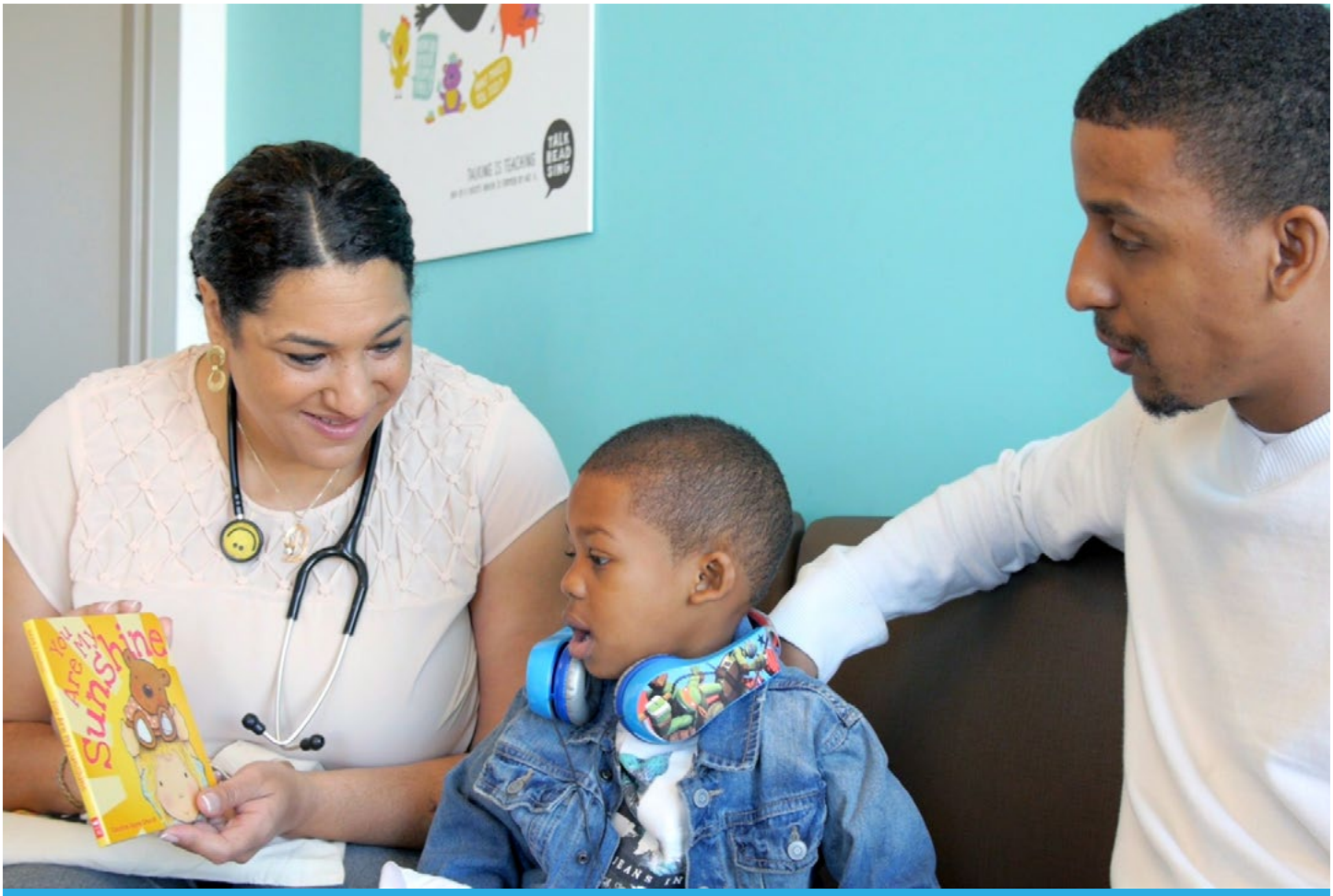

Word Health:

Addressing the Word Gap as a Public Health Crisis

Sarah Crow and Ann O'Leary

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Next Generation

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Introduction

Over the past twenty years, scientists and researchers have built the case that the earliest moments of a child's life offer a unique opportunity to shape her future. The brains of infants and toddlers develop at an incredible rate, forming the foundation for lifelong learning and health. The stimulation that children receive in these early years powerfully influence not only their academic and material success, but also – critically – their physical and mental health as well. An emerging body of research links poor health outcomes and chronic illness to unmet social and environmental factors, as well as to adverse childhood experiences.

While higher-income families seem to be reaping the benefits of this brain research and boosting their children's advantage, families with fewer resources and less education are not. There is a gap in knowledge and understanding about the power of language-rich interactions – such as talking, reading, and singing – with infants and toddlers that has long-term implications for children, and society at large. Decades of research, including studies that have been replicated and deepened in recent years, demonstrate that there are important disparities in the language exposure of young children. These disparities are predictors of children's development, success in school and even long-term health outcomes.

Taken together, the brain research coupled with these disparities suggest a public crisis related to the early development of young children, which impacts not only those children and families, but also the promise of social mobility, equality, health, and economic future of our country.

One tangible, feasible, and actionable strategy is to address the "word gap," or the difference in both the number of words and the quality of conversation heard by low-income children as compared to children in higher income households.

This paper provides a framework to consider early childhood development broadly, and the word gap specifically, as not only a school readiness issue, but as a public health issue and the topic of a public health campaign. Like efforts to put babies on their backs to sleep and to reduce tobacco use, this paper argues that we need to combine media and action campaigns aimed at changing personal behavior with changes in public policy to support the broader ecosystem for parents and caregivers. Through a widely targeted and thoughtful campaign, individuals and the public and private sectors will come to understand the problem and help to raise awareness, which will lead to more families and caregivers talking, reading and singing with young children, and ultimately improving children's health and educational outcomes for all children.

Too Small to Fail has issued a Community Campaign Guide, which walks local leaders through the steps of creating a word gap campaign, or enhancing a current campaign with word gap messaging. Those interested in building a local word gap campaign should review that guide, as well.

I. Early Experiences and Brain Development

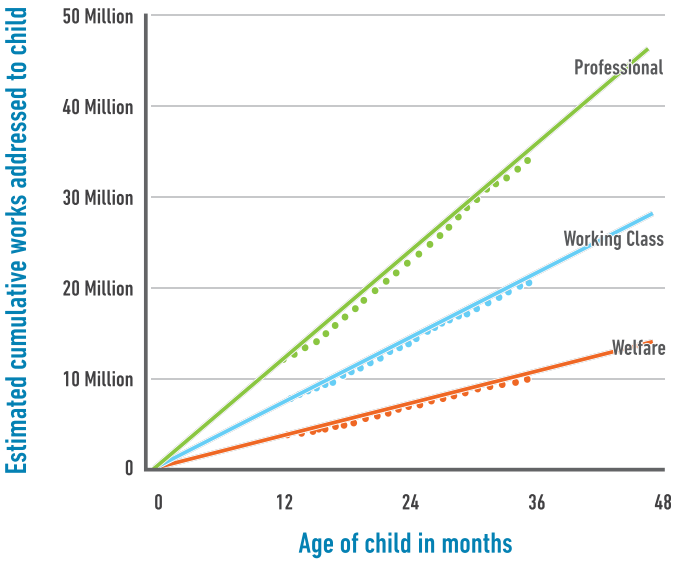
On average, low-income children hear many fewer words than their more affluent peers. In 1995, Betty Hart and Todd Risley documented the differences in language use among low- and higher-income families. Their research found that children learn the majority of their vocabularies and speech patterns from their parents. Children in more affluent households were also much more likely to hear words of praise, encouragement and inquiry than their lower-income peers.[1]

Word exposure leads directly to word acquisition. Professor Anne Fernald at Stanford University has used cutting-edge research techniques to understand the language acquisition of toddlers in both low- and high-income families. The results of Dr. Fernald's research show that by the time a child is eighteen months old, there is a six-month gap between lower- and higher-income children's language proficiency.[2] Follow-up research on many of the same children originally observed by Hart and Risley revealed that their vocabulary acquisition at age three was predictive of their language development and reading comprehension as third graders.[3] Professor Patricia Kuhl's work further demonstrates how infants' language acquisition skills at nine months are facilitated by live, human interactions such as talking and reading.[4]

Other new research illuminates that what is critical about the word gap findings is not only the number of words, but also the quality of interactions with infants and toddlers. Psychologist Kathy Hirsh-Pasek and others have found that interactions between parents and children that are both language-rich and involve "serve and return" conversations are deeply important to a child's growing language confidence and development.[5]

The early relationships that parents build with their children through quality interactions such as talking, reading, and singing is critically important to understanding why the word gap is not just predictive of children's academic achievement; it impacts their health and well-being throughout their lives.[6]

The Number of Words Addressed to Children Differs Across Income Groups



Studies demonstrate a wide-ranging number of effects of both positive and negative early childhood experiences on later life outcomes.[7] For example, early childhood interventions can be effective in preventing or postponing certain adult health conditions.[8] Longitudinal studies of children enrolled in a high-quality early education program found that they had reduced cardiovascular and metabolic diseases as adults, and lower rates of obesity among adult men.[9] A randomized controlled trial found that early childhood interventions, in the form of weekly home visits, reaped major advantages to the child's health and material success 20 years later.[10] Early experiences also shape a child's ability to learn and regulate emotions later in life.[11] Executive function skills – the skills that allow us to multi-task, control impulses, and plan for the future – are built on the brain infrastructure that is established during early childhood.[12]

Conversely, negative early childhood experiences have an outsized effect on children's futures. Repetitive stressful experiences during childhood damage the physical architecture of the brain in ways that impair healthy development and compromise a person's ability to handle adversity later in life. Important new research demonstrates that adverse childhood experiences, such as abuse, neglect and household dysfunction, in addition to poverty can cause toxic stress. Toxic stress results in significant physical and emotional impairment. Low-income children are significantly more likely than affluent children to have multiple adverse childhood experiences (14 percent and 6 percent, respectively).[13] Toxic stress occurs when a child experiences extreme adversity without an adequate buffer, such as a positive and stable relationship with an adult. Children exposed to toxic stress are at a greater risk for poor health outcomes in adulthood, including heart disease, autoimmune illnesses, and depression.[14]

Together, these strands of research support both a whole child approach and a two-generation approach to health and development. Efforts to reduce the word gap, then, should be understood as part of a larger effort to reduce stress among vulnerable children through strengthening parental bonds that are created when a parent takes the time to talk, read and sing with a child. The benefits of this time promote resilience that goes beyond school readiness, to providing a stress buffer that children can later rely on, better equipping them with the ability to cope with and overcome adversity, and to offering some protection against health conditions and diseases. Research suggests that interventions like those mentioned here do help low-income families enrich their children's language environments.

II. Why Focus on the Word Gap?

Although the body of research that demonstrates how vital a child's earliest experiences are to later development, an actionable, translatable concept needs to rise from the research to effect change. We use the "word gap" as a short-hand expression for the need to increase language-rich interactions with children while improving the strong attachment of a child with her parent. It is not meant to imply that children would benefit from a dictionary being read to them or being put in front of a television. Quite the opposite, the back-and-forth interactions between children and their parents and caregivers are central to this effort. Closing the word gap allows us to focus our efforts around a concrete goal that will increase language-rich interactions between adults and children.

Through the work of several organizations and initiatives, including our own *Too Small to Fail* initiative, as well as *Providence Talks*, *Abriendo Puertas/Opening Doors*, the *Thirty Million Words* initiative, Vroom and others, there is a groundswell of interest in building up the skills and resources of parents and caregivers to improve the early development of young children and reduce the disadvantages that low-income children face. This groundswell combined with the growing mound of evidence-based research about this critical approach to children's development is one impetus for a national strategy shaping the campaign as a broad public health effort. Another is the growth in the social and economic factors that limit a parent's ability to engage meaningfully with his or her infant or toddler.

III. Why a Public Health Campaign?

The lack of words in a child's life amounts to both a public education and a public health concern. Yet, generally it is understood solely in the realm of school readiness and often not understood as an activity that starts at birth, not upon entry to preschool or Kindergarten. Increased attention to a child's vocabulary growth and his emotional development pays dividends for the community around him, and increases his chances at both physical and material success. At a population level, increased language development could be monumental.

This is why we argue for the adoption of a unified, national public health campaign that promotes the importance of early brain development to families, and deepens the public's knowledge about how their own speech and actions impact their children's future health and learning. A national campaign of this nature – informed by evaluation about what works – will encourage our society to take seriously this responsibility, and could thereby decrease the word gap and improve opportunity and health for our youngest children.

A national campaign could also reverse the trends that point to a growing opportunity gap. Parents are working more outside of the home than ever before, and a third of parents report not having enough time with their children.[16] Low-wage workers, in particular, are the most likely to feel the squeeze on their family time.[17] The percent of single-headed households has more than tripled since the 1960s,[18] leading to more single mothers adopting the primary breadwinning role. Single parents are more likely to be low-income than two-parent households, and this is especially true of single female-headed households.[19]

Conversely, more educated parents are both earning more as compared to a generation ago, and are spending more time involving themselves in the intellectual and emotional growth of their children.[20] In the 1960s and 1970s, highly educated and less educated parents spent about the same amount of time reading to their children, referred to as "Goodnight Moon" time by Robert Putnam. By 2012, however, the amount of "Goodnight Moon" time spent by highly educated parents was much higher than that spent by less educated parents: the gap has grown to more than three and a half hours each week.[21] Highly educated mothers spend more time with children, read to them more, and use more complex language when speaking with their children as compared to less educated mothers.[22] Meanwhile, the achievement gap – or the academic difference between low-income and more affluent children in third grade – has been widening over the past several decades.[23]

Because these trends are not likely to change if left unaddressed, we could see a widening in the word gap as the highly educated continue to expand their children's vocabularies, and the less affluent have less time to spend with their children. A public health campaign that attacks the word gap head on would stem some of these negative early childhood outcomes by empowering all parents to be agents of change, regardless of income or level of education. These trends are also intertwined with disparities by race and ethnicity; Hispanic children enter kindergarten six months behind their peers in terms of academic readiness.[24] Addressing the word gap could simultaneously ameliorate some of the effects of those disparities as well.

Public health campaigns seek to improve health outcomes throughout a population by preventing health issues before they start, or by changing behavior to reduce or eliminate the impacts of unhealthy behavior or influences. Public health campaigns have convinced Americans to put their babies on their backs at night,[25] to not smoke when pregnant, and to use seat belts and designated drivers.[26] Broad messaging and locally-based interventions like the ones that led to those important changes are a model for how we can address the disparity in language interactions between the haves, and the have-nots.

Barriers to talking

Parents of young children face real barriers to talking more to their children: In focus groups of families in several cities across the country, parents and caregivers identified a few common reasons why they, or families like theirs, were not talking frequently to the young children in their lives.[27]

Lack of information: For many parents, the importance of talking, reading and singing with their children is not obvious to them, nor have they been exposed to the basic scientific research about brain development that indicates how important it is to talk, read and sing. Parents may see a connection to academic outcomes and encouraging talking and reading among three to five-year olds, but do not see the benefits of talking, reading or singing to infants and toddlers. For this group, the barrier is a lack of information.

Lack of time: For others, talking, reading and singing to their children on a daily basis is a challenge because parents working multiple jobs may have little time with their children, and may be too overwhelmed and exhausted to meaningfully engage with them. Parents with multiple children may feel strapped to address the needs of each, especially if their children are at very different developmental stages.

Parenting Beliefs: Lastly, cultural norms and parenting beliefs in some communities may facilitate language acquisition more naturally than others. Some communities may encourage a talkative child, while others place a stronger emphasis on obeying and listening to adults. For example, men in our focus groups indicated that they feel uncomfortable talking, reading and singing to their children, especially in front of others.

An additional barrier to talking to children may involve questions about how to talk to them. Today's adults may remember parenting language from their own childhoods as mostly restrictions and prohibitions (e.g., Don't do this, Stop talking, etc.). Others may want to talk to their children in more positive ways, but need prompts or suggestions, especially for talking to pre-verbal children. Almost any parent of a child younger than five may run out of ideas at some point, and can benefit from outside suggestions and encouragement.

To address the word gap, then, efforts must thoughtfully address these barriers with understanding, respect, and cultural responsiveness. They must share with families and caregivers the research demonstrating that early brain development is critical to later success. Families responded positively to hearing that they have the tools to give their children a brighter future just with the words they speak to them. Initiatives to close the word gap must integrate these messages into busy families' daily lives, and in ways that are positive and encouraging if they hope to have a strong effect.

IV. Word Gap Interventions at Every Level

"Scientific evidence indicates that for children to reach their full potential, communities need to support the capacity of all families to provide a variety of stimulating and appropriate experiences in the earliest years, when a child's brain is optimally programmed to benefit from specific types of experiences."

—National Scientific Council on the Developing Child, 2007

Closing the word gap will require individual interventions, with messages coming from trusted sources that convince families of how powerful they can be in the lives of their children. But it will also require a culture change that promotes interactions with children, that encourages empathizing with children and their needs, and that takes seriously the brain development that happens in the earliest years of life. A change of this sort requires wide-ranging interventions paired with messages that reach broad audiences, beyond parents themselves.

Given everything we now know about the pervasiveness of this problem and its long-term, far-reaching effects, smart public health interventions can be designed at every level of government and with the help of private business, non-profits, philanthropic organizations, and community leaders to address the barriers behind the word gap, and make substantial gains.

Public Health Campaign Elements

Several communities, including Oakland, California; Tulsa, Oklahoma; Providence, Rhode Island; Kansas City, Missouri; and the State of Georgia, have already taken on the word gap as a public campaign, and are taking steps to make people at all levels of society aware of the problem and equip them with some practical tools. Supported by public dollars, First 5 California launched "Talk. Read. Sing." a television, radio, and online media campaign aimed at encouraging parents and caregivers to engage in activities with their children that promote early learning. These efforts, spearheaded by initiatives like *Too Small to Fail* and *Providence Talks* and funded by private philanthropy, include posting colorful and broadly appealing billboards in public spaces with prompts about how to talk to infants and toddlers, and by providing more intensive information and interventions through home visiting and pediatric visits. This section describes some of the research that demonstrates the effectiveness of a public campaign, and highlights some of the innovative approaches taken by different communities. For more information about these efforts, or other possible campaign strategies, please refer to the Talking Is Teaching Community Campaign Guide.

1. Media Campaign & Community-Based Outreach

Reaching wide audiences, mass media campaigns have been found to be effective in advancing public health goals, and can be a force to change the social context on a particular issue. For example, hard-hitting ads changed public opinion and social mores about smoking.[28] In addition to raising awareness, these types of campaigns have been found to be effective in changing behavior when combined with services and desirable products.[29] They are also successful at ensuring that conversations about the issue in question occur during patient visits to doctors' offices.[30]

Cities or other local jurisdictions that are interested in developing a word gap campaign should consider targeting the places that are frequented by young families, such as grocery stores, churches, child care centers, buses and other forms of public transportation, and gas stations. New research suggests that interventions in grocery stores in low-income neighborhoods increased both the amount and the quality of conversation between children and adults.[31] Public messaging in these spaces raises broad awareness of the issue, and encourages action in the moment. Communities have experimented with posting signs in the produce aisle of grocery stores with graphics that appeal to children, and provide parents with questions to ask their children as they move through the store (e.g., "What color is a banana?").

Technology may play a growing role in alerting parents to this issue and to changing their daily behavior. Texting services hold particular promise; text messaging is a widely used technology, and has the ability to provide encouragement and suggestions on a frequent basis over an extended period of time. It has been shown to be effective in changing behavior of audiences enrolled in text-based programs. Moreover, a recent randomized controlled trial produced promising results for a texting program designed to increase the home literacy activities of families.[32] *Text4baby*, a texting service targeted to new mothers, has contracts with Medicaid agencies to connect pregnant women to Medicaid and ensure they maintain their coverage once enrolled.[33] *Text4baby* has recently begun integrating messages about early literacy as a part of its work with *Too Small to Fail*.[34]

Parents who are exposed to these messages and prompts are likely to share their experience with their peers. Focus groups suggest that parents, grandparents, and caregivers are very willing to tell their peers about the importance of talking, reading, and singing to children. These focus groups also offered some recommendations about the types of messages that are likely to have the most impact. Parents responded positively to messages about children pursuing their dreams, and to information that linked brain science to growing a child's imagination.

"So like zero to two, the only person who I think could tell me something educational about my child that I already wouldn't know would be the doctor."

—Oakland parent, LRP focus groups

These efforts require the input and advice of a wide range of local leaders to ensure that both the placement of the messages and their content reflect the specific needs of the community in which they operate. Philanthropic organizations, local government agencies, non-profits, and the private sector can partner to develop a city- or county-wide word gap media campaign and communicate broadly about ways to improve the word acquisition of young, vulnerable children. Trusted sources are needed to deliver the messages to the target populations, as a set of messages on billboards alone are unlikely to move behavior. Community-based campaigns should identify and use messengers that are most likely to be trusted by families. Evaluations of *Reach Out and Read*, a program that works with pediatricians to promote literacy, have found significant improvements in the language scores of children, in large part because of the influence of pediatricians among parents.[35] For these reasons, medical settings offer a particularly powerful setting to address the word gap.

Faith-based, childcare centers, and community-based organizations are also well-positioned to reach families in culturally appropriate ways. For more information on efforts to involve the community, see the Campaign Guide.

2. Employer Role

Employers of large and small workforces can demonstrate their commitment to early brain development and make a powerful impact in a variety of ways.

- **Educate employees about the importance of early brain development**, and encourage new parents to find quality time in their schedules to engage with their young children. Employers with workforces that are disproportionately female and young are likely already working with issues related to balancing work and the needs of young families. These employers can play a critical role in disseminating messages related to the word gap. For example, *Too Small to Fail* is developing plans with hotels to post messages about early brain development in areas frequented by their housekeepers.
- **Family-friendly work policies** make it more possible for parents of young children to create stable, supportive households for their children. For example, mothers and fathers who have access to paid and/or protected time off following the birth of a baby are offered an opportunity to bond with the child. Currently, 11% of private sector employees have access to paid family leave.[36] The overwhelming majority of surveyed employers in California, who are required to offer paid family leave, report either no effect on their businesses or positive outcomes, including improved productivity, profitability, and performance.[37] Moreover, employers can offer flexible scheduling options for working parents with young children so that they have the ability to spend additional time during the workweek engaging with their children.

Government Interventions

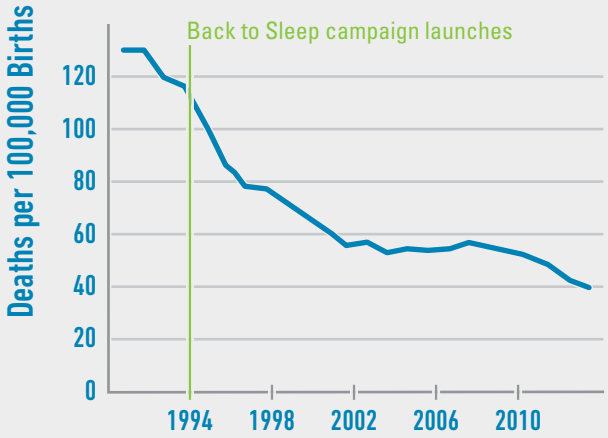
Public campaigns can and do raise awareness and, in the best circumstances, motivate individual behavior change. But to be most effective and influential, public messaging must be coupled with policy change that supports the intended behavior. Studies of public health campaigns have found that interventions at the public level have more impact than those that attempt to change behavior on an individual basis. For example, tobacco use has been reduced through a combination of changes in workplace policies, establishing and increasing taxes on tobacco products, as well as through media campaigns aimed to change attitudes. In general, media campaigns coupled with legislation or other public policy tools that also address the underlying issue are most effective.[38]

Governments can take steps to encourage parents and caregivers to talk more with infants and toddlers. Examples of government interventions that would reduce the word gap and improve the success of a word gap media campaign include:

Lessons Learned from the "Back to Sleep Campaign"

The "Back to Sleep" campaign began in 1994 to encourage families to put their infants on their backs to sleep in order to reduce the rate of Sudden Infant Death Syndrome (SIDS). The problem had been identified in 1969, and countries had begun to issue recommendations that babies sleep on their backs as early as 1988. In 1992, the American Academy of Pediatricians issued a recommendation that babies sleep on their backs. However, rates of SIDS deaths began to decrease rapidly once the Back to Sleep Campaign launched in 1994 (see chart). That campaign **capitalized on a number of strategic partnerships** with companies familiar to parents of babies, including Pampers, Gerber, and Johnson & Johnson. Several **federal agencies collaborated on the campaign**, which led to guidance issued to caregivers about the importance of safe sleeping. Nationally known spokespeople appeared in Public Service Announcements. The campaign learned that African Americans were least likely to put children to sleep on their backs, and so **specific, targeted outreach efforts** were designed with the help of leading African American organizations.[39]

Sudden Infant Death Syndrome Rates



Source: CDC/NCHS, National Vital Statistics System, Compressed Mortality Data. Available at http://wonder.cdc.gov/mortSQL.html

1. Expand voluntary home visiting program access

Voluntary home visiting programs have been used for years to provide parenting support to first-time, usually low-income or high-risk, mothers. Trained nurses or paraprofessionals visit first-time mothers in their homes and provide health and early childhood education, support, and referrals to other social service programs. These programs have been studied rigorously and demonstrate a range of favorable outcomes, such as improving child and maternal health, supporting child development and school readiness, reducing child maltreatment, encouraging positive parenting practices, and promoting family self-sufficiency.[40]

Although the most prominent home visiting models do not explicitly target the word gap, their work generally includes teaching parents how to be more responsive and attached to their new children, and underscores the importance of the early years in terms of long-term development and outcomes. Studies of Early Head Start, a program that is often administered in the homes of low-income families with infants and toddlers, found that enrolled children showed greater vocabulary and language development compared to children not enrolled. Moreover, the families of enrolled children showed greater support for language and learning development in their homes.[41] The *Thirty Million Words* initiative is addressing the word gap by visiting new mothers in the hospital after birth to educate them about early literacy activities. The project is beginning an exciting long-term study of families who will receive six months of home visits.[42]

Elements of Campaigns to Guide Social Change

In response to the growing obesity epidemic, researchers from several schools of public health, private research organizations and California's Department of Health Services researched the mechanisms by which efforts have deterred unhealthy behaviors and led to positive change.[43] They identified the following key components included in those efforts:

1. **A Crisis:** To take off, the issue needs to be perceived as a crisis.
2. **Scientific Evidence:** Providing a scientific base for the need to change behavior is a fundamental element of successful campaigns.
3. **Economics:** Social transformation may not be successful unless the benefits of prevention can be understood in dollar terms.
4. **Sparkplugs:** Individual leaders who can motivate through the power of their charisma and influence are critical to social movements.
5. **Coalition Development:** Bringing together diverse networks of organizations and individuals with like goals provide fuel to social change efforts.
6. **Advocacy:** Advocacy by activists helps to initiate and drive grassroots efforts, and raises the issue's visibility.
7. **Government Involvement:** The Government plays a unique role in advancing a successful movement. For example, government can issue guidelines, engage in strategic planning, collect data, and create policy.
8. **Mass Communication:** The media can influence community norms, and a broad-based communication effort is critical to reaching disadvantaged and underserved populations.
9. **Change Environment/Policy:** Efforts to change behavior must establish clear policy and environmental goals. Efforts to curb obesity, for example, must address the changes needed to physical environments, and a process to evaluate those efforts.

A Plan: No single approach will solve a public health problem, but it is critical to establish a flexible, national plan that includes all the various pieces working together.

The federal government funds home visiting programs through the Maternal Infant and Early Childhood Home Visiting Program (MIECHV), which has authorized $1.9 billion since its inception in 2010. Through that funding stream and others (including Early Head Start programs), about 13.6 percent of families receive some sort of home visit between pregnancy and their child's third birthday.[44] This is an important and critical investment, but is insufficient to reach even the highest-need families. Additional federal, state and local dollars would ensure that a larger proportion of first-time vulnerable mothers were enrolled in a home visiting program, which would underscore the importance of early brain development and language. Local governments could work with departments of public health and other providers of home visiting programs to ensure that understanding language development were an explicit part of their services, and link their work to a community-wide word gap campaign.

2. Expand access to quality child care settings

Quality child care settings offer a powerful venue for addressing the word gap. Mothers are breadwinners or co-breadwinners in 40 percent of American families, a share that has quadrupled since 1960.[45] With a growing number of mothers entering the workforce, more than three in five American children below the age of five are cared for someone other than their parent.[46] As a result, access to quality child care makes a difference for working parents and their young children. Improving access to these programs would offer more families a place to interact with early childhood educators, and expose children to an additional set of adults who are trained in the importance of early brain development. Children in quality child care settings are likely to be in safe, nurturing environments that allow them to form attachments to adults who are reliable and consistent, which is beneficial to brain development.[47]

Further, quality child care results in a number of other important outcomes that are related to the goals of a word gap campaign. A study of the Infant Health and Development Program (IHDP) suggests that children who participated in this high-quality program experienced positive results to such a degree that it largely wiped out the achievement gap seen in the third grade.[48] Evaluations of Head Start programs show strong improvements on a number of young adult outcomes, like college attendance, health status, and reduced teen parenthood.[49]

Increased funding, coupled with strategic planning to target the word gap through child care settings, would have a powerful effect in improving the language acquisition of vulnerable children. State and local governments should prioritize funding for quality, affordable child care programs, and advocates should continue to ask for adequate funding for high-quality programming. Local child care planning councils should work with programs to integrate an explicit emphasis on language-rich environments, and offer providers word gap related materials to disseminate to the parents they serve. Models that offer on-site family support services and prioritize the sharing of information between parents and caretakers, similar to the model used by Educare centers, should be adopted more widely.[50]

3. Expand access to early developmental screenings

Early developmental screenings of young children establish whether they are meeting developmental milestones, or whether further assessments or interventions are necessary. Moreover, they are prime opportunities to ensure that parents understand what is developmentally appropriate for their child, and for pediatricians or other professionals to highlight the importance of interacting directly with young children to assess behavior. Several screening tools, such as the Ages and Stages Questionnaire, rely on both a pediatrician's assessment as well as the input of parents themselves, and have been found to be much more effective than tools that rely on a pediatrician's assessment alone. These screens should be at regular intervals, beginning at infancy, so that any development issues may be identified and addressed as early as possible.

"You are working two jobs and you don't have time to spend that time with your kids because when you come in, you sleep. You go to sleep in the chair. You talk to them for a minute – hey, how was your day – and before they can get it out, you are nodded off."

—Parent, LRP focus groups

Although the importance of these screenings is widely understood, evidence suggests that they are not being performed on a regular basis, even among children who have regular doctor visits. According to a recent survey, only 13 states included the recommended number of well-child visits in their Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) policies for children under age one.[51]

Federal efforts may increase rates of screening: as part of federal Health Care Quality Measures, states now face more stringent reporting requirements on developmental screening among children zero to three enrolled in Medicaid or CHIP.[52] The Obama Administration has launched a national campaign entitled *Birth to Five: Watch Me Thrive*, which provides parents and caregivers tips and tools to celebrate a child's development and recognize signs of developmental delay or disability.[53] That campaign will increase awareness of developmental milestones among families, but policy changes at the state level to ensure that medical professionals or child care providers are administering these screens regularly will provide a more wide-reaching effort to ensure vulnerable families are included. *Help Me Grow*, a screening model founded by Dr. Paul Dworkin, has developed a number of approaches to improve access to developmental screening, including via technology and through partnerships, and could be incorporated in such state efforts.[54]

4. Improve parent leave and work scheduling laws

Parents could spend more quality time with their children if they had more time overall. Nearly half of parents report that they spend too little time with their youngest (or only) child, and both mothers and fathers report high levels of work-family conflict.[55] American families report greater work-family conflict than elsewhere in the developed world, a result, in part, of Americans' longer work hours and lack of access to family-friendly workplace policies.[56] A successful set of interventions should be based on the two-generation approach, which calls for policies that consider both the child and the family.[57]

Only three states have a paid family leave program, which mostly benefit parents with newborns.[58] In these states, parents are allowed to take up to six weeks of leave to care for and bond with a new child.[59] That translates into twelve weeks of parent/child bonding time if there are two parents in the household and both parents are able to avail themselves of the leave. More states should implement such policies, and those that have them should ensure that they are accessible, ameliorating any barriers to taking such leave, like lack of awareness, low wage reimbursement, or lack of job protection for those who take leave.[60]

Moreover, work schedules have a critical effect on a parent's ability to provide a stable household and spend quality time with a child. Employers that require employees to keep their schedules open in the event that they are needed for work, or who provide very little advance notice of work schedules, create instability in families. Bills have been introduced to address this practice at the federal, state, and local levels. San Francisco has enacted a Family Friendly Workplace Ordinance, which allows workers the right to request a flexible work schedule without retaliation, and passed a Fair Scheduling and Treatment Ordinance, which deters employers from making last minute schedule changes.[61] Both pieces of legislation can be used as models by other states or localities.

Recently, large retailers have taken voluntary steps to improve the scheduling predictability of their workforces. These and other businesses that choose to take strong stands in favor of workplace predictability may be able to improve the family stability of thousands of households.

5. Leverage federal funding sources to increase messaging to parents

The medical profession is uniquely positioned to influence new parents. Their voice, so trusted by all socio-economic groups, speaks louder than most others to parents with newborns. Pediatricians should know that conveying the importance of early brain development falls under the rubric of "anticipatory guidance," which is a Medicaid reimbursable component of care. To the degree pediatricians are unaware of the importance of this work, the American Academy of Pediatrics should continue and deepen its work to inform all pediatricians to advise parents about the importance of talking to babies and toddlers.[62] Guidance may be necessary to make it clear to all pediatricians when and how to weave this information into well-child visits.

Additional research is needed about what other types of services pediatricians and other medical professionals could do to close the word gap, and to what extent Medicaid reimbursement is allowable for those services. The CDC should investigate word gap interventions as part of a preventive service benefit, and articulate the ways in which closing the word gap will prevent other health conditions. States should begin building the evidence base that word gap efforts qualify as a preventive service, so that they may be included in their state plans.

States and localities may be able to use funding intended for parent engagement, available through Title 1 or Title 3 of the federal Elementary and Secondary Education Code to launch word gap campaigns at the local level. School districts can take a lead in developing word gap campaigns, and can work with other local partners to reach parents with infants and toddlers.

Federal and state governments	Expand access to home visiting program access Expand access to quality child care settings Improve access to early development screenings Improve parent leave and scheduling laws Investigate federal funding sources
Employers	Disseminate word gap messages to employees Offer paid and/or protected time off for new parents Offer parents predictable and flexible scheduling options Participate in a word gap campaign by spreading messages to employees
Health care community	Train health care personnel that work with new parents to integrate discussion of talking, reading, and singing with infants and toddlers at every interaction Post word gap campaign messages in public areas frequented by new parents and caregivers
Faith-based, philanthropic and nonprofit organizations, local governments	Spearhead a word gap campaign by working with local partners Raise funding for public media messaging Collaborate to ensure messaging is appropriate to the community and placed in the most effective locations Word gap messaging and integrations in churches and child care settings

V. Conclusion

At *Too Small to Fail*, we believe that mayors, state legislators, federal policymakers, and those in the private and public sectors should capitalize on recent media coverage and the increase in general interest in the word gap to build a national public health campaign. This campaign should include the critical ingredients of public policy changes to provide a stronger backdrop for early learning and widespread understanding of early childhood development, as well as media efforts and leaders working at the ground level to communicate the need for parents and caregivers to talk, read, and sing with young children.

Endnotes

1. Betty Hart and Todd Risley, "The Early Catastrophe: The 30 Million Word Gap by Age 3." *American Educator*, Spring 2003, pp. 4-9, available at http://www.aft.org/newspubs/periodicals/ae/spring2003/hart.cfm.
2. Anne Fernald, Virginia Marchman, and Adriana Weisleder, "SES Differences in Language Processing Skill and Vocabulary are Evident at 18 Months," *Developmental Science* 16 (2) (2013): 234-248.
3. Betty Hart and Todd Risley, "The Early Catastrophe: The 30 Million Word Gap by Age 3."
4. Patricia Kuhl, "Early Language and Literacy: Neuroscience Implications for Education" *Mind, Brain, and Education* 5 (3) (2011): 128-142.
5. For more information on publications by Patricia Hirsh-Pasek, see http://astro.temple.edu/~khirshpa/.
6. Center on the Developing Child at Harvard University, "The Foundations of Lifelong Health Are Built in Early Childhood" (2010).
7. Jeanne Brooks-Gunn and Greg J. Duncan, "The Effects of Poverty on Children," *The Future of Children* 7 (2) (1997): 55-71; The Council of Economic Advisers, "The Economics of Early Childhood Investments" (2014).
8. Frances Campbell and others, "Early Childhood Investments Substantially Boost Adult Health," *Science* 343 (6178) (2014): 1478-1484.
9. Ibid.
10. Paul Gertler and others, "Labor market returns to an early childhood stimulation intervention in Jamaica," *Science* 344 (6187) (2014): 998-1001.
11. Center on the Developing Child at Harvard University, "The Timing and Quality of Early Experiences Combine to Shape Brain Architecture" (2008).
12. Center on the Developing Child at Harvard University, "Building the Brain's 'Air Traffic Control' System: How Early Experiences Shape the Development of Executive Function" (2011).
13. "Adverse Experiences," available at http://www.childtrends.org/?indicators=adverse-experiences (last accessed March 2015).
14. Center on the Developing Child at Harvard University, "The Foundations of Lifelong Health Are Built in Early Childhood" (2010). For more information on the impact of adverse childhood experiences (ACES) on health, see "Adverse Childhood Experiences Study," available at http://www.cdc.gov/violenceprevention/acestudy/.
15. Dana L. Suskind and others, "A Parent-Directed Language Intervention for Children of Low Socioeconomic Status: a Randomized Controlled Pilot Study." *Journal of Child Language*, 2015 (In Press)
16. Liana E. Fox and others, "Time for Children: Trends in the Employment Patterns of Parents, 1967 – 2009" (Cambridge: National Bureau of Economic Research, 2011); Kim Parker and Wendy Wang, "Modern Parenthood: Roles of Moms and Dads Converge as They Balance Work and Family" (Washington: Pew Research Center, 2013).
17. Joan C. Williams and Heather Boushey, "The Three Faces of Work-Family Conflict: the Poor, the Professionals, and the Missing Middle" (Washington: Center for American Progress, 2010).
18. Wendy Wang, Kim Parker, and Paul Taylor, "Breadwinner Moms" (Washington: Pew Research Center, 2013).
19. Jonathan Vespa, Jamie M. Lewis, and Rose M. Kreider, "America's Families and Living Arrangements: 2012" (U.S. Census Bureau, 2013).
20. "Parenting in America: Choose Your Parents Wisely," The Economist, July 26, 2014.
21. Robert D. Putman, *Our Kids: The American Dream in Crisis* (New York: Simon & Schuster, 2013).
22. Lynne Vernon-Feagans, Margaret Burchinal, and Irina Mokrova, "Diverging Destinies in Rural America." In Paul Amato and others, eds., *Families in an Era of Increasing Inequality: Diverging Destinies*, Vol. 5 (Switzerland: Springer International Publishing, 2014).
23. Sean F. Reardon, "The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations." In R. Murnane and G. Duncan, eds., Whither Opportunity? *Rising Inequality and the Uncertain Life Chances of Low-Income Children* (New York: Russell Sage Foundation Press, 2011).
24. Margaret Bridges and Natasha Dagys, "Who will Teach our Children? Building a Qualified Early Childhood Workforce to Teach English-Language Learners. New Journalism on Latino Children."(Berkeley: U.C. Berkeley Institute of Human Development, 2012).
25. *National Institute of Child Health and Human Development*, "NICHD and Its Collaborators Launch Expanded Infant Mortality Awareness Campaign," available at http://www.nichd.nih.gov/news/resources/spotlight/Pages/100312-safe-to-sleep.aspx.
26. Melanie A Wakefield, Barbara Loken, and Robert C Hornik, "Use of mass media campaigns to change health behavior," *The Lancet* 376 (2010): 1261-1271.
27. Lake Research Partners, "Findings from 6 focus groups and a survey of parents, grandparents, and caregivers in Tulsa, OK, San Antonio, TX, and Oakland, CA media markets" (2014). Focus groups were convened on behalf of Next Generation in February 2014. Participants included parents, grandparents, relatives and caregivers of children five years old and younger in three cities: Tulsa, Oklahoma; San Antonio, Texas; and Oakland, California.
28. Thomas R. Frieden, "A Framework for Public Health Action: The Health Impact Pyramid," *American Journal of Public Health* 100 (4) (2010): 590-595.
29. Melanie A Wakefield, Barbara Loken, and Robert C Hornik, "Use of mass media campaigns to change health behavior."
30. Thomas R. Frieden, "A Framework for Public Health Action: The Health Impact Pyramid."
31. Katherine E. Ridge and others. "Buying Language in the Supermarket:

Increasing Talk among Low-SES Families," (Under review). For more information, contact Katherine Ridge, 224 Willard Hall Education Building, School of Education, University of Delaware, Newark, DE 19716.

32. Benjamin N. York and Susanna Loeb, "One Step at a Time: The Effects of an Early Literacy Text Messaging Program for Parents of Preschoolers" Working Paper (Stanford: Center for Education Policy Analysis at Stanford University, 2014).
33. Alexandra Gates, Jessica Stephens, and Samantha Artiga, "Profiles of Medicaid Outreach and Enrollment Strategies: Using Text Messaging to Reach and Enroll Uninsured Individuals into Medicaid and CHIP" (Menlo Park: The Kaiser Family Foundation, 2014).
34. "Business, Medical, and Non-Profit Partners Launch New National Effort at CGI America to Help Close the Word Gap," available at https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/Business,-Medical,-and-Non-Profit-Partners-Launch-New-National-Effort--at-CGI-America-to-Help-Close-the-Word-Gap.aspx (last accessed March 2015).
35. "Reach Out and Read: The Evidence," available at http://www.reachoutandread.org/FileRepository/Research_Summary.pdf (last accessed March 2015).
36. Robert W. Van Giezen, "Paid leave in private industry over the past 20 years" (Washington: U.S. Bureau of Labor Statistics, 2013).
37. Ruth Milkman and Eileen Appelbaum, "Unfinished Business: Paid Family Leave in California and the Future of U.S. Work-Family Policy" (Ithaca: Cornell University Press, 2013). See Chapter 4 on "Paid Family Leave and California Business."
38. Thomas R. Frieden, "A Framework for Public Health Action: The Health Impact Pyramid."
39. "Safe to Sleep Public Health Campaign," available at https://www.nichd.nih.gov/sts/campaign/moments/Pages/1994-2003.aspx (last accessed March 2015).
40. Sarah Avellar and others, "Home Visiting Evidence of Effectiveness Review" (Washington: Mathematica Policy Research, 2013).
41. Richard A. Faldowski and others, "Designs and Methods in the Early Head Start Study," *Monographs of the Society for Research in Child Development* 78 (1) (2013): 20-35.
42. Christina D. Economos and others. "What Lessons Have Been Learned From Other Attempts to Guide Social Change?" *Nutrition Reviews* 59 (3) (2001): S40-S56.
43. Sara Neufeld, "How Do You Make a Baby Smart? Word by Word, a Chicago Project Says" The Hechinger Report, January 7, 2015, available at http://hechingerreport.org/content/make-baby-smart-word-word-chicago-project-says_18681/.
44. National Survey for Children's Health, "Indicator 4.4: Home visiting program, age 0-3 years (details)" (Portland: Data Resource Center for Child and Adolescent Health, 2011) available at http://childhealthdata.org/browse/survey/results?q=2503&r=6&r2=1.
45. Wendy Wang, Kim Parker, and Paul Taylor, "Breadwinner Moms" (Washington: Pew Research Center, 2013).
46. Lynda Laughlin, *"Who's Minding the Kids? Child Care Arrangements: Spring 2011"* (Department of Commerce, 2011)
47. Tarjei Havnes and Magne Mogstad, "No Child Left Behind: Subsidized Child Care and Children's Long-Run Outcomes," *American Economic Journal: Economic Policy* 3 (2) (2011): 97-129.
48. Greg J. Duncun and Aaron J. Sojourner, "Can Intensive Early Childhood Intervention Programs Eliminate Income-Based Cognitive and Achievement Gaps?" *The Journal of Human Resources* 48 (4) (2013).
49. David Deming, "Early Childhood Intervention and Life-Cycle Skill Development: Evidence from Head Start," *American Economic Journal: Applied Economics* 1 (3) (2009): 111-134.
50. For more information on Educare centers, see http://educareschools.org/about/educare-Program.php.
51. Christine Johnson-Staub, "First Steps for Early Success: State Strategies to Support Developmental Screenings in Early Childhood Settings" (Washington: Center for Law and Social Policy, 2014).
52. Christine Johnson-Staub, "First Steps for Early Success: State Strategies to Support Developmental Screenings in Early Childhood Settings" (Washington: Center for Law and Social Policy, 2014).
53. "Birth to 5: Watch Me Thrive!" available at http://www.acf.hhs.gov/programs/ecd/child-health-development/watch-me-thrive (last accessed March 2015).
54. For more information on the *Help Me Grow* model, see http://www.helpmegrownational.org/.
55. Jonathan Guryan, Erik Hurst, and Melissa Kearney, "Parental Education and Parental Time with Children" (Chicago: The University of Chicago Booth School of Business, 2008); Ellen Galinsky, Kerstin Aumann, and James T. Bond, "Times Are Changing: Gender and Generation at Work and at Home" (New York: Families and Work Institute, 2011).
56. Joan C. Williams and Heather Boushey, "The Three Faces of Work-Family Conflict: the Poor, the Professionals, and the Missing Middle."
57. "The Two Generation Approach," available at http://ascend.aspeninstitute.org/pages/the-two-generation-approach (last accessed March 2015).
58. Washington State has also passed a paid family leave program, but it has never been funded. See National Partnership for Women and Families, "State Paid Family Leave Insurance Laws" (2013) available at http://www.nationalpartnership.org/research-library/work-family/paid-leave/state-paid-family-leave-laws.pdf.
59. Rhode Island's program will expand to eight weeks of paid leave in 2015. See Bryce Covert, "Workers in a Third State Can Now Take Paid Family Leave," *Think Progress*, January 2, 2014, available at http://thinkprogress.org/economy/2014/01/02/3110281/rhode-island-paid-family-leave-effect/.
60. For more information about paid family leave programs, see Heather Boushey and Sarah Jane Glynn, "The Effects of Paid Family and Medical Leave on Employment Stability and Economic Security" (Washington: Center for American Progress, 2012); Netsy Firestein, Ann O'Leary, and Zoe Savitsky, "A Guide to Implementing Paid Family Leave: Lessons from California" (Berkeley: Labor Project for Working Families, 2011).
61. Hong Van Pham, Sarah Crow, Julia Parish and Sharon Terman, "San Francisco Predictable Scheduling and Fair Treatment for Formula Retail Ordinance," (San Francisco: Next Generation, 2014).
62. "Business, Medical, and Non-Profit Partners Launch New National Effort at CGI America to Help Close the Word Gap," available at https://www.aap.org/en-us/about-the-aap/aap-press-room/Pages/Business,-Medical,-and-Non-Profit-Partners-Launch-New-National-Effort--at-CGI-America-to-Help-Close-the-Word-Gap.aspx (last accessed March 2015).