

Produce Prescription Projects: Health Care Outcomes of Interest

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Depending on each PPR project's outcome(s) of interest, a PPR grantee may be collecting one or more health care outcomes (e.g., # of PPR participant hospitalizations, HbA1c, etc.). To understand the potential impact of PPR projects on health care utilization, costs, and clinical markers, the GusNIP NTAE will conditionally require reporting of these metrics in a de-identified manner. Conditionally required means that if a grantee is collecting any of the below data as part of their program evaluation, the grantee must report this data, once de-identified, to the NTAE. However, if any of the below metrics are not being collected for a grantee's own program evaluation purposes, the NTAE will not require the evaluation and reporting of those metrics. Health care outcomes of interest to the NTAE are included in the table below.

Utilization

- Number of participant hospitalizations
- Number of 30-day readmissions
- Number of no-shows to clinic appointments
- Number of non-emergent ED visits
- Number of ED visits
- Number of participant well-visits

Cost

- Total cost (and costs associated with changes in utilization metrics described above)
- Total charges

Health Conditions	Example Metric
Diabetes	HbA1c
Obesity	Height/weight
Dyslipidemia	LDL/TG/HDL/TC
Depression	PHQ9
Anxiety	• GAD7
Hypertension	BP (mm Hg)

Health and Participant Experience	
Aspect of Experience	Example Measurement Tools
Stress	PSS-4 (Perceived Stress Scale)
Self-Reported Healthy Days	 CDC HRQOL-4 (CDC's Healthy Days Core Module)
Social Isolation / Loneliness (3-item)	 Short R-UCLA Loneliness Scale
Medication Adherence (3-item)	 Pooler and Srinivasan, 2019
Food Insecurity	 2-item Hunger Vital Sign 6-Item Short Form USDA-FSSM (to detect longitudinal change)
Weight Bias	 Modified Weight Bias Internalization Scale (WBIS-M) (Pearl & Puhl, 2014) Stigmatizing Situations Inventory - Brief (SSI-B) (Vartanian, 2015) 2-item Weight Bias Composite Measure
Pediatric Specific Optional Metrics	Example Metric
Healthy Active Living for Families	 AAP 5-2-1-0 (≥ 5 servings of fruits and vegetables, ≤2h of screen time, ≥1h of physical activity, 0 sugar-sweetened beverages daily)
Optional Metrics for Healthcare Providers	Example Metrics
Weight Bias	 Anti-fat Attitudes Scale (AFAS) (Morrison & O'Connor, 1999) Beliefs About Obese Persons Scale (BAOP) (Allison et al, 1991)

Disclaimer

Health care outcomes are influenced by many different outside factors, some of which are outside of an individual's control. Societal advancements in technology have resulted in decreased energy expenditure due to a reduction in manual labor, and the built environment has become less suitable to healthy lifestyle behaviors. In addition, the food environment has changed significantly – less expensive and calorie-dense foods are more widely available and easier to access than more nutritious options. Not to mention the aggressive advertising of fast and convenient food items, especially towards children Pearl & Heuer, 2010). It is important to consider that the examined metrics are observed through the lens of a produce prescription intervention, and other contextual factors are important to consider when examining results.

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References

Allison, D.B., Basile, V.C., & Yuker, H.E. (1991). The measurement of attitudes toward and beliefs about obese persons. *International Journal of Eating Disorders*, 10, 599-607.

Lee, K.M., Hunger, J.M. & Tomiyama, A.J. (2021). Weight stigma and health behaviors: evidence from the Eating in America Study. *Int J Obes* **45**, 1499–1509. https://doi.org/10.1038/s41366-021-00814-5

Morrison, T.G., & O'Connor, W.E. (1999). Psychometric properties of a scale measuring negative attitudes toward overweight individuals. Journal of Social Psychology, 139, 436-445.

Pearl, R. L., & Puhl, R. M. (2014). Measuring internalized weight attitudes across body weight categories: Validation of the Modified Weight Bias Internalization Scale. *Body image*, 11(1), 89-92.

Puhl, R. M., & Heuer, C. A. (2010). Obesity Stigma: Important Considerations for Public Health. *American Journal of Public Health*, 100(6), 1019–1028. https://doi.org/10.2105/ajph.2009.159491.

Vartanian, L.R. (2015). Development and validation of a brief version of the Stigmatizing Situations Inventory. Obesity Science & Practice, 1(2), 119-125[PR1].