Southern Indiana Farm to Health: Experiments in community-designed and –driven FIM

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Research Scientist
Phase 1: Our FIM pilot

- The catalysts for our pilot: a rural grocery and a rural clinic
- Store’s goals: to grow business + serve community
- Clinic’s goals: tackle chronic disease burden, diabetes especially
- Store and clinic leaders imagined & planned FIM
- Networked 30 local farmers
- Weekly food pickups from farms
The place

- Hilly, rocky land
- Lots of small, food farmers
- Rural: 45 people per square mile (versus 189 for Indiana and 94 for USA)
- Lower income: Median household income is $49,000 (65% of US national median of $65,000)
Our first FIM funders

- Indiana University Center for Rural Engagement
- Lilly Endowment
PHASE 1 FIM: 2020-2021

The Farm to Health Nutrition Box
The Farm to Health Nutrition Box

• Very low dose!
• One weekly meal kit for 3mo
• Education by a local dietitian
• *Cooking Matters* curriculum
• Recruitment by local FQHC
• COVID required pivot to virtual

Southern Indiana Farm to Health Nutrition Prescription Program

Ask your provider if you can join a research program providing access to fresh, local food as medicine. We are working to understand the health outcomes of healthy eating for patients with diabetes and pre-diabetes. You may qualify!

**Eligibility Guidelines:**
- Age 18+
- Hemoglobin A1C Test of 7%+
- Weight 110+ pounds

Interested? Tell your provider by July 24th for a chance to participate!
### Seasonal Meal Kit Recipes

#### June
- **Herb Roasted Chicken with Vegetables**
  - Carrots
  - Potato
  - Chicken

#### July
- **Turkey Tacos**
  - Lettuce
  - Zucchini
  - Turkey
- **Tabbouleh**
  - Green Onion
  - Parsley
  - Tomato
  - Cucumber
- **Ratatouille**
  - Onion
  - Zucchini
  - Tomato
  - Yellow Squash
  - Garlic
- **Summer Vegetable Pasta Salad**
  - Cucumber
  - Summer Squash
- **Melon Salsa**
  - Onion
  - Cucumber
  - Cantaloupe
- **Green Bean Casserole**
  - Green Beans

#### August
- **Tomato Salsa**
  - Red Onion
  - Tomato
  - Jalapeno Peppers
- **Tomato Sauce and Spaghetti with Meatballs**
  - Onion
  - Tomato
  - Garlic
  - Beef
  - Eggs
- **The Works Pizza**
  - Onion
  - Tomato
  - Red Pepper
  - Green Pepper

#### September
- **Roasted Butternut Squash**
  - Onion
  - Tomato
  - Red Pepper
  - Green Pepper
- **Tuna Melt**
  - Tomato
- **Sweet Potato Shepherd’s Pie**
  - Onion
  - Garlic
  - Sweet Potato
  - Beef
- **Mushroom Garlic Angel Hair Pasta**
  - Garlic
  - Red Pepper
- **Fall Vegetable Salad**
  - Beet
  - Garlic
  - Kale
  - Fennel
  - Apple
- **Sweet Potato Pumpkin Soup**
  - Pumpkin
  - Onion
  - Sweet Potato
- **Chicken Salad with Peanut Dressing**
  - Lettuce
  - Red Pepper
  - Apple
  - Chicken
- **Hoppin’ John**
  - Onion
  - Garlic
  - Red Pepper
  - Ham
- **Crescent Mummy Rolls**
  - None
- **Hearty Egg Burritos**
  - Green Onion
  - Garlic
  - Bell Pepper
  - Eggs
The Nutrition Box evaluation

- Randomized controlled trial
- All participants had diabetes (HbA1c of 7%+)
- 60 people recruited and consented
- Half randomized to intervention, half to control

Assessment at 3 time points:
- Baseline
- Post-intervention (@ 3 months)
- Long-term (@ 9 months)
## Participant profile 1

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Study participants</th>
<th>2 study counties</th>
<th>USA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food insecurity</td>
<td>68%</td>
<td>14%</td>
<td>12%</td>
</tr>
<tr>
<td>Education</td>
<td>18% &lt; HS, 39% HS / GED, 43% any college</td>
<td>17% &lt; HS, 45% HS / GED, 38% any college</td>
<td>9% &lt; HS, 28% HS / GED, 63% any college</td>
</tr>
<tr>
<td>Race</td>
<td>100% white, 3% NativeAmerican</td>
<td>96% white, 2% NativeAmerican</td>
<td>59% white, 2% NativeAmerican</td>
</tr>
<tr>
<td>Disability</td>
<td>61%</td>
<td>19%</td>
<td>13%</td>
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</tbody>
</table>
Participant profile 2

- COVID-19
- Internet
- BMI = 38
- Diabetes = 9.3% HBA1C
Results: Significant differences between groups

- Differences emerged during long-term follow-up
- Intervention participants stabilized
- Clinical markers: Obesity and Diabetes
- Foods: Sodium and salad
Results: qualitative

1. Most Significant Change methodology
2. Play Earth Eats
Southern Indiana Food As Medicine
Phase 2 actions

The purpose:
• Partnership building to develop rural local food systems and lay groundwork for future FAM collaboration

Action:
• Expand pilot from 2 counties to 7
• Expand rural grocery coverage to 4 counties

Funders:
• Centers for Disease Control
• Indiana Department of Health

“We saw the fragility of the global food system firsthand, not being able to get orders, so we are creating a safety net on the chance that something like that would happen again.”

- Brandon Query Bey, Healthy Initiatives Coordinator, Lost River Market and Deli
Our FIM model

How our Food As Medicine works

1) Plan a seasonal recipe calendar
   1) Feature local produce when it's abundant and low cost

2) Recruit and enroll participants through public health and medical partners

3) Purchase food, build the meal kits, give them out, include necessary kitchen tools

4) Teach participants how to cook them, and about nutrition

5) Assess how it all went for partners and participants
Linton Senior Center @ Glenburn Home incorporates fresh local foods into congregate meals
Referral tool: HoosierHelp.org

- Online tool used by FIM recruitment partners
- Refers to many types of public health services
- Most searches are for food & housing
- Chelsea Simpkins (in the room with you!) is an HH leader
- Center of Community-Engaged Dissemination & Implementation Research
### Cost to deliver

<table>
<thead>
<tr>
<th>Cost / Serving</th>
<th>Greene County FAM</th>
<th>Home Chef</th>
<th>Hello Fresh</th>
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<tbody>
<tr>
<td>Food</td>
<td>$3.89</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Food + Labor*</td>
<td>$6.68</td>
<td>$8.99</td>
<td>$7.99</td>
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</table>

**Other costs to consider**
- Language translation
- Travel
- Promotion
- Venue or space fees
- Participant incentives
- Equipment

**Recipes**
- **Sesame noodles with carrots and beef**
- **Pasta with chickpeas and swiss chard**
- **Skillet brats and veggies**
CONCLUSION

Reflections on our work in FIM
Pros and cons of our model

- Meal kit versus just produce
- Costs are low, but grant funded
- Need sustaining investment source
  - Insurers, employers, policy
- Good case for that (evidence, modeling)
- Reaches networks of people

Easy one-skillet zucchini lasagna
Summary & program continuation

- Even our low-dose, community-designed intervention stimulated changes
  - Clinically relevant

- Continue building partnerships:
  - Research + programmatic
  - Local rural cross-sector leadership

- Supporting access:
  - Rural farmers markets and groceries are a huge asset
  - Individuals versus networks
Thank you!

- All the partners in Crawford, Daviess, Greene, Jackson, Lawrence, Orange, and Washington counties of Indiana
- Jeni Waters, IU
- Kyla Cox Deckard, IU
- Jacob Simpson, IU
- Jodee Smith, IU
- Dr. Kathleen Sobiech, IU
- And our dear funders

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