Pathway:

A Guide to Clinical Screening for Social Determinants of Health

HEALTHY LIVING MATTERS

Harris County Public Health
Building a Healthy Community

2017-2018

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AAMA
Alliance of Community Assistance Ministries
Avenue 360
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BakerRipley
Baylor College of Medicine
CHI St. Lukes
CHRISTUS Foundation
Cigna
Clinton Health Matters Initiative
Community Health Choice
DGA Healthcare Consulting
Doctors for Change
Episcopal Health Foundation
Gateway to Care
Harris Health System
HCA
Hope Clinic
Houston Health Department
Lactation Foundation, UT Health
Legacy Community Health
Memorial Hermann Health System
Mental Health America of Greater Houston
Spring Branch Community Health Center
Texas Children's Health Plan
Texas Children's Hospital
Texas Health and Human Services
The University of Texas MD Anderson Cancer Center
University of Houston
University of Houston Law Center
UTHealth
UTHealth School of Public Health
UT MD Anderson Cancer Center
YMCA of Greater Houston

Harris County Public Health (HCPH) serves as the backbone organization to support and convene the Healthy Living Matters Collaborative. Health occurs where people live, learn, work, worship, and play; therefore it is critical to address social, economic, and environmental factors to improve the health of individuals and communities and achieve health equity. Since 2013, HCPH has made health equity a strategic priority and has been recognized by the National Association of County and City Health Officials (NACCHO) as the Large Local Health Department of the Year in 2016 for its work in health equity, innovation and engagement.

HEALTHY LIVING MATTERS
Connecting Policy to the Future

Harris County Public Health
Building a Healthy Community

Pathway

Hundreds of thousands of patients flow through hospitals, clinics, and physician offices presenting with episodic and chronic issues related to unhealthy life styles and conditions. In many cases, their condition exists because of social and environmental factors – **social determinants of health (SDH)** – where the patient **lives, learns, works, worships,** and **plays.** SDH accounts for up to 80%[1] of an individual's health outcomes and plays an increasing role in the larger narrative of healthcare's transition to a **value-based outcomes** model and the expanded view on **population health**.

Upstream issues such as housing security/quality, food insecurity, transportation, education, employment, and others cause and/or impede an individual's ability to live a healthy life. A growing number in healthcare have decided to look beyond the four walls of the clinical setting to more effectively impact the lives of their patients. Because of the clinical-patient relationship, organizations and providers have a unique opportunity to identify and attempt to address the underlying issues affecting these people. **The first step is to screen for SDH**.

Childhood obesity is a good example of how various SDHs can impact the life of a child and his or her transition into adulthood. In addition to food insecurity, studies demonstrate how social and environmental factors and behaviors such as intimate partner violence, unsafe neighborhoods, housing security, and lack of transportation increase the likelihood of a child becoming obese, which then may lead to obesity related diseases (e.g. diabetes, cardiovascular related) in childhood and continue into adulthood.[i]

Quick Case Study: Childhood Obesity

[*This is a non-exhaustive demonstration of how SDHs can affect childhood obesity.*]

- **Food insecurity** – lack of access to nutritious foods leads to the consumption of unhealthy foods and reliance many times on fast food and convenience stores.
- **Intimate partner violence** – abuse (victim or witness of family abuse) is linked to eating disorders; inactivity and overeating may be coping mechanisms.
- **Unsafe neighborhoods** – this keeps children indoors and leads to reduced physical activity, and it can lead to increased depression and stressors that result in more unhealthy eating behaviors.
- **Housing security** – families prioritize housing needs over healthy foods; many who have housing issues live in food deserts and lack access to safe neighborhoods, outdoor parks, and playgrounds.
- **Lack of transportation** – individuals and families become confined to their neighborhood, and if they are surrounded by a food desert, they can only eat what is in their local vicinity.

[1] Our Approach. (2016). Retrieved from http://www.countyhealthrankings.org/our-approach

The **Healthy Living Matters**[2] **Healthcare Sector Action Team (HSAT)**, comprised of partners from hospitals, clinics, public health, health plans, foundations, academia, and government, developed this **Pathway: A Guide to Clinical Screening for Social Determinants of Health** as a guide to first and foremost encourage organizations, physicians, and others to begin screening for SDHs. It includes the *SDH Core Measures Plus* and contains more specific recommendations on SDH screening implementation, practice, and screening tools.

How will this benefit my practice/organization?

As mentioned, up to 80% of a person's health outcomes are driven by SDHs, and these SDHs represent many of the root causes of many health issues faced by patients and their families. To truly address patient health issues, it is vital to gain a comprehensive understanding of what factors may be contributing or causing the patient's condition. Additionally, because healthcare has already begun its transition to value-based care, screening for SDHs will only improve outcomes due to the more comprehensive health diagnosis and associated treatment and intervention.

Is Anyone Else Doing This?

There are several organizations and initiatives in Houston/Harris County that are already involved in screening for SDHs. The non-comprehensive list below provides examples of hospitals, clinics, and physicians (including both private and public settings) that are screening for SDHs in varying capacities:

Baylor College of Medicine	HOPE Clinic	Memorial Hermann
Harris County Public Health	Houston Methodist	Texas Children's Hospital
Harris Health System	Legacy Community Health	UT Health

Foundations, government entities, and other organizations have been granting, investing, and/or loaning funds and offering resources for small and large scale SDH-related initiatives including SDH screening. Additionally, medical school accreditation now requires SDH be incorporated into undergraduate medical education. Therefore, the prevalence of screening and intervening for SDHs will likely increase.

What if a Patient Screens Positive? What am I Responsible for?

If a patient screens positive for a SDH, the provider or staff can give the patient information about a resource or organization that can help address their current circumstance such as the address and/or phone number of a food pantry. This referral is a basic level of service that any provider or organization can provide. Additionally, if staff includes a community health worker, navigator, or social worker, they can facilitate the needed next steps.

Even if a patient screens positive, providers and staff should talk to their patients to determine if the patients want help. Many do not. Additionally, if a patient screens positive for more than one SDH,

[2] Healthy Living Matters is a collaborative that addresses childhood obesity by employing a multi sector effort – education, healthcare, built-environment-around for policy strategies, education, and community engagement

some providers and staff intervene for the one SDH that will impact the patient's condition the most or alternatively, one the patient seems most motivated to work towards.

Are There Resources to Help if Someone Screens Positive?

There are many community resources available in Houston/Harris County that address nearly the full spectrum of SDH related issues. Below are ways that providers and organizations can connect to these community resources:

- Telephone based resources such as 2-1-1 offer additional screening and warm referrals to social services. 2-1-1 also offers more intensive services for special populations such as veterans.
- Online resources such as Project Safety Net, 2-1-1 (http://referral.unitedwayhouston.org/) , and Doctors for Change (http://www.dfcguide.org/) offer an inventory of social organizations and means to access such things as food pantries by zip code.
- Some organizations utilize community health workers, social workers, or train their staff to help navigate patients to community resources and provide social support if needed.

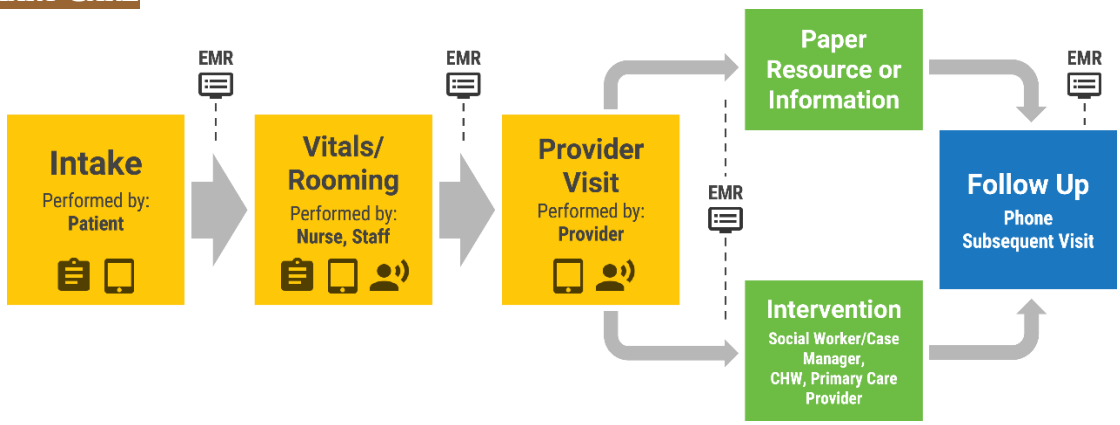
How Can I Fit This into My Practice?

First, it is recognized that physicians and healthcare organizations face various challenges and increasing regulations that burden practices. Despite these burdens, there are physicians, and organizations locally in Houston/Harris County and across the country who have incorporated SDH screening. Second, there is no one standard way screening has to be built in to the flow of the practice. Here are some suggestions based on experiences shared from various organizations:

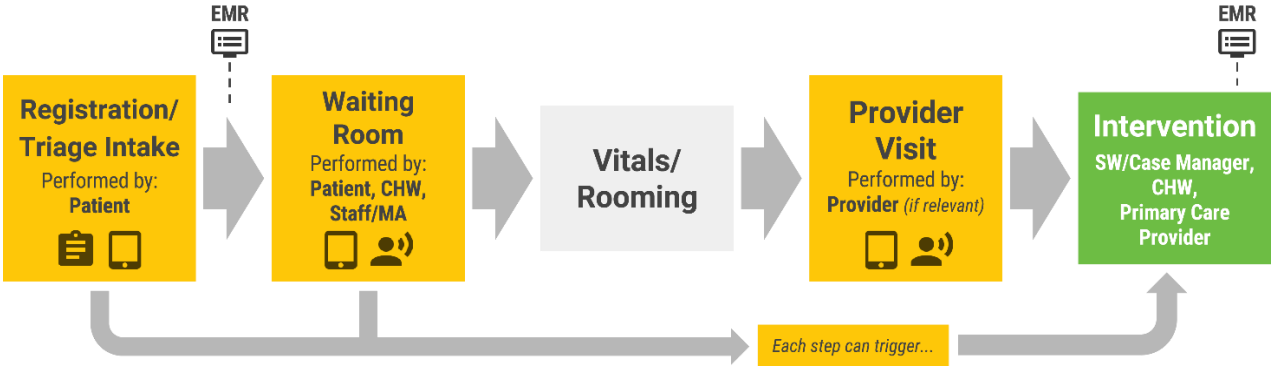
- The question(s) can be asked at any point in the workflow. Some ask the questions at intake. Some have the nurses/staff ask the screening questions once the patient is taken back, and some physicians ask the questions themselves.
- A practice/organization can ask one SDH question and slowly increase the number and type.
- Some have chosen to administer SDH screening by paper or electronically (e.g. tablet), and others have chosen to personally speak to the patient. Due to the sensitivity of the questions and feelings of embarrassment, practices should determine which format(s) works best by gauging their patients' comfort level and helping patients understand providers' and staff's desire to help.
- The following workflow graphics are designed to demonstrate potential locations, personnel, and formats for SDH screening as well as where electronic medical records (EMR) could be interfaced:[3]

[3] Workflow design consultation conducted with Ana C. Monterrey, MD, MPH, Baylor College of Medicine and Padma Swamy, MD, MPH Baylor College of Medicine; Graphics created by Mehdi Vasigh, Program & Website Coordinator, Doctors for Change

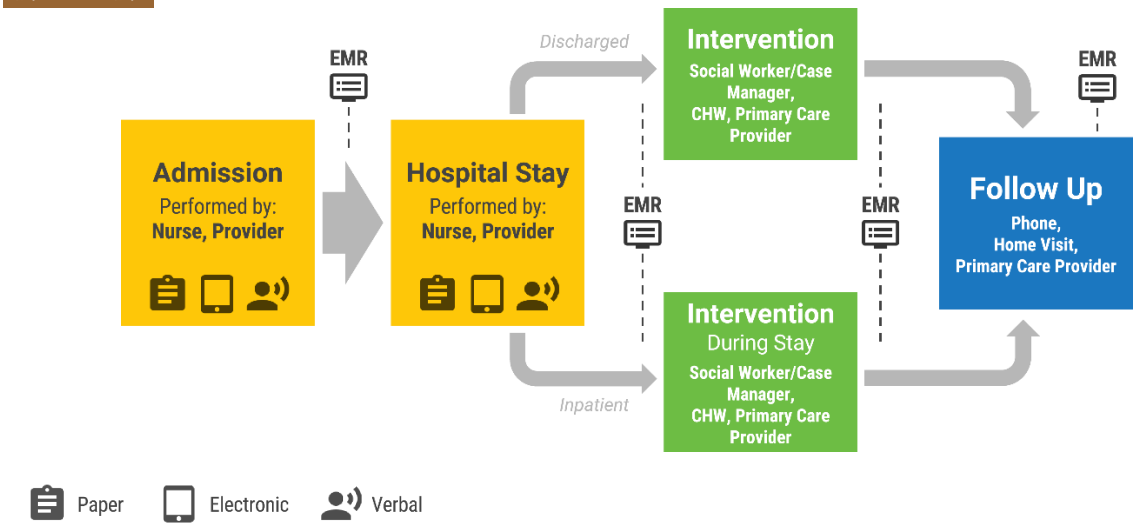
Primary Care



Emergency Room



Inpatient



How Do I Know Which SDHs to Screen For?

If you cannot implement PRAPARE or another SDH screening tool (see "Are There Any Existing SDH Screening Tools?"), HSAT has recommended a set of essential SDHs to ask and a recommended order should you want to methodically grow the screening (see the "*SDH Core Measures Plus*" box), but each practice should grow their screening in accordance with their community's needs and internal capacity. The *SDH Core Measures Plus* were chosen based on criteria such as impact, sensitivity of topic, and the ability to appropriately intervene.

- Food insecurity is one of the most asked SDH questions, and it is a good place to start.
- Sometimes patients are hesitant to answer affirmatively to certain questions due to the sensitivity of the topic or embarrassment. However, sometimes the food insecurity questions, which most patients are willing to answer, helps patients open up about other issues. For this reason, it is sometimes called a gatekeeper question.
- Some organizations have chosen to ask initial SDH questions, and if certain answers are provided, then additional SDH questions are asked.
- Though depression, stress, and health behaviors (e.g. exercise, nutrition) are not SDHs per se, they were included because they have significant impacts on and are in many cases the basis of several chronic illness and conditions like diabetes and childhood obesity.

SDH Core Measures Plus

Organizations and individual practices may not have the resources to implement a full SDH screening tool. Regardless of the method of implementation, below are the recommended *SDH Core Measures Plus* as agreed upon by HSAT. They represent what is believed to be essential when attempting to gauge a more comprehensive understanding of the patient's social environment. The "Plus" are those fields (depression, stress, and healthy behaviors) that are not true SDHs but were deemed critical due to their impact on overall health. The following are ordered according to a recommended ranking should practices want to methodically grow their SDH screening:

1) Food Insecurity
2) Housing
3) Transportation
4) Employment
5) Community Safety
6) Depression*
7) Family & Social Support
8) Stress*
9) Education
10) Health Behaviors*
11) Trouble Paying for Rx
12) Interpersonal/Family Violence

* *Denotes "Plus" measures*

What if My Practice Already Asks Some of These Questions?

Many practices already ask about education, employment, housing, or some combination thereof. While any form of asking these questions is important and encouraged, sometimes it may be inconsistent. Additionally, even when asked, there may be no attention or follow up given. More focused attention is encouraged because these may be underlying the presenting health issue.

Are There Standard SDH Questions?

There are varying questions and numbers of questions to ask depending on the type of SDH. Some SDHs have standard questions that are broadly accepted and agreed upon such as for food insecurity:

Food Insecurity Questions[ii]

1) *Within the past 12 months, you worried that your food would run out before you got money to buy more.*
2) *Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.*

Some have chosen to just follow the questions on a screening tool (see "Are There Any Existing SDH Screening Tools?") while others have preferred specific questions that better match their need and patient population. The appendix lists recommended questions for each of the *SDH Core Measures Plus* fields [see Appendix]. For those interested in screening for food insecurity, *Food Insecurity Screening in Houston and Harris County: A Guide for Healthcare Professionals*,[4] is a comprehensive guide that describes what providers should know ranging from screening to practice integration to interventions and local resources.

SDH Screening Tools In Use Locally

- **PRAPARE**
- **WE CARE**
- **WE CARE-Houston**
- **SEEK** *(requires copyright permission)*
- **CMS Accountable Health Communities**

Are There Any Existing SDH Screening Tools?

There are several SDH screening tools to choose from. All of the screening tools have great utility, and some are specialized for particular populations. Based on criteria such as prevalence of use and comprehensiveness, **HSAT recommends using the PRAPARE screening tool** (see PRAPARE box). However, it is best to review the tools themselves to find the one that best suits individual purposes. Also, some providers and organizations have chosen to alter or add questions on the screening tools to better match their needs and/or match standard practice.

PRAPARE

Excerpt from National Association of Community Health Centers (NACHC):

> *The PRAPARE assessment tool consists of a set of national core measures as well as a set of optional measures for community priorities. It was informed by research, the experience of existing social risk assessments, and stakeholder engagement. It aligns with national initiatives prioritizing social determinants (e.g., Healthy People 2020), measures proposed under the next stage of Meaningful Use, clinical coding under ICD-10, and health centers' Uniform Data System (UDS).*

For more information and access to the PRAPARE screening tool, go the NACHC website - http://www.nachc.org/research-and-data/prapare/

[4] This toolkit is a product of a several healthcare, public health, and community organizations convened and lead by the Texas Children's Section of Public Health Pediatrics Food Insecurity ACEs Workgroup.

Are There Any EMR Systems with SDH Questions?

Many of the widely used EMR systems like EPIC and GE Centricity have SDH screening questions and/or tools available. You will need to check with your organization or individual vendors to determine what is available.

What Else Can Be Done to Address SDHs?

As mentioned above, referring patients is one option. Many individual providers and organizations have been involved with a variety of initiatives to address SDHs. There are too many to name here, but listed below are examples of ways in which some providers and organizations locally in Houston/Harris County have chosen to do more.

- Raising awareness is one of the first places to start in order to increase peer and organizational understanding and subsequently support of SDH clinical screening.
- Some organizations have chosen to utilize CHWs, case managers, or staff to help the patient navigate to community resources. For some this has meant helping the patient make an appointment, and others have specifically trained or hired staff to make more intensive efforts including contacting family, faith-based organizations, and even escorting the patient to appointments.
- Care coordination teams (CCT) are teams of multi-skilled individuals such as a case worker, physician, health coach, or other combinations of practitioners who go to the patient's home to identify, monitor, and help the patient based on their specific living conditions. Some CCTs provide constant and focused attention on high-risk patients, which is a strategy associated with many Accountable Care Organizations (ACOs).
- Onsite resources can be built into the facility such as an on-site food pantry, WIC office, community garden, or gym.
- Some organizations or practices participate in formal community-clinical linkages (CCLs) which connect healthcare providers, community organizations, and public health agencies to provide access for patients to preventive and chronic care services (e.g. food prescriptions, community gardens, Diabetes Prevention Program).
- There are various community collaborations and partnerships that are attempting to create large scale change through such things as policy and community transformative projects. These collaborations involve participation from multiple sectors such as education, law enforcement, and private businesses.

Who Can I Contact for More Information?

The following are SDH clinical screening subject matter experts who can provide insight and guidance and answer questions:

- Nancy Correa, Sr. Community Initiatives Coordinator, Section Public Health Pediatrics, Texas Children's Hospital - npcorrea@texaschildrens.org
- Karin Dunn, Grants and Development Director, HOPE Clinic - kdunn@hopechc.org
- Deborah Ganelin, Associate VP Community Benefit Corporation, Memorial Hermann Health System - Deborah.Ganelin@memorialhermann.org

- Chris Greeley, MD, Chief, Section of Public Health Pediatrics, Texas Children's Hospital Vice Chair for Community Health, Baylor College of Medicine - Christopher.Greeley@bcm.edu
- Linda Highfield, Associate Professor, Departments of Management, Policy, Community Health Practice and Epidemiology UTHealth School of Public Health - Linda.D.Highfield@uth.tmc.edu
- Lisa Holloway, DO, Clinical Health and Prevention Physician, Harris County Public Health - Lisa.Holloway@phs.hctx.net
- Tanweer Kaleemullah, Public Health Analyst – Health Systems Transformation, Harris Country Public Health - Tanweer.Kaleemullah@phs.hctx.net
- Felicia Latson, LCSW, Director of Programs, Social Determinants of Health, Legacy Community Health - flatson@legacycommunityhealth.org
- Michelle Lopez, MD, Texas Children's Hospital/Baylor College of Medicine – malopez@texaschildrens.org
- Ana C. Monterrey, MD, Baylor College of Medicine - monterre@bcm.edu
- Sherri D. Onyiego MD, Chronic Disease Prevention Physician, Harris County Public Health - Sherri.Onyiego@phs.hctx.net
- Padma Swamy, MD, Texas Children's Hospital/Baylor College of Medicine - swamy@bcm.edu

For more information about the **Pathway**, HSAT, or Healthy Living Matters, please contact:

- Tanweer Kaleemullah, Public Health Analyst – Health Systems Transformation, Harris Country Public Health (HCPH) - Tanweer.Kaleemullah@phs.hctx.net
- Frances Nguyen, HLM Project Coordinator, HCPH - Frances.Nguyen@phs.hctx.net
- info@healthylivingmatters.net

APPENDIX

Additional Resources

- Healthy People 2020 – provides an overview of SDH and the connection between social/physical environments and health
- County Health Rankings & Roadmaps – provides population health rankings and listing of evidence-informed policies, programs, systems, and environmental changes.
- Prevention Institute
    - Community Centered Health Homes (report) – outlines how better to align community health and high quality clinical services
    - Accountable Communities for Health (report) – details how the healthcare sector can align with other sectors to improving community-health
- SIREN – repository of high quality research on SDH in healthcare settings
- Food Insecurity Toolkits
    - Food Insecurity Screening in Houston and Harris County: A Guide for Healthcare Professionals
    - FRAC/American Academy of Pediatrics Food Insecurity Toolkit
    - AARP Food Insecurity Toolkit
- CMS Accountable Health Communities Model – in 2017, 32 sites across the country were awarded a 5-year grant from CMS to determine the health impact and cost effectiveness of addressing social needs during clinical visits.
- Moving Upstream: The State of Healthcare in Houston/Harris County and Its Response to SDH (Executive Summary) – Harris County Public Health's report on the healthcare sector's response to SDH
- NCVHS Measures Framework for Community Health and Well-Being, V4 – resource offering recommendations on the utilization of multi-sector sub-county data
- NAM's Capturing Social and Behavioral Domains and Measures in EHRs: Phase 2 – committee report on incorporating measures into EHRs and their implications

Recommended SDH Questions

If a provider or organization is focusing on specific SDHs (e.g. food insecurity), if a screening tool cannot be fully implemented, or if the question on the screening tool is not optimal, the following are recommended questions (with answer choices) for each SDH Core Measure Plus field. To better reflect current practices in the Houston/Harris County healthcare community, the questions HSAT considered were taken from the screening tools that are being utilized locally: PRAPARE, WE CARE, WE CARE-Houston, SEEK, and the CMS Accountable Health Communities screening tool [*for additional SDH question options, please visit* Health Leads SDH Toolkit]

Food Insecurity

Recommended

[2 Questions Paired]

1) Within the past 12 months, you worried that your food would run out before you got money to buy more? Often True, Sometimes True, Never True

2) Within the past 12 months, the food you bought just didn't last and you didn't have money to get more? Often True, Sometimes True, Never True **[USDA, The Hunger Vital Sign]**

Housing

Recommended

[2 Questions Paired]

1) What is your housing situation today?

- I do not have housing (I am staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)
- I have housing today, but I am worried about losing housing in the future.
- I have housing

2) Think about the place you live. Do you have problems with any of the following? (check all that apply)

- Bug infestation
- Mold
- Lead paint or pipes
- Inadequate heat
- Oven or stove not working
- No or not working smoke detectors
- Water leaks
- None of the above **[CMS AHC]**

Additional Options

- [2 Questions Paired]
  - A) Is housing ever a problem for you? Yes, No … If yes, would you like help with this? Yes, No, Maybe Later
  - B) Do you think you are at risk of becoming homeless? Yes, No … If Yes, would you like help? Yes, No, Maybe Later **[WE CARE-Houston]**

- Do you think you are at risk of becoming homeless? Yes, No … If Yes, would you like help? Yes, No, Maybe Later **[WE CARE]**

- What is your housing situation today? Options:
  - I have housing
  - I do not have housing (staying with others, in a hotel, on the street, in a shelter)
  - I choose not to answer this question **[PRAPARE]**

Transportation

Recommended

In the past 12 months, has lack of transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?
(Check all that apply)

- Yes, it has kept me from medical appointments or getting medications
- Yes, it has kept me from non-medical meetings, appointments, work, or getting things that I need
- No **[CMS AHC]**

Additional Options

- Do you ever have problems getting to and from appointments? Yes, No … If Yes, would you like help with this? Yes, No, Maybe Later **[WE CARE-Houston]**

- [2 Separate Questions]
  - Has lack of transportation kept you from medical appointments or from getting your medications? Yes, No, I choose not to answer this question
  - In the past year, have you or any family members you live with been unable to get any of the following when it was really needed? Transportation – Yes, No, I choose not to answer this question **[PRAPARE]**

Employment

Recommended

What is your current work situation?
Options:

- Unemployed
- Part Time Work
- Full Time Work
- Otherwise unemployed but not seeking work (ex:student, retired, disabled, unpaid primary care giver) Please write:
- I choose not to answer this question **[PRAPARE]**

Additional Option

- Do you have a job? Yes, No … If N, would you like help? Yes, No, Maybe Later **[WE CARE]**

Community Safety

Recommended

Do you feel physically and emotionally safe where you currently live?
Options: Yes, No, Unsure, I choose not to answer this question **[PRAPARE]**

Depression

Recommended

[2 Questions Paired]
1) In the past month, have you often felt down, depressed, or hopeless? Yes, No

2) In the past month, have you often had very little interest or pleasure in things you used to enjoy? Yes, No
[WE CARE-Houston]

Additional Options

- Are you feeling sad or hopeless a lot of the time? Yes, No … If Yes, would you like help? Yes, No, Maybe Later **[WE CARE]**

- In the past month, have you often felt down, depressed, or hopeless? Yes, No **[SEEK]**

Family & Social Support

Recommended

How often do you see or talk to people that that you care about and feel close to? (For example: talking to friends on the phone, visiting friends or family, going to church or club meetings)
Options:

- Less than once a week
- 1 or 2 times a week
- 3 to 5 times a week
- 5 or more times a week
- I choose not to answer this question **[PRAPARE]**

Stress

Recommended

Stress is when someone feels tense, nervous, anxious, or can't sleep at night because their mind is troubled. How stressed are you?
Options:

- Not at all
- Somewhat
- Very much
- A little bit
- Quite a bit
- I choose not to answer this question **[PRAPARE]**

Additional Option

Do you often feel under extreme stress? Yes, No **[SEEK]**

Education

Recommended

What is the highest level of school that you have finished?
Options:

- Less than high school degree
- More than high school
- High school diploma or GED
- I choose not to answer this question **[PRAPARE]**

Additional Option

Do you have a high school degree? Yes, No … If No, would you like help to get GED? Yes, No, Maybe Later **[WE CARE]**

Health Behaviors

Recommended

[various; options to be considered]

Trouble Paying for Prescriptions

Recommended

In the past year, have you or any family members you live with been unable to get any of the following when it was really needed? Medicine or Medical Care – Yes, No, I choose not to answer this question **[PRAPARE]**

Additional Option

Do you ever have trouble paying for your prescription medications? Yes, No … If Yes, would you like help with this?) Yes, No, Maybe Later **[WE CARE-Houston]**

Interpersonal/Family Violence

Recommended

[Multi-Question Group]
1) How often does anyone, including family, physically hurt you?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Fairly often (4)
- Frequently (5)

2) How often does anyone, including family, insult or talk down to you?

- Never (1)

- Rarely (2)
- Sometimes (3)
- Fairly often (4)
- Frequently (5)

3) How often does anyone, including family, threaten you with harm?
- Never (1)
- Rarely (2)
- Sometimes (3)
- Fairly often (4)
- Frequently (5)

4) How often does anyone, including family, scream or curse at you?
- Never (1)
- Rarely (2)
- Sometimes (3)
- Fairly often (4)
- Frequently (5) **[CMS AHC]**

Additional Options

- Does your partner hit or verbally abuse you? Yes, No … If Y, would you like help? Yes, No, Maybe Later **[WE CARE]**

- [2 Questions Paired]
  - In the past year, have you been afraid of your partner? Yes, No
  - Does your partner hit or verbally abuse you? Yes, No **[WE CARE-Houston]**

- In the past year, have you been afraid of your partner? Yes, No **[SEEK]**

- In the past year, have you been afraid of your partner or ex-partner? Options:
  - Yes
  - No
  - Unsure
  - I have not had a partner in the past year
  - I choose not to answer this question **[PRAPARE]**

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[i] Boynton-Jarrett, R., Fargnoli, J., Suglia, S. F., Zuckerman, B., & Wright, R. J. (2010). Association Between Maternal Intimate Partner Violence and Incident Obesity in Preschool-Aged Children. *Archives of Pediatrics & Adolescent Medicine, 164*(6), 540-546, 1-17. doi: 10.1001/archpediatrics.2010.94; Chung, E.K., Siegel, B.S., Garg, A., Conroy, K., Gross, R.S., Long, D.A., … Fierman, A.H. (2016). Screening for Social Determinants of Health Among Children and Families Living in Poverty: A Guide for Clinicians. Current Problems in Pediatric and Adolescent Health Care, 146, 135-153. doi: http://dx.doi.org/10.1016/j.cppeds.2016.02.004; Food Research & Action Center. (2017). Relationship Between Poverty and Obesity. Retrieved from http://frac.org/obesity-health/relationship-poverty-obesity; Lissau, I., & Sorensen, T. (1994). Parental neglect during childhood and increased risk of obesity in young adulthood. The Lancet, 343(8893), 88930th ser., 322-327. doi:10.1016/s0140-6736(94)91163-0; Nauert, R. (2009, May 15). *Stress Contributes to Childhood Obesity*. Retrieved from https://psychcentral.com/news/2009/05/15/stress-contributes-to-childhood-obesity/5926.html; Ogden CL, Lamb MM, Carroll MD, Flegal, KM. Obesity and socioeconomic status in children: United States 1988-1994 and 2005-2008. NCHS data brief no 51. Hyattsville, MD: National Center for Health Statistics. 2010. Retrieved from https://www.cdc.gov/nchs/data/databriefs/db51.pdf; Schreier, H. M. C., & Chen, E. (2013). Socioeconomic Status and the Health of Youth: A Multi-level, Multi-domain Approach to Conceptualizing Pathways. Psychological Bulletin, 139(3), 606–654. http://doi.org/10.1037/a0029416; Shonkoff, E.T. (2015, July 2). *Stress & Child obesity: Dietary pathways in the context of stress* [PowerPoint slides]. Retrieved from http://childhoodobesity2015.com/docs/uploads/MP%203.3.Tate,%20E_COC%20Presentation%20Shonkoff%20UPDATED%202.pdf; The State of Obesity. (n.d.). *Socioeconomics and Obesity*. Retrieved from http://stateofobesity.org/socioeconomics-obesity/;

[ii] The Hunger Vital Sign™. (n.d) In *Children's Health Watch.* Retrieved from http://childrenshealthwatch.org/public-policy/hunger-vital-sign/