Survey Design and Techniques

14th May 2021

Presented by

Associate Professor Sue Skull
Head Research Education Program, Department of Research
Consultant Paediatrician, Department of General Paediatrics
Division of Paediatrics and Child Health, University of Western Australia
Survey Design and Techniques

PRESENTATION
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presented by **Associate Professor, Sue Skull**
**Head – Research Education Program**
**Deputy Director – Department of Research**

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**Acknowledgement of country**

I would like to acknowledge the traditional custodians of the land, the Noongar Whadjuk people, and pay my respects to their elders, past, present and future.
Overview

1. Why choose a survey design?
2. General planning and design issues
   - Sampling
   - Delivery options
   - Maximising responses
   - Analysis
3. Designing your data collection instrument
4. Minimising data errors
5. Approval pathways & ethical review
Is a survey the right design for you?

- “Low level” designs can be very useful
- “Higher level” designs may not be feasible
- Suitable if “exploring” a subject:
  - **Describe** burden of disease
  - Observe disease trends, signals
  - Inform practice e.g. clinical audit cycle
  - **Generate** hypotheses for future study
- Observational design = “Observing without interference”
Descriptive Questions

- How does our practice match up to expected benchmarks? (clinical audit)
- How many people have the “health state” at a point in time (prevalence)
- What is “health state” like / how does it vary by group?

AND NOT

- What are the risk factors?
- Does this intervention/practice work?
- How well does it work?*

Cross-sectional Studies

The good….
- A “snap shot” in time →
- Generate hypotheses
- Cheap, quick, easy (if have existing data)
- Can measure point prevalence – eg disease, practice

And the not so good….
- Not suitable for rare/brief outcomes
- Not suitable for rare exposures
- Cannot definitively tie exposures to outcomes
- Cannot adjust for confounding factors
- Cannot determine incidence
Assuming the design is right… should you do it?

**Scientific merit**
- Clear answerable question
- Burden of disease
- Relevance
- What will your study add?
- Impact?
- Feasible: resources, expertise

**Ethics**
- Justice, beneficence, respect

2. General planning and design issues
General planning and design issues

- Who or what do you want to survey?
- What is your population denominator?
- How will you select cases / participants?
- What options do you have for surveying?
- How will you maximise your response rate?
- What’s your analysis plan?

What to sort out BEFORE you write your questionnaire

Sampling
Your survey population

- Entire population?
- If not → SAMPLE
  - Denominator?
  - Need a proportion
  - How many?
  - How to select?
- Key issues
  - defining cases
  - representativeness,
  - generalisability,

"Reduce your wrong!"

http://www.select-statistics.co.uk/sample-size-calculator-proportion

Sampling options

- Simple random
- Convenience
- Systematic
- Stratified
- Cluster e.g. schools
- Multistage
- Others

Get advice
Simple random sampling

- Use wherever possible
- For complete populations
- Equal and fair chance of selection
- Be able to allocate numbers
- Random number generation
  - Dice, coin flipping
  - Computer-generated
  - Small studies?
    - Risk unbalanced selection
  - Statistician input*

Other sampling

- **Convenience** *(Do not use!)*
  - e.g. street surveys
- **Systematic**
  - e.g. every 3rd person in a phone book
- **Stratified**
  - i.e. performed independently within each group
- **Clusters**
  - e.g. schools - cluster “units” must be similar
- **Multistage**
  - e.g. stratified random cluster sample
    - (state/household)
Survey Delivery Options

- **“Prospective”**
  - face-to-face, phone, mail-out, electronic (email, web, text)
  - individual versus group
  - self-administer versus investigator-administered

- **“Retrospective”**
  - Review existing records
Prospective survey delivery methods

Consider:

- Time
- Cost
- Response rates

<table>
<thead>
<tr>
<th></th>
<th>Phone</th>
<th>Mail</th>
<th>Web/Text/Email</th>
<th>Face-to-face</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost</td>
<td>$$</td>
<td>$</td>
<td>$</td>
<td>$$</td>
</tr>
<tr>
<td>Time</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Flexibility</td>
<td>+++</td>
<td>+</td>
<td>+</td>
<td>+++</td>
</tr>
<tr>
<td>Response</td>
<td>80/60%</td>
<td>70%</td>
<td>?30-60%</td>
<td>80%</td>
</tr>
</tbody>
</table>

Excel users beware!

- Not a database program – generally not recommended
- VERY EASY TO DESTROY YOUR DATA IRREVOCABLY
- Comprehensive data checking required
- Unable to enforce uniqueness for an identifier
- Not a relational database
- Only one person can access a file at any one time.
- Need to be careful with dates
- Very few validation rules
- Can’t do logic checks
**REDCap**

- Data entry package of choice for Dept of Health
- The future for data entry
- Free, intuitive, secure, collaborative, relational
- Can use email, phone – set timers, reminder mail outs etc

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**Survey Monkey users beware**

- You don’t own the data
- Unclear where data are
- You may be breaching institutional/government policy
- Generally NOT recommended for research data
  - Never for sensitive, identifiable/re-identifiable health data
  - Don’t use, or use with extreme caution
Self-administered Questionnaires

Advantages
- Relatively cheaper
- Does not introduce interviewer bias
- May permit a larger sample
- Easier for a sample with a wide geographic distribution

Disadvantages
- Low response rate (~40% common)
- No chance for clarification or correction
- Higher rate of missing data
- Need very clear instructions
- Literacy an issue

Investigator-administered Questionnaires

Advantages
- Higher response rate
- Chance for clarification or correction
- Less missing data
- Design and layout somewhat less critical
- Contextual understanding and greater flexibility

Disadvantages
- More expensive
- Potential for interviewer bias
- Impractical if requiring frequent data collection or surveying a wide geographic area
Maximising response rates

Maximising Response Rates

Why?  *Validity*

How?  *Pre-contact, community involvement*

- Minimise effort for participants
  - Well-designed questionnaire*
  - Convenient
  - Hopefully of interest to them
- Follow-up/reminder plan
- Timing
Tips for Mail-outs

- Provide a cover letter:
  - Study purpose
  - Contact details
- Specify a return date
- Provide a self-addressed envelope
- Follow-up plan essential
- Ensure you can link person to data
- Get other contact details

OK – What next?

You now have a:

- Clear question
- Sampling method
- Survey method
- What’s next BEFORE you write your questionnaire?
Analysis Plan

Why?

• Collect the data you need…
• Only the data you need!
Define Key Variables

➔ Analysis plan ➔ Questionnaire

- Write the title(s) of your paper/s
- Draft their abstracts
- Outline tables/graphs needed
- Look at other studies/speak with experts
  - Validated tools already?
  - Have you missed something?
  - Other variables for comparison?

Define Key Variables: Basics

- **Unique Identifier**
- Name, address, contact details (store separately - identifiable)
- DOB, gender, socioeconomic status
- Eligibility criteria
- Time variables: enrolment, visits, exit, loss to f/up
- Outcome variables
- Primary and secondary hypotheses
- Exposure variables
- Subgroup analyses?
- Potential confounders?
Variable types…..

- Categorical: nominal (eg. binary), ordinal
- Continuous: discrete, continuous
- Both

Why does this matter?
- Because you have to enter the data
- Generally don’t pre-categorise continuous data
- Calculate with your analysis program later

Think: Which will be most useful to you?

Analysis Planning

- Key variables →
- Descriptive data
  - Overall numbers, means, medians
  - Participant/case characteristics: gender, age etc.
  - Participation: refusals/lost charts, drop-outs, loss to f’up
- Simple dummy tables
  → Simple t-test, chi-squared test etc.
- Multivariable analysis
  - What potential confounders?

Always get advice
### Dummy tables - Descriptive

**e.g. What proportion of asthmatics swim regularly?**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Swimmers</th>
<th>Non-swimmers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enrolled participants (n)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males (n, %)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average Age (years)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dummy tables

**e.g. Does asthma severity vary with regular swimming?**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Swimmers (n)</th>
<th>Non-swimmers (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma severity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Category 3 etc</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
So..... You now have:

- A clear question
- A sampling method
- A survey delivery method
- Defined key variables/types
- An analysis plan

What next?

3. Instrument Design
Instrument Design

- Questionnaires
- Questions

“Good design goes to heaven; bad design goes everywhere.”
Mieke Gerritzen

Questionnaire Design: Basics

- Has someone done this already?
- Leave enough time
- Multiple iterations are normal
- Maximise response rates:
  - Logical flow of questions
    - Least sensitive → most difficult/ sensitive
    - General → particular
  - As short as humanly possible
  - Clear, simple, easy to read, well presented
Questionnaire Design: Basics

• ID on every document/page
• Number every question and page
• Consistent font
• No vertical text
• Enough space for answers
• Units clearly stated
• Align text, boxes, spaces
• Have all the options
• Check all categories, ranges
• Interviewer name/code + contact/return details

Questionnaires: Skips

• Improve ease of questionnaire administration/completion
• As long as they are correct!

Q1. Did you attend the questionnaire session

[ ] Yes  [ ] No  → Q8
Instructions

• For administering or completing questionnaires
• Reduce misinterpretation
• Improve consistency of completion
• Provide examples

Q12. Do you have a history of cardiovascular disease? (for example: angina, heart attack……)

Codes

• Assist those recording or entering data
• Reduce misinterpretation and errors
• Coding sheets and data dictionaries helpful

Do you speak a language other than English at home?
Are you a permanent resident or citizen of Australia?
Do you consider yourself to have a disability?

Code these responses as No = 0; Yes = 1

AQTF 2007 Learner Questionnaire Code Book Commonwealth of Australia
Writing Questions

• Open versus closed questions
• Avoiding common problems with wording

Open versus Closed Questions

• Open-ended (qualitative / descriptive)
  – e.g. How would you describe your health?

• Closed questions
  – E.g. multiple choice: limited number of options / responses

• Why do we care?
  – Each can be useful
  – Important differences
Open-ended Questions

**Advantages**
- Unprompted ideas
- No limits on response
- Useful in predevelopment phase → generate categories

**Disadvantages**
- More difficult, time consuming and costly to administer
- Lower response rate, unless compulsory
- Less appropriate for self-administered questionnaires
- More inter-interviewer inconsistency
- Responses may not address the Q as intended
- **Very difficult to enter and analyse**

Closed Questions

**Advantages**
- Quick and easy to answer
- Forces categorisation - data easy to enter and analyse
- Choices help clarify the meaning of the question
- Minimise intra-interviewer bias
- Maximise inter-interviewer consistency

**Disadvantages**
- Can't include all possible responses
- Response options have to be largely known
- Don't necessarily capture respondents' thoughts
- Data less “rich” / likely to generate new ideas
- May get random responses
When constructing closed Qs

- Options must be
  - mutually exclusive
  - collectively exhaustive
- Remember to use OTHER (specify...)
- Ensure response options free from bias
- Remember neutral category (e.g., Likert scale) may mean
  - no strong feelings
  - ignorance or uncertainty

Multiple Choice

- Avoid questions that instruct respondents to mark “All that apply”
- How would you interpret non-marked boxes?

Which of the following increases the chance of a heart attack?
- ☐ smoking
- ☐ being overweight
- ☐ stress
Multiple Choice – Take 2….

Which of the following increases the chance of a heart attack?

- being overweight
- smoking
- stress

yes  no  don’t know

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Question Design – Wording issues

- Use clear and simple language.
- Avoid demanding or sensitive questions
- Ensure Qs are not ambiguous.
  - Avoid words like “often”, “regularly” “usually”
  - Stipulate time frames
  - Specify the level of accuracy/units you want
- Ensure Qs are grammatically correct
- Avoid using medical jargon, abbreviations, acronyms
Spot the problem.....

Award 100 points to these 10 topics, with the most points indicating the most important etc.
Please make sure they add up to 100.

Too difficult
Long complex sentence
Spot the problem…..

Are you bilingual?

X Too ambiguous
X Aim at 12 year old level
Spot the problem…..

Have you seen a doctor recently?

Spot the problem…..

Have you seen a doctor recently?

X  Ambiguous
Spot the problem…..

Did you vote in the election?

X Ambiguous
X Insufficient detail

try,
Spot the problem.....

How much time would you spend per month on reading literature relevant to your work?

[ ] 0
[ ] 1-3
[ ] 4-5
[ ] 6-7
[ ] 8-9
[ ] 9 or more

Spot the problem.....

How much time would you spend per month on reading literature relevant to your work?

☐ 0
☐ 1-3
☐ 4-5
☐ 6-7
☐ 8-9
☐ 9 or more

X Units?
X Exclusive categories?
More Question Design Tips

- Make sure questions are objective
  - Avoid labeling and value judgments
  - Avoid leading questions
- Don’t ask 2 questions in 1
- Avoid double negatives
- Don’t over-estimate memory (useless data)
- Give all the options
- Use branching questions (if yes, then…)

Spot the problem…..

Do you think teachers and students found the new teaching format helpful?
Spot the problem.....

Do you think teachers and students found the new teaching format helpful?

X Two questions in one

Spot the problem.....

Are you satisfied or dissatisfied with the temperature control in this room?
Spot the problem…..

Are you satisfied or dissatisfied with the temperature control in this room?

X What about other options?

e.g. Satisfied, dissatisfied, not sure/neither/not applicable

Spot the problem…..

Are you finding access to your supervisor is very limited?
Spot the problem.....

Are you finding access to your supervisor is very limited?

X Leading question (even if quite possibly true!)

try,

How do you find access to your supervisor?

☐ Excellent – I have all the contact I need
☐ Good – I have a reasonable amount of useful contact etc. through to ..... 
☐ Poor – I saw them once in the car park

Spot the problem.....

How many days last month have you had excessive amounts of alcohol??
Spot the problem.....

How many days last month have you had excessive amounts of alcohol??

X Value judgement and undefined

Spot the problem.....

Are you in favour of forcing Indigenous people to participate in welfare quarantining?
Spot the problem…..

Are you in favour of forcing Indigenous people to participate in welfare quarantining?

X Leading question

Spot the problem…..

Are you aware that all non-Indigenous people over the age of 65 years should be vaccinated with pneumococcal vaccine?
Spot the problem…..

Are you aware that all non-Indigenous people over the age of 65 years should be vaccinated with pneumococcal vaccine?

X Leading question

Spot the problem…..

Tell me your level of agreement with the following statement:

“You should not use the best survey methods possible”

☐ strongly agree
☐ agree
☐ neither agree nor disagree
☐ disagree
☐ strongly disagree
Spot the problem.....

Tell me your level of agreement with the following statement:

“You should not use the best survey methods possible”

X Double negative – I’m confused

Spot the problem.....

How many meetings have you attended in the past year?
Spot the problem.....

How many meetings have you attended in the past year?

X Too hard to remember

Spot the problem.....

What is your current marital status?

☐ married
☐ divorced
☐ single
Spot the problem.....

What is your current marital status?

☐ married
☐ divorced
☐ single

X What else?

☐ widowed
☐ de facto
☐ not applicable
☐ prefer not to say (aka none of your business)

Spot the problem.....

How many times do you eat with your children per week?

☐ 0 - 1
☐ 1 - 3
☐ 3 - 5
☐ 5 - 7
Instrument Design: ?Problem

How many times do you eat with your children per week?

☐ 0 - 1
☐ 1 - 3
☒ 3 - 5  Not mutually-exclusive
☒ 5 - 7  Not collectively exhaustive
☒ Units not well defined

Spot the problem.....

1. Are you currently retired?
   ☐ yes    ☐ no

2. Did you retire before the age of 65 years?
   ☐ yes    ☐ no

3. What factors influenced you to retire before the age of 65 years? Etc.
1. Are you currently retired?  
   □ yes  □ no

2. Did you retire before the age of 65 years?  
   □ yes  □ no

3. What factors influenced you to retire before the age of 65 years? etc.  
   Skips!

4. Minimising Data Errors
Minimising Data errors: Goals?

- To obtain relevant data
- Avoid wasting respondent, interviewer, and analyst time (garbage in = garbage out)
- To maximise validity and reliability of data obtained

So how to we get “good” data?

Consider:

- Clear and worthwhile question
- Sampling method
- Analysis planning
- Data collection
  - Instrument design: questions and questionnaires
  - Database design
  - Standardise procedures
  - Piloting
- Data entry and cleaning
Biases in Data Collection

- **Interviewer/observer bias**
  - Inter-observer: more interviewers = more variation
  - Intra-observer: “spin”, variation from wording
  - *Train and check*

- **Subject bias**
  - Recall bias
  - Hawthorne effect

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Standardising Procedures

- **Standard operating procedures (SOP)**
  - Data collection and flow, process, checks
  - Questionnaire administration: reminders, check on responses

- **Training and spot checks**

  **Standardise**
  **Train**
  **Maintain Standards**
Interviewing Tips: Consistency

- Same approach every time
- Always ask questions in the same order
- Additional information must be the same for all
- Never “paraphrase”
- Never leave out information
- Never make assumptions
- Note formal skips and prompts
- Never leave blanks – have a code for missing data
- Don’t “complete” partial answers e.g. date of birth
- Seek clarification where needed
- Have clear instructions for corrections

Piloting

Essential

- Pilot the process as well as the instrument
- Do your questions mean the same thing to different people?
- Have you forgotten something?
- Does the questionnaire make sense?
- Does the questionnaire flow logically?
- Can data be recorded accurately?

* Usually about 10% of sample size, or until no new ideas
* Avoid members of study population, but match closely
* If radical changes are made: PILOT AGAIN
A final word on the data

- Uploading options
  - $, accuracy
  - Manual, scanned
  - Double entry %

- Clean it before starting analysis
  - Is it complete?
  - Obvious mistakes?
  - Hardcopy review etc.

5. Survey Approval Pathways

- Quality Assurance
- Low & Negligible Risk Pathway
- Human Research Ethics Committee

.... The researcher must consider “whether the people involved (e.g. participants, staff or the community) will be exposed to any risk, burden, inconvenience or possible breach of their privacy”

“Quality Assurance” or something else?

“Quality assurance, evaluation and research exist on a continuum of activity, and work that begins as one form of activity can evolve into another over time. In addition, irrespective of whether an activity is QA, evaluation or ‘research’, the activity must be conducted in a way that is ethical. This should include consideration of whether the people involved will be exposed to any harm as a result of the activity. Those conducting the activity need to consider a range of issues including consent, privacy, data security, relevant legislation, national/professional standards and whether ethical review is required.”

NHMRC: Ethical Considerations in QA and Evaluation Activities

GEKO – Quality Improvement Activities

- Governance Evidence Knowledge Outcomes database
- **Only** for quality improvement activities
- Throughout WA Health public sites
- On line basic submission
- Rapid review online outside Ethics Committee processes
- May elect to publish results
  - Delegated approval for publication (Exec Dir Clinical Services)
  - May refer to HREC if appropriate
- Must include data collection form + ethical considerations
- Populations as for low and negligible risk pathway
Quality Assurance

- “QA and/or evaluation is undertaken to generate outcomes that are used to assess and/or improve service provision” NHMRC

- “The data being collected and analysed are expressly for the purpose of maintaining standards or identifying areas for improvement in the environment from which the data was obtained”

- There must be no triggers for ethical review….

Triggers for considering ethical review

- Secondary data use
- Anything beyond routine care
  - Data collected
  - Staff collecting data
  - Risks/burden* for participants
  - Testing of innovative protocols or equipment
- Risk of breaching confidentiality
- Randomisation/control group/placebo or comparison of cohorts
- Infringement of rights, privacy or reputation of carers, health care providers or institutions
- Targeted analysis of vulnerable/minority groups (or data separated out)
- Results to be published (or presented) externally
Unsure?

Any proposal causing unresolved concern may be referred to an Ethics or Governance Officer, or a Human Research Ethics Committee.

- **NHMRC**: When does Quality Assurance in Health Care Require Independent Ethical Review?
- **WA Health Research Governance Framework**: 3.1: p42
- **NHMRC**: Ethical Considerations in Quality Assurance and Evaluation Activities

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Low and Negligible Risk Pathway

- Alternative to standard Ethics pathway available at many sites
- Premise - NHMRC allows ethical review at various levels
- More rapid than full Ethics Committee review process
- Defined as “no more than discomfort” or “inconvenience”
- Suitable for
  - Most qualitative studies
  - Questionnaire-based studies with allowable target populations
- **NOT** for vulnerable or minority groups
  - ATSI, pregnant women/foetuses, genetic testing, biobank, registry, or sensitive personal or cultural issues
## Suitable Projects - Low and Negligible Risk

**Examples:**

- Development of a conflict management framework for hospital staff (data from voluntary questionnaire)
- Exploring experiences of nurses working with mental health patients (data via questionnaire from health care providers)
- Role of motivation in family-oriented therapy for childhood obesity (voluntary questionnaire after obtaining consent)
- Experiences and needs of families with a Type 1 diabetic (voluntary questionnaire after obtaining consent)

## Examples NOT suitable for LNR Pathway

- all interventions
- all “opt out” or “waiver of” consent projects
- vulnerable individuals
- dependent relationship with medical personnel,
- mental illness, cognitive or intellectual impairment
- gender identity issues, involved in illegal activities
- Aboriginal / Torres Strait Islanders as the target population
- genetic testing
- stem cells or their products
- creation of a databank, biobank or registry
- examination of sensitive personal or cultural issues
- pregnant women or their foetuses
Take Home Messages

- It’s all about planning – sample, delivery, instrument, response rate, analysis, training etc.
- Get advice early and often
- Be meticulous
- Collect only the data you need
- Pilot everything first
- Choose the right approval pathway

Upcoming Research Skills Seminars

- **28 May** Research Supervision with Prof Jonathan Carapetis
- **18 Jun** Introductory Biostatistics with Dr Julie Marsh
- **25 Jun** Sample Size Calculations with Dr Julie Marsh


We love feedback
A survey is included in the back of your handout or complete online via: [https://tinyurl.com/surveydesignandtechniques](https://tinyurl.com/surveydesignandtechniques)
Survey Design and Techniques

Additional Resources
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SURVEY DESIGN

1. Developing a Research Question
   - Aslam S, Emmanuel P. “Formulating a researchable question: A critical step for facilitating good clinical research.” [Link](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3140151/)


   - Asking focused questions. Centre for Evidence-Based Medicine, University of Oxford. [Link](http://www.cebm.net/index.aspx?o=1036)

2. Levels of Evidence

3. Causality
   - Lucas RM and McMichael AJ. “Association or causation? Evaluating links between environment and disease.” [Link](http://www.who.int/bulletin/volumes/83/10/792.pdf)

4. Cross-Sectional Studies and Surveys
   - “Case-control and cross-sectional studies.” BMJ. [Link](https://thebmj-frontend.bmj.com/about-bmj/resources-readers/publications/epidemiology-uninitiated/8-case-control-and-cross-sectional)

5. General Survey Methods
   - “Planning and conducting a survey.” BMJ [Link](https://thebmj-frontend.bmj.com/about-bmj/resources-readers/publications/epidemiology-uninitiated/5-planning-and-conducting-survey)


   - Boynton P. “Administering, analysing, and reporting your questionnaire.” BMJ. Jun 5, 2004; 328(7452): 1372–1375 [Link](http://www.ncbi.nlm.nih.gov/pmc/articles/PMC420299/)
6. Sampling Methods

- “Populations and samples.” BMJ
  http://www.bmj.com/about-bmj/resources-readers/publications/statistics-square-one/3-populations-and-samples

7. Calculating Sample Size for a Single Proportion

- https://select-statistics.co.uk/calculators/sample-size-calculator-population-proportion/
  You need: Confidence interval (commonly 0.95); precision (commonly 0.05), estimate of the true proportion (you will have to make an educated guess, use the literature, do a pilot etc), and the size of the population from which you plan to sample. Numerous free calculators exist.

8. Questionnaire Design

  https://jan.ucc.nau.edu/~pms/cj355/readings/How%20to%20design%20a%20questionnaire.pdf

- “Selecting, designing, and developing your questionnaire.” PM Boynton. BMJ, 2004; 328:1312. www.bmj.com/content/328/7451/1312.full

  http://www.bmj.com/content/bmj/307/6914/1264.full.pdf

9. Survey Delivery Options

- **Phone:**
  *Problems:* Limited to those with phones; difficult to use with providers; response rates are dropping with reduced land line use, complex to implement
  *Positives:* Useful for reaching geographically diverse populations, Computer Assisted Telephone Interviews (CATI) helpful, allows skips; open ended/probing questions possible

- **Mail:**
  *Problems:* requires accurate addresses
  *Positives:* can reach anyone, great response rate, most efficient for cost

- **Web:**
  *Problems:* requires internet access/computer knowledge, response rates difficult to calculate but often very low
**Positives:** popular and effective in reaching providers, useful for reaching geographically diverse populations, relatively cheap, simple analysis sometimes provided by services, some are free and easy to use – e.g. Survey Monkey

- **Face to Face:**
  
  **Problems:** not good for providers, most expensive, requires skilled interviewers
  
  **Positives:** good for low literacy or special populations, open ended and probing questions possible, excellent response

- Survey techniques: Relative advantages and disadvantages
  


### 10. Maximising Response Rates

- **Data Analysis Australia**
  

- **Pre-contact**
  
  Phoning or sending a letter, email or fax to inform respondents about the survey or to set up an interview often helps, especially if this letter is from someone who can be trusted, typically from the organisation commissioning the survey.

- **Questionnaire design**
  
  Minimise the length and difficulty of the survey, simplify the format, ensure questions are not ambiguous and have clear instructions and only ask what is necessary.

- **Follow-up**
  
  Phone or send a letter, email or fax to people who haven't responded within a certain time. Multiple follow-ups may be needed. Unique identifiers on each survey form are generally required for this method, so you can send reminders to those who haven't responded, rather than a general notice to all people in the sample. Unfortunately, IDs on surveys may lead to an initial lower response rate as some people feel they jeopardise the confidentiality of the survey.
o **Incentives**

Some offer a raffle prize to people who respond to the survey or an up-front gift/payment/voucher to everyone approached. The form of the incentive may cause bias because particular groups may find it more appealing than others. Incentives that require people to identify themselves on the forms can possibly lead to untruthful answers or a lower response rate. Incentives must be chosen carefully and approved by an ethics committee.

o **Timing**

Avoid Christmas, Easter and other holidays. Timing of telephone interviews is very important. A pilot can identify suitable times, or they can be clarified at the initial contact.

**11. Piloting Your Survey**


**12. Useful Reference Journals/Texts**


**13. The CAHS Clinical Audit Handbook**


**14. Approval Pathways For Surveys**


15. Low and Negligible Risk Pathway

Premise:

The National Health and Medical Research Council (NHMRC) states that ethical review can be undertaken at various levels, according to the level of risk involved in the research.

The NHMRC define research as “low risk” where the only foreseeable risk to the participant is one of discomfort. Research is of “negligible risk” where the only foreseeable risk to the participant is one of inconvenience.

NHMRC Statement on Ethical Conduct in Human Research, 2007 (Updated May 2015)

The following are examples provided by CAHS of projects suitable/otherwise for the LNR Pathway.

Note most, but not all sites with Human Research Ethics Committees have a low and negligible risk pathway as an alternative to the full ethics review process.

Studies eligible for the LNR Ethical Review do not involve:

- any potential risk to the participant which will cause them anything more than discomfort
- an intervention
  For example use of drugs or devices; taking specimens from children and public and mental health interventions that would cause the participant anything more than discomfort.
- vulnerable individuals
- For example people who have a dependant relationship with medical personnel, people with mental illness, cognitive or intellectual impairment people with gender identity issues, people involved in illegal activities (illicit drug use)
- Aboriginal people or Torres Strait Islanders as the target study population
- genetic testing
- stem cells or their products
- the creation of a databank, biobank or registry
- the examination of sensitive personal or cultural issues
- women who are pregnant or their foetuses either in utero or ex utero
- a request for either a “Waiver of Consent” or permission to “Opt-out of Consent”

16. Types of Studies Not Eligible for LNR Ethical Review

- Any study that involves a drug or device
- Any data collection intended to create or add to a data bank, biobank or registry
17. Types of Studies That Would be Eligible for LNR Ethical Review

- Most qualitative research protocols
- Any study where the data is collected by questionnaire and/or focus groups and the target population is not excluded by the criteria set out by the NHMRC (see above).

**Examples:**

- Development of a conflict management framework in hospital staff
  - data collection from hospital staff by voluntary completion of a questionnaire
- A grounded theory study: exploring the experiences of nurses who encounter young people with mental health problems
  - data collection via questionnaire from adult health care providers
- The roles of parental - and child-based self-determined motivation in family-oriented therapies for childhood obesity
  - data collection by voluntary completion of a questionnaire after obtaining consent
- A qualitative exploration of the experiences and needs of parents of a child diagnosed with Type 1 diabetes when one parent has Type 1 diabetes.
  - data collection by voluntary completion of a questionnaire after obtaining consent

18. Redcap Resources and Support At CAHS

For relevant training, workshop resources and access to supports visit: [https://cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program/Workshops](https://cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program/Workshops)
CAHS Research Education Program
Research Skills Seminars Series 2021

RESEARCH SUPERVISION
Getting the most out of research supervision.

28th May 2021 | 12:30pm – 1:30pm | Perth Children’s Hospital

This seminar covers the importance of understanding the rights and responsibilities of both supervisors and supervisees doing research, whether for a formal degree or a small project, and how to get the best out of both roles. It also provides practical tips related to the selection of suitable research projects, supervision frequency and time allocation, different supervision styles, remote supervision and working with multiple supervisors.

About the Presenter
Prof. Jonathan Carapetis

Professor Jonathan Carapetis is Director of the Telethon Kids Institute and a Professor at UWA. His research interests include rheumatic fever and rheumatic heart disease, other group A streptococcal diseases, vaccine preventable disease, Indigenous child health, youth health and education, and skin sores and scabies. He has supervised 23 PhD, Masters, Honours, Clinical Trainees and others in research.

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• Lions Eye Institute
• Royal Perth Hospital

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The Research Skills Seminar Series is part of the Research Education Program presented by the Child and Adolescent Health Service, Department of Research. Seminars are hosted by WA Department of Health.
CAHS Research Education Program
Research Skills Seminars Series 2021

INTRODUCTORY BIOSTATISTICS

18th June 2021 | 12:30pm – 1:30pm | Perth Children’s Hospital

This seminar covers fundamental statistical concepts for clinical researchers, including why we use significance testing, how to interpret confidence intervals and p-values, how sample size and variability affect results, why bias and confounding factors are important considerations in designing studies, and when to seek statistical support.

About the Presenter

Dr Julie Marsh

Julie is an experienced statistical consultant who has worked in the Pharmaceutical industry for many years before returning to academia.

Julie teaches statistics at UWA and is a Senior Research Fellow at the Telethon Kids Institute.

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The Research Skills Seminar Series is part of the Research Education Program presented by the Child and Adolescent Health Service, Department of Research. Seminars are hosted by WA Department of Health.
### 2021 Seminar Schedule

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<td>A/Prof Sue Skull</td>
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<td>Feb 19</td>
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<td>A/Prof Sue Skull</td>
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<td>Mar 12</td>
<td>Introduction to Good Clinical Practice</td>
<td>Natalie Barber</td>
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<td>Mar 19</td>
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<td>Prof Jonathan Carapetis AM</td>
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<td>Aug 6</td>
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<td>Sep 17</td>
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<td>Oct 22</td>
<td>Rapid Critical Appraisal of Scientific Literature</td>
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<td>Oct 29</td>
<td>Statistical Tips for Interpreting Scientific Claims</td>
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<td>Nov 5</td>
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<td>Research Impact</td>
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<td>Nov 19</td>
<td>Ethics Processes for Clinical Research in WA</td>
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<td>Nov 26</td>
<td>Qualitative Research Methods</td>
<td>Dr Shirley McGough</td>
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All seminars are held from 12:30-1:30pm in the Auditorium on Level 5 at Perth Children’s Hospital and topics may be subject to change – email notice will be provided. All corresponding handouts are regularly revised and updated with attendance certificates available upon request.
Survey Design and Techniques

Thank you for your interest in this seminar

Please complete this 1-minute evaluation.
Your feedback will help guide future presentations and educational activities.

How did you attend the seminar?
- Live seminar at Perth Children's Hospital
- Hosted video-conference on-site (e.g., FSH, Lions Eye, RPH etc.)
- Online via Scopia
- Viewed online recording

Please rate your agreement with the following statements:

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What were the best aspects of the seminar?

What changes or improvements would you suggest?

How did you hear about the seminar?
(you can select multiple answer)
- Email invitation from Research Education Program
- CAHS Newsletters e.g. The Headlines, The View, CAHS Research Newsletter
- "Health Happenings" E-News
- Healthpoint Intranet Upcoming Events
- Collegiate lounge screen or other posted promotional material
- Telethon Kids Institute screen or other posted promotional material
- Telethon Kids Institute Newsletter
- Other

Thank you!