We appreciate the constructive feedback we received from the reviewers. We believe that by addressing these we have strengthened the proposed multistate project methodology. We updated the original renewal proposal online. We have also described our edits below.

**Identification of Primary Outcomes:**

* We believe the original renewal proposal did identify the primary outcomes. These were stated in the anticipated outcome measures within the “Anticipated Impacts,” the “Methods” under each objective description, and the “Outcomes and Expected Impacts” sections. The primary outcomes will vary based on the study being conducted. The original proposal listed the “Outcomes and Expected Impacts” as:
  + Improved understanding of the nutrition and physical activity practices of community-residing adults ages 40 years and older influencing their chronic disease status.
  + Study participants will gain an improvement in nutrition and functional fitness measures, maintain and/or enhance their health status, and gain knowledge regarding recommended nutrition and physical activity behaviors.
  + Optimized health status through nutrition and physical activities that are cost-effective and achievable for aging or older adults.
  + Implement dietary and other lifestyle goals that will attenuate muscle loss.

We expanded on these to improve clarity:

* *Improved understanding of the nutrition and physical activity practices of community-residing adults ages 40 years and older influencing their chronic disease status.*
* *Reduced chronic disease incidence and/or severity as indicated through self-report, validated survey outcomes related to the targeted chronic disease and/or blood values.*
* *Reduced nutritional risk and improved dietary intake frequencies as measured by the DST among those participating in nutrition-focused interventions*
* *Increased physical activity participation among aging adults and increased physical function among those attending exercise, physical activity and/or sarcopenia interventions.*
* *Reduced food insecurity among those with limited incomes*
* *Enhanced healthspan as assessed by reduced chronic disease risk factors, increased QOL, and/or physical function.*
* *Study participants will gain knowledge regarding recommended nutrition and physical activity behaviors.*
* *Optimized healthspan through nutrition and physical activities that are cost-effective and achievable for aging or older adults.*
* *Study participants will implement dietary and other lifestyle goals that will attenuate muscle loss.*

**Subset of Adults being studied and Consistent Sampling Strategy:**

* As we stated in the methods section, this multistate project is not one single research project, it is a compilation of numerous individual and collaborative studies aimed towards the long-term goal of promoting the independence and well-being of community-residing aging adults (ages 40 years and older). It is not feasible for us to describe all potential target audiences.
* We added the following sentence to the introductory paragraph to the “Methods” section as shown below:
  + *Finally, establishing one standardized set of inclusion criteria for human subjects conducted as part of this project is not feasible given the anticipated blend of individual-level and collaborative research as well as target behaviors. Therefore, the recruitment strategies utilized may vary by study (Appendix A).*
* Appendix A describes our Human Studies Sampling Methods (below) to help better describe the adults being studied and various sampling strategies that may be applied toward our collection of studies.

*Convenience sampling will be the primary recruitment strategy applied for human studies. This is in part due to the community-based nature of our human studies. The inclusion and exclusion criteria will be determined based on the primary purpose of the study. For example, if we are evaluating the impact of a sarcopenia prevention program, the presence of sarcopenia and/or sarcopenia risk will be used as an inclusion criterion. Below are some examples of recruitment strategies that may be utilized as part of this proposed multistate project. Sample sizes will be determined for individual studies via a power calculation or an effect size calculation by the research team implementing the study.*

*Aging adult: For this multistate project, an aging adult is anyone age 40 years and older. This age range was selected as sarcopenia, diabetes, cardiovascular disease begins to present prior to age 60. Age 60 is the minimum age required to participate in the Older Americans Act food and nutrition programs and is used by this team to define older adult. The target age group recruited will be dependent on the human study being conducted.*

*Community-residing or community-dwelling: Those age 40 and older who own a home, live with adult children, reside in a senior apartment, or a retirement community. For some studies, an adult who lives in an assisted living facility may be included. It excludes those who reside in nursing care facilities.*

*Rural-residing. Those age 40 and older who live in a county with a rural-urban continuum code of four or higher and defined as “non-metro.”*

*Urban-residing. Those age 40 and older who live in a county with a rural-urban continuum code of one to three and defined as “metro.”*

*Food Insecure/Lower Income: When pilot testing a program designed for those who are food insecure and/or of limited income, researchers will recruit at locations serving this population. These locations may include congregate meal programs, Section 8 Senior housing (must meet income guidelines), those attending food assistance programs (e.g., commodity and supplemental food programs, food pantries, food banks), or SNAP-Ed programs for older adults.*

*Adults with Sarcopenia: For the sarcopenia related projects, the inclusion criteria to be applied will include being age 50 to 75 years; literate; community-residing; being able/willing to consume higher levels of protein-rich foods; being able/willing to be physically active; and being able to make their own meal choices. Preliminary screening will occur via telephone. All interested participants will answer questions regarding age, disease states contraindicated for high-protein consumption (e.g., kidney disease, chronic obstructive pulmonary disease, etc.), living arrangement, special dietary practices limiting protein options (e.g., vegan, nut allergy, etc.), and will complete the physical activity readiness questionnaire (PAR-Q) (1). Anyone who falls outside of these inclusion criteria will not be invited to participate.*

*Adults with a chronic disease: For interventions aimed toward treating and/or preventing the progression of a chronic disease, various recruitment measures may be employed. These may include self-report by the participants, partnership with clinics and/or practitioners working with aging adults with the identified chronic disease, or assessment of these conditions through a physical examine conducted at the time of enrollment (e.g., blood pressure, height/weight, blood glucose, etc). Trained study staff may use Cholestech LDX tabletop analyzers to assess blood values. The Cholestech LDX has been shown to be a valid and accurate measure in comparison to traditional venipuncture (2) and is much more convenient for community settings.*

**Common Core Measures Across Studies:**

* The team has invested considerable effort to align the research activities of team members more fully and to ensure greater consistency of outcomes and methods with the goal of maximizing the utility and impact of the multistate research outcomes. In our monthly virtual team meetings, and our upcoming summer meeting we have identified the identification of primary outcomes and common core measures as a top priority.
* We addressed our common core measures under Objective 2, Area 1 and under the “Survey Tools Descriptions.” We added the highlighted statement to the following section under Objective 2, Area 1
  + *All states implementing human studies will use the same assessment tools as applicable to the respective studies. These common assessment tools reflect the core variables being addressed across all human studies in this multistate project. These survey tools will collect the same: sociodemographic information, examine nutritional risk and dietary composition, food security, QOL, functional fitness, and physical activity. A common data set will be created to store data from all needs assessment and intervention studies conducted as part of this project. This large data set will be used to conduct modeling studies examining predictors of successful aging as well as cross-sectional data analyses to explore risk factors across states.*
* Several of the variables the reviewers list as suggested core variable including diabetes, pre-diabetes, food insecurity, low physical activity, as well as socio-demographic data can also be obtained from census track information in the surveyed areas. This can provide additional information about potential biases in the sample set as it enables the researchers to compare core variable in the sample with those in the census areas from which the sample population originates.

**Several terms remain undefined, e.g., health span and chronic disease (from the title and from the measurement of progress and results section) and/or are not consistently defined (physical function, functional fitness, fitness, function).**

Healthspan was added to the introductory paragraph:

* *As the population of aging adults continues to grow, better understanding of effective strategies aimed toward improving the health span is needed. Aging is a multifaceted area of study that is continually exploring how to promote health and well-being throughout the lifespan. An integrative, interdisciplinary approach toward healthy aging from the metabolic level to translational science is imperative as aging is influenced by our genetics, metabolic processes, environment, and lifestyle practices. In doing so, it is likely we will improve the healthspan (part of a person’s life during which they are generally in good health) of aging adults.*

Chronic disease:

* We have not formally defined this, as it is a common term. Our work will mainly address the chronic diseases that can be prevented and/or treated through diet and physical activity. Some of those we have addressed previously include type 2 diabetes, hypertension, cardiovascular disease or sarcopenia.

Not consistently defined (physical function, functional fitness, fitness, function):

* We have replace “functional fitness” and “function” with “physical function” throughout the proposal as appropriate.