Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

CAHS Research Education Program Research Skills Seminar

Statistical Tips for Interpreting Scientific Claims

27 October 2023

Presented by

Michael Dymock

Biostatistician

Telethon Kids Institute

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

Child and Adolescent Health Service, Department of Research

Department of Health, Government of Western Australia

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

Statistical Tips for Interpreting Scientific Claims

PRESENTATION SLIDES

CAHS Research Education Program Research Skills Seminar Series
✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

Government of Western Australia
Department of Health

Perth Children's Hospital

CAHS Research Education Program

2023 Research Skills Seminar Series

Statistical Tips for Interpreting Scientific Claims

Presented by

27th October 2023

Michael Dymock

Biostatistician
Telethon Kids Institute

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

Perth Children's Hospital Foundation

1

Acknowledgement of Country

The Child and Adolescent Health Service acknowledge Aboriginal people of the many traditional lands and language groups of Western Australia.
We acknowledge the wisdom of Aboriginal Elders both past and present and pay respect to Aboriginal communities of today.

2

CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

- **Over 20 topics across the research process**
  - 1h overview
  - Handouts are provided
- **Recorded and uploaded**
- **Feedback**
  - Back of handout
  - Emailed link
- **Please hold questions to the end**
  - Use provided microphone

3

Twenty tips for interpreting scientific claims

In 2013 Sutherland, Spiegelhalter & Burgman published a list to

“help non-scientists interrogate advisers and grasp the limitations of evidence.”

Perth Children's Hospital Foundation

4

The 20 Tips

1. Differences & Chance Cause Variation
2. No Measurement is Exact
3. Bias is Rife
4. Bigger is Usually Better for Sample Size
5. Correlation does not Imply Causation
6. Regression to the Mean can Mislead
7. Extrapolating Beyond the Data is Risky
8. Beware the Base-Rate Fallacy
9. Controls are Important
10. Randomisation Minimises Bias
11. Seek Replication
12. Scientists are Human
13. Significance is Significant
14. Separate No Effect from Non-Significance
15. Effect Size Matters
16. Study Relevance Limits Generalisation
17. Feelings Influence Risk Perception
18. Dependencies Change the Risks
19. Data can be Dredged, or Cherry Picked
20. Extreme Measurements may Mislead

The 20 Tips

1. **Differences & Chance Cause Variation**
2. **No Measurement is Exact**
3. **Bias is Rife**
4. **Bigger is Usually Better for Sample Size**
5. **Correlation does not Imply Causation**
6. **Regression to the Mean can Mislead**
7. **Extrapolating Beyond the Data is Risky**
8. **Beware the Base-Rate Fallacy**
9. **Controls are Important**
10. **Randomisation Minimises Bias**
11. **Seek Replication**
12. **Scientists are Human**
13. **Significance is Significant**
14. **Separate No Effect from Non-Significance**
15. Effect Size Matters
16. Study Relevance Limits Generalisation
17. **Feelings Influence Risk Perception**
18. Dependencies Change the Risks
19. Data can be Dredged, or Cherry Picked
20. Extreme Measurements may Mislead

Differences & chance cause variation (1)

What caused the variation?

- Suppose that you are comparing two treatments and you observe a *difference*
  - Is there *truly* a difference or did it occur by chance?
- Don't forget that rare events **DO** occur!

"The main challenge of research is teasing apart the importance of the process of interest from the innumerable other sources of variation."

What can we do about it?

Observational vs Randomised
Inclusion/exclusion criteria
Control group

Frequentist analysis
State hypotheses
Compute test statistic / p-value

Statistical Toolkit
Study Design
Hypothesis testing
Posterior distributions
Independent replication

Pillar of science
Controls for hidden variation
Builds evidence base

Bayesian analysis
Probability distribution of parameter
Conveys uncertainty

9

9

No measurement is exact (2)

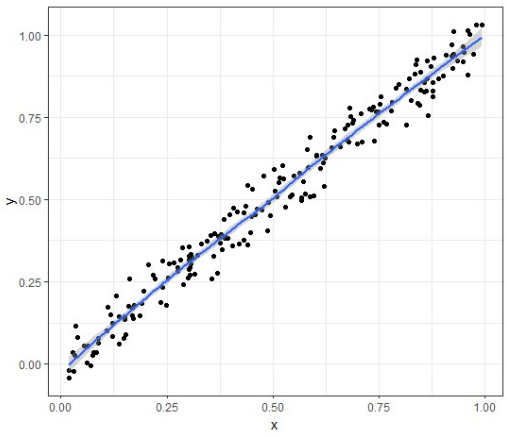
10

No measurement is exact

All (health) measurements have some error

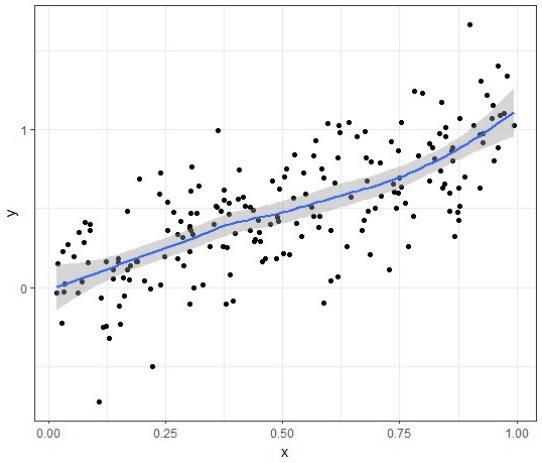
- equipment and/or operator error
- time fluctuations (daily, seasonal)

If the measurement error is large relative to the effect size then the precision will be low.



No measurement is exact

- Standardise how measurements are obtained
- Always present an estimate of the effect size (magnitude & direction) with associated precision (often a 95% confidence interval)



Bias is rife (3)

Bias is rife **within** studies

- Bias can exist due to a systematic error in the
  - Design
  - Recruitment
  - Data Collection
  - Analysis
- Results in an incorrect estimation of the true effect of the exposure/intervention on the outcome

Read beyond the abstract - strengths & weaknesses of the study are in the methods and discussion sections

14

Bias is rife **within** studies

- Generally, we assign more credibility to results from a study that selects participants based on an appropriate **sampling scheme** rather than a study based on observational data.
- Consider these sources of potential bias:
  - Selection
  - Recall
  - Survival
  - Study deviations

15

Bias is rife **across** studies

- **Study Publication Bias:**

  Studies are published or not depending on their results and leads to inflated or exaggerated effect sizes in early meta-analyses.

- **Time Lag Bias** *(or "pipeline bias"):*

  Non-significant research results can take longer to achieve publication

- **Outcome Reporting Bias:**

  Study outcomes that are statistically significant have a higher chance of being fully reported and leads to over-estimation of the effect size

16

Bigger is usually better for sample size (4)

17

Bigger is Usually Better for Sample Size

Average efficacy can be more reliably and accurately estimated from a study with hundreds of participants than from a study with only a few participants.

Reduces chance of **Type I Error**

Ensure that **subgroup** analyses are adequately powered (i.e., able to detect any group differences)

18

Correlation does not imply causation (5)

19

Correlation does not imply causation

Evidence That Facebook Cancelled Out the Cholesterol-Lowering Effects of Justin Bieber

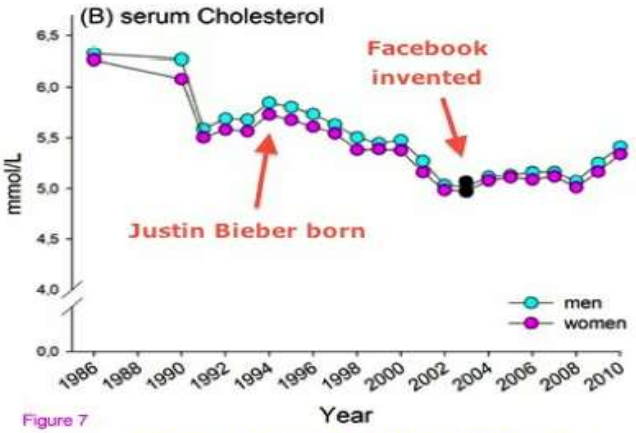


Figure 7

Courtesy of www.marksdailyapple.com

Consider whether the detected association may be due to a third unmeasured/ unknown confounding (*lurking*) factor or whether it may simply be incidental

20

20

Correlation does not imply causation

- Review existing literature for common confounders and account for these in the design stage if possible
- Check for imbalance in subgroups or adjustment for these in the analysis
- Check whether the association is biologically plausible
- **Draw a causal diagram!**

21

21

Bradford Hill Criteria

Generalisability (external validity)

"At its best a trial shows what can be accomplished with a medicine under careful observation and certain restricted conditions. The same results will not invariably or necessarily be observed when the medicine passes into general use."

Austin Bradford Hill, 1984

22

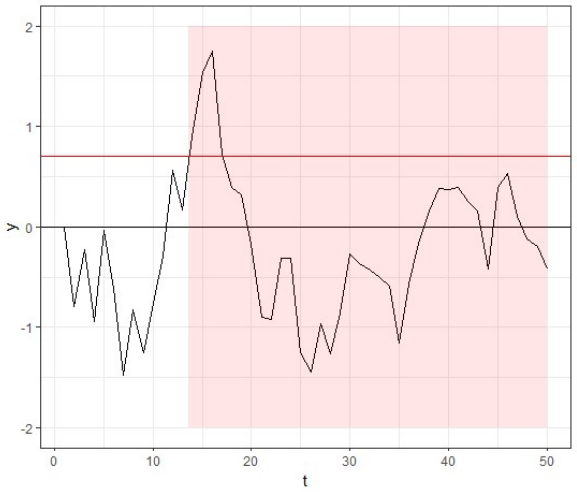
22

Regression to the mean can mislead (6)

Regression to the mean can mislead

Commonly in clinical trials individuals are recruited based on their baseline assessment (e.g., SBP > 160mmHg, CD4 count < 350 cells/mm^3)

Patients often present when their symptoms have worsened, some only temporarily, so over time their average score may fall back to the true value.



Regression to the mean can mislead

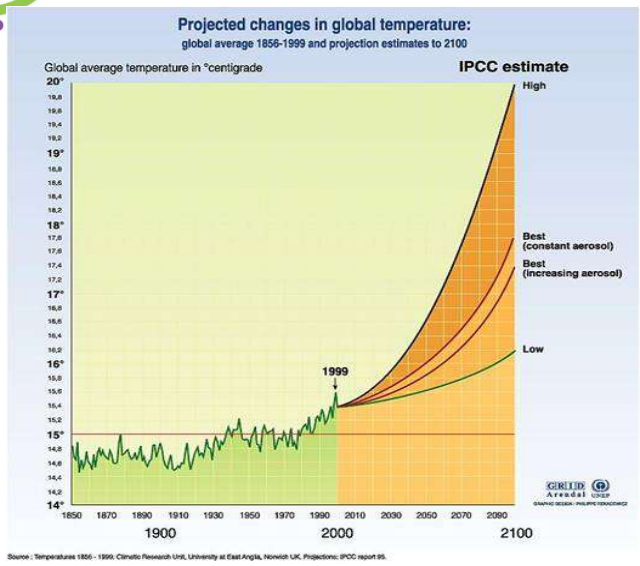
Studies over time should always include:

- **comparator/control group**
- **and record baseline measurements**

There is a tendency to jump to conclusions when there has been a cluster of rare events, however, random processes tend to return to their base rate over time (if left untouched)

Extrapolating beyond the data is risky (7)

Extrapolating beyond the data is risky



"Patterns found within a given range do not necessarily apply outside that range.

Thus, it is very difficult to predict the response of ecological systems to climate change, when the rate of change is faster than has been [previously] experienced."

27

Extrapolating beyond the data is risky

- Generally, we assign more credibility to predictions within the range of the data.
- When forecasts are necessary, they should be
  - robust to underlying methods
  - model a range of assumptions
  - and be presented with uncertainty intervals

28

Beware of the base-rate fallacy (8)

29

Beware of the base-rate fallacy

"The ability of an imperfect test to identify a condition depends upon the likelihood of that condition occurring (the base rate)."

Don't be overly influenced by high sensitivity or specificity rates (true test positives and negatives)

Suppose you test **positive** for a disease with 1/1000 prevalence (test has 99% *sensitivity* and 98% *specificity*)

Are you truly positive?

30

Beware of the base-rate fallacy

D = true infection
T = positive test result

$P(D) = 0.001$ (prevalence)
$P(T|D) = 0.99$ (sensitivity)
$P(\bar{T}|\bar{D}) = 0.98$ (specificity)

$$P(D|T) = \frac{P(D \cap T)}{P(T)} = \frac{P(D)P(T|D)}{P(D)P(T|D)+P(\bar{D})P(T|\bar{D})} = \frac{0.001 \times 0.99}{0.001 \times 0.99+(1-0.001)\times(1-0.99)} = 0.047$$

4.7%

31

Controls are important (9)

32

Controls are important

For all the reasons previously covered

33

33

Randomisation minimises bias (10)

34

Randomisation minimises bias

- Ideally individuals (or units) should be randomised to intervention to minimise systematic differences between the groups due to factors other than the intervention
- The randomisation process should be checked for balance at baseline across treatment groups for confounding variables.

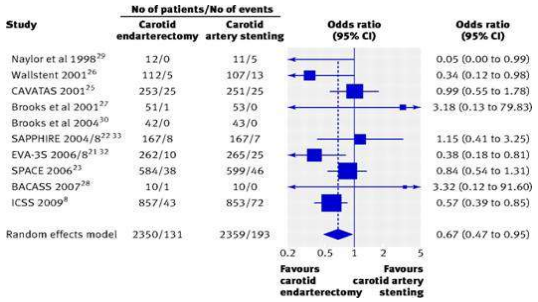
35

Seek replication (11)

36

Seek replication

"Results consistent across many studies, replicated on independent populations, are more likely to be solid."



"The results of several such experiments may be combined in a meta-analysis to provide an overarching view of the topic with potentially much greater statistical power than any of the individual studies."

37

Seek replication

Look carefully at the:

- study design
- outcomes
- inclusion/exclusion criteria
- and statistical methods to determine if the studies should be compared

38

Scientists are human (12)

39

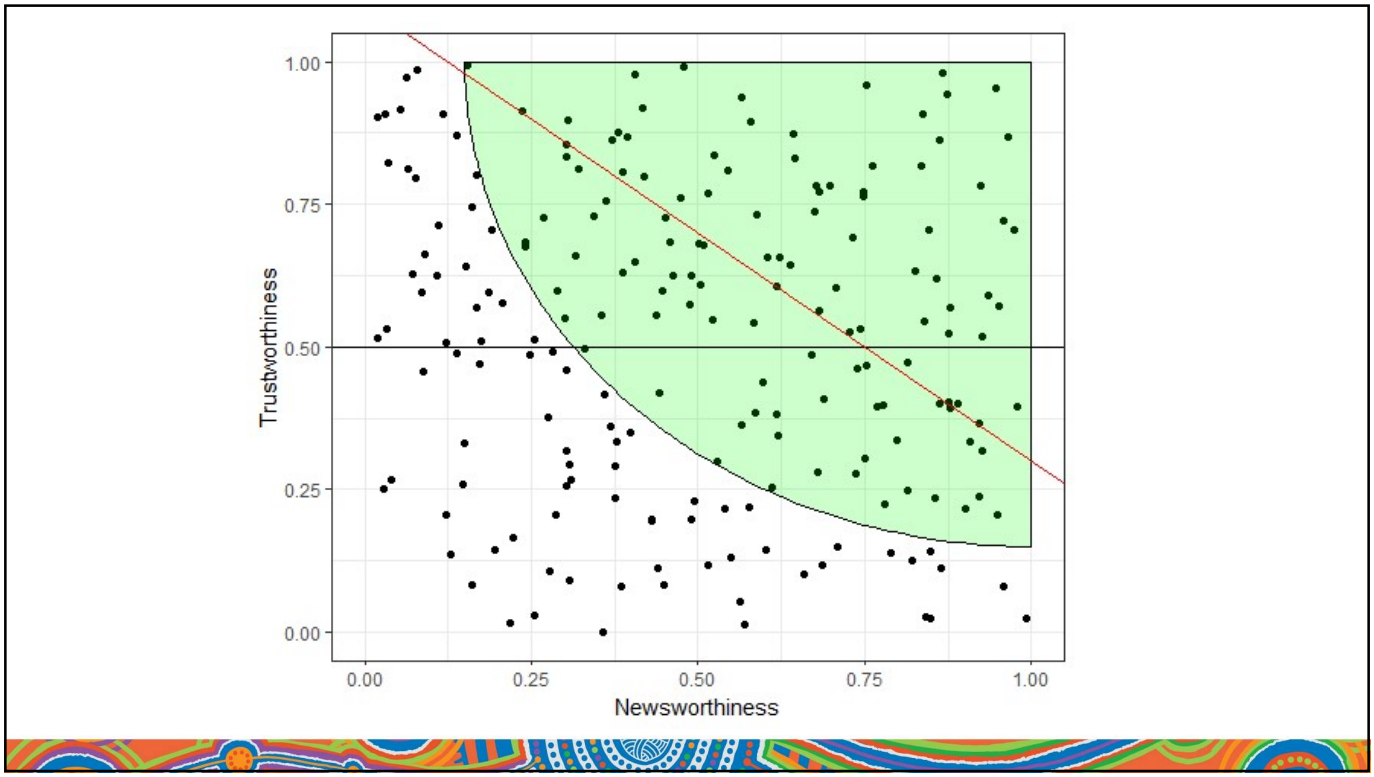
Scientists are human

"Peer review is not infallible: journal editors might favour positive findings and newsworthiness."

Researchers may have a vested interest in promoting their research or be prone to exaggeration.

Statistical Tools
Reporting Guidelines:
CONSORT, TREND, STROBE, REMARK, STREGA, PRISMA

40



41

Significance is significant (13)

Perth Children's Hospital Foundation

42

Significance is significant

1. P-values can indicate how **incompatible** the data are with a specified statistical model
2. P-values **do not** measure the probability that the studied hypothesis is true, or the probability that the data were produced by random chance alone
3. Scientific conclusions, business or policy decisions **should not be** based only on whether a p-value passes a specific threshold (e.g., p-value < 0.05)
4. Proper inference requires **full reporting and transparency**
5. A p-value or statistical significance, **does not** measure the size of an effect or the importance of a result
6. By itself, a p-value **does not** provide a good measure of evidence regarding a model or hypothesis

43

43

Separate no effect from non-significance (14)

Perth Children's Hospital Foundation

44

Separate no effect from non-significance

- Proof by **contradiction**
  - Suggest Theory X
  - Find a contradiction (or counter example) to Theory X
- *"**The lack of a statistically significant result** (say a P-value > 0.05) does not mean that there was no underlying effect: it means that **no effect was detected**."*
- With a hypothesis test, we aim to assess evidence that **counters** the claim of the null hypothesis, thus **supporting** the alternative hypothesis
- **BUT** the failure to find counter evidence **does not** prove the null hypothesis

45

Feelings influence risk perception (17)

46

Feelings influence risk perception

*"Broadly, risk can be thought of as the **likelihood of an event occurring** in some time frame, **multiplied by the consequences should the event occur**. People's risk perception is influenced disproportionately by many things, including the **rarity** of the event, how much **control they believe they have**, the **adverseness of the outcomes**, and whether the risk is **voluntarily or not**."*

47

47

Upcoming Sessions

17 Nov Ethics Processes for Clinical Research in WA
Dr Natalie Giles, Manager Ethics & Compliance CAHS

21 Nov WORKSHOP
Navigating Research Ethics and Governance in WA
Dr Natalie Giles and the CAHS Ethics and Governance Team

Register → **researcheducationprogram.eventbrite.com.au**

We love feedback

A survey is included in the back of your handout, or complete online
https://tinyurl.com/surveyStatTips

✉ ResearchEducationProgram@health.wa.gov.au cahs.health.wa.gov.au/ResearchEducationProgram

48

✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

Statistical Tips for Interpreting Scientific Claims

RESOURCE NOTES

CAHS Research Education Program Research Skills Seminar Series
✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram

Table of Contents

1. Statistical Bias **31**

1.1. Statistical Bias Types explained 31

1.2. The Cochrane Collaboration's tool of assessing risk of bias in randomised trials 31

1.3. Revised Cochrane risk-of-bias tool for randomised trials (Rob 2) 31

2. Correlations **31**

2.1. Spurious Correlations 31

2.2. Casual Diagrams: Draw your assumptions before your conclusions 31

3. Cognitive Bias **32**

3.1. 18 Cognitive Bias examples show why mental mistakes get made 32

4. References **32**

5. Key websites **33**

5.1. Risk of Bias tools 33

5.2. Cochrane Handbook for Systematic Reviews of Interventions 33

5.3. Understanding Health Research - A tool for making sense of health studies 33

6. Statistical support contacts **34**

6.1. CAHS / Perth Children's Hospital 34

6.2. Telethon Kids Institute 34

6.3. University of Western Australia 34

6.4. WAHTN Clinical Trial and Data Management Centre 34

6.5. WAHTN Clinical Research Support Service – EMHS Sessions 34

1. Statistical Bias

1.1. Statistical Bias Types explained

https://data36.com/statistical-bias-types-explained/

Statistical Bias on Wikipedia
https://en.wikipedia.org/wiki/Bias_(statistics)

1.2. The Cochrane Collaboration's tool of assessing risk of bias in randomised trials

https://www.bmj.com/content/343/bmj.d5928

1.3. Revised Cochrane risk-of-bias tool for randomised trials (Rob 2)

https://methods.cochrane.org/bias/resources/rob-2-revised-cochrane-risk-bias-tool-randomized-trials

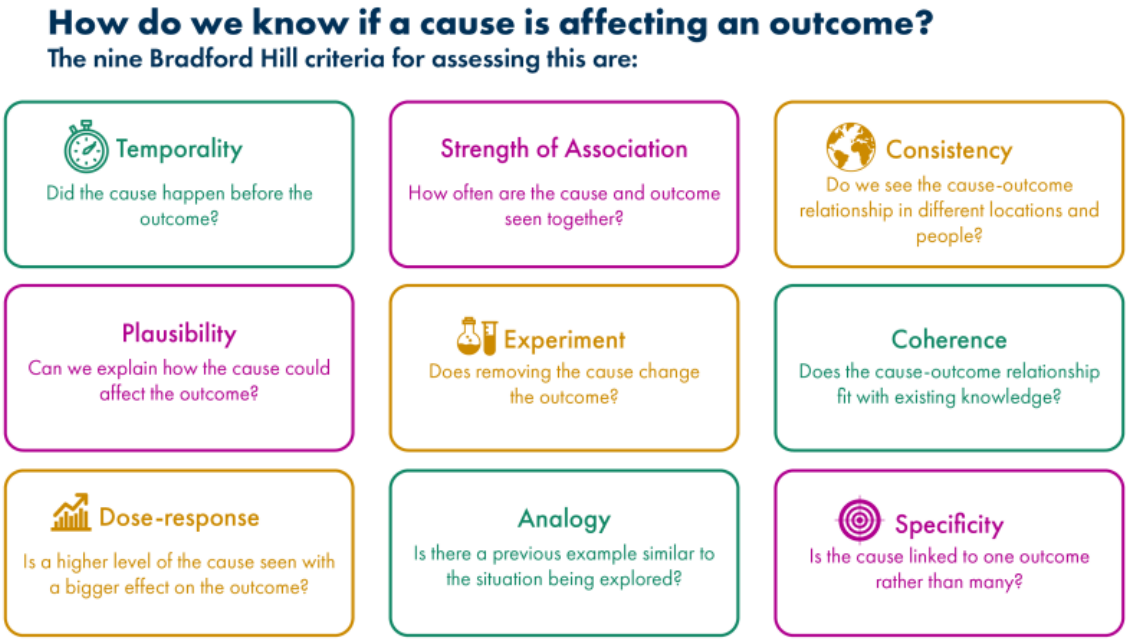
2. Correlations

2.1. Spurious Correlations

https://tylervigen.com/spurious-correlations

2.2. Casual Diagrams: Draw your assumptions before your conclusions

https://online-learning.harvard.edu/course/causal-diagrams-draw-your-assumptions-your-conclusions



https://spice-spotlight.scot/2019/07/08/searching-for-causes-in-the-blue-water-schools/

3. Cognitive Bias

3.1. 18 Cognitive Bias examples show why mental mistakes get made

https://www.visualcapitalist.com/18-cognitive-bias-examples-mental-mistakes/

4. References

Adrian G Barnett, Jolieke C van der Pols, Annette J Dobson, Regression to the mean: what it is and how to deal with it, International Journal of Epidemiology, Volume 34, Issue 1, February 2005, Pages 215–220, https://doi.org/10.1093/ije/dyh299

Bar-Hillel, M. (1980). The base-rate fallacy in probability judgments. Acta Psychologica, 44(3), 211–233. https://doi.org/10.1016/0001-6918(80)90046-3

Codling, E., Plank, M., Benhamou, S., & Codling, E. (2008). Random walk models in biology. Journal of the Royal Society, Interface, 5(25), 813–834. https://doi.org/10.1098/rsif.2008.0014

Dixon P. The p-value fallacy and how to avoid it. Canadian Journal of Experimental Psychology/Revue Canadienne de Psychologie Experimentale. 2003;57(3):189-202. DOI:10.1037/h0087425. The p-value fallacy and how to avoid it. - PsycNET (apa.org)

Gigerenzer G. We need statistical thinking, not statistical rituals. Behavioral and Brain Sciences. 1998;21(2):199-200. https://doi.org/10.1017/S0140525X98281167

Kahneman, D., & Tversky, A. (1972). Subjective probability: A judgment of representativeness. Cognitive Psychology, 3(3), 430–454. https://doi.org/10.1016/0010-0285(72)90016-3

Kidholm, K., Gerke, O., Vondeling, H., & Dyrvig, A. (2014). Checklists for external validity: a systematic review. Journal of Evaluation in Clinical Practice., 20(6), 857–864. https://doi.org/10.1111/jep.12166

Kristine R. Broglio, Jason T. Connor & Scott M. Berry (2014) Not Too Big, Not Too Small: A Goldilocks Approach To Sample Size Selection, Journal of Biopharmaceutical Statistics, 24:3, 685-705, DOI: 10.1080/10543406.2014.888569
Not Too Big, Not Too Small: A Goldilocks Approach To Sample Size Selection: Journal of Biopharmaceutical Statistics: Vol 24, No 3 (tandfonline.com)

Nuzzo, R. (2014), “Scientific Method: Statistical Errors,” Nature, 506, 150–152. Available at http://www.nature.com/news/scientific-method-statistical-errors-1.14700

Pannucci, C. J., & Wilkins, E. G. (2010). Identifying and avoiding bias in research. Plastic and reconstructive surgery, 126(2), 619–625. DOI:10.1097/PRS.0b013e3181de24bc Identifying and avoiding bias in research - PubMed (nih.gov)

Ronald L. Wasserstein & Nicole A. Lazar (2016) The ASA Statement on p-Values: Context, Process, and Purpose, The American Statistician, 70:2, 129-133, DOI: 10.1080/00031305.2016.1154108 Full article: The ASA Statement on p-Values: Context, Process, and Purpose (tandfonline.com)

Rothwell, P. (2005). External validity of randomised controlled trials: "To whom do the results of this trial apply?" The Lancet., 365(9453), 82–93. https://doi.org/10.1016/S0140-6736(04)17670-8

Sackett, David L. (1979). "Bias in Analytic Research." Journal of chronic diseases. 32.1-2 51–63. https://doi.org/10.1016/0021-9681(79)90012-2

Samuels, M. (1991). Statistical Reversion Toward the Mean: More Universal Than Regression Toward the Mean. The American Statistician, 45(4), 344-346. doi:10.2307/2684474 Statistical Reversion Toward the Mean: More Universal Than Regression Toward the Mean on JSTOR

Sutherland, Spiegelhalter and Burgman (2013). Twenty tips for interpreting scientific claims. Nature 503 (335) Policy: Twenty tips for interpreting scientific claims | Nature

van der Bles Anne Marthe, van der Linden Sander, Freeman Alexandra L. J., Mitchell James, Galvao Ana B., Zaval Lisa and Spiegelhalter David J. (2019) Communicating uncertainty about facts, numbers and science 6R. Soc. open sci. http://doi.org/10.1098/rsos.181870

5. Key websites

5.1. Risk of Bias tools

https://sites.google.com/site/riskofbiastool/welcome/rob-2-0-tool/current-version-of-rob-2

5.2. Cochrane Handbook for Systematic Reviews of Interventions

https://training.cochrane.org/handbook/current

5.3. Understanding Health Research - A tool for making sense of health studies

https://www.understandinghealthresearch.org/

6. Statistical support contacts

6.1. CAHS / Perth Children's Hospital

Research and biostatistics support
Department of Research, Child and Adolescent Health Service

Phone: (08) 6456 0124
Email: cahsresearchgrantsofficer@health.wa.gov.au
Website: Child and Adolescent Health Service | CAHS - Data Management

6.2. Telethon Kids Institute

Consultancy Service
Email: Biometrics@telethonkids.org.au

6.3. University of Western Australia

The Centre for Applied Statistics
Offers free advice for UWA postgraduate research students

Email: consulting-cas@uwa.edu.au

6.4. WAHTN Clinical Trial and Data Management Centre

The Clinical Trial and Data Management Centre is a WAHTN enabling platform which aims to enhance clinical trials and related data management in Western Australia.

The platform is a WAHTN-wide entity sharing expertise in clinical trial study design (including novel designs), clinical trial conduct, data management, data-linkage, analytical techniques for clinical trial datasets, bio-repository techniques and clinical registry datasets. It facilitates the pursuit of large-scale clinical trials and translational healthcare research in WA.

Phone: (08) 9266 1970
Email: CTDMC@curtin.edu.au
Website: https://wahtn.org/platforms/clinical-trials-data-centre/

6.5. WAHTN Clinical Research Support Service – EMHS Sessions

The WAHTN are offering a Clinical Research Support Service for anyone currently involved or interested in conducting clinical research in WA. WAHTN's Clinical Trial and Data Management Centre (CTDMC) can meet onsite with staff from WAHTN Member Partners, including EMHS.

The CTDMC staff can provide advice on various aspects of clinical research including:

- how to get started with your project
- a brief primer on research ethics & governance
- setting up essential documents for your project
- data management and database design
- protocol development and other research related documents
- assistance connecting with research partners and working with universities

Sessions can:

- be one-on-one or with a small group, such as a research team
- tailored to the areas you need help

Contact: General enquiries to
EMHS.REG@health.wa.gov.au

or

Sharon Oddy, Business Support Officer
Sharon.Oddy@health.wa.gov.au
(08) 9224 3771

Government of **Western Australia**
Child and Adolescent Health Service

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

Child Health Research Symposium

Celebrating Innovation, Collaboration and Translation

cahs.health.wa.gov.au/Child-Health-Research-Symposium

8 - 10 November 2023

Perth Children's Hospital Auditorium
and Telethon Kids Institute Manda

Scan the QR code to register to attend

Incorporating the CAHS Nursing and CAMHS Symposiums

Neonatology | Community Health | Mental Health | Perth Children's Hospital

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital **Foundation**

Perth Children's Hospital

CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

2023 Seminar Schedule

Scan to register

Interactive in pdf format
Last updated 12/10/23

	DATE	TOPIC	PRESENTER	ENROL	WATCH
1	3 Mar	**Research Fundamentals**	Dr Kenneth Lee, UWA	-	2023
2	17 Mar	**Introductory Biostatistics**	Michael Dymock, TKI	-	2023
3	28 Apr	**Scientific Writing**	A/Prof Tony Kemp, UWA	-	2023
4	5 May	**REDCap for Data Capture and Management**	Dr Jane Mugure Githae, CAHS	-	2023
5	12 May	**Using Social Media in Research**	Dr Kenneth Lee, UWA	-	2023
6	19 May	**Getting the Most out of Research Supervision**	A/Prof Sunalene Devadason, UWA/CAHS	-	2022
7	26 May	**Research Impact**	Dr Tamika Heiden, Vic	-	2023
8	2 Jun	**Survey Design & Techniques**	Dr Jane Mugure Githae, CAHS	-	2023
9	9 Jun	**Conducting Systematic Reviews**	Prof Sonya Girdler, Curtin Uni	-	2023
10	16 Jun	**Consumer & Community Involvement in Research**	Belinda Frank, TKI	-	2023
11	23 Jun	**Project Management**	Melanie Wright, SMHS	-	2023
12	30 Jun	**Sample Size Calculations**	Michael Dymock, TKI	-	2023
13	21 Jul	**Introduction to Good Clinical Practice**	Alexandra Robertson, CAHS	-	2023
14	28 Jul	**Data Collection and Management**	Dr Jane Mugure Githae, CAHS	-	2023
15	4 Aug	**Rapid Critical Appraisal of Scientific Literature**	Dr Natalie Strobel, ECU	-	2023
16	18 Aug	**Media and Communications in Research**	Keryn McKinnon, TKI	-	2023
17	25 Aug	**Oral Presentation of Research Results**	Dr Jane Mugure Githae, CAHS	-	2023
18	1 Sep	**Involving Aboriginal Communities in Research**	Cheryl Bridge - TKI Shakara Liddelow - Hunt – TKI A/Prof Bep Uink, Murdoch Uni	-	2023
19	8 Sep	**Knowledge Translation**	A/Prof Fenella Gill, Curtin Uni / CAHS	-	2023
20	13 Oct	**Research Governance**	Dr Natalie Giles, Tracy Chapman, CAHS	-	2023
21	20 Oct	**Grant Applications and Finding Funding**	Dr Tegan McNab, TKI	-	2023
22	27 Oct	**Statistical Tips for Interpreting Scientific Claims**	Michael Dymock, TKI	-	2022
23	17 Nov	**Ethics Processes for Clinical Research in WA**	Dr Natalie Giles, CAHS	REGISTER	2020
24	24 Nov	**Qualitative Research Methods**	Dr Lorna Davin, University of Notre Dame	REGISTER	2022
25	1 Dec	**Innovation and Commercialisation**	Dr Helga Mikkelsen, Brandon BioCatalyst + Ashley Schoof, TKI	REGISTER	2022

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Contact Us

☎ (08) 6456 0514

✉ researcheducationprogram@health.wa.gov.au

cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Seminars are held from 12:30-1:30pm at Perth Children's Hospital Auditorium and are broadcast live online through Teams and Avaya.
Seminars are recorded and uploaded to our website within a week of presentation. Topics are subject to change with appropriate email notice provided.
Handouts are revised and updated regularly. A light lunch is provided for attendees at our PCH auditorium. Attendance certificates are available on request.

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

CAHS Research Education Program

Research Skills Seminar Series 2023

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact

Ethics Processes for Clinical Research in WA

17th November 2023

12.30 - 1.30pm

This seminar reiterates ethical principles and focuses on understanding ethics processes for clinical research and responsibilities for researchers.

It provides practical and up-to-date guidance for completing quality ethics applications.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands
Accessible via pink or yellow lifts

- OR -

Access online via Teams or Avaya

- OR -

Watch live
from a hosted video-conferencing site

- Bunbury Hospital
- Fiona Stanley Hospital
- Lions Eye Institute
- Royal Perth Hospital

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Meet the presenter

Dr Natalie Giles
Manager, Ethics and Compliance, CAHS

Natalie has a background as a researcher prior to moving into research ethics. She initially worked in the field of immunology and later completed a PhD in biomedical science from Murdoch University.

She worked as a post-doctoral researcher for the Fiona Wood Foundation, known as the McComb Foundation at the time. Natalie then took on a research ethics role at the University of Notre Dame Australia and later at South Metropolitan Health Service prior to joining CAHS.

researcheducationprogram@health.wa.gov.au (08) 6456 0514

cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

CAHS Research Education Program

Research Skills Workshop Series

Navigating Research Ethics and Governance in WA

21st November 2023 • ***1.00 - 3.30pm*** • ***PCH, TKI Level 5 Seminar Room***

If you are undertaking a research project or are thinking about becoming involved in research, understanding the review and approval requirements for your research project may appear intimidating.

This workshop is to help you understand the process of ethical and governance review for research approvals at CAHS, which includes PCH, Community Health, Mental Health and Neonatology.

The Ethics and Governance team will provide an overview of the review processes at CAHS and explain the most common issues that cause delays or queries in relation to research submissions. We welcome your feedback and interaction throughout the workshop as we discuss issues that are relevant to you and your project.

The session allows you to meet the ethics and governance team at CAHS and ask questions in an open and supportive environment to help you understand and navigate the process.

We invite experienced and inexperienced researchers and their support teams to attend if you would like to know more about the review and approval process at CAHS or refresh your knowledge.

Presented by

CAHS Ethics and Governance Team

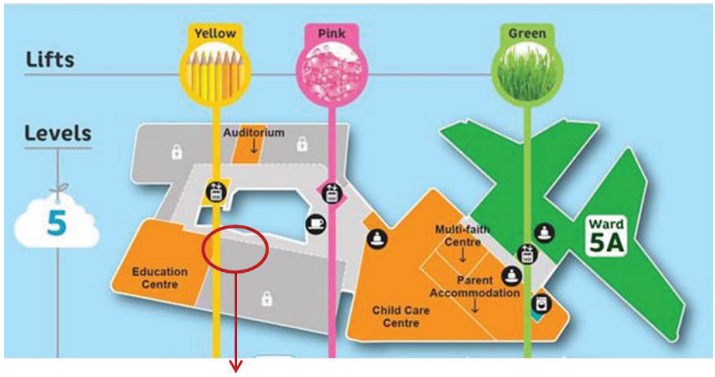
If you have specific questions that you would like to have covered during the workshop please send them through to Natalie.Giles@health.wa.gov.au.

Scan to register

Register via Eventbrite

View our online recorded resources

Subscribe to our mailing list



Location of the TKI Seminar Room
Accessible via yellow or pink lifts

Contact Us

(08) 6456 0514 researcheducationprogram@health.wa.gov.au
cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

Perth Children's Hospital Foundation

Workshops are presented by the Research Education Program in partnership and with support from the PCH Foundation and Telethon Kids Institute as part of the Research Education Program Research Skills Workshop Series, presented by the WA Department of Health CAHS Department of Research and invited speakers.

TELETHON KIDS INSTITUTE
Discover. Prevent. Cure.

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

CAHS Research Education Program

Research Skills Seminar Series 2023

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact

Qualitative Research Methods

24th November 2023

12.30 - 1.30pm

The use of qualitative research methods is becoming more popular in health either as the primary research method or as part of a mixed methods approach to investigating a health issue.

This seminar covers the benefits of using qualitative research; some of the myths associated with the use of qualitative research; the types of qualitative methods; how data is collected and analysed; and how the researcher uses qualitative research to improve health outcomes for individuals, families and communities.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands
accessible via pink or yellow lifts
or access online via Teams or Avaya
or watch live
from a hosted video-conferencing site

- Bunbury Hospital
- Fiona Stanley Hospital
- Lions Eye Institute
- Royal Perth Hospital

Register via Eventbrite

View recorded seminars online

Subscribe to our mailing list

Meet the presenter

THE UNIVERSITY OF NOTRE DAME AUSTRALIA

Dr Lorna Davin

Senior Lecturer Medical Education, University of Notre Dame Australia

Lorna is an experienced educator, facilitator and researcher in the area of emotional well-being. She has worked in the health and education sectors for the last 30 years.

Lorna is a qualitative researcher who uses stories as the basis of her research. Her areas of interest are compassion and self-compassion, our values and beliefs, the stories we tell ourselves, and the way they shape our lives. She is a regular presenter at state and national conferences, has contributed a range of publications to the field and supervises and mentors students undertaking research in health professional education.

researcheducationprogram@health.wa.gov.au (08) 6456 0514

cahs.health.wa.gov.au/Research/For-researchers/Research-Education-Program

CAHS Research Education Program

Research Skills Seminar Series

A free, open-access resource designed to upskill busy clinical staff and students and improve research quality and impact.

Statistical Tips for Interpreting Scientific Claims

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 Avaya or Teams
- ○ Viewed online recording

Please rate your agreement with the following statements:

	N/A	Strongly Disagree	Disagree	Neither	Agree	Strongly Agree
The aims and objectives were clear	○	○	○	○	○	○
The session was well structured	○	○	○	○	○	○
Presentation style retained my interest	○	○	○	○	○	○
The speaker communicated clearly	○	○	○	○	○	○
The material extended my knowledge	○	○	○	○	○	○
The additional resources were helpful	○	○	○	○	○	○

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!

Government of **Western Australia**
Child and Adolescent Health Service

Perth Children's Hospital

cahs.health.wa.gov.au/ResearchEducationProgram

✉ ResearchEducationProgram@health.wa.gov.au
cahs.health.wa.gov.au/ResearchEducationProgram