

Addressing Social Determinants of Health with Technology

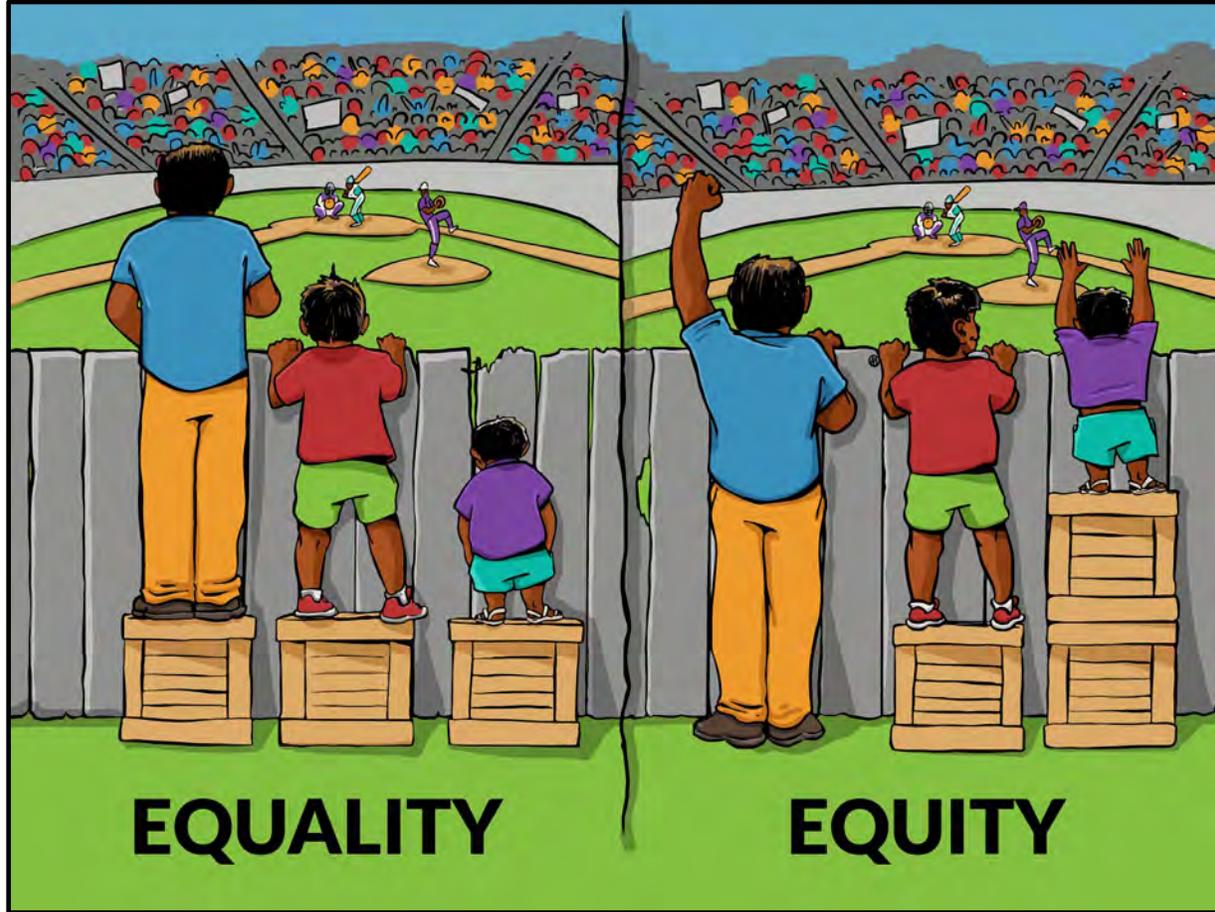
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Objectives

1. Define Social Determinants of Health and their importance in medicine with an emphasis on Medical Oncology
2. Discuss how technology can be leveraged to collect data for assessment
3. Review methods for implementing Point of Care intervention





EQUALITY

EQUITY

2020 AACR Cancer Disparities Report

DEATH RATES*			
Cancer Type	African Americans	Whites	Rate Ratio
Prostate, males	38.4	18.2	2.11
Stomach	5.3	2.6	2.04
Multiple myeloma	6.0	3.0	2.00
Cervix uteri, females	3.1	2.2	1.41
Breast, females	27.3	19.6	1.39
Colorectal	18.3	13.4	1.37
Liver and intrahepatic bile duct	8.5	6.3	1.35
Pancreas	13.3	11.0	1.21
Lung and bronchus	40.2	39.3	1.02
Kidney and renal pelvis	3.4	3.7	0.92

*Both sexes unless otherwise specified
Data from: SEER Cancer Statistics Review 1975-2016 (Howlader N, Noone AM, Krapcho M, Miller D, Brest A, Yu M, Ruhl J, Tatalovich Z, Mariotto A, Lewis DR, Chen HS, Feuer EJ, Cronin KA (eds). SEER Cancer Statistics Review, 1975-2016, National Cancer Institute, Bethesda, MD, https://seer.cancer.gov/csr/1975_2016/, based on November 2018 SEER data submission, posted to the SEER website, April 2019.

! **34% of cancer deaths** among all U.S. adults ages 25 to 74 could be **prevented if socioeconomic disparities were eliminated (45).**

Eliminating health disparities for racial and ethnic minorities from 2003 to 2006 would have reduced

Direct medical costs by:
\$230 BILLION

Indirect costs associated with illness and premature death by:
>\$1 TRILLION



Map of life expectancy: New Orleans, LA



SDOH in Cancer Outcomes

- **Hispanic women** have a 35% higher cervical cancer rate than white women than White women
- **Racial Disparities: Black men** have a 19% overall cancer mortality rate than White men.
- **Income Disparities:** Patients with **lower socioeconomic status** have a 20-40% higher risk of dying from cancer compared to those with higher socioeconomic status.

Impact of SDOH in Oncology Care

- **Transportation Challenges and Treatment Delays:** Lack of reliable transportation is a barrier to accessing timely cancer treatment, leading to delays in care and potentially worse outcomes. (Journal of Oncology Practice)
- **Housing Instability and Cancer Care:** Homelessness or unstable housing increases the risk of missed appointments, interruptions in treatment, and overall poorer cancer outcomes. (National Center for Biotechnology Information)
- **Food Insecurity and Treatment Adherence:** Cancer patients experiencing food insecurity are more likely to skip doses of prescribed medications or forego recommended treatments due to financial constraints. (Supportive Care in Cancer)
- **Social Support and Treatment Outcomes:** Strong social support networks have been associated with better adherence to treatment plans and improved quality of life among cancer patients. (Journal of Clinical Oncology)

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How do we collect this data and
create meaningful interventions?



No One Left Alone (NOLA)



We aim to address health disparities, improve access to healthcare and bring healthcare equity.



Aims to address health disparities and improve access to care by carrying out research, educating the community, and recommending steps to bring healthcare equity

- **Improve SDOH Data Collection**
- Improve access to Cancer Care
- Improve access to Testing and Therapies
- Increase Clinical Trial Participation



NOLA Patient Intake Form

PERSONAL AND FAMILY HISTORY OF CANCER			
15. INDIVIDUAL FAMILY MEMBER	CANCER	16. (WRITE IN) TYPE OF CANCER? BREAST/COLON/LUNG/PANCREATIC/PROSTATE/MELANOMA/OVARIAN/OTHER	17. AGE/YEAR AT DIAGNOSIS
a. SELF	Yes/ No		_____ or Don't know
b. Sibling 1	Yes/ No	_____ or Don't know	_____ or Don't know
c. Sibling 2	Yes/ No	_____ or Don't know	_____ or Don't know
d. Sibling 3	Yes/ No	_____ or Don't know	_____ or Don't know
e. Birth mother	Yes/ No	_____ or Don't know	_____ or Don't know
f. Her Mother	Yes/ No	_____ or Don't know	_____ or Don't know
g. Her Father	Yes/ No	_____ or Don't know	_____ or Don't know
h. Her Sibling 1	Yes/ No	_____ or Don't know	_____ or Don't know
i. Her Sibling 2	Yes/ No	_____ or Don't know	_____ or Don't know
j. Biological father	Yes/ No	_____ or Don't know	_____ or Don't know
k. His Mother	Yes/ No	_____ or Don't know	_____ or Don't know
l. His Father	Yes/ No	_____ or Don't know	_____ or Don't know
m. His Sibling 1	Yes/ No	_____ or Don't know	_____ or Don't know
n. His Sibling 2	Yes/ No	_____ or Don't know	_____ or Don't know

15. Cancer Screening Needs assessments

Colon Cancer Screening Assessment

Does any of your family members had colon cancer? Yes No

At what age (if yes) _____

Do you have ulcerative colitis/ Crohn's disease or IBD? Yes No

Have you been screened for colon cancer (low dose CT)? Yes No

If no, why _____

Lung Cancer Screening Assessment

Did you smoke? Yes No

At what age did you start smoking _____

How many packs/day _____

Total pack years _____

Did you ever get exposed to asbestos? Yes No

Have you been screened for lung cancer (low dose CT)? Yes No

If no, why _____

BREAST Cancer Screening

16. Do you currently have problems (pain, cyst, lump) in either of your breasts? Yes No

17. Have you ever felt a lump in your breast? Yes No

17a What was done? (Check all that apply.)
Nothing/Clinical breast exam by doctor/Mammogram/Biopsy/Breast ultrasound/Other: _____

17a. Have you ever had a discussion with your doctor about the risk/benefits of breast cancer screening with mammogram? Yes No

18. Have you ever had a mammogram? Yes No

Have you had a mammogram in the past 2 years? Yes No

18a. If "Yes", date of last mammogram _____

18b. If "Yes", site where last mammogram was performed _____

18c. If "No", is there a particular reason why you have not had a mammogram in the past 2 years?
No reason/ Did not need/know I needed this test/ Have not had any symptoms/ Did not get around to it/ Thought I was too young/ No health insurance/ Too painful, unpleasant, or embarrassing/ Did not want exposure to radiation/ Never heard of it/ Other: Please specify _____

19. Have you ever had a breast biopsy? Yes No

If "Yes", date and result of biopsy _____

Month Year Don't know

19b. Result: Breast cancer? Yes No

19c. If "Yes", which side? Right Left Both

GENETIC BREAST CANCER HISTORY

20. Have you or anyone in your family been tested for breast cancer gene mutation? Yes No

20a. If "Yes", who? _____

20b. If "Yes", which mutation(s)? You Family member

21. Have you ever had radiation to your chest area? Yes No

MENSTRUAL HISTORY

22. How old were you when you began your menstrual period? _____

23. What is the date of your last menstrual period? _____

24. Have you ever been pregnant? Yes No

24a. If "Yes", what age were you at your first pregnancy? _____

24b. If "Yes", did you ever breast feed? Yes No

BIRTH CONTROL HISTORY

25. Did/do you use birth control pills, shots, patches, or an implant? Yes No

25a. If "Yes", when did you start? YEAR/ AGE/ DNK _____

25b. If "Yes", when did you stop? YEAR/ AGE/ still using

SOCIAL DETERMINANTS OF HEALTH			
Employment		Referral plan/intervention	
1.	What is your employment status? • Working full time • Working part time • Unemployed • Student • Keeping house or raising children full time • Retired • Disabled • Other		
2.	Are you having issue with employment? Yes/NO	Yes	No
Access to healthcare			
3.	Do you have a doctor or clinic for your regular care? Link to insurance status	Yes	No
3a.	If "No", where do you go for medical care when you are sick	Community clinic or health center	Doctor's office/ER/ Free clinic/ Other
4.	Do you have issues getting to see a doctor?	Yes	No
5.	In the past year, was there a time when you needed health care but could not get it? 5a. If "Yes", please select all of the following reasons that apply to why you could not access health care.	Yes	No
	Could not get through on the telephone	Yes	No
	Could not get an appointment soon enough	Yes	No
	At the appointment, the wait time was too long	Yes	No
	Location was not open when you were available	Yes	No
	You did not have transportation or childcare	Yes	No
	You did not have access to an interpreter	Yes	No
	You were concerned - immigration status	Yes	No
	You were taking care of someone and could not leave them alone	Yes	No
	No insurance/You could not afford it	Yes	No
Transportation			
6.	Do you have any problems with transportation to your health care visits?	Yes	No
Language/literacy			
7.	Are you able to communicate with your doctor/clinic in your primary language?	Yes	No Preferred language _____

8.	Do you need help to understand instruction you receive from your doctor/clinic?	Yes	No	
Access to mass media and emerging technologies (e.g., cell phones, the Internet, and social media)				
9.	Do you have access to the internet, a cell phone?	Yes	No	
10.	Do you use them to information/ make appointment/ Virtual visit	Yes	No	
Mental health				
11.	Do you often feel anxious, depressed or worried?	Yes	No	Mental health referral
Food insecurity				
12.	Do you have access to the healthy food you need for yourself and family?	Yes	No	Food insecurity referral
Family responsibilities for family members or friends				
13.	Are you responsible for child or elder care in your family?	Yes	No	
Social support and community inclusivity				
14.	Do you have friends or neighbors that support or help you?	Yes	No	
Housing: access, utility services, household density				
15.	Do you have any problems with your housing?	Yes	No	
16.	How many people live in your house/apartment?			
Exposure to violent behavior, Neighborhood conditions and physical environment				
17.	Do you feel safe in your neighborhood?	Yes	No	
18.	Are you exposed to violence of any kind?	Yes	No	
Recreational and leisure opportunities				
19.	Do you exercise for at least 30 minutes a day?	Yes	No	
20.	Are there opportunities for physical activity in your neighborhood: Park etc	Yes	No	
REFERRAL TO CLINICAL AND SOCIAL SERVICES				
	Patient agrees to Financial/Social/Preventive service clinical referral/NOLA	Yes	No	
	Patient agrees to social referral	Yes	No	
	Patient understands about research/clinical trials and would consider participation	Yes	No	

Data Collection

Patient signature/ NOLA counsellor signature

If already diagnosed with cancer

Type of cancer/Site of origin

Stage (TNM) / Stage (UICC)

How many markers done by hospital pathologist

Biomarker Done or not/ If not, eligible yes/no

Preferred test: NGS on tissue/ Liquid Biopsy/WES (combined Somatic and Germline - breast/ovary/prostate/pancreatic and ovarian)

Biomarker/NGS/CGP/WES related questions

Do you know about targeted treatment	Yes	No	
Do you like for us to test your tissue/blood to find better treatment option in SC?	Yes	No	
Do you like for us to test your tissue/blood to find better treatment option for future use or research use?			If not, why?

Germline/Hereditary Cancer Screening

Do you like for us to test your tissue/blood to find genetic mutation to help us treat you better?			If not, why?
Do you know that some cancer can be transmitted to generations?	yes	No	
Do you like for us to test your tissue/blood to support research to identify biological composition of multiple genes to help develop better drugs for the future?			If not, why?

Clinical Trial Participation: Our cancer centre participates in clinical trials to develop and understand about cancer, how it occurs, what tests help us, how best to develop new drugs and how to bring quality, equality and better access to all socioeconomic class of individuals. These studies are in full compliance of regulatory agencies like Office of Human Research Protection ACT.

Would you be willing to participate in a research to better understand disease process by certain tests (blood or tissue)?	yes	no	If not why?
Would you be willing to participate in a research that allows us to administer newer drugs into your treatment?	yes	No	If not, why?
Would you be willing to let researcher use your tissue/blood to identify biological composition of multiple genes to help develop better drugs for the future?			If not, why?

PATIENT SIGNATURE _____ date _____

NOLA TASK List

CANCER SCREENING SERVICES	Recommended	Scheduled (or RE/AS)

CERVICAL			
COLORECTAL			
LEUNG			
PROSTATE			
SMOKING CESSATION			
Other SERVICES: DSS/Financial counsellor	IF YES	Outcome	
Medical Dual Eligibility/LISS			
Health Insurance/ACA/Other			
Foundation support			
Free drugs			
Mental Health Services			
Transportation			
Other: Homecare/Pre clinic/PHC/Food/Other			

PATIENT NAVIGATION INTERVENTION/ ASSESSMENT DATE:

CLINICAL SERVICES	BREAST	Colon	CERVICAL	Lung
Scheduled screening	Date:	Date:	Date:	Date:
Screening outcome	Normal/Abnormal	Normal/Abnormal	Normal/Abnormal	Normal/Abnormal
If normal, next screening	Date:	Date:	Date:	Date:
Immediate follow-up procedure (if needed)	MAM/USG/Bx	Surgery/Referral to surgeon	Gyn Referral	PET/ biopsy
Options/Recommendation				
Cancer Treatment	Yes/No	Yes/No	Yes/No	Yes/No

NOLA Summary

Issue	Entry	Non	Time delay	Outcome	Comments
Access to Care/ Uninsured/ under insured/ LASS	Medical/DSS/ legal				
Insured, but not covered (PHM use)	Insurance				
Access to Testing					
Access to screening					
Access to research (include testing and trials)					
Access to treatment (consultation, free drugs, insurance)					
Access to transport					
Willingness to participate in research					

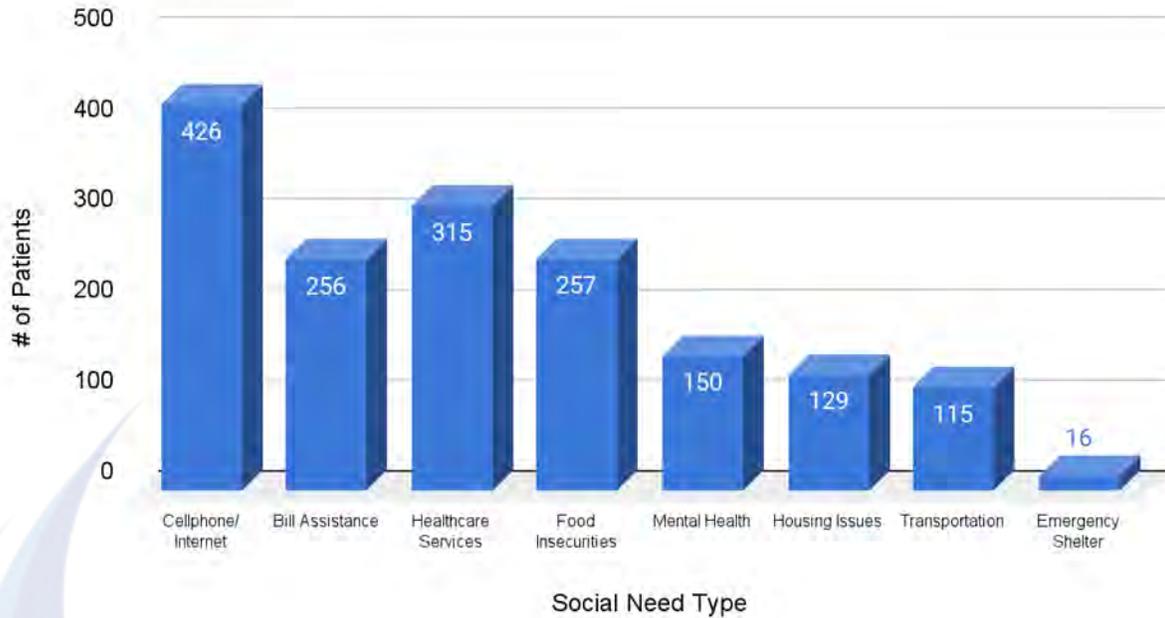


Intervention

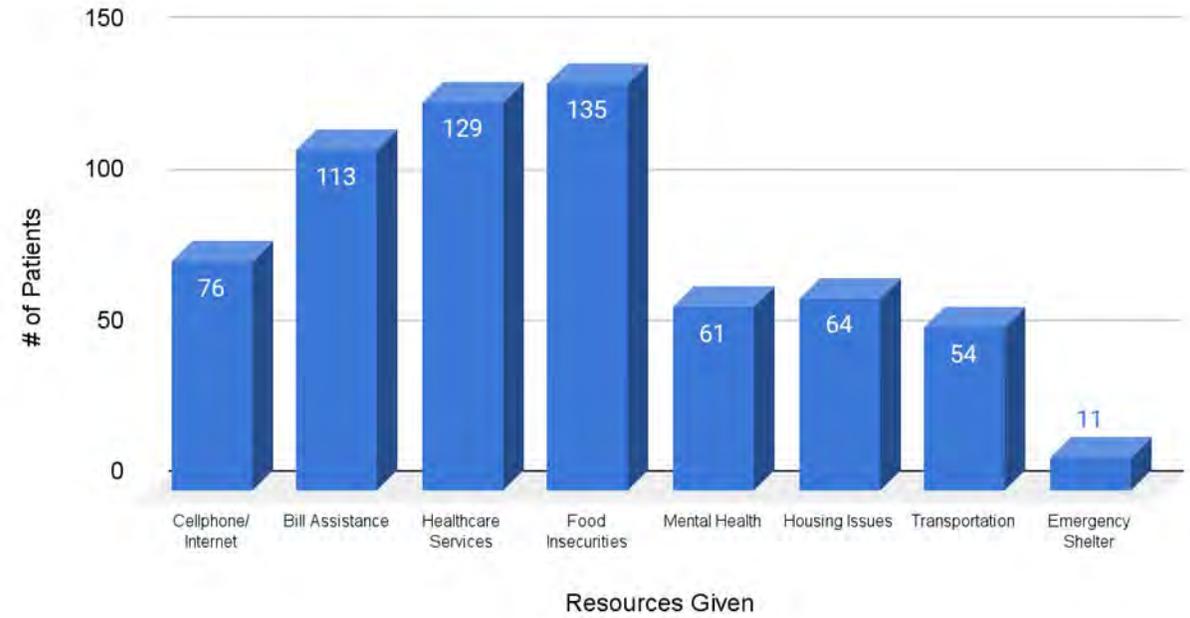
- Patient receives a call from staff member to address the disparity identified and provide information about resources available in the community
- Follow up calls as needed for additional support
- Billing performed monthly



Type of Social Need



Types of Resources Given



- Raised nearly \$3 million in year 2 to cover out of pocket drug cost/free drug
- Created insurance fund that supported over 20 patients

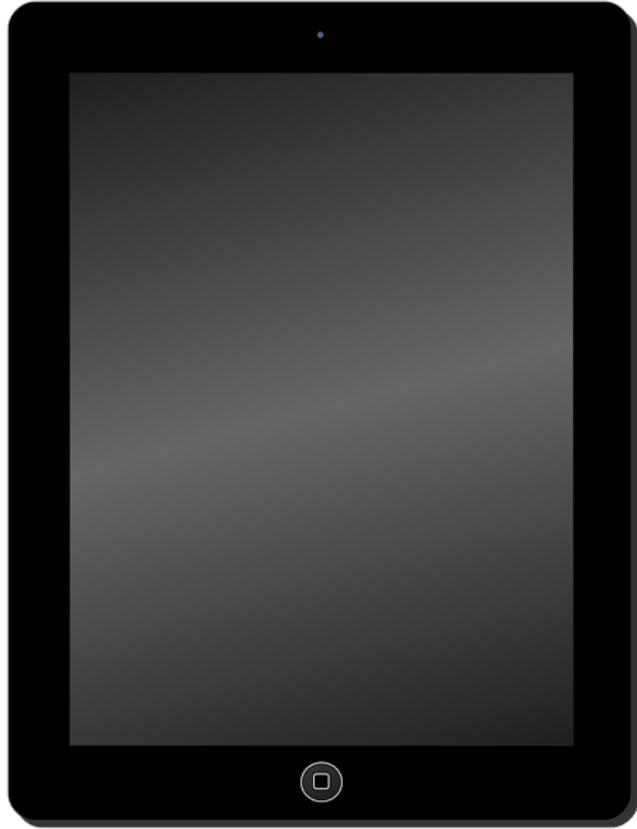
How can we leverage technology to streamline a SDOH program?

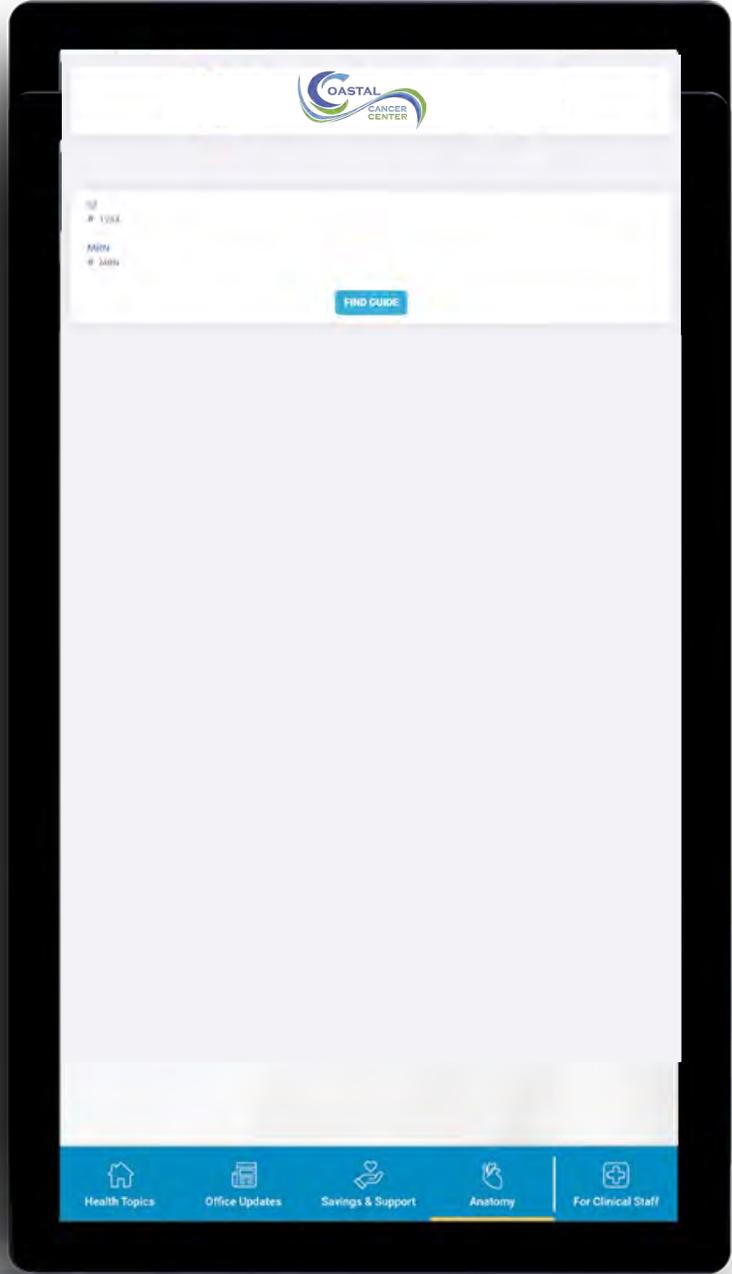


Vital Components

1. Largely automated – no manual data entry
2. Low effort for my staff and physicians
3. Creates an opportunity for meaningful point of care intervention
4. Interventions must be curated locally
5. Integration with EHR









Waypoint - 8*48**

Open Requests: 3

CLEAR

Social Determinants of Health

Estimated Time: 2 mins

ADD

Mammo Screening Form

Estimated Time: 2 mins

ADD

Review of Systems

Scan QR to access



Scan me to complete requests on your personal device.





Section 1: Demographics

*What is your current zip code?

*What is your country of birth?

*Do you speak a language other than English at home?

- No
- Yes

*What is your race?

- American Indian or Alaska Native
- Asian
- Black or African American
- Choose not to disclose
- Native Hawaiian or Other Pacific Islander
- Other Race
- Unknown
- White

*What is your ethnicity?

- Hispanic or Latino
- Not Hispanic or Latino
- Choose not to disclose
- Unknown

*What is your gender?





FOOD RESOURCES IN HORRY COUNTY

United Way of Horry County-Lowcountry Food Bank

- Check website for pantries near you.
- Phone: [843-448-0341](tel:843-448-0341)
- lowcountryfoodbank.org

Mission for the Nations Ministry Fellowship Food Bank

- Serving Conway, SC on:
 - Thursdays from 11AM-1PM
 - Sundays from 10:30AM-1PM
- Serving Georgetown, SC on Wednesdays from 11AM-1PM
- missionsforations.com

Catholic Charities of South Carolina

- 2294 Technology Blvd
Conway, SC 29526
- Phone: [843-438-3247](tel:843-438-3247) or [843-438-3083](tel:843-438-3083)
- charitiessc.org/wellness-services

Socastee Food Pantry/The Fathers House Church

- Serving the community from 10AM-2PM Monday-Wednesday.
- 4513 Hwy 17 Bypass
Myrtle Beach, SC 29577
- Primarily run by Veterans

Horry County Branch Food Bank

- 4716 Northgate Blvd
Myrtle Beach, SC 29577
- [843-448-0341](tel:843-448-0341)
- Monday - Thursday 10 AM-1 PM

St. Elizabeth Missionary Baptist Church

- 57 Church St
Aynor, SC, 29511
- [843-424-9913](tel:843-424-9913)
- 4th Saturday 9:30 AM - 10:30 AM

Home Delivered Meals – Mobile Meals of the Grand Strand Inc.

- P.O. Box 7421
Myrtle Beach, SC 29572
- [571-239-2527](tel:571-239-2527)

Juniper Bay Baptist Church

- 5265 Juniper Bay Rd
Conway, SC, 29527
- [843-397-5767](tel:843-397-5767)
- 4th Wednesday of the month 8:30AM-12PM

Project Restoring Hope

- 290 Dunn Shortcut Road
Conway, SC, 29527
- [843-365-4673](tel:843-365-4673)
- 2nd Saturday of the month 8AM-10AM

Cherry Hill Missionary Baptist

- 421 Smith Street
Conway, SC, 29526
- [843-488-2265](tel:843-488-2265)
- Monday, Wednesday, Friday 1-3 PM

Churches Assisting People

- 307 Wright Boulevard
Conway, SC, 29526
- [843-488-2277](tel:843-488-2277)
- Monday - Thursday 10AM - 2 PM

The Shepherd's Table

- 1412 A Gamecock Ave
Conway, SC, 29526
- [843-488-3663](tel:843-488-3663)
- Prepared Meals Served Monday-Friday 11AM-12PM and 4PM-5:30PM
- Pantry Hours Monday, Wednesday, Friday 1PM-5PM

St. Paul MBC/Conway

- 3449 Highway 65
Conway, SC, 29526
- [843-365-2900](tel:843-365-2900)
- 2nd & 4th Friday of the month - 11AM-12PM

Once a Month Volunteer Prepared Meal Delivery

- By Lasagna Love
- <http://lasagnalove.org>



RESOURCES



New Navigation and Care Management Codes



Services Addressing Health Related Social Needs

- **Community Health Integration** - SDOH need significantly limits ability to diagnose/treat
- **Social Determinants of Health Risk Assessment** - administration of a standardized, evidence based SDOH risk assessment tool
- Specific Documentation requirements typically with data collected by auxiliary personnel and documented by physician

G codes

G0019 - **Community health integration** services performed by certified or trained auxiliary personnel, including a community health worker, under the direction of a physician or other practitioner; 60 minutes per calendar month (billed monthly)

G0022 – Each additional 30 min

G0136 - billed when the practitioner administers a standardized, evidence-based **SDoH risk assessment** of 5-15 minutes (billed q6m)



SDOH Z-codes

Z55 series - Problems related to literacy

Z56 series - Problems related to employment

Z57 series - Occupational exposure to risk factors

Z59 series - Problems related to housing

Z60 series - Problems related to social environment

Z62 series - Problems related to upbringing

Z63 series - Other problems related to primary support group, including family circumstances

Z64 series – Problems related to certain psychosocial circumstances

Z65 series – Problems related to other psychosocial circumstances





How do we Capture and Bill these Codes

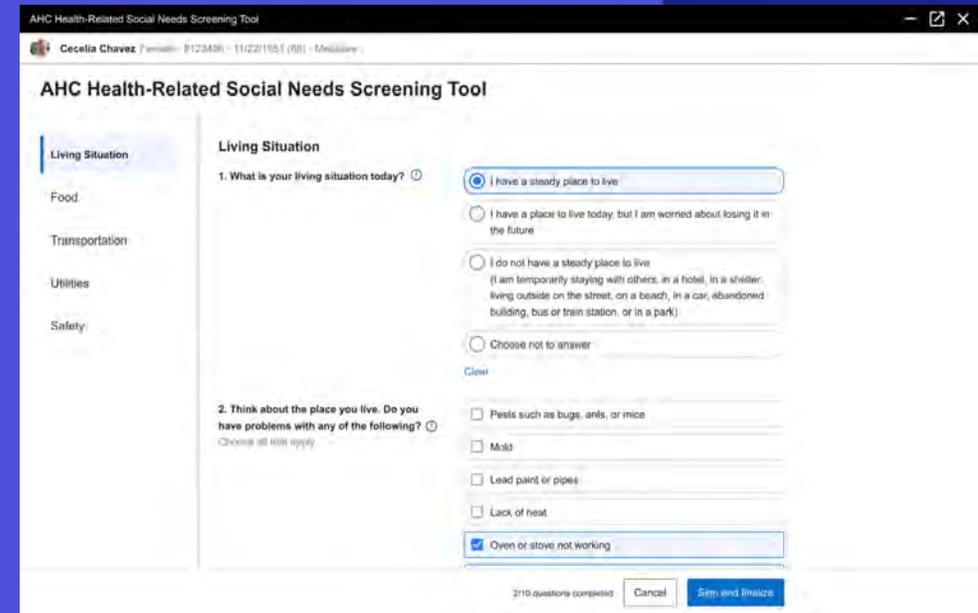


- Ongoing navigation note in EHR to track time spent over the month
 - Challenges: manual tracking and billing process
 - Advantage: time tracked accurately
- EHR based tracking solutions
 - Challenges: tracking time accurately
 - Advantage: time tracked automatically, billing guidance based on time tracked



Social Determinants of Health

- Seamlessly screen patients using the [AHC HRSN tool](#) (CMMI) directly from OncoEMR and view identified potential social risks
- Capture social needs as ICD-10s and track progress with follow-ups in one convenient location on the summary page or visit notes
- Leverage SDOH report to understand social need trends across your patient population



Social Determinants of Health [Add problem](#) [New screening](#) [Verify screening](#)

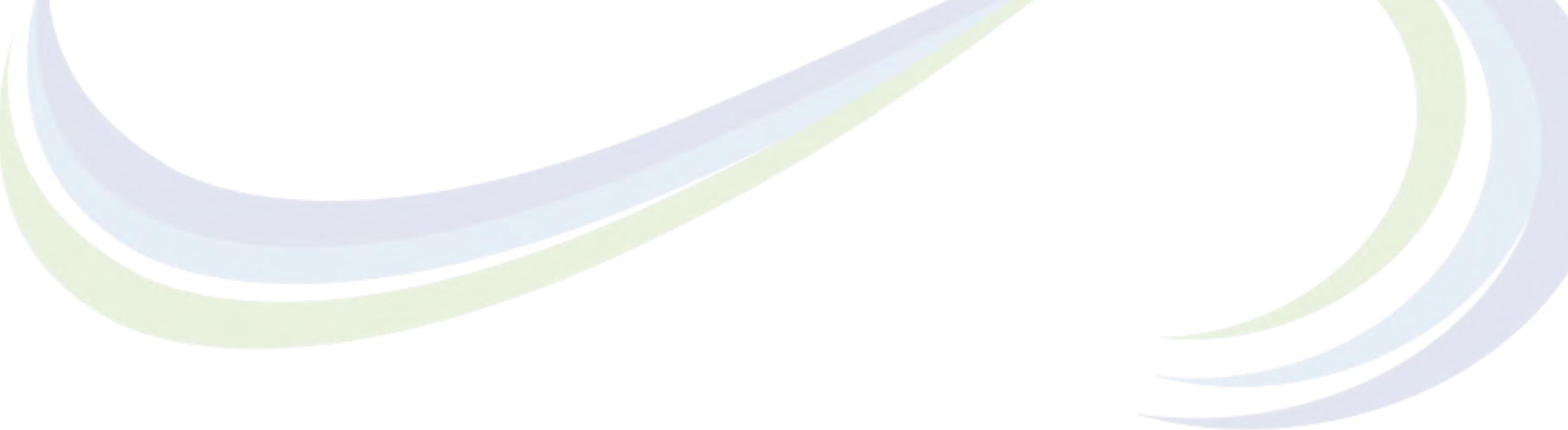
Screening ⓘ

NAME	DATE	POTENTIAL SOCIAL RISKS	LAST VERIFIED
AHC-HRSN_Questionnaire_20231111	03/02/2024	Inadequate housing, food insecurity	

Problems

Date	ICD-10	Problem	Comment	Status	Status Date	Intervention Status	Intervention Status Date
03/02/24	Z59.10	Inadequate housing		Active	03/02/24	<input type="text"/>	

Note: these are illustrative mocks and subject to change



Is this Achievable?



Vital Components

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Questions?

