievement crisis and improve education throughout greater Cincinnati and northern Kentucky. In the four years since the group was launched, Strive partners have improved student success in dozens of key areas across three large public school districts. Despite the recession and budget cuts, 34 of the 53 success indicators that Strive tracks have shown positive trends, including high school graduation rates, fourth-grade reading and math scores, and the number of preschool children prepared for kindergarten.

Why has Strive made progress when so many other efforts have failed? It is because a core group of community leaders decided to abandon their individual agendas in favor of a collective approach to improving student achievement. More than

300 leaders of local organizations agreed to participate, including the heads of influential private and corporate foundations, city government officials, school district representatives, the presidents of eight universities and community colleges, and the executive directors of hundreds of education-related nonprofit and advocacy groups.

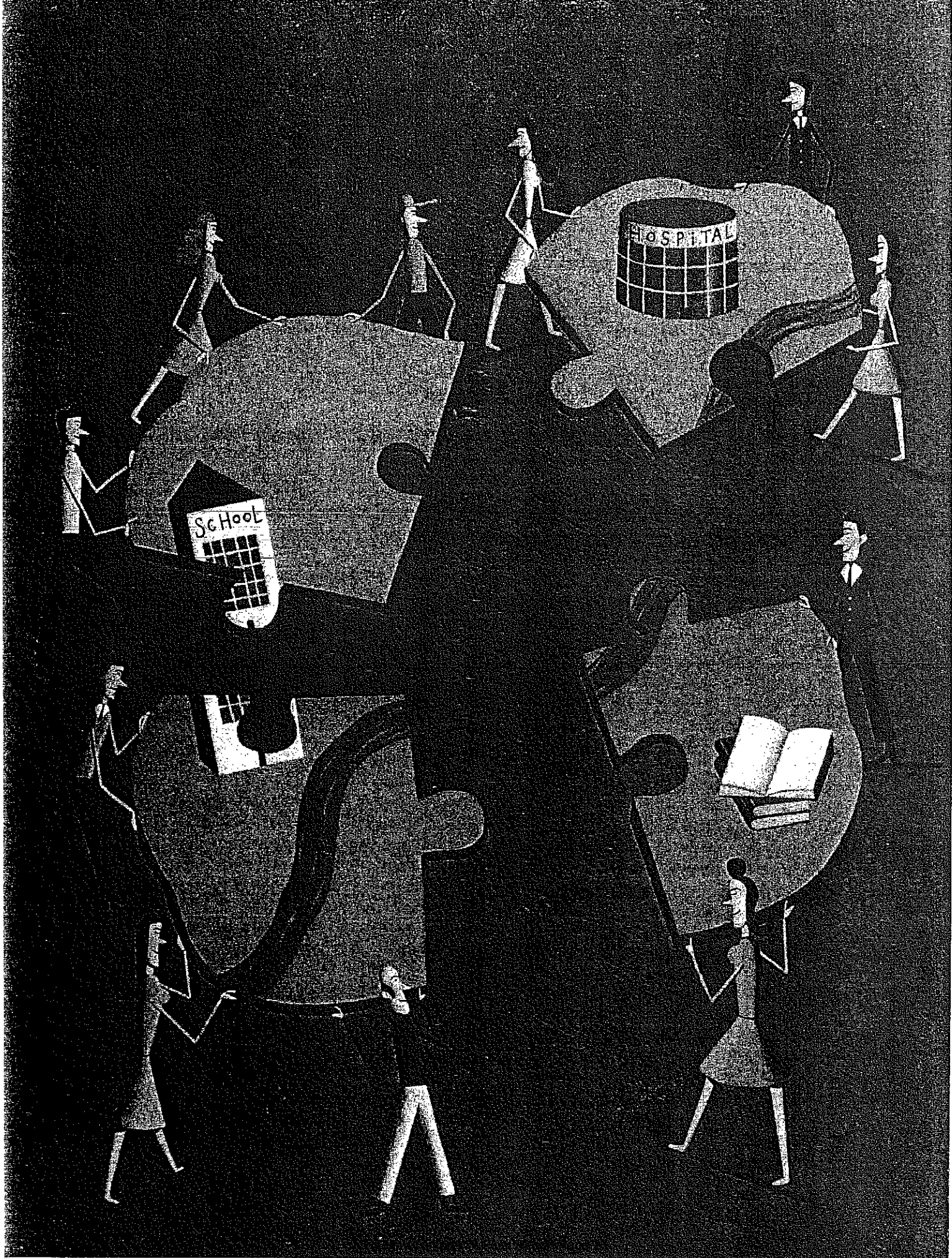
These leaders realized that fixing one point on the educational continuum—such as better after-school programs—wouldn't make much difference unless all parts of the continuum im-

proved at the same time. No single organization, however innovative or powerful, could accomplish this alone. Instead, their ambitious mission became to coordinate improvements at every stage of a young person's life, from "cradle to career."

Strive didn't try to create a new educational program or attempt to convince donors to spend more money. Instead,

through a carefully structured process, Strive focused the entire educational community on a single set of goals, measured in the same way. Participating organizations are grouped into 15 different Student Success Networks (SSNs) by type of activity, such as early childhood education or tutoring. Each SSN has been meeting with coaches and facilitators for two hours every two weeks for the past three years, developing shared performance indicators, discussing their progress, and most important, learning from each other and aligning their efforts to support each other.

Strive, both the organization and the process it helps facilitate, is an example of *collective impact*, the commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem. Collaboration is nothing new. The social sector is filled with examples of partnerships, networks, and other types of joint efforts. But collective impact initiatives are distinctly different. Unlike most



collaborations, collective impact initiatives involve a centralized infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants. (See "Types of Collaborations" on page 39.)

Although rare, other successful examples of collective impact are addressing social issues that, like education, require many different players to change their behavior in order to solve a complex problem. In 1993, Marjorie Mayfield Jackson helped found the Elizabeth River Project with a mission of cleaning up the Elizabeth River in southeastern Virginia, which for decades had been a dumping ground for industrial waste. They engaged more than 100 stakeholders, including the city governments of Chesapeake, Norfolk, Portsmouth, and Virginia Beach, Va., the Virginia Department of Environmental Quality, the U.S. Environmental Protection Agency (EPA), the U.S. Navy, and dozens of local businesses, schools, community groups, environmental organizations, and universities, in developing an 18-point plan to restore the watershed. Fifteen years later, more than 1,000 acres of watershed land have been conserved or restored, pollution has been reduced by more than 215 million pounds, concentrations of the most severe carcinogen have been cut sixfold, and water quality has significantly improved. Much remains to be done before the river is fully restored, but already 27 species of fish and oysters are thriving in the restored wetlands, and bald eagles have returned to nest on the shores.

Or consider Shape up Somerville, a citywide effort to reduce and prevent childhood obesity in elementary school children in Somerville, Mass. Led by Christina Economos, an associate professor at Tufts University's Gerald J. and Dorothy R. Friedman School of Nutrition Science and Policy, and funded by the Centers for Disease Control and Prevention, the Robert Wood Johnson Foundation, Blue Cross Blue Shield of Massachusetts, and United Way of Massachusetts Bay and Merrimack Valley, the program engaged government officials, educators, businesses, nonprofits, and citizens in collectively defining wellness and weight gain prevention practices. Schools agreed to offer healthier foods, teach nutrition, and promote physical activity. Local restaurants received a certification if they served low-fat, high nutritional food. The city organized a farmers' market and provided healthy lifestyle incentives such as reduced-price gym memberships for city employees. Even sidewalks were modified and crosswalks repainted to encourage more children to walk to school. The result was a statistically significant decrease in body mass index among the community's young children between 2002 and 2005.

Even companies are beginning to explore collective impact to tackle social problems. Mars, a manufacturer of chocolate brands such as M&M's, Snickers, and Dove, is working with NGOs, local governments, and even direct competitors to improve the lives of more than 500,000 impoverished cocoa farmers in Cote d'Ivoire, where Mars sources a large portion of its cocoa. Research suggests

that better farming practices and improved plant stocks could triple the yield per hectare, dramatically increasing farmer incomes and improving the sustainability of Mars's supply chain. To accomplish this, Mars must enlist the coordinated efforts of multiple organizations: the Cote d'Ivoire government needs to provide more agricultural extension workers, the World Bank needs to finance new roads, and bilateral donors need to support NGOs in improving health care, nutrition, and education in cocoa growing communities. And Mars must find ways to work with its direct competitors on pre-competitive issues to reach farmers outside its supply chain.

These varied examples all have a common theme: that large-scale social change comes from better cross-sector coordination rather than from the isolated intervention of individual organizations. Evidence of the effectiveness of this approach is still limited, but these examples suggest that substantially greater progress could be made in alleviating many of our most serious and complex social problems if nonprofits, governments, businesses, and the public were brought together around a common agenda to create collective impact. It doesn't happen often, not because it is impossible, but because it is so rarely attempted. Funders and nonprofits alike overlook the potential for collective impact because they are used to focusing on independent action as the primary vehicle for social change.

ISOLATED IMPACT

Most funders, faced with the task of choosing a few grantees from many applicants, try to ascertain which organizations make the greatest contribution toward solving a social problem. Grantees, in turn, compete to be chosen by emphasizing how their individual activities produce the greatest effect. Each organization is judged on its own potential to achieve impact, independent of the numerous other organizations that may also influence the issue. And when a grantee is asked to evaluate the impact of its work, every attempt is made to isolate that grantee's individual influence from all other variables.

In short, the nonprofit sector most frequently operates using an approach that we call *isolated impact*. It is an approach oriented toward finding and funding a solution embodied within a single organization, combined with the hope that the most effective organizations will grow or replicate to extend their impact more widely. Funders search for more effective interventions as if there were a cure for failing schools that only needs to be discovered, in the way that medical cures are discovered in laboratories. As a result of this process, nearly 1.4 million nonprofits try to invent independent solutions to major social problems, often working at odds with each other and exponentially increasing the perceived resources required to make meaningful progress. Recent trends have only reinforced this perspective. The growing interest in venture philanthropy and social entrepreneurship, for example, has greatly benefited the social sector by identifying and accelerating the growth of many high-performing nonprofits, yet it has also accentuated an emphasis on scaling up a few select organizations as the key to social progress.

Despite the dominance of this approach, there is scant evidence that isolated initiatives are the best way to solve many social problems in today's complex and interdependent world. No single organization is responsible for any major social problem, nor can any single

JOHN KANIA is a managing director at FSG, where he oversees the firm's consulting practice. Before joining FSG, he was a consultant at Mercer Management Consulting and Corporate Decisions Inc. This is Kania's third article for the *Stanford Social Innovation Review*.

MARK KRAMER is the co-founder and a managing director of FSG. He is also the co-founder and the initial board chair of the Center for Effective Philanthropy, and a senior fellow at Harvard University's John F. Kennedy School of Government. This is Kramer's fifth article for the *Stanford Social Innovation Review*.

TYPES OF COLLABORATIONS

Organizations have attempted to solve social problems by collaboration for decades without producing many results. The vast majority of these efforts lack the elements of success that enable collective impact initiatives to achieve a sustained alignment of efforts.

Funder Collaboratives are groups of funders interested in supporting the same issue who pool their resources. Generally, participants do not adopt an overarching evidence-based plan of action or a shared measurement system, nor do they engage in differentiated activities beyond check writing or engage stakeholders from other sectors.

Public-Private Partnerships are partnerships formed between government and private sector organizations to deliver specific services or benefits. They are often targeted narrowly, such as developing a particular drug to fight a single disease, and usually don't engage the full set of stakeholders that affect the issue, such as the potential drug's distribution system.

Multi-Stakeholder Initiatives are voluntary activities by stakeholders from different sectors around a common theme. Typically, these initiatives lack any shared measurement of impact and the supporting infrastructure to forge any true alignment of efforts or accountability for results.

Social Sector Networks are groups of individuals or organizations fluidly connected through purposeful relationships, whether formal or informal. Collaboration is generally ad hoc, and most often the emphasis is placed on information sharing and targeted short-term actions, rather than a sustained and structured initiative.

Collective Impact Initiatives are long-term commitments by a group of important actors from different sectors to a common agenda for solving a specific social problem. Their actions are supported by a shared measurement system, mutually reinforcing activities, and ongoing communication, and are staffed by an independent backbone organization.

organization cure it. In the field of education, even the most highly respected nonprofits—such as the Harlem Children's Zone, Teach for America, and the Knowledge Is Power Program (KIPP)—have taken decades to reach tens of thousands of children, a remarkable achievement that deserves praise, but one that is three orders of magnitude short of the tens of millions of U.S. children that need help.

The problem with relying on the isolated impact of individual organizations is further compounded by the isolation of the nonprofit sector. Social problems arise from the interplay of governmental and commercial activities, not only from the behavior of social sector organizations. As a result, complex problems can be solved only by cross-sector coalitions that engage those outside the nonprofit sector.

We don't want to imply that all social problems require collective impact. In fact, some problems are best solved by individual organizations. In "Leading Boldly," an article we wrote with Ron Heifetz for the winter 2004 issue of the *Stanford Social Innovation Review*, we described the difference between *technical problems* and *adaptive problems*. Some social problems are technical in that the problem is well defined, the answer is known in advance, and one or a few organizations have the ability to implement the solution. Examples include funding college scholarships, building a hospital, or installing inventory controls in a food bank. Adaptive problems, by contrast, are complex, the answer is not known, and even if it were, no single entity has the resources or authority to bring about the necessary change. Reforming public education, restoring wetland environments, and improving community health are all adaptive problems. In these cases, reaching an effective solution requires learning by the stakeholders involved in the problem, who must then change their own behavior in order to create a solution.

Shifting from isolated impact to collective impact is not merely a matter of encouraging more collaboration or public-private partnerships. It requires a systemic approach to social impact that focuses on the relationships between organizations and the progress toward shared objectives. And it requires the creation of a new set of nonprofit management organizations that have the skills and resources to assemble and coordinate the specific elements necessary for collective action to succeed.

THE FIVE CONDITIONS OF COLLECTIVE SUCCESS

Our research shows that successful collective impact initiatives typically have five conditions that together produce true alignment and lead to powerful results: a common agenda, shared measurement systems, mutually reinforcing activities, continuous communication, and backbone support organizations.

Common Agenda | Collective impact requires all participants to have a shared

vision for change, one that includes a common understanding of the problem and a joint approach to solving it through agreed upon actions. Take a close look at any group of funders and nonprofits that believe they are working on the same social issue, and you quickly find that it is often not the same issue at all. Each organization often has a slightly different definition of the problem and the ultimate goal. These differences are easily ignored when organizations work independently on isolated initiatives, yet these differences splinter the efforts and undermine the impact of the field as a whole. Collective impact requires that these differences be discussed and resolved. Every participant need not agree with every other participant on all dimensions of the problem. In fact, disagreements continue to divide participants in all of our examples of collective impact. All participants must agree, however, on the primary goals for the collective impact initiative as a whole. The Elizabeth River Project, for example, had to find common ground among the different objectives of corporations, governments, community groups, and local citizens in order to establish workable cross-sector initiatives.

Funders can play an important role in getting organizations to act in concert. In the case of Strive, rather than fueling hundreds of strategies and nonprofits, many funders have aligned to support Strive's central goals. The Greater Cincinnati Foundation realigned its education goals to be more compatible with Strive, adopting Strive's annual report card as the foundation's own measures for progress in education. Every time an organization applied to Duke Energy for a grant, Duke asked, "Are you part of the [Strive] network?" And when a new funder, the Carol Ann and Ralph V. Haile Jr./U.S. Bank Foundation, expressed interest in education, they were encouraged by virtually every major education leader in Cincinnati to join Strive if they wanted to have an impact in local education.¹

Shared Measurement Systems | Developing a shared measurement system is essential to collective impact. Agreement on a common agenda is illusory without agreement on the ways success will be measured and reported. Collecting data and measuring results consistently on a short list of indicators at the community level and across all participating organizations not only ensures that all efforts remain aligned, it also enables the participants to hold each other accountable and learn from each other's successes and failures.

It may seem impossible to evaluate hundreds of different organizations on the same set of measures. Yet recent advances in Web-based technologies have enabled common systems for reporting performance and measuring outcomes. These systems increase efficiency and reduce cost. They can also improve the quality and credibility of the data collected, increase effectiveness by enabling grantees to learn from each other's performance, and document the progress of the field as a whole.²

All of the preschool programs in Strive, for example, have agreed to measure their results on the same criteria and use only evidence-based decision making. Each type of activity requires a different set of measures, but all organizations engaged in the same type of activity report on the same measures. Looking at results across multiple organizations enables the participants to spot patterns, find solutions, and implement them rapidly. The preschool programs discovered that children regress during the summer break before kindergarten. By launching an innovative "summer bridge" session, a technique more often used in middle school, and implementing it simultaneously in all preschool programs, they increased the average kindergarten readiness scores throughout the region by an average of 10 percent in a single year.³

Mutually Reinforcing Activities | Collective impact initiatives depend on a diverse group of stakeholders working together, not by requiring that all participants do the same thing, but by encouraging each participant to undertake the specific set of activities at which it excels in a way that supports and is coordinated with the actions of others.

The power of collective action comes not from the sheer number of participants or the uniformity of their efforts, but from the coordination of their differentiated activities through a mutually reinforcing plan of action. Each stakeholder's efforts must fit into an overarching plan if their combined efforts are to succeed. The multiple causes of social problems, and the components of their solutions, are interdependent. They cannot be addressed by uncoordinated actions among isolated organizations.

All participants in the Elizabeth River Project, for example, agreed on the 18-point watershed restoration plan, but each is playing a different role based on its particular capabilities. One group of organizations works on creating grassroots support and engagement among citizens, a second provides peer review and recruitment for industrial participants who voluntarily reduce pollution, and a third coordinates and reviews scientific research.

The 15 SSNs in Strive each undertake different types of activities at different stages of the educational continuum. Strive does not prescribe what practices each of the 300 participating organizations should pursue. Each organization and network is free to chart its own course consistent with the common agenda, and informed by the shared measurement of results.

Continuous Communication | Developing trust among nonprofits, corporations, and government agencies is a monumental challenge. Participants need several years of regular meetings to build up enough experience with each other to recognize and appreciate the common motivation behind their different efforts. They need time to see that their own interests will be treated fairly, and that decisions will be made on the basis of objective evidence and the best possible solution to the problem, not to favor the priorities of one organization over another.

Even the process of creating a common vocabulary takes time, and it is an essential prerequisite to developing shared measurement systems. All the collective impact initiatives we have studied held monthly or even biweekly in-person meetings among the organizations' CEO-level leaders. Skipping meetings or sending lower-level delegates was not acceptable. Most of the meetings were supported by external facilitators and followed a structured agenda.

The Strive networks, for example, have been meeting regularly for more than three years. Communication happens between meetings too: Strive uses Web-based tools, such as Google Groups, to keep communication flowing among and within the networks. At first, many of the leaders showed up because they hoped that their participation would bring their organizations additional funding, but they soon learned that was not the meetings' purpose. What they discovered instead were the rewards of learning and solving problems together with others who shared their same deep knowledge and passion about the issue.

Backbone Support Organizations | Creating and managing collective impact requires a separate organization and staff with a very specific set of skills to serve as the backbone for the entire initiative. Coordination takes time, and none of the participating organizations has any to spare. The expectation that collaboration can occur without a supporting infrastructure is one of the most frequent reasons why it fails.

The backbone organization requires a dedicated staff separate from the participating organizations who can plan, manage, and support the initiative through ongoing facilitation, technology and communications support, data collection and reporting, and handling the myriad logistical and administrative details needed for the initiative to function smoothly. Strive has simplified the initial staffing requirements for a backbone organization to three roles: project manager, data manager, and facilitator.

Collective impact also requires a highly structured process that leads to effective decision making. In the case of Strive, staff worked with General Electric (GE) to adapt for the social sector the Six Sigma process that GE uses for its own continuous quality improvement. The Strive Six Sigma process includes training, tools, and resources that each SSN uses to define its common agenda, shared measures, and plan of action, supported by Strive facilitators to guide the process.

In the best of circumstances, these backbone organizations embody the principles of adaptive leadership: the ability to focus people's attention and create a sense of urgency, the skill to apply pressure to stakeholders without overwhelming them, the competence to frame issues in a way that presents opportunities as well as difficulties, and the strength to mediate conflict among stakeholders.

FUNDING COLLECTIVE IMPACT

Creating a successful collective impact initiative requires a significant financial investment: the time participating organizations must dedicate to the work, the development and monitoring of shared measurement systems, and the staff of the backbone organization needed to lead and support the initiative's ongoing work.

As successful as Strive has been, it has struggled to raise money, confronting funders' reluctance to pay for infrastructure and preference for short-term solutions. Collective impact requires instead that funders support a long-term process of social change without identifying any particular solution in advance. They must be willing to let grantees steer the work and have the patience to stay with an initiative for years, recognizing that social change can come from the gradual improvement of an entire system over time, not just from a single breakthrough by an individual organization.

This requires a fundamental change in how funders see their role, from funding organizations to leading a long-term process of social change. It is no longer enough to fund an innovative solution created by a single nonprofit or to build that organization's capacity. Instead, funders must help create and sustain the collective processes, measurement reporting systems, and community leadership that enable cross-sector coalitions to arise and thrive.

This is a shift that we foreshadowed in both "Leading Boldly" and our more recent article, "Catalytic Philanthropy," in the fall 2009 issue of the *Stanford Social Innovation Review*. In the former, we suggested that the most powerful role for funders to play in addressing adaptive problems is to focus attention on the issue and help to create a process that mobilizes the organizations involved to find a solution themselves. In "Catalytic Philanthropy," we wrote: "Mobilizing and coordinating stakeholders is far messier and slower work than funding a compelling grant request from a single organization. Systemic change, however, ultimately depends on a sustained campaign to increase the capacity and coordination of an entire field." We recommended that funders who want to create large-scale change follow four practices: take responsibility for assembling the elements of a solution; create a movement for change; include solutions from outside the nonprofit sector; and use actionable knowledge to influence behavior and improve performance.

These same four principles are embodied in collective impact initiatives. The organizers of Strive abandoned the conventional approach of funding specific programs at education nonprofits and took responsibility for advancing education reform themselves. They built a movement, engaging hundreds of organizations in a drive toward shared goals. They used tools outside the nonprofit sector, adapting GE's Six Sigma planning process for the social sector. And through the community report card and the biweekly meetings of the SSNs they created actionable knowledge that motivated the community and improved performance among the participants.

Funding collective impact initiatives costs money, but it can be a highly leveraged investment. A backbone organization with a modest annual budget can support a collective impact initiative of several hundred organizations, magnifying the impact of millions or even billions of dollars in existing funding. Strive, for example, has a \$1.5 million annual budget but is coordinating the efforts and

increasing the effectiveness of organizations with combined budgets of \$7 billion. The social sector, however, has not yet changed its funding practices to enable the shift to collective impact. Until funders are willing to embrace this new approach and invest sufficient resources in the necessary facilitation, coordination, and measurement that enable organizations to work in concert, the requisite infrastructure will not evolve.

FUTURE SHOCK

What might social change look like if funders, nonprofits, government officials, civic leaders, and business executives embraced collective impact? Recent events at Strive provide an exciting indication of what might be possible.

Strive has begun to codify what it has learned so that other communities can achieve collective impact more rapidly. The organization is working with nine other communities to establish similar cradle to career initiatives.⁴ Importantly, although Strive is broadening its impact to a national level, the organization is not scaling up its own operations by opening branches in other cities. Instead, Strive is promulgating a flexible process for change, offering each community a set of tools for collective impact, drawn from Strive's experience but adaptable to the community's own needs and resources. As a result, the new communities take true ownership of their own collective impact initiatives, but they don't need to start the process from scratch. Activities such as developing a collective educational reform mission and vision or creating specific community-level educational indicators are expedited through the use of Strive materials and assistance from Strive staff. Processes that took Strive several years to develop are being adapted and modified by other communities in significantly less time.

These nine communities plus Cincinnati have formed a community of practice in which representatives from each effort connect regularly to share what they are learning. Because of the number and diversity of the communities, Strive and its partners can quickly determine what processes are universal and which require adaptation to a local context. As learning accumulates, Strive staff will incorporate new findings into an Internet-based knowledge portal that will be available to any community wishing to create a collective impact initiative based on Strive's model.

This exciting evolution of the Strive collective impact initiative is far removed from the isolated impact approach that now dominates the social sector and that inhibits any major effort at comprehensive, large-scale change. If successful, it presages the spread of a new approach that will enable us to solve today's most serious social problems with the resources we already have at our disposal. It would be a shock to the system. But it's a form of shock therapy that's badly needed. ■

Notes

- 1 Interview with Kathy Merchant, CEO of the Greater Cincinnati Foundation, April 10, 2010.
- 2 See Mark Kramer, Marcie Parkhurst, and Lalitha Vaidyanathan, *Breakthroughs in Shared Measurement and Social Impact*, FSG Social Impact Advisors, 2009.
- 3 "Successful Starts," United Way of Greater Cincinnati, second edition, fall 2009.
- 4 Indianapolis, Houston, Richmond, Va., and Hayward, Calif., are the first four communities to implement Strive's process for educational reform. Portland, Ore., Fresno, Calif., Mesa, Ariz., Albuquerque, and Memphis are just beginning their efforts.

HEALTHY TOMORROWS GRANT: SUCCESSFUL LEARNING IN VULNERABLE PRESCHOOL CHILDREN THROUGH IMPROVED MENTAL HEALTH
Program Time frame: March 2008 – February 2013

Program Goal: To improve the early childhood mental health of vulnerable children so that they are better prepared to learn when they enter school.

	Target Audience	Inputs	Activities	Outputs	Outcomes
Goal 1: Identify vulnerable children pre-birth to age 6 years and provide treatment and preventive measures to those children and families.	<p>Children at risk of not being ready to enter Kindergarten (having one or more of the following risk factors):</p> <ul style="list-style-type: none"> -living in poverty -single parent household -uninsured -no health care -mother without prenatal care -parent with mental health disorder -parent with alcohol or chemical dependency -homeless -chronic health condition -inadequate nutrition -does not meet developmental milestones for age-group (ASQ) -exposed to neglect or abuse within the home or family 	<p>Funding: 50k per year</p> <p>Personnel: Program Director (0.4 FTE), Child and Adolescent Staff (10 pediatricians and 4 pediatric nurse practitioners), Advisory Committee: Cowlitz-Wahkiakum Child Psychiatry Coalition</p> <p>Facilities: Office space & equipment for staff</p>	<ul style="list-style-type: none"> • Implement developmental screening for all patients less than 6 years of age. • Create a model developmental screening program. • Design and establish a data collection method for tracking clinic patients while enrolled in ASQ. • Assist other local medical clinics in establishing a developmental screening program as requested. • Ensure children identified through the screening program are connected to services in a timely manner. 	<ul style="list-style-type: none"> • Increase the number of children assessed, referred, and treated for developmental and mental health problems each year. • Present developmental screening program to other local clinics, share tools and lessons learned. • Report to the Cowlitz-Wahkiakum Child Psychiatry Coalition on progress of developmental screening program at least quarterly. 	<ul style="list-style-type: none"> • Increase the rate at which the clinic identifies children with developmental delays and mental health concerns.
	<p>Parents of children 0-6 years of age who put their child at risk of not being ready for Kindergarten entry – risk factors as described above.</p>	<p>Inputs as described above.</p>	<ul style="list-style-type: none"> • Present and distribute a screening tool for evaluating mothers for depression will be introduced to the five medical clinics caring for children. (Edinburgh Postnatal Depression Scale) • Identify high-risk pregnant women without a pediatrician selected and refer for pre-parent conference. • Assist other local medical clinics in establishing a process for pre-parent conferences as requested. • Evaluate the frequency of screening for depression at well child visits and follow-up on positive screens sample of charts. • Assist other local medical clinics in setting up a systematic method for screening parents of young children for depression during well child evaluations as requested. 	<ul style="list-style-type: none"> • Increase the number of pre-parent conferences to establish the child's medical home during pregnancy. • Increase the number of First Steps mothers screened for maternal depression. • Beginning in July of 2008, using an evidence-based instrument screen the pregnant women and participating children's mothers for depression. 	<ul style="list-style-type: none"> • Timely identification of depression and other mental health disorders in parents is increased and results in increased utilization of mental health services.

	Target Audience	Inputs	Activities	Outputs	Outcomes
<p>Goal 2: All medical clinics, mental health clinics, community organizations, and schools will provide services in a collaborative children's mental health system of care and promote the medical home.</p>	<p>Cowlitz County</p>	<p>Inputs as above, and</p> <p>Birth to Three Forum</p> <p>Cowlitz-Wahkiakum Child Psychiatry Coalition</p> <p>Progress Center</p> <p>Parents Place</p>	<ul style="list-style-type: none"> • Beginning in July of 2008, create a community awareness campaign that provides education about methods to help children acquire academic readiness, i.e. <i>United Way Born Learning</i>, and American Academy of Pediatrics materials. • Participate in a campaign designed to ensure that the community and family awareness campaign impacts everyone in our community, not just a subpopulation. • Obtain feedback from participating agencies of the effectiveness of the materials and examples of how they were used. 	<ul style="list-style-type: none"> • Increase the amount of selected educational materials regarding child development and nurturing distributed to families • Increase the number of parenting classes and support groups 	<p>Improved community awareness of the importance of healthy development health to support learning.</p>

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Screening
Early Identification
Referral
Intake
Evaluation and Eligibility
Services

EXECUTIVE SUMMARY

Developmental delays affect between 10 and 13 percent of U.S. children under the age of three; however, only two to three percent of children in this age group receive Early Intervention (EI) services.^{1,3} An approach that identifies concerns early and links children to services is vital. Many efforts have focused on implementing developmental screening in primary care, and have contributed valuable information about the feasibility and effectiveness of this strategy.⁴⁻⁸ However, few studies have evaluated the success of screening beyond the identification of a developmental concern and the initiation of a referral.⁹ Those studies that have looked beyond referral show significant gaps between the identification of a concern and the receipt of developmental services by children and families.^{10,11} This has prompted increasing awareness of the need for better care coordination across systems involved in meeting the developmental needs of children.¹²

To promote a more coordinated approach to meeting children's developmental needs, this brief proposes the adoption of the SERIES paradigm of developmental screening in which each step—Screening, Early Identification, Referral, Intake, Evaluation, and Services—is seen not as an isolated activity, but rather an integral component of a single process. SERIES challenges all systems serving young children to broaden their focus to include practices that promote shared responsibility for ensuring that each child successfully completes the entire pathway from screening to services.¹³ This brief does not aim to be a comprehensive review of the evidence around developmental screening, as such reviews already exist.^{1, 14, 15} Instead, the brief explores barriers that may prevent children from completing the SERIES, highlights promising approaches for collaboration, and proposes practice and policy actions that may offer useful guidance for planning, financing, and delivering early childhood services.

ISSUE

RESPONSE

Rates of developmental screening by primary care providers remain low.

1. Reimbursement should incentivize screening and care coordination.
2. The federal government should support the development of public domain screening tools.

Significant drop-off occurs when children move between primary care and developmental services.

States and provider sites should prioritize cross-system information exchange.

There is a missed opportunity to help children who are identified by screening but not eligible for Early Intervention (EI).

States should coordinate the eligibility and intake processes of multiple early childhood systems to expand access to developmental services.

Existing quality metrics on developmental screening provide limited information as to whether children receive services.

Comprehensive developmental screening metrics that address receipt of EI services are needed to inform quality improvement.

INTRODUCTION

Developmental disabilities affect an estimated 13 to 17 percent of children in the United States (U.S.),^{16, 17} and between 10 and 13 percent of U.S. infants and toddlers experience developmental delays.^{1, 2} There is strong evidence that infants and toddlers with developmental delays are at elevated risk for learning and cognitive disabilities, speech and language difficulties, and behavioral problems at school age. The impact of these delays can extend well beyond the childhood years; children with such delays are more likely to be in poor health, have low educational attainment, and have lower income as adults relative to their peers who do not face such challenges.^{1, 18-20} However, evidence shows that the timely receipt of early intervention services can be effective in improving developmental outcomes.²¹⁻²⁵

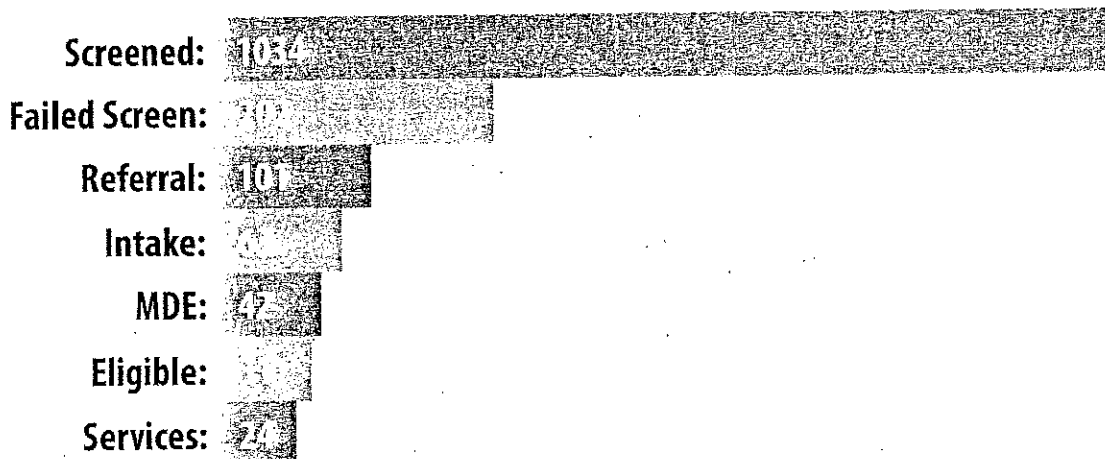
Recognizing the benefits of intervening early to address developmental delays and disabilities, in 1986 Congress amended the Education for all Handicapped Children Act, later renamed the Individuals with Disabilities Education Act (IDEA), to require states to extend the services they are mandated to provide for children with disabilities to infants and toddlers under the age of three.^{26, 27} By including these early childhood provisions, now incorporated as Part C of IDEA, Congress acknowledged the importance of identifying and addressing developmental needs early in life to reduce the individual and societal consequences of untreated developmental delays.^{11, 28} A growing body of literature from fields as diverse as neurobiology and economics support the view that investing in early intervention is a more cost-effective strategy than waiting until children are older, at which point the effects of delays become more difficult – and more expensive – to address.^{21, 29-32}

Role of Primary Care

Primary care sites are central to efforts to support child development, particularly for children who are not of school age.^{15, 33-36} In 2009, 88.7 percent of children under the age of five had a well-child visit with a health care provider at some time in the past year.³⁷ Recognizing the central role of primary care, in 2006, the American Academy of Pediatrics (AAP) issued a policy statement recommending developmental screening of all children from birth through the age of three as a routine part of well-child care.³⁸ Citing the importance of early identification and intervention for children with developmental delays or disabilities, the AAP urged providers to use standardized developmental screening tools to detect concerns, and to refer children who fail a developmental screen for further evaluation and services. In 2010, the Affordable Care Act (ACA) codified the importance of addressing developmental needs early in life by requiring health insurers to pay for developmental screening and other preventative services at no cost to patients.^{39, 40}

Despite the AAP's guidance, as well as recent improvements in insurance coverage of developmental screening and evidence that performing developmental screening with a standardized tool increases detection of developmental delays, national screening rates remain low and many providers still base their assessment of children solely on clinical observation.⁴¹⁻⁴³ Additionally, evidence suggests there is still significant unmet need for the treatment of developmental delays in young children.¹¹ Although 10 to 13 percent of children under the age of three are affected by developmental delays, EI serves only two to three percent of children in that age group nationally.^{1, 3} In fact, the majority of children eventually identified as having developmental concerns are not identified before they enter school, at which point they are likely to have already fallen behind their peers.^{4, 44-46}

Figure 1: Results from the Translating Evidence-based Developmental Screening study



SERIES

This brief draws from PolicyLab's recent experience implementing developmental screening in four urban primary care practices as part of the Translating Evidence-based Developmental Screening (TEDS) study. The TEDS study was a randomized, parallel-group controlled trial that enrolled 2,100 children under the age of 30 months from December 2008 to June 2010 to assess the feasibility of implementing developmental screening into primary care. The study also compared the effectiveness of standardized developmental screening, using the Ages and Stages Questionnaire (ASQ),⁴⁷ with that of routine developmental surveillance. In collaboration with primary care providers and EI agencies, TEDS tracked children from their attendance at well-child visits through the subsequent process of screening, identification, referral, intake, evaluation, and receipt of services. The results of this tracking are shown in Figure 1.

Of the 1,424 well-child visits that fell within the AAP recommended screening schedule, an ASQ was administered at 1,034 (72.6 percent) of them. Overall, 19.5 percent of these screens were failed and a provider referred the child 50 percent of the time. Only 66.7 percent of children referred completed the first step in EI intake involving the assignment of a service coordinator and, subsequently, only 66.7 percent of children assigned a service coordinator ever completed a multidisciplinary evaluation (MDE) to determine their developmental needs and eligibility for services. Ultimately, only 11 percent of those who failed a standardized developmental screening measure ever received services.

The SERIES paradigm of developmental screening aims to address these drop offs by engaging all systems involved in meeting a child's developmental needs. Core to the SERIES approach is increased coordination among health care and EI systems.

SERIES FRAMEWORK

S screening

Evidence strongly supports the continued emphasis on improving developmental screening rates in primary care. The use of a validated screening tool consistently improves providers' ability to correctly identify children with developmental delays.^{5,9,44,48} Despite challenges to widespread practice change as evidenced by persistent low rates of developmental screening nationally,^{5,10,33,41,49} the 72.6 percent rate achieved in the TEDS study and similar, if not greater, successes of other targeted screening efforts attest to the feasibility of developmental screening in primary care.^{5,6,8,50,51}

Addressing the barriers to developmental screening in primary care is vital to increasing the number of children whose developmental needs are met. While beyond the scope of this brief and not specific to the developmental screening process, it is important to recognize that the low 58.6 percent attendance rate at AAP recommended well-child screening visits experienced in the TEDS study identifies a significant initial barrier to screening children in primary care offices and may support a policy shift towards opportunistic screening at all well-child visits or, additionally, at sick visits. When children do attend well-child visits, however, health care providers cite time, cost, reimbursement uncertainty, and insufficient training as concerns related to incorporating developmental screening into their practices.^{6,8,34,50,52-56} Characteristics such as insurance type and place of care may also influence whether or not a child is screened.⁴¹

Evidence suggests that some of the perceived barriers to screening – though deserving of discussion – may be largely modifiable.⁵⁷ Studies examining

the duration of well-child visits in which a developmental screening is completed and those in which surveillance is completed have found no significant increase in time as a result of using a developmental screening tool.^{8,15,57} The issue of reimbursement for developmental screening has also seen movement toward resolution with health insurance plans required to cover all screenings that are part of Bright Futures at no cost to patients.^{39,40} However, educating provider practices about the specifics of when and how to bill appropriately must be a focus of developmental screening implementation efforts.

Other barriers to screening are less resolved and may require system changes to address. First, most validated screening tools are copyrighted, and the costs associated with purchasing developmental screening instruments for a practice can be substantial. Most tools must be purchased for an initial sum for each site at which they will be administered. A review of some of the instruments most commonly used in primary care practices found initial purchasing costs ranging from \$30 to \$325.⁵⁸ These costs are often compounded by the need to purchase language-specific versions of tools as well as multiple licenses for large practices. Additionally, these tools are re-standardized regularly which, while necessary to maintain validity, requires sites to purchase new versions whenever an update occurs. Several studies examining the cost-benefit of developmental screening have concluded that while there are potentially significant cost savings related to the long-term societal benefit of addressing developmental delays early, the compensation to practices for their role in the process is not always proportional.^{5,52,59}

Early Identification

Increasing the effectiveness and efficiency of developmental screening efforts relies on improving a provider's ability to correctly identify children in need of developmental support. Once screening is incorporated into practice, the appropriate and timely identification of a child with a developmental concern is highly reliant on the characteristics of the screening tool being used. There is great variability in the tools most commonly in use; some are broadband, focusing on several domains, while others are more targeted and evaluate for a specific condition or delay.^{58, 60, 61} Additionally, the sensitivity and specificity of tools vary, resulting in the identification of development delays in different numbers of children and, at times, even different groups of children.^{38, 62, 63} In the TEDS study, 19.5 percent of ASQ screenings resulted in failures; it is likely that this rate would vary if another instrument were used to assess the same group of children. Within the tools themselves, sensitivity and specificity also vary across age groups, so a tool that is highly effective at identifying delays in children six months old may be less effective for children 18 months old.⁶⁴⁻⁶⁶ Therefore, the likelihood of a child being identified as having

a developmental delay and referred for further evaluation and services may be directly related to the specific characteristics of the tool in use in the practice that child attends.

Among concerns raised by this variation in rates of identification of developmental delay across standardized tools is the potential to over-identify delays in children. However, research exploring this issue suggests that over-identification is less of a problem than may be perceived. While noting that validated tools will result in false positives for 15 to 30 percent of children – meaning that a child who fails a screen is subsequently found ineligible for EI – one study finds that these children perform significantly lower on measures of intelligence, language, and academic achievement than children who did not fail a screen.⁶⁷ This finding suggests that children who fail a developmental screening instrument comprise a group that, while not eligible for EI in many states due to eligibility criteria, is likely at greater risk for poor outcomes than their peers and might benefit from other developmental supports.¹⁴

Referral

In most cases, in order for a child who has failed a developmental screening to continue on the road to receipt of services, a provider must refer that child to EI for additional evaluation. However, evidence shows that even when provider sites have high rates of screening, referral rates are generally low and vary based on provider and child characteristics.^{6, 42, 68} Findings from the TEDS study are consistent with this observation; only 50 percent of children who failed the ASQ at their well-child visit were referred to EI within 30 days of the failure.

Several studies exploring this trend have reported that the specific domain (e.g., communication, fine motor) that is failed, the severity of the delay, and the age and sex of the child are associated with the probability of referral.^{4, 14, 35, 42, 69} Additionally, provider distrust of developmental screening tools, belief in a "watch and wait" approach, and concerns that families will not follow through with referrals are often cited as reasons providers do not refer children who have failed a screening.^{68, 70, 71}

As discussed above, evidence suggests that a child identified by a screening tool as having a developmental concern is likely to perform poorly on measures of school success and to have more psychosocial risk factors than his or her peers.⁶⁷ Therefore, a child who fails an instrument and is not referred for further evaluation and services at the time of the failure is at risk of having unmet developmental needs. Evidence is strong that timely and appropriate intervention for these children has the potential for significant academic, social and economic benefits.^{3, 72} Early intervention has been shown to prevent or limit decline in cognitive development during the first five years of life.^{73, 74} Notably, some studies suggest that these benefits are stronger the earlier a child receives services.^{75, 76} Additionally, effects have been shown to be long lasting, with low-income students who had early intervention in preschool outperforming students without it in reading and math, with less grade retention and fewer assignments to special education by age 15 years.⁷⁷ The projected savings to society as a result of the receipt of timely services to meet children's developmental needs have been estimated at \$30,000 to \$100,000 per child.³²

Intake

Perhaps the least studied component of SERIES is the step that gets a child, once referred, to reach the intake and evaluation process with EI or another agency. In the TEDS study, only two-thirds of referrals resulted in a successful EI intake. The significance of these low rates is apparent when one considers that only 50 percent of ASQ failures ever resulted in a referral and it is therefore likely that these children who had been referred had developmental needs of specific concern to their families or provider. There is little evidence as to what increases the chances of a successful referral completion. However, likely barriers can be grouped into two general categories: logistical and behavioral.

Logistical barriers refer to impediments to successful receipt of the referral from the provider to the EI specialists or the successful contact of a family to schedule a comprehensive evaluation. EI and health care providers often report that parents are difficult to reach or do not

follow up with EI as recommended.^{6, 9, 78} Providers report frustration with lack of communication from EI about the receipt of referral and ongoing status of the child's case.^{6, 79, 80} Some parents report difficulties or delays in obtaining initial services.⁸¹

A less explored and potentially more challenging barrier is some families' reluctance to engage in the intake process. Several studies have explored what prevents a parent from completing intake. EI specialists report that parents who decline to follow through with an intake evaluation often do not understand the reason for the EI referral and/or do not wish to have their child receive EI services.^{6, 9, 78} Additionally, parents report being concerned about having their parenting judged and surrendering control to services like EI.^{82, 83} More research is needed to understand how best to communicate with families about developmental delays and facilitate the transition from provider referral to EI intake.

Evaluation and Eligibility

A child who makes it past the intake stage must then be evaluated to determine his or her specific developmental needs. In most circumstances, providers refer children at risk of developmental delay to a state's official EI program and the resulting MDE assesses the child only for eligibility for that specific program. As discussed earlier, a percentage of children who fail a developmental screener will not be eligible for these services; however, evidence suggests that these children are still at risk of ongoing developmental concerns.⁶⁷ In the TEDS study, of the 42 individual referrals that made it to the eligibility step of the SERIES, 31 (73.8 percent) were deemed eligible for EI services.

Examinations of eligibility criteria across states report significant variation in EI eligibility thresholds as states have the authority to set their own definitions for qualifying severity of risk within the parameters set by IDEA.^{3, 11, 84} One review of children with special

health care needs found that children with the same needs either do or do not receive services based on their state of residence.⁸⁵ This, and other studies showing state-to-state variation suggest that children's receipt of services may reflect state eligibility policy in addition to child need.⁸⁶

For children who are not eligible for EI services, there are several other effective developmental support services for which these children may be eligible, including Early Head Start, high quality childcare centers, and for those approaching their third birthday, Head Start and high quality preschool.^{3, 87, 88} However, in most states, evaluation for eligibility for these services is a separate process from EI evaluation and requires a parent, provider, or care coordinator to seek out alternative services proactively if a child is not eligible for EI. Often this requires a separate referral and intake process, which likely presents many of the same barriers in referral completion as the EI process.

Services

Ideally, the successful completion of SERIES results in a child receiving appropriate, effective services in a timely manner. However, while all states have programs that provide services for children with developmental delays, the types, cost, and eligibility criteria for these services vary widely from state to state.⁸⁴ Services can be limited especially for children who, at evaluation, are determined to be ineligible for the state's EI program but are at risk of developmental delay. Notably, Part C of IDEA does include a provision allowing

states to extend services to this "at risk" group and several states have taken advantage of this provision.¹¹ While children who are covered by Medicaid – and in some cases, the Children's Health Insurance Program (CHIP) – may be able to receive developmental support services under Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) rather than Part C, families of these children often face additional barriers due to limited numbers of providers and lack of care coordination supports.^{13, 89}

DISCUSSION AND RECOMMENDATIONS

Developmental screening was introduced into primary care to support early childhood development and better meet the needs of children with developmental delays. Doing this successfully requires not only making developmental screening standard practice, but, ultimately, getting children appropriate services in a timely manner. The SERIES paradigm of developmental screening as outlined in this brief emphasizes the importance of each component in the developmental screening process – Screening, Early Identification,

Referral, Intake, Evaluation, and Services. In this paradigm, success is measured not simply by whether a child is screened, but whether that child also receives services that meet his or her developmental needs. The following recommendations target critical challenges along the pathway and highlight novel approaches used by states, cities, agencies, and providers to address some of these challenges.

Issue: Rates of developmental screening by primary care providers remain low nationally.

Response:

1. Reimbursement practices from payers will need to better incentivize screening and care coordination.

In order to better support the incorporation of developmental screening into standard primary care practice, public and private insurers will need to strengthen reimbursement policies. Reimbursement rates for these screenings vary greatly across states, impacted by state Medicaid policies, the policies of managed care organizations, and procedural definitions of developmental screening and testing.⁹⁰ Additionally, states and managed care organizations vary on whether payment for screenings are bundled together with the cost of a well-child visit or can be billed as an additional service and thus result in additional reimbursement.^{93, 91} Establishing incentives for performing developmental screening by increasing the flexibility of billing codes and/or tying reimbursement for well-child visits to the completion of a developmental screening tool has the potential to influence provider practice and increase the proportion of children screened.

Additionally, several states have leveraged Medicaid funds to support care coordination and case management activities aimed at helping families access EI and other developmental support services for their children.^{13, 92, 93} Some state Medicaid programs have created financial incentives around case management activities while others have expanded eligibility for Medicaid reimbursement to community-based agencies that can then assist providers in linking families to needed resources. Oregon has added a Current Procedural Terminology (CPT) code to the Medicaid list of Prioritized Health Services that enables reimbursement for medical team conferences with community agencies such as EI.⁹² Using EPSDT and other case management funding mechanisms within Medicaid can provide support and coordination between primary care and child-serving systems that may improve a child's likelihood of completing the SERIES.^{13, 91}

2. The federal government should support the development of public domain developmental screening tools.

The cost of purchasing screening tools for use in primary care practices presents a potential barrier to the implementation of universal screening for children. More public domain screening tools should be available to practices trying to implement evidence-based developmental screening. This could be achieved by the federally funded development of a tool or, taking advantage of the abundance of existing research, the acquisition of some of the best validated and most commonly used tools for use in the public domain. Similar to the clinical growth charts administered

by the Centers for Disease Control and Prevention (CDC),⁹⁴ a federally administered, public domain screening tool would help address the issue of variability across tools and provide opportunity for better standardization and quality control of developmental screening efforts across states and provider practices. This could also better facilitate the incorporation of these tools into electronic health records and improve provider ability to incorporate screening into workflow.

Issue: Significant drop off occurs when children move across systems.

Response:

States and individual provider sites should prioritize cross-system information exchange when developing new data sharing capacities afforded by health information technology and health information exchanges.

Providing a child with timely and appropriate services that support his or her optimal development requires close coordination between multiple child-serving systems. To facilitate these interactions, some states are piloting electronic screening and referral processes or referral pathways developed by providers and EI specialists collaboratively.⁹⁹ On a larger scale, as part of the Assuring Better Child Health and Development (ABCD) initiative, several states are exploring ways to create electronic tracking systems that allow for the exchange of data between medical, EI, and other service providers to facilitate communication and care coordination.⁹² Oklahoma is piloting a “web portal” that allows pediatric and community providers to make and track referrals across systems. The portal allows each agency to see the status of a child’s referral and sends e-mail alerts about a child’s status at each stage in the referral and evaluation process. A referral is not “completed” until a provider has reviewed the result of the child’s evaluation and service plan and closed the referral.^{92,95} While many of these efforts are nascent, their progress should be observed as potential guides for electronically-facilitated care coordination. With the

development and advancement of state health information exchanges under meaningful use requirements,⁹⁶ it is an opportune time for states to expand data linkage efforts to include other systems of care beyond the medical provider.

This effort will not be simple; for example, such cross-system linkages will inevitably create confidentiality issues that are handled quite differently between health and educational systems. One system is guided by Health Insurance Portability and Accountability Act (HIPAA) regulations, the other by Family Educational Rights and Privacy Act (FERPA) regulations. While both laws have the laudable goal of protecting the confidentiality of children that receive services, they have also created some unanticipated conflicts related to sharing information between agencies and primary care. To address these, some states such as Oregon have created parent consent forms that satisfy both sets of requirements, thereby facilitating the timely sharing of information across all involved agencies.⁹⁷

Issue: Current developmental screening metrics provide limited information about whether developmental screening effectively connects children with appropriate services.

Response:

Implementing standardized and comprehensive evaluation metrics will be necessary to improve the evidence base around best practices in developmental screening and inform quality improvement efforts.

While many states, agencies, and primary care provider sites have implemented innovative strategies to address barriers to SERIES, the evidence of the effectiveness of these strategies is limited. A lack of comprehensive evaluation metrics for developmental screening is a primary impediment to the growth of an evidence base for developmental screening efforts. Significant progress in this area has occurred in recent years with the inclusion of developmental screening rates as one of the 24 measures in the initial core set of children’s health care quality measures defined by the Centers for Medicare and Medicaid Services (CMS).¹⁰⁷ However, as illustrated in this brief, a

single metric measuring the rate of developmental screening achieved in a primary care setting may provide limited information as to the system’s effectiveness in meeting the developmental needs of children.

The foundation of an evidence base is rooted in robust tracking and monitoring. Standardized reporting of the number of children progressing through each step of the SERIES will allow for the more accurate evaluation of both the prevalence of need at each step as well the systems’ successes and challenges in supporting children through the entire process from screening to receipt of services.

Issue: There is a missed opportunity to help children who are identified by screening but not eligible for EI.

Response:

States should better coordinate the eligibility and intake processes of diverse child-serving systems to improve the systems' ability to provide timely and appropriate services to children with a range of developmental needs.

Most states have multiple developmental support services available to children, including, but not limited to, EI, EPSDT services, Early Head Start, Head Start, and high quality childcare and preschools. However, due to diverse funding mechanisms and application and eligibility criteria, these programs are often administered independently, creating a system that is hard for providers and families to navigate when trying to determine the most appropriate services to meet a child's developmental needs. In an attempt to improve coordination, many states have developed evaluation models that assess child eligibility for a range of services that have been shown to benefit child development.

This "spectrum of referral" approach is in place in different forms at various hospitals and agencies nationally. Several programs specifically target children who are at risk of developmental delay but not eligible for EI services.⁹⁸⁻¹⁰² Help Me Grow, for instance, provides additional information and/or connection to services for children identified as at-risk.^{103, 104} This program, begun in Connecticut, has now been replicated in California, Iowa, Colorado, Kentucky, New York, Oregon, and South

Carolina, and several sites have reported providing over 85 percent of at-risk children with additional information and/or services to meet their developmental needs.¹⁰⁰ Similarly, at Children's Hospital Boston, providers refer children identified as at-risk to the Advocating Success for Kids (ASK) program team, which assesses the child and refers him or her to the most appropriate services.¹⁰⁵ Several ABCD III states, in particular Illinois and Oklahoma, have developed referral forms that facilitate information sharing and referrals across various community service providers in addition to pediatric providers and EI.^{13, 92} In a particularly innovative example, Vermont has created Child Integrated Services, merging child-serving agencies such as EI, childcare, and child mental health under a single enrollment process and establishing confidentiality agreements that allow for better coordination of care.¹⁰⁶ Regional pilots in that state are also blending funding streams among child-serving agencies in an effort to create a financing infrastructure that promotes coordinated, efficient, and appropriate service delivery.¹⁰⁴

CONCLUSION

Meeting the developmental needs of children requires the ability to identify children with developmental concerns and provide them with appropriate services in a timely manner. This process is often impeded by procedural barriers and poor coordination across child-serving systems, resulting in large numbers of children dropping off along the pathway from screening to services. By reframing this pathway to consider each step not as an isolated activity, but rather

an integral component of a single process, the SERIES paradigm of developmental screening challenges states and provider agencies to improve coordination across systems and promotes a shared responsibility for each child completing the entire SERIES on his or her way to developmental success

ABBREVIATIONS

AAP: American Academy of Pediatrics

ACA: Affordable Care Act

ASQ: Ages and Stages Questionnaire

ABCD: Assuring Better Child Health and Development Program

CDC: Centers for Disease Control and Prevention

CMS: Centers for Medicare and Medicaid Services

CHIP: Children's Health Insurance Program

CPT: Current Procedural Terminology

EPSDT: Early and Periodic Screening, Diagnosis, and Treatment Program

EI: Early Intervention

FERPA: Family Educational Rights and Privacy Act

HIPAA: Health Insurance Portability and Accountability Act

IDEA: Individuals with Disabilities Education Act

MDE: Multidisciplinary Evaluation

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THE AUTHORS

JANE KAVANAGH, is a senior strategist with PolicyLab at The Children's Hospital of Philadelphia Research Institute.

MARSHA GERDES, PH.D., is senior psychologist with PolicyLab at The Children's Hospital of Philadelphia Research Institute and clinical associate professor of pediatrics at the University of Pennsylvania.

KATHERINE SELL, M.S.S.P., is a research associate with PolicyLab at The Children's Hospital of Philadelphia Research Institute.

MANUEL JIMENEZ, M.D., is a Robert Wood Johnson Clinical Scholar at the University of Pennsylvania, and a pediatric fellow at The Children's Hospital of Philadelphia.

JAMES GUEVARA, M.D., M.P.H., is director of interdisciplinary initiatives with PolicyLab at The Children's Hospital of Philadelphia Research Institute, an associate professor of pediatrics at the University of Pennsylvania, and an attending physician at The Children's Hospital of Philadelphia.

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The aim of PolicyLab at The Children's Hospital of Philadelphia is to achieve optimal child health and well-being by informing program and policy changes through interdisciplinary research.

PolicyLab develops evidence-based solutions for the most challenging health-related issues affecting children. We partner with numerous stakeholders in traditional healthcare and other community locations to identify the programs, practices, and policies that support the best outcomes for children and their families. PolicyLab disseminates its findings beyond research and academic communities as part of its commitment to transform evidence to action.

Healthy Tomorrows Progress Report and AAP Technical Assistance Visit: June 2, 2009

Hilary Gillette-Walch, RN, MPH

Program Director, Healthy Tomorrows/Cowlitz Center of Foster
Care Health hgillette-walch@pacifier.com

Phyllis M. Cavens, MD, Medical Director

Email: pcavens@pacifier.com

Child and Adolescent Clinic, Longview, WA

www.candac.com

Map for Discussion

- **Primary grant activities**
 - Developmental screening
 - Maternal depression screening
 - Pre-parent conferences
 - Enhancing the medical home
 - Medicaid outreach
 - Early intervention services
 - Parent education
- **Additional activities**

Developmental Screening

- AAP 2006 Policy Statement regarding developmental screening, “It is an integral function of the primary care medical home and an appropriate responsibility of all pediatric health care professionals.”
 - Incorporate surveillance at every well child preventive care visit.
- Early identification is critical for access to services and treatment.

Risk Factors

- **Biologic**
 - Low birth weight, prematurity,
 - SGA
 - Micro/macrocephaly
 - CNS infection
 - Teratogen exposure
- **Environmental**
 - Extreme poverty
 - Lack of permanent housing
 - Parental substance abuse
 - Teen parent



Child Development Caveats

- Development exists on a continuum
- Children manifest skills variably, inconsistently
- Developmental problem prevalence increases with age:
 - 2-3% of 0-18 month olds
 - 10% of 24-72 month olds
 - 16% of 0-21 year olds

Screening

- Detection is not perfect, even with good tools
- Risk of over/under-referral
 - Not necessarily bad
- Clinical judgment still plays a role
 - Squishy/Quirky kids,
 - Premies, other medical factors
 - Environmental factors

Detection Rates

	<i>Without Tools</i>	<i>With Tools</i>
Developmental Disabilities	30% identified Palfrey et al. <i>J Peds.</i> 111:651-655, 1987.	70-80% identified Squires et al. <i>JDBP.</i> 17:420-427, 1996.
Mental Health Problems	20% identified Lavigne et al. <i>Pediatr.</i> 91:649-655, 1993.	80-90% identified Sturner. <i>JDBP.</i> 12:51-64, 1991.

Early Intervention Works

- Windows for learning begin at birth
- **Greater developmental gains and less chance of secondary problems when Early Intervention begins soon after diagnosis**
- Reduces need for special education and other services later in life – 20% do not need special education services at 3 years of age
- Cost effective
- Reduces additional stressors on families

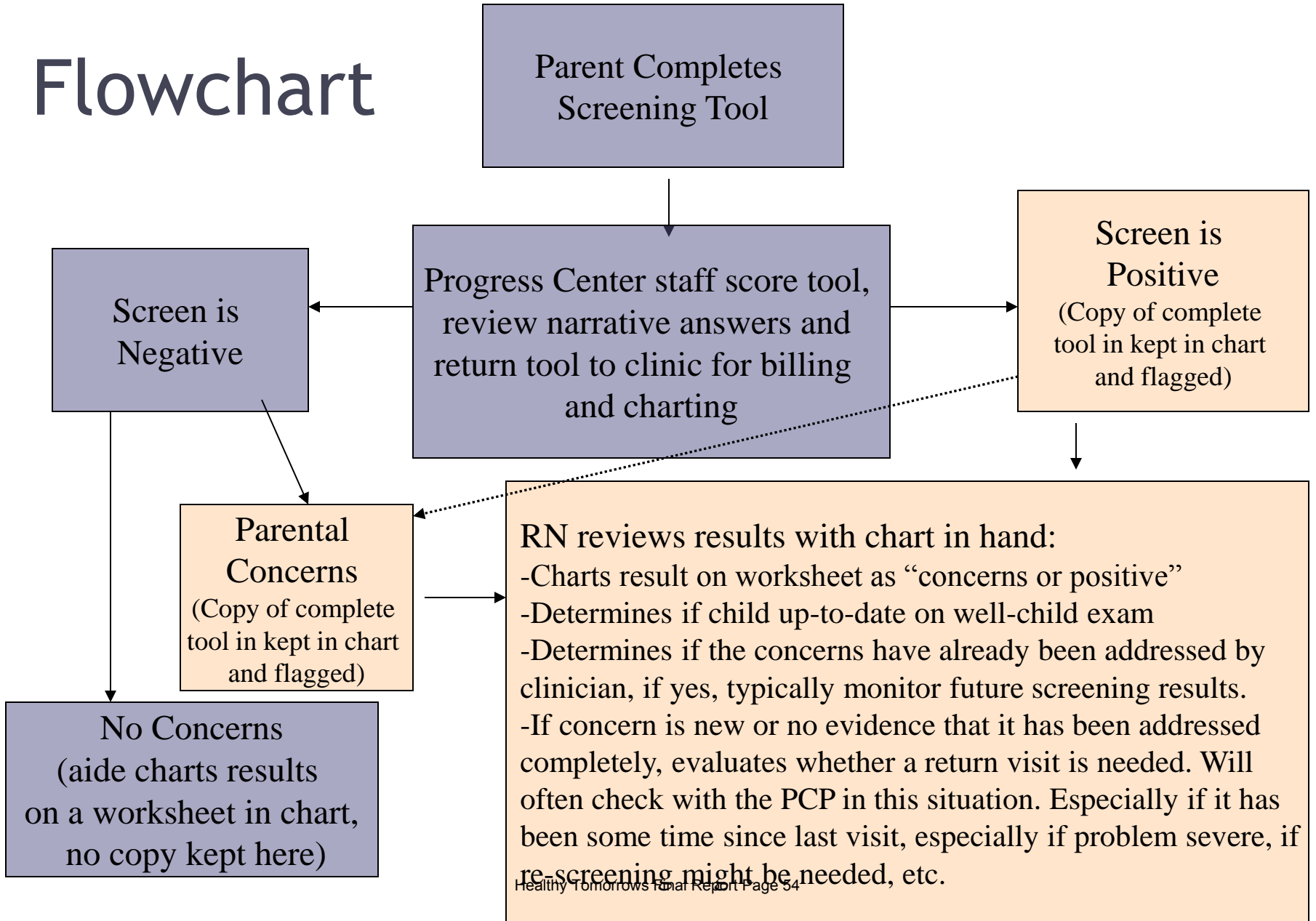
Ages and Stages Questionnaire (ASQ)

- AAN and AAP recommended
- Good specificity and sensitivity
- Parent completed – 10 minutes
- 1 -3 minutes to score
- Questionnaires for use at 1? ages (4, 8, 12, 16, 18, 20, 22, 24, 27, 30, 33, 36, 42, 48, 54, & 60 months)
- Valid 1 month before and after target age
- Activity suggestions included

Implementation at Child and Adolescent Clinic

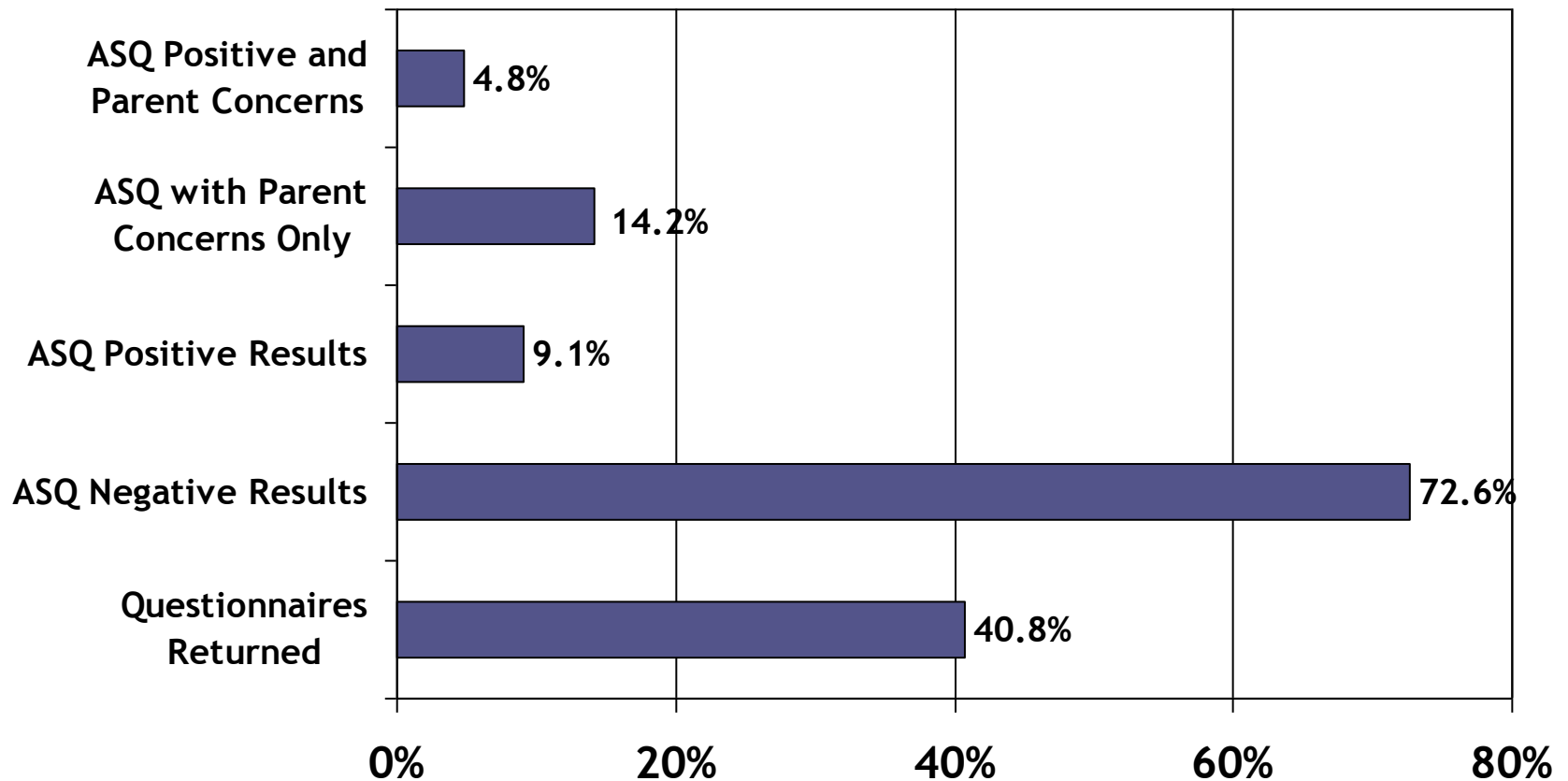
- Target Population: all children 4 –60 months of age
 - May be removed from Tracking Learning Children by parent request
- Tracking Learning Children is operated by the Progress Center
- Patient demographics and new patients information provided monthly to the Progress Center

Flowchart

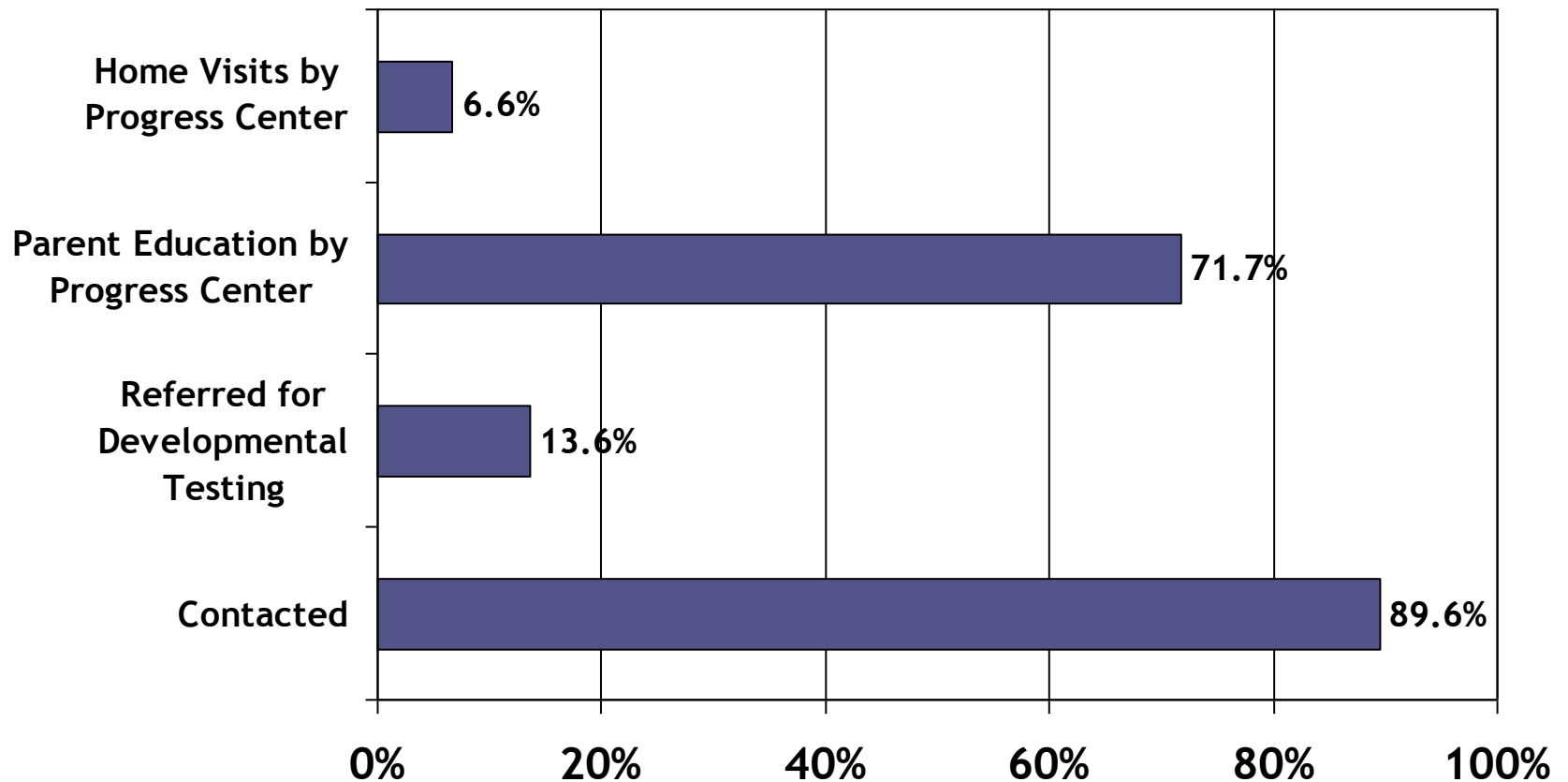


Results of Screening, June 2008 - April 2009

(1,735 screenings completed of the 4,256 mailed out, there are some children who were screened more than once in this period).



Follow-up on Positive Screens and Parent Concerns (n=396)



Maternal Depression Screening

- ***Beginning in July of 2008 identify instrument and train personnel at participating medical clinics to use an evidence-based instrument to screen the children's mothers for depression and refer appropriately based on findings.***
- Established written policy to support the maternal depression screening during well child examinations. Parents are screened at each well child visit from birth through the 3rd year. If positive screen, referral is made for intake into mental health services. Any mental health concerns that are raised we refer the family to their mental health provider of choice, or Lower Columbia Mental Health who then completes an intake. *Will plan a chart audit for the next project year to determine if this is occurring routinely.*
- Following training at the AAP (Practicing Safety) need to reevaluate tools and procedure

Pre-parent Conferences

- ***Beginning in June of 2008 ensure that all the identified children have a medical home.***
- Established referral process for high-risk mothers currently receiving case management services (via FirstSteps) to select a medical home for the child that they are expecting and meet with a pediatrician.
- Referral form provided to the First Steps families has all local clinics and their contact information on it.
 - The clinic obtains referrals on a weekly basis from First Steps
 - We began this process in the summer of 2008, during 2000-2007 we averaged 7 expectant parent visits per year, 2008 we were able complete 23, and to date in 2009 we have completed 21.

Medical Home (AAP)

Pediatrician & Policy Driven

- Family Centered
- Culturally Effective
- Compassionate
- Continuous

Resource Driven

- Coordinated
- Comprehensive
- Accessible

Additional Medical Home Outreach

- Update: Working on developing a medical home outreach program with local partner, Parents Place. Obtained grant funds to perform pilot project to screen all children at a local elementary school for medical coverage and whether they have an identified medical provider.

Parent's Place Referrals

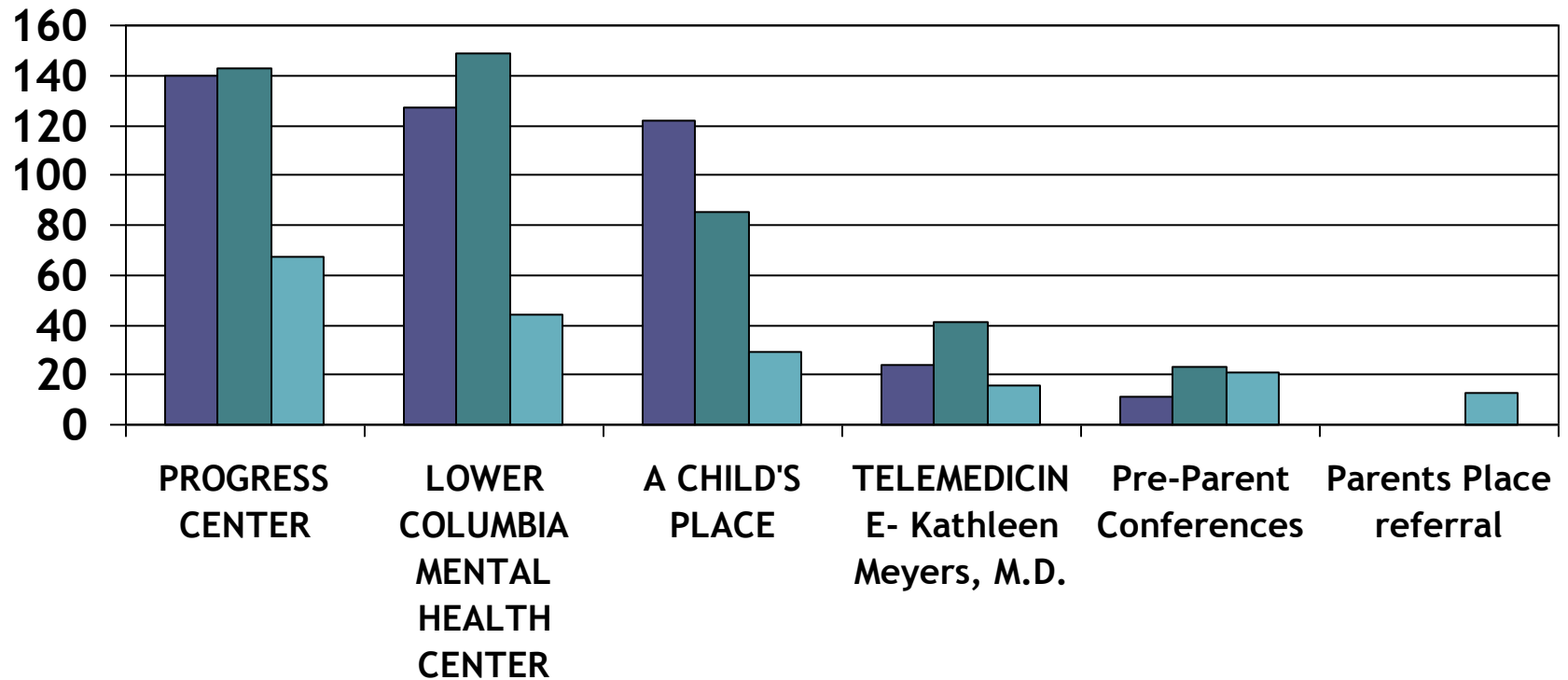
- *Identify vulnerable children pre-birth to age 6 years and provide treatment and preventative measures to those children and families.*
- Update: Currently outreach is focused on those children identified through the ASQ tool (through 60 months of age). Established a referral process in March 2009 to identify mothers at risk for child maltreatment during the immediate postpartum period in the hospital. At the discretion of the pediatrician, the family will be referred for education, and ideally in the future, nurse home visit. This would replaced services eliminated in 2008, Early Intervention Program, focusing on women with risk factors not currently engaged in services.

Coordinated Care Activities

Purpose: Build partnerships with schools, agencies, organizations, and clinics that care for children through team conferencing & co-managed care plans

- Mental Health
 - Both child psychiatrists that serve Cowlitz County
 - Mental Health intakes available on site
 - UW psychiatrists accessed through telemedicine
- Head Start
- Foster Care/CPS clinical consultation
- Drug-Affected Children
 - PCAP: women in drug treatment who are pregnant or have children under 3

Referrals and Co-Management Partners, Number of Clients Served, 2007-2009



2007
 2008
 2009 To Date (Jan-May)

Quality Improvement Activities

- Using the Center for Medical Home Improvement tools
 - Self-assessment tool – checking on our “medical home-ness”
 - Family/patient surveys
 - Tracking indicators, e.g., % of two-year olds up-to-date on immunizations
- Weekly quality assessment meetings for clinical staff, coding, disease management systems, patient education materials, etc

Additional Project Details

- Role of pediatrician
- Partnerships with Children with Special Health Care needs, ARC, and other local agencies
- Mental Health service needs
- Role of the Advisory Committee
 - Cowlitz-Wahkiakum

Cowlitz-Wahkiakum Child Psychiatry Coalition

- The Coalition consists of 45 child serving agencies, professionals and parents. Our vision is that our community ensures a stable, collaborative continuum of mental health and substance abuse services that assist each child and family in reaching their full potential. Each coalition member has signed a charter, committing to this vision, along with a mission, strategic goals and community standards of care for children.

Utilize the Children With Special Health Care Needs (CSHCN) Program Public Health Nurses

- Meet your local staff
- Get a copy of their referral form
- Find out their procedures for following-up on referrals and giving feedback about services provided.
- Identify the contacts for your local school district – know how they want to receive referrals for screening.

Presentation of Health and/or Developmental Concern

Child Birth to 3 years of age?

Child with known or suspected developmental delay

Call County Early Intervention Family Resources Coordinator

<http://www1.dshs.wa.gov/iteip/CountyOrgLinks.html>

Child typically developing with medical issues that require Care Coordination or local resources and referrals

Call Children with Special Health Care Needs County Coordinator

<http://www.doh.wa.gov/files/mch/documents/CoordList.doc>

Child 3 – 18 years?

Child typically-developing or with developmental delay with medical issues that require Care Coordination or local resources and referrals

Child with developmental delay but no accompanying medical issues

Call Child's Local School District

<http://www.k12.wa.us/maps/SDmainmap.aspx>

Next Steps

- Encourage all local pediatric clinicians to adopt a systematic process for developmental screening
 - Support each to have a procedure to follow-up on positive screenings and parental concerns
 - Ensure that all clinicians and local agencies utilize local resources for early intervention services
- Support community-awareness of the importance of early learning



Washington Healthcare Improvement Network

Child and Adolescent Clinic

Phyllis M. Cavens, MD

Pediatrician



Practice Profile

Setting: Two sites; semi-rural Longview, urban Vancouver; 16,000 patients

Type of organization: Physician owned, private, single specialty pediatric group established in 1978, Medical Home model with open access

Number of clinicians: 9 MD, 4 ARNP, 50 staff

Typical panel size; full time clinician: 1,500-2,100

FTE Pediatrician 7.5 FTE ARNP 3.25

Patient mix: Birth to age 20, 71% Medicaid, 3% required translators, 3,300 in Chronic Disease Management

A “typical patient”

Great Grandmother, CJ, surviving caregiver

Grandmother, TW, mother at age 14; sister murdered 1994

Mother, NW, mother at 15 yrs, died 3/4/13 age 31, dual dx

Father, LB, died 4/14/13 at age 36, MVA driver, addict

Son, NW-B, died 4/22/13 at age 8, MVA passenger, ADHD

- Drug Abuse Prevention Center, child with addicted mother
- Lower Columbia Mental Health, child with behavior disorders
- Head Start, preschool child in poverty
- 0-3 Neurodevelopmental Center, child with delays
- Hospital, newborn with high risk mother

Population priorities

Do you prioritize who receives integrated services? It is our highest priority that children in chronic disease management receive integrated services.

Chronic disease management: 1) tracking, 2) recall, 3) referral, 4) current release of information, 5) bi-directional exchange of records, 6) co-management, 7) family centered and community based care.

Top three tips for clinics considering integration

1. Know your community resources
2. Develop coalitions around unmet needs
3. Model and Mentor Medical Home care



Healthy Communities
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Healthy people in healthy places

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Contact information

Phyllis M. Cavens, MD

pcavens@pacifier.com