Step 1: Identify Unmet Needs

1.1 Community Assessment

Tools for Collecting Data

In working to complete the **Community Assessment Worksheet**, the Advisory Panel may determine that additional local level data should be collected to better assess the community's current situation. This is a list of some publicly available resources to support the collection of new information for the community assessment. Click on the title to be redirected to the resource's website to learn more. Consider that resources developed for use in the U.S. also may be useful in global settings with some adaptations, and vice versa. The list is organized as such, with data sources in each category listed alphabetically:

DATA COLLECTION TOOLS SPECIFIC TO THE U.S.
- Food Security
  - Hunger Vital Sign
  - Two-item Risk for Food Security Screener
  - USDA Food Security Modules
- Dietary Assessment
  - Automated Self-Administered 24-Hour Dietary Assessment Tool
  - Block Food Frequency Questionnaires
  - Healthy Eating Index
  - Register of Validated Short Dietary Assessment Instruments
- Malnutrition
  - DETERMINE Checklist
  - Epi Info
  - Interpreting Adult Body Mass Index
  - Interpreting Child and Teen Body Mass Index
  - Mini Nutritional Assessment
  - National Health and Nutrition Examination Survey Anthropometry Procedures Manual

GLOBALLY FOCUSED DATA COLLECTION TOOLS
- Food Security
  - Food Insecurity Experience Scale
  - Household Food Insecurity Access Scale
  - Months of Adequate Household Food Provisioning
  - The Latin American & Caribbean Household Food Security Scale
- Dietary Assessment
  - Minimum Dietary Diversity for Women: A Guide to Measurement
  - Recommendation Compliance Index
  - World Health Organization Infant and Young Child Feeding Indicators
  - Intake (Center for Dietary Assessment) Resource List

- Malnutrition
  - Biomarkers of Nutrition for Development (BOND)-Folate Review
  - Biomarkers of Nutrition for Development (BOND)-Vitamin A Review
  - Biomarkers of Nutrition for Development (BOND)-Vitamin B12 Review
  - Child Growth Assessment Training Course
  - Global Guidelines for Type 2 Diabetes
  - Guide to Anthropometry: A Practical Tool for Program Planners, Managers, and Implementers
  - Interpreting Adult Body Mass Index
  - Iodine Status
    - Assessment of Iodine Deficiency Disorders and Monitoring Their Elimination
    - Biomarkers of Nutrition for Development (BOND)-Iodine Review
    - Urinary Iodine Status for Determining Iodine Status in Populations
  - Iron Status
    - Assessing the Iron Status of Population
    - Biomarkers of Nutrition for Development (BOND)-Iron Review
    - Hemoglobin Concentrations for the Diagnosis of Anemia and Assessment of Severity
    - Serum Ferritin Concentrations for the Assessment of Iron Status and Iron Deficiency in Populations
  - Pocketbook for Management of Diabetes in Childhood and Adolescence in Under-Resourced Countries
  - Standardized Monitoring and Assessment of Relief and Transitions Survey Planning Tools
  - Subjective Global Assessment – Adult and Pediatric
  - WHO Anthro Software
  - WHO Indicators for assessing Vitamin D deficiency
  - Zinc Status
    - Biomarkers of Nutrition for Development (BOND) - Zinc Review
    - IZiNCG Technical Briefs

COLLECTION TOOLS SPECIFIC TO THE U.S.

Food Security

The paper Validity and reliability of food security measures by Cafiero et al. (Ann. N.Y. Acad. Sci. 2014;1331:230-248) provides a good primer on food security measurement tools.

Hunger Vital Sign™ Two-item Risk for Food Security Screener

Developer:	The Children's HealthWatch/Hager et al.
Outcomes:	Risk for food security
Important Notes:	Recommended for screening in clinical settings; also refer to American Academy of Pediatrics screening recommendation and Addressing Food Insecurity: A Toolkit for Pediatricians developed by the American Academy of Pediatrics (AAP) and the Food Research & Action Center (FRAC).
Language(s):	English

Two-item Risk for Food Security Screener – Adult

Developer:	Gundersen, et al.
Outcomes:	Risk for food security
Important Notes:	Recommended for screening in clinical settings
Language(s):	English

USDA Food Security Modules

Developer:	Economic Research Service (ERS), United States Department of Agriculture
Outcomes:	Measurement of household food security, including estimates of the level of food insecurity
Important Notes:	Recommended for research. Options include guide for implementation and the following food security modules: 18-item household; 10-item adult; 6-item short-form; and 9-item self-administered youth ($\geq$12 years old) food security module
Language(s):	English, Spanish

Dietary Assessment

Collecting accurate, high quality dietary assessment data is challenging. Consider consulting with a registered dietitian nutritionist for help understanding and using these tools.

Automated Self-Administered 24-Hour Dietary Assessment Tool

Developer:	National Cancer Institute, Westat
Outcomes:	Intake of nutrients and food groups over 24-hour periods (recall or diary)
Important Notes:	Freely available; researchers are asked to register; can be used on a desktop computer, laptop, smartphone or tablet
Language(s):	English, Spanish, French; with Canadian and Australian versions

Block Food Frequency Questionnaires

Developer: Block, et al.

Outcomes: Usual intake of nutrients and food groups (varies by questionnaire)

Important Notes: There are costs associated with administration and processing; available in both paper and electronic format; physical activity screeners also available; available in adult and child versions and in brief and screener versions

Language(s): English, Spanish

Healthy Eating Index

Developer: United States Department of Agriculture

Outcomes: Measure of diet quality in reference to the Dietary Guidelines for Americans

Important Notes: Index is periodically updated; ability to calculate at different levels — national food supply, community food environment, individual food intake — and requires appropriate dietary intake data from 24-hour recalls, food records or a food frequency questionnaire; SAS code available to calculate; alternative eating indices have been developed using different reference criteria and populations.

Language(s): English

Register of Validated Short Dietary Assessment Instruments

Developer: National Cancer Institute

Outcomes: Provides easy access to descriptive information about more than 130 validated short instruments

Language(s): English

Malnutrition

Malnutrition includes undernutrition, overnutrition and micronutrient deficiency. To collect accurate anthropometric and biochemical data, it is important to use high quality, regularly calibrated equipment and standardized procedures. The Academy of Nutrition and Dietetics' Evidence Analysis Library conducted a systematic review examining the validity and reliability of malnutrition screening tools for use in the adult population and pediatric population. See the reviews for recommended tools.

Epi Info

Developer: Centers for Disease Control and Prevention

Outcomes: Software allows for form design, data entry and data analysis; contains several nutritional anthropometry tools; calculates z-scores and percentiles for weight, length/height, BMI and head circumference based on CDC growth reference and World Health Organization growth standard

Important Notes: Free software and user's guide; available in desktop (Windows), mobile tablet/smartphone and web/cloud versions

Language(s): English

Interpreting Adult Body Mass Index (BMI)

Developer:	Centers for Disease Control and Prevention
Outcomes:	Describes how to calculate and interpret BMI for adults
Language(s):	English

Interpreting Child and Teen Body Mass Index

Developer:	Centers for Disease Control and Prevention
Outcomes:	Describes how to use and interpret BMI for children and teens
Language(s):	English

National Health and Nutrition Examination Survey Anthropometry Procedures Manual

Developer:	Centers for Disease Control and Prevention
Outcomes:	Describes standardized methods to measure weight; recumbent length; standing height; head circumference; upper leg; length; upper arm length; arm circumference; waist circumference; sagittal abdominal diameter
Language(s):	English

GLOBALLY FOCUSED COLLECTION TOOLS

Food Security

Food Insecurity Experience Scale
Developer: Ballard, et al., Food and Agriculture Organization
Outcomes: Individual or household level of mild, moderate and severe food insecurity over the last 30 days or 12 months
Language(s): English, Spanish, French; individual version translated into 170 languages/dialects; documents to guide translation efforts and field worker training available in English, French, Spanish, Russian, Arabic, Portuguese, Chinese and Albanian

Household Food Insecurity Access Scale
Developer: Coates, et al., FHI 360, Food and Nutrition Technical Assistance III Project, U.S. Agency for International Development
Outcomes: Household Food Insecurity Access Scale score — continuous measure of the degree of household food insecurity in the last month; prevalence of households that are food secure, mildly food insecure, moderately food insecure and severely food insecure
Language(s): English, Spanish, French

Months of Adequate Household Food Provisioning
Developer: Swindale A, Bilinsky P, Food and Nutrition Technical Assistance III Project, U.S. Agency for International Development
Outcomes: Total number of months out of the past 12 that the household was unable to meet food needs; average total number of months out of the past 12 that all households interviewed were unable to meet their food needs
Language(s): English, French, Spanish

The Latin American & Caribbean Household Food Security Scale
Developer: Food and Agriculture Organization
Outcomes: Prevalence of households that are food secure, mildly food insecure, moderately food insecure and severely food insecure
Language(s): Spanish

Dietary Assessment

Minimum Dietary Diversity for Women (MDD-W)

Developer: Food and Agriculture Organization, U.S. Agency for International Development, Food and Nutrition Technical Assistance III Project, University of California, Davis

Outcomes: Minimum dietary diversity for women of reproductive age indicator (reflects micronutrient adequacy); model questionnaire provided

Important Notes: Should be used as a population level indicator (not appropriate for assessing individual diets)

Language(s):   English

Recommendation Compliance Index

Developer: Mazzocchi M, et al.

Outcomes: Diet quality compared to World Health Organization recommendations for a healthy diet

Language(s):   English

World Health Organization Infant and Young Child Feeding Indicators

Developer: World Health Organization, UNICEF, U.S. Agency for International Development, Academy for Educational Development, University of California, Davis, International Food Policy Research Institute

Outcomes: Early initiation of breast-feeding, exclusive breast-feeding under 6 months and continued breast-feeding at one year; introduction of complementary foods; minimum dietary diversity and meal frequency; minimum acceptable diet; consumption of iron-rich or iron-fortified foods; model questionnaire provided

Language(s):   English, French, some parts in Spanish

Intake (Center for Dietary Assessment) Resource List

Developer: FHI 360

Outcomes: Extensive collection of resources to assist with dietary assessment

Language(s):   English

Malnutrition

Biomarkers of Nutrition for Development (BOND)-Folate Review

Developer: Bailey LB, et al.

Important Notes: Reviews usefulness of currently used biomarkers of folate status

Language(s):   English

Biomarkers of Nutrition for Development (BOND)-Vitamin A Review

Developer:	World Health Organization
Outcomes:	Serum retinol; retinol-binding protein; breastmilk retinol; serum retinyl esters
Important Notes:	Xerophthalmia and night blindness for the assessment of clinical vitamin A deficiency (in English); Serum retinol concentrations for determining the prevalence of vitamin A deficiency (in English, French, Spanish, Arabic, Chinese, Russian)
Language(s):	English

Biomarkers of Nutrition for Development (BOND)-Vitamin B12 Review

Developer:	Allen LH, et al.
Important Notes:	Reviews usefulness of currently used biomarkers of vitamin B12 status
Language(s):	English

Child Growth Assessment Training Course

Developer:	World Health Organization
Outcomes:	Weight; recumbent length; standing height; signs of kwashiorkor and marasmus
Language(s):	English; some parts available in French and Spanish

Global Guidelines for Type 2 Diabetes

Developer:	International Diabetes Federation
Outcomes:	Prediabetes and diabetes — screening and diagnosis guidelines
Language(s):	English

Guide to Anthropometry: A Practical Tool for Program Planners, Managers, and Implementers

Developer:	Food and Nutrition Technical Assistance III Project
Outcomes:	Describes standard methods for measuring weight; recumbent length; standing height; mid-upper arm circumference
Language(s):	English

Interpreting Adult Body Mass Index

Developer:	World Health Organization
Outcomes:	Describes how to calculate and interpret BMI for adults
Language(s):	English

Iodine Status

Assessment of Iodine Deficiency Disorders and Monitoring Their Elimination

Developer:	World Health Organization, UNICEF, International Council for Control of Iodine Deficiency Disorders
Outcomes:	Salt iodine levels; urinary iodine; thyroid size by palpation (goiter); thyroid size by ultrasound; thyroid stimulating hormone; thyroglobulin
Language(s):	English

Biomarkers of Nutrition for Development (BOND)-Iodine Review

Developer: Rohner F, et al.
Important Notes: Reviews usefulness of currently used biomarkers of iodine
Language(s):   English

Urinary Iodine Status for Determining Iodine Status in Populations

Developer: World Health Organization
Outcomes: Urinary iodine
Language(s):   English, French, Spanish

Iron Status

Assessing the Iron Status of Population

Developer: World Health Organization, Centers for Disease Control and Prevention
Outcomes: Hemoglobin; zinc protoporphyrin; mean cell volume; transferrin receptor; serum ferritin
Language(s):   English

Biomarkers of Nutrition for Development (BOND) - Iron Review

Developer: Lynch S, et al.
Important Notes: Reviews usefulness of currently used biomarkers of iron status
Language(s):   English

Hemoglobin Concentrations for the Diagnosis of Anemia and Assessment of Severity

Developer: World Health Organization
Outcomes: Hemoglobin
Language(s):   English, French, Spanish, Arabic, Chinese, Russian

Serum Ferritin Concentrations for the Assessment of Iron Status and Iron Deficiency in Populations

Developer: World Health Organization
Outcomes: Serum ferritin
Language(s):   English, French, Spanish, Arabic, Chinese, Russian

Pocketbook for Management of Diabetes in Childhood and Adolescence in Under-Resourced Countries

Developer: International Diabetes Federation
Outcomes: Diabetes in children — diagnosis guidelines
Language(s):   English

Standardized Monitoring and Assessment of Relief and Transitions Survey Planning Tools

Developer: Action Against Hunger Canada and cooperating agencies
Outcomes: Nutritional status of children under 5; mortality rate of population; food security
Options: Includes methodology manual; training materials for enumerators; free software to help with sample size calculation; sample selection, quality checks, anthropometric standardization and report generation
Language(s): English, French, Spanish

Subjective Global Assessment – Adult

Developer: Baker JP, et al.
Outcomes: Rating of adult's nutritional status as normal/well-nourished, moderate malnutrition or severe malnutrition based on practitioner's clinical judgement
Language(s): English

Subjective Global Assessment – Pediatric

Developer: Secker DJ, Jeejeebhoy KN
Outcomes: Rating of child's nutritional status as normal/well-nourished, moderate malnutrition or severe malnutrition based on practitioner's clinical judgement; age-related questionnaires and rating forms provided
Language(s): English

WHO Anthro Software

Developer: World Health Organization
Outcomes: Calculates child z-scores for length/height-for-age, weight-for-age, weight-for-length, weight-for-height, body mass index-for-age, head circumference-for-age, arm circumference-for-age, triceps skinfold-for-age and subscapular skinfold-for-age
Options: Free software; also available as macros for R, SAS, S-Plus, SPSS and Stata
Language(s): English

WHO Indicators for assessing vitamin A deficiency and their application in monitoring and evaluating intervention programmes

Developer: World Health Organization
Outcomes: Provides principles governing the use of biological indicators for vitamin A deficiency (VAD) surveillance, provides the rationale behind each indicator and its limitations and cut-off points for interpretation in terms of public health significance.
Language(s): English

Zinc Status

Biomarkers of Nutrition for Development (BOND)-Zinc Review
Developer: Lynch S, et al.
Important Notes: Reviews usefulness of currently used biomarkers of zinc status
Language(s):   English

IZiNCG Technical Briefs
Developer: International Zinc Nutrition Consultative Group
Outcomes: Advice on assessing and interpreting serum zinc, dietary zinc intake and stunting prevalence
Language(s):   English, French, Spanish, Portuguese