Obesity Prevention at the State and Local Levels: Lessons Learned and New Opportunities

Donald Shell, MD, MA
Director, Cancer and Chronic Disease Bureau
Interim Director, Center for Chronic Disease Prevention & Control

Maryland Department of Health & Mental Hygiene
Prevention and Health Promotion Administration

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Children who are overweight or obese as preschoolers are FIVE TIMES as likely as normal-weight children to be overweight or obese as adults.

Source: CDC Vital Statistics, August 2013
Many states and US territories are showing decreases in childhood obesity

Source: CDC Vital Statistics, August 2013
More than one in four high school youth are overweight or obese

Source: Youth Risk Behavior Survey, 2011
High School Youth Obesity Risk Factors

Source: Youth Risk Behavior Survey, 2011
BMI Status among Medicaid Healthy Kids Study Participants (ages 2-19 years), Maryland, 2005-2010

* n=6769: Normal
  n=1790: Overweight
  n=2323: Obese

Data Source: Healthy Kids MCO Review
Two-Thirds of Adults in Maryland are Overweight or Obese

- Obese: 28%
- Healthy Weight: 36%
- Overweight: 36%

Source: Behavioral Risk Factor Surveillance System, 2011
Calories from Added Sugars by Poverty Level

Figure 4. Mean percentage of kilocalories from added sugars among adults aged 20 and over, by poverty level and sex: United States, 2005–2010

1Significant linear trend by poverty level, p < 0.05.
2Significantly different from females, p < 0.05.
NOTE: Estimates were age adjusted to the 2000 U.S. standard population using three age groups: 20–39, 40–59, and 60 and over.
Any Leisure Time Physical Activity and Socioeconomic Status in Maryland

Source: Behavioral Risk Factor Surveillance System, 2011
Percentage of U.S. Adults Who Often Felt Tired* by Frequency of Weekly Vigorous Leisure Time Exercise**

* Based on responses to the following: "In the past 3 months, how often did you feel very tired or exhausted? Would you say never, some days, most days, or every day?" Persons reporting feelings of tiredness or exhaustion on most days or every day were categorized as often feeling very tired or exhausted. Unknowns and refusals were not included in the denominators when calculating percentages.

** Based on responses to the following: "How often do you do vigorous leisure-time physical activity for at least 10 minutes that causes heavy sweating or large increases in breathing or heart rate?" Persons reporting such leisure-time physical activity were recoded into weekly time increments. Unknowns and refusals were not included in the denominators when calculating percentages.

Source: National Health Interview Survey, 2010
Weight and Chronic Conditions among Maryland Adults

Source: Maryland Behavioral Risk Factor Surveillance System, 2011
Chronic Disease Hospitalizations and Hospital Expenses in Maryland

<table>
<thead>
<tr>
<th>Condition</th>
<th>Hospital Discharges (Frequency)</th>
<th>Hospital Expenses (Total Charges)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Disease</td>
<td>75,873</td>
<td>$974,400,000</td>
</tr>
<tr>
<td>Cancer</td>
<td>29,113</td>
<td>$575,100,000</td>
</tr>
<tr>
<td>Stroke</td>
<td>18,645</td>
<td>$253,700,000</td>
</tr>
<tr>
<td>CLRD</td>
<td>11,339</td>
<td>$107,700,000</td>
</tr>
<tr>
<td>Diabetes</td>
<td>11,079</td>
<td>$116,200,000</td>
</tr>
<tr>
<td>Mental Illness</td>
<td>46,485</td>
<td>$371,800,000</td>
</tr>
</tbody>
</table>

Source: MHSCRC, 2010
Chronic Diseases Are Preventable

For every dollar spent on health care, more than 85 cents are spent on the treatment of chronic diseases

Eliminating 3 risk factors would prevent:
• 80% of Heart Disease and Stroke
• 80% of Type 2 Diabetes
• 40% of Cancer

(World Health Organization, Preventing Chronic Diseases: A Vital Investment, 2005)
Partnership Engagement Framework

**Grasstops**
- Lt. Governor and Secretary of Health (Health Quality and Cost Council)
- Senior level leaders in health care systems, university systems, insurance providers, etc.
- State decision-makers

**In the Grass**
- Mid-level management
- Health care providers, insurance providers, academic partners, etc.

**On the Ground**
- Community- and faith-based organizations
- Local health improvement coalitions
- FQHCs, community health centers, LHDs

**Grassroots**
- Target population
What Can Be Done: Schools and Child Care Providers

• Strengthen local school wellness policies

• Enhance licensing & administrative regulations and training & technical assistance

A randomized trial study conducted in secondary schools and worksites showed that low-fat snack price reductions of 25% and 50% resulted in 39% and 93% increases in sales, respectively.

(French et al., 2001)
Cornerstone Legislation

**Child Nutrition and WIC Reauthorization Act of 2004**

Requires each local educational agency participating in the NSLP or other child nutrition programs to establish a local school wellness policy (Public Law 108-265, Section 204).

**Healthy Hunger Free Kids Act of 2010**

Introduced new provisions for local wellness policies that place greater emphasis on implementation, evaluation, and publicly reporting on the progress towards meeting the local wellness policy goals (Public Law 111-296, Section 204).

Academic-State Agency Partnership

1. To examine local wellness policy strength, comprehensiveness, and implementation among school systems and schools across Maryland.

2. To examine barriers and enablers to wellness policy implementation.

3. To create a guide for school system representatives and school administrators outlining strategies for fully implementing wellness policies.
**Inputs**

- Partnerships (MSDE, DHMH)
- Funding: CDC
- Counties and State (MSDE) prioritizing school wellness/obesity prevention = readiness to change

**Outputs**

- Guide for Schools: Wellness Policy Implementation (Direct to CDC approved Toolkits)
- In-Person Feedback to Counties: Written Wellness Policies and Wellness Policy Implementation (Direct to CDC approved Toolkits)

**Outcomes**

- Improved Written Wellness Policy Strength
- Improved Written Wellness Policy Comprehensiveness
- Improved Wellness Policy Implementation
- Healthier School Environments
- Improved Diet and Physical Activity Behaviors in School Children
- Reduction in Childhood Obesity Prevalence
CDC’s Spectrum of Opportunities for State Action for Obesity Prevention in Child Care

Sign Up & Help Kids Get a Healthy Start

Strive for Five: Goals for a Healthier Future

Learn From Others & Be a Success Story

Take Online Training to Support Your Efforts

Find Recognized Providers

Our Five Goals
1. Get Kids Moving
2. Reduce Screen Time
3. Make Nutrition Fun
4. Offer Healthier Beverages
5. Infant Feeding

http://www.healthykidshealthyfuture.org/welcome.html
Local School Wellness Policies

1. Goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness

2. Guidelines for foods and beverages sold outside of school meal programs (i.e., “competitive foods and beverages”)

3. Permit students, staff, parents, community members to participate in the development, implementation, and review and update of the local wellness policy

4. Inform and update the public about the policy

5. Implementation & monitoring plans

**System Based**

http://www.cdc.gov/healthyyouth/npao/wellness.htm
State Employee Wellness Initiative

- State Agencies convened in August 2012
- State Agency Food Procurement Workgroup convened
- Website Launched
Worksite health promotion programs decrease:
• Sick leave absenteeism by 27%
• Health costs by 26%
• Worker’s compensation and disability management claim costs by 32%
(Chapman, 2005)

What Can Be Done Employers & Organizations

• Implement policies and programs to encourage employee and consumer wellness
• Use value-based benefit design
What Can Be Done
Hospitals

• Improve hospital food, beverage, and physical activity environments
  – MD H2E’s Healthier Hospital Initiative

• Improve support for breastfeeding
  – Maryland Hospital Breastfeeding Policy Recommendations
Maryland Breastfeeding Policy Recommendations: Letters of Commitment

All 32 birthing hospitals in Maryland have committed to this quality improvement process

Nine hospitals have expressed their intent to be certified as Baby-Friendly -
- Calvert Memorial Hospital
- Howard County General Hospital
- Johns Hopkins Hospital
- Medstar Franklin Square Medical Center
- Medstar Harbor Hospital
- Medstar St. Mary’s Hospital
- Meritus Medical Center
- Shady Grove Adventist Hospital
- Upper Chesapeake Medical Center

Twenty-three hospitals have signed letters of commitment to meet Maryland Breastfeeding Best Practices -
- Anne Arundel Medical Center
- Carroll Hospital Center
- Memorial Hospital at Easton
- Frederick Memorial Hospital
- Garrett County Memorial Hospital
- Greater Baltimore Medical Center
- Holy Cross Hospital
- Johns Hopkins Bayview Medical Center
- Laurel Regional Hospital
- Medstar Montgomery Medical Center
- Medstar Southern Maryland Hospital Center
- Mercy Medical Center
- Peninsula Regional Medical Center
- Prince George’s Hospital Center
- Sinai Hospital
- St. Agnes Hospital
- Union Hospital of Cecil County
- University of Maryland Medical Center
- University of Maryland Baltimore Washington Medical Center
- University of Maryland Charles Regional Medical Center (formerly Civista)
- University of Maryland St. Joseph Medical Center
- Washington Adventist
- Western Maryland Health System

What Can Be Done Community

- Healthy corner stores
- Virtual supermarket programs
- Community gardens
- Access to farmers’ markets
  - Location
  - Availability
    - Public Transportation
    - EBT
Evidence-Based Strategies to Increase Physical Activity in the Community

- Community-wide campaigns
- Point-of-decision prompts to encourage use of stairs
- Individually adapted health behavior change programs
- Social support interventions in community settings
• Access to physical activity spaces combined with informational outreach activities
• Street-scale urban design and land-use policies
• Community-scale urban design and land-use policies
• Active transport to school
• Transportation and travel polices and practices
PlanMaryland: A Sustainable Growth Plan for the 21st Century

- Encourage mixed-use areas
- Build walkable communities and promote safe travel routes
- Connecting with nature

- Support resource-based industries

- Promote healthy communities
- Expand transportation choices
New Opportunities
Directors for Health Promotion and Education

• DHPE Grant to DHMH
  – Center for Chronic Disease Prevention and Control
  – Access to Nielsen software and databases

• ConsumerPoint and PrimeLocation

• Second license purchased
  – Center for Tobacco Use Prevention and Control

• Proprietary data to key associated behaviors
  – Chronic Disease and Cancers
Secondary Source for Obesity Data

Nielsen Ailment Panel Data

• The Nielsen Company established its’ “Ailment Panel” in 2008 as a subset of the larger Nielsen Homescan Panel.

• The Homescan Panel samples over 100K households
  – Ailment Panel represents over 60K households
  – Balanced to represent the U.S.

• The Ailment Panelists self select over 30 types of ailments & conditions
  – can be linked to several types of information
    • including obesity
Maryland Ailment Panel Data

- Pre-Diabetes
- Smoking Cessation
- Diabetes Type II
- Hypertension
- Hypercholesterolemia
- Anxiety and Depression
- COPD
- Obesity
- Weight Management
- Gum Disease
Delmarva Peninsula

- Landmass to the east of the Chesapeake Bay
  - Delaware: All 3 counties (1 partial)
  - Virginia: 2 counties
  - Maryland: 9 counties (1 partial)

- Total 2013 population of Delmarva counties is 1,416,519

- County populations vary
  - Low of 12,426 (Northampton, VA)
  - High of 545,911 (New Castle, DE)
Nielsen Market Segmentation

Example – Segment #56, highest likelihood of obesity in household

- **Downscale Older w/o Kids**
  - With a population of white-collar couples and families, Crossroads Villagers is a classic rural lifestyle.
  - Residents are high school-educated, with downscale incomes and modest housing
  - One-quarter live in mobile homes
  - Self-reliant households
    - Help put food on the table
    - Fishing, gardening, and hunting.
Nielsen Panel Methodology

• Stratified, proportionate sample for the Homescan Consumer Panel
  – Recruitment of a sample of households
  – Match a selected group of demographic characteristics at the total U.S.
    • major market and remaining Census Region levels.

• Homescan households are randomly recruited to join the panel
  – Weekly sample maintenance process
  – Evaluates overall and individual market sample demographic representation and replenishes the sample as needed.

• Households offered a variety of incentives to join and stay active.
  – designed to be non-biasing, may include monthly prize drawings, gift points awarded for transmitting each week and sweepstakes.

• Data quality assurance
  – The Nielsen Company has proprietary systems and processes in place
  – Accurate reporting levels from panelists
The Ailment Panel Information

Attitude

- Rx, OTC, CPG Purchases
- Household Demographics

Behavior

- Channel & Retailer Trips
- Online
- Media Programming
Nielsen Ailment Panel and Obesity on the Delmarva Peninsula

• Obesity rates are projected as fairly uniform across the Delmarva Peninsula
  – appear to be roughly comparable to BRFSS county-level estimates made with statewide BRFSS data.

• The measure used to compare Delmarva Counties was the number of households projected to include at least 1 resident who was obese per 100 households

• Range from
  – low of 27.93/100 households in New Castle County Delaware (the most populous county)
  – high of 31.62/100 households in Accomack County Virginia
Distribution of obese households by county – (n-Tile = 3)
Distribution of obese households by zip code (n-Tile = 5)
How to Reach Households?

• Nielsen profiles can be used
  – to identify media behaviors
    • become channels for communication

• Top 30 media behaviors for profile #56
  – Greatest propensity for obesity in the Delmarva Peninsula
### Top 15 Media Behaviors

<table>
<thead>
<tr>
<th>Top 15 Media Behaviors</th>
<th>Index</th>
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</thead>
<tbody>
<tr>
<td>Watch Current TV- 1wk (A)</td>
<td>216</td>
</tr>
<tr>
<td>Read Game &amp; Fish Magazine (A)</td>
<td>188</td>
</tr>
<tr>
<td>Read Bassmaster (A)</td>
<td>185</td>
</tr>
<tr>
<td>Read American Hunter (A)</td>
<td>178</td>
</tr>
<tr>
<td>Read Hunting (A)</td>
<td>166</td>
</tr>
<tr>
<td>Read Outdoor Life (A)</td>
<td>162</td>
</tr>
<tr>
<td>Watch CBS Early Show- 3-5 Times/wk (A)</td>
<td>162</td>
</tr>
<tr>
<td>Watch New Yankee Workshop- 2-4 Times/mo (A)</td>
<td>161</td>
</tr>
<tr>
<td>Read Family Handyman (A)</td>
<td>159</td>
</tr>
<tr>
<td>Read Penthouse (A)</td>
<td>159</td>
</tr>
<tr>
<td>Read Details (A)</td>
<td>153</td>
</tr>
<tr>
<td>Watch FamilyNet- 1wk (A)</td>
<td>152</td>
</tr>
<tr>
<td>Read North American Hunter (A)</td>
<td>149</td>
</tr>
<tr>
<td>Read Field &amp; Stream (A)</td>
<td>147</td>
</tr>
<tr>
<td>Read Automobile Magazine (A)</td>
<td>146</td>
</tr>
</tbody>
</table>

### Media Behaviors 16-30

<table>
<thead>
<tr>
<th>Media Behaviors 16-30</th>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Watch CBS Morning News- 3-5 Times/wk (A)</td>
<td>146</td>
</tr>
<tr>
<td>Read Boating (A)</td>
<td>145</td>
</tr>
<tr>
<td>Watch Stargate SG1- 2-4 Times/mo (A)</td>
<td>145</td>
</tr>
<tr>
<td>Read Hot Rod (A)</td>
<td>144</td>
</tr>
<tr>
<td>Watch As the World Turns- 3-5 Times/wk (A)</td>
<td>143</td>
</tr>
<tr>
<td>Watch Days of Our Lives- 3-5 Times/wk (A)</td>
<td>143</td>
</tr>
<tr>
<td>Watch American Dad- 2-4 Times/mo (A)</td>
<td>141</td>
</tr>
<tr>
<td>Read Fishing/Hunting Magazines- Net Audience (A)</td>
<td>140</td>
</tr>
<tr>
<td>Watch Jack Hanna’s Animal Adventures- 2-4 Times/mo (A)</td>
<td>140</td>
</tr>
<tr>
<td>Watch NASCAR Nationwide Series- 1yr (A)</td>
<td>139</td>
</tr>
<tr>
<td>Read Cycle World (A)</td>
<td>137</td>
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<tr>
<td>Watch Cops- 2-4 Times/mo (A)</td>
<td>136</td>
</tr>
<tr>
<td>Watch Price is Right- 3-5 Times/wk (A)</td>
<td>135</td>
</tr>
<tr>
<td>Listen Gospel Radio- Net Audience (A)</td>
<td>133</td>
</tr>
<tr>
<td>Listen Country Radio- Net Audience (A)</td>
<td>133</td>
</tr>
</tbody>
</table>

*Index value above 100 indicates increased likelihood of finding households engaging in identified behavior.*
In Somerset County, Nielsen Ailment Panel data suggests that the population in the census tract with highest obesity (red in map on left) has the least interest in weight management (yellow in map on right).

The census tracts with the lowest obesity rates (yellow in map on left) have the most interest in weight management (red in map on right).
Donald Shell, MD, MA

donald.shell@maryland.gov
Twitter: @DrDonShell

Prevention and Health Promotion Administration
Website: http://phpa.dhmh.maryland.gov