



# Challenges of Putting Evidence to Practice on SDH Interventions

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Senior Investigator: Kaiser Permanente NW Center for Health Research

Lead Research Scientist: OCHIN, Inc.

Root Cause Coalition Meeting

October 8, 2018

# Context: OCHIN

[www.ochin.org](http://www.ochin.org)

- A non-profit, full service HIT provider for CHCs
- 1 centrally managed Epic© EHR; NexGen also provided
- Reporting, decision support, practice coaching, workflow design & more
- >500 Epic© member clinics in 18 states (and growing!); based in Portland
  
- >2,500,000 patients seen in last 3 years
  - 51% Medicaid; 10% Medicare; 16% private; 22% uninsured
  - 33% Hispanic; 22% Spanish primary language
  - 1% Am-Ind / AK; 5% Asian / PI; 17% Black; 66% white; 9% unknown
  - 70% <200 FPL
  
- PBRN-led research using OCHIN data since 2007

# Act on Social Determinants using EHR tools in Safety Net Settings for Diabetes Outcomes (ASSESS & DO)

- 2-year pilot study (NIDDK): 9/2015-9/2017 (Gold – PI)
- Asked how to collect / document SDH data, & track SDH referrals, in CHCs' EHRs
- Created 'SDH Data Tools' that integrate SDH data processes into commonly used EHR functions
- Mixed methods evaluation of tool uptake in 3 pilot CHCs

# SDH EHR Tools

**Screenings - Screenings**

Time taken: 1238 | 8/31/2017 | Show:  Row Info  Last Filed  Details  All Choices

Values By: [Create Note](#)

**Screenings**

- Select Combo Screenings:  Functional Status  Medicare HRA  PHQ-SBIRT-CRAFFT Combo  **Social Determinants of Health**
- Select Primary Care Screenings:  Asthma Control Test  CAGE-AID  STEADI Fall Risk Assessment  TB Risk Assessment  Vitals
- Select BH Screenings:  AUDIT  C-SSRS Screener  DAST  Edinburgh (EPDS)  GAD-7  Healthy Days  Mood (MDQ)  PC-PTSD  PHQ-2  PHQ-9  Single Alcohol  Single Substance

**Education and Learning**

How do you learn best?  Reading  Listening  Pictures  Declined

What is the highest level of school that you have finished?  Less than a high school diploma  High school diploma / GED  More than high school  Declined

**Financial Resource Strain**

How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?  Not hard at all  Somewhat hard  Very hard  Declined

**Housing**

In the last month, have you slept outside in a shelter, or in a place not meant for sleeping?  1=Yes  0=No  Declined

In the last month, have you had concerns about the conditions and quality of your housing?  1=Yes  0=No  Declined

In the last 12 months, how many times have you moved from one home to another?  [ ] Number of positive responses to housing questions: [ ]

**Food Security**

(I/We) worried whether (my/our) food would run out before (I/we) got money to buy more in the last 12 months?  2=Often true  1=Sometimes true  0=Never true  Declined

The food that (I/we) bought just didn't last, and (I/we) didn't have money to get more in the last 12 months?  2=Often true  1=Sometimes true  0=Never true  Declined

(I/we) couldn't afford to eat balanced meals in the last 12 months?  2=Often true  1=Sometimes true  0=Never true  Declined

Number of positive responses to food security questions: [ ]

[Go to unsigned orders](#) | [Sign Order](#)

## Social Determinants

Launch Social Determinants of Health Synopsis (More data may exist) | Jump to Order Entry

Basic Information		Social Determinants of Health	
Date Of Birth	Sex	Race	Ethnicity
5/9/1993	Female	Native Hawaiian, Alaskan Native, Pacific Islander, American Indian, Asian	Hispanic
			Preferred Language
			English
			Preferred Written Language
			English
Social Determinants of Health		Social Determinants of Health - Help Requested	
Help Desired	Latest Value Recorded		Date
Would you like assistance with any of the above items?	Yes		3/7/2017
Type of assistance	written information		3/7/2017
Education and Learning		Education and Learning	
Education and Learning	Latest Value Recorded		Date
Education and Learning	Reading		3/27/2017
How do you learn best?	More than high school		3/27/2017
What is the highest level of school that you have finished?			
Financial Resource Strain		Financial Resource Strain	
Financial Resource Strain	Latest Value Recorded		Date
Financial Resource Strain	Somewhat hard		12/6/2016
How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?	Yes		11/1/2016
Hard to pay for: Food	No		11/1/2016
Hard to pay for: Utilities	No		11/1/2016
Hard to pay for: Transportation	No		11/1/2016
Hard to pay for: Medicine or medical care	No		11/1/2016
Hard to pay for: Health insurance	Declined		11/1/2016
Hard to pay for: Clothing	No		11/1/2016
Hard to pay for: Rent/Mortgage payment	Yes		11/1/2016
Hard to pay for: Child care	Declined		11/1/2016
Hard to pay for: Phone	No		11/1/2016
Hard to pay for: Other	No		11/1/2016

**OCHIN MyChart**

Message | Visits | My Medical Record | Billing | Preferences

Welcome, Eliza Zaza | Log Out

## Social Needs Questionnaire

Health starts - long before illness - in our homes, schools, and jobs. The more we know about you the better health care we can provide. The following questions will help us understand more about you. Your care team will use your answers to help you improve your health. They will be entered into your medical record, and, as with all medical information, will always be kept private and confidential.

**Education and Learning**

How do you learn best?  Reading  Listening  Pictures

What is the highest level of school that you have finished?  Less than a high school diploma  High school diploma / GED  More than high school

**Financial Resource Strain**

How hard is it for you to pay for the very basics like food, housing, heating, medical care, and medications?  Not hard at all  Somewhat hard  Very hard

What is it hard to pay for?  Food  Housing  Utilities (electric, etc)  Childcare  Medical needs (medicine, doctor, etc)  Transportation  Phone  Clothing  Other

## Preference List Browser - zzzsdh, Jack

TRANSITIONAL | Search | Browse (F4) | Preference List (F5) | Facility List (F6) | Database Lookup

During visit | After visit | Only Favorites

- Labs
- Immunizations
- Procedures
- Referrals
- Supplies
- Medications
- Orders
- Imaging
- Community Referrals**
  - Housing
    - Bradley Angle - Emergency, Domestic Violence (Multnomah County)
    - Casa Hogar - Los Ninos Cuentan (Clackamas, Multnomah, Washington Counties)
    - Cascade Aids Project (CAAP) - Transitional
    - Central City Concern - Housing and Resident Services - Transitional
    - City Team/Emergency Housing - Emergency (City of Portland)
    - DePaul Industries - Portland Headquarters - Transitional
    - Home Forward - Low Income/Subsidized (All Multnomah Co, including Gresham, Fairview, Portland, Troutdale, and others)
    - HUD Oregon - Low Income/Subsidized (State of Oregon)
    - Human Solutions - Emergency, Domestic Violence, Transitional (Multnomah Co, Outer East Portland, and East Multnomah Co)
    - Human Solutions - Low Income (Outer East Portland and East Multnomah Co)
    - Native American Youth Association (NAYA) - Low Income/Subsidized (Multnomah County)
    - NW Pilot Project - Low Income/Subsidized (Multnomah County)
    - Portland Rescue Mission - Transitional (Multnomah County)
    - Portland Women's Crisis Line/ Oregon - Emergency, Domestic Violence (State of Oregon)
    - Portland Women's Crisis Line/ Oregon - Transitional (Multnomah County)
    - Project UNCA - Catholic Charities - Emergency, Domestic Violence
    - Salvation Army - West Women's & Children's Shelter - Emergency, Domestic Violence
    - The Gateway Center - Emergency, Domestic Violence (Multnomah County)
    - Transition Projects (TPJ) - Transitional
  - Nutrition (Community Referrals)
    - City Team/Food - Hot Meals, Soup Kitchens, Community Meals (Multnomah County)
    - Farmers Market - Clackamas Sunnyside Grange Farmers' & Artists' Market - SNAP, Food Stamps
    - Multnomah County early Childhood Services - Northeast - WIC (State of Oregon)
    - Oregon DHS CAF Division for Multnomah County - Metro - SNAP, Food Stamps (Multnomah County)

ORIGINAL RESEARCH

## Developing Electronic Health Record (EHR) Strategies Related to Health Center Patients' Social Determinants of Health

*Rachel Gold, PhD, MPH, Erika Cottrell, PhD, MPP, Arwen Bunce, MA, Mary Middendorf, BS, Celine Hollombe, MPH, Stuart Cowburn, MPH, Peter Mabry, MD, and Gerardo Melgar, MD*

For more on the  
tool development  
process:  
*Gold et al,*  
*JABFM 2017*

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**Background:** “Social determinants of health” (SDHs) are nonclinical factors that profoundly affect health. Helping community health centers (CHCs) document patients’ SDH data in electronic health records (EHRs) could yield substantial health benefits, but little has been reported about CHCs’ development of EHR-based tools for SDH data collection and presentation.

**Methods:** We worked with 27 diverse CHC stakeholders to develop strategies for optimizing SDH data collection and presentation in their EHR, and approaches for integrating SDH data collection and the use of those data (eg, through referrals to community resources) into CHC workflows.

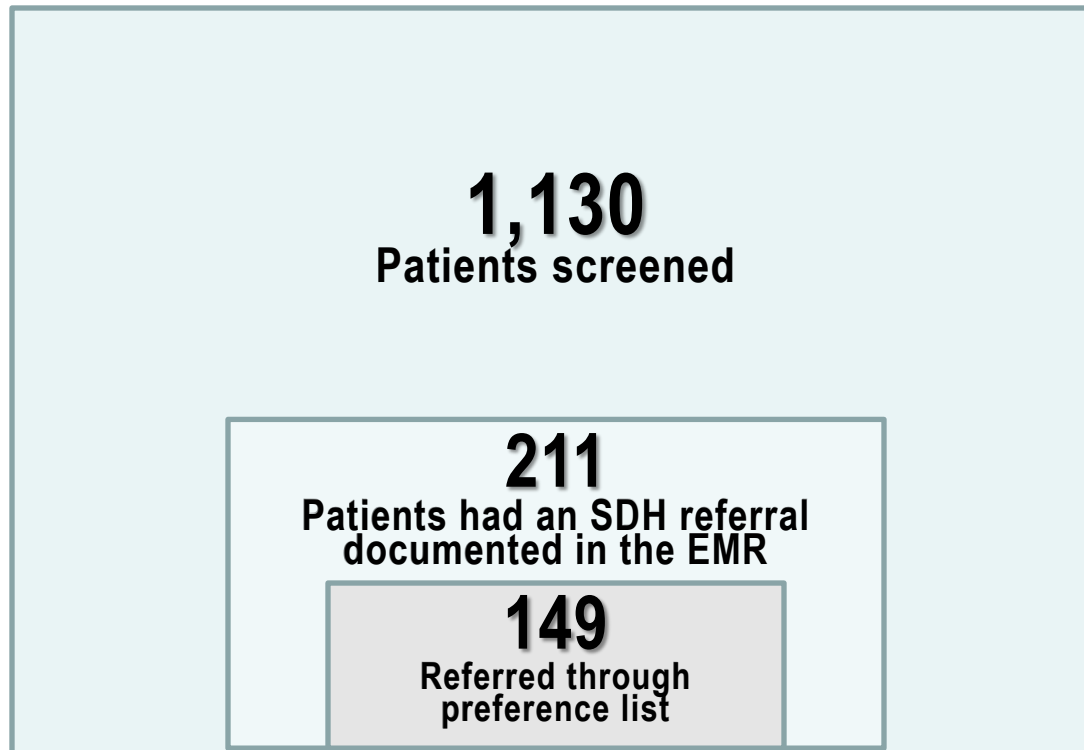
**Results:** We iteratively developed a set of EHR-based SDH data collection, summary, and referral tools for CHCs. We describe considerations that arose while developing the tools and present some preliminary lessons learned.

**Conclusion:** Standardizing SDH data collection and presentation in EHRs could lead to improved patient and population health outcomes in CHCs and other care settings. We know of no previous reports of processes used to develop similar tools. This article provides an example of 1 such process. Lessons from our process may be useful to health care organizations interested in using EHRs to collect and act on SDH data. Research is needed to empirically test the generalizability of these lessons. (*J Am Board Fam Med* 2017;30:428–447.)

**Keywords:** Community Health Centers, Data Collection, Electronic Health Records, Primary Health Care, Referral and Consultation, Social Determinants of Health

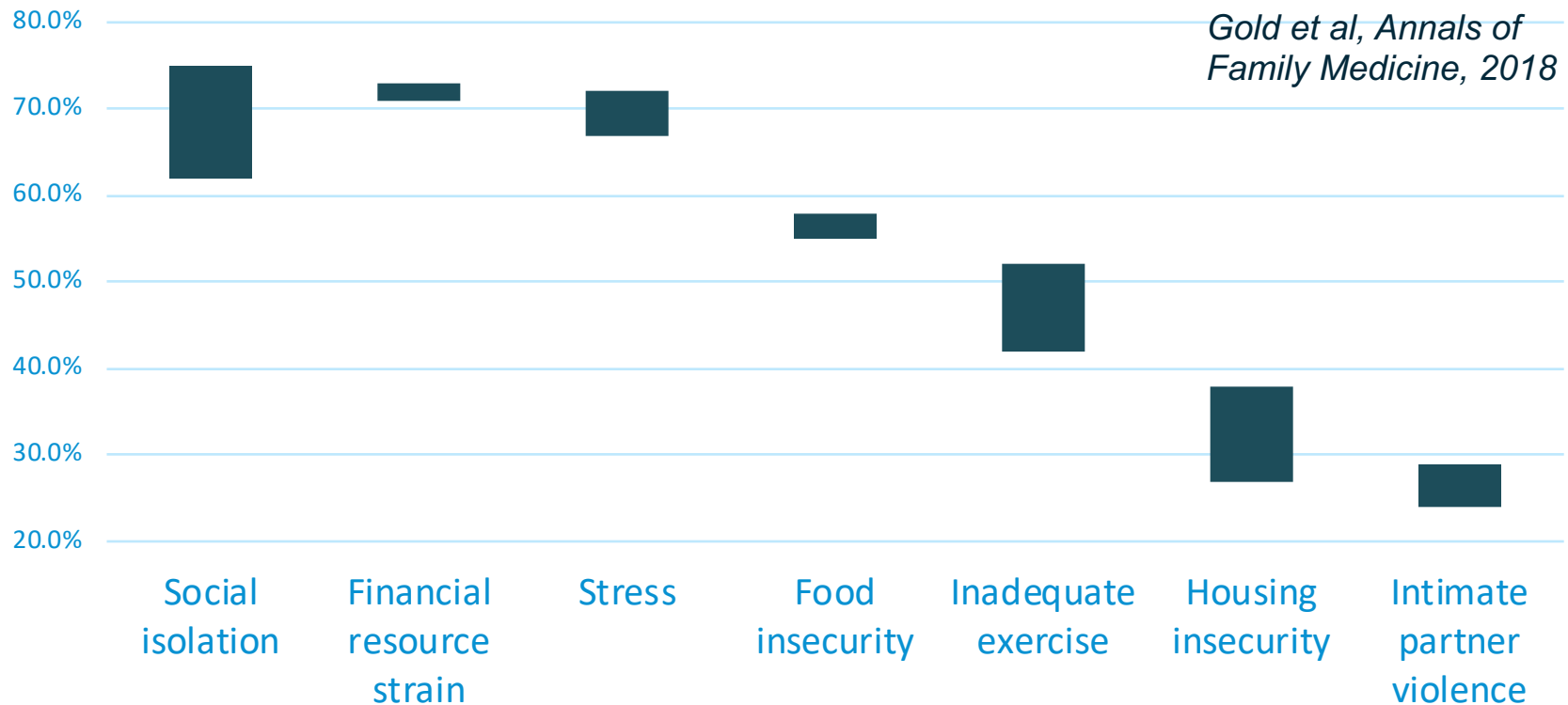
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# Referrals in EHR: Three pilot clinics, 7/16-7/17



*Gold et al, Annals of Family Medicine, 2018*

# Range of SDH Domains Across the 3 Pilot CHCs



# Adoption of Social Determinants of Health EHR Tools by Community Health Centers

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*Conflicts of interest: authors report none.*

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## ABSTRACT

**PURPOSE** This pilot study assessed the feasibility of implementing electronic health record (EHR) tools for collecting, reviewing, and acting on patient-reported social determinants of health (SDH) data in community health centers (CHCs). We believe it is the first such US study.

**METHODS** We implemented a suite of SDH data tools in 3 Pacific Northwest CHCs in June 2016, and used mixed methods to assess their adoption through July 2017. We modified the tools at clinic request; for example, we added questions that ask if the patient wanted assistance with SDH needs.

**RESULTS** Social determinants of health data were collected on 1,130 patients during the study period; 97% to 99% of screened patients (n = 1,098) had ≥1 SDH need documented in the EHR, of whom 211 (19%) had an EHR-documented SDH referral. Only 15% to 21% of patients with a documented SDH need indicated wanting help. Examples of lessons learned on adoption of EHR SDH tools indicate that clinics should: consider how to best integrate tools into existing workflow processes; ensure that staff tasked with SDH efforts receive adequate tool training and access; and consider that timing of data entry impacts how and when SDH data can be used.

**CONCLUSIONS** Our results indicate that adoption of systematic EHR-based SDH documentation may be feasible, but substantial barriers to adoption exist. Lessons from this study may inform primary care providers seeking to implement SDH-related efforts, and related health policies. Far more research is needed to address implementation barriers related to SDH documentation in EHRs.

*Ann Fam Med* 2018;16:399-407. <https://doi.org/10.1370/afm.2275>.

## INTRODUCTION

Numerous health care systems are exploring how to incorporate social needs documentation and intervention into routine care.<sup>1-4</sup> These efforts are based on strong evidence that patients' social and economic contexts (their social determinants of health [SDH]) shape health,<sup>5-15</sup> and on nascent evidence that clinic-based SDH screening and intervention can improve health.<sup>2,16-20</sup>

Standardized SDH screening documentation in electronic health records (EHRs) is endorsed by the National Academy of Medicine, the Medicare Access and Children's Health Information Program Reauthorization Act of 2015, the 2016 Centers for Medicare and Medicaid Services' Quality Strategy, and other professional organizations.<sup>21-25</sup> Such documentation is especially relevant to community health centers (CHCs), whose vulnerable patients are likely to experience social and economic risks associated with poor health.<sup>26-36</sup> Community health centers' past efforts to integrate social and medical needs<sup>37</sup> were typically ad hoc and rarely documented in EHRs.<sup>3,4,38</sup> Little is known about how to capture and present SDH information in CHCs' EHRs, or how to integrate EHR-based SDH documentation into CHC workflows.<sup>19,39</sup>

We conducted a pilot study to develop EHR-based SDH data tools for documenting and summarizing SDH screening results and making

For more on the  
**ASSESS** study  
results:  
*Gold et al, AFM*  
2018



# ASCEND study

- 5-year study (NIDDK): 9/2017-9/2022 (Gold – PI)
- Formative: **measured** SDH data collection in OCHIN CHCs in the 2 years after 6/2016 when ‘SDH Data Tools’ went live; **interviewed** CHC staff at clinics with high adoption
- **Pragmatic trial:** intensive implementation support intervention package:
  - 6 months: ‘SDH Implementation Team’ tailors support to each CHC’s needs
  - Provide tailored technical assistance & training in planning for & implementing SDH data collection / action;
  - Walks clinics through 5 implementation steps .....
  - 1. Select SDH team
  - 2. Identify SDH data goals
  - 3. Identify SDH workflow plan
  - 4. Train clinic staff in goals, plan
  - 5. Test, iterate workflows until successful

SDH screening adoption step	Tasks needed for this step	Date completed / support needed
Step 1. Create a 'SDH Team.'	Obtain leadership support for SDH screening.	
	Identify a clinician champion (CC) for SDH screening adoption.	
	Identify a project champion (PC); this may be the CC if desired.	
	Give the champion(s) dedicated time for SDH efforts, including contact with study team.	
Step 2. Identify clinic goals	Identify your clinic's goals for SDH screening, and which patients you want to screen	
Step 3. Create a 'SDH Plan.'	Create a workflow plan for SDH data collection and review, and (if desired) SDH action.	
	Create a rollout plan and a plan for tracking your clinic's SDH screening adoption.	
Step 4. Train clinic staff in the 'SDH Plan.'	Orient clinic staff (e.g., at a staff meeting, via email, etc.).	
	If changes are made to the plan, orient staff to the changes.	
	Train new staff as needed.	
Step 5. Roll out, then iteratively revise the 'SDH Plan'	Start rollout.	
	Review your clinic's SDH screening rates on a regular basis. Use this information to improve adoption of your SDH Plan.	

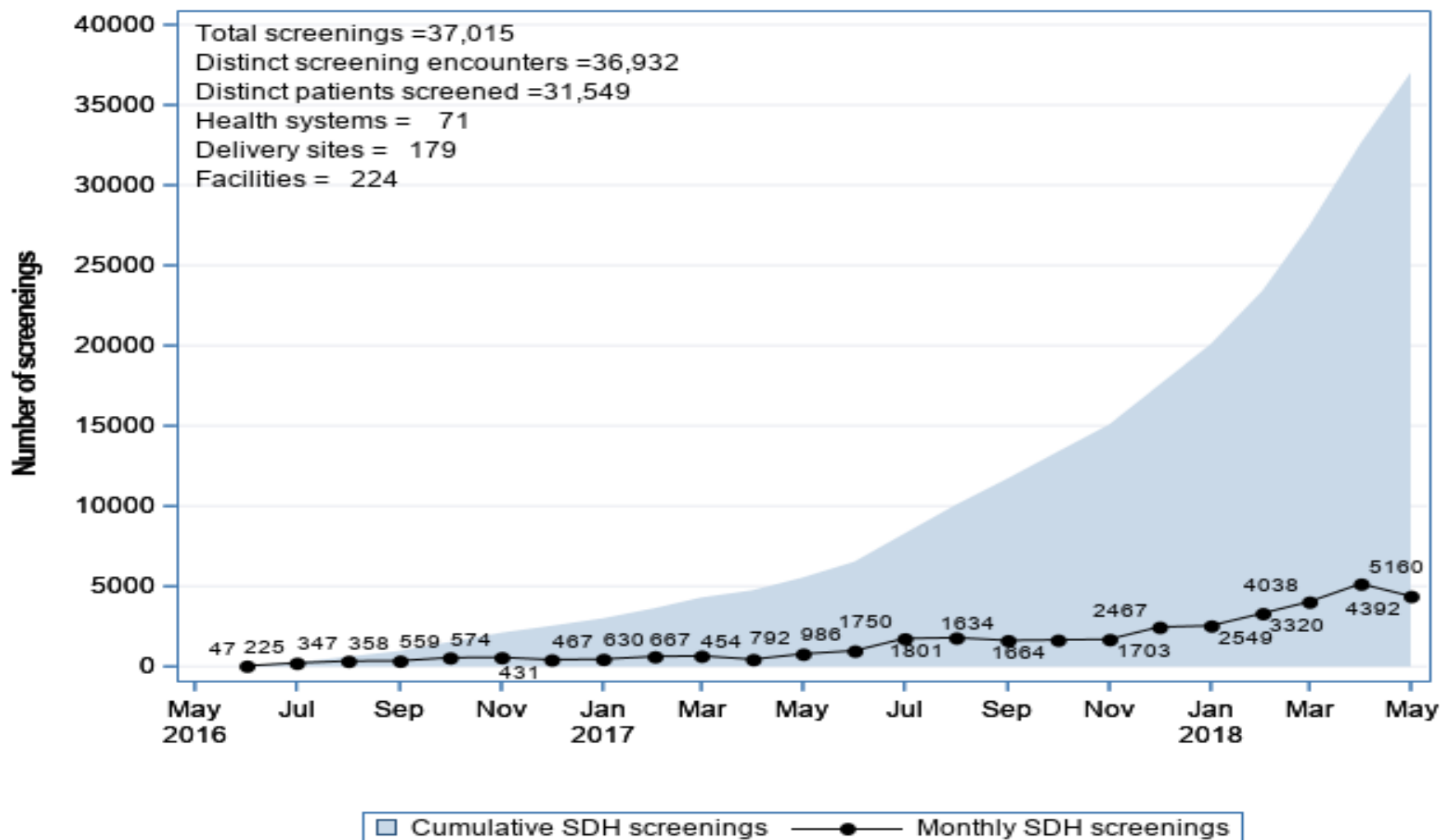
a. Why do you want to screen your patients?

Review these potential uses for SDH data; check those that apply to your clinic's goals at this time. *If your goals for SDH screening change, consider whether / how that affects which patients you screen, how often, and for which SDH.*

1. To provide contextual information that could impact individual patients' treatment plan		Prioritize the uses of SDH data for your clinic, if desired:
<input type="checkbox"/>	<b>Inform treatment, care planning; know what is affecting patients</b> <i>E.g.: Change homeless patient's rx to one that doesn't require refrigeration</i>	
<input type="checkbox"/>	<b>Identify &amp; make needed social service intervention referrals</b> <i>E.g.: Refer patient with diabetes, who lacks healthy food, to food bank</i>	
2. To understand areas of need in our clinic / community		
<input type="checkbox"/>	<b>Support organizational changes - Identify needed staff, allocate resources</b> <i>E.g.: Ensure that a social worker is available to address patients' experience of relationship violence; use SDH data to decide where to locate a new Community Health Worker staff position</i>	
<input type="checkbox"/>	<b>Support community changes - Provide data for advocacy</b> <i>E.g.: Inform local government about need for housing resources</i>	
<input type="checkbox"/>	<b>Creating new partnerships with new / other community agencies</b> <i>E.g.: Data on patients' legal needs drives creation of medical-legal partnership</i>	
3. To conduct targeted outreach ("Segmentation" of your patient population)		
<input type="checkbox"/>	<b>Enable targeted outreach to vulnerable patients</b> <i>E.g.: Identify patients with transportation barriers (e.g., those in communities with little public transportation), and refer them to transportation assistance</i>	
<input type="checkbox"/>	<b>Prioritize management of complex patients</b> <i>E.g.: Community Health Worker identifies patients with social needs for care management program</i>	
4. Respond to external requirements		
<input type="checkbox"/>	<b>Conduct screening as required by our health system, state, ACO, etc.</b> <i>E.g.: Our CCO requires screening for housing needs.</i>	

# Adoption of SDH documentation tools in OCHIN CHCs, 6/1/16-5/30/18

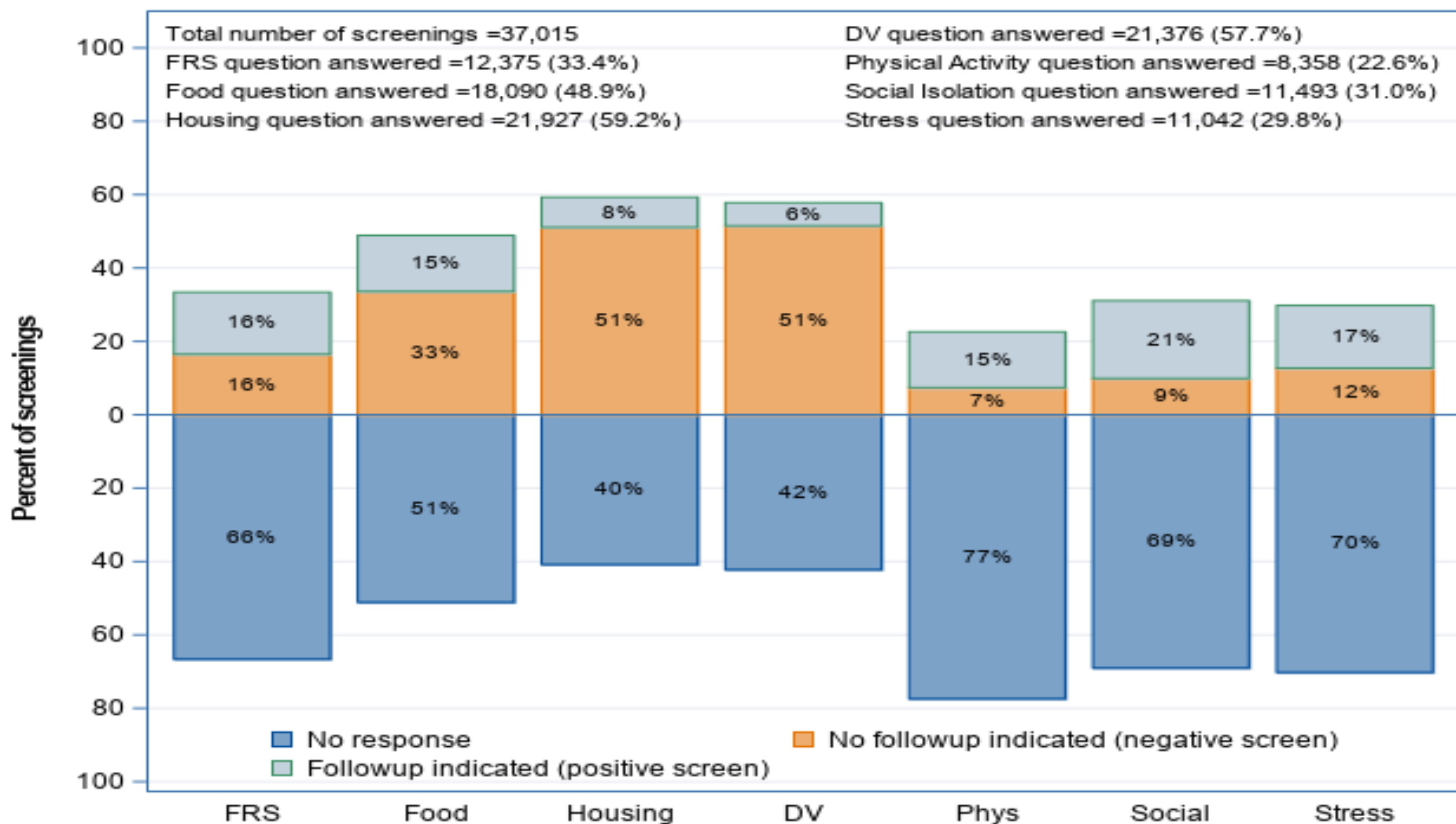
(more info - poster session 10/8/2018, 6 pm)



# Adoption of SDH documentation tools in OCHIN CHCs,

6/1/16-5/30/18

(more info - poster session 10/8/2018, 6 pm)



# Barriers to adoption of EHR-based SDH documentation / action – implementation (data from both studies)

- **Any practice change involving patient-reported data collection may encounter barriers**
- **Collecting / acting on SDH data *especially* challenging; requires clinics to:**
  - Re-think clinical team responsibilities, role, culture
  - Decide who to screen, how often, what for, how to identify at-risk patients, how to act ... *without guidelines or evidence*
  - Decide: Why do they want these data? What will they use them for?
  - Decide: *Why screen* for factors that clinic staff cannot address?
  - Consider staff roles, best workflows
  - Ensure that correct staff have access to correct tools
  - Make SDH referrals  $\neq$  clinical referrals
  - Locate / create / update community resource lists
  - Code without adequate coding standards
  - Etc.!

# Complexities of doing this research

- Appropriate study design? E.g., stepped-wedge:
  - Evaluates implementation support
  - Ensures that all study clinics receive the intervention
- Engage providers / clinic staff from the start – how?
- Use implementation team interactions as primary qualitative data, to not tax the clinics with additional data collection; TBD: Will we get enough / the right kind of data to identify causal mechanisms?
- Landscape evolving rapidly – likely different SDH needs 9/2018 than 9/2020!
- Concurrent initiatives (AHC!)
  - We dealt with this by partnering with local AHC, but still expect potential study impact

# Complexities of doing this research

- Sharing results / disseminating / getting results into practice
  - Build trust with clinics, implementation and research – ripples outward
- How to adapt existing implementation efforts to incorporate new findings
  - Build interventions to be flexible
  - When possible collect qualitative data to support mid-stream adjustment as needed (ex: formative clinic summaries informed implementation tools, trainings)
- Designing research that is both pragmatic and generalizable
  - Mixed methods
  - Natural experiments
  - Policy relevance
  - Focus on causal mechanisms - collect the type of data that will have most impact

# Thank you! Questions?

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