Survey Design & Set-Up

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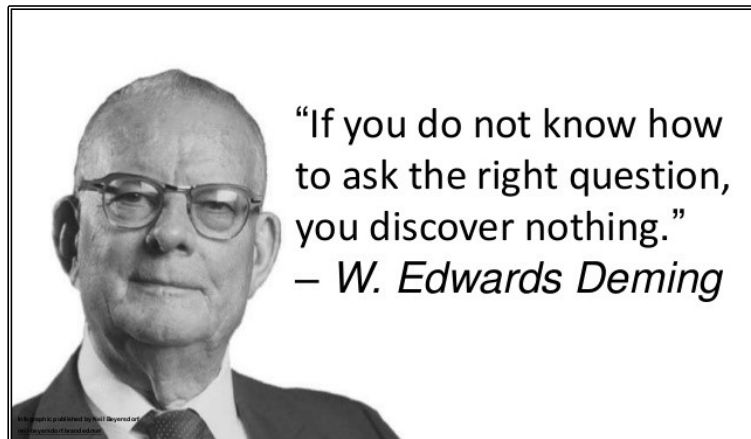

Learning outcomes

By the end of the session, participants will:

- Have a greater understanding of what a survey is
- Know the advantages and disadvantages of surveys as a data collection tool
- Recognise the common pitfalls in survey design and know how to avoid them
- Know the factors to consider when designing a survey and writing questions

Today is all about…

ASKING THE
RIGHT

QUESTIONS

"If you do not know how
to ask the right question,
you discover nothing."
— W. Edwards Deming

Is a survey the right method for my project?

What purpose do you want to use a survey for?

Survey purpose

Research	Service Evaluation	Clinical Audit	Quality Improvement (QI)
To derive new knowledge	To define or judge current care	To measure the quality of care against agreed standards	To inform changes that lead to measureable improvement Implementing existing knowledge in a specific context
Data collected as a snapshot of particular points in time			Data collected and analysed continuously in real-time

The type of data you need will determine whether a survey is the right method and the design of your survey

Using surveys in QI

Identifying a quality issue → Understanding the problem → Developing a strategy and change ideas → Testing change ideas → Implementing & sustaining gains
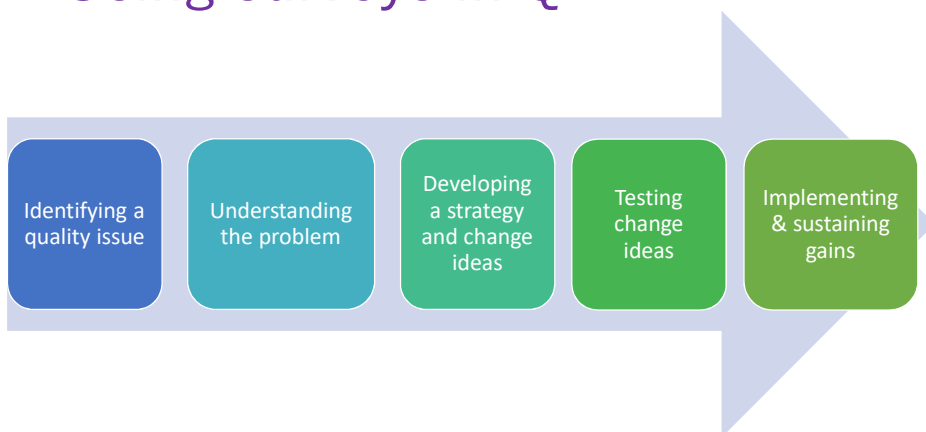
What is a survey?

A way of gathering both quantitative (numerical) and qualitative (descriptive/narrative) data

A survey is " an instrument consisting of a series of questions…designed to elicit responses which can be converted into measures of the variable under investigation" (Franklin & Osborne 1971)

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Surveys have questions that are focused, specific and relevant

Advantages	Disadvantages
Easy & quick to administer	Cannot prompt respondents
Can be free	Cannot easily probe for additional info or reasons for response
Can (potentially) sample large numbers	
	Questions may be irrelevant to some people
No variability between those collecting data (interviewer effect)	Missing data
	Low response rates
Convenient for respondents: can be filled in 'on the go' or at a time that suits them	Survey fatigue

They are NOT the only method you can use to collect data!

What do I need to consider before I start designing my survey?

Important considerations

Administration

Digital? Timing? Reminders?

Ethical considerations

Is ethical approval required?

- Is there a burden/risk to respondents?
- Make sure it is voluntary Not coercing people into responding
- Do you need to complete equality screening?

Information Governance

- Consent (obtain & record)
- Confidentiality & anonymity
- Data storage and security
- Adherence to service DPIA

How do I start designing my survey?

If you were going to design a really ineffective survey, what would it be like?

Add a comment into the meeting chat

Please rate your satisfaction with all the customer satisfaction surveys we keep sending you.

I'M STARTING TO REGRET BUYING WHATEVER I APPARENTLY BOUGHT.

TOM FISH BURNE

@marketoonist.com

Common pitfalls

- Too many questions
- Irrelevant/redundant questions
- Lack of branching
- Ambiguous wording and double negation
- Too many open questions
- Questions that rely on people's memory
- Using abbreviations or acronyms

A good survey should

- Measure the intended concept (validity)
- Be free from random variability in how people interpret questions (reliability)
- Detect relevant differences between respondents (sensitivity)
- Be as free as possible from bias
- Make administration, analysis and reporting easy
- Be enjoyable for people to complete

Resist the temptation of jumping in to write questions!

What constructs/variables do I want to measure?

Ease

Satisfaction

Knowledge

Experience

Awareness

Quality

Confidence

Accessibility

What factors might influence respondents?
Do I need to measure these?

Types of variables

- Attributes e.g., age, gender, disability, ethnicity, diagnosis, location
- Events (past) e.g., first/review appointment, prior experience of a condition
- Behaviour (current) e.g. health-related lifestyle issues
- Knowledge (of facts)
- Beliefs (what people believe to be true)
- Attitudes or opinions (value judgements)
- Reasons e.g., for doing or believing things

Is there a pre-existing tool?

Validated tools

- Assessed as accurately measuring the variables they are intended to measure e.g. quality of life, PROMS
- Should not be altered
- Enables comparison with scores from elsewhere
- Can be used alongside customised questions

Non-validated

- Also better to use the questionnaire and add your own items as required
- Or adapt as few items as possible (essential only)
- Enables comparison with scores from elsewhere

How do people answer questions?
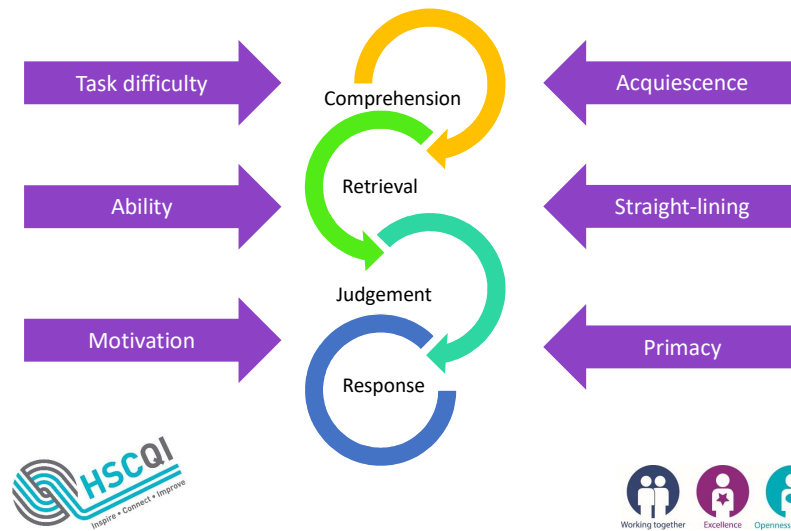
Designing questions

3 things to consider

1. **Ordering questions**
2. **Types of questions**
   - Open questions
   - Closed questions
     Ranking
     Choice – single/multiple
     Rating (Likert) scales
3. **Wording of questions**

Ordering questions

The order of your questions gives structure to your survey and should engage the respondent in a process

- Begin with straightforward
- Move from factual to abstract
- Overall rating
- Finish with feel good factor if possible

Quantitative

↓

Qualitative

- Use early questions to prompt reflection for later ones

2. Please rate the following aspects of your visit? *

	Very poor	Poor	Average	Good	Very good
The atmosphere and surroundings	○	○	○	○	○
Cleanliness	○	○	○	○	○
The length of time you had to wait to be served	○	○	○	○	○
Friendliness of our staff	○	○	○	○	○
The range of produce available	○	○	○	○	○
Value for money	○	○	○	○	○

3. Overall, how satisfied were you with your experience today? (where 1 = not satisfied at all and 10 =extremely satisfied) *

Not satisfied at all 1 2 3 4 5 6 7 8 9 10 Extremely satisfied

4. Do you have any suggestions as to how we could have improved your experience today?

Enter your answer

- Use branching to minimise use of irrelevant questions

Q 1. Please tell us how helpful you found the exercise video?
    (rating scale)

Q 2. How many minutes have you practised your exercises for each day in the past week?
(multiple choice answers)

Q3. What could we do to improve the exercise video?

Have you been able to watch the exercise video?

Yes → How helpful did you find it? → Have you practised the exercises? video? → What could we do to improve the video?

No → Can you tell us why you were unable to watch the video? → How could we make this easier for you?

Open questions

- Less frequently used than close questions
- Analysis can be
- Respondents tend not to like them – more challenging and time-consuming to answer
- Often used to gain 'additional comments' or for people to specify 'other'
- Can provide rich, reliable data

Choice Qs: single or multiple responses

Which of the following have you experienced in the past month? (select one)

- Sleeplessness
- Headache
- Back pain
- Anxiety

Gathers respondent's highest priority

In the past month, have you experienced (multiple responses allowed)

- Sleeplessness Yes/no
- Headache Yes/no
- Back pain Yes/no
- Anxiety Yes/no

Gathers all that have affected the respondent

Rating versus ranking questions

Rating

Gathers respondent's rating of each factor/item

Ranking

Gather respondents' ranking of factors/items

Force a differentiation between items

Ranking questions

Rank the following symptoms by how much they have affected you in the past month? (where 1 = least and 4 = most)

• Sleeplessness

• Headache

• Back pain

• Anxiety

Assumes the respondent has experienced these symptoms

Might be easier for people to make mistakes

Can be hard/more time-consuming to analyse

What does the ranking of the middle items tell you?

Rating questions/Likert scales

• More scale points – greater sensitivity

• Less scale points – greater reliability

• Research suggests optimal number of scale points is between 5 – 9 (usually 5 or 7)

• Using a mid-point increases accuracy

• People will tend to bias towards agreement - make sure your question wording permits people to choose a negative response e.g. How satisfied or dissatisfied were you with your appointment?

Please rate how easy it was to book your appointment.

★ ★ ★ ★ ★

Labelling Likert scales

- Better to have verbal labels on each point
- The meanings of each scale point should be
    - clear (unambiguous)
    - easy for respondents to interpret
    - interpreted by all respondents in the same way
- Labels should differentiate respondents from each other as much as is validly possible
- Best to use construct-specific response scales
- Differentiating between words for some constructs can be tricky e.g. frequency - never, rarely, sometimes, often, always
- Can be useful to include a statement with a disagree- agree scale

Likert scale examples

Agreement	Importance	Quality	Satisfaction	Likelihood
Strongly agree	Very important	Excellent	Very satisfied	Definitely
Agree	Important	Good	Satisfied	Probably
Neither agree nor disagree	Moderately important	Average	Neither satisfied nor dissatisfied	Possibly
Disagree	Slightly important	Poor	Dissatisfied	Probably not
Strongly disagree	Not important at all	Very poor	Very dissatisfied	Definitely not

Avoid reliance on memory

- Are your questions reliant on people accurately and clearly remembering something?
- For retrospective data collection, try and prompt recollection e.g., "Thinking about the day you left hospital…"

Be precise

- How satisfied were you with the waiting time for your appointment?

- How much exercise have you completed this week?

Don't ask two Qs in one

Would you be interested in attending training? If so, how long should this be?
- One hour
- Half day
- One day

No option for respondent to indicate they are not interested in training and leads to bias in interpretation of results

Avoid jargon and negatives

- Use plain English
- Consider literacy levels and proficiency in English
- Avoid all medical/healthcare jargon e.g., instead of 'waiting for spinal discectomy' use 'waiting for your back surgery'
- Avoid negatives
- People may misread the word 'not'
- If you need to use negatives, try using bold type or italics

Avoid very long questions

- Avoid very long questions e.g., "On the last visit to the clinic during which you saw a consultant but didn't have a scan, can you tell us what you thought about the information you were given?"
- You might overcome this by splitting into two

Avoid leading questions

Do you prefer being seen for a face to face appointment compared to a video call?

Would you prefer being seen
• Face to face?
• Via video call?
• Either face to face or by video call?

Consider also how the ordering of questions can lead people

Encourage honest responses

• Important consideration in both service user and staff surveys
• Organisational pressure
• Professional guidelines
• Avoid very extreme or strongly emotive words

Consider the potential tone of your questions
• How often do you do your exercises?
• Why don't you do them more often?
Compared to: what factors make it difficult to do your exercises at home?

Test your survey

- With people similar to your target population
- Ensure your wording is clear
- Ensure all options are covered
- Navigation issues
- Time taken to complete all questions
- Acceptability of presentation
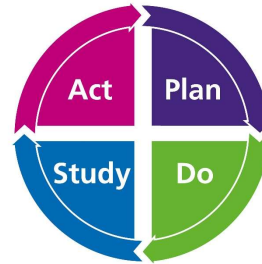
Analysing & reporting

- Keep focused on your aim
- Filter findings by attribute variables – does this tell you anything meaningful?
- Always report on number and rate of responses
- Turn quantitative data into %
- Rating data can be turned into histograms
- Don't quantify qualitative data!
- Use the qualitative data to explain the quantitative results
- A disconnect between quantitative and qualitative responses can indicate a weakness in design
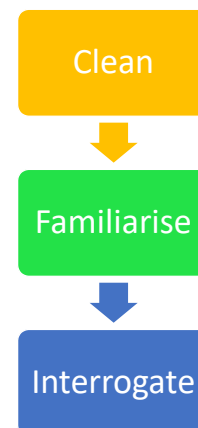
Points for reflection

- Is this the right method for my project?
- What is the aim of my survey?
- What constructs do I want to measure?
- How am I going to analyse & use the data?
- How do I expect someone to answer that question?
- Is this question relevant to my aim?

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Feedback