# Assessing Opportunities to Advance Quality Measures in Adult Obesity

*Sarah Sampsel, MPH; Kaitlyn Whiton, MHS; Elizabeth Donckels, MSPH; Vaishali Joshi, BS; Erik Muther, BA; Abhilasha Ramasamy, MSc, MS, BPharm; Tracy Zvenyach, PhD, NP; John K. Cuddeback, MD, PhD; and Elizabeth L. Ciemins, PhD, MPH, MA*

## ABSTRACT

**OBJECTIVES:** To evaluate the methodological soundness and performance of 3 obesity quality measures aimed at promoting improvements in obesity care.

**STUDY DESIGN:** Retrospective, clinical, and administrative data–based observational research study to evaluate scientific soundness, feasibility, and performance of obesity quality measures.

**METHODS:** Four test sites (clinicians/clinician groups) submitted clinical and administrative health data including patient demographics, diagnoses, and encounter information for patient panels encompassing individuals aged 18 to 79 years with at least 1 ambulatory visit between July 1, 2017, and June 30, 2018 (measurement period). Clinician/clinician group data were supplemented by an Optum data set contributing patient information from 21 health care organizations with approximately 6 million qualifying patients to assess the impact of using a larger data set for measure testing. Patients were excluded if they met any of the following criteria: were pregnant during the measurement period or in the 6 months prior to the measurement period, had died during the measurement year, or had evidence of palliative or hospice care during the measurement period.

**RESULTS:** This study resulted in the identification of a clinician/clinician group–level measure, Documentation of Obesity Diagnosis, as being feasible and reliable; however, the measure requires additional evaluation and potential adjustments to determine validity. Other measures included in our evaluation had feasibility and methodological challenges due to data capture and coding limitations.

**CONCLUSIONS:** Findings of our current study suggest that there are emerging opportunities to capture data and advance obesity measurement incrementally. A process measure focused on obesity diagnosis has the most potential for immediate implementation by clinicians, and additional measures focused on change in body mass index over time and use of evidence-based obesity treatment remain challenging to implement due to data capture and benefit coverage.

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Obesity is a serious chronic disease in the United States. From 2017 to 2018, the age-adjusted prevalence of obesity in adults was 42.4%, with no significant differences between men and women among all adults or by age group.[1]

Because obesity and overweight are major risk factors for a broad range of chronic diseases, the increase in their prevalence across the nation has major implications for the health and well-being of the population. In 2016, chronic diseases driven by the risk factor of obesity and overweight accounted for $480.7 billion in direct health care costs in the United States, with an additional $1.24 trillion in indirect costs due to lost economic productivity. Obesity as a risk factor is by far the greatest contributor to the burden of chronic diseases in the United States, accounting for 47.1% of the total cost of chronic diseases nationwide.[2] Addressing obesity as a chronic disease requires a concerted effort by communities, policy makers, patients, and the health care system.

The health care system uses a variety of mechanisms to influence provider and patient behavior to improve health care practices and outcomes. Increasingly, quality measurement has become a major area of focus in US health care quality improvement efforts. Various public and private value-based initiatives require health care providers to collect and report on measures to help drive health care quality while simultaneously reducing cost and improving the patient experience and outcomes. National initiatives to promote quality include a variety of process and outcome measures that range from primary prevention to tertiary treatment for a broad array of conditions. Although obesity has been recognized as a chronic disease in the United States, there has been little success in promoting a comprehensive and coordinated framework to improve quality of care for patients with obesity. Quality measurement to address obesity can provide valuable insights into disease management prioritization and contribute to the systemic effort of improving disease treatment and prevention.

## METHODS

This observational study describes the use of qualitative data to inform development of obesity measures and the use of retrospective

quantitative data to assess care for adults with obesity. We were interested in evaluating the reliability and feasibility of using existing patient and clinical data, provided by clinicians/clinician groups and a large, longitudinal electronic health record (EHR) database representing 21 US health care organizations, to evaluate performance of obesity quality measures. Qualitative data from expert input and public comment were also considered to assess the validity of the candidate measures.

**TAKEAWAY POINTS**

Findings of our current study suggest that there are emerging opportunities to capture data and advance obesity quality measurement incrementally.

- A process measure focused on obesity diagnosis has the most potential for immediate implementation.
- Additional measures focused on change in body mass index over time and use of evidence-based obesity treatment remain challenging to implement due to data capture and benefit coverage.
- Lack of benefit coverage for lifestyle interventions, coupled with inability to capture behavioral changes in clinical data, make measures assessing obesity treatment difficult to capture and report.
- Additional research is needed to test and refine obesity quality performance measurement.

Measure development should follow a rigorous and systematic process to arrive at quality measures that are meaningful, reliable, valid, feasible, based on evidence, and well tested to ensure that the measures do not lead to unintended negative consequences or undue burden for patients or providers. During measure conceptualization, information is gathered to identify the clinical evidence base pointing to gaps in the quality of care. The information gathered for the obesity measure concepts included a review of published clinical guidelines on obesity diagnosis and management, as well as input from clinical experts, patients, and researchers. Clinical guidelines and obesity research were assessed for quantity, quality, and consistency of evidence to support the measure concepts of interest.

According to the Veterans Affairs/Department of Defense Clinical Practice Guideline: Screening and Management of Overweight and Obesity, providers should screen adult patients to establish a diagnosis of overweight or obesity by calculating body mass index (BMI) and should document the presence of overweight or obesity in the medical record. Screening at least annually provides an opportunity for patients and providers not only to identify overweight and obesity, but also to engage in productive discussions about the benefits of maintaining a healthy weight.[3] In addition, the US Preventive Services Task Force recommends that clinicians refer adults with a BMI of 30 or higher to intensive, multicomponent behavioral interventions. The task force concluded that there is moderate certainty of net benefit, with little risk of harm, and provided an evidence grade of "B," indicating that provision of the service is recommended.

Guidelines developed by the American Association of Clinical Endocrinologists/American College of Endocrinology recommend thorough evaluation and proper diagnosis of patients with obesity, including a complete physical examination with determination and clinical interpretation of anthropometric measures such as BMI, waist circumference, and body composition, and identification of obesity-associated comorbidities. Treatment may involve lifestyle changes and behavioral therapy, pharmacotherapy, or bariatric surgery.[4]

Additional justification for measure concept selection is provided by Rose and colleagues, who found that all studies examining the association between provider weight loss advice and actual patient weight loss found a positive association. This positive association was found in studies of different sizes and populations. Furthermore, it was demonstrated in populations who received both advanced counseling and simple primary care provider recognition or diagnosis of overweight and obesity.[5]

In addition, during this measure conceptualization and identification phase of work, the American Medical Group Association (AMGA) Foundation convened a 3-year Obesity Care Model Collaborative (OCMC), sponsored by Novo Nordisk, to develop, pilot, and evaluate a framework and necessary components to address obesity in multispecialty medical groups and integrated health systems. A critical aspect of the OCMC was tracking performance across 10 AMGA member health care organizations using a set of 7 quality improvement, operational, and patient-centered care measures. The measures collected included Prevalence of Overweight/Obesity, Diagnosed Obesity-Related Complications, Assessment for Obesity-Related Complications, Documentation of Obesity Diagnosis, Percent Weight Change, Obesity Quality of Life, and Prescriptions for Antiobesity Medications. The work and results of the OCMC are described elsewhere; however, they served as an additional level of content validity for extended quality measure development.[6]

Following the measure conceptualization and prioritization process, the team identified 3 measure concepts for full specification (ie, identification of numerator, denominator, exclusions, coding, clinical logic, and measure calculation notes) and empirical testing. The measure concepts selected for specification were noted to meet importance and content validity criteria, specifically that the actions or processes of care are tied to health care outcomes for patients with obesity and have opportunities for improvement in the US health care system. **Table 1**[1] provides the measure descriptions and rationale for inclusion in this project.

To empirically assess measure feasibility and scientific acceptability properties (ie, reliability and validity), we conducted a retrospective quantitative pilot test with 1 multispecialty medical group and 3 integrated delivery systems (test sites). Sites submitted deidentified administrative claims and EHR/clinical data for patients aged 18 to 79 years with at least 1 ambulatory visit at their organization in the 12 months between July 1, 2017, and June 30, 2018. The administrative and clinical data included diagnosis codes, height and weight values, encounter data including visit reasons and dates, and basic patient demographics (age, gender, race). A summary of patient demographics for each test site can be found in **Table 2**.

## METHODS

**TABLE 1.** Prioritized Obesity Performance Measures

| Measure title and brief description | Rationale for inclusion |
|---|---|
| **Documentation of Obesity Diagnosis:** percentage of individuals aged 18-79 years with a documentation of BMI ≥ 30 who received a diagnosis of obesity at any time during the reporting period. Diagnosis can be documented by any provider and can be on a claim or the patient problem list. | • The scientific understanding of the pathophysiology of obesity has advanced since the development and implementation of existing BMI-based quality measures. It is now viewed as a complex chronic disease with interacting genetic, environmental, and behavioral determinants that result in serious complications.[1]<br>• With routine screening using BMI, a positive screen upon subsequent examination and interpretation of elevated BMI and waist circumference results can lead to an early diagnosis of overweight or obesity.[1]<br>• Process measures are often used to focus attention on a condition and establish evidence-based standards of care as the first step toward changing provider behavior. Due to the low utilization of existing obesity diagnosis codes, this measure is an essential first step toward eventual treatment and outcomes measures for obesity.<br>• Quality improvement requires identification of relevant populations for interventions; health plans, providers, employers, and others rely on diagnosis codes for population identification and initiative planning. |
| **Weight Change Over Time:** percentage of individuals aged 18-79 years with an initial BMI ≥ 25 whose last documented weight during the reporting period showed a weight loss ≥ 5% from the first documented weight | • The initial goal of weight loss therapy is to reduce body weight by approximately 10% from baseline. If this goal is achieved, further weight loss can be attempted, if indicated through further evaluation. A reasonable timeline for a 10% reduction in body weight is 6 months of therapy.[1]<br>• Measure concept prioritized at NQF Incubator obesity strategy session; provides mechanism for intermediate outcome measurement. |
| **Evidence-Based Treatment of Obesity:** percentage of individuals aged 18-79 years with an initial BMI ≥ 25 with documentation of evidence-based obesity treatment during the reporting period, including:<br>• Nutritional counseling<br>• Exercise counseling<br>• Intensive behavioral therapy<br>• Antiobesity medication<br>• Bariatric surgery | • In recent years, advances have occurred in all 3 modalities used to treat obesity: lifestyle intervention, pharmacotherapy, and weight loss procedures, including bariatric surgery. Clinical trials have established the efficacy of lifestyle and behavioral interventions in obesity; moreover, there are 5 weight loss medications approved by the FDA for chronic management of obesity.[1]<br>• This measure was prioritized to feasibility of data collection. The research team recognized data limitations prior to testing but was interested in learning whether treatment modality data capture was improving and could potentially be a measure component in future development efforts. |

BMI, body mass index; NQF, National Quality Forum.

To augment data from the test sites, AMGA conducted a parallel analysis on 2 of the measures (Obesity Diagnosis and Weight Change Over Time) with the Optum data set[1] to provide an assessment of measure performance from a large data repository. Inclusion criteria were consistent with the test site data: (1) at least 1 face-to-face visit/encounter in an ambulatory setting during the reporting period and (2) aged 18 to 79 years as of the first day of the reporting period.

We conducted split-half reliability testing by randomly assigning patients into groups at each site and calculating a signal-to-noise (STN) ratio. We used an analysis of variance (ANOVA), 2-factor without replication, to calculate the variance (β, error) in order to calculate STN. To test construct validity, we performed a logistic regression with variables known to be associated with each other (eg, the higher a BMI, the greater likelihood of obesity diagnosis). The Wald test was used to calculate the $\chi^2$ statistic for estimates of significance. Empirical testing of reliability and validity was not conducted on the Weight Change and Evidence-Based Treatment measures. When the initial data analysis resulted in the identification of concerns with the content validity of the Weight Change specifications, and in the data completeness for the Evidence-Based Treatment measure, we determined that further analysis based on available data was not feasible. At the conclusion of the retrospective data analyses and to supplement our quantitative tests, we collected additional qualitative input to further assess face validity of the measures and to provide perspective on testing results and on where additional refinement of measure specifications should be explored. The research team sought input from experts representing various obesity stakeholders, including academic researchers, patients, health plans, and integrated delivery systems. Additionally, via a public comment period, 74 comments were received from 14 stakeholders, including medical societies, quality improvement organizations, measure developers, and patient advocacy groups.

## RESULTS

The 4 test sites submitted data on more than 7.2 million encounters from 609,890 unique patients. The mean patient age ranged across sites from 45 to 53 years (SD, 15-17 years). Commercial insurance represented the largest primary payer group (45%-63%), followed by Medicare (26%-38%) and Medicaid (3%-19%). The Optum data set contributed information from 21 health care organizations with approximately 6 million qualifying patients who had an encounter in the measurement year (July 1, 2017-June 30, 2018). These patients had a total of 23 million ambulatory visits in the reporting period.

Tables 3, 4, and 5 present a summary of key research findings followed by summarized assessments of measure viability.

### Documentation of Obesity Measure Assessment

Mean performance rates for the measure ranged from 9.8% to 35.0% across the 4 test sites. See Table 3 for site-level descriptive statistics. These rates are consistent with the findings from the supplemental analysis from AMGA. These rates indicate both

**TABLE 2.** Test Site Demographics

| Variable | Site 1 | Site 2 | Site 3 | Site 4 |
|---|---|---|---|---|
| Site size | 400+ clinicians | 3000+ clinicians | 6000+ clinicians | 1600+ clinicians |
| Site location | West | Midwest | West | Southeast |
| Number of unique patients | 104,422 | 5732 | 495,809 | 3927 |
| Number of encounters | 453,324 | 97,936 | 6,690,490 | 10,000 |
| Sex (% female) | 55% | 56% | 57% | 55% |
| Age in years, mean (SD) | 50 (17.1) | 52 (15.3) | 53 (17.3) | 45 (15) |
| Race (% White) | 71% | 93% | 54% | 78% |
| Ethnicity (% not Hispanic or Latino) | 73% | 97% | 50% | 84% |
| Primary payers[a] | 45% commercial; 26% Medicare; 19% Medicaid | 63% commercial; 30% Medicare; 3% Medicaid | 52% commercial; 38% Medicare; 10% Medicaid | Not available |

[a]May not equal 100% due to other categories (eg, self-pay, other government).

variation in performance between sites and room for improvement. The ANOVA produced an F statistic of 455.243 with a corresponding *P* value of less than .001, indicating that there were statistically significant differences across sites in terms of performance. The STN ratio was 0.996, indicating high reliability. (Reliability scores range from 0.0 to 1.0, with values > 0.7 considered enough to distinguish performance differences between organizations.)

We conducted a logistic regression to test the empirical validity of the measure. The dependent variable was obesity diagnosis, and the independent variable was maximum BMI during the measurement period. It was hypothesized that higher BMIs would be associated with a greater likelihood of having or receiving a diagnosis of obesity. Wald $\chi^2$ values across the sites ranged from 20.99 to 348.17, with statistical significance found at $P < .0001$. Therefore, we were able to reject the null hypothesis of no association between BMI and diagnosis, supporting the validity of the measure.

Confirmation of an obesity diagnosis is important to measure because it helps facilitate patient-provider conversations about obesity, increases obesity treatment rates, and has been shown to motivate patients to lose weight. In addition, a confirmation of obesity diagnosis by a clinician and shared with the patient has a demonstrated association with weight loss.[7] The results presented in this analysis show measure performance rates to be low enough to demonstrate capacity for broad performance improvement, but high enough to demonstrate feasibility and the availability of codes for obesity documentation. Feedback received through the public comment period validated the measure as a good opportunity for quality improvement and as a necessary foundational process measure for future outcome measures. Technical concerns were noted regarding the limitations of BMI accurately assessing obesity status for broad populations and the need to have some time parameters between elevated BMI and documentation of a diagnosis of obesity.

## Weight Change Over Time Measure Assessment

Performance rates were low for the weight change measure, ranging from 11.0% to 15.8%. We found that most patients (68.9%-71.6%) either lost or gained less than 5% of their original body weight.

**TABLE 3.** Documentation of Obesity Diagnosis Results

**Measure description:** percentage of patients aged 18 to 79 years who had all of the following: at least 1 ambulatory visit during the measurement year; BMI ≥ 30; and a documented obesity diagnosis on a claim or on their EHR problem list

| | Site 1 | Site 2 | Site 3 | Site 4 | AMGA analysis (n = 21 sites) |
|---|---|---|---|---|---|
| Calculated rate | 9.8% | 35.0% | 23.4% | 30.4% | 27.0% (range, 15.6%-34.4%) |
| SD | 0.30 | 0.48 | 0.42 | 0.46 | 0.056 |
| Denominator | 46,095 | 2492 | 120,134 | 1332 | 2,555,029 |

**Numerator codes: *ICD-10-CM* codes for obesity**

- E66.01: morbid (severe) obesity due to excess calories
- E66.09: drug-induced obesity
- E66.2: morbid (severe) obesity with alveolar hypoventilation
- E66.8: other obesity
- E66.9: obesity, unspecified

**Denominator codes: CPT/HCPCS encounter codes**

- 99201-99205, 99211-99215: evaluation and management office visit
- 99241-99245: evaluation and management office consultation
- 99381-99387, 99391-99397: evaluation and management preventive visit
- 99401-99404: preventive medicine: individual counseling visit
- 99411-99412: preventive medicine: group counseling visit
- 99420, 99429: other preventive medicine services
- G0402: initial preventive physical examination ("Welcome to Medicare" visit)
- G0438, G0439: Medicare annual wellness visit
- G0463: hospital outpatient clinic visit for assessment and management of a patient
- T1015: clinic visit/encounter, all inclusive

**Exclusions: pregnancy and hospice/palliative care**

- Pregnancy/delivery: 59000-59076; 59100-59160; 59200; 59300-59350; 59400-59430; 59510-59525;59610-59622; 59812-59857; 59866-59899; *ICD-10-CM* codes: O00-09A
- Hospice/palliative care: Z51.5; 99377-99378; G0182; Q5001-Q5010; S0255, S0271, S9126; T2042-T2046

AMGA, American Medical Group Association; BMI, body mass index; CPT, Current Procedural Technology; EHR, electronic health record; HCPCS, Healthcare Common Procedure Coding System; *ICD-10*, *International Classification of Diseases, Tenth Revision*; *ICD-10-CM*, *ICD-10, Clinical Modification*.

**TABLE 4.** Weight Change Over Time Results

| **Measure description:** percentage of patients aged 18 to 79 years with a BMI ≥ 25 who achieved at least 5% weight loss between 2 ambulatory encounters at least 9 months apart | | | | | |
|---|---|---|---|---|---|
| | **Site 1** | **Site 2** | **Site 3** | **Site 4** | **AMGA analysis** |
| Calculated rate | 15.8% | 12.2% | 11.0% | [a] | 12.9% (range, 9.5%-15.1%) |
| Denominator | 1962 | 770 | 4886 | [a] | 785,727 |

AMGA, American Medical Group Association; BMI, body mass index.

[a]Site 4 was missing essential data points to calculate a measure rate.

**TABLE 5.** Evidence-Based Treatment for Obesity Results

| **Measure description:** percentage of individuals aged 18 to 79 years with an initial BMI ≥ 25 with documentation of evidence-based obesity treatment during the reporting period, including nutritional counseling, exercise counseling, intensive behavioral therapy, antiobesity medication, or bariatric surgery | | | | | |
|---|---|---|---|---|---|
| | **Site 1** | **Site 2** | **Site 3** | **Site 4** | **AMGA analysis** |
| Calculated rate | 4.5% | 2.6% | 4.3% | 2.9% | N/A |
| Denominator | 83,739 | 4085 | 238,254 | 2919 | N/A |
| **Included antiobesity medications:** | | | | | |
| **Generic name** | | | | **Brand name** | |
| Bupropion + naltrexone (combo) | | | | Contrave | |
| Lorcaserin | | | | Belviq | |
| Phentermine + topiramate (combo) | | | | Qsymia | |
| Liraglutide | | | | Saxenda | |
| Orlistat | | | | Xenical, alli | |
| Phendimetrazine tartrate | | | | eg, Bontril, Adipost, Anorex-SR | |
| Diethylpropion hydrochloride | | | | Tenuate | |
| Benzphetamine hydrochloride | | | | Didrex, Regimex | |
| Bupropion | | | | Zyban, Aplenzin, Wellbutrin XL, Wellbutrin SR, Forfivo XL | |
| Naltrexone | | | | ReVia, Vivitrol | |
| Phentermine | | | | Adipex-P, Lomaira, Suprenza, Fastin | |
| Topiramate | | | | Topamax, Qudexy XR, Trokendi XR | |

AMGA, American Medical Group Association; BMI, body mass index; N/A, not available.

Although stakeholder feedback and public comments indicated that the concept was important to measure, there were concerns about how the measure was specified. Specific recommendations for modification included changing the BMI in the denominator to 30 or greater, considering use of a trigger event (eg, a qualifying diagnostic or care event, such as obesity diagnosis, to initiate provider accountability for weight loss), and considering different time periods required for weight loss. There may be additional outcome variables that could be assessed in relation to weight loss and would also contribute to improving obesity care (eg, reduction in blood pressure, reduction in glycated hemoglobin $A_{1c}$).

AMGA analysis of the Optum data yielded similar overall measure rates, although the variation among health care organizations was greater. Overall, 12.9% of patients lost 5% or more total body weight, ranging from 9.5% to 15.1% across test sites. Additionally, 25.3% maintained (±1% change in body weight), and 12.3% gained 5% or more body weight.

Note that empirical testing of reliability and validity was not conducted on this measure because the initial data analysis revealed concerns with content validity.

## Evidence-Based Treatment for Obesity Measure Assessment

Measure rates were extremely low for this measure, ranging from 2.9% to 4.5%. Rates for exercise counseling and behavioral therapy were lower than 1%, suggesting that this documentation is not occurring in a structured format (coded) amenable to performance measurement calculations. The intent of testing this measure was to assess whether data capture for evidence-based treatment components of obesity management had improved since the development and implementation of BMI-focused measures. Our research indicates that an optimal treatment measure for obesity will still face feasibility challenges due to limited use of some treatment modalities and data capture limitations.

Note that empirical testing of reliability and validity was not conducted on this measure because the initial data analysis revealed concerns with content validity and reliability.

# DISCUSSION

We assessed the viability of 3 quality measures targeting obesity care in the United States: Documentation of Obesity Diagnosis, Weight Change Over Time, and Evidence-Based Treatment for Obesity. Each of these measure concepts is supported by evidence and would have utility in advancing the quality of obesity care in various settings of care; however, the results of our pilot test suggest that practice patterns and data availability require further evaluation to arrive at final measure specifications for potential implementation across broader care settings.

## Limitations

This study focused on health care organizations participating in an obesity care model collaborative and with special attention on improving and documenting obesity care. To assess scalability across wider provider populations and potentially in health plans, further testing is needed. This additional testing will also allow measure specification adjustments to improve content validity, as well as ensure improved data capture to support empirical testing of both reliability and validity.

# CONCLUSIONS

The quantitative and qualitative testing results offer insight on the viability of these quality measures focused on improving obesity diagnosis and treatment. The initial findings indicate that the best first step is to start with a process measure to promote diagnosis of obesity and documenting it (in structured form) on the patient problem list in the EHR, as well as on claims for health care encounters during which obesity was discussed or treated, to identify appropriate populations for outcome measurement in the future. Quality measurement will continue to be an impactful performance mechanism for health care delivery across national initiatives to promote quality care and treatment for a broad array of conditions. Although few dispute the magnitude and importance of obesity as a serious health crisis in the United States, there have been limited efforts to meaningfully improve quality of care for patients living with obesity. It is clear that more research is needed to test and refine obesity quality performance measurement. ■

***Author Affiliations:*** SLSampsel Consulting, LLC (SS), Albuquerque, NM; Discern Health (KW, ED, EM), Baltimore, MD; AMGA (American Medical Group Association) (VJ, JKC, ELC), Alexandria, VA; Novo Nordisk Inc (AR, TZ), Princeton, NJ.

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***Authorship Information:*** Concept and design (SS, KW, VJ, AR, TZ, JKC, ELC); acquisition of data (SS, KW, VJ, TZ, ELC); analysis and interpretation of data (SS, KW, ED, VJ, EM, AR, TZ, JKC, ELC); drafting of the manuscript (SS, KW, ED, EM, TZ); critical revision of the manuscript for important intellectual content (SS, KW, ED, VJ, EM, AR, JKC, ELC); statistical analysis (KW, ED, VJ, ELC); obtaining funding (SS, AR, JKC, ELC); administrative, technical, or logistic support (SS, ED, VJ, EM, ELC); supervision (SS, EM, JKC, ELC); and stakeholder facilitation (EM).

***Address Correspondence to:*** Sarah Sampsel, MPH, SLSampsel Consulting, LLC, 5008 Noreen Dr NE, Albuquerque, NM 87111. Email: slsampsel@ssampselqlty.com.

# REFERENCES

1. Hales CM, Carroll MD, Fryar CD, Ogden CL. Prevalence of obesity and severe obesity among adults: United States, 2017-2018. *NCHS Data Brief*. 2020;(360):1-8.
2. Waters H, Graf M. America's obesity crisis: the health and economic costs of excess weight. Milken Institute. October 2018. Accessed May 5, 2020. https://milkeninstitute.org/sites/default/files/reports-pdf/Mi-Americas-Obesity-Crisis-WEB.pdf
3. Department of Veterans Affairs; Department of Defense. VA/DoD clinical practice guideline for the management of adult overweight and obesity. Department of Veterans Affairs. 2020. Accessed September 15, 2020. https://www.healthquality.va.gov/guidelines/CD/obesity/VADoDObesityCPGFinal5087242020.pdf
4. Garvey WT, Mechanick JI, Brett EM, et al; Reviewers of the AACE/ACE Obesity Clinical Practice Guidelines. American Association of Clinical Endocrinologists and American College of Endocrinology comprehensive clinical practice guidelines for medical care of patients with obesity. *Endocr Pract*. 2016;22(suppl 3):1-203. doi:10.4158/EP161365.GL
5. Rose SA, Poynter PS, Anderson JW, Noar SM, Conigliaro J. Physician weight loss advice and patient weight loss behavior change: a literature review and meta-analysis of survey data. *Int J Obes (Lond)*. 2012;37(1):118-128. doi:10.1038/ijo.2012.24
6. Obesity Care Model Collaborative (OCMC). American Medical Group Association. Accessed January 3, 2020. http://www.amga.org/wcm/PI/wcm/PI/Collabs/OCMC/update_ocmc.html
7. Ciemins EL, Joshi V, Cuddeback JK, Kushner RF, Horn DB, Garvey WT. Diagnosing obesity as a first step to weight loss: an observational study. *Obesity (Silver Spring)*. 2020;28(12):2305-2309. doi:10.1002/oby.22954