SDOH Screening and Initiatives to Address Food Insecurity in Adults with Diabetes

UPSTATE
MEDICAL UNIVERSITY
Joslin Diabetes Center
Affiliate at SUNY Upstate Medical University

Initial SDOH Screening Project Timeline/PDSA Cycles

- PDSA #1- Initial pilot program began (Aug 2021): Two clinicians (1 in-person visits/ 1 telemedicine visits). 8 questions/ 4 domains (food, housing, transportation insecurities, and general financial strain)
- PDSA #2- Rolled out to entire clinic (Oct 2021)
- PDSA #3 – (Dec 2021) Implemented a BPA for those that screened positive for at least one domain → Referral to social worker.
- PDSA #4 – Oct 2022 Created a paper form to answer questions instead of LPN verbally asking questions during rooming

Used 8 SDOH Screening Questions Available in Epic

Please circle the best option. Please let staff know if you need assistance.

Transportation Needs

In the past 12 months, has lack of transportation kept you from medical appointments or from getting medications?

Yes	No	Patient Declined

In the past 12 months, has lack of transportation kept you from meetings, work, or from getting things needed for daily living?

Yes	No	Patient Declined

HealthWatch Housing Screener

In the last 12 months, was there a time when you were not able to pay the mortgage or rent on time?

Yes	No	Patient Declined

In the last 12 months, how many places have you lived?

In the last 12 months, was there a time when you did not have a steady place to sleep or slept in a shelter?

Yes	No	Patient Declined

Food Insecurity

Within the past 12 months, you worried that your food would run out before you got the money to buy more?

Never True	Sometimes True	Often True	Patient Declined

Within the past 12 months, the food you bought just didn't last and you didn't have money to get more?

Never True	Sometimes True	Often True	Patient Declined

Financial Resource Strain

How hard is it for you to pay for the very basics like food, housing, medical care, and heating?

Very Hard	Hard	Somewhat hard	Not very hard	Not hard at all	Patient Declined

Medication Financial Assistance

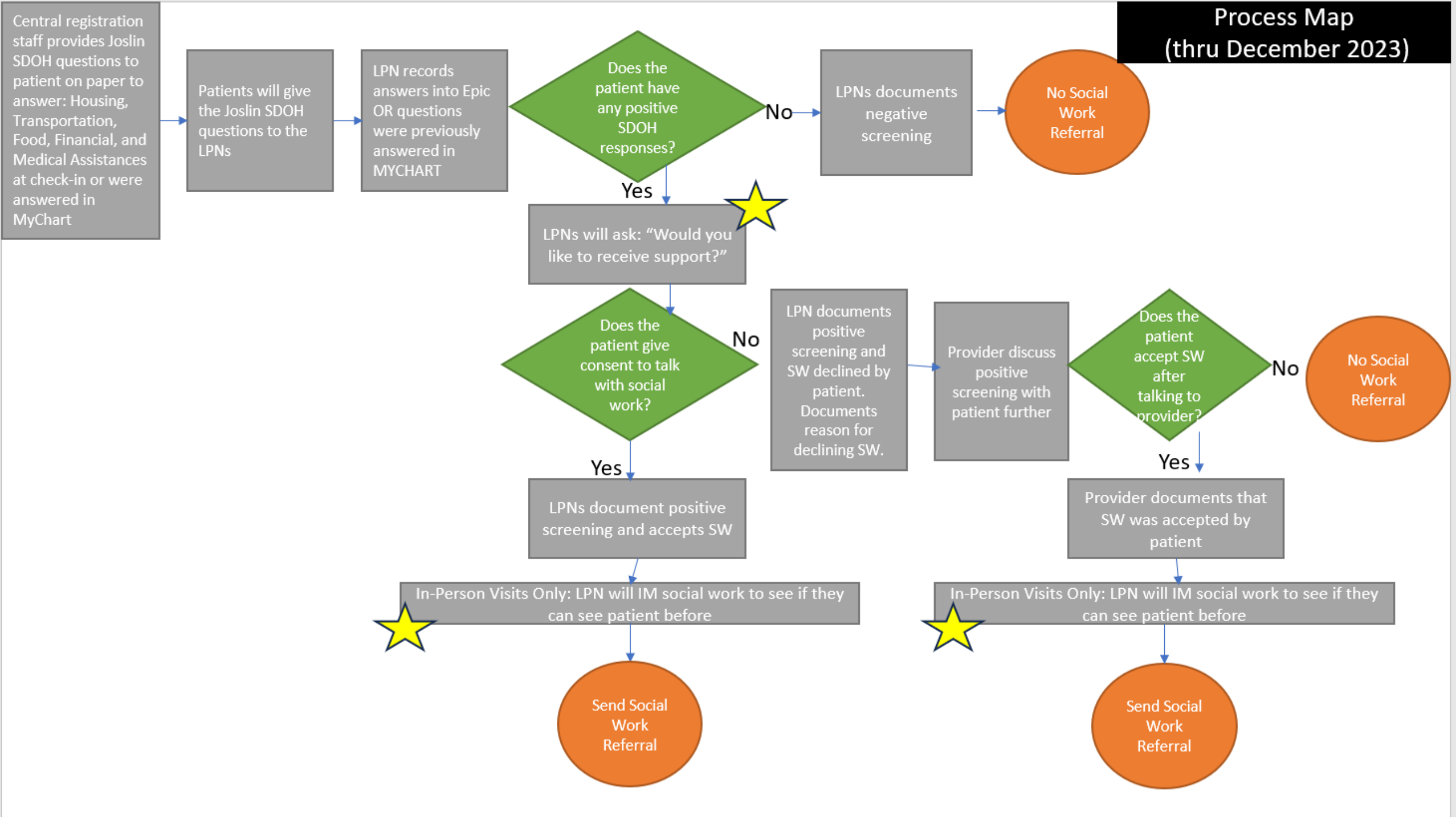
How often in the past year have you not taken your medications because of cost?

Never	Sometimes	Often	Always

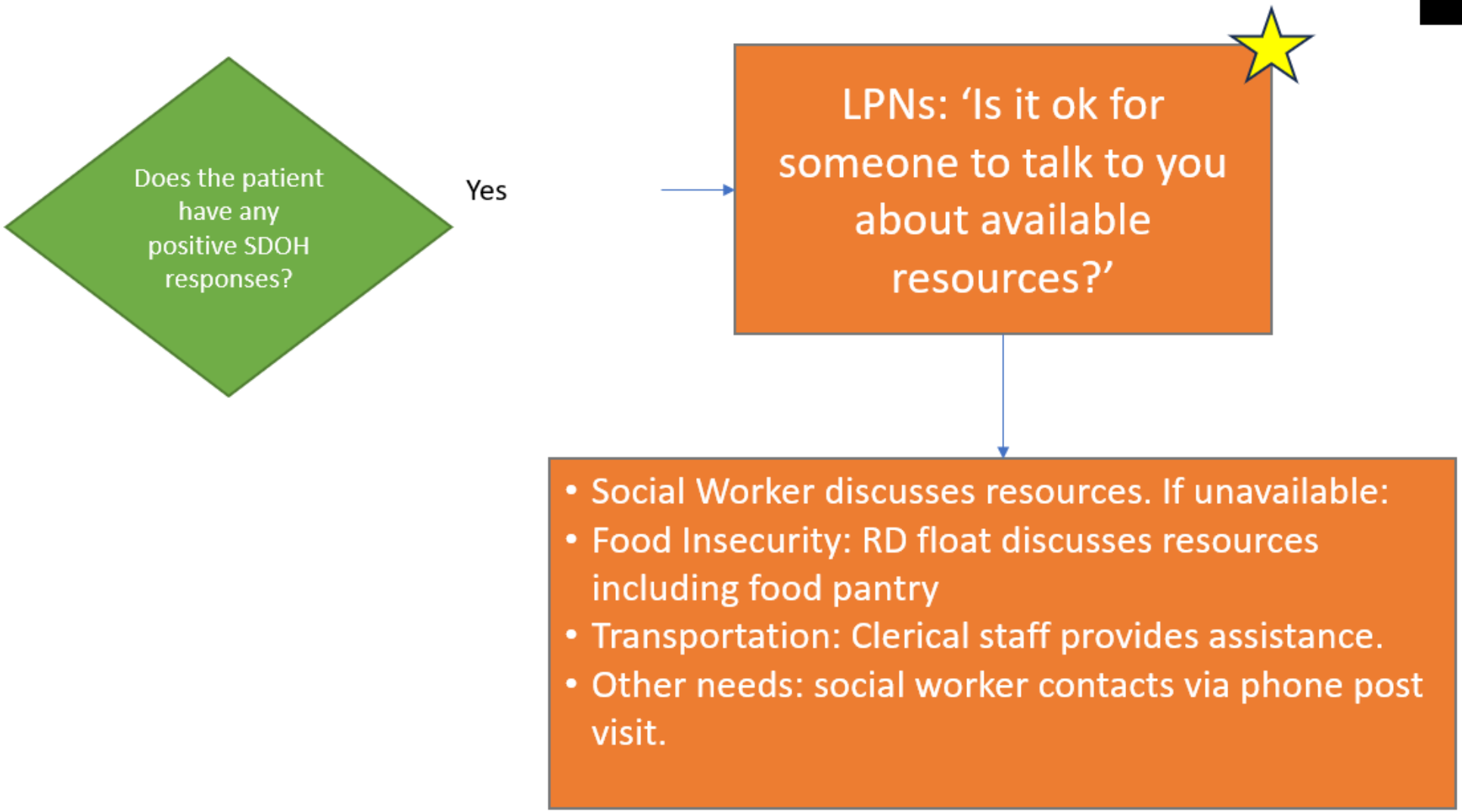
Please check here if you'd like to talk in private: ☐

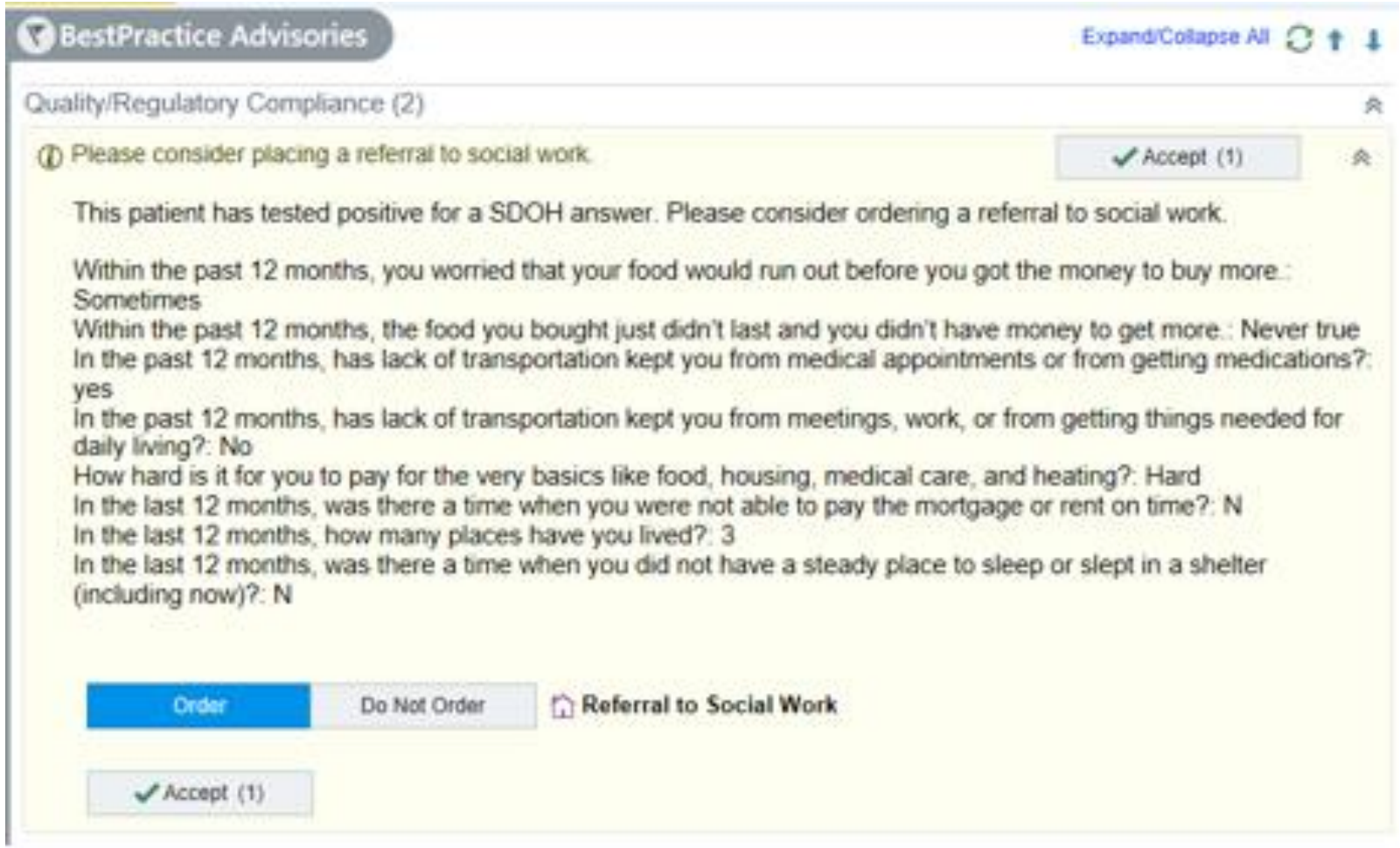
NOTE: Medication Financial Assistance question was used to refer to our pharmacy program that provides low cost or free medications to eligible patients; results not included in analyses.

Process Map (thru December 2023)



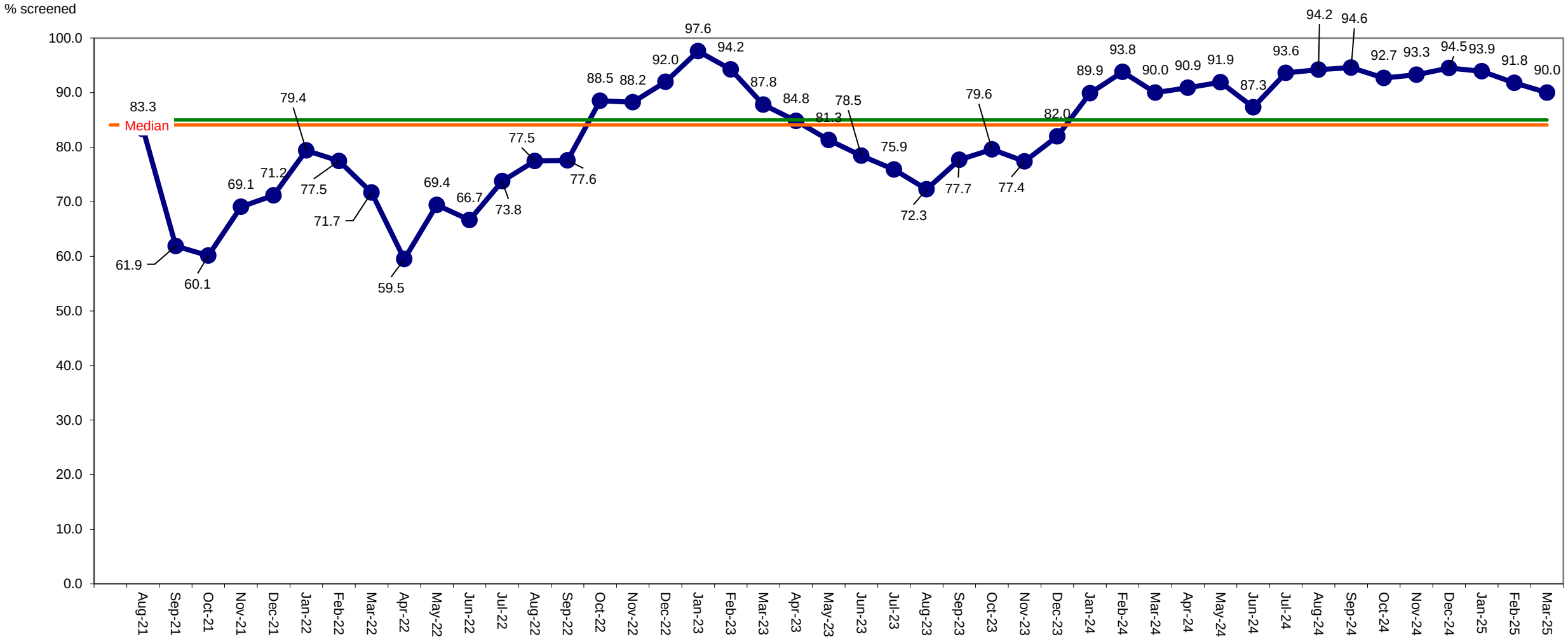
Change in process (starting January 2024)





- [ ] Patient declined to answer Social Determinants of Health questions
- [ ] Positive SDOH screening, social work referral made, provider notified via Qliq/Vocera/in-person
- [ ] Positive SDOH screening, social work referral declined by patient, provider notified via Qliq/Vocera/in-person
- [ ] Reason patient declined referral - The situation is temporary
- [ ] Reason patient declined referral - Already receiving Resources elsewhere
- [ ] Reason patient declined referral - Too personal

% Screened, of those with Type 1 Diabetes, for SDOH



Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25
482/549	313/369	326/401	244/311	205/270	245/339	290/373	301/378	315/407	291/355	436/485	347/370	407/452	309/340	385/419	289/331	382/408	327/347	316/334	366/395	294/315	360/381	384/409	348/379	370/411

Lessons Learned

- **More patients report insecurities when SDOH questions are answered in writing privately at visit vs being asked the questions by LPN during rooming.**
- **Suspect underreported insecurities**
- **Greater acceptance of social work (SW) referral when those with insecurities were asked if they would like to receive support or resources (vs would they like to meet with SW).**
- **Majority (75%) declined SW.**

Challenges

- **Variability of LPN in compliance with screening and documenting reasons for declining referral, requiring frequent re-education.**
- **Screening burnout of both staff and patients.**
- **SW availability at time of visit is insufficient.**

New Questions

AHC Health Related Social Needs Screening Questions **Housing/ Utilities**	
1. What is your living situation today?	☐ I have a steady place to live ☐ I have a place to live today, but I am worried about losing it in the future ☐ I do not have a steady place to live (I am temporarily staying with others, in a hotel, in a shelter, living outside on the street, on a beach, in a car, abandoned building, bus or train station, or in a park)
2. Think about the place you live. Do you have problems with any of the following? CHOOSE ALL THAT APPLY	☐ Pests such as bugs, ants, or mice ☐ Mold ☐ Lead paint or pipes ☐ Lack of heat ☐ Oven or stove not working ☐ Smoke detectors missing or not working ☐ Water leaks ☐ None of the above
3. In the past 12 months has the electric, gas, oil, or water company threatened to shut off services in your home?	☐ Yes ☐ No ☐ Already shut off
Food Security	
4. Within the past 12 months, you worried that your food would run out before you got money to buy more.	☐ Often true ☐ Sometimes true ☐ Never true
5. Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.	☐ Often true ☐ Sometimes true ☐ Never true
Transportation	
6. In the past 12 months, has lack of reliable transportation kept you from medical appointments, meetings, work or from getting things needed for daily living?	☐ Yes ☐ No
Employment	
7. Do you want help finding or keeping work or a job?	☐ Yes, help finding work ☐ Yes, help keeping work ☐ I do not need or want help
Education	
8. Do you want help with school or training? For example, starting or completing job training or getting a high school diploma, GED or equivalent.	☐ Yes ☐ No
Interpersonal Safety Because violence and abuse happens to a lot of people and affects their health we are asking the following questions.	A score of 11 or more when the numerical values for answers to [the four questions] are added shows that the person might not be safe
9. How often does anyone, including family and friends, physically hurt you?	☐ Never (1) ☐ Rarely (2) ☐ Sometimes (3) ☐ Fairly often (4) ☐ Frequently (5)
10. How often does anyone, including family and friends, insult or talk down to you?	☐ Never (1) ☐ Rarely (2) ☐ Sometimes (3) ☐ Fairly often (4) ☐ Frequently (5)
11. How often does anyone, including family and friends, threaten you with harm?	☐ Never (1) ☐ Rarely (2) ☐ Sometimes (3) ☐ Fairly often (4) ☐ Frequently (5)
12. How often does anyone, including family and friends, scream or curse at you?	☐ Never (1) ☐ Rarely (2) ☐ Sometimes (3) ☐ Fairly often (4) ☐ Frequently (5)

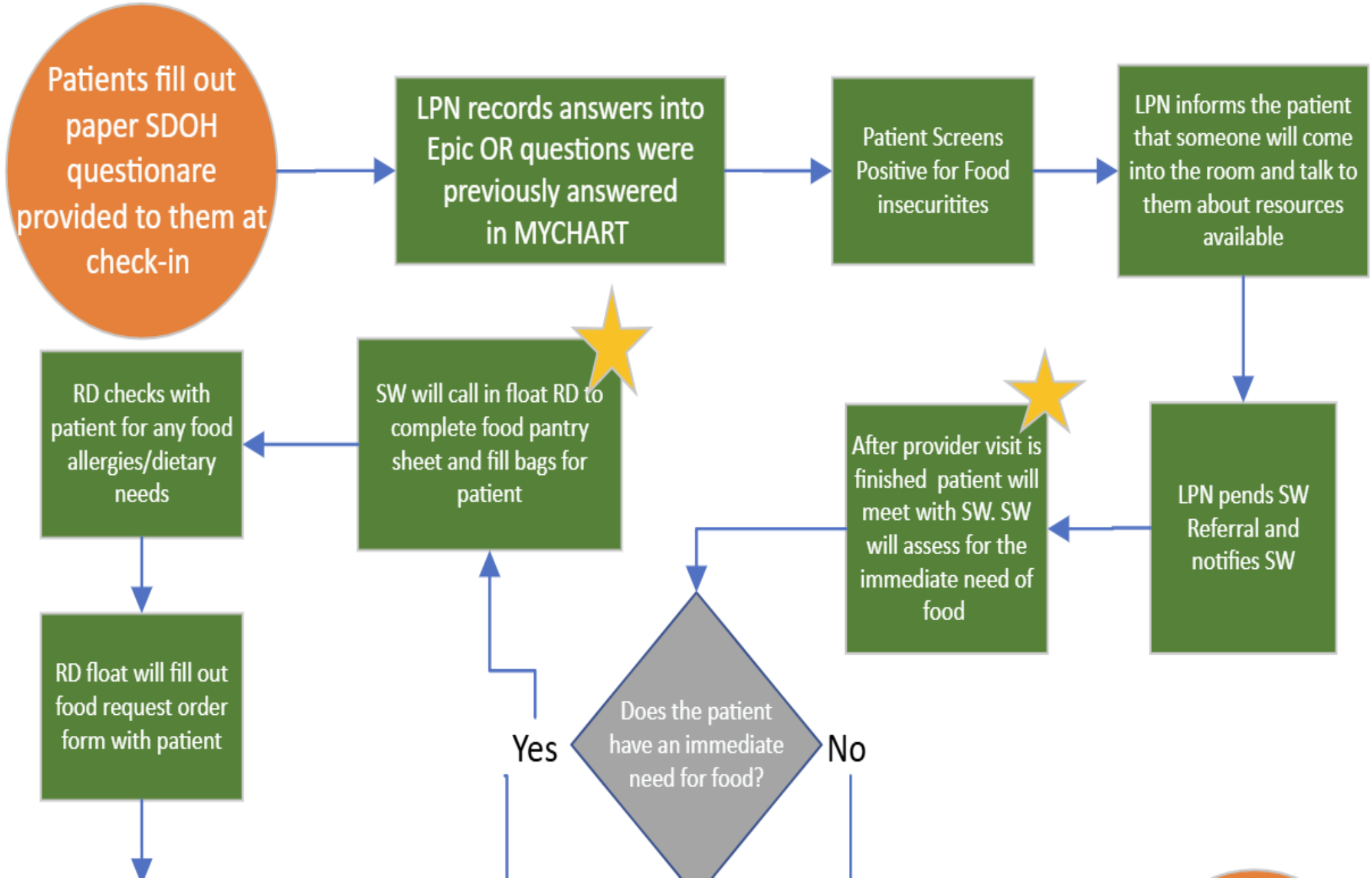
Next Steps

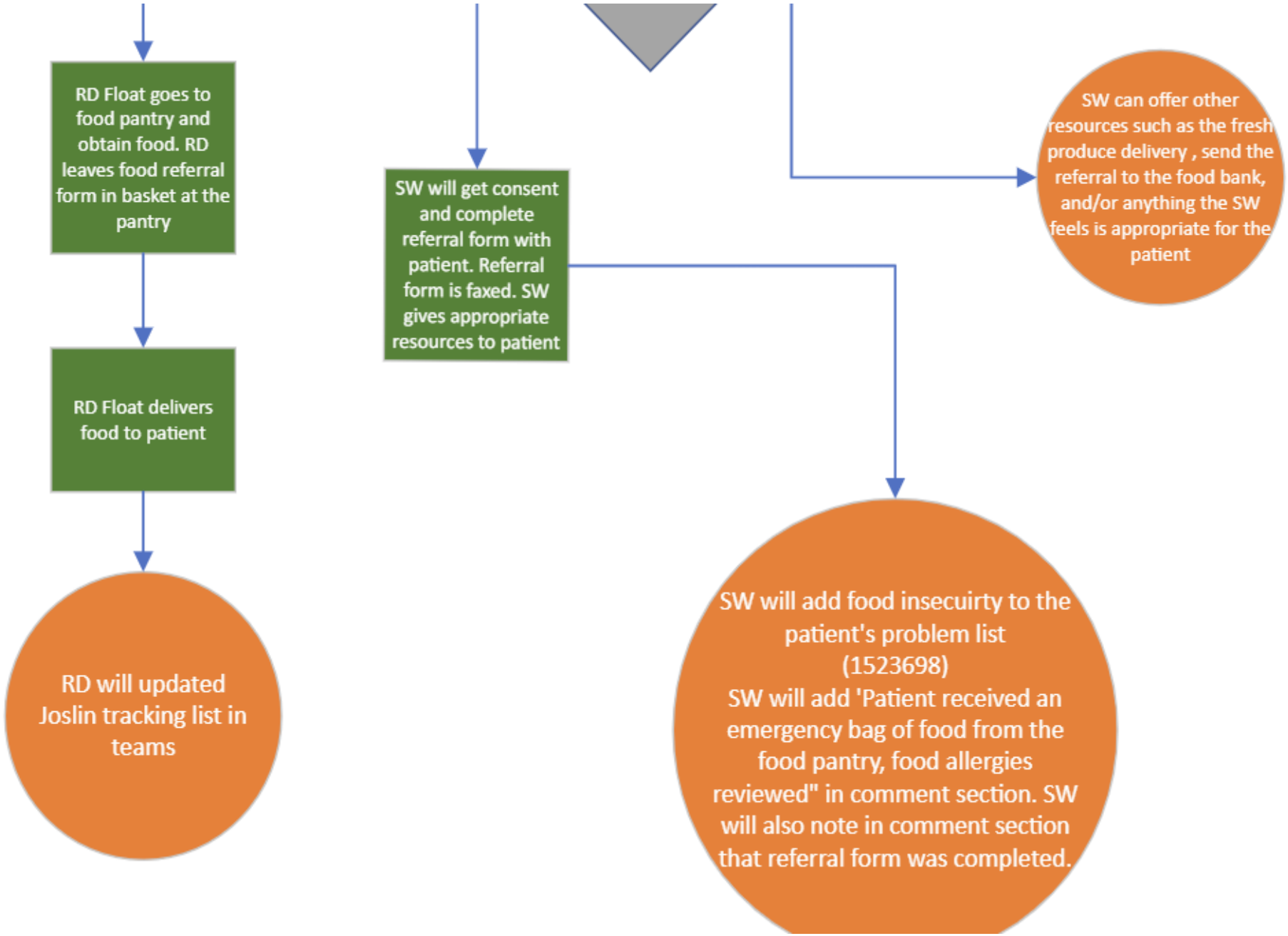
- See if there are changes to positive response rate of new housing domain questions
- Collect baseline data on new questions (employment, education, interpersonal safety)

Food Pantry

Nov 2023: Implemented a process to begin providing food from pantry located in clinic building

Aim is to provide food for those that screen positive for FI to relieve in short term and refer out to regional food bank to connect and sign up for programs to address insecurities long term.


Patients fill out paper SDOH questionare provided to them at check-in
LPN records answers into Epic OR questions were previously answered in MYCHART
Patient Screens Positive for Food insecuritites
LPN informs the patient that someone will come into the room and talk to them about resources available
LPN pends SW Referral and notifies SW
After provider visit is finished patient will meet with SW. SW will assess for the immediate need of food
Does the patient have an immediate need for food?
Yes
No
SW will call in float RD to complete food pantry sheet and fill bags for patient
RD checks with patient for any food allergies/dietary needs
RD float will fill out food request order form with patient


RD Float goes to food pantry and obtain food. RD leaves food referral form in basket at the pantry
RD Float delivers food to patient
RD will updated Joslin tracking list in teams
SW will get consent and complete referral form with patient. Referral form is faxed. SW gives appropriate resources to patient
SW can offer other resources such as the fresh produce delivery , send the referral to the food bank, and/or anything the SW feels is appropriate for the patient
SW will add food insecuirty to the patient's problem list (1523698)
SW will add 'Patient received an emergency bag of food from the food pantry, food allergies reviewed" in comment section. SW will also note in comment section that referral form was completed.

Clinic: _____
MR#: _____
Staff Member: _____
Date: _____
Can Opener Needed? _____

Food Bag Assembly Guidelines

Using this food guideline ensures that each bag contains the amount of food each food group for a household size of 2 for 1 day.

Food Bank of Central New York

Are there any food allergies individual or family? Yes No

Grains (Breakfast)	Grains (Lunch /Dinner)	Protein	Fruit	Vegetables	Dairy
Circle one choice from below	Circle one choice from below	Circle one choice from below	Any 2 Cans	Circle one of the two options below	Offer
1 Box of Toasted Oats Cereal	1lb box of Spaghetti	1 Can of Macaroni and Beef		1 Can Spaghetti sauce and 1 can of vegetables	Up to 6 of the 8oz containers per bag Boxed Milk
1 Box of Oatmeal Variety Pack	1lb of Rice	1 Jar of Peanut Butter		3 cans of Vegetables	
	2 Boxes of Macaroni and Cheese	1 can of Beans			
		2 cans of Tuna			
		2 cans of Chicken			

Permission to Contact form signed: Yes, patient would like to be contacted by the Food Bank for further services _____ No, patient is not interested _____

In an effort to maintain a fair and equitable distribution of food the USDA recommended food distribution for a household size of 2, for one day, was used as a guide to determine the amount of product from each food group to be packed in each bag.

For every two people in the household the patient screening positive for food insecurity receives 1 bag.

Household Size
1-2 people = 1 bag
3-4 people = 2 bags
5-6 people = 3 bags
7-8 People = 4 bags

Food Bank of Central New York

7066 Interstate Island Road | Syracuse, New York 13209

(315) 437-1899 | foodbankcny.org

FAX TO: 315.437.2739

Referral Form

Client name_____

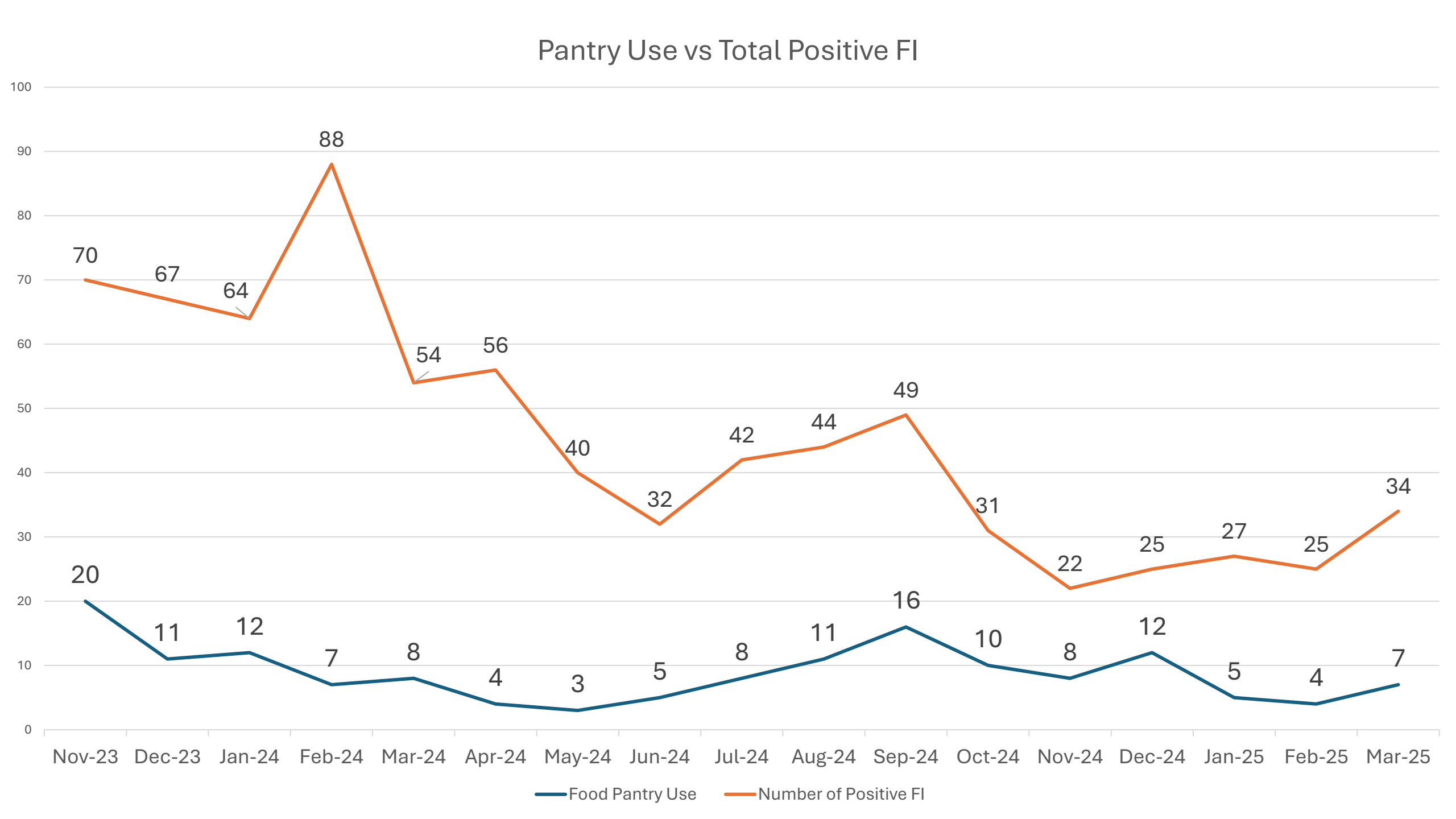
Phone Number_____

Zip Code _____

To help us contact you by telephone, please indicate below the times you are generally available:

	MORNING	Afternoon
Monday	_____	_____
Tuesday	_____	_____
Wednesday	_____	_____
Thursday	_____	_____
Friday	_____	_____

Client Signature_____


Pantry Use vs Total Positive FI
100
90
80
70
60
50
40
30
20
10
0
70
67
64
88
54
56
40
32
42
44
49
31
22
25
27
25
34
20
11
12
7
8
4
3
5
8
11
16
10
8
12
5
4
7
Nov-23
Dec-23
Jan-24
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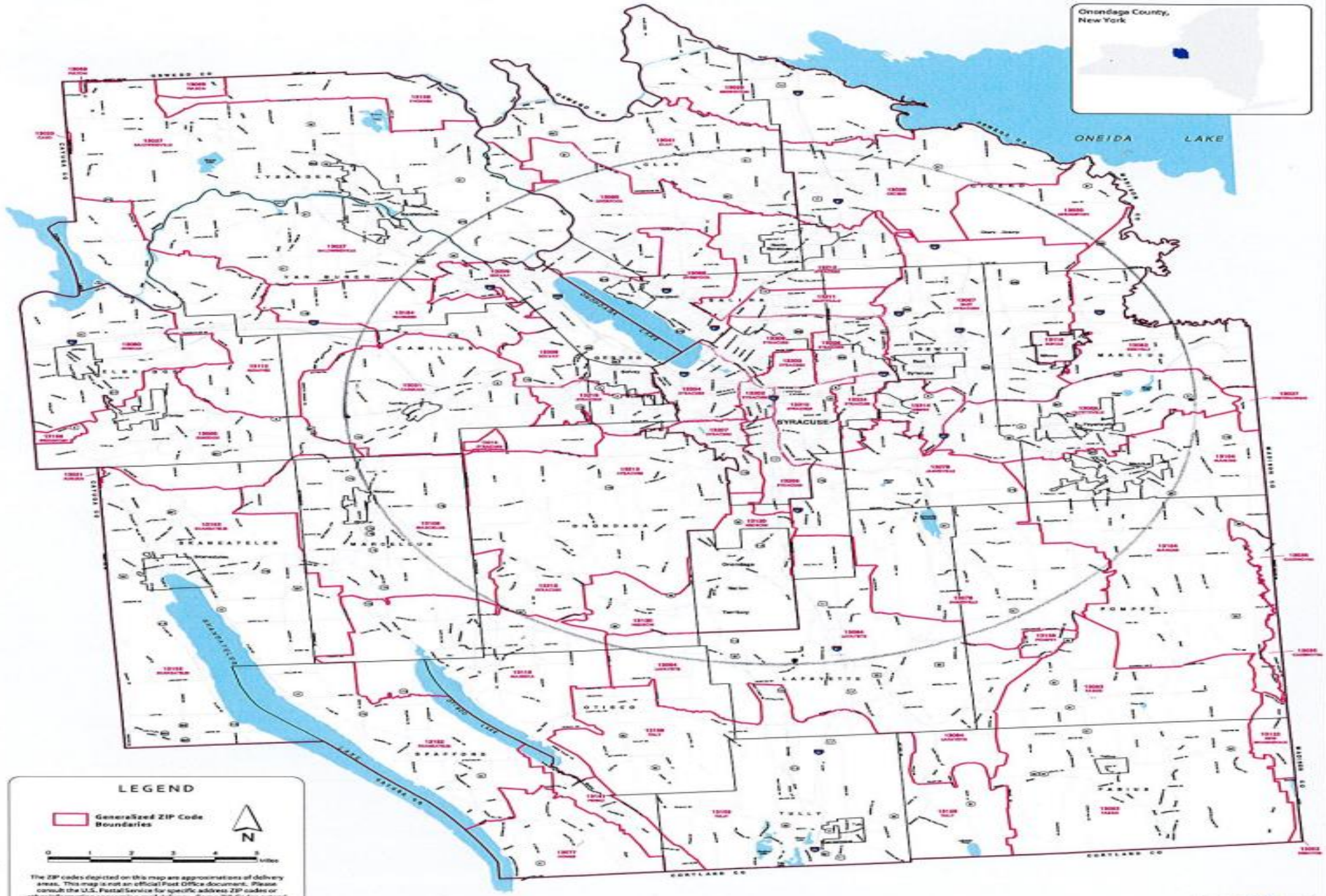
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25
Food Pantry Use
Number of Positive FI

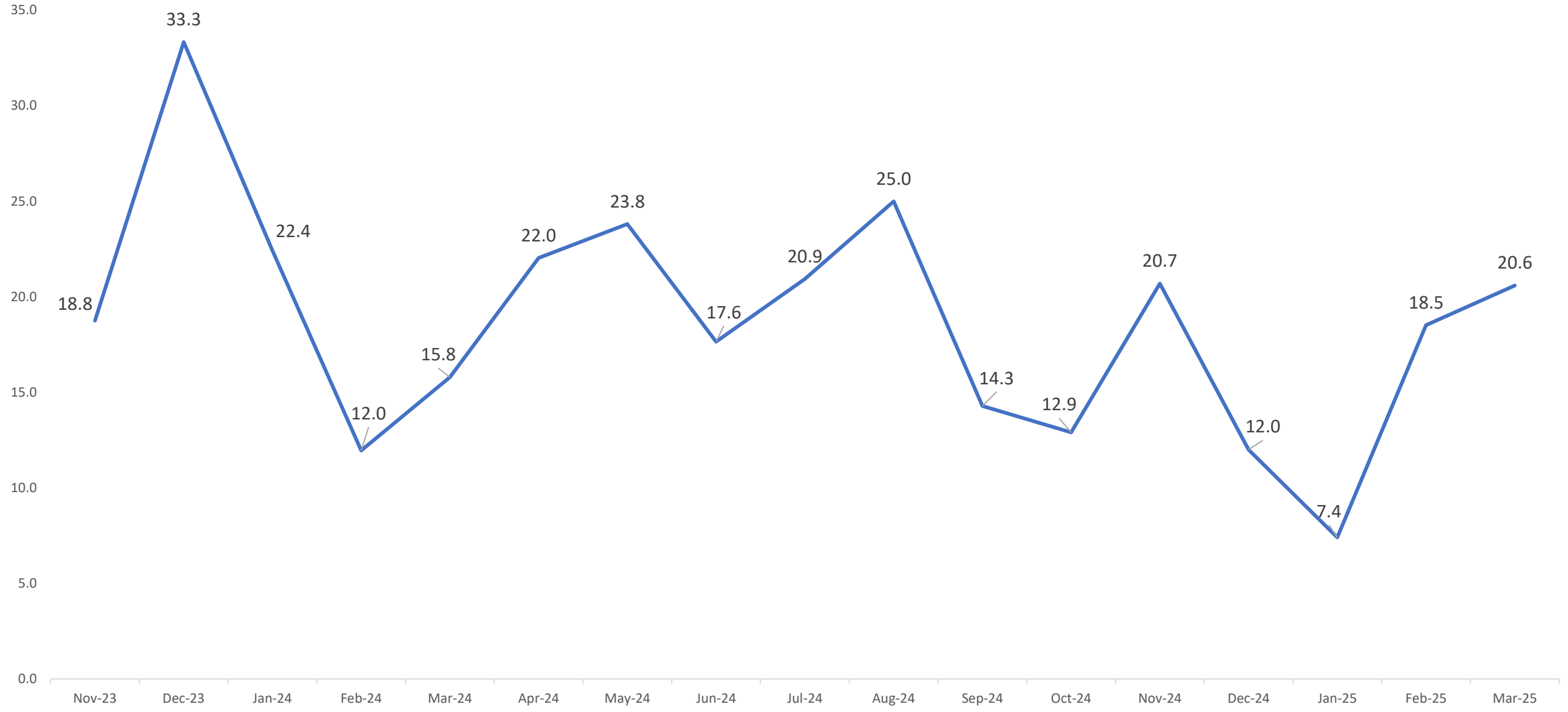
Monthly Produce Program

Also in Nov 2023, in coordination with Regional Food Bank of CNY those eligible (living w/ diabetes + HbA1c >7.0%) can receive a monthly box of produce.

Either pickup (near clinic) or if participant lives within 10 miles can have box delivered (via Doordash).


Onondaga County, New York
ONEIDA LAKE
SYRACUSE
LEGEND
Generalized ZIP Code Boundaries
N
0 1 2 3 4 5 Miles
The ZIP codes depicted on this map are approximations of delivery areas. This map is not an official Post Office document. Please consult the U.S. Postal Service for specific address ZIP codes or other information concerning mail delivery. Some ZIP Codes extend outside of Onondaga County. This map is intended for general planning purposes only.
December 2021
SOCPA

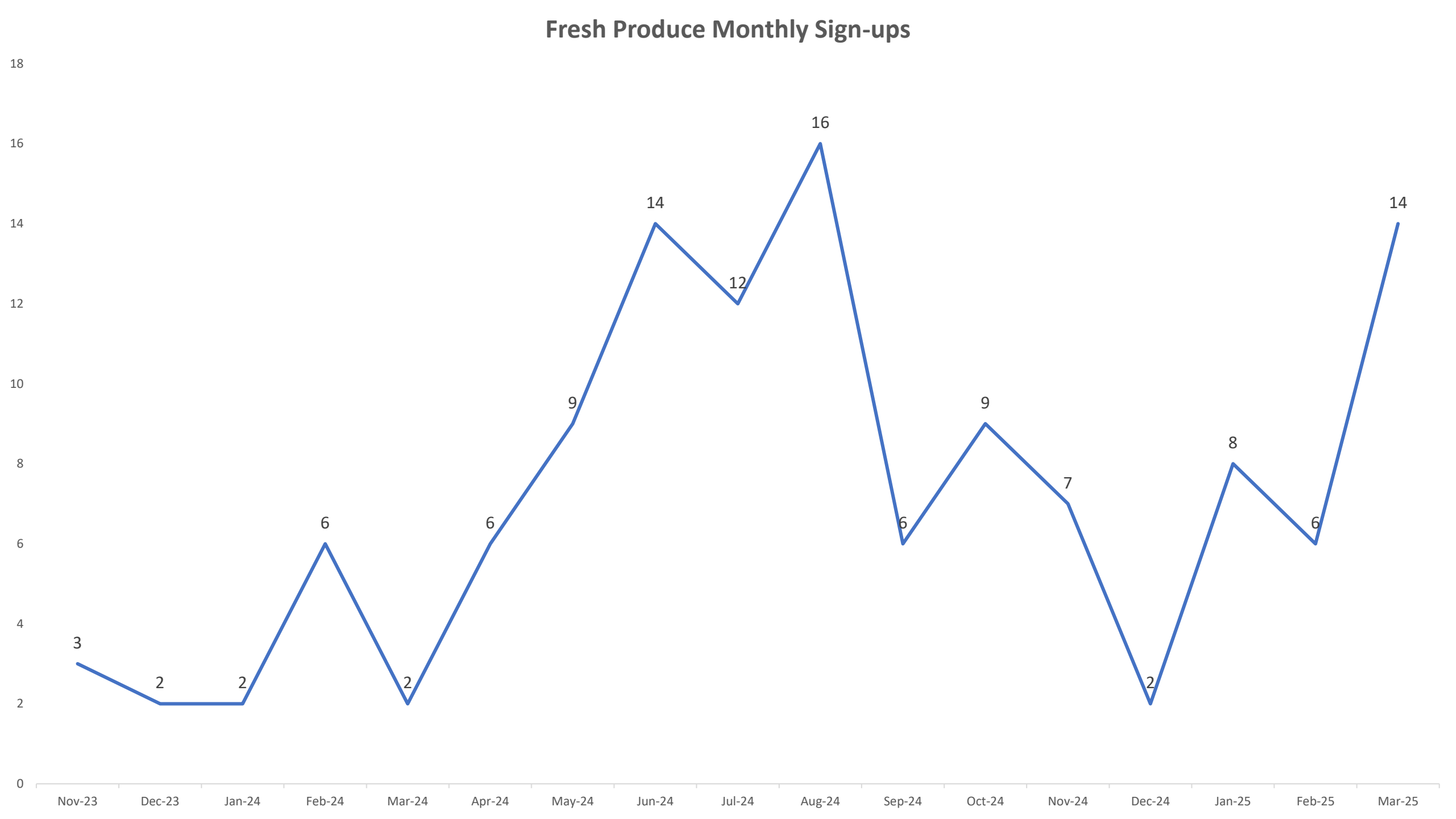
% Adults ≥ 22yrs. With Positive Food Insecurity Screening Positive for Transportation Insecurity



12/64	22/66	13/58	11/92	9/57	13/59	10/42	6/34	9/43	14/56	7/49	4/31	6/29	3/25	2/27	5/27	7/34
Nov-23	Dec-23	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Jan-25	Feb-25	Mar-25

Type 1 & Type 2 Diabetes with HbA1c > 7.0% (Nov 2023 – Dec 2024)	Residence ≤10 miles of clinic (In) n (%)				Residence >10 miles of clinic (Out) n=1666
	Food Insecure (FI)* Not Receiving Produce 155 (11.5%)	Receive Free Produce with and without FI 82 (6.1%)	No FI 1113 (82.4%)	Total 1350 (100)	
Age [*(years) median*]	55	55	59	59	54
Female [*n (%)*]	90 (58.1%)	55 (67.1%)	543 (48.8%)	688 (51.0%)	796 (47.8%)
Race: Non-Hispanic White [*n (%)*]	68 (43.9%)	41 (50.0%)	648 (58.2%)	757 (56.1%)	1533 (92.0%)
Non-White [*n (%)*]	87 (56.1%)	41 (50.0%)	465 (41.8%)	593 (43.8%)	123 (7.4%)
Insurance [*n (%)*]					
Private	31(20.0%)	8 (9.8%)	374 (33.6%)	413 (30.6%)	762 (45.7%)
Medicaid/Medicare	124 (80.0%)	74 (90.2%)	739 (66.4%)	937 (69.4%)	879 (52.7%)
HbA1c [n (*median/mean)*]					
Baseline	155 (8.8%/9.4%)	81 (8.3%/8.6%)	1113 (8.2%/8.7%)	1349 (8.2%/8.8%)	1666 (8.1%/8.67%)
Pre/post**	55 (8.5%/8.8% pre/ 8.7%/9.2% post)	31 (7.9%/8.4% pre/ 7.9%/8.8% post)			
Screened Positive for Food Insecurity [*n (%)*]	155 (100%)	58 (70.7%)	0 (0%)	213 (15.8%)	120 (7.2%)

* Provided positive response to one of the two following questions: Within the past 12 months, you worried that your food would run out before you got to buy more? Within the past 12 months, the food you bought just didn't last and you didn't have money to get more?
** Adults with both baseline and ~6-month follow-up HbA1c (%)


Fresh Produce Monthly Sign-ups
18
16
14
12
10
8
6
4
2
0
3
2
2
6
2
6
9
14
12
16
6
9
7
2
8
6
14
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
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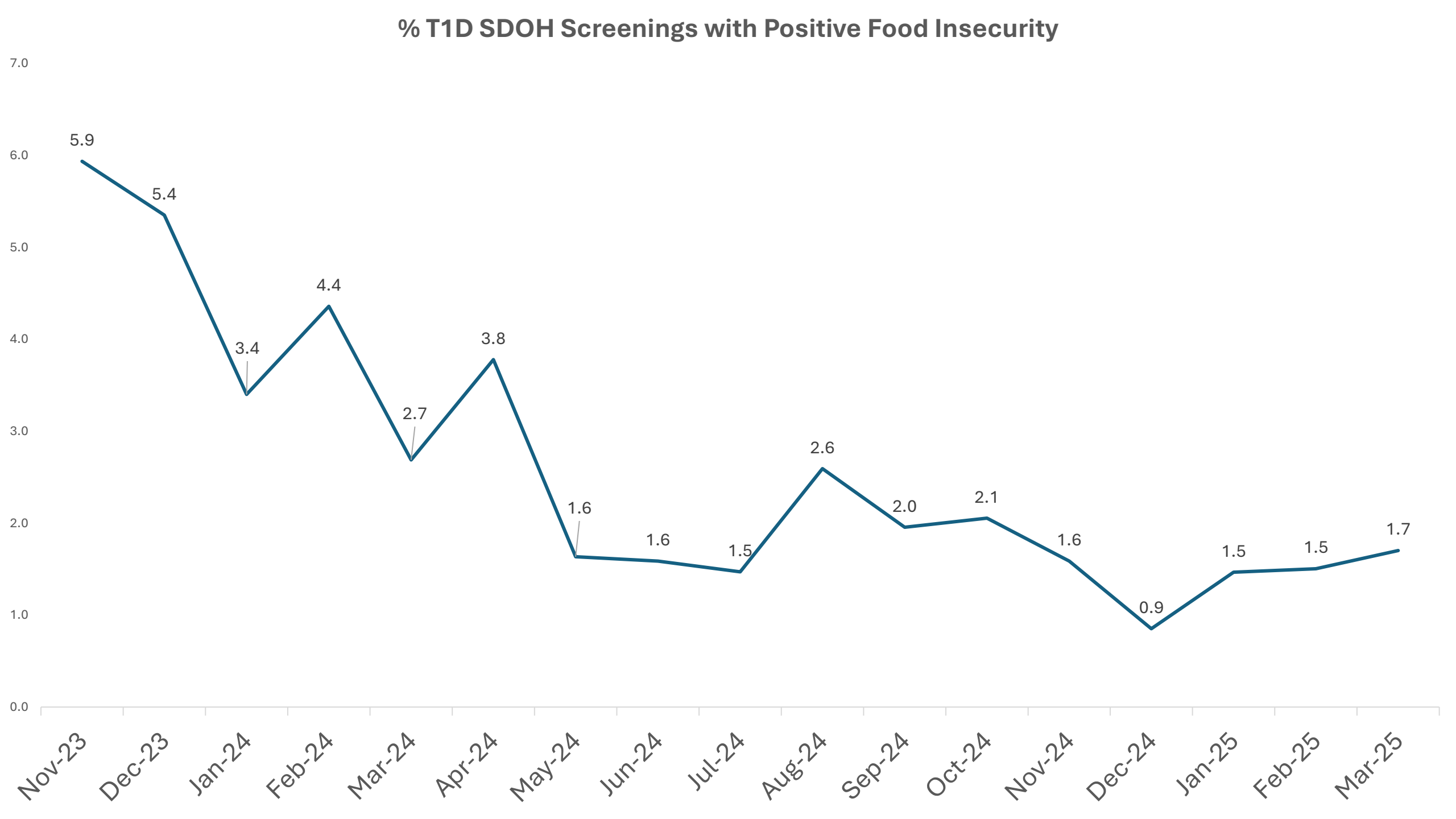
Mar-25


% T1D SDOH Screenings with Positive Food Insecurity
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
5.9
5.4
3.4
4.4
2.7
3.8
1.6
1.6
1.5
2.6
2.0
2.1
1.6
0.9
1.5
1.5
1.7
Nov-23
Dec-23
Jan-24
Feb-24
Mar-24
Apr-24
May-24
Jun-24
Jul-24
Aug-24
Sep-24
Oct-24
Nov-24
Dec-24
Jan-25
Feb-25
Mar-25

Correlation ≠ Causation

Screening fatigue + underreporting	• 29.6% of those living in Syracuse live in poverty[1] • 45.6% of children in Syracuse live in poverty (highest in nation for cities >100000 pop)[2] • Reluctance to go through SW process again • ~ 2/3 of T1D and ~ 50-55% of T2D no longer screened positive for insecurities at follow-up regardless of having/not having SW referral at baseline.
Previous analysis of those who accepted a referral to SW vs those that did not showed no significant differences in follow-up outcome measures.	• ~7/10 positive FI did not meet with SW same day in clinic after clinician visit.
Early analysis of those that used the food pantry vs those that experienced FI but did not use the pantry showed no significant difference as well.	• Need for more follow-up analysis. • Small n created limitations.

*1,2 Source: U.S. Census Bureau

Other Challenges

- Need for community resources for those that are FI but live outside of delivery radius.
  - Rural poverty also significant outside of city of Syracuse limits.
  - Our clinic sees individuals across much of CNY.
- Use of third-party delivery service is imperfect.
- Uncertainty in program future.

Next Steps

- Conduct a satisfaction survey for those that used the pantry and participate in the produce program
  - Pantry: We would like to know if Food Bank connected with individual and if they were set up with other resources (what those resources are, usefulness, etc.)
  - Produce Program: Is there enough food? Too much? Household size, compare that to those that are running out of food or have a surplus.
- Continue to study long term outcome measures (HbA1c, CGM metrics, follow-up screenings) to determine efficacy of programs.