Addressing the basic resource needs of Kaiser Permanente members

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Addressing Basic Resource Needs within Kaiser Permanente (KP)

- KP’s commitment to addressing basic resource needs
- KP initiatives to identify and address basic resource needs
- KP tools for planning social interventions, using data resources, & assessing outcomes
- SDOH and cancer care in KP
- Implications for research using “big data” to address SDOH and disparities
Kaiser Permanente regions

- Northwest
- Northern California
- Southern California
- Colorado
- Mid-Atlantic States
- Georgia
- Washington
- Hawaii
Kaiser Permanente (KP): an Overview

- 1 million members in state Medicaid and CHP programs
- Many low-income KP members are enrolled in our commercial health plans
- KP’s mission emphasizes improving the health “of the communities we serve”
  - Active Community Health programs at Program Office and in all 8 regions
- Common EHR
  - Well-developed internal research and evaluation capacity, linked across regions by the KP Virtual Data Warehouse (VDW)
Social Determinants of Health (Healthy People 2020)

- Economic stability
  - Basic resource needs (poverty, employment, food insecurity, housing instability, lack of transportation…)

- Education

- Social and community context

- Health and health care

- Neighborhood and built environment
Table 2.3. Prevalence of social needs in five KP surveys

<table>
<thead>
<tr>
<th></th>
<th>KPSC (27)</th>
<th>Multiple regions</th>
<th>KPCO (16)</th>
<th>KPNW (30)</th>
<th>KPCO (26)</th>
<th>KPNC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Case study</strong> *</td>
<td>1</td>
<td>3</td>
<td>5</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td><strong>Population(s) assessed</strong></td>
<td>Care utilization in top 1%</td>
<td>Medicare members who may also be Medicaid-eligible</td>
<td>Members ≥ age 65</td>
<td>Multiple †</td>
<td>Newly enrolled members</td>
<td>Predicted costs in upper 20%</td>
</tr>
<tr>
<td><strong>Assessment approach</strong></td>
<td>Case-finding</td>
<td>Case-finding</td>
<td>Screening</td>
<td>Case-finding</td>
<td>Screening</td>
<td>Case-finding</td>
</tr>
<tr>
<td><strong>Assessment tool</strong></td>
<td>Health Leads survey</td>
<td>Altegra survey</td>
<td>MTHA survey</td>
<td>YCLS survey</td>
<td>Onboarding survey</td>
<td>Local survey</td>
</tr>
<tr>
<td><strong>N of members assessed</strong></td>
<td>2,999</td>
<td>22,576</td>
<td>50,097</td>
<td>11,273 members with 18,284 referrals</td>
<td>22,548</td>
<td>9,268</td>
</tr>
<tr>
<td><strong>Food or nutrition needs</strong></td>
<td>29%</td>
<td>38%</td>
<td>6%</td>
<td>8%</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Housing needs or concerns</strong></td>
<td>11%</td>
<td>3%</td>
<td>x</td>
<td>7%</td>
<td>x</td>
<td>23%</td>
</tr>
<tr>
<td><strong>Energy (utility) needs</strong></td>
<td>24%</td>
<td>7%</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Transportation needs</strong></td>
<td>22%</td>
<td>34%</td>
<td>x</td>
<td>16%</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td><strong>Financial assistance or medical cost needs</strong></td>
<td>37% Income replacement (19%) Medical costs (6%)</td>
<td>Social isolation (15%)</td>
<td>Legal (1%), social support (3%), etc.</td>
<td>Difficulty paying for social needs (10%)</td>
<td>Unable to pay for social needs (18%)</td>
<td></td>
</tr>
<tr>
<td><strong>Other needs assessed</strong></td>
<td>Social isolation (24%) Legal aid (10%)</td>
<td>Social isolation (15%)</td>
<td>Legal (1%), social support (3%), etc.</td>
<td>Difficulty paying for social needs (10%)</td>
<td>Unable to pay for social needs (18%)</td>
<td></td>
</tr>
</tbody>
</table>
KP Commitment to Addressing Basic Resource Needs, 2012 – 2017 (Local initiatives)

- **2012**: Medicare Total Health Assessment survey began assessing food insecurity and social isolation in elderly (>100,000 completed)
- **2014-17**: groundswell of screening and intervention programs across KP
- **2015**: internal questionnaire to assess difficulty paying for multiple basic needs (>40,000 completed across regions)
- **2015**: Kaiser Permanente Research Bank (biobank) begins
  - SDOH questions on enrollment survey
    - Social support & isolation, perceived discrimination, neighborhood safety, financial strain
  - 118,000 members in general cohort and 7,200 members in cancer cohort completed surveys to date
KP Commitment to Addressing Basic Resource Needs, 2017 – 2019 (National initiatives)

- **2017**: Social Needs Network for Evaluation and Translation (SONNET)
- **2018**: Thrive Local initiative
- **2018**: Homelessness/housing initiative
- **2019**: Food for Life initiative
  - Increasing SNAP enrollment in California
  - Funding and evaluating programs to provide medically tailored meals (Northern California, Northwest/Oregon, Colorado)
- **2019**: National survey (8 regions) of basic resource needs among KP members under development
  - SONNET “proof-of-concept” pilot survey in 2018
- **2019**: Epic Social Needs module
A learning network of researchers and evaluators who:

- Help design rigorous interventions to address the social needs of members
- Promote common frameworks for measurement, intervention design
- Develop KP’s data resources to improve research and prediction
- Systematically share learnings to scale up what works… and stop doing what doesn’t work
  - Scoping review of KP programs (2018)
- Publish research, including Permanente Journal supplement (fall 2018)
  - 13 reports on aspects of this work
Three Components of Thrive Local

Resource Directory
- Online platform allows users to search for community resources
- Resources updated regularly by contracted vendor (Unite Us)

Community Partner Networks
- Community organizations use vendor platform
- KP users send and track referrals

Technology Platform
- Closed loop referrals
- Bidirectional exchange of information between KP and Community organizations
- Integration of KP EHR and patient portal (kp.org)

These components integrate clinical and social care, supported by data integration and community partnerships.
Social Interventions Require a Care Continuum

Colorado Clinic-Community Integration Model

CCI Model
- Member identified
- Member contacted by KP
- Permission to refer
- Referral is made
- Member is connected to social resources
- Follow up and evaluation
- Member need is addressed
- Health, care, community, improved
- Business outcomes improved

Need identification
KP and Community Partner Interaction
Impact

IT infrastructure
Data and systems
- Identify member needs
- Community partner referral, outcome documentation
- Evaluate outcomes

Process, methods and tools
- Screening tools and methods
- Referral methods
- Follow up processes
- Evaluation Methods

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Different Outcomes Matter to Different Stakeholders

- Improve Health Outcomes
  - System Performance
  - Social & Community Health
  - Clinical Outcomes
  - Personal Health
  - Resource Needs
Social Needs Can Be Identified by Multiple Pathways, Facilitated by Predictive Analytics

**Clinical Pathways**

**Pathway 1:**
Clinical Care
- Data: patient report
- Prevalence: 100%

**Pathway 2:**
Screen Large Populations
- Data: surveys, EHR
- Prevalence: Low

**Pathway 3:**
Screen High Risk Groups
- Data: surveys, EHR
- Prevalence: High

**Predictive Analytics (Clinical)**

**Community Pathways**

**Pathway 4:**
Hot Spotting
- Data: surveys, EHR, administrative
- Prevalence: Very High

**Pathway 5:**
Identify Vulnerable Communities
- Data: community level data
- Prevalence: Low to High

**Predictive Analytics (Community)**

**Connect to Community Resources to Address Basic Needs**

**Develop Resources for Communities**
Social determinants of health in KP cancer care research

- Lung – Population-based Research to Optimize the Screening Process (PROSPR) (NCI-funded 5UM1CA221939; Ritzwoller/Vachani)
  - PROSPR is using “big data” to assess factors associated with disparities in screening rates, time to follow-up, and outcomes
  - Measures and sources
    - Food security: Food Access Research Atlas
    - Air quality: EPA maps
    - Wealth & assets: open-source real-estate price data – Zillow, Redfin, Realtor.com
    - Poverty: restricted microdata from the US Census Bureau
    - CDC’s Social Vulnerability Index (SVI)
  - Data is mapped to census-based variables available in our electronic health records (EHR) (e.g. FIPS codes, zip codes)
Cancer Financial Experience (CAFÉ): Clinic-Based Intervention to Address Financial Hardship (NCI R01CA237322; Henrikson/Banegas)

Patient-reported outcomes:
- Financial Hardship (material, psychological, behavioral)
- Food Insecurity
- Transportation hardship
- Employment changes
- Difficulty paying for housing

Electronic Medical Record (EMR)-based outcomes:
- Medical Financial Assistance (application and enrollment)
- Delinquent account
- Account sent to collections

For participants referred to community resource navigators/specialists
- Data on social/economic needs community agency referrals
What makes data “big”?  
- Rows (number of cases)  
- Columns (number of variables)

What makes “big data” useful in KP?  
- Denominators – users and non-users of care  
- Completeness of ascertainment  
- Richness – range of variable types  
  - Clinical, behavioral, social, environmental, economic  
- Continuity over time  
- Trustworthy, high-quality data

What makes big data useful to address disparities?  
- Representativeness (justice)