

# NatCen

Social Research that works for society

# Cognitive interviewing

Practice and uses

---

26 March 2015



# What we'll talk about

---

- What Cognitive Interviewing is
- Its uses
- Example 1 – Developing measures/ Qs
- Example 2 – Diagnosing problems with existing measures/Qs
- Example 3 – Testing communications
- Example 4 – User testing



# What is cognitive interviewing?





Cognitive interviewing is a set of qualitative techniques that explore people's thought processes

# What's involved

---

- Exposure to stimulus/task
- Think aloud
- Probing
- Other tools
  - Card sorts
  - Vignettes
  - Ratings
  - Observation/ eye tracking

**Developing new  
measures or  
survey Qs**



**2.**

# CI as part of question development

---

## Techniques

- Task completion
- (Observation)
- (Think aloud)
- Probing (concurrent and/or retrospective)
- Feedback Qs

## Aims

- Are measurement aims being met?
- Are people willing & able to answer Qs/ complete task?

## Applications

- New questions
- New questionnaires/ tools

# Developing new Qs on fraud & cybercrime

---

## Context

- fraud & cyber-enabled crime not currently included in main CSEW estimates
- this study aimed to develop new Qs

## Parameters

### Fitting into CSEW

- mindful of how many Qs we can ask
- how data collected (face-to-face)
- the Q approach (screener followed by victim form)
- target population - households



# What the project involved

---

## Stage 1

- explored how public describe & understand fraud and cyber crime
- evaluated methodologies & survey questions
- Informed development of new Qs

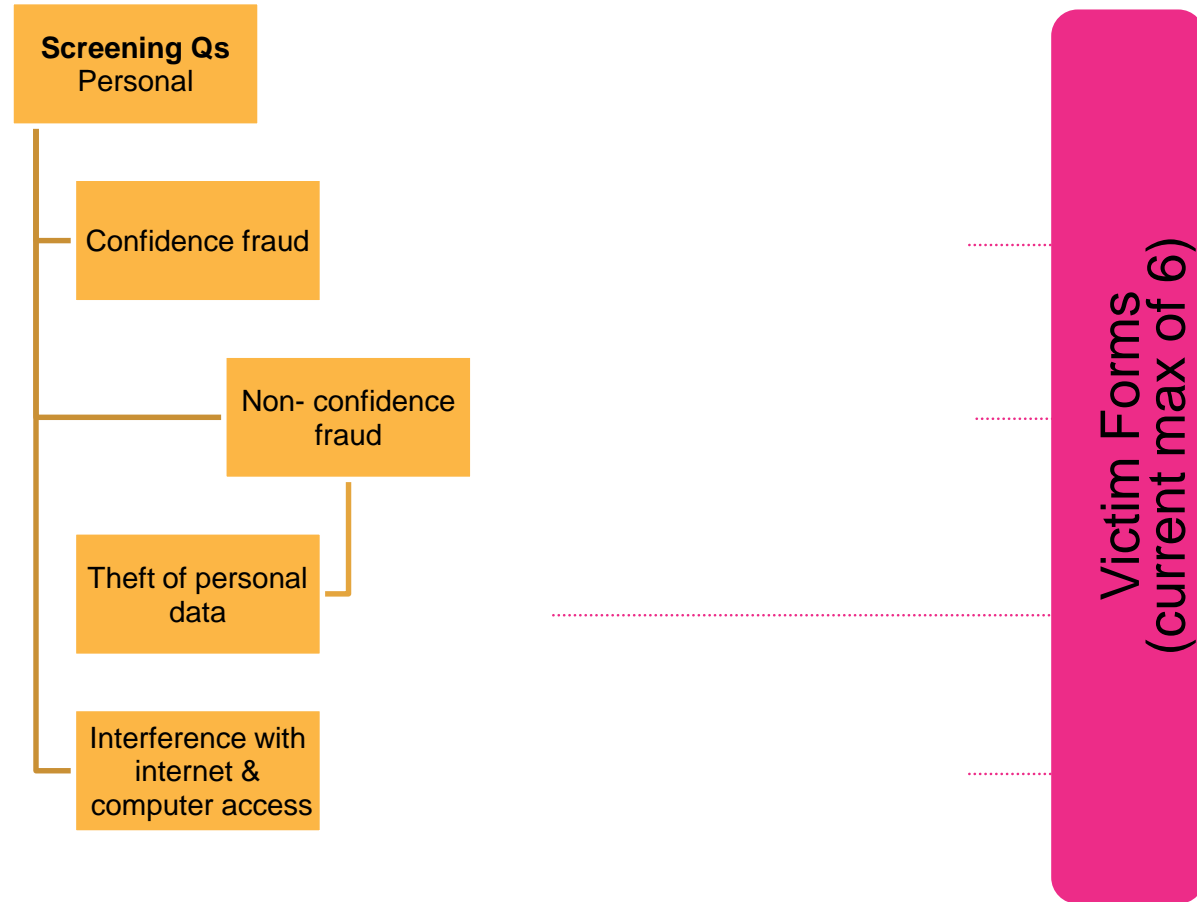
## Stage 2

Small scale testing of new Qs to assess public reactions & understanding

## Stage 3

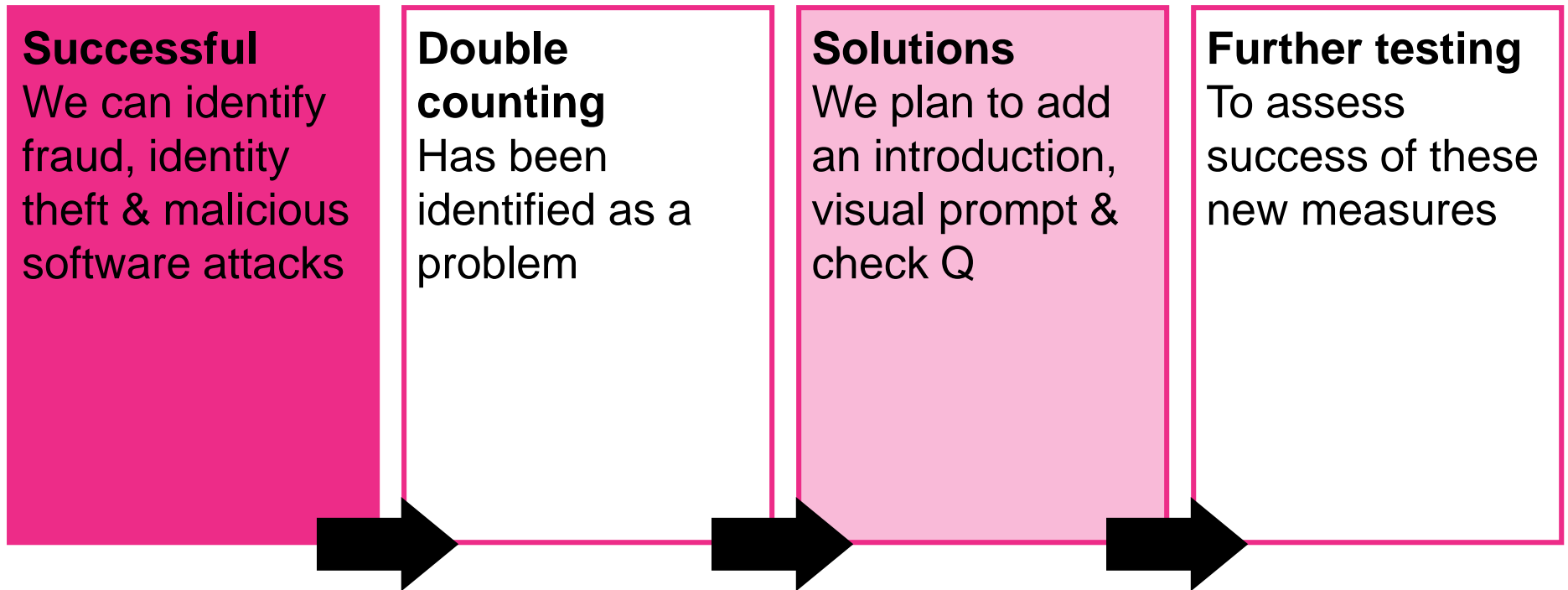
- Made recommendations on Q wording
- Proposals for further (quantitative) testing

# Questionnaire structure



# New screening questions (Qs)

---



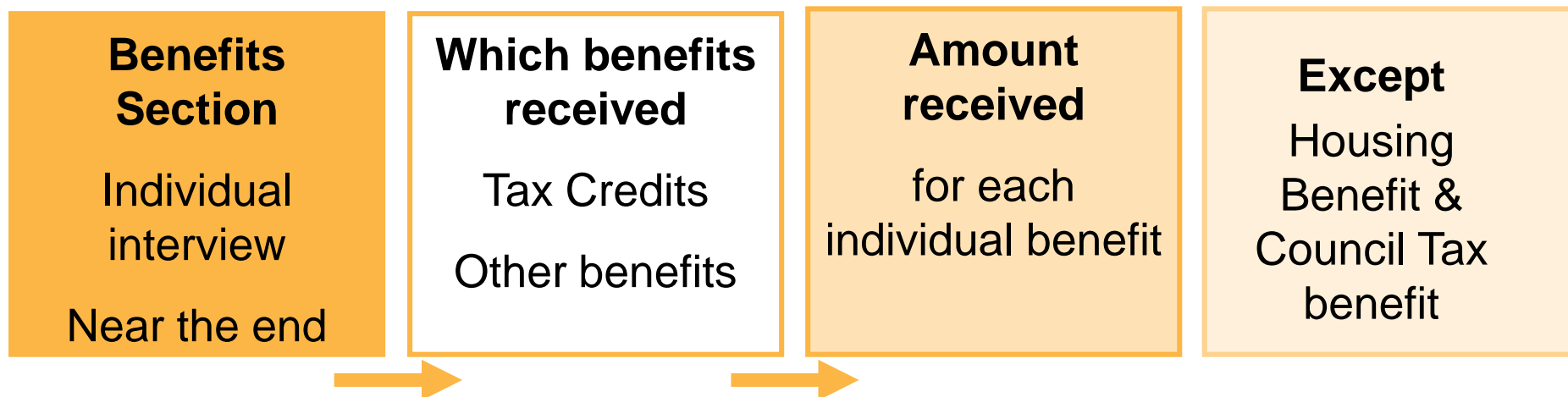
# Diagnosing problems



3.

# FRS benefit questions

---



# Evaluation methods

---

## Secondary analysis

Comparing individuals' survey responses with their admin data

## Focus groups

with NatCen FRS survey interviewers

## Cognitive interviews

with former FRS respondents

## Desk review

of other survey approaches to asking about state benefits

Reliability

Administration

Validity

Alternatives

# Findings from cognitive interviews

---

## Structural

- order and labelling of benefits on the show cards
- documentation not always helpful
- confusion between household and individual benefits
- entitlements and benefits

## Availability of information

Respondents don't always know the information being sought.  
Documentation not always available

# Using CI to test other types of communication



4.



# Wider applications

---

- CI methods are being used to test other types of communication. Examples include:
  - Advance letters
  - Consent forms
  - Instruction manuals
  - Websites and online forms
  - Information leaflets (e.g. public health)
  - Ballot papers and voter registration forms

# Same methods, different aims

---

## Techniques

- Exposure to test materials
- Observation
- Think aloud
- Probing  
(concurrent and retrospective)

## Aims

- Do target audience understand information?
- Are they able to act on info?
- Are they willing to act on info?
- Is information missing?

# Example: Testing consents to data linkage

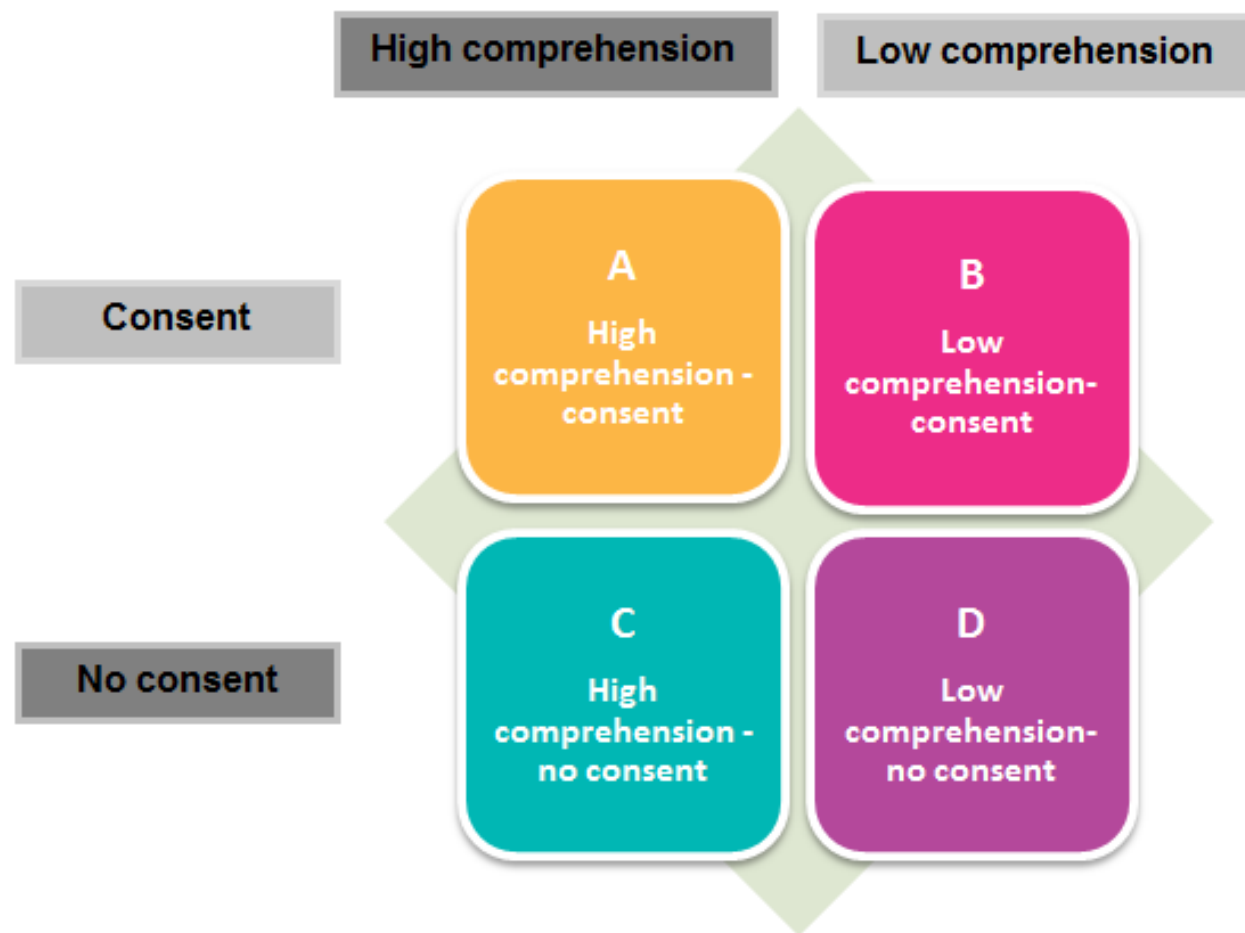
---

- Family Resources Survey
- Welsh Health Survey
- Next Steps (LSYPE)
- Life Study



# Typology of comprehension and consent

---



Taken from Beninger et al (Forthcoming) *Next Steps :Exploring data linkage consent issues*, prepared for the Centre Longitudinal Studies

# Example: Testing 'Return to Player' messages

---

- By law gaming machines must display RTP messages
- CI methods used to explore:
  - Understanding of RTP messages
  - Perceived utility of RTP message
- Commissioned by the Responsible Gambling Trust



NO PRIZE  
GREATER IN VALUE THAN

**£500**

CAN BE WON FROM THIS  
MACHINE IN ANY ONE GAME

MACHINE  
MALFUNCTION  
VOIDS GAME

THIS IS A CATEGORY B3 MACHINE  
THIS MACHINE HAS  
AN AVERAGE PAYOUT  
OF AT LEAST 90%

-----  
DUE TO THE SEQUENCING OF THE REELS  
CERTAIN WINNING COMBINATIONS ARE  
NOT AVAILABLE IN EVERY GAME  
-----

-----  
THIS GAME IS COMPENSATED AND  
MAY BE INFLUENCED BY PREVIOUS PLAY  
-----

-----  
THE OUTCOME OF ANY GAME  
OR FEATURE IS NOT NECESSARILY THAT SHOWN  
BY THE ODDS DISPLAYED  
-----

£1  
PLAY

**Finders Keepers**

NEXT

90%

# Reasons RTP messages misunderstood

---

Use  
technical  
language

Only in  
English

Use  
mathematical  
concepts

# Combining CI with user testing



5.



# User testing: Further commonality of methods

---

## Techniques

- Task completion
- Observation
  - Video-recording
  - Eye-tracking
- Think aloud
- Probing (concurrent and retrospective)
- Feedback Qs

## Aims

- How easy or difficult is it for your target audience to use a product?

## Applications

- Computer/software development
- Website development
- Games/ tools/ equipment testing

# Example: Testing web questionnaires

- Understanding Society
- Next Steps (LSYPE)
- Consumer Payment Survey (CPS)
- Student Income and Expenditure Survey (SIES)



# Eye-tracking case study

---

## ■ Aims:

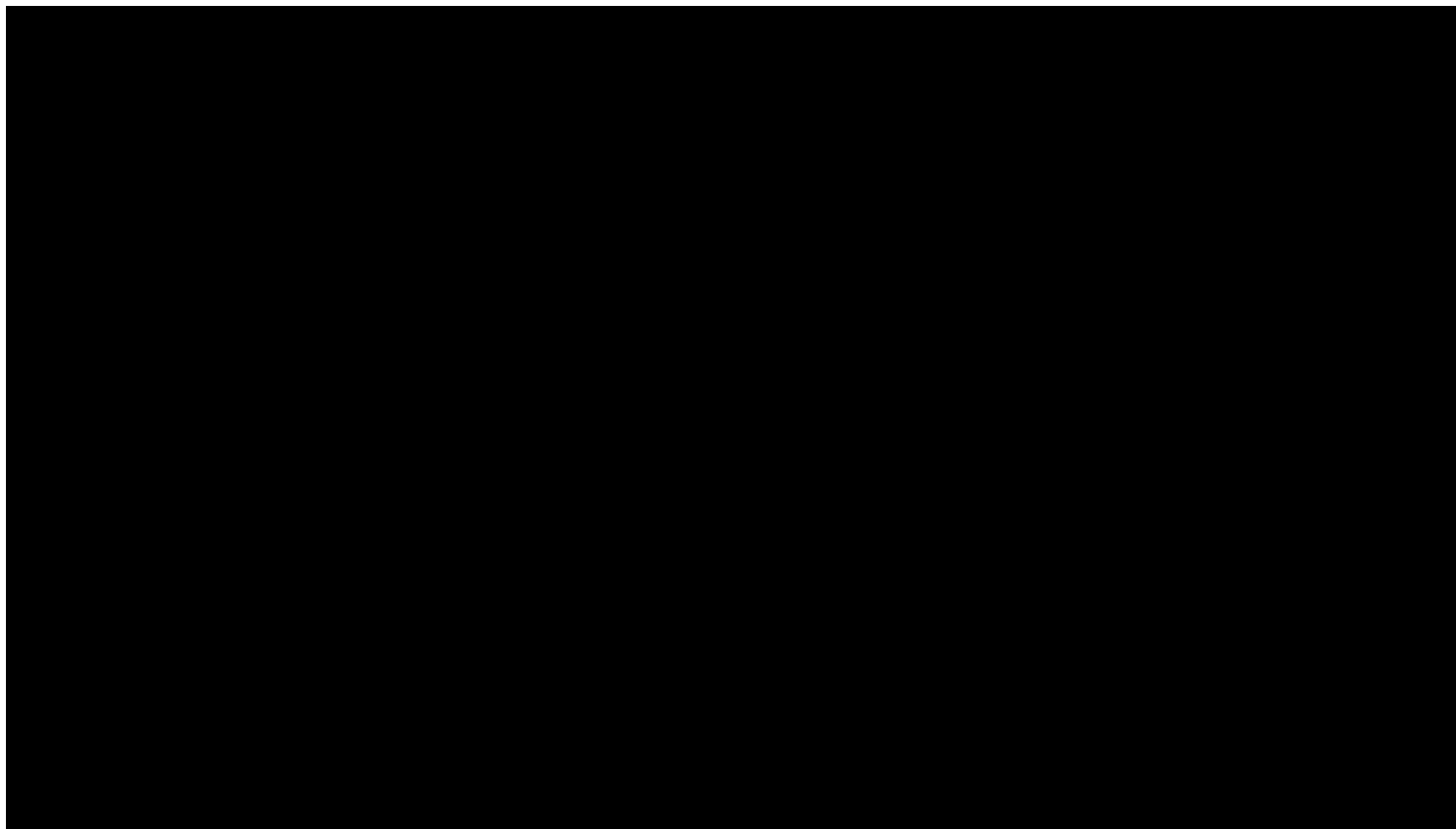
- To test the design the first generation web questionnaire to be used for Understanding Society (IP5)
  - Ease of logging in/ using different question formats/ skipping Qs

## ■ Methods:

- Programme a 'short' version of the instrument
  - Login page and different question formats ( scales, grids, dates etc)
- Respondents complete short questionnaire with eye-tracker
- Scenarios given such as 'try and skip this question'
- Retrospective think aloud and probing whilst reviewing gaze-replay.

# Gaze-replay video

---



# How does eye-tracking supplement cognitive interviewing?

---

Cognitive elicitation method		Impact of eye-tracking	
Observation		✓	Increased accuracy
Think Aloud	Concurrent	-	No impact
	Retrospective	✓	Gaze-replay can prompt participants
Probing	Scripted	-	No impact
	Spontaneous	✓	Better targeting based on improved observations

# Final thoughts



6.

# Benefits and limitations

---

- **Versatile**
- **Qualitative methodology**
  - Can map issues but cannot provide evidence on prevalence
- Iterative testing is best
  - Practical constraints
- Can detect 'hidden' issues...
  - But beware of 'context effects' and 'observational effects'
- A **supplement** rather than a **substitute** for piloting/ other evaluation methods

# Want to know more?

---

- Contact us!
- Training courses are available through the SRA or NatCen Learning
- Check out the book...





# Thank you

---

If you want further information or would like to contact the author,

**Debbie Collins & Jo d'Ardenne**  
**Questionnaire Development & Testing Hub**

**T. 020 75 49 7108**

**E. [hub@natcen.ac.uk](mailto:hub@natcen.ac.uk)**

**Visit us online: [www.natcen.ac.uk](http://www.natcen.ac.uk)**

**NatCen**

**Social Research** that works for society