points (P = .03 for trend) (**Table 1**). The trend appeared more consistent and stronger among non-Hispanic Black children (increase of 7.8 points; 95% CI, 3.6-12.0 points; P < .001 for trend; P = .004 for interaction).

Individual scores increased among most diet adequacy components, including total vegetables, whole grains, total protein foods, seafood and plant proteins, and fatty acids, with significant findings for all trends (eg, 2017-2020 vs 2005-2006 difference for whole grains, 0.82 points; 95% CI, 0.21-1.43 points; P < .001) (**Table 2**). However, the mean score of dairy decreased from 8.40 (95% CI, 7.88-8.92) during 2005-2006 to 7.82 (95% CI, 7.40-8.23) during 2017-2020, a decrease of 0.58 (95% CI, −1.26 to 0.09) points (P = .02 for trend). Individual scores among moderation components did not change (Table 2). Sensitivity analyses performed after adjusting for race and ethnicity and for sex presented similar findings.

Discussion | Although total dietary quality scores among US children improved overall during 2005-2020, the increase remained suboptimal: lower than 5 points, a significant threshold for children.[3] An association between lower socioeconomic status and poorer dietary quality has been reported,[4] although we found an increasing trend that was more pronounced among Black children than other groups. Individual scores increased for most adequacy components but decreased for dairy consumption, which may reduce diet quality.[5] Scores of all moderation components remained stable, warranting further studies. Study limitations include small sample size and measurement errors in dietary recalls.

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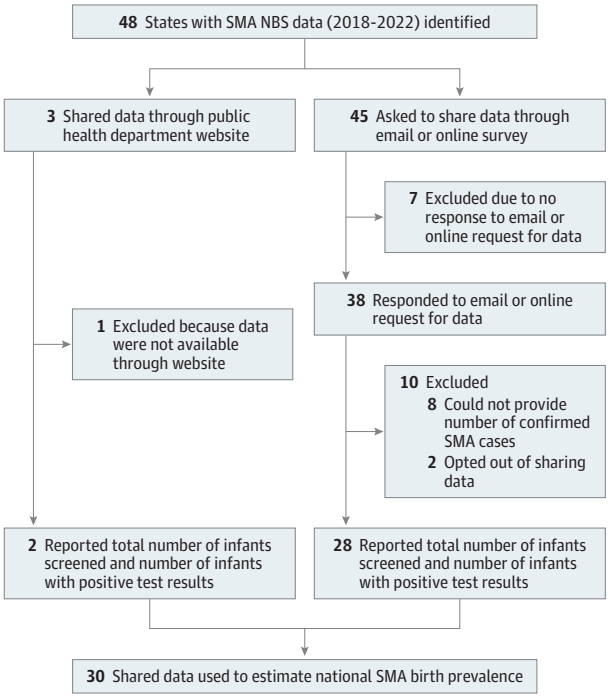
Newborn Screening and Birth Prevalence for Spinal Muscular Atrophy in the US

Spinal muscular atrophy (SMA) is an autosomal recessive disease resulting in progressive motor neuron death, muscle denervation, and weakness.[1] Rapid, widespread implementation of newborn screening (NBS) for SMA in the US since 2018 has facilitated the collection of precise SMA data, including birth prevalence.[2] Cure SMA, a US-based patient advocacy organization supporting people with SMA, partnered with state public health laboratories (PHLs) to collect data on infants who were screened for SMA and confirmed to have SMA diagnosis. This study estimated the birth prevalence of SMA

Supplemental content

Figure. Data Collection for Estimating Birth Prevalence of Spinal Muscular Atrophy (SMA)



NBS indicates newborn screening.

Table. State-Level Data Used to Estimate US Spinal Muscular Atrophy Birth Prevalence

State	Permanent screening start date	Reporting period start date	Reporting period end date	Test unit	No. of tests performed or infants screened	No. of positive test results	Birth prevalence, 1 in (95% CI)
Alabama[a]	February 14, 2022	February 14, 2022	August 31, 2022	Tests	32 408	<5	NA
Alaska[a,b,c]	July 1, 2022	July 1, 2022	October 31, 2022	Infants	3117	<5	NA
Arizona[a,c]	January 1, 2022	January 1, 2022	June 30, 2022	Infants	36 914	<5	NA
Arkansas[a]	March 23, 2020	March 23, 2020	October 31, 2022	Tests	86 619	<5	NA
California[a,b,c]	June 24, 2020	DNR	DNR	Infants	DNR	DNR	DNR
Colorado[a]	January 20, 2020	January 20, 2020	October 31, 2022	Tests	176 511	15	NA
Connecticut[d]	January 1, 2020	DNR	DNR	OOS	OOS	OOS	OOS
Delaware[a,c]	January 1, 2020	January 1, 2020	September 30, 2022	Infants	30 586	<5	NA
Florida[a,c]	April 27, 2020	April 27, 2020	December 31, 2022	Infants	580 580	40	14 515 (0.00005-0.00009)
Georgia[b]	April 1, 2020	DNR	DNR	Unknown	OOS	OOS	OOS
Idaho[b]	February 1, 2022	DNR	DNR	Unknown	OOS	OOS	OOS
Illinois[a,c]	June 29, 2020	June 29, 2020	June 30, 2022	Infants	256 699	14	18 336 (0.00003-0.00009)
Indiana[a,c]	July 1, 2018	July 1, 2018	October 26, 2022	Infants	347 329	21	16 539 (0.00004-0.00009)
Iowa[a,c]	September 8, 2021	September 15, 2021	October 26, 2022	Infants	40 434	5	8087 (0.00005-0.00029)
Kansas[a]	February 1, 2020	February 1, 2020	December 31, 2022	Tests	123 968	7	NA
Kentucky[a,c]	August 13, 2019	August 13, 2019	December 31, 2022	Infants	165 233	17	9720 (0.00006-0.00016)
Louisiana[e]	January 20, 2022	DNR	DNR	Unknown	DNR	DNR	NA
Maine[a,b,c]	April 1, 2021	DNR	DNR	Infants	DNR	DNR	DNR
Maryland[a,b,c]	June 17, 2019	DNR	DNR	Infants	DNR	DNR	DNR
Massachusetts[c,f]	NA	January 27, 2018	October 27, 2022	Infants	290 465	13	22 343 (0.00003-0.00008)
Michigan[c,e]	March 9, 2020	November 4, 2019	November 31, 2021	Infants	207 858	21	9898 (0.00007-0.00015)
Minnesota[a,c]	March 1, 2018	March 18, 2018	September 30, 2022	Infants	293 322	27	10 864 (0.00006-0.00013)
Mississippi[b]	November 1, 2019	DNR	DNR	Unknown	DNR	DNR	DNR
Missouri[a]	October 1, 2019	January 2, 2019	October 31, 2022	Tests	265 807	20	NA
Montana[b]	March 1, 2021	DNR	DNR	Unknown	DNR	DNR	DNR

(continued)

and evaluated the distribution of *SMN2* copy number in US newborns with SMA.

Methods | Data on SMA NBS were obtained from state PHLs via public health department websites, direct sharing with Cure SMA, or an online survey (eAppendix in Supplement 1) hosted by Cure SMA between October and December 2021. Cure SMA notified state PHL staff of its plan to publish SMA NBS outcomes and asked for permission to include state-level SMA birth prevalence data in publications. The WCG IRB Connexus deemed this cross-sectional study exempt from review and informed consent because it met the consent waiver requirements. We followed the STROBE reporting guideline.

National birth prevalence of SMA was calculated by dividing the number of babies identified by newborn screening with confirmed SMA diagnosis divided by the total number of infants screened from states that provided applicable data (**Figure**). False-positive screening results were not included. Wilson score method was used to calculate 95% CIs. State-level birth prevalence rates were shown if the number of SMA-positive cases was more than 5.

State PHL data for *SMN2* copy numbers for infants with confirmed SMA-positive results were aggregated. All data from PHLs were provided in aggregate. Data analysis was performed using Stata version 14.1 (StataCorp LLC).

Results | Data generated between January 27, 2018, and December 31, 2022, were collected from 41 state PHLs of the 48 states conducting SMA NBS. Thirty of 48 states provided data for 6 244 825 infants, of whom 425 had a confirmed SMA diagnosis. The overall SMA birth prevalence was approximately 1 in 14 694 (95% CI, 0.00006-0.00007) (**Table**).

Twenty-one states provided *SMN2* copy number for infants with confirmed SMA. Proportions of *SMN2* copy number among 240 infants were 5% with 1 copy, 49% with 2 copies, 33% with 3 copies, and 13% with 4 or more copies.

Table. State-Level Data Used to Estimate US Spinal Muscular Atrophy Birth Prevalence (continued)

State	Permanent screening start date	Reporting period start date	Reporting period end date	Test unit	No. of tests performed or infants screened	No. of positive test results	Birth prevalence, 1 in (95% CI)
Nebraska[a,c]	November 14, 2020	November 14, 2020	December 31, 2021	Infants	43 031	<5	NA
New Hampshire[c,e]	December 26, 2019	January 1, 2020	December 31, 2020	Infants	11 829	<5	NA
New Jersey[a,c]	February 1, 2022	January 31, 2022	November 30, 2022	Infants	84 006	<5	NA
New Mexico[b]	June 1, 2022	DNR	DNR	Unknown	DNR	DNR	DNR
New York[a,c]	October 1, 2018	October 1, 2018	October 31, 2022	Infants	873 314	43	20 310 (0.00004-0.00007)
North Carolina[a,d]	May 1, 2021	January 5, 2021	October 31, 2022	Unknown	186 945	<10	NA
North Dakota[a,b,c]	September 1, 2021	July 1, 2020	December 31, 2022	Infants	30 404	<5	NA
Ohio[a,b,c,f]	October 24, 2022	DNR	DNR	Infants	DNR	DNR	DNR
Oklahoma[a]	March 16, 2021	March 1, 2021	November 30, 2022	Tests	76 141	8	NA
Oregon[a,c]	June 1, 2022	June 1, 2022	October 31, 2022	Infants	17 569	<5	NA
Pennsylvania[a,c]	March 1, 2019	March 1, 2019	September 30, 2022	Infants	478 654	41	11 674 (0.00006-0.00012)
Rhode Island[a,c]	July 1, 2020	July 1, 2020	February 28, 2022	Infants	17 858	<5	NA
South Carolina[b]	September 26, 2022	DNR	DNR	Unknown	DNR	DNR	DNR
South Dakota[a,b,c]	September 1, 2021	DNR	DNR	Infants	DNR	DNR	DNR
Tennessee[a,b,c]	February 1, 2020	DNR	DNR	Infants	DNR	DNR	DNR
Texas[a]	June 1, 2021	June 1, 2021	May 31, 2022	Tests	748 541	27	NA
Utah[a,b,c]	January 29, 2018	DNR	DNR	Infants	DNR	DNR	DNR
Vermont[a,c]	May 1, 2019	May 1, 2019	November 7, 2022	Infants	17 860	<5	NA
Virginia[b]	March 16, 2022	DNR	DNR	Unknown	DNR	DNR	DNR
Washington[a,b,c]	August 7, 2020	DNR	DNR	Infants	DNR	DNR	DNR
West Virginia[a,b,c]	November 20, 2019	November 18, 2019	March 31, 2020	Infants	28 644	<5	NA
Wisconsin[a,c]	October 15, 2019	October 15, 2019	September 14, 2022	Infants	176 841	15	11 789 (0.00005-0.00014)
Wyoming[a]	January 20, 2020	January 20, 2020	October 31, 2022	Tests	15 309	<5	NA
National SMA birth prevalence	NA	NA	NA	NA	6 244 825	425	1 in 14 694 (0.00006-0.00007)

Abbreviations: DNR, did not respond; OOS, opted out of sharing; NA, not applicable; SMA, spinal muscular atrophy.

[a] Data shared directly with Cure SMA.

[b] Did not respond to request to share state-level data.

[c] Data used to calculate national SMA birth prevalence rate.

[d] Opted out of sharing state-level data.

[e] Data shared through state public health department websites.

[f] Data from pilot screening program.

Discussion | The overall SMA birth prevalence according to the largest collection of SMA NBS data on US infants is lower than the historic global SMA birth prevalence estimate of approximately 1 in 10 000.[3-5] In 2017, the American College of Obstetricians and Gynecologists joined the American College of Medical Genetics and Genomics in recommending carrier screening for SMA to all individuals considering their reproduction options.[6] This change in care practice informs reproductive choices and may be a factor in the current birth prevalence. Additionally, approximately 5% of SMA cases have a single-nucleotide variant in *SMN1* that is not detected by NBS and is not factored into the birth prevalence estimate.[5]

The first study limitation is that data were collected at different time points after statewide SMA NBS implementation. Thus, data may be more accurately described as minimum birth prevalence rates, as states reporting smaller data intervals may show more variability in birth prevalence estimates than states reporting 1 year or more of data. Second, varying data collection time points impeded the ability to report the proportion of births covered in this analysis. Third, birth prevalence calculation was limited to data from states reporting the number of infants screened.

These findings indicate that approximately 1 in 14 694 newborns in the US have SMA. Such information may be used to anticipate health care resource use for SMA and to plan future research in SMA care and treatment.

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Additional Information: The Cure SMA Real World Evidence Collaboration was established in 2021 to leverage the experience, expertise, and resources of pharmaceutical and biotechnology companies and nonprofit organizations involved in development of SMA therapeutics to guide the future direction of real-world evidence collection and use in SMA. Current members include Biogen, Genentech/Roche, and Novartis Gene Therapies.

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HEALTH AND THE 2024 US ELECTION

Ultraprocessed Foods at Home and Children's Attentional Bias Toward Those Foods

The home food environment affects children's dietary intake and obesity risk.[1,2] Ultraprocessed foods are specifically marketed toward children in an effort to increase intake of these foods. Eye-tracking studies have observed that a higher body mass index (BMI) in children is associated with greater attentional bias toward food, suggesting a complex interplay between the home food environment, dietary habits, and obesity risk.[3] Here, we tested the hypothesis that availability of ultraprocessed foods in the home would be positively associated with attentional bias toward images of these types of foods in children.

Supplemental content

Methods | In this cross-sectional study, 84 children completed an eye-tracking paradigm with 16 images of ultraprocessed foods paired with color- or scale-matched, unprocessed food images (**Figure**, A). *Initial orientation bias* was defined as (time to first gaze to ultraprocessed food)/[(time to first gaze to ultraprocessed food) + (time to first gaze to unprocessed food)].

Dwell bias was defined as (mean total gaze time to ultraprocessed foods) − (mean total gaze time to unprocessed foods). Parents completed the Home Food Inventory,[4] from which the proportion of ultraprocessed foods (NOVA category 4) vs unprocessed foods (NOVA category 1) in the home was calculated using NOVA classifications (NOVA is a classification framework related to food processing): (NOVA 4 foods)/(total foods), which was determined by 2 registered dietitians. NOVA category 2 and 3 foods were excluded from the analysis because only 3 (of 263) foods in these categories were reported. Multiple regression analyses examined associations of ultraprocessed food proportion, NOVA 1 total, and NOVA 4 total, with orientation and dwell bias controlling for child BMI *z* score, maternal BMI, sex, age, time since last ate food, and household income. Analyses were performed using SAS, 2-sided, with a threshold of $P < .05$. All methods were approved by the institutional review board of the University of North Carolina at Chapel Hill. STROBE reporting guidelines were followed.

Results | In this study involving 84 children, 45 (54%) were female and 39 (46%) were male (mean [SD] age, 3.5 [0.2] years; mean [SD] BMI *z* score, 0.07 [0.96]; **Table**). A mean (SD) initial orientation bias (42.73% [12.89%]) and dwell bias toward