



FOOD AND AGRARIAN SYSTEMS PROGRAM
& CENTER FOR RURAL ENGAGEMENT

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

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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



AN INVITATION FOR:
SICHC PATIENTS
WITH DIABETES AND
PRE-DIABETES

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!



Figure Y. Intervention Calendar

	Recipe	Local Produce Provided
June	Herb Roasted Chicken with Vegetables	 Carrots  Potato  Chicken
July	Turkey Tacos	 Lettuce  Zucchini  Turkey
July	Tabbouleh	 Green Onion  Parsley  Tomato  Cucumber
July	Ratatouille	 Onion  Zucchini  Tomato  Yellow Squash  Garlic
July	Summer Vegetable Pasta Salad	 Cucumber  Summer Squash
July	Melon Salsa	 Onion  Cucumber  Cantaloupe
August	Green Bean Casserole	 Green Beans
August	Tomato Salsa	 Red Onion  Tomato  Jalapeno Peppers
August	Tomato Sauce and Spaghetti with Meatballs	 Onion  Tomato  Garlic  Beef  Eggs
August	The Works Pizza	 Onion  Tomato  Red Pepper  Green Pepper

Seasonal meal kit recipes

		Onion	Tomato	Red Pepper	Green Pepper
September	Roasted Butternut Squash	 Maple Syrup	 Butternut Squash		
September	Tuna Melt	 Tomato			
September	Sweet Potato Shepherd's Pie	 Onion	 Garlic	 Sweet Potato	 Beef
September	Mushroom Garlic Angel Hair Pasta	 Garlic	 Red Pepper		
October	Fall Vegetable Salad	 Beet	 Garlic	 Kale	 Fennel  Apple
October	Sweet Potato Pumpkin Soup	 Pumpkin	 Onion	 Sweet Potato	
October	Chicken Salad with Peanut Dressing	 Lettuce	 Red Pepper	 Apple	 Chicken
October	Hoppin' John	 Onion	 Garlic	 Red Pepper	 Ham
October	Crescent Mummy Rolls				None
November	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

Characteristic	Study participants	2 study counties	USA
Food insecurity	68%	14%	12%
Education	18% < HS 39% HS / GED 43% any college	17% < HS 45% HS / GED 38% any college	9% < HS 28% HS / GED 63% any college
Race	100% white 3% NativeAmerican	96% white 2% NativeAmerican	59% white 2% NativeAmerican
Disability	61%	19%	13%



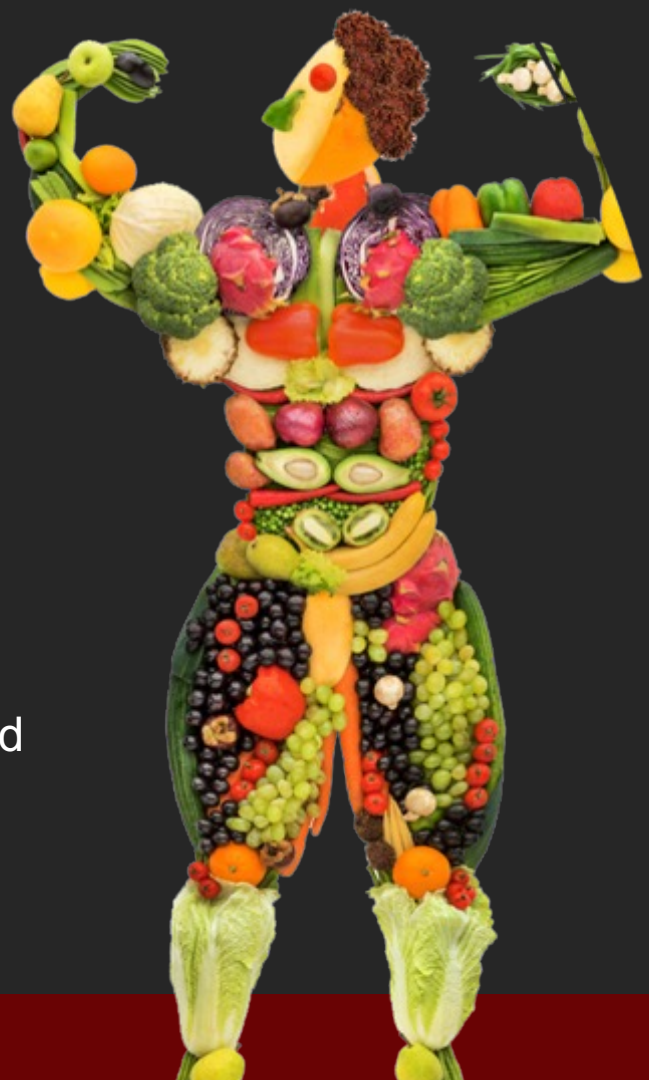
Participant profile 2

- COVID-19
- Internet
- BMI = 38
- Diabetes = 9.3% HBA1C



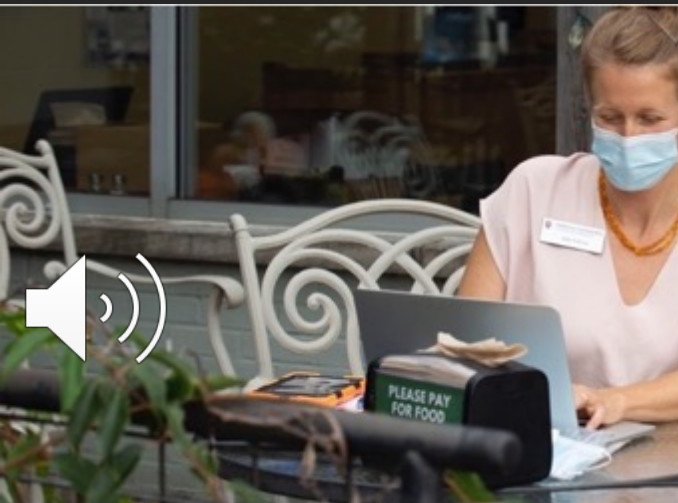
Results: Significant differences between groups

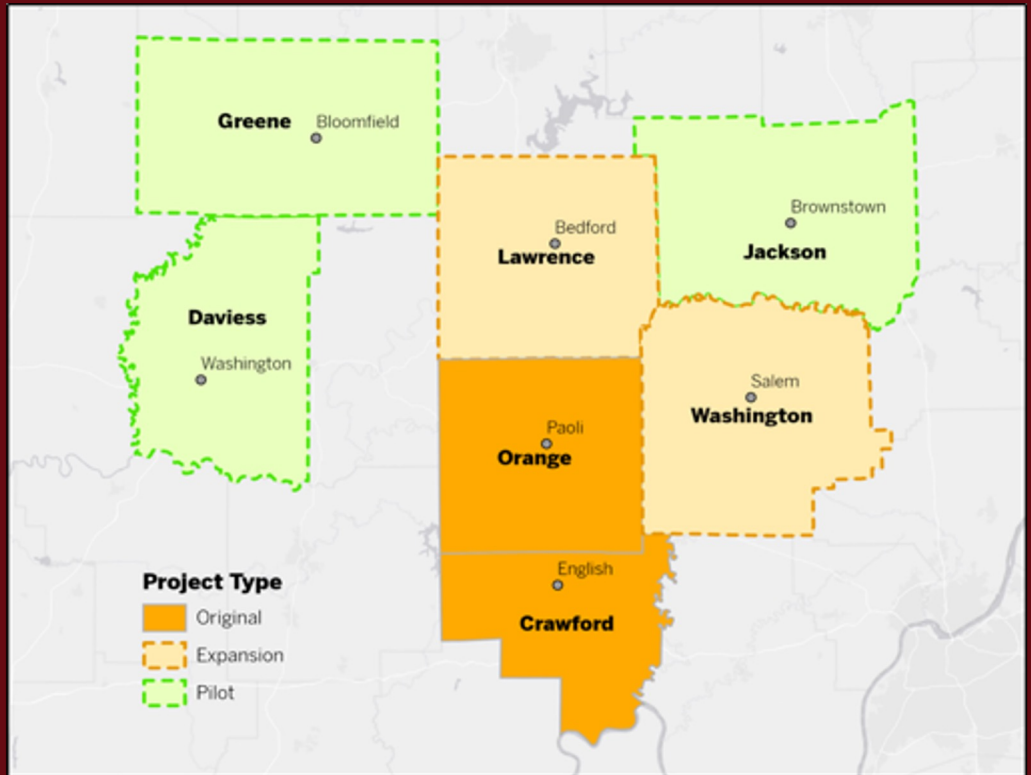
- Differences emerged during long-term follow-up
- Intervention participants stabilized
- Clinical markers: Obesity and Diabetes
- Foods: Sodium and salad



Results: qualitative

1. Most Significant Change method
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

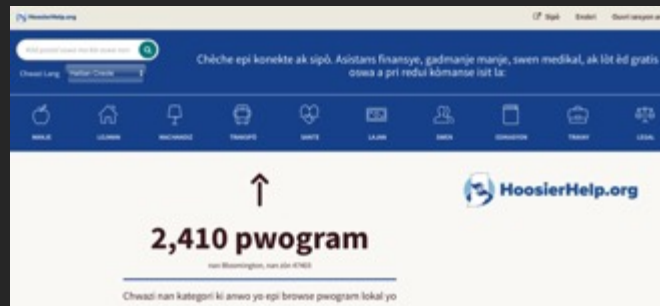
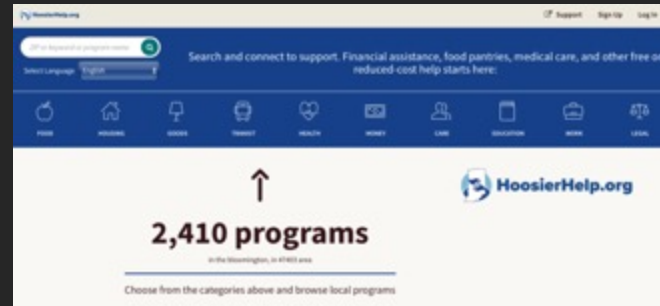
- 1) Plan a seasonal recipe calendar
 - 1) Feature local produce when it's abundant and low cost
- 2) Recruit and enroll participants through public health and medical partners
- 3) Purchase food, build the meal kits, give them out, include necessary kitchen tools
- 4) Teach participants how to cook 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

Cost / Serving	Greene County FAM	Home Chef	Hello Fresh
Food	\$3.89	-	-
Food + Labor*	\$6.68	<u>\$8.99</u>	<u>\$7.99</u>

- Other costs to consider
- Language translation
 - Venue or space fees
 - Nutrition education
 - Travel
 - Participant incentives
 - Cooking supplies
 - Promotion
 - Equipment



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

Funding Acknowledgement: This program was supported by funds made available from the Centers for Disease Control and Prevention, Center for State, Tribal, Local and Territorial Support, under NH75OT000073.

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