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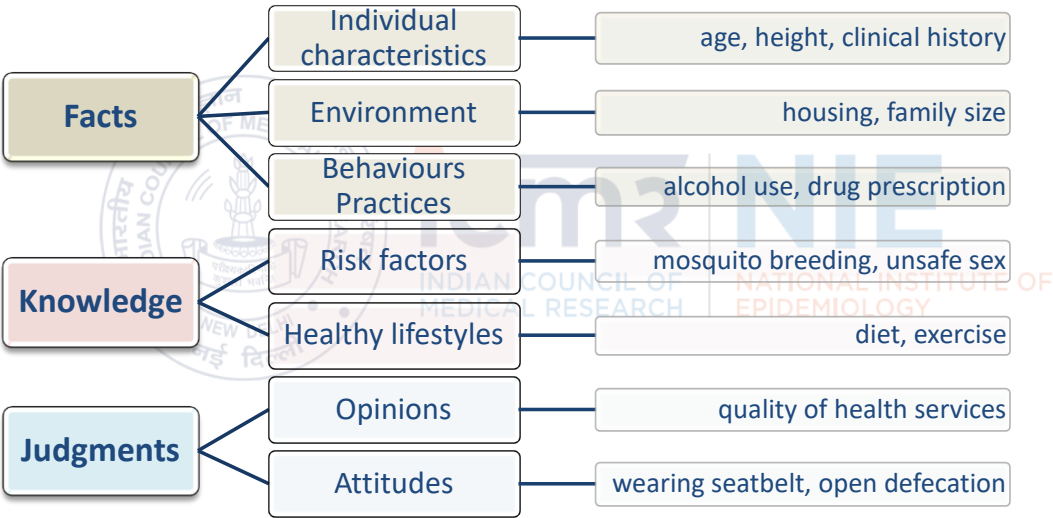
Designing data collection tools

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Information collected with data collection tools



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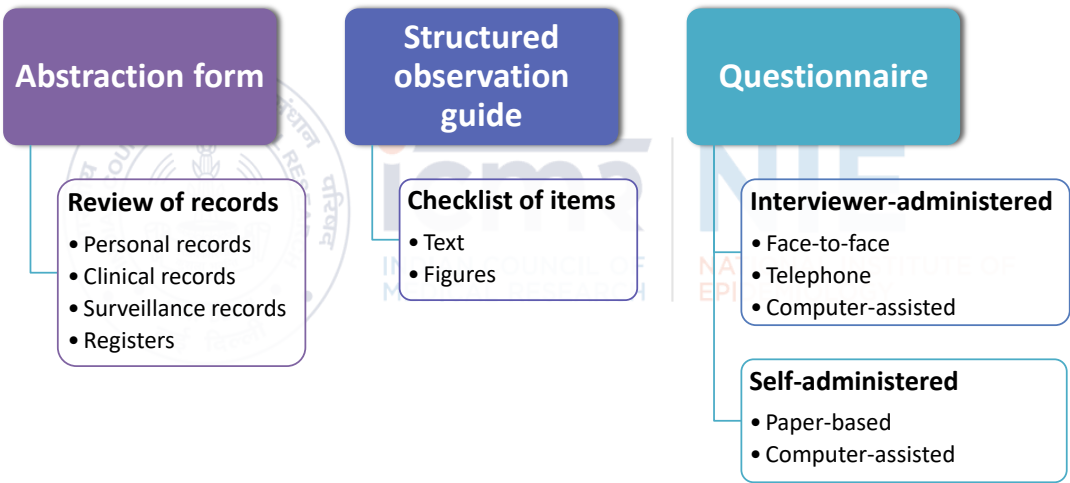
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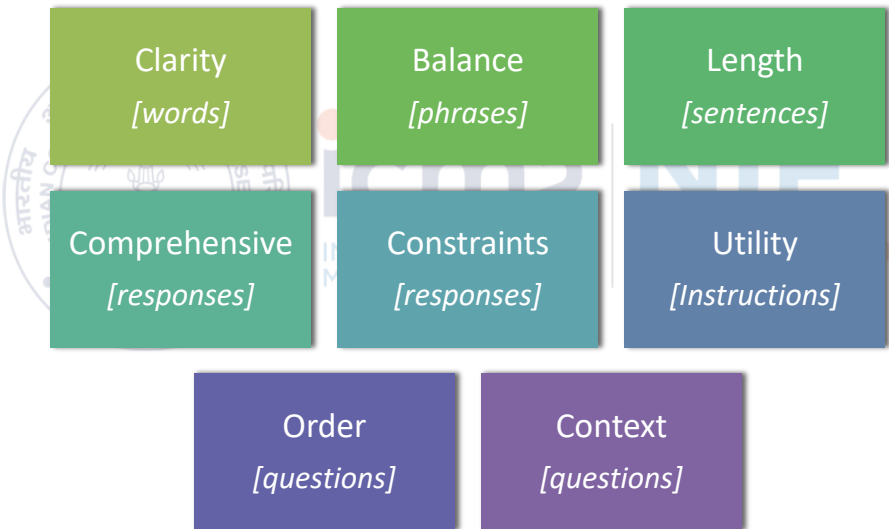
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Different tools to collect data

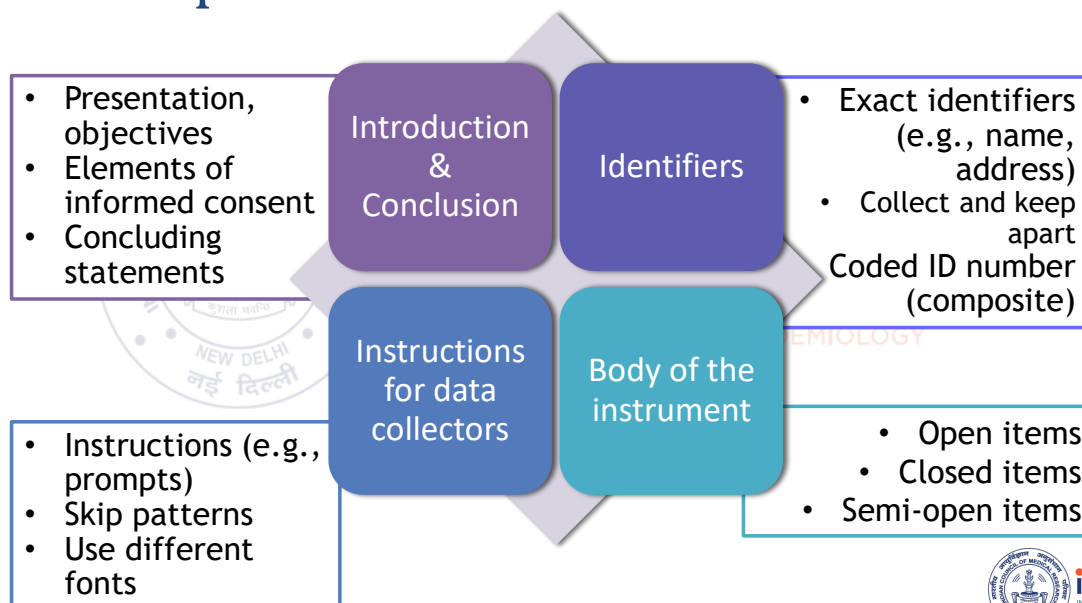


Key elements of data collection tools



Aday LA, Cornelius LJ. Designing and conducting health surveys : a comprehensive guide. 3rd ed. CA: John Wiley & Sons, Inc. 2006

4 components of the data collection tool



Open questions

- Answers are not suggested
- Respondents must generate an answer
- Advantages
 - Give freedom of response
 - Stimulate memory
 - Can be useful to generate closed responses later
 - Useful at a hypothesis raising stage
- Inconvenient
 - Difficult to code and analyze
 - May be incomplete and / or unfocused

Examples:

- What disease can you acquire from tobacco?
- What places did you eat at in the week preceding the disease?

Open questions with closed-end answers

- No option of answer is suggested
- However, among the answers freely mentioned, the interviewer will tick those spontaneously specified
- Expressed as an open question
- Analyzed as a closed-end question

Example:

What are the practices that may increase your risk to get a heart attack? (*DO NOT propose any option of answer*)

- Lack of exercise (Yes/No)
- Smoking (Yes/No)
- Poor dietary practices (Yes/No)
- Eating too much salt (Yes/No)



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Closed questions:

1. Dichotomous options

- Suggested answers include 2 options only
 - Yes and No
 - Male and female
- Advantages
 - Forces a clear position
 - May be useful for key, important, well framed issues
- Inconvenient
 - May oversimplify issues

Examples:

- Did you eat at restaurant X between 1 and 28 February?
- Have you ever consumed tobacco products?

☐ A dichotomous question here is likely to oversimplify, unless it is used as an introduction



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Closed questions:

2. Multiple options

- Multiple options of answers are suggested
- One or multiple answers acceptable
- Advantage
 - Larger choice of answer options
- Inconvenient
 - May be difficult to choose only one option

Example:

- Where do you go to seek treatment for fever?
 - Government Hospital
 - Private clinic
 - Pharmacist
 - Traditional healer
- Do you wear a helmet when riding a bike?
 - Always
 - Sometimes
 - Never

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Closed questions:

3. Quantitative answers

- The respondent must provide a quantified answer
- Advantage
 - Allows creation of continuous variables
- Inconvenient
 - May requires validation:
 - Some “quantified” answers might be limited in the way they can be handled as continuous variables

Examples:

- How many time did you visit the clinic in the last 12 months?
 - True continuous variable
 - Four visits is the double of two visits
- How would you describe your pain on a 1-10 scale where 1 would be the minimum and 10 would be the maximum?
 - In fact a qualitative variable with 10 options
 - Requires validation
 - Six may not be the double of three on the scale

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Semi-open questions

- Suggested answers
- Possibility to create another answer
 - Other, specify: _____
- Advantage
 - Leaves the door open to unplanned answers
- Inconvenient
 - Difficult to analyze

Example:

- Did your child have complication following measles?
 - None
 - Pneumonia
 - Diarrhoea
 - Eye problems
 - Other, specify: _____



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Formulating questions

- Write short and precise questions
 - Full and complete phrases
 - Avoid ambiguities
- Use simple words of every day language
- Avoid negatives and double negatives
 - ☐ Do you sometimes care for patients without washing hands?
 - ☐ Do you systematically wash hands before caring for each patient?



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Formulating questions

- Ask only one question at the time
 - ☐ Did you refuse treatment because you feared side effects?
 - ☐ Did you refuse treatment?
 - ☐ If yes, was this because you feared side effects?
- Be specific
 - ☐ Are you aware of the modes of transmission of HIV?
 - ☐ Among these practices, can you tell me those that could expose you to HIV?
- Use neutral tone to avoid influence
 - ☐ Have you been promiscuous in the last six months?
 - ☐ How many partners have you had in the last six months?



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Sorting the order of questions

From simple to complicated

From general to specific

From casual to intimate

Group together questions related to the same topic

Identification questions at the beginning or at the end

In chronological order, if questions related to sequence of events

Introduce simple questions as a break if the questionnaire is complex

Triangulate through multiple questions on the same topic if the subject is important



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Laying out the data collection tool

Split the sections

Space out questions

Use large fonts

Align answers/codes on right hand side

Number all questions

Do not split questions across pages

Use a vertical format for closed-end responses

Standardize coding

Use auto-coding procedures

Q.25: Where did you go when your child had diarrhoea?

1. Hospital
2. Public clinic
3. Private clinic
4. Pharmacist

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Finalizing the data collection tool

Checking the instrument against the objectives/analysis plan

- Suppress unnecessary questions
- Add missing questions

Reviewing the instrument

- Colleagues
- Experts
- Statisticians (Coding)
- Field workers
- Data entry operators

Language of the instrument

- Write in the language in which they will be administered
- Translation is required
 - Initial formulation (e.g., in English)
 - Translation (e.g., in Hindi)
 - Back-translation (e.g., back to English)

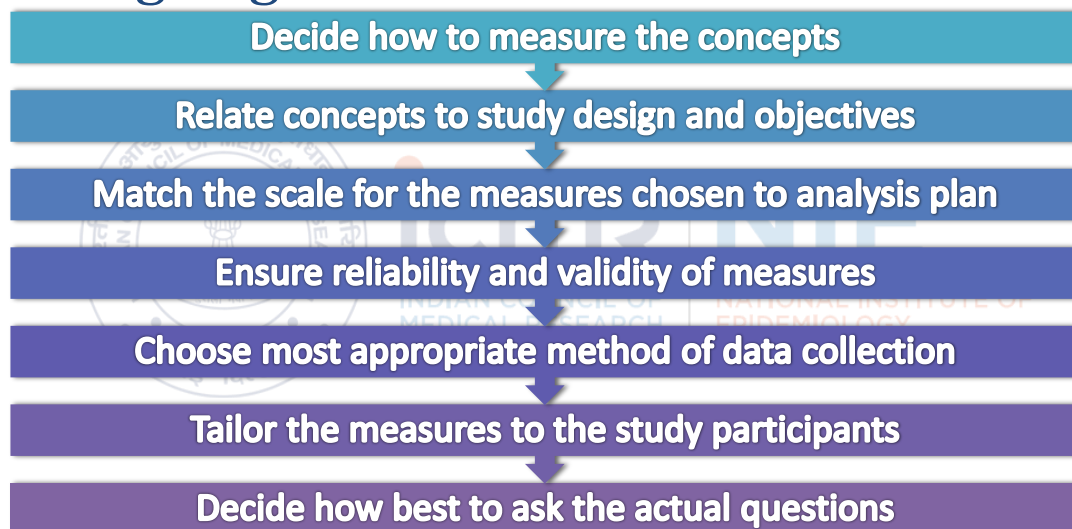


Pilot testing the data collection tool

- Check that the instrument is:
 - Clear
 - Understandable
 - Acceptable
- Check flow and skip pattern
- Check pertinence of coding
- Estimate the time needed to ask all the questions
- Pilot test with a few volunteers
 - Persons similar to the study population
 - Persons who are not to be included in the study



Designing health research tools



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Thank you
