Fresh Food Pharmacy:
Changing how we take care of patients that are food insecure

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Program premise:
What if we could eliminate hunger and preventable chronic disease?
Food insecurity: definition and statistics

- Defined as “…the inability to afford nutritionally adequate and safe foods.”
- Food insecurity is evident when families or individuals:
  - Lack access to food
  - Depend on food assistance programs
  - Skip meals
  - Substitute nutritious foods with less expensive alternatives
  - Seek assistance from soup kitchens and food pantries

Food insecurity: statistics

• In 2015 it was estimated that:
  o 12.7% (almost 1 in 8) of Americans were food insecure*
  o 18% (1 in 6) of American children were food insecure^

• Food insecurity and poverty, while closely linked, are not synonymous.
  o Each family has its own expenses and standard of living, and different costs.
  o It is possible to earn below poverty levels and be food secure or earn above poverty level and be food insecure.^^

^https://www.childtrends.org/indicators/food-insecurity/
^^http://www.medscape.com/viewarticle/865606#vp_2
Food insecurity and health implications

• In many cases, those who are food insecure live in households with children who may also go hungry

• There is also a higher prevalence of:
  o Poorer self-rated health and high BMI
  o Limited healthcare access
  o More frequent poor physical and mental health days
  o Risky behaviors
  o Diabetes, smoking, depressive symptoms and every type of functional limitation
  o Unmet needs for chronic disease screening and prevention

https://www.cdc.gov/pcd/issues/2016/16_0103.htm
Food insecurity and diabetes

Feeding America reports 12.3% (almost 1 in 8) of Americans are food insecure.

- Americans with an A1c of 6.5 – 8.9: about 20%, or 1 in 5, of the population are food insecure*.
- Americans with an A1c of 9 or higher: 25%, or 1 in 4, of the population are food insecure*.

A bidirectional relationship

Food insecurity can worsen a person’s diabetes and vice versa

- Lower dietary quality
  - Lack of funds or access to nutritious foods
  - High availability of nutritionally poor foods
- Increased spending on medical care (“treat or eat”)
- Decreased capability for self-care

- Reduced capacity to work
- Higher stress and obesity
- Poorer mental health
- Lack of opportunities to be physically active
- Limited access to healthcare
- Lack of transportation
- More emergency room visits

Where did we start?

- Data used to determine pilot location
- Heavy burden of food insecurity and diabetes in Northumberland County, PA

<table>
<thead>
<tr>
<th>Location</th>
<th>Northumberland</th>
<th>PA</th>
<th>USA</th>
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</thead>
<tbody>
<tr>
<td>Food insecurity rate</td>
<td>14.2%</td>
<td>13.8%</td>
<td>12.7%</td>
</tr>
<tr>
<td>Child food insecurity rate</td>
<td>22.5%</td>
<td>19.3%</td>
<td>18%</td>
</tr>
<tr>
<td>Diabetes rate</td>
<td>12.1%</td>
<td>9.6%</td>
<td>9.3%</td>
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Diabetes and related diseases in our community

Example: Northumberland County health

- 1 in 4 diabetics don’t know they have diabetes and are untreated
- An additional 22,000 Northumberland Co. adult residents have pre-diabetes and most (90%) are unaware
Coming together

Key partnerships:

- Central Pennsylvania Food Bank
- Local grocers
- Hospital food service vendors
- Local foundations
- Many local community organizations
- Other healthcare providers
Pilot implementation

• Fresh Food Pharmacy program
  o Kulpmont pilot began in July 2016
  o Full program expansion in March 2017 to serve 250+ patients and their family members in year 1

• Food-as-medicine approach
  o Addresses both medical and socioeconomic determinants of health
  o Provide fresh fruits, vegetables, whole grains and lean proteins with menu planning and recipes

• Starting with diabetic patients and will expand to treat obese, pre-diabetic, and patients with other chronic conditions
Program structure

• Select patients with A1c levels over 8.0 who are food insecure and engaged in primary care

• Provide clinical care team intervention in conjunction with provider:
  o RN health manager
  o Pharmacist
  o Registered dietician
  o Health coach
  o Community health assistant

• Provide healthy food prescription and weekly distribution of healthy food for patient and family
  ▪ Feeds on average 4 people in the household, including 2 children
  ▪ Food provided for 2 meals per day, 5 days per week for the patient and his/her family
Patient experience

- Engage patient and review program structure to determine interest
- Register patient for welcome class to learn more and meet the care team

Enroll

Provide food Rx
- Schedule food pick up
- Address transportation gaps
- Receive recipes and meal planning support

Care team support
- Meet with care team members to address individual needs
- Participate in group classes
Average baseline/current reading: A1c
Average baseline/current reading: cholesterol
Average baseline/current reading: LDL

<table>
<thead>
<tr>
<th></th>
<th>12+ Months</th>
<th>6-12 Months</th>
<th>3-6 Months</th>
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</thead>
<tbody>
<tr>
<td>Avg. Baseline Reading</td>
<td>97.0 (5 Patients)</td>
<td>101.0 (19 Patients)</td>
<td>113.6 (9 Patients)</td>
</tr>
<tr>
<td>Avg. Current Reading</td>
<td>92.8 (5 Patients)</td>
<td>78.4 (19 Patients)</td>
<td>90.3 (9 Patients)</td>
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</table>
### Average baseline/current reading: triglycerides

<table>
<thead>
<tr>
<th>Time Frame</th>
<th>Avg. Baseline Reading</th>
<th>Avg. Current Reading</th>
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</thead>
<tbody>
<tr>
<td>12+ Months</td>
<td>253.8 (5 Patients)</td>
<td>190.2 (5 Patients)</td>
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<tr>
<td>6-12 Months</td>
<td>205.1 (14 Patients)</td>
<td>190.3 (14 Patients)</td>
</tr>
<tr>
<td>3-6 Months</td>
<td>261.8 (6 Patients)</td>
<td>170.2 (6 Patients)</td>
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Care Gap compliance baseline vs. current
Where are we now?

- Expanding the program in Northumberland County because of the identified needs of the community – will be bringing in patients being served in GIM, Women’s Health and Specialty Endocrine Care
- Expansion into Lackawanna County/Scranton and into the Lewistown region, starting in Juniata County
- Continued clinical and financial impact analysis