Overview and Methodology of the DSCH 2014

The Delaware Survey of Children's Health (DSCH), sponsored by Nemours Children's Health System (Nemours), is one of the most comprehensive health surveillance instruments for children in Delaware. The data from the survey have been used by Nemours and its partners to inform program development, guide children's health initiatives, and monitor public health indicators. DSCH was first implemented in 2006 (DSCH 2006), followed by three additional administrations in 2008-09 (DSCH 2008), 2011-12 (DSCH 2011) and in 2014-15 (DSCH 2014). The DSCH 2014 was administered by RTI International, from July 16, 2014 to May 22, 2015.

We selected a probability sample of children younger than 18 years old representative of the noninstitutionalized civilian Delaware population. The DSCH includes two main components: the household survey and the health care provider-reported child height and weight data. The household sample included listed landline numbers, cell numbers, and an address-based sample (ABS) which consists of the U.S. Postal Service Delivery Sequence File. These three sampling frames were utilized to sample all households located in Delaware with at least one child younger than 18 years of age who lived with a parent or guardian. Interviewers attempted to interview the adult who was the most knowledgeable about that child's health and health care. This statewide sample was specifically designed to allow for the analysis and comparison of children and adolescents living in five geographic locations: New Castle County, the City of Wilmington, New Castle County excluding the City of Wilmington, Kent County, and Sussex County. The sample also supports comparisons among children of various age groups (birth through 5 years, 6 through 11 years, and 12 through 17 years) as well as racial and ethnic groups (Hispanic, non-Hispanic African Americans, non-Hispanic Whites, and non-Hispanic Others). The final data set contains data for 2,657 Delaware children and adolescents and their households.

In 2011-2012, the DSCH sampled from a frame of landline phone numbers only. Therefore, cell phone-only households had zero probability of selection in the DSCH 2011. According to the National Health Statistics Reports—Number 70, 23.3% of Delaware households exclusively received telephone service through cell phones for 2012.[1] Thus, the potential coverage bias is particularly concerning for DSCH 2011, especially for the goal of detecting changes in population parameters over the two time points (DSCH 2011 and DSCH 2014). To adjust for this bias in the DSCH 2011 data, we asked DSCH 2014 respondents if they had a cell phone in 2011. In DSCH 2014, there were 615 respondents who indicated that they had a cell phone in 2011 and were cell phone-only. These 615 cases were used to impute the missing cell phone–only respondents into the DSCH 2011 data set. In order to obtain a proportion of 23.3% cell phone-only cases for DSCH 2011, the 615 cell-phone only cases from DSCH 2014 were sampled with replacement to obtain a sample of 980 cell-phone only cases. With 3,207 cases in the original data set of DSCH 2011, the total adjusted sample in DSCH 2011 became 4,187 cases. The adjusted DSCH 2011 data with updated weighting values were used to make comparisons on BMI with DSCH 2014 in this report.

[1] Blumberg SJ, Ganesh N, Luke JV, Gonzales, G. Wireless substitution: State-level estimates from the National Health Interview Survey, 2012. National health statistics reports; no 70. Hyattsville, MD: National Center for Health Statistics. 2013.

To ensure adequate representation of all racial and ethnic groups, targeted oversampling was performed in specific geographic locations. In all four administrations of the DSCH, non-Hispanic African American children were oversampled in New Castle County excluding the City of Wilmington, Kent County, and Sussex County; and non-Hispanic Whites were oversampled in the City of Wilmington. To facilitate the interview process, RTI provided a Spanish version of the questionnaire and Spanish speaking interviewers.

The main survey is designed to collect information from the adult in the household who is most knowledgeable about the sampled child or adolescent. In approximately 91% of the households, the respondent was either the mother/female guardian or father/male guardian of the selected child/adolescent; therefore 'Parent(s)' will be used to refer to 'Parent(s)/guardian(s)' in this report.

The survey collected information on various demographic and health characteristics; medical care; health behaviors and practices; family functioning; and neighborhood characteristics. Table 1 outlines the sections of the DSCH from all four iterations.

The goal of the second phase of data collection was to obtain height and weight data for the sampled children or adolescents from their health care providers. Almost 58% of parents/guardians who participated in the main survey gave RTI permission to contact their child's health care provider to obtain provider-reported height and weight data. Between May 18, 2015, and August 14, 2015, provider-reported height and weight data were collected for 77% of children whose parent or guardian provided authorization to obtain those data which amounted to data for 44% of all children and adolescents sampled. Logical algorithm and imputation techniques were used to compute the best adjusted height and weight values for each child/adolescent with both provider-reported and parent-reported height and weight data.

Response rates were calculated for each of the sampling frames at different geographic locations (New Castle County, the City of Wilmington, New Castle County excluding the City of Wilmington, Kent County, or Sussex County). Response rates varied by location. Landline response rates varied from 38.8% to 43.4%; the cell phone and targeted cell phone response rates ranged from 28.0% to 44.1%; and the response rates for ABS ranged from 7.2% to 32.0%. All response rates were calculated using the American Association for Public Opinion Research standards.

Table 1. DSCH Sections by Year of Administration

	2006	2008-09	2011-12	2014-2015
1	Introduction & Screening	Introduction & Screening	Introduction & Screening	Introduction & Screening
2	General Health	General Health	General Health	General Health
3	Schools and Child Care	Schools and Child Care	Schools and Child Care	Schools and Child Care
4	Nutrition	Nutrition	Nutrition	Nutrition
5	Physical Activity	Physical Activity	Physical Activity	Physical Activity
6	Screen Time	Screen Time	Screen Time	Screen Time
7	Neighborhood Characteristics	Neighborhood Characteristics	Neighborhood Characteristics	Neighborhood Characteristics
8	Family Functioning (Parent-child relationship)	Family Functioning (Parent-child relationship)	Family Functioning (Parent-child relationship)	Family Functioning (Parent-child relationship)
9	Emotional & Behavioral Health (age-specific scales)	Not Collected	Emotional & Behavioral Health (age-specific scales)	Special Medical Needs
10	Medical Care	Medical Care	Medical Care	Medical Care
11	5-2-1-AN Awareness	Social Marketing (including 5-2-1-AN Awareness)	5-2-1-AN Awareness	5-2-1-AN Awareness
12	Demographics	Demographics	Demographics	Demographics
13	Provider Information	Provider Information	Provider Information	Provider Information