

## Challenges experienced with the early introduction and sustained consumption of allergenic foods in the EAT study

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**The problem?** Childhood food allergies are a growing public health concern, their prevalence reaching as high as 10% in developed countries (Prescott 2013)



**The cost?** In a sample of 1643 US caregivers of a child with a food allergy, the overall economic cost of food allergy was estimated at \$24.8 billion annually (Gupta 2013)



## Prevention?

Recent evidence supports the early introduction of allergenic foods to prevent food allergies



## Change in guidelines?



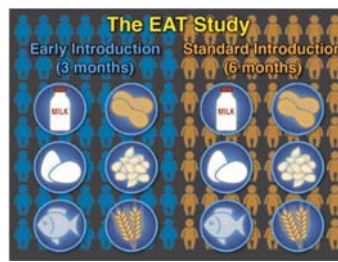
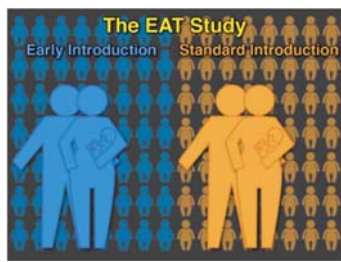
*"Allergenic foods need not be differentiated from other solid foods, and that their deliberate exclusion beyond 6 to 12 months of age may increase the risk of allergy" - Scientific Advisory Committee on Nutrition 2018*

Early introduction of allergenic food to prevent my child from developing a food allergy?

Lets give it a go 

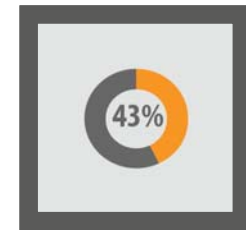
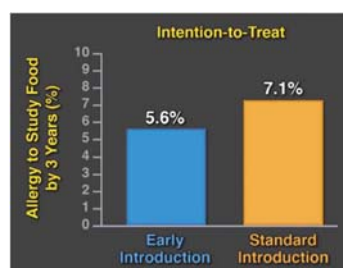
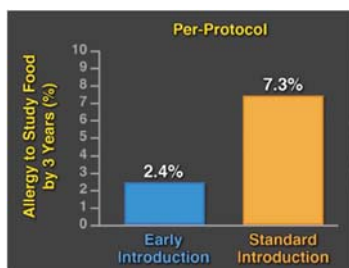


# The Enquiring About Tolerance (EAT) Study

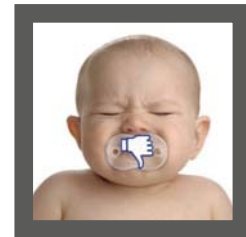


Early Introduction Protocol adherence:

- ✓ consumed at least 3g of allergenic food
- ✓ for 5 or more of the study foods
- ✓ for at least 5 weeks between 3-6 months of age



Low Adherence to Early Introduction Protocol...  
Why?



## Challenges experienced with the early introduction and sustained consumption of allergenic foods in The EAT Study

Question?

Why did the early introduction regimen prove to be challenging?

What data?

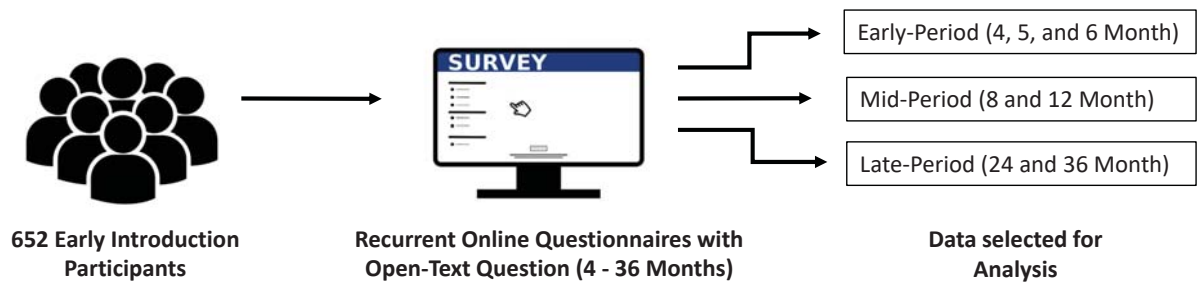
It was envisaged that the early introduction regimen might be challenging and so families were presented with an open-text question to express any problems they were experiencing with the regimen in recurring online questionnaires:

*"If you have had a particular problem with your baby consuming the foods over the past month please provide brief details in the following box:"*

Objective?

To analyse these open-text questionnaire responses with the aim of identifying key challenges associated with the early introduction and sustained consumption of allergenic foods.

# Methods

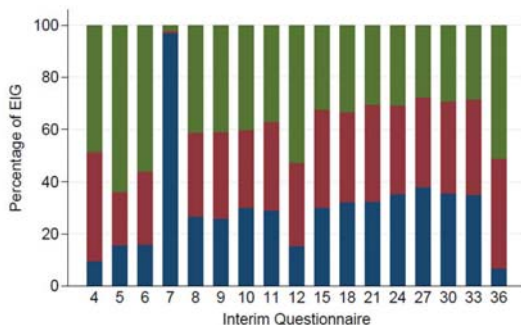


Raw text	Code	Category	Theme
"My baby seems to get very constipated when he eats egg, so I have not been giving him the guideline amounts"	Baby has become constipated, prompting non adherence	Digestive issue causing concern about a reaction?	Concern about a perceived reaction

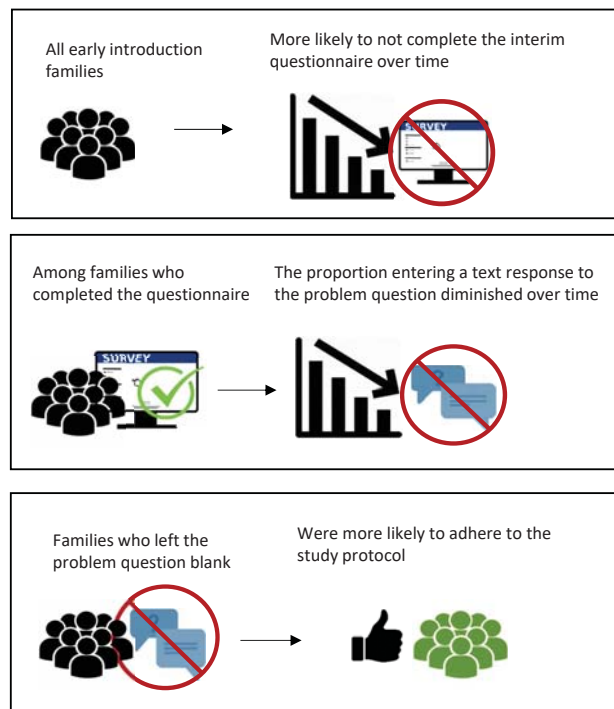
**Qualitative Thematic Content Analysis**

# Results: Response Rate

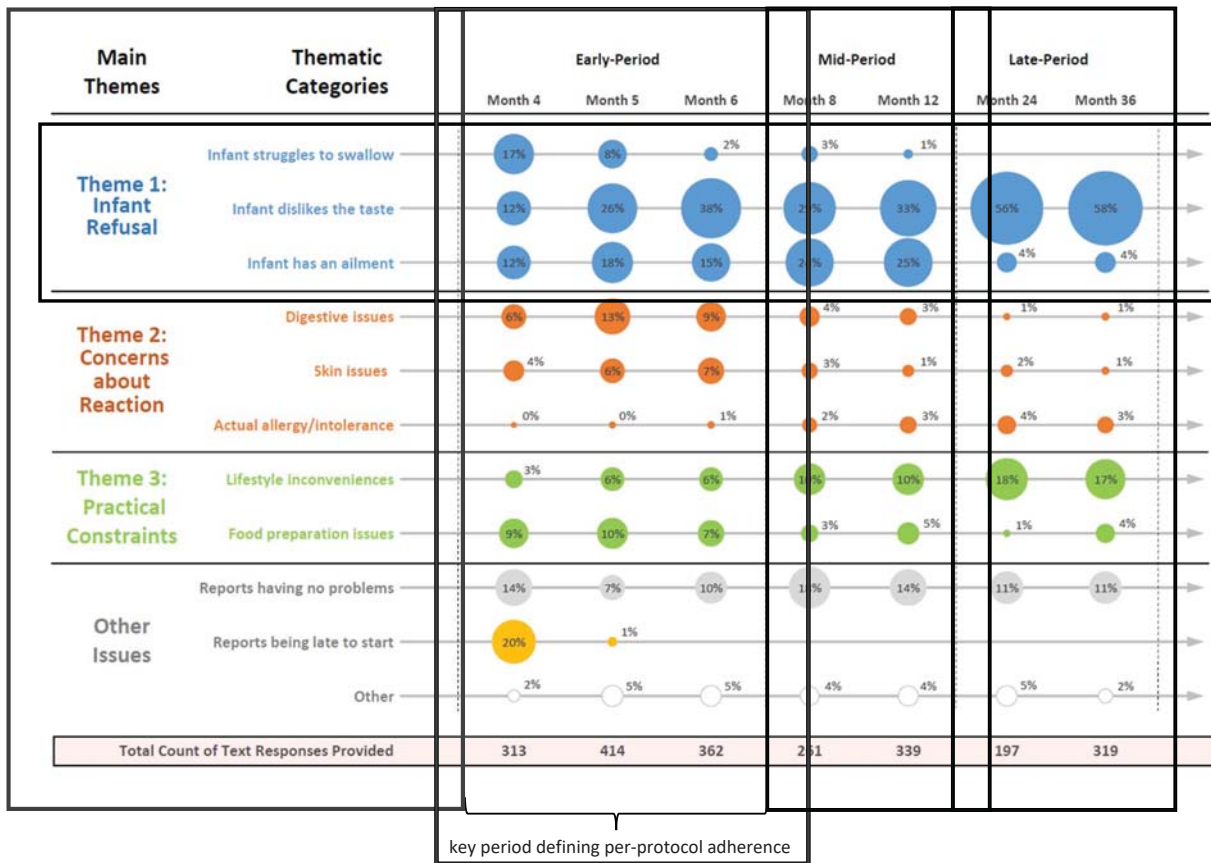
A. All EIG participants



■ Non-responders to questionnaire  
■ Problem question left blank  
■ Text response entered



# Results: Themes



## Theme 1: Infant Refusal



Tongue thrust, gagging and spitting



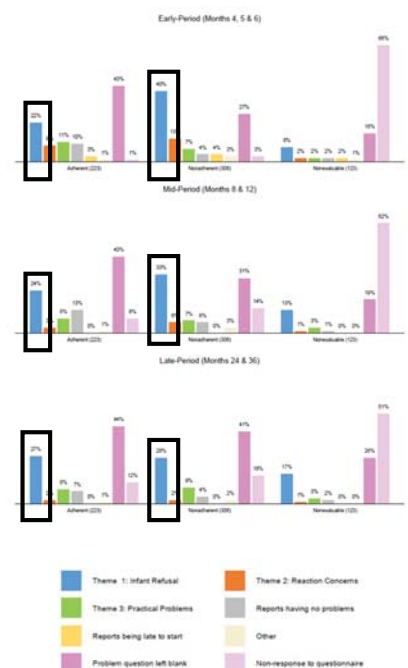
Preferences and fussiness



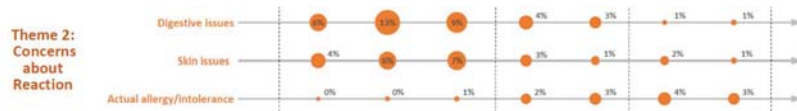
Sickness and teething pains



Caregivers grew frustrated



# Theme 2: Concerns About Reactions



Diarrhoea, vomiting, upset stomach



Rashes, eczema, irritation



Reference to 'actual' allergy



Need for reassurance and support



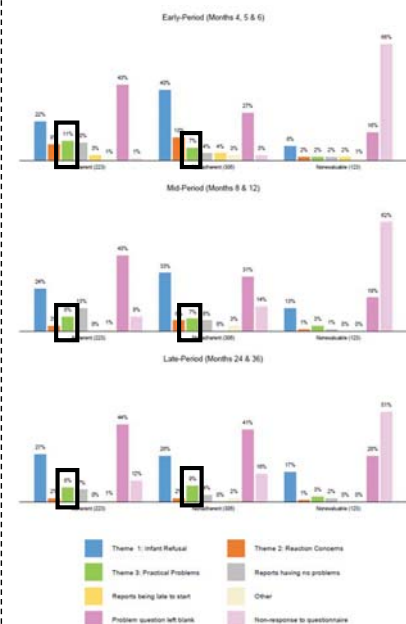
# Theme 3: Practical Problems



Preparing, blending, presenting, volume, travel, work, location, time, family norms, other dietary requirements



Do the short-term impracticalities outweigh the possible long-term benefits?



# Additional Analysis: Factors affecting Adherence

Factors found to be associated with non-adherence in a corresponding quantitative analysis



**Infant non-white ethnicity**  
(vs white ethnicity)



**Older maternal age**  
(≥ mean age of 33)



**Lower maternal quality of life**  
(less than the median WHO QoL score in the psychological domain at enrolment)

We assessed whether these characteristics **altered the likelihood of reporting identified qualitative themes**

TABLE E3. Risk of reporting qualitative themes by factors previously shown to be linked to non-adherence during the Early-Period

Independent Variables	Dependent Variables			
	Theme 1 Infant Refusal RR (95% CI)	Theme 2 Concerns about Reactions RR (95% CI)	Theme 3 Practical Problems RR (95% CI)	Reports being Late to Start RR (95% CI)
<b>Infant Ethnicity</b>				
Non-White Ethnicity	1.17 (0.99-1.39)	1.28 (0.87-1.89)	0.76 (0.44-1.33)	1.04 (0.50-2.18)
<b>Maternal Age</b>				
≥33 years (median)	1.16 (1.01-1.34)*	1.02 (0.76-1.36)	0.94 (0.69-1.29)	1.99 (1.14-3.49)*
<b>Maternal Quality of Life†</b>				
<16 (median)	1.11 (0.97-1.27)	1.09 (0.82-1.45)	1.03 (0.75-1.42)	0.77 (0.47-1.27)‡

\*P<0.05 † Psychological domain

Risks are calculated in the Early-Period and are only estimated among participants who responded to all three questionnaires in this time period.

Challenges experienced with the early introduction of allergenic foods...

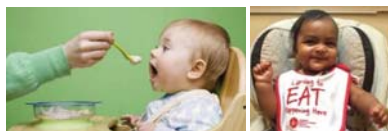
## So what does this all mean?



# Theme 1: Infant Refusal

## Skill acquisition

- Mature feeding and swallowing is a **process of skill acquisition**...
- **No significant correlation** between age at start of spoon feeding and weeks needed to develop the skill (Van den Engel-Hoek, 2014).



## The right age?

- **Irrespective of age**, parental worries, concerns, and confusion about an infant's developmental readiness for food, and about the best way to feed infants, persist (Matvienko-Sikar, 2018).



## Guidelines...

- Will guidelines lead to a **change in behaviour**? A study from Australia shows maybe yes!
- Are **physicians providing consistent guidance**? Maybe not in Canada...



## Taste preferences

- Infants show **characteristic taste preferences**.
- Early likes and dislikes are influenced by these innate preferences, but are also **modifiable** (Ventura, 2013).



# Theme 2: Concerns about Reactions

## Dangerous?

- In the **UK Infant Feeding Survey of 2010**, families were asked whether they were avoiding any particular ingredients...



## Culture

- If an allergenic food becomes **more widely consumed by infants, as with peanuts in Israel**, confidence in its safety may rise... (Du Toit, 2008).



## Perception

- In the EAT Study, the proportion of families reporting reactions to foods **far exceeded** the percentage of infants who actually developed an allergy.



## Medicalization

- Allergenic food introduction, if perceived as proscriptive, **may also medicalize food introduction**, presenting **new costs**...





# Theme 3: Practical Problems

## Industry involvement

- To overcome these inconveniences, **companies have already been formed** with the aim of producing infant meals specifically containing food allergens.



## Consequences on diet and finances

- The **potential impact on broader dietary requirements and breastfeeding** are unknown.
- Such products are likely to impose an **additional financial cost**.



## Health framing

- One significant consideration parents make when deciding what to feed children after complementary feeding has commenced is **evaluating the perceived healthiness of the food**.



# Weaknesses and Strengths?

## What this study is not showing

A recent survey of new and expectant caregivers of infants at risk for peanut allergy found **poor willingness and questionable support** for early allergenic solid food introduction (Greenhawt, 2018)



## Translation of results...

We used a **self-selected group of families participating in a randomised controlled trial**... How might their issues relate to what would be faced in the real world?



## The best qualitative method?

The wording of the problem question, **"a particular problem with your baby consuming the foods"**, may have biased responses to be about challenges at the point of consumption.



## What this study is showing

Understanding these challenges is the necessary precursor to developing specific communication and support strategies!



## These challenges are likely to persist

The EAT Study was representative, with the demographic being broadly similar to whole of UK.

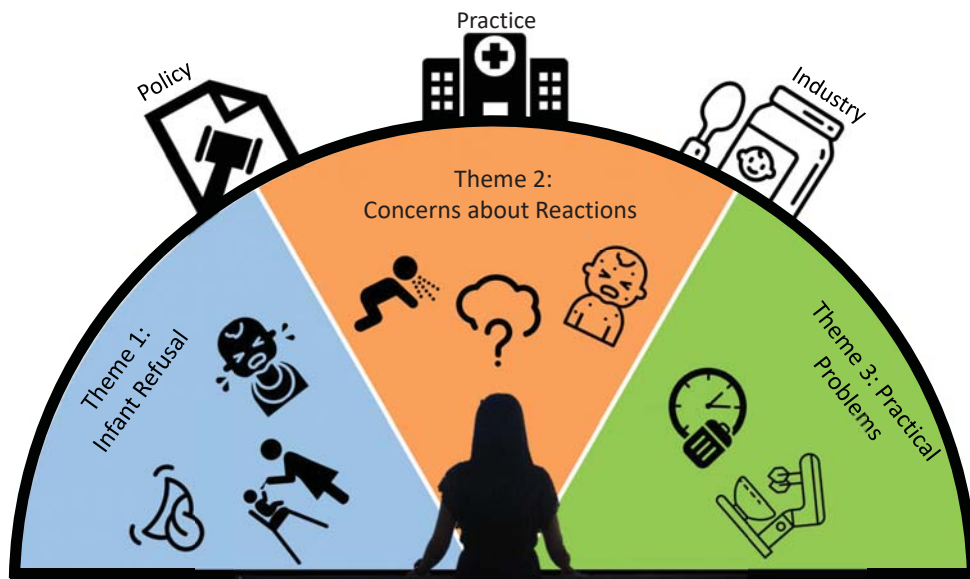
**Regardless, these thematic challenges are likely to persist in the real world!**

## Assess detailed changes over time

Despite these concerns, the Thematic Content Analysis allowed us to track the variations in thematic dominance over the study.



# So what's on the horizon?



Thank you!

Any questions?

