Integrating social determinants of health in population health case management

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LEARNING OBJECTIVES

• Describe the relationship between physical health and the social needs of a high risk population

• Provide an overview of a social determinants of health screening and intervention process at a large urban academic health center

• Discuss key strategies to connect community resources to patients to address social and cultural gaps

• Outline the elements of a population health wellness effort that targets food insecurity
AGENDA

• Overview of Montefiore
  • Process of implementing SDH screening
  • Findings
  • Challenges/Considerations
  • Next steps

OVERVIEW OF MONTEFIORE

• 11 hospitals, 3k acute beds (4 Bronx, 4 Westchester, 1 Rockland, 2 Orange County) + 6 affiliates
• Free standing ED, Ambulatory surgery center, mobile health units, school-based health centers, community health centers
• 2.5 million Ambulatory visits across 100+ sites
• ACO IPA with 4,329 health care professionals (3k physicians), 2/3rds are employed
• COE in Cancer, Cardiac, Pediatrics, Transplant
• Albert Einstein College of Medicine & a school of nursing
MONTEFIORE HAS ~360K LIVES IN ADVANCED RISK MODELS

- Traditional Fee-for-Service
- Pay-for-Performance
- Bundled Payments
- Shared Savings
- Partial Risk
- Full Risk

131,257 shared savings lives
  - Fidelis
  - Oscar
  - Aetna
  - Affinity
  - Empire

44,515 partial risk lives
  - NextGen ACO

222,570 risk lives
  - Emblem
  - Empire Medicare
  - Healthfirst

~$1.5 bn revenue
~$1.1 bn revenue

AS VBP ARRANGEMENTS INCREASE, POPULATION HEALTH REQUIRES A LARGER CONTINUUM OF INTERVENTIONS

- Disease prevention
  - Community food options
  - Community screenings & flu drives
- Health Promotion
  - Health coaching
  - Patient engagement
- Health improvement
  - Registry-driven outreach
- Disease Management
  - Case management

POPULATION HEALTH

Community Food Options
Community Screenings & Flu Drives
Health Coaching
Patient Engagement
Registry-driven Outreach
Case Management

Our patients
Risk patients
Community
Disease prevention
Health Promotion
Health improvement
Disease Management
Adverse event prevention
### PAYOR MIX & FINANCIAL PERFORMANCE DURING ACA IMPLEMENTATION: MORE CHALLENGES AHEAD

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Hospital Inpatient Discharges</td>
<td>89,446</td>
<td>87,132</td>
<td>89,597</td>
<td>91,625</td>
<td>94,092</td>
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<tr>
<td>Medicare</td>
<td>36%</td>
<td>35%</td>
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<td>36%</td>
<td>36%</td>
<td>2%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>41%</td>
<td>42%</td>
<td>42%</td>
<td>43%</td>
<td>44%</td>
<td>6%</td>
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<tr>
<td>Commercial</td>
<td>20%</td>
<td>20%</td>
<td>19%</td>
<td>18%</td>
<td>18%</td>
<td>-13%</td>
</tr>
<tr>
<td>Self Pay, Self Insured, Other</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
<td>2%</td>
<td>-25%</td>
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<tr>
<td>Hospital Outpatient Visits</td>
<td>1,692,540</td>
<td>1,793,553</td>
<td>1,889,788</td>
<td>1,941,630</td>
<td>1,944,377</td>
<td>15%</td>
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<tr>
<td>Medicare</td>
<td>20%</td>
<td>21%</td>
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<tr>
<td>Medicaid</td>
<td>46%</td>
<td>50%</td>
<td>50%</td>
<td>52%</td>
<td>52%</td>
<td>15%</td>
</tr>
<tr>
<td>Commercial</td>
<td>25%</td>
<td>22%</td>
<td>21%</td>
<td>19%</td>
<td>19%</td>
<td>-24%</td>
</tr>
<tr>
<td>Self Pay, Self Insured, Other</td>
<td>9%</td>
<td>7%</td>
<td>7%</td>
<td>7%</td>
<td>6%</td>
<td>-39%</td>
</tr>
<tr>
<td>Operating Margin (MMC)</td>
<td>2.4%</td>
<td>3.2%</td>
<td>3.1%</td>
<td>1.2%</td>
<td>0.0%</td>
<td>-98%</td>
</tr>
</tbody>
</table>

- Uninsured replaced by Medicaid, not commercial
- Margin shrinks despite robust volume growth
- DSH cuts will be even more damaging

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SPENDING MISMATCH: HEALTH CARE AND OTHER KEY DETERMINANTS OF HEALTH

Determinants
- Social Circumstances 40%
- Healthy Behaviors 30%
- Environment 10%
- Genetics 10%
- Clinical care 10%

National Health Expenditures
- Medical Services 88%
- Prevention 4%
- Other 8%

OUR PROCESS FOR GETTING STARTED

Screening
- Use validated survey instrument
- Leverage Montefiore experience

Triage
- High risk to social work
- Lower risk to CHWs, etc...

Referrals
- Existing knowledge & resources
- New online tools

Lots of interest at Montefiore on this issue with several mini-pilots underway when we first started
11 SCREENS REVIEWED, 10 MONTHS, 8 DEPARTMENTS, 4 “DECISION MEETINGS”, 1 HUGE HEADACHE…

Two screening tools were selected:

Both:
- Address housing, Food insecurity, access to care or medications, financial issues, transportation, child care, violence

SDH Stressor:
- Also addresses legal issues, loss, neighborhood violence, living with challenging relatives, social connections
- Uses "stress" approach
- None, some, a lot
- Validated against the PHQ4

SDH screen:
- Yes/No
- Based on validated Healthleads questions

Inspired Medicine

PAPER VERSIONS: SDH SCREEN

Your care team is interested in your complete wellness. Please take a moment to answer the questions below prior to seeing your doctor. Once completed, please return this form to your nurse. This is an optional questionnaire.

Name __________________________ Phone Number __________________________

Preferred Language __________________________ Best time to Call __________________________

<table>
<thead>
<tr>
<th>SDH Stressor</th>
<th>SDH Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are you worried that in the next 2 months, you may not have stable or safe housing? (lack of eviction or being homeless, housing has mild, moderate, severe problems)</td>
<td>Yes/No</td>
</tr>
<tr>
<td>In the last 12 months, did you run out of money for food?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>In the last 12 months, have you needed to cut back medicines or buy medication because of cost?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Are you worried that your utility company might shut off your service for not paying your bills?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>In the last 12 months, have you had to go without medical care because you didn’t have a way to get there?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Do problems getting child care make it difficult for you to work or study?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Is there someone in your life who is hurting, threatening or frightening you?</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>

Inspired Medicine

- 5th grade reading level
- Easy to navigate
- In multiple languages
• Montefiore developed/adapted
• Validated against PHQ4 scores
AND LIKE THIS (SDH STRESSOR SCREEN)

- How much stress do you have from these problems?
  - Housing problems (e.g., being homeless, housing has mild, moderate, or severe mental health issues, etc.)
  - Financial problems (e.g., being unemployed or finding it hard to pay the bills)
  - Legal problems
  - Loss of a close family member or friend (separation, divorce, incarceration, moving to a new city or country, death, etc.)
  - Being or involved in violence in the home (i.e., demolition, attack,unken, punching, etc.)
  - Being or involved in violence in the neighborhood
  - Living with a partner or family member with depression and other mental illness (including drug or alcohol problems)
  - Getting along with partner, spouse, or family members
  - Not having enough food to last the month
  - Needing more help with children or care for an elderly or sick adult
  - Difficulty getting to your medical appointments or picking up prescriptions

CONSIDERATIONS IN WORKFLOW CREATION

- Respect privacy of patient (waiting room vs when roomed)
- Language (currently in Spanish & English)
- Screening forms burden on patients (selecting which visits)
- Prioritize patient decision-making (What do patients want to work on?)
- Social Work & CHW availability and level of training
- Need to be able to track referrals
SDH SCREENING WORKFLOW AT UNIVERSITY AVENUE PRACTICE

1. Paper SDH screening is given to the patient during check in.
2. Patient fills out required paperwork while waiting for appointment. Check in PIR collects needed forms for data collection.
3. Patient is called in for their appointment.
4. Patient gives completed SDH form to LPN who enters the results into Epic and discards the form.
5. Provider reviews form and sees patient.
6. Provider refers to Social Worker and Initiates warm handoff.
7. Provider sees patient as usual.
8. Provider or patient informs us of informational resources via Bant Bertha or NowFlow.

SDH SCREENING WORKFLOW AT CHCC PRACTICE

1. UPH/CHCC completes SDH screening and sends completed form to provider for results in Epic.
2. Provider reviews results in Epic.
3. Provider refers to Social Worker if specific issue or concern.
4. MD discusses specific positive or negative answer with patient and initiates specific action.
5. MD enters results in Epic.
6. Is there a social work issue? (needs help, etc.) Connect to social worker support company/SHCC?
7. MD refers to SHCC for additional support.
8. MD refers to Social Worker.

* Work is unpaid time to contact patient and find resources. Page 50.
DIFFERENT SITES SELECTED DIFFERENT POPULATIONS TO FOCUS ON

- Annual Physicals
- All new patients
- All patients recently Discharged from the hospital
- All patients on certain days
- OB patients
- Same-day asthma visits

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USING THE STRESSOR SCREEN, 43% OF PATIENTS SCREEN POSITIVE (n=1461 screens)

Stressors Screening:
Patient-Reported Stressors
As of 12/31/17

- Financial
- Housing
- Getting Along
- Loss
- Medical or Other Issues
- Child Care
- Food
- Healthcare Access
- Violence in Neighborhood
- Legal
- Violence in Home

12% - 1 issue
5% - 2 issues
3% - 3 issues
2% - 4+ issues

USING THE SDH SCREEN, 22% OF PATIENTS SCREEN POSITIVE FOR AT LEAST 1 FACTOR (n = 13,353 screens)

SDH Screenings:
Patient-Reported Risk Factors
As of 12/31/17

- Housing
- Food
- Paying Rent
- Healthcare Cost
- Child Care
- Healthcare Access
- Threat

12% - 1 issue
5% - 2 issues
3% - 3 issues
2% - 4+ issues
HOUSING ISSUES ARE PERVERSIVE IN THE BRONX- HEALTH DEPARTMENT DATA


OUR PATIENT DATA SHOWS A DIFFERENT DISTRIBUTION OF HOUSING ISSUES...
... AND ALLOWS US TO BETTER UNDERSTAND ISSUES WE HAVEN’T HAD GEOGRAPHIC DATA FOR, LIKE FOOD INSECURITY

WE USE DATA TO TARGET INITIATIVES AT AREAS OF HIGHEST & ALIGN BETTER WITH OUR PATIENT POPULATION
### STRATEGY FOR OUR BODEGA WORK

<table>
<thead>
<tr>
<th>Increase Supply</th>
<th>Improve Promotion</th>
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</thead>
</table>
| • Fresh fruits & produce  
  • Water & lower calorie beverages  
  • Low sodium soups & beans  
  • Whole wheat selections  
  • Canned fruits in water  
  • Healthier snack options  
  • Baked vs regular chips  
  • Nuts  
  • Healthy food combos | • Increase “good advertising”  
  • Fruits & veggies  
  • Water  
  • Decrease “bad advertising”  
  • Alcohol  
  • Tobacco/hookah  
  • Price differentials for healthier choices  
  • Prompts for healthy choices  
  • Attractive produce storage  
  • Baskets instead of boxes  
  • Healthy foods at eye level |

Help provide recognition to bodegas who make the changes

### TECHNICAL ASSISTANCE- DISPLAY AND SIGNAGE
BRONX NEW WAY DELI- AFTER PHOTOS

- Maintaining healthy signage throughout store
- Maintaining designated low-calorie beverage refrigerator
- Displayed baskets provided and purchased additional baskets

COMMUNITY EDUCATION: INCREASING DEMAND FOR HEALTHIER FOODS

Youth group/School/CBO projects:
- Rethink Your Drink display making/workshops
- Peer leadership around diet/water consumption
  - Zero and no calorie beverage taste-testings
- Cooking demos
- Food label reading workshops
- Adopt a Shop activities
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BARRIERS AND LIMITATIONS- EARLY LEARNINGS

• Initial pilot was overly specific (only 7 patients met the criteria).

• Difficult for the nurse and front desk to keep track of which patients needed the screening (A1C>8).

• Form Fatigue – some patients did not want to fill out another form

• Many patients did not want a referral to the social worker. A Community Health Worker would help follow up on the referral and keep lines of communication open.
CHALLENGES

• Expectation setting around things that can't be changed (e.g., affordable housing)
  — "we are limited in what we can do in some situations"

• Tying this to ICD10 codes
  — so many codes are not useful

• Stigma associated with seeing Social Worker
  — "My colleague is trained to help you with these issues"

OPPORTUNITIES TO ASSOCIATE ICD 10 CODES TO CODE SDH ISSUES, BUT COMPLICATED

<table>
<thead>
<tr>
<th>Z-codes</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z55</td>
<td>Problems related to education and literacy</td>
</tr>
<tr>
<td>Z56</td>
<td>Problems related to employment</td>
</tr>
<tr>
<td>Z57</td>
<td>Occupational exposure to risk factors</td>
</tr>
<tr>
<td>Z58</td>
<td>Problems related to physical environment</td>
</tr>
<tr>
<td>Z59</td>
<td>Problems related to housing and economic circumstances</td>
</tr>
<tr>
<td>Z60</td>
<td>Problems related to the social environment</td>
</tr>
<tr>
<td>Z61</td>
<td>Problems in childhood</td>
</tr>
<tr>
<td>Z62</td>
<td>Problems related to upbringing</td>
</tr>
<tr>
<td>Z63</td>
<td>Other problems related to primary support group, including family circumstances</td>
</tr>
<tr>
<td>Z64</td>
<td>Problems related to certain psychosocial circumstances</td>
</tr>
<tr>
<td>Z65</td>
<td>Problems related to other psychosocial circumstances</td>
</tr>
</tbody>
</table>

• Z59.0 Homeless
• Z59.1 Inadequate housing
• Z59.2 Discord with neighbors, lodgers and/or landlord
• Z59.3 problems related to living in residential institution
• Z59.4 lack of adequate food and/or safe drinking waters
• Z59.5 Extreme poverty
• Z59.6 low income
• Z59.7 insufficient social insurance & welfare support
• Z59.8 other problems
• Z59.9 other problems, unspecified
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ADOPTING TOOLS THAT FACILITATE REFERRALS & LINKAGES

NOW POW

• CBO referral management software developed at University of Chicago through CMS Innovation grant

• Dedicated team curates & maintains community-based organization referral database

• Algorithms automate recommended resources for patients

• EPIC integration options support patient “nudges” & closed-loop referral tracking to ensure that patients receive services

• Can save & share favorite referral resources

• Reporting capabilities to track referrals overtime by resource, patient condition, zip code, etc
OUR PATH FORWARD

• Working with 5 other NYC hospital systems who have also adopted NOW POW & the NYC Health Department
  • Coordination/information sharing

• Rolling out NOW POW with active directory (and eventually single-sign on through the EHR)

• Inviting CBOs to use NOW POW ($2000 incentive)

• Get agreement on 1 tool so that we can program in more logic (CDSS, z-codes)

• Value based contracting for high need services

THANK YOU

“A JOURNEY OF A THOUSAND MILES BEGINS WITH A SINGLE STEP.”

L AO - T ZU

We are here...