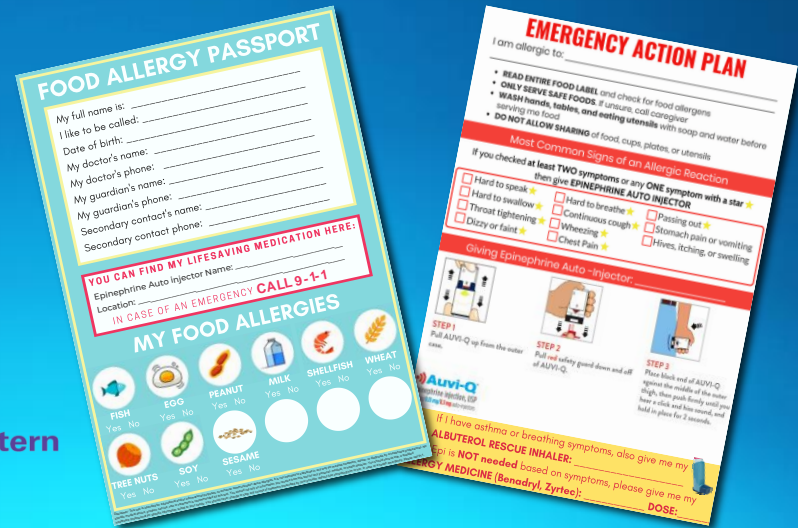


Findings in Efficacy Evaluation of a Novel Clinical Support Tool: The Food Allergy Passport

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Disclosures

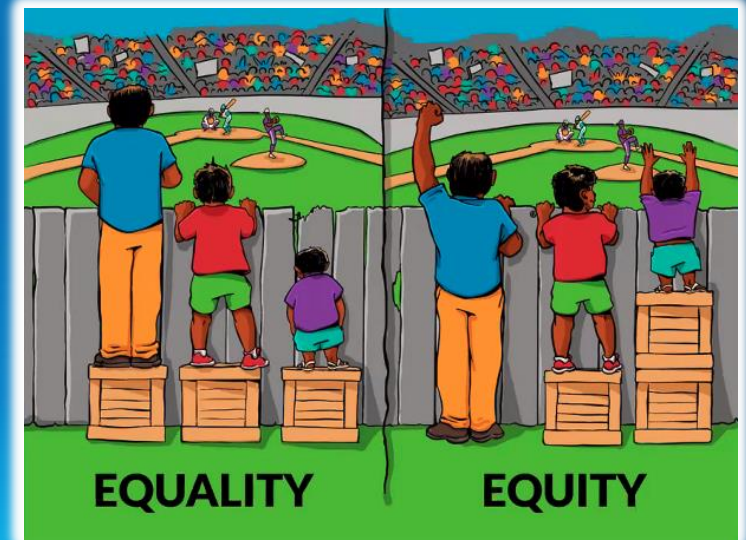
***A special thanks to our
foundation grant sponsor:***



- I have no personal or financial disclosures.

Background

- ▣ Food allergy (FA) among children has grown dramatically in recent decades, with low-income populations disproportionately affected.
- ▣ Data has shown FA burden, including QoL impact and economic burden, and overall management differ according to income strata.



- ▣ → There is a need for improved food allergy clinical support tools.

Poll Question 1:

In your practice, how often do you come across food allergic patients (or caregivers) who:

- have trouble understanding their food allergy
- don't understand how/when/why to use their EpiPens
- have difficulty reading food labels or avoiding accidental exposures
- and/or have a decreased quality of life due to their food allergy?

- A. Every work day that ends in a Y
- B. More days than not
- C. Every once in a while, but not regularly
- D. Rarely. My patients just get it. Food allergy is easy for everyone!



Methodology

Initial FAMILY (Food Allergy Management In Low income Youth) Study
 qualitative data collected Creation of FA Passport

2019-2020

Mid 2020



FA Passport

Full name: _____
 Date of birth: _____
 My doctor's phone: _____
 My general practitioner: _____
 My general dentist: _____
 Secondary contact's name: _____
 Secondary contact's phone: _____

YOU CAN FIND MY LIFE-SAVING MEDICATION HERE!

Epinephrine Auto injector Name: _____
 Location: _____

EMERGENCY CALLS 111

MY FOOD ALLERGIES

FISH Yes/No EGGS Yes/No PEANUT Yes/No MILK Yes/No SHELLFISH Yes/No WHEAT Yes/No

FRUIT Yes/No NUTS Yes/No

FOOD ALLERGY EMERGENCY Medications

THIS IS MY LIFE-SAVING MEDICATION

Antihistamine Allergy Medication

Rescue Inhaler

Emergency Medication

These are my symptoms when I am reacting to an allergen:

<input type="checkbox"/> RASH	<input type="checkbox"/> STOMACH PAIN
<input type="checkbox"/> SWELLING	<input type="checkbox"/> NAUSEA
<input type="checkbox"/> HIVES	<input type="checkbox"/> VOMITING
<input type="checkbox"/> DIFFICULTY BREATHING	<input type="checkbox"/> DIZZINESS
<input type="checkbox"/> OTHER SYMPTOM:	<input type="checkbox"/> OTHER SYMPTOM:

How to Read a Food Label

Labels that may be misleading

MILK NOTES

EGGS

PEANUT NOTES

EGG NOTES

EMERGENCY ACTION PLAN

I am allergic to: _____

Most Common Signs of an Allergic Reaction

If you checked at least TWO symptoms or any ONE symptom with a star ★ then give EPINEPHRINE AUTO INJECTOR

Hard to speak ★ Hard to breathe ★ Passing out ★
 Hard to swallow ★ Continuous cough ★ Stomach pain or vomiting
 Throat tightening ★ Wheezing ★ Hives, itching, or swelling
 Dizzy or faint ★ Chest Pain ★

Giving epinephrine AUTO injector

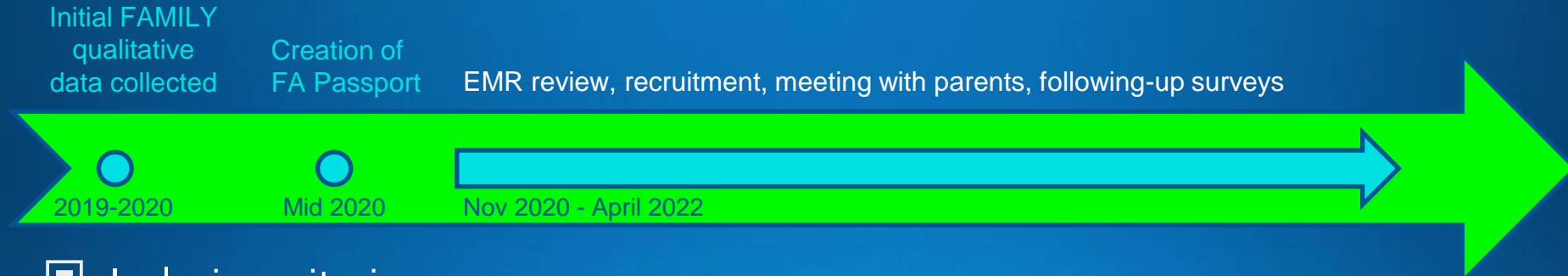
ALBUKOL RESCUE INHALER

If I have asthma or breathing symptoms, also give me my ALBUKOL RESCUE INHALER:
 ★ If Epi is NOT needed based on symptoms, please give me my ALLERGY MEDICINE (Benadryl, Zyrtec): _____ DOSE: _____



Decreased QoL and negative mental health impacts for children with FA
 Creation of Food Allergy PASSPORT book

Methodology



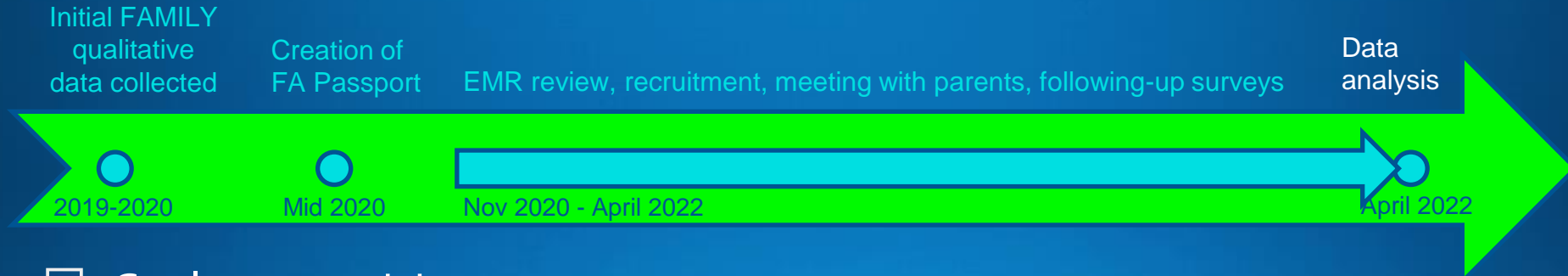
■ Inclusion criteria:

- Medicaid as primary or secondary insurance provider
- <18yo with physician-diagnosed FA (confirmed by SPT or sIgE)
- Exclusion criteria: Parent/caregiver <18yo

■ EMR review → recruitment letters (>100) → follow-up calls & active recruitment in clinic

- PRE-survey (demographics, comfort, knowledge, QoL)
- In-person filling out of Passport w/ physician (~30 minutes/participant)
- Immediate POST-survey
- 3-month POST survey (\$40 gift-card given for completion)

Methodology

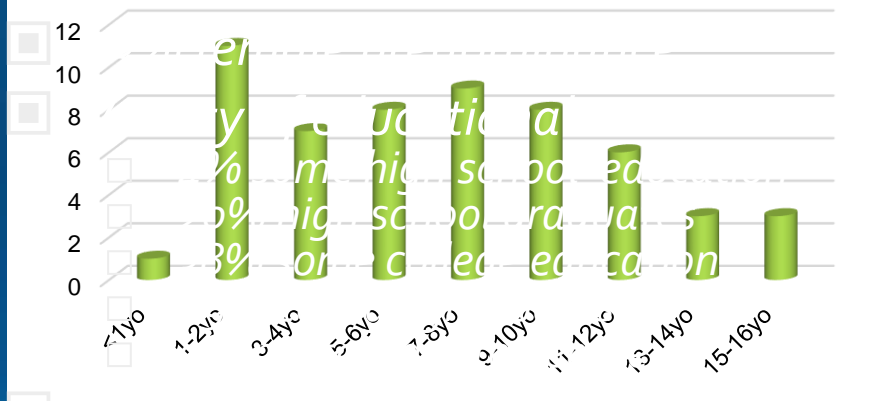


- Goal = 50 participants
- 45 total recruited
 - -4 did not complete 3-month follow-up survey
- 41 participants completed the study

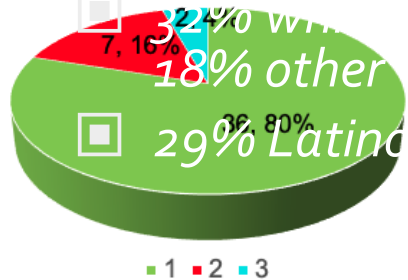
Results

Demographics

Ages of Food Allergic Children



of children with food allergies



Food Allergies Reported

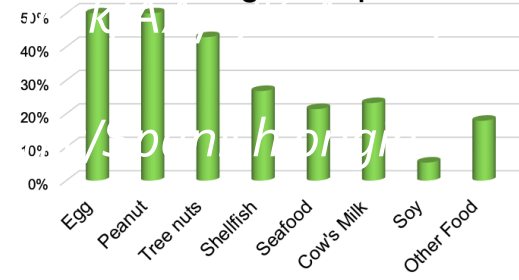


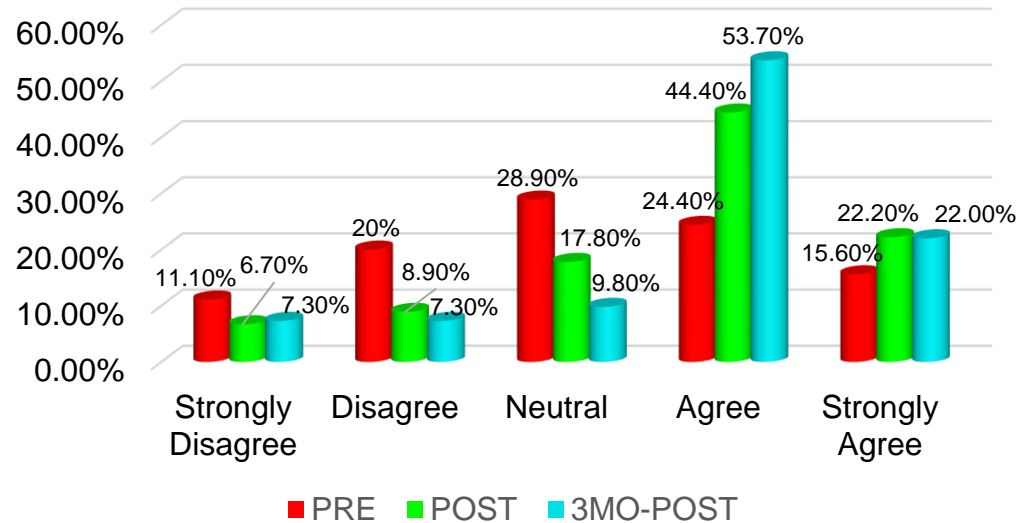
Table 1: Baseline demographics

Parent Gender	N (%)
Male	3 (6.7)
Female	42 (93.3)
Educational Attainment	
Some HS	2 (4.4)
HS Grad	9 (20.0)
Some College	17 (37.8)
College Grad	13 (28.9)
Postgraduate Degree	4 (8.9)
Marital Status	
Married/Domestic partner/Civil union	15 (33.3)
Separated or divorced	2 (4.4)
Living with partner	5 (11.1)
Never married	23 (51.1)
Race	
White	14 (31.8)
Black or African American	19 (43.2)
Asian	2 (4.6)
Other	8 (18.2)
Prefer not to answer	1 (2.3)
Ethnicity	
Latino/Hispanic/Spanish origin	13 (28.9)
Not	32 (71.1)

Primary outcome: Comfort in leaving child with others

- ☐ *Comfortable = Agree or Strongly Agree*
- ☐ Significant baseline discomfort noted:
 - ☐ **40%** comfortable initially
 - ☐ **66.7%** after Passport
 - ☐ **75.7%** at 3-mo follow-up
(nearly doubling from baseline)

Figure 1: "I feel comfortable leaving my child with others, without being scared they will have a food reaction."



Comfort in administering Epinephrine

- 69% initially reported confidence in their ability to administer Epinephrine Autoinjector (EAI)
 - Initial confidence varied based off +/- prior EAI administration
 - 87% if they previously used
 - 60% if no prior use
- Improved to 87% post-Passport
- 93% at 3mo follow-up

Figure 2a: Confidence using epinephrine - HAD used previously

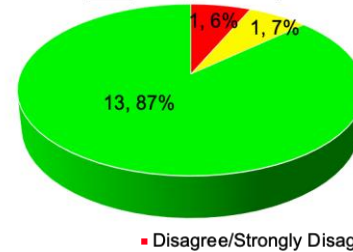


Figure 2b: Confidence using epinephrine - had NOT used previously

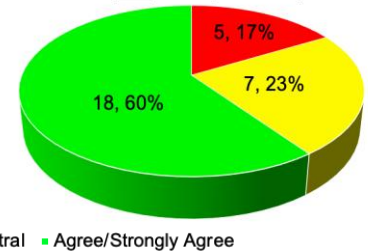
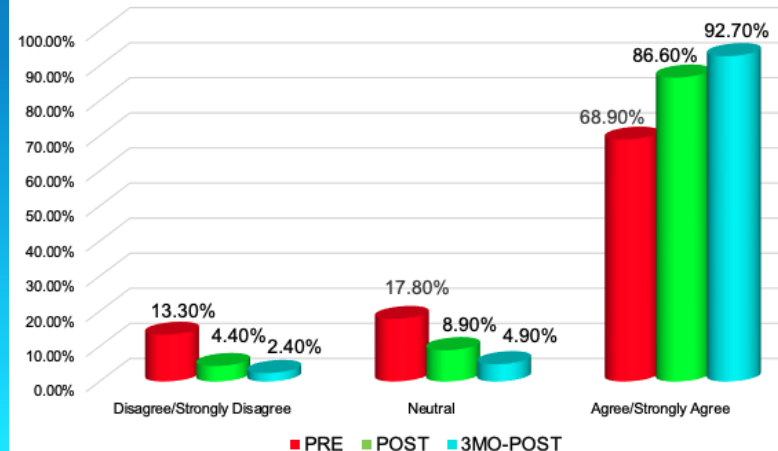


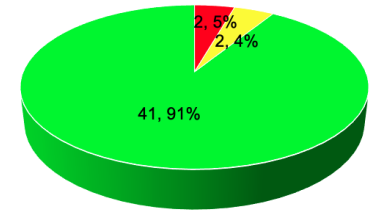
Figure 2c: "I am confident I could use an epinephrine auto-injector properly."



Anaphylaxis recognition

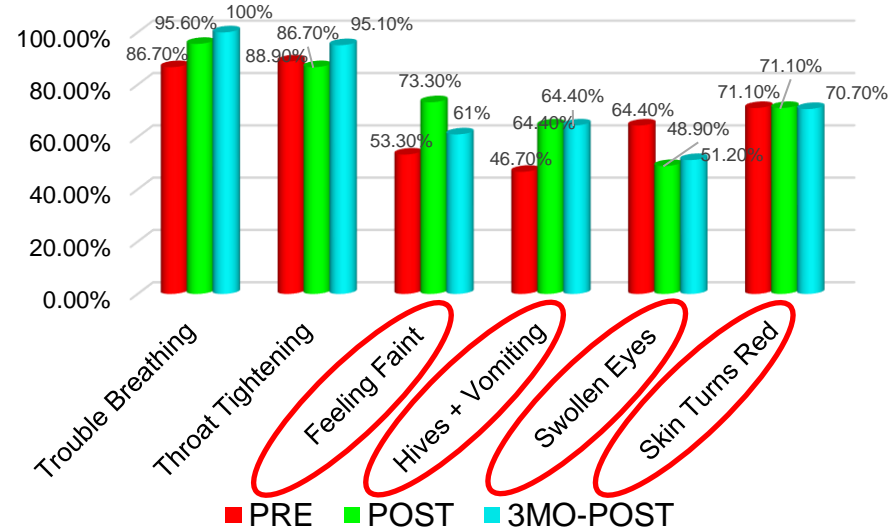
- 91% (41 of 45) caregivers felt confident in recognizing anaphylaxis
- Only 4.11 of 6 clinical scenarios identified on average
- Caregivers most often incorrectly:
 - Thought mild visible symptoms required EAI
 - Undertreated subjective symptoms or combinations
- Improved to 4.4 of 6 scenarios post-Passport
- 4.32 of 6 scenarios at 3mo follow-up

Figure 3a: "I know the symptoms of a severe allergic reaction."



Disagree/Strongly Disagree Neutral Agree/Strongly Agree

Figure 3b: Correct Identification of Anaphylaxis Scenarios



Feedback:

When caregivers were asked how helpful they thought the FA Passport would be for them, they rated the Passport tool an average of

9.4 out of 10 (immediate-POST-test) initially
& 9.24 out of 10 (at 3-mo follow-up)



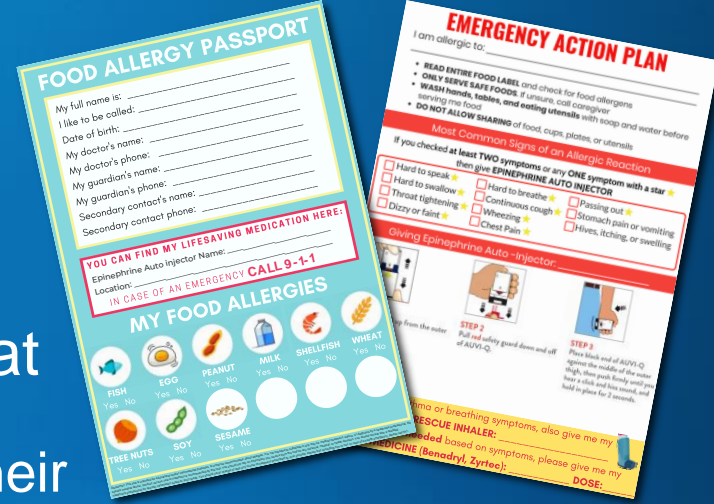
All except 1 caregiver stated they could have filled out the Passport at home without a physician's help.

Feedback: Direct Quotes

- “Both of my girls are so overwhelmed by their peanut allergy that they’re now both going to counseling to help their anxiety. These books will help so much!”
- **Caregiver #3**
- “My daughter has developmental delay, and doesn’t really understand her food allergy, so I’m always concerned leaving her under the care of others. I really think this book will help.”
- **Caregiver #28**
- “The Food Allergy Passport is well put together and I absolutely love it.”
- **Caregiver #35**
- “Great opportunity & fun/easy tool to teach.”
- **Caregiver #37**

Conclusions

- ▣ The FA Passport is a new tool that seems effective at improving:
 - ▣ Caregiver comfort when leaving their food-allergic children under the care of others
 - ▣ Caregiver knowledge of proper EAI use and anaphylaxis recognition.
 - ▣ Quality of life of food allergic children and their caregivers
- ▣ Overall caregivers rated the passport as extremely helpful.



There's more?!

Initial FAMILY
qualitative
data collected

Creation of
FA Passport

EMR review, recruitment, meet

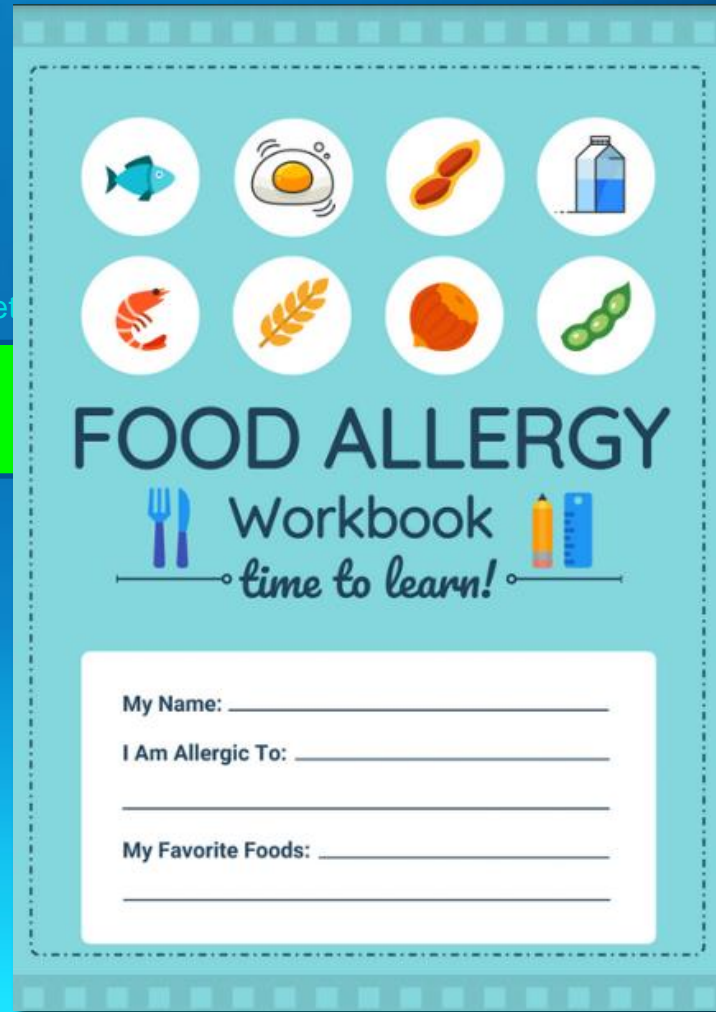


Creation of
FA
Workbook

Addresses the psychosocial aspects of FA.

Specifically:

- Stress-management practices
- Explanations of common tests/terminology
- Exercises to help children affectively communicate about their FA (restaurant guide)
- Tips for reading food labels



There's more?!

Initial FAMILY
qualitative
data collected

Creation of
FA Passport

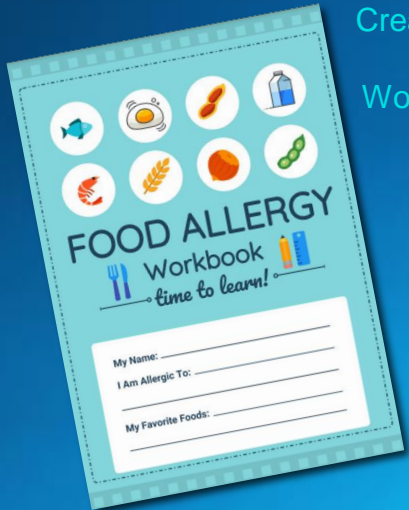
EMR review, recruitment, meeting with parents, following-up surveys

Data
analysis

Creation of
FA
Workbook

Website creation

Digital Food Allergy Passport Website:
FoodAllergyPassport.com



FoodAllergyPassport.com





Scan the code to visit our website you can share with patients!



SCAN ME

EMERGENCY ACTION PLAN

I am allergic to:

 Tree Nuts  Peanut  Shellfish  Eggs

Other foods I cannot eat:
OTHER FOOD LISTED HERE




READ ENTIRE FOOD LABEL and check for allergens
ONLY SERVE SAFE FOODS. If unsure, call caregiver
WASH hands, tables, and eating utensils with soap and water before serving me food
DO NOT ALLOW SHARING of food, cups, plates, or utensils

MOST COMMON SIGNS OF AN ALLERGIC REACTION

If you checked **at least TWO symptoms** or any **ONE symptom with a star** then give **EPINEPHRINE AUTO INJECTOR**

<input type="checkbox"/> Hard to speak ★	<input type="checkbox"/> Hard to breathe ★	<input type="checkbox"/> Passing out ★
<input type="checkbox"/> Hard to swallow ★	<input type="checkbox"/> Continuous cough ★	<input type="checkbox"/> Stomach pain or vomiting
<input type="checkbox"/> Throat tightening ★	<input type="checkbox"/> Wheezing ★	<input type="checkbox"/> Hives, itching, or swelling
<input type="checkbox"/> Dizzy or faint ★	<input type="checkbox"/> Chest Pain ★	


GIVING EPINEPHRINE AUTO-INJECTOR: ADRENACLICK OR

[1] Quickly twist off **GREEN** or **YELLOW** cap. Hold injector with **ORANGE** tip facing **DOWN**. With other hand, pull off **BLUE** safety release.

[2] With **ORANGE** tip facing thigh, **swing and push**. Hold firmly for 3 seconds. Remove and massage area for 10 seconds.

[3] Call **911** for emergency care.





- Make individualized profiles for each child
- Easily shared via email or printing
- Individualized Food Allergy Action Plan
 - ❖ Easier to understand anaphylaxis criteria
 - ❖ auto-imports images & directions specific to their EAI, medications, & foods
- Currently discussing incorporating into an app

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It takes a village...



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Poll Question 2:

Would you be interested in being able to share the Food Allergy Passport tool (website or printed materials) with your patients?

- A. ABSOLUTELY!
- B. Maybe... 🙄(ツ)🙄
- C. I don't think it's applicable for me, but awesome job anyways!



SCAN ME

Scan the code to visit our website you can share with patients!

CFAAR@northwestern.edu

It takes a village...



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Questions? Comments?