Measuring Healthcare Use and Healthcare Cost

Purpose: To support GusNIP/CRR/ARPA PPR grantees in addressing the GusNIP PPR RFA requirement to measure healthcare use and cost.

The 2019-2024 Gus Schumacher Nutrition Incentive Program (GusNIP) and GusCRR Produce Prescription Program (PPR) Request for Applications (RFA) asks grantees to evaluate projects' impact on reducing healthcare use and associated costs. Each grantee should select measure(s) based on careful consideration of their project's objectives, their project's workflow, and the types of data they can access or collect.

There are three ways to fulfill this requirement, each of which will be addressed below in more detail:

- asking participants to **self-report** healthcare use using survey questions,
- extracting **healthcare use data from the electronic health record (EHR)**, and
- accessing **insurance claims** data.

The latter two (EHR and claims data) are likely only accessible to grantees that are hospitals/clinics/health systems themselves or have strong partnerships with one of these. **Because the timeline for accessing EHR and claims data can be long, even in the best-case scenario, we encourage you to consider asking participants to self-report healthcare use using survey questions that can be integrated with your participant-level survey data collection. Even if you plan to use EHR and claims data in your evaluation, we encourage you to consider using self-report health care use survey questions as a back-up measure in case your access to EHR and claims data becomes delayed or difficult.**

The measures described in this document are not exhaustive, and other measures can be selected based on each PPR project's objectives.

> **Interpreting Healthcare Use Data**
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> In planning and interpreting analysis of healthcare use data from any source, it is important to note that grantees may be hoping to increase some types of healthcare use (e.g., well visits, quarterly check-ups, medication refills, wellness visits). These types of healthcare use are likely to decrease other types of more costly healthcare use over time (e.g., inpatient hospitalizations, hospital readmissions, emergency department visits, procedures related to complications from unmanaged chronic diseases). It may be helpful for grantees to specify in advance the types of healthcare use they would like to increase and analyze those separately from the types of healthcare use they would like to decrease. Note that some healthcare use measures have low frequencies at baseline (e.g., hospital readmissions) so changes over time are likely to be minimal.

Self-Report Data

Healthcare use can be estimated from participants' responses to survey items. These survey items typically ask each participant to report how many times they used specific types of healthcare (e.g., overnight hospital visits) within a specified length of time (e.g., within the past 90 days). A grantee could survey participants about their healthcare use prior to enrollment in the PPR project and again after the participant has been participating in the project for a specified length of time. Then the grantee could calculate the difference in healthcare use between the two surveys.

For many grantees, collecting survey data is more feasible than accessing EHR or claims data. However, self-reported healthcare use data has important limitations. Participants may not be able to accurately recall their healthcare encounters. Also, participants are likely to become fatigued or frustrated if a survey attempts to ask about every type of healthcare service a participant could have received, so survey instruments must focus on a few types of healthcare use of interest (e.g., emergency department visits) and omit other types. Finally, there is no consensus among researchers about the best survey items for measuring healthcare utilization.

The NTAE has adapted survey items for use by PPR grantees to measure participants' self-reported healthcare use (see section below). Use of these survey items has been approved by USDA for use as part of an ongoing pilot study of self-reported measures of healthcare use by GusNIP PPR participants. Research has not yet established the extent to which participants' responses to these items are associated with their healthcare use as captured in claims data.

Modified healthcare use survey questions:

1. During the past 3 months, how many times have you seen a doctor or other healthcare professional about your health at a doctor's office, a clinic, video conference, telephone call, urgent care, or some other place? **Do not include** times you were hospitalized overnight, visits to emergency rooms, or home visits.

   Help text:
   Doctor: _The term refers to both medical doctors (M.D.) and osteopathic physicians (D.O.). It includes general practitioners as well as specialists. It does not include persons_

who do not have an M.D. or D.O. degree, such as dentists, oral surgeons, chiropractors, podiatrists, Christian Science healers, opticians, optometrists, psychologists, etc.

Other Health(care) Professional: *A person entitled by training and experience and possibly licensure to assist a doctor and who works with one or more medical doctors. Examples include: doctor's assistants, nurse practitioners, nurses, lab technicians, and technicians who administer shots (e.g., allergy shots). It also includes paramedics, medics, and physical therapists working with or in a doctor's office. It does not include dentists, oral surgeons, chiropractors, chiropodists, podiatrists, naturopaths, Christian Science healers, opticians, optometrists, and psychologists or social workers.*

Hospital: *A healthcare organization that has a governing body, an organized medical staff and professional staff, and inpatient facilities. Hospitals provide medical, nursing, and related services for ill and injured patients 24 hours per day, 7 days per week.*

Emergency room: *An area of a hospital intended to receive and treat patients who require immediate medical care as soon as they arrive.*

2. During the past 3 months, were any of your visits with a doctor or other healthcare professional for a regularly scheduled check-up to manage diabetes, high blood pressure, or heart disease? This visit may have included screenings and monitoring blood sugar, blood pressure, or cholesterol. **Do not include** times you were hospitalized overnight or visits to the emergency rooms.

    If yes, go to question 3

    <u>Help text:</u>
    Doctor: *The term refers to both medical doctors (M.D.) and osteopathic physicians (D.O.). It includes general practitioners as well as specialists. It does not include persons who do not have an M.D. or D.O. degree, such as dentists, oral surgeons, chiropractors, podiatrists, Christian Science healers, opticians, optometrists, psychologists, etc.*

    Other Health(care) Professional: *A person entitled by training and experience and possibly licensure to assist a doctor and who works with one or more medical doctors. Examples include: doctor's assistants, nurse practitioners, nurses, lab technicians, and technicians who administer shots (e.g., allergy shots). It also include paramedics, medics, and physical therapists working with or in a doctor's office. It does not include dentists, oral surgeons, chiropractors, chiropodists, podiatrists, naturopaths, Christian Science healers, opticians, optometrists, and psychologists or social workers.*

    Diabetes: *A disease that occurs when your blood glucose, also called blood sugar, is too high. Include gestational diabetes or diabetes that was only present during pregnancy. **Do not include** pre-diabetes or high blood sugar.*

Cholesterol: Fat substance found in the bloodstream and in all your body's cells. It's normal to have cholesterol. But too much cholesterol in the blood is a major risk for a heart attack and stroke.

Hospital: A healthcare organization that has a governing body, an organized medical staff and professional staff, and inpatient facilities. Hospitals provide medical, nursing, and related services for ill and injured patients 24 hours per day, 7 days per week.

Emergency room: An area of a hospital intended to receive and treat patients who require immediate medical care as soon as they arrive.

3. How many times did you visit a doctor or other healthcare professional to manage diabetes, high blood pressure, or heart disease in the past 3 months?

4. During the past 3 months, were you a patient in an emergency room?

   If yes, go to question 5

   <u>*Help text:*</u>
   Emergency room: An area of a hospital intended to receive and treat patients who require immediate medical care as soon as they arrive.

5. How many times were you a patient in an emergency room during the past 3 months?

6. During the past 3 months, were you a patient in a hospital **overnight**? Do not include an overnight stay in an emergency room.

   If yes, go to question 7

   <u>*Help text:*</u>
   Hospital: A healthcare organization that has a governing body, an organized medical staff and professional staff, and inpatient facilities. Hospitals provide medical, nursing, and related services for ill and injured patients 24 hours per day, 7 days per week.

   Emergency room: An area of a hospital intended to receive and treat patients who require immediate medical care as soon as they arrive.

7. How many different times did you stay in a hospital overnight or longer during the past 3 months? **Do not count** total number of nights, just total number of hospital admissions for stays which lasted 1 or more nights.

   <u>*Help text:*</u>

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Response Options

- Response Options for Items 1, 3, 5, 7:
    - None
    - 1
    - 2 to 3
    - 4 to 5
    - 6 to 7
    - 8 to 9
    - 10 to 12
    - 13 to 15
    - 16 or MORE
    - Don't know/Prefer not to answer
- Response Options for items 2, 4, 6:
    - Yes
    - No
    - Don't know/Prefer not to answer

Electronic Health Record Data

Healthcare use can be captured directly from EHR data. A grantee with access to EHR data could compare each participant's use of specific healthcare services prior to enrollment in the PPR project with use of those services after the participant has been participating in the project for a specified length of time.

Healthcare services of interest for evaluation may vary according to the goals of the specific PPR project, the population eligible to receive produce prescriptions, and the types of services recorded in the EHR data source to which a grantee has access. Services of interest may include hospital admissions, emergency room (ER) / emergency department (ED) visits, regular office visits, urgent care visits, or others.

EHRs often contain several types of data that may be useful to PPR project teams. These types of data include administrative data (e.g., insurance type), laboratory data (e.g., HbA1c), and vital signs (e.g., blood pressure or body weight). These data are often used by grantees to identify eligible patients or to describe the population of participants in the PPR project.

Like survey data and claims data, EHR data has important limitations. Many programs fail to budget for the considerable staff time required for healthcare partners to query, extract, prepare, and analyze EHR data. EHR data often does not include services patients receive from other healthcare systems (e.g., other clinics, urgent care providers, emergency departments).

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Because many PPR programs serve communities with limited healthcare access, this concern is particularly relevant to PPR evaluations.

Claims Data

Healthcare cost and use can be calculated directly from claims data. A grantee with access to claims data could compare each participant's claims activity prior to enrollment in the PPR project with claims activity after the participant has been participating in the project for a specified length of time.

However, claims data are held by insurers and/or state-level databases and may be difficult, time-consuming, and expensive for most grantees to access. In addition, health systems may only submit encounter forms, not claims, for patients in capitated insurance plans for which they receive a flat fee for care. Encounter forms include all the same information as claims, but without cost information for each service provided. Thus, it is more difficult to estimate cost from encounter forms.

For grantees who have access to claims data, they can estimate changes in specific types of healthcare use of interest (e.g., emergency department visits or hospital readmissions) and/or costs.

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