Health Care ❤ Food™

Common Measures Overview

Contents

1   Introduction

Intended Audience:

- Funded Studies through the American Heart Association's Health Care by Food initiative

- Researchers studying "Food is Medicine" (FIM)

Goal:

- To enable comparison of results across studies that are funded through the American Heart Association's Health Care by Food initiative.

Codebooks:

- Detailed descriptions of the measures, items and data formatting are available in excel workbooks. Note that there are minor differences between the codebooks and source materials (links) – please default to the codebook.

- For studies starting data collection after 05/01/2025 please use version 2.0

- Studies starting data collection prior to 05/01/2025, can continue using version 1.11

Level of measurement:

- *Participant-level* measures record data about study participants. They are generally collected through surveys or EHR. Note that a few of the measures listed here are appropriate for the family members of participants or clinicians.

- *Study-level* measures describe elements of the study design and execution. These are compiled primarily by the HCXF data manager and supplemented by study teams.

Participant-level measure priority:

- *Core* measures are required by all study teams, with the use of the specified measurement tool*

- *Preferred* measures are not required, but if the dimension is measured, we request that it is done using the specified measurement tool*

- *Optional* measures are for consideration by your team, with the specified measures optional for your use.

Unless a rationale is provided.

Contact

- For questions about the common measures codebook, please contact the HCXF data manager Sven Halvorson (sven.halvorson@heart.org).

Table 1: Measures by Priority and Category

	Core	**Preferred**	**Optional**
Sociodemographics	Age Sex Gender Race and Ethnicity Race and Ethnicity (short form) Household Size Insurance	Area Deprivation Index Social Vulnerability Index Income	Education Employment
Financial strain and food security	Food Assistance Financial Strain Nutrition Security Scale Food Security Survey		$400 Question Youth Food Security Food Pantry Use
Health and healthcare	Self-rated Health	Biomarkers Comorbidities Healthcare Utilization Healthcare Utilization (self-report) Loneliness	Institutional Qualtiy Health Status Healthcare Quality
Diet	Dietary Screener (10-item)		Dietary Screener (26-item) 24-hour Dietary Assessment Diet ID
Implementation	Net Promotor Score	Acceptability Appropriateness Feasibility	Engagement

2   Core Measures

Required for all teams to collect using specified measurement tool.

Preferred data collection methods are listed in **bold**. Mid-intervention data collection is listed for some measures but this is optional.

Table 2: Core Measures

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Age	**EHR** self-report	baseline		• Alternatively, collect date of birth and calculate age at enrollment
Sex	**EHR** self-report	baseline		
Self-identified Gender	**EHR** self-report	baseline		
Race and Ethnicity	EHR **self-report**	baseline	Link 1 Link 2	• Either the long or short race and ethnicity form can be utilized
Race and Ethnicity (short form)	EHR **self-report**	baseline	Link 1 Link 2	• Either the long or short race and ethnicity form can be utilized
Household Size	**EHR** self-report	baseline	Link 1 Link 2	• Includes total number of people and number of individuals under 18 years
Insurance Type	**EHR** self-report	baseline	Link	
Federal Food Assistance	**self-report**	baseline post-intervention	Link	• Can be asked as a single item for SNAP and WIC or two items to differentiate federal programs • Derived from the American Community Survey
Financial Strain	**self-report**	baseline post-intervention	Link	• Single item on difficulty of paying bills

Table 2: Core Measures *(continued)*

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Nutrition Security Scale	**self-report**	baseline post-intervention	Link 1 Link 2	• Can be asked as a four item instrument or as a single item screener
U.S. Household Food Security Survey Module: Six-item Short Form	**self-report**	baseline post-intervention	Link 1 Link 2	• Use versions that ask about a 30-day lookback period • OPTIONAL ENHANCEMENT: Studies may use the longer form tools (10 item or 18 item) which include the 6 item in the core measure.
Self-rated Health	**self-report**	baseline post-intervention	Link	• Single item general health status question • OPTIONAL ENHANCEMENT: EQ-5D-5L is often used in cost-effectiveness analyses

Table 2: Core Measures *(continued)*

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Dietary Screener Questionnaire (10-item)	**self-report**	baseline post-intervention mid-intevention	[Link 1](#) [Link 2](#) [Link 3](#) [Link 4](#)	• We welcome the use of alternative measurement tools that can convert to cup-equivalents per day. For the core measure, we ask that at a minimum, studies collect fruit and vegetable intake. • Please note that the self-report version of this tool should be used. • NCI developed scoring algorithms to convert screener responses to estimates of individual dietary intake for fruits and vegetables (cup equivalents) and more. • For those who are well-positioned to collect additional information, the DSQ-26 or 24 Hour Recalls are preferred.
Intervention satisfaction - Net Promotor Score	**self-report**	post-intervention	[Link 1](#) [Link 2](#) [Link 3](#)	• Scored via 0-10 Likert scale by subtracting the percent who rate program at 6 or below from those who rate the program with a 9 or a 10.

3 Preferred Measures

These measures are *not* required, but if you collect these dimensions, we ask that you use the specified measurement tool.

Table 3: Preferred Measures

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Area Deprivation Index	**EHR** self-report	baseline	Link	• 2020 version recommended. • Use Exact Address either from EHR or self-report to generate a 9-digit zip code that can be attached to a Social Vulnerability Index / Area Deprivation Index
Social Vulnerability Index	**EHR** self-report	baseline	Link	• 2020 version recommended. • Use Exact Address either from EHR or self-report to generate a 9-digit zip code that can be attached to a Social Vulnerability Index
Household Income	**EHR** self-report	baseline	Link	
Biomarkers	**EHR** staff/clinician	baseline post-intervention mid-intevention		• Biomarker measurement is recommended, but the specific biomarker will be dependent on the population. Possible types: BMI, systolic and diastolic blood pressure, blood pressure, LDL level (direct or calculated), HDL, total cholesterol, HbA1C. Other biomarkers should be selected based on the appropriateness of the study, with coding convention noted • Biomarkers should be collected by a health professional and/or from an EHR system, and not based on recall or self-report.

Table 3: Preferred Measures *(continued)*

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Elixhauser Comorbidities	**EHR** self-report	baseline	Link 1 Link 2	- Our preference is for these to be collected via ICD10 codes pulling from EHR. - If self-report is used, the relevant questions from National Health Interview Surveys is acceptable. Conditions should then be converted to the corresponding ICD-10 codes. - Compute and report the 38 constituent categories of the Elixhauser Comorbidity Index
Healthcare Utilization - Visit and Day Counts	**EHR**	baseline	Link	- Admission, encounter, and length of stay data extracted from EHR or claims data. - Derived from the National Health Interview Survey (NHIS) - utilization module - Examples include acute care visits, hospitalization days, ER visits, and no-show rates
Healthcare Utilization - Self Reported Single Item	**self-report**	baseline	Link	- Single item recalling the number of healthcare visits over the last year - Derived from the Health Information National Trends Survey (HINTS)
De Jong Gierveld Loneliness Scale	**self-report**	baseline post-intervention mid-intevention	Link	

Table 3: Preferred Measures *(continued)*

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Acceptability	**self-report** staff/clinician	post-intervention	Link 1 Link 2	• Questions can be asked to clinicians, non-patient stakeholders, or patient participants depending on intervention and study focus.
Appropriateness	**self-report** staff/clinician	post-intervention	Link 1 Link 2	• Questions can be asked to clinicians, non-patient stakeholders, or patient participants depending on intervention and study focus.
Feasibility	**self-report** staff/clinician	post-intervention	Link 1 Link 2	• Questions can be asked to clinicians, non-patient stakeholders, or patient participants depending on intervention and study focus.

4   Optional Measures

These measures are for your consideration.

Table 4: Optional Measures

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Highest Education Level Completed	**self-report**	baseline	Link	
Employment	**self-report**	baseline		
Hypothetical $400 Emergency Bill	**self-report**	baseline post-intervention		• Ability to pay for an emergency expense
Self-Administered Food Security Survey Module for Children Ages 12 Years and Older	**self-report**	baseline post-intervention	Link	• Administered to youth ages 12 and up • Use versions that ask about a 30-day lookback period
Food Pantry Use	**self-report**	baseline post-intervention		
Quality of Institutional Care	**EHR** self-report staff/clinician	post-intervention mid-intevention	Link	• Derived from the Healthcare Effectiveness Data and Information Set (HEDIS) • Measurements will depend on the study population and interventions • Examples include the percentage of deliveries in which women had a postpartum visit on or between 7 and 84 days after delivery and hospitalization following discharge from a skilled nursing facility • This is a summary of a healthcare institution, not a study sample
EuroQol 5-item 5-point Health Status	**self-report**	baseline post-intervention	Link	• Measure is often used in cost-effectiveness analyses

Table 4: Optional Measures *(continued)*

Measure	Collection Method(s)	Time Points Collected	Links	Notes
Healthcare Quality	**self-report**	post-intervention	Link	- Single item satisfaction measure - Derived from the Health Information National Trends Survey (HINTS)
Dietary Screener Questionnaire (26-item)	**self-report**	baseline post-intervention mid-intevention	Link 1 Link 2 Link 3 Link 4	Optional enhancement to the DSQ 10-item
Automated Self-administered 24-hour Dietary Assessment tool	**self-report**	baseline post-intervention mid-intevention	Link 1 Link 2 Link 3	Most respondents complete their 24-hour recall (ASA24) within a range of 17 to 34 minutes.
Diet ID	**self-report**	baseline post-intervention mid-intevention	Link	Assess diet quality with DIETID's digital, image-based, 1-minute, validated, visual dietary assessment.
Program Engagement	**self-report**	post-intervention mid-intevention		Includes willingness to pay for intervention and FIM intervention consumption

5   Study-level Measures

Study-level measures describe the design and execution of a scientific study. For HCXF funded studies, the data manager will compile a draft of this data and present it to studies for revision. A few elements need to be calculated by study teams.

The high level study information describe to the study as whole. Others components describe one "instance" of that idea and can be repeated multiple times. For example, the data on interventions can be repeated for a single study because a study may apply more than one intervention to their participants.

The entire list of study level measurements is given in the version 2.0 codebook.

Table 5: Study-level Measure Components

Component	Notes
High level study information	- Example fields: title, study setting, allocation methods - Required from studies: overall FIM, education, and/or service redemption rates. Recruitment and enrollment counts.
Arms participants were allocated to	Includes counts of participants allocated to arms, withdrawls, loss to follow-up, and analyzed
Cost break-down	- Intervention costs per participant - In development as of May 2025
Planned data collection events	Baseline, follow-up 1, follow-up 2 etc.
Inclusion and exclusion criteria	
Interventions applied	- Each intervention is categorized as education, enhanced communication, food provision/subsidy, service, or other. - Example fields: FIM type (MTM, MTG, produce prescription), dosing, communication procedures, and type of education.
Investigators and coordinators	
Outcomes measured	Derived from clincialtrials.gov registration
Publications produced	Scholarly publications resulting from this study

6 Changelog

Table 6: APPENDIX: Change Control Table

Date of Change	Version	Location	Description of Change(s)
12/17/2024	1.10	Page 13 – Appendix 1	• Added a change control table to document changes going forward
12/17/2024	1.10	Header/Footer	• Changed from version number to 1.1 and removed "Beta" (header/footer); added last updated date and page numbers (footer)
12/17/2024	1.10	Overview table (pg 1), Core measures table (pg7), and Preferred measures table (pg 9).	• Based on a unanimous vote from the Health Equity and Common Measures Task Force on December 13, 2024, the Nutrition Security was removed from the Preferred Measures list to the Core Measures list. This change is reflected in the three respective tables.
01/03/2025	1.11	Core Measures Table: General Health Status Dimension, page 6 Preferred Measures Table: Fidelity and Acceptability Dimension, Deprivation Dimension, page 8; and Co-Morbidities Dimension, page 10	• Reviewed all links in the document. Four links were no longer valid/found. All four of these links were updated.
01/03/2025	1.11	Header/Footer	• Changed from version number to 1.11 to reflect the relatively minor update to the document (header/footer); changed last updated date (footer)

Table 6: APPENDIX: Change Control Table *(continued)*

Date of Change	Version	Location	Description of Change(s)
03/10/2025	1.11	Codebook	- Several corrections were made to the codebook - Net Promoter Score range changed from 1-10 to 0-10 (already correct in PDF version) - Removed the response options "A homemaker", "A student", "Retired", "Unable to work (disabled)" from InsuranceType - Removed the options "Some months but not every month", "Only 1 or 2 months", and "DK" from FSSM6_AD1a (food insecurity) - Merged the second and third categories for HH_income into "$10,000 to $24,999" to match the PDF version. - Resiliency_400Q and Employment now are listed as checkbox questions (Multiple Entries Allowed? = Yes) - HouseholdSize_under18 should have a minimum value of 0 instead of 1
03/21/2025	2.00	food_assistance	Federal food security can now be given as two questions to disambiguate SNAP and WIC use

Table 6: APPENDIX: Change Control Table *(continued)*

Date of Change	Version	Location	Description of Change(s)
04/21/2025	2.00	Codebook	• A major restructuring of the codebook formatting and naming was conducted. These changes generally do not impact the content of the participant-level common measures, only the appearance. • Study-level measures are more well developed and organized • Measures now have an ID listed in the codebook. They are more finely partitioned but placed in one of five categories. (ex: age and sex are separate measures under the sociodemographics category) • Columns in the codebook were renamed to have a more uniform style. They are prefixed with the measure_id, converted to snake case, use noun-adjective ordering, have padded question numbers, and checkbox questions use a suffixes like _b## for each option. • Value label schemas were restructured. Preference was given to the source materials if prescribed. Yes/no, dichotomous, and checkbox questions now have binary value schemas. Standardized missing codes were applied(96 = Not asked | 97 = Not applicable | 98 = Don't know | 99 = Prefer not to respond). Choice order was retained. • Dead links were removed • DSQ was split into 10-item and 26-item versions. DSQ10 is listed as a core measure although alternative diet assesments can be used instead. • Healthcare visits (utilization) split into two measures: self-report and EHR collected • Financial strain and food assistance split into separate measures • Area deprivation index and social vulnerability index now listed as separate measures

Table 6: APPENDIX: Change Control Table *(continued)*

Date of Change	Version	Location	Description of Change(s)
05/16/2025	2.00	resiliency	• Removed reference to "emergency room" from question wording
05/16/2025	2.00	institution_quality	• Renamed from "clinicial impact" to "quality of institutional care"
05/16/2025	2.00	food_assistance	• Added option to use state SNAP program in question wording
05/16/2025	2.00	comorbidity	• Changed preferred method of reporting to be the Elixhauser comorbidity index