

The measurement of food security in Australia

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Why measure food security?

- Access to healthy, safe, culturally-appropriate food is a fundamental human right.
- Denial of basic right is not only undesirable, but leads to poor health & well-being.
- Monitoring can help to identify and understand as basic aspect of well-being
 - identify population subgroups or regions with unusually severe conditions.
- Assessment & planning - accurate measurement & monitoring can help public officials, policy makers & service providers to assess needs for assistance & effectiveness of existing programs to best tailor policy & intervention

Single items to measure food security



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Food sufficiency question	Which best describes the food situation in your household?
Expanded Food and Nutrition Education Program evaluation question	How often do you run out of food before the end of the month?
'Concern about food security' question	In the last month, have you been concerned about having enough food for you or your family?
Single-item from Radimer-Cornell Scale	In the last 12 months, have you run out of food and not had enough money to purchase more?

Limitations single item measures



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- Spectrum of severity of food insecurity
- Single items unlikely to be able to capture complexity of food insecurity
- Previous studies have suggested underestimation compared to multi-question items

Multi-question items

Community Childhood Hunger Identification Project (CCHIP) Hunger Index

- One of first derived scales – for families with at least 1 child < 12 years
- 8 items – 4 affirmative responses indicate food insecurity
- Excellent reliability ($\alpha = 0.80 - 0.89$)

Radimer-Cornell Food Security Scale

- Designed to measure household & individual food insecurity
- 13 items – relate to anxiety about budgets, experience of running out of food, perceptions of inadequacy/ quality of foods, adjustments to food use

USDA Food Security Survey Module

- Most widely used tool
- 18-items – able to be shortened to 6 or 10
- Able to distinguish between varying levels severity
- Good – excellent reliability

Multi-question items

Latin American & Caribbean tool (ELCSA)

- Adapted version of USDA FSSM
- 16 items – 1 or more affirmative responses indicate food insecurity
- Assess frequency for all items
- Excellent reliability ($\alpha = 0.91 - 0.95$)

Household Food Insecurity Access Scale (HFIAS)

- Designed to measure household 9 items – relate to anxiety about procuring food, experience of running out of food, perceptions of inadequacy/ quality of foods, adjustments to food use
- Mild/moderate/sever food insecurity – 2 or more affirmative responses

New Zealand National Health Survey

- 8-items – related to anxiety about procuring food & social situations, limiting variety & amount of food, running out of food, utilising others for food & food relief programs
- Moderate - low food security – 2 or more affirmative answers
- Marginal reliability ($\alpha = 0.60 - 0.66$)

Food security monitoring in Australia



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- Three-yearly
- Australian Health Survey (NHS)
- Single-item from Radimer-Cornell Scale
 - Low sensitivity
 - Underestimates prevalence of food insecurity
- Excluded from 2007/08 NHS (perceived low-prevalence)

Implications of current monitoring

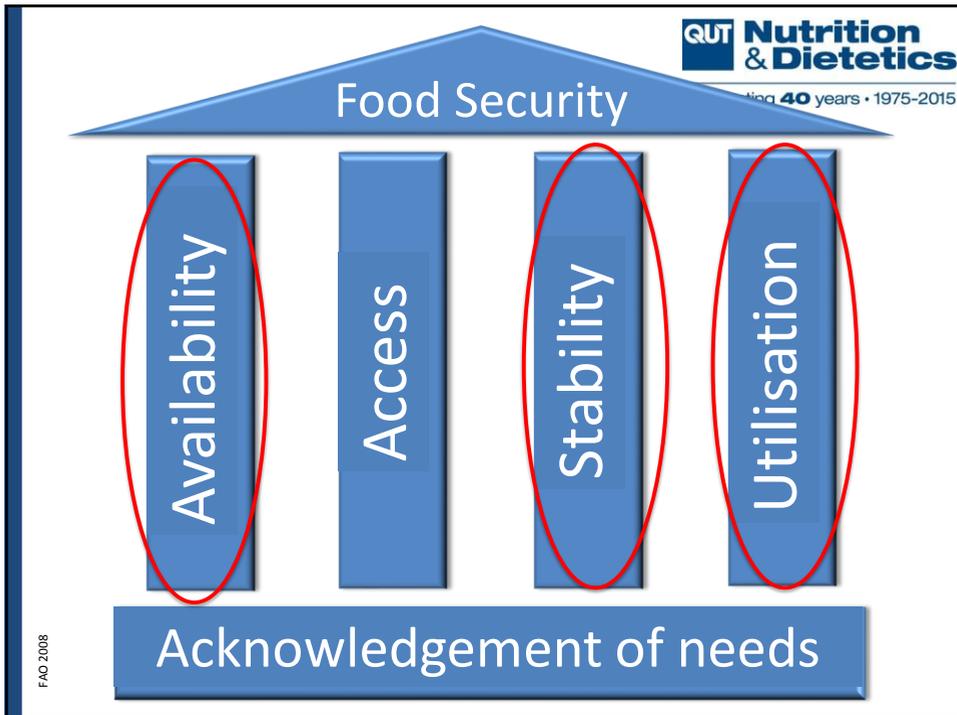


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- Single-item NHS measure provided lowest measure of estimate
 - Current national estimates may underestimate prevalence of food insecurity
- Complex issue with varying levels severity
 - unlikely to be captured by single item

Should we use one of the other more comprehensive measures?

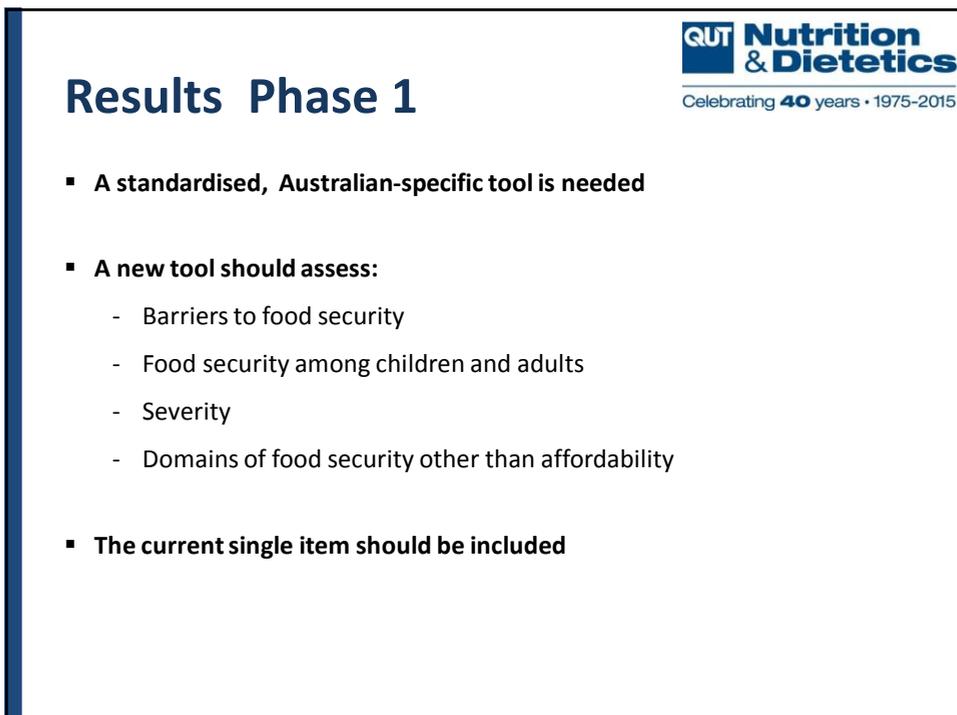
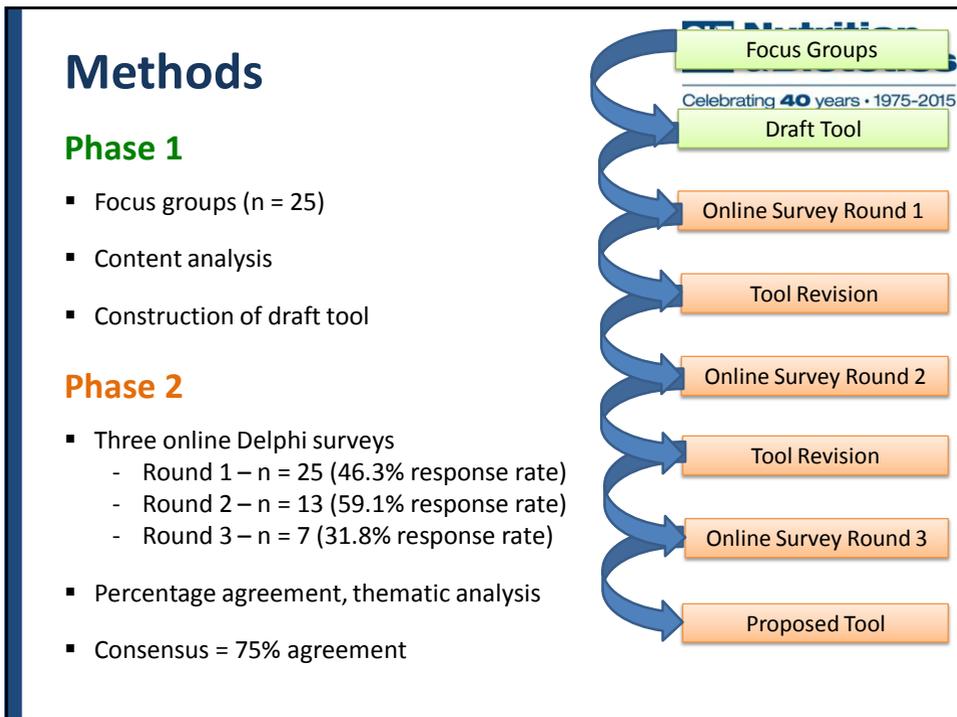
- 'Food and **nutrition** security exists when all people at all times have **physical, social** and economic access to food, which is safe and consumed in sufficient quantity and **quality** to meet their dietary needs and food preferences, and is supported by an environment of adequate sanitation, health services and care, allowing for a healthy and active life' (1)



The slide features the QUT Nutrition & Dietetics logo and 'Celebrating 40 years • 1975-2015' in the top right corner. The main text is centered on the slide.

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**How do we address this
limitation in measurement?**



Item 1

Think about the last ___ weeks/months.	Yes	No	Don't know
Have you, or anyone else in your house or home			
Ever not had enough food to eat?			
Ever not been able to have nutritious food to eat?			
Below are some of the reasons why people may not have enough food, or nutritious food. Please tick as many as apply to you.			
There just isn't enough money for food			
There are too many other things to pay for (such as rent, bills, medicines etc)			
The food in the shops or supermarket costs too much			
It is too hard to get to the store, shops, supermarket or market			
The store, shops, supermarket or market is too far away			
The shops don't sell or stock nutritious food			
Foods that are familiar or appropriate for our culture or religion are not available			
Don't know what foods to buy			
Don't know how to prepare or cook food			
No place to store food safely			
Don't have the equipment to prepare or cook food			
Kitchen is not sufficient or safe for cooking			
Not enough time to cook or shop			
Physical or mental health condition that stops me being able to cook or eat properly			

Item 2

Think about the last ___ weeks/months.						
Because of the reasons you ticked in question 1 above, have you or any adults in your house/home						
(Please circle the answer that applies to you)						
Ever felt worried or stressed that food will run out for any adults in your house/home?						
Ever felt worried or stressed that food will run out for any children in your house/home?						
Felt stressed or left out because you couldn't provide food for social gatherings (e.g. being unable to invite people over for a meal or party)?						
Limited the variety of food you ate?						
Relied on others to provide food or money for food?						
Used emergency food relief or food banks?						
Ever gone without food, or changed the types of food that you eat, to pay for other expenses (e.g. bills)?						
Ever eaten less than you thought you needed?						
Run out of food and not been able to get more?						
Ever gone hungry?						
Ever cut the size of your meals or skipped meals?						
Ever not eaten for a whole day?						
Every week	Every fortnight or more	Almost every month or more	Some months, but not every month	Only one or two months of the year	Never	Don't know

Item 3

Think about the last __ weeks/months.

Because of the reasons you ticked in question 1, have your children

(Please circle the answer that applies to you)

Had a limited variety of food to eat?

Been unable to eat nutritious meals?

Ever relied on a school breakfast program for food?

Had to have smaller sized meals?

Not been able to eat as much food as you thought they needed?

Ever gone hungry?

Skipped meals?

Ever not eaten for a whole day?

Every week	Every fortnight or more	Almost every month or more	Some months, but not every month	Only one or two months of the year	Never	Don't know
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Item 4

In the last __ weeks/months, have you been able to afford or access fruits and vegetables to eat on most days?

Often	Sometimes	Never	Don't know
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Item 5

In the last 12 months were there any times that you ran out of food and couldn't afford to buy more?

Yes	No	Don't know	Don't want to answer
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Current status of the new tool

- **Final round supported:**
 - Captures barriers (100%)
 - Identifies level of food insecurity (100%)
 - Four pillars (86%)
 - Food **and** nutrition security (86%)

- **Future research**
 - Face validity
 - Reliability
 - Scoring protocol
 - Community food security tool

Questions or comments?