GLP1

Section E: Source of Questions

1. **What is the source of the question(s)? Why are questions from those currently used by the NHIS?**

☐We developed the question(s) **{skip to Q4}**

☒The question(s) is/are from an existing instrument or adapted from an existing instrument. Please provide details on the use of the questions by other surveys.

The questions were included in the NCHS Rapid Survey System (i.e., Rapids) July-August 2025.

Section F: Performance

If the question(s) was not developed by your program, then answer Q2-3; otherwise, skip to Q4

2. **Please provide the name of the original instrument or source for each question. Please provide links to online sources using the questions if applicable:**

List all federal/state surveys that have used the questions and the dates of use in the table below:

Name of survey(s) (include hyperlink to survey)	Dates the questions were included in the survey	Are the questions proposed the EXACT language of previous use (Y/N)	Provide comment on why wording has changed from use by other surveys (if applicable)
NCHS Rapid Surveys	July-August 2025	N	To adapt to phone

System (i.e., Rapids)			survey

3. **Have these questions been part of a human subjects review determination?**

Please enter name of state/agency conducting IRB review: The Rapids Surveys System study received both Office of Management and Budget (OMB #0920-1408) and NCHS/Centers for Disease Control and Prevention Human Subjects approval and was determined to be excepted research for IRB purposes.

Please enter protocol # _____NA_____

4. **Have the question(s) undergone validation testing?**

☐Yes

☒No

☐Yes – but not completed

If yes, please provide evidence of the extent of validity testing by providing the following information for each study conducted:

Citation (if applicable):

5. **Has the reliability of question(s) been tested?**

☐Yes

☒No

☐Yes – but not completed

If yes, please provide evidence of the extent of reliability testing by providing the following information for each study conducted:

6. **Have the question(s) undergone cognitive testing?**

☒Yes (skip next question and go to Date of testing Question)

☐No

Regarding (NO) response:

If no, does program want PHSB to have testing conducted?

☐Yes (go to Question 8) —be sure to complete Part II: Funding Form to provide CAN number(s) to cover costs of cognitive testing.

☐No (go to Question 8)

If yes, please describe the study design and results:

Date of testing: Spring 2025

Study design: CDC's National Center for Health Statistics (NCHS) conducted 20 cognitive interviews virtually to evaluate the question-response process and determine patterns of interpretation and response error. Interviewees initially read the questions and responded; interviewers followed up with retrospective probes to explore respondents' understanding of the questions, rationales for their answers, and whether any response difficulty occurred.

Results: In general, respondents answered with minimal difficulty. Specifically, for GLP-1 medication questions, there was no confusion with the question on GLP-1 use in the past 12 months. All respondents were familiar with GLP-1s even if they hadn't used them; respondents were familiar with various brand names, especially Ozempic. Eight of the 20 cognitive interviewees reported GLP-1 use. The question asking whether a respondent had taken a compounded version of their GLP-1 medication seemed to create no confusion or response error.

7. **Please indicate approximate total time to administer the set of questions in a telephone survey, including instructions.**

☐ <30seconds
☐ 30s-1min
☒ 1-2 min
☐ >2 min
☐ Unknown

8. **Please indicate the average time to administer <u>per question.</u>**
   ☐ <5 seconds
   ☐ 5-10 seconds
   ☒ >10-20 seconds

☐ Unknown

Please provide the methods used to obtain timing data: Pilot testing within division. We tested the reading time by reading the questions aloud and estimated the response time based on the complexity of the question.

9. **Are the question(s) telephone-survey ready?**

☒ Yes

☐ No

Please describe how you determined readiness of the questions.

The original questions were not designed for a telephone survey format. They were initially fielded in the July-August 2025 iteration of the Rapid Surveys System conducted by the National Center for Health Statistics/Centers for Disease Control and Prevention. These surveys are primarily web-based, using two online probability-based panels, although telephone administration is used for panelists who prefer that mode.

Prior to administration, the Rapid Surveys questions underwent cognitive testing and performed well (see details above in #6).

For BRFSS, we have modified the questions to be more concise and suitable for a telephone format; however, these revised versions have not yet been specifically tested for telephone administration.

Section G: Public Health Importance

10. Please provide a rationale for why the question(s) is/are important to health behavior or chronic disease by addressing the following:

Prevalence or disease burden: More than 100 million US adults (42%) have obesity, including more than 22 million with severe obesity. People with obesity are at increased risk for type 2 diabetes, hypertension, high cholesterol, heart disease, and many cancers, and often have these serious chronic conditions concurrently. GLP-1 receptor agonists (GLP-1s) are a highly effective class of prescription medications to help manage blood sugar, weight, and other chronic disease symptoms. In the last 5 years, FDA-approvals of GLP-1s for the indication of chronic weight management led to a surge in prescriptions as well as reported barriers, e.g., drug shortages, high costs, and use of compounded medications. GLP-1s are

part of an evidence-based multi-component approach to treat obesity, but understanding how commonly these medications are used among US adults and whether individuals use compounded medications are important public health questions.

Estimated costs to the public and healthcare: Health care for obesity is expensive for both patients and the healthcare system. In 2019 dollars, annual medical costs for adults with obesity were $1,861 higher per person than adults with healthy weight. For adults with severe obesity, the excess costs were $3,097 per person. This accounts for nearly $173 billion in medical expenditures (in 2019 dollars).

How the topic is related to a state or national initiative (e.g. Healthy People 2030): Reducing the burden of obesity and other chronic diseases is a national priority. One of the Healthy People 2030 objectives is to reduce the proportion of adults with obesity. GLP-1s are highly effective treatment options for individuals with obesity, though accessibility and affordability remain challenges for many seeking to access them. In addition to community-level physical activity and nutrition initiatives and healthy individual behavior changes, use of GLP-1 medications may help reduce the high burden of obesity and chronic disease among US adults. Collecting population-based data on GLP-1 use, including compounded medications, can help states and national programs quantify utilization. These insights can inform public health strategies, including identifying gaps in access, communicating about safe and appropriate medication use, and targeting evidence-based obesity treatment approaches.

Besides your program, how will other states, programs or agencies benefit from the inclusion of these question(s) in the BRFSS? Including questions about GLP-1 use in the BRFSS would provide standardized, population-level surveillance data that enables states, programs, and agencies to plan resources, interpret chronic disease trends, monitor health disparities, potentially help inform coverage policies. Population-level data on GLP-1s may help state health departments

understand patterns of medication use and anticipate potential resources needed related to obesity treatment programs. BRFSS data would also allow states to potentially understand differences in GLP-1 use by demographics and may be critical information to help inform targeted interventions.

Section H: Analytic Plan

Please explain why state-level estimates are desired (e.g., impact for your program/agency, local/state/national policy implications, support to research funding.)

Including these questions in BRFSS will allow states and programs to:

- Monitor the use of GLP-1 medications
- Understand the prevalence of use of compounded GLP-1 medications, which are not FDA-approved
- Inform program planning, policy decisions, and evaluation of obesity treatment strategies
- Provide baseline and trend data to help states and federal partners assess the need for and potential reach of innovation models -such as the BALANCE model (a Centers for Medicare & Medicaid Services initiative) - to expand access to and use of GLP-1 medications among Medicaid and Medicare populations
- Support modeling efforts examining the impact of GLP-1 medications alongside lifestyle interventions

11. **Please explain why there is a need to measure the question(s) over time and/or the periodicity of the data.**

There is a strong need to measure these questions over time due to the rapidly increasing use of GLP-1 medications (Li, 2025). New medications (e.g., oral Wegovy), expanding indications (e.g., chronic weight management), changing clinical guidelines, and shifting insurance coverage are all contributing to dynamic uptake patterns. Repeated measurement will allow for:

- Tracking trends in use over time
- Assessing the impact of policy and coverage changes

12. **Please describe how calculated variable(s) will be constructed from the question(s)**

Variables will be constructed as indicators, including:

- **GLP-1 use** (Yes/No)
- **Compounded GLP-1 use** (Yes/No)

13. **Please describe how the variable(s) will be used in analyses (e.g., outcome, predictor, etc.).**

Proposed uses of these variables include:

- Outcomes: prevalence of GLP-1 use; prevalence of compounded GLP-1 use
- Predictors: in analyses examining associations with health status, BMI
- Stratification variables: to assess differences across population subgroups (e.g., insurance type)

14. **Based on your questions of interest and anticipated effect size, please provide an estimate for required sample size and the rationale/calculations used to determine the size.**

Estimated Sample Size Calculations:

Question 1:

Based on the Rapids survey, we assume a 10% prevalence for GLP-1 use. The table below outlines the required sample sizes for a simple random sample to achieve a 95% confidence level at various margins of error.

Sample size requirements were calculated using Cochran's formula for proportions in large populations: $n = z^2\, p(1-p) / E^2$, *where:*

n = Required sample size
z = Standard normal deviate corresponding to a 95% C.I. (z = 1.96)
p = Population prevalence (p = 0.10)
E = Margin of error

Margin of Error (%)	**Required Sample Size (*n*)**
± 5	**139**
± 3	**385**
± 1	**3,458**

Question 2:

Based on the Rapids survey, we assume a 2% prevalence for GLP-1 use. The table below outlines the required sample sizes for a simple random sample to achieve a 95% confidence level at various margins of error.

Sample size requirements were calculated using Cochran's formula for proportions in large populations: $n = z^2\, p(1-p) / E^2$, *where:*

n = Required sample size
z = Standard normal deviate corresponding to a 95% C.I. (z = 1.96)
p = Population prevalence (p = 0.02)
E = Margin of error

Margin of Error (%)	**Sample Size (n)**
± 5	**31**
± 3	**84**
± 1	**753**

Sample Size Considerations: Under the assumption of a simple random sample and the smallest state sample size for BRFSS in 2024 (n= approximately 2,500), all states would be able to estimate the prevalence of both questions with a 95% CI of +/- 3% points. Design effects due to complex sampling would increase the number needed.

References:

Li P, Varghese JS, Shah MK, et al. Prescribing Trends of Glucagon-Like Peptide 1 Receptor Agonists for Type 2 Diabetes or Obesity. *JAMA Netw Open.* 2025;8(10):e2540890.