A Statewide Strategy to Battle Child Obesity in Delaware

SUMMARY

Nemours, a leading child health system, has launched an initiative to combat childhood obesity throughout the state of Delaware. This model promotes changing policies and practices in multiple sectors, including child care, schools, and primary care. Early results show that the initiative has stemmed the increase in the prevalence of childhood overweight and obesity with findings that the prevalence is statistically unchanged for children between 2006 and 2008.

Introduction

The United States is currently raising a generation of children who may live sicker, shorter lives than their parents. An obesity epidemic threatens the health of children across the nation. During the past 30 years, childhood obesity rates have more than tripled and adult obesity rates have doubled.

Obesity-related illnesses overwhelm the health care system and account for billions of dollars in preventable health care costs.

Nemours – a large pediatric health system with treatment, advocacy, prevention, research and training programs located in Delaware and Florida – has tackled the childhood obesity epidemic in Delaware with community-based prevention strategies. Early results indicate that this approach is successful. The prevalence of childhood overweight and obesity in Delaware is statistically unchanged between 2006 and 2008. Moreover, the Nemours initiative has also spurred increased knowledge of healthy eating and increased physical activity in schools and child care settings, resulting in policy and practice changes.

The model developed by Nemours, focused on population health and changing policies and practices in multiple settings through strategic partnerships, knowledge mobilization and social marketing, can effectively address obesity and other complex problems facing children today.

The Nemours Model

In 2004, Nemours broadened its mission from medical care to include health promotion and disease prevention, and expanded its target population from the 55,100 children served by a Nemours hospital or clinic to include all 207,000 children in Delaware. To lead and implement the expanded mission, Nemours created a new Division – Nemours Health and Prevention Services (NHPS). Addressing childhood obesity statewide was Nemours’ first prevention initiative.

Childhood overweight affects every community in Delaware. Approximately 37 percent of children ages 2 through 17 were overweight or obese in 2006. Nemours’ goal is to statistically reduce the prevalence of childhood overweight and obesity in Delaware by 2015, with an intermediate goal of slowing the rate of increase. This intermediate goal has been reached—a significant accomplishment, given the complex etiology of the obesity epidemic.

The Nemours model was built from the ground up, starting with the multi-sector approach. Nemours targeted sectors where children spend time, including schools, child care and primary care, and sought to change children’s behavior while in those settings. Nemours worked with targeted partners, including child-focused agencies, organizations and coalitions under the umbrella of the “Campaign to Make Delaware’s Children the Healthiest in the Nation” to mobilize the promotion and implementation of priority policy and practice changes – all around 5-2-1-Almost None, its prescription for a healthy lifestyle. Working with coalitions allowed significantly more community-level partner engagement than would an individual partner approach. NHPS provided extensive technical assistance, often delivered through learning collaboratives, in which professionals from a given sector (e.g., child care) would join Nemours staff and other experts to discuss promising policies and practices and receive tools and materials for implementing these practices.

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About Nemours

Nemours, one of the nation’s largest pediatric health systems, is dedicated to achieving higher standards in children’s health. Nemours offers an integrated spectrum of clinical treatment coupled with research, advocacy, and educational health and prevention services extending to all families in the communities it serves. Starting with Alfred I. duPont’s bequest over seventy years ago, Nemours has grown into a multi-dimensional organization offering personalized clinical and preventive care focused on children.

Nemours owns and operates the Alfred I. duPont Hospital for Children in Wilmington, Delaware and major children’s specialty clinics in Delaware (Wilmington), Florida (Jacksonville, Orlando and Pensacola), Pennsylvania (Philadelphia and Bryn Mawr) and New Jersey (Atlantic City and Voorhees). Having recently received preliminary approval from the State of Florida, Nemours will establish a new full-service children’s hospital as part of an integrated pediatric health campus in Orlando. KidsHealth.org, the world’s most visited pediatric health care Web site for parents, kids and teens, is a project of Nemours.
Three criteria guided partner selection to create the greatest potential for impact: large reach; ability to make policy and practice changes that impact multiple priorities; and ability to leverage resources. Policy and practice changes were developed with the criteria of using the best available science or evidence; reaching the greatest number of children with the most efficient use of resources; and sustainability.

How Does Nemours Evaluate the Model?

The interventions work collectively and simultaneously to change the system-level environment and the population-level behaviors and health status. A quasi-experimental evaluation design, documenting and measuring specific indicators (related to knowledge, attitude and behavior changes and Body Mass Index (BMI)), assesses the aggregate impact of policy and practice changes in the child’s environment and on population behavior over time. A quasi-experimental design shares many similarities with traditional experimental design, but lacks the element of random assignment. Data sources include the Nemours’ statewide Delaware Survey of Children’s Health, a representative sample of Delaware children ages birth through age 17 years. Administered in 2006 and 2008, this random-digit dialing survey captures data on parent/caregiver reported attitudes, knowledge, beliefs and behaviors regarding healthy eating and physical activity. In addition, height and weight were validated with provider records for a sample of children ages 2 years to 17 years. Additional data sources are described in the Health Affairs paper.

Findings: Increasing Awareness and Altering the Path of the Epidemic

Results from the 2008 Delaware survey suggest that the prevalence of overweight (85th – 94th percentile) and obesity (≥95th percentile) for Delaware children ages 2-17 years has not changed significantly since measured in 2006. Specifically, no statistically significant differences in BMI categories were observed between 2006 and 2008, e.g., overweight prevalence remained the same, at approximately 17%. This leveling off indicates that the initiative is on track to achieve its 2015 goal for at least some population groups. Notably, the leveling off of overweight and obesity is also occurring within sub-populations, further supporting the overall results. There are, however, clear demographic differences within years. Compared to non-Hispanic Whites, non-Hispanic Blacks had a significantly higher prevalence of overweight and obesity in 2006 and also in 2008.

Results from the Delaware survey indicate that awareness of healthy eating and physical activity is growing in Delaware. A comparative analysis was performed to identify healthy eating/physical activity changes occurring in households since the inception of the initiative. Overall, there was a four-fold increase (from 5% to 19%) between 2006 and 2008 in Delaware households’ awareness of the 5-2-1-Almost None message. When there was parental message awareness, significantly more children engaged in at least one hour of physical activity per day and moderate to vigorous physical activity for more than 20 minutes.

Exhibit 1: Prevalence of Child Overweight and Obesity in Delaware is Leveling Off, 2006-2008

<table>
<thead>
<tr>
<th>BMI Categories: Delaware Children Age 2-17 Years</th>
<th>2006: N=2,202</th>
<th>2008: N=2,333</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underweight</td>
<td>9.4</td>
<td>9.2</td>
</tr>
<tr>
<td>Healthy</td>
<td>53.7</td>
<td>50</td>
</tr>
<tr>
<td>Overweight</td>
<td>16.7</td>
<td>16.5</td>
</tr>
<tr>
<td>Obese</td>
<td>20.6</td>
<td>24.2</td>
</tr>
</tbody>
</table>

*No statistically significant changes between years in any category.

Source
2008 Delaware Survey of Children’s Health

Formula for a Healthy Lifestyle: 5-2-1-Almost None

5-2-1-Almost None is the formula Nemours uses to promote healthier lifestyles among children and families.
- Eat five or more servings of fruits and vegetables per day.
- Spend no more than two hours per day in front of a screen (TV, video games, recreational computer time).
- Get at least one hour of physical activity per day.
- Drink almost no sugary beverages like soda and sports drinks.
Findings: Progress in Policy and Practice Change in Each Sector

Each sector targeted by NHPS has seen significant policy and practice change. Changes in the child care sector are currently garnering national attention, as Delaware leads the nation in focusing on obesity prevention among young children in these early education settings.

Child care regulations were adopted statewide in 2007 reflecting the desired 5-2-1-Almost None healthy lifestyle behavior changes, such as prohibiting sugar sweetened beverages, in the centers’ daily routines. NHPS is working closely with providers to implement these changes; to date, 81 percent of the child care centers working closely with NHPS in a collaborative learning approach have made significant improvements in their daily practices.

Changes in the school sector include improvements in both healthy eating and physical activity among children in schools. Changes include healthy vending; evidence-based physical activity programs; fitness equipment and activity breaks. Principals and staff indicated that NHPS technical assistance and networking opportunities facilitated the changes. NHPS evaluation results show that schools were four times more likely to report implementation of the federally-mandated wellness policy if the policy included NHPS-provided language. Schools that participated in a pilot program to ensure that students get 150 minutes of physical activity during the school week saw results in student fitness levels. Based on the Fitnessgram assessment, students in the pilot group were one-and-a-half times more likely to be physically fit than children in a control group.

Among primary care providers who received technical assistance from NHPS results are equally impressive: children in Delaware are now more likely to be receiving appropriate screening and care for prevention of overweight and obesity. Nemours’ own providers doubled their classification of BMI during well child visits, from 49 percent in 2007 to 94 percent in 2008. Nemours providers offer lifestyle counseling to 95 percent of all patients, almost double the national reported rate of 54.5 percent. Moreover, the 19 multidisciplinary primary care teams engaged in collaborative learning with NHPS also made notable changes, significantly increasing their classification of BMI, counseling on healthy lifestyles, and development of care plans and family management goals for obese/overweight patients who indicated readiness to change.

Key Lessons

The Nemours initiative provides an important lesson for those interested in health reform and how a population-focused health model can be successful. Key lessons include:

- Policy and practice changes supported by community capacity are critical to sustainability. Policy change — such as new statewide regulations to ensure healthy eating and physical activity — works in tandem with technical assistance such as collaboratives or “train the trainer” programs to promote practical, daily changes in the practices of child-serving institutions in the community. A community infrastructure is essential to support community leaders and stakeholders focused on making both policy and practice changes on behalf of children. Nemours brought focused assistance to various entities to ensure sustainability in the community. For example, Nemours initiated a Child Care Learning Collaborative that supported 28 large child care centers with tools and materials to use in aligning their policies and practices with new state regulations.

Health Affairs Article Describes Strategy in Detail

A halt in the increase in the prevalence of overweight and obese children in Delaware is described in the March 2010 edition of Health Affairs, a peer-reviewed publication and the country’s most respected health policy journal. Because obesity rates had heretofore been climbing rapidly, the leveling-off is cause for optimism. The Health Affairs article describes the Nemours strategy to battle childhood obesity and the evaluation research that is currently underway.
Notes


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CONCLUSION

Many of today’s leading child health problems — obesity, behavioral health problems, asthma, and tooth decay, to name a few — are chronic conditions that are either preventable or could be ameliorated through health promotion and disease prevention efforts. Even though preventing these and many other chronic diseases is achievable, the percent of U.S. children and adolescents with a chronic health condition has increased from 1.8 percent in the 1960’s to more than 7 percent in 2004. There is an urgent need for solid prevention models that are buttressed by strong evaluation.

The Nemours initiative illustrates the possibilities inherent in a community-based prevention model supported by a pediatric health care system. Results from Nemours show the efficacy of a comprehensive prevention-oriented model. Investments have proved valuable in many ways, including establishing community collaboration and capacity to address other childhood issues and leveraging resources from multiple sources to affect children’s health. These types of private and public funding partnerships need to be further developed and replicated.

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