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Leveraging Technology and Extending Care Teams to Address Social Determinants of Health

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Care Transformation Collaborative of RI Conference: Advancing Integrated Primary Care

October 24, 2019

POPULATION HEALTH

Agenda

Context

- An overview of Partners HealthCare implementation of an electronic screening and referral system to address patients' unmet needs related to Social Determinants of Health (SDOH)

Objectives

- Understand a strategy that supports implementation of electronic screening and referral via iPad-EMR technology
- Discuss population health management tactics to address patients' unmet social needs and SDOH

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POLL THE AUDIENCE

Understanding the U.S. Paradox of High Health Care Spending and Poor Population Health[1]

Life expectancy vs. health expenditure, 1970 to 2015

Health financing is reported as the annual per capita health expenditure and is adjusted for inflation and price level differences between countries (measured in 2010 international dollars).

Our World in Data

Chile
Portugal
Italy
Japan
France
Sweden
Switzerland
New Zealand
Belgium
Germany
Czech Republic
Poland
Mexico
Estonia
Hungary
Turkey
Latvia
United States

80 years
75 years
70 years
65 years
60 years
55 years

Life expectancy at birth, total (years)

$2,000
$4,000
$6,000
$8,000

Health expenditure (2010 int.-$)

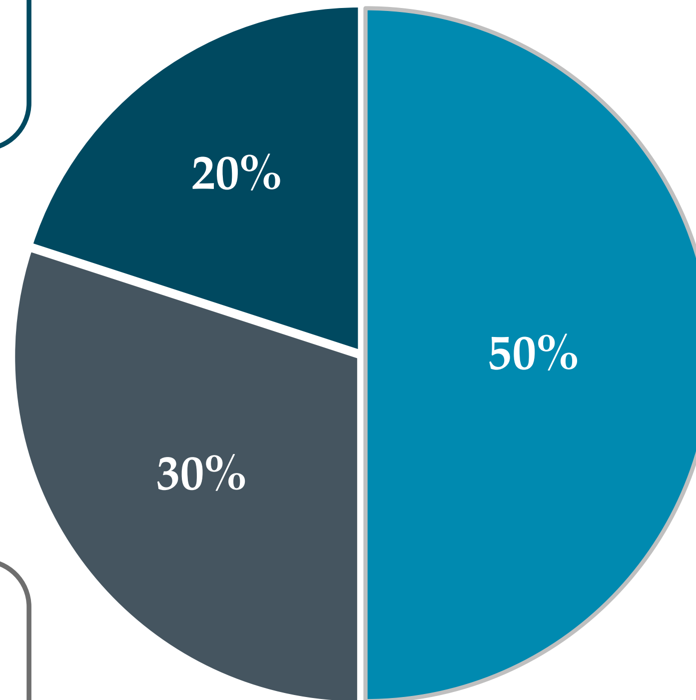
Asia
Europe
North America
Oceania
South America

1970 → 2015

Source: World Bank – WDI, Health Expenditure and Financing - OECDstat (2017)
OurWorldInData.org/the-link-between-life-expectancy-and-health-spending-us-focus • CC BY-SA

Social Determinants of Health Represent Upstream Factors that Impact Health Outcomes

Clinical Care
- Access to care
- Quality of Care
- Health equity and cultural competency



Social, Economic, & Environmental Factors
- Education
- Employment
- Income
- Family & Social Support
- Community Safety
- Housing & Transit
- Air & Water Quality

Health Behaviors
- Diet & Exercise
- Tobacco Use
- Alcohol & Drug Use
- Sexual Activity

Where we are born, live, learn, work, play, worship, and age[2]

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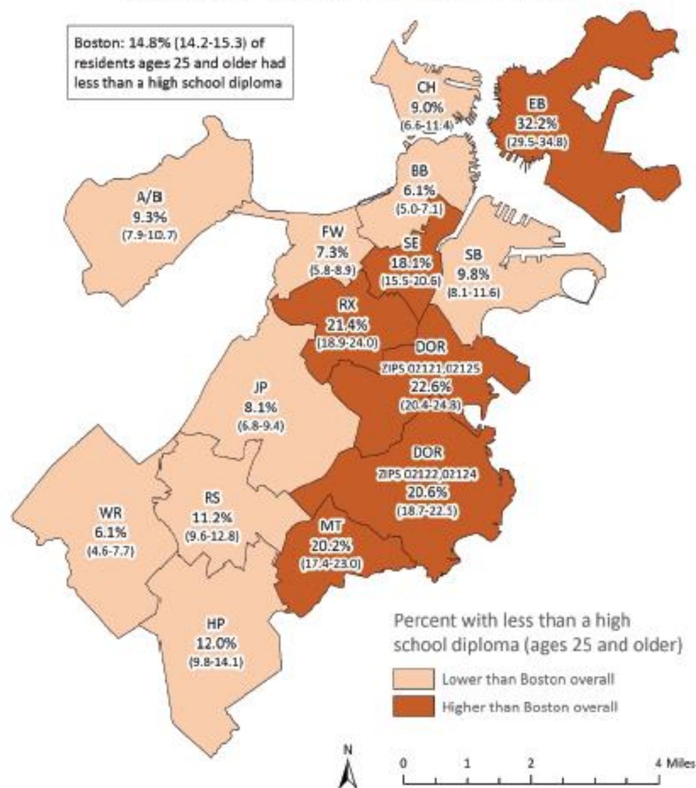
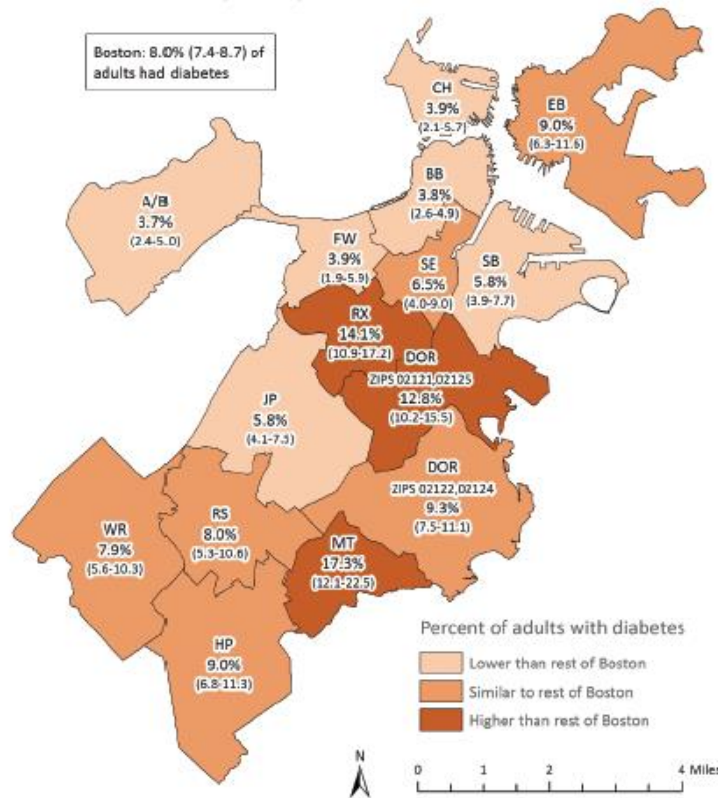
A Local Example: Educational Attainment and Diabetes





Vulnerable, low-income populations traditionally the focus of Community Health departments and covered by Medicaid and other government programs are disproportionately impacted by social determinants of health[4]

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Medicaid Risk Contract Incentivizes Screening and Referral Efforts to Impact Social Risk Factors[5]

What to Know About ACOs:

An Introduction to MassHealth Accountable Care Organizations

JULY 2018

Robert W. Seifert
Kelly Anthoula Love
Center for Health Law and Economics, University of Massachusetts Medical School

- Medicaid pts are more likely than other payer groups to report facing many social/economic challenges[6]
- In March 2018, Partners launched a MassHealth ACO to increase value of care delivery for Medicaid pts
- Over 107,000 MassHealth members are attributed to one of 137 primary care practices in the Partners MassHealth ACO
- Screening for social determinants of health is a MassHealth ACO quality performance measure

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PHACO Program Aims to Address Modifiable Social, Economic, and Environmental Factors in Primary Care

WHAT: Launched in March 2018, a 13-question screener was developed with input from SDOH subject matter experts, with the goal of addressing modifiable risk factors and improving quality of care for Medicaid pts presenting to Partners' primary care sites. The screener focuses on the following domains:

- Employment
- Education
- Care of a family member
- Food
- Transportation
- Paying for Utilities
- Housing
- IPV
- Paying for Medications

WHERE: All Partners adult and pediatric primary care practices

WHEN: Screener assigned to all New Patient, Annual Physical, and Non-Urgent Follow-up primary care visits

WHO: Medicaid patients as the program is primarily funded through Medicaid Delivery System Reform Incentive Payments (DSRIP)

WHY: The SDOH screener helps to identify patients with health-related social needs and connect them with appropriate community-based resources. We are hopeful that the SDOH screener will help our primary care practices to better address patients' unmet health needs and perform well on Medicaid ACO quality measures

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Patient Example

- 47 year-old woman with Type 2 Diabetes with foot ulcer, major depressive disorder, asthma, and hypertension
- Patient was relocated to this area due to a natural catastrophe and, in the past 12 months, has lived in 7 different emergency housing locations with her 2 school-age children
- The patient had limited transportation to medical appointments and social service organizations
- Presented at Partners' primary care practice and was assigned Social Determinants of Health questionnaire

Partners HealthCare

Partners HealthCare Overview

FOUNDED BY BRIGHAM AND WOMEN'S HOSPITAL AND MASSACHUSETTS GENERAL HOSPITAL

By the numbers…

2019

1.5M
patients served annually

6,500
physicians

9,100
nurses

74,000
employees

$13.3B
revenue

What is Partners HealthCare System?

BWH

MGH

HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Partners HealthCare System is an integrated health care network founded in 1994 by Brigham and Women's Hospital and Massachusetts General Hospital, teaching affiliates of Harvard Medical School.

In addition to its two academic medical centers, the Partners HealthCare System includes community and specialty hospitals, a health insurance plan, community health centers, a physician network, home health and long-term care services, and other health-related entities.

Partners HealthCare System

Founding Partners Hospitals

1. Brigham and Women's Hospital
2. Massachusetts General Hospital

Partners System Hospitals

3. Brigham and Women's Faulkner Hospital
4. Cooley Dickinson Health Care
5. Martha's Vineyard Hospital
6. Massachusetts Eye and Ear
7. McLean Hospital
8. Nantucket Cottage Hospital
9. Newton-Wellesley Hospital
10. North Shore Medical Center – Salem Hospital
11. North Shore Medical Center – Union Hospital
12. Spaulding Rehabilitation Hospital
13. Wentworth-Douglass Hospital

Home Care

Partners HealthCare at Home

Our Affiliates

- Affiliated Urgent Care Centers
- Ambulatory Surgery Centers
- Partners HealthCare System Practice Locations
- Partners Urgent Care Centers
- Spaulding Rehabilitation Hospital Locations

PARTNERS® HEALTHCARE

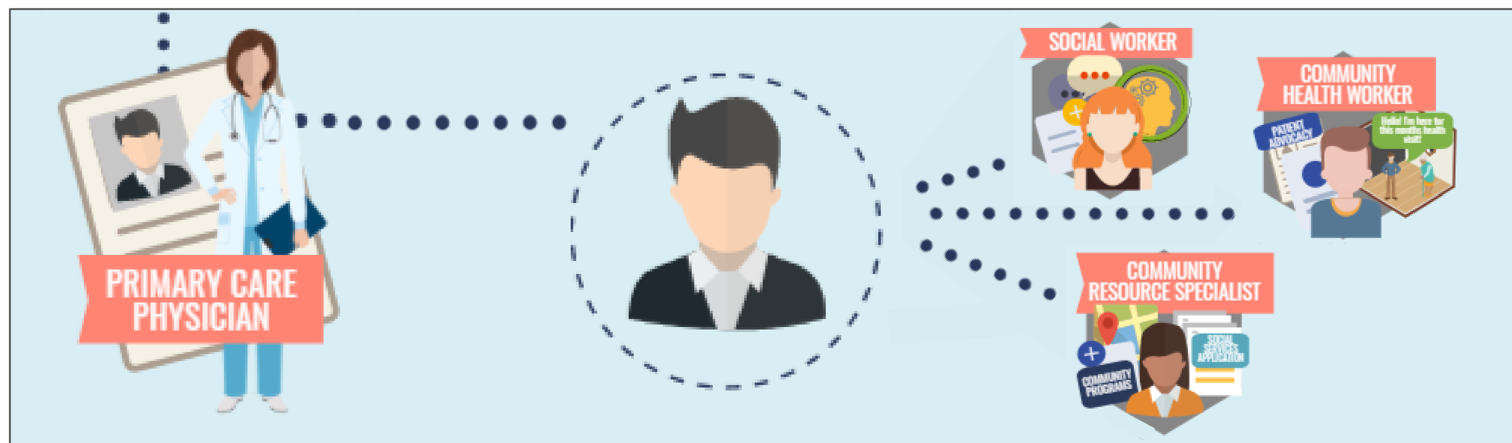
Leveraging Technology

What Are We Doing?

- Utilization of technology that interfaces with EMR to collect questionnaires that patients answer themselves via Patient Portal or iPad in the practice
- Questionnaires are assigned to patients to complete based on visit type, age, and payor status
- Patient-entered responses are automatically uploaded to the patient's medical record for the provider to review with the patient during the visit

Why Are We Screening Patients Electronically?

- Partners HealthCare has historically used technology to capture and monitor patient-reported outcomes measures in specialty practices
- Interest from clinicians and primary care leadership to utilize screening technology to streamline care team workflows, ensure high quality care delivery, and to support at-risk, contractual quality metrics
- Electronic screening enables care teams to respond to a patient's unique, unmet social needs with an ambulatory referral order sent directly to internal, referral staff during the visit



Electronic Screening Options

Bundle	Questionnaires	Patient Population	Appointment Types
Primary Care Screening Bundle	• PHQ2-9 • Falls Risk Assessment • Pain Scale • Domestic Violence • General Anxiety Disorder 2-7 • Audit C (Alcohol) 1-3 • Substance Use Disorder 1-10 • Review of Systems • Medicare Annual Wellness Visit*	• Payor: all • Age 18+	• New patient • Annual / Physical
Pediatric Screening Bundle	• Social Wellbeing of Young Children • Edinburgh • Baby Pediatric Symptom Checklist • Preschool Pediatric Symptom Checklist • Pediatric Symptom Checklist 17 • Parent Concerns • Family Questions • Parent's Observations of Social Interactions • Childhood Asthma Control Test • Asthma Control Test • PHQ	• Payor: all • Age <18	• New patient • Annual / Physical • Well Child
Social Determinants of Health	• Social Determinants of Health - Adult • Social Determinants of Health - Pediatric	• Payor: Partners Medicaid ACO • All ages	• New patient • Annual / Physical • Well Child • Non-urgent follow up

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Practice Workflow using iPads

	Process Step	Cycle Time
Front Desk Staff	• Review schedule for icon signaling patient has a questionnaire to complete • Sign into Application on iPad • Enter barcode number into iPad and handoff iPad to patient	1-2 minutes
Patient	• Enter DOB and confirm identity • Complete questionnaire(s) assigned in waiting room • Return iPad to front desk staff	3-7* minutes
Provider	• Review results in patient's record • Discuss with patient	*Research in process*
Referral Staff	• Receives referral from Provider with patient needs identified • Engages with patient to discuss need and understand available resources	*Research in process*

* dependent on number of questionnaires assigned to patient at the visit

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Primary Care Team Social Determinants of Health Screening and Referral Workflows

SDOH Screener Assigned

Patient Screened

Patient Not Screened

Positive Response Indicated (answered yes or sometimes)

No Positive Response Indicated (answered no or I choose not to answer)

Patient Does Not Want Help

Patient Wants Help

Patient Does Not Want Help

Tip Sheet(s) Only

Tip sheet(s) and Referral to CHW, CRS, SW, etc.

Our goal is to provide support to all patients that need and want help, regardless of how they responded to the screener.

Program Implementation Strategy

Team Roles & Responsibilities

Team	Responsibilities
Partners Population Health *Workflow Optimization Team*	• Program Management • Implementation planning and support • Lead trainings • Technical lead for hardware and software • Liaise with eCare on technical build • Issue management support
RSO Leadership *Primary Care Leadership and local Primary Care Medicaid ACO team*	• Define local screening and referral strategy • Liaise with primary care practices • Collaborate with Population Health team
Partners Population Health *Medicaid ACO team*	• Provide guidance on contractual requirements for SDOH

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Practice Implementation Model

6 Weeks

Introduction to SDOH/Primary Care Bundles

Introduce initiative – scope, elements and benefits	Conduct stakeholder analysis, assess staffing needs to support workflow

Staff Training

iPad training for support staff	EMR workflow training for clinical staff

Go Live

At-the-elbow support for all team members

Maintenance

Issue management (IS ticket queue)	Enhancement opportunities

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Monitoring Screening Performance

Questionnaire Implementation to Date

Questionnaires Implemented	Practices Live
SDOH	45
SDOH + Primary Care / Pediatric Bundle	60
Primary Care and/or Pediatric	20
Total Live with screening tool	125
Percentage of Primary Care live with iPads	125/213 = 58.7%

**iPads managed locally*

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Monitoring Screening Performance

Pediatrics	59%	60%	57%	38%	40%	63%
Pediatrics	83%	91%	93%	92%	92%	93%
Pediatrics	82%	93%	89%	86%	93%	92%
Pediatrics	90%	95%	98%	97%	99%	97%
Pediatrics	82%	91%	91%	91%	94%	89%
Pediatrics	82%	93%	94%	98%	95%	91%
Pediatrics	85%	91%	93%	90%	95%	95%
Family Medicine	4%	31%	5%	1%	35%	92%
Internal Medicine	86%	88%	91%	90%	91%	89%
	88%	91%	90%	91%	88%	87%
Internal Medicine					77%	89%
Internal Medicine		50%	25%	20%	10%	43%
Primary Care	52%	26%	39%	27%	58%	78%
Internal Medicine		74%	88%	65%	35%	42%
		64%	40%	17%	20%	60%
	27%	58%	64%	51%	29%	30%
			38%	7%	22%	53%
Internal Medicine		86%	79%	64%	44%	63%
Family Medicine	48%	60%	59%	58%	64%	47%
Internal Medicine	42%	66%	55%	45%	42%	49%
Pediatrics	40%	69%	67%	69%	55%	51%
Internal Medicine	62%	66%	62%	38%	52%	62%
Internal Medicine	8%			5%		8%
	45%	48%	82%	81%	82%	72%

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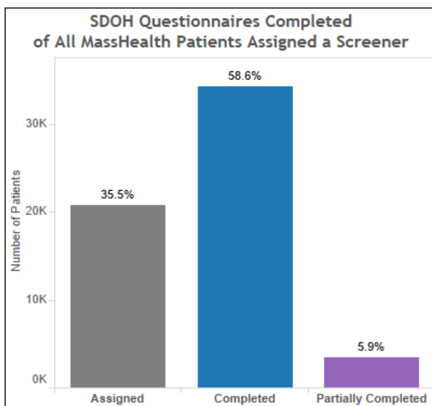
Learning More About MassHealth Patients

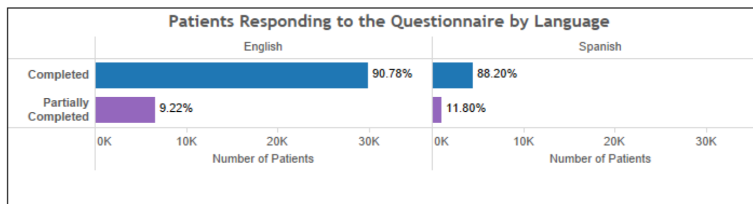
POPULATION HEALTH

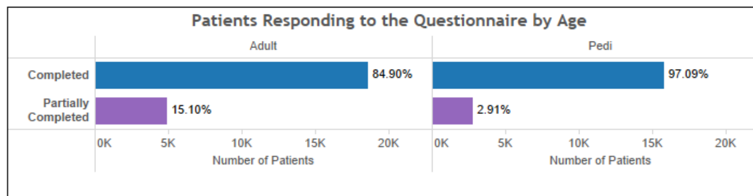
PHACO Program Dashboard Provides Insight into Screening and Referral Process by Primary Care Site

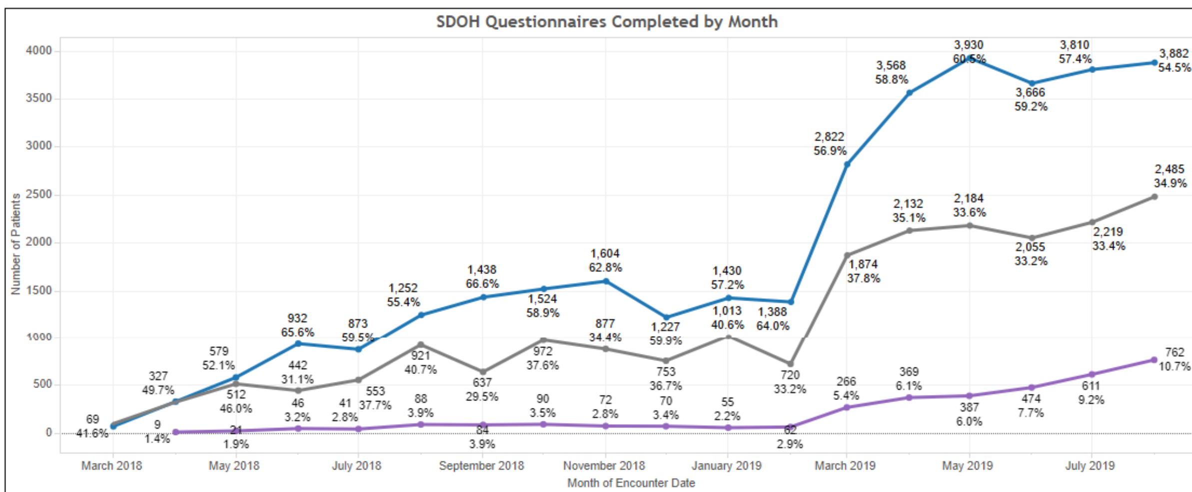
PHACO SDOH Screening and Referrals Program

- Where do patients who are being assigned an SDOH Questionnaire live?
- What is the race breakdown of patients being assigned an SDOH Questionnaire?
- **How many patients are answering all of the questions on the SDOH questionnaire at their most recent visit?**
- How are patients responding and of referrals made, how many were for patients who screened positive?
- Of referrals made, how many were for patients who requested more information or previously received assistance?









RSO

- ☑ APP
- ☑ BWH
- ☑ CDMG
- ☑ MGH
- ☑ NCH
- ☑ NSHS/NSPG
- ☑ NWH
- ☑ PCPO
- ☑ PMA

Department
Multiple values

Date
Multiple values

Data presented in this tool are for sites screening in Epic only; data for sites screening on paper/REDCap will be added soon

Status information, and all information represented in this tool is for a patient's most recent completed encounter

Note that filters applied to one page on this tool will not carry over to the other pages due to the data being different on each page

Data last updated
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PHACO Program Dashboard Provides Insight into Screening and Referral Process by Primary Care Site

PHACO SDOH Screening and Referrals Program

Where do patients who are being assigned an SDOH Questionnaire live?	What is the race breakdown of patients being assigned an SDOH Questionnaire?	How many patients are answering all of the questions on the SDOH questionnaire at their most recent visit?	How are patients responding and of referrals made, how many were for patients who screened positive?	Of referrals made, how many were for patients who requested more information or previously received assistance?

Patients Assigned the SDOH Questionnaire by Zip Code

Connecticut

Rhode Island

RSO
- [x] APP
- [x] BWH
- [x] CDMG
- [x] CRMA
- [x] MGH
- [x] MRP
- [x] NCH
- [x] NSHS/NSPG
- [x] NWH
- [x] PCPO
- [x] PMA

Department
All

Date
All

% of Total Patients

0.002% 5.674%

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Note that filters applied to one page on this tool will not carry over to the other pages due to the data being different on e..

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Patients Assigned the SDOH Questionnaire by Zip Code and Race

01910 02462 02447 02187

01742 02420 01890 02176 01901 01910 01908 02421 01773 02148 02155 02476 02474 02151 02149 02451 02144 02150 01776 02452 02478 02140 02145 02138 02143 02129 02453 02238 02128 01778 02472 02163 02139 02141 02142 02113 02152 02493 02456 02134 02108 02460 02458 02135 02111 02210 02466 02446 02115 02118 02127 02120

RSO
- ☑ APP
- ☑ BWH
- ☑ CDMG
- ☑ CRMA
- ☑ MGH
- ☑ MRP
- ☑ NCH
- ☑ NSHS/NSPG
- ☑ NWH
- ☑ PCPO
- ☑ PMA

Department
All

Race
- American Indian or Alas..
- Asian
- Black or African American
- Hispanic or Latino
- Native Hawaiian or Othe..
- Other
- Unavailable
- White or Caucasian

Date
All

Number of Patients
1 – 3,421

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Note that filters applied to

PHACO Program Dashboard Provides Insight into Screening and Referral Process by Primary Care Site

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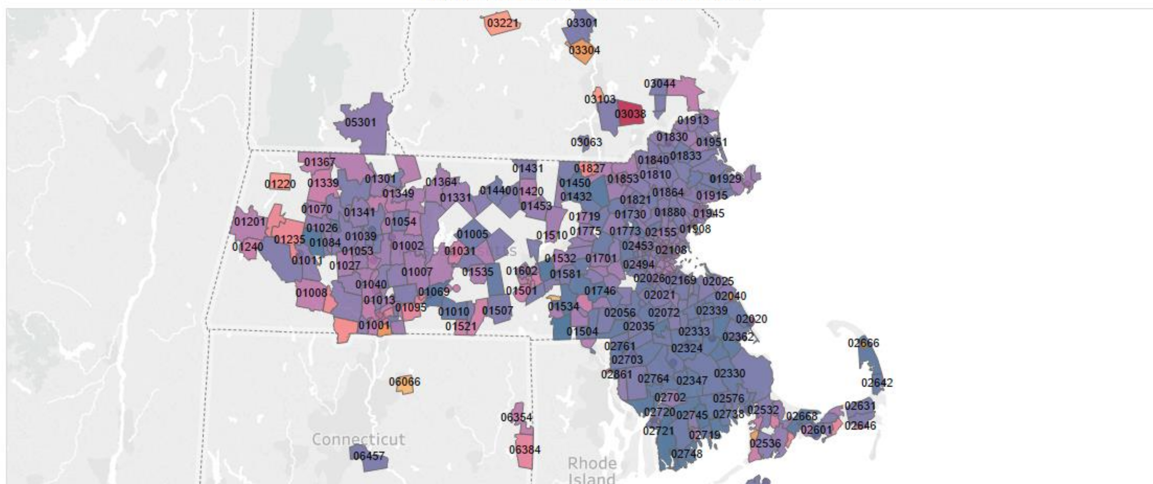
Percent of Patients Who Screened Positive



RSO
- ☑ APP
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- ☑ CRMA
- ☑ MGH
- ☑ MRP
- ☑ NCH
- ☑ NSHS/NSPG
- ☑ NWH
- ☑ PCPO
- ☑ PMA

Department
Multiple values

Date
Multiple values

Percentage of Patients

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Filters applied to one page on this tool will not carry over to the other pages due to the data being different on each page

Note that scales on each graph may be different

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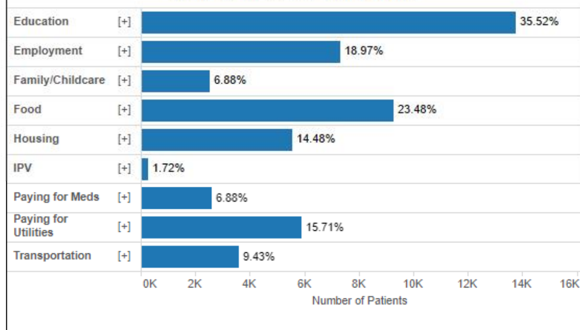

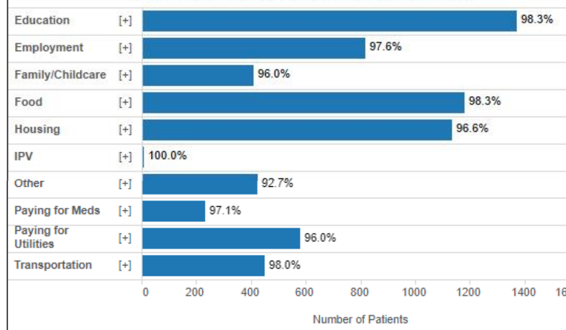

Outcomes and Next Steps

Referring for Care Team Member Support and Navigation to Community Resources

Patient Background:

- 47 year-old woman with Type 2 Diabetes with foot ulcer, major depressive disorder, asthma, and hypertension
- Patient was relocated to this area due to a natural catastrophe and, in the past 12 months, has lived in 7 different emergency housing locations with her 2 school-age children
- The patient had limited transportation to medical appointments and social service organizations

Screening and Referral Outcomes:

- *Positive SDOH*: Housing, food, finances, unemployment
- *Patient Goal*: To secure housing and stabilize her family's home environment
- *Referral*:
  - To local multi-service agency to assist with immediate food needs and coordinate with federal agency regarding emergency housing.
  - Given the complexity of medical and psychosocial issues, the patient was also referred to Partners program for intensive, community-based assessment and interventions

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Understanding Current State

Identifying Challenges & Next Steps

- Dr. Danny Mou & team (MGPO Fellow/BWH General Surgeon) conducted surveys and interviewed physicians to understand use of Patient reported data.
  - 78% providers reported reviewing the patient reported data
  - Depression and anxiety screening tools most helpful

- **Most PCPs find screening for SDOH questions to be helpful (initiate conversations, learn more about patients, etc.)**

- Population Health team conducting on-site observations and interviews with Patients and Providers, as well as community based focus groups

Understanding Current State

Identifying Challenges & Next Steps

Primary Care Physicians Rank of Top 3 Barriers to PRD Use

Difficult data format

Survey too long

iPad techinical problems

Extra work for staff

Irrelevant survey content

Patients dislike

0 5 10 15 20 25 30 35 40 45 50

Number of physicians

■ Most Significant Barrier ■ 2nd Most Significant Barrier ■ 3rd Most Significant Barrier

Creating Future State

Sustaining & Improving

- Plan for additional funding for food and housing supports
- Establish documentation and follow-up processes to close the feedback loop
- Optimize technological workflows for end user ease and provide continuous training opportunities
- Maintenance of questionnaire content and alternate workflows
- Patient comfortability with questionnaire content and/or iPad
- Assess effectiveness of interventions on improving health outcomes, utilization, and costs
- Understand staff and patient experience

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Questions?

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