



Government of Western Australia
Child and Adolescent Health Service



CAHS Research Education Program Research Skills Seminar

Sample Size Calculations

2nd August 2024



Presented by

Michael Dymock

Biostatistician

Telethon Kids Institute



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





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Child and Adolescent Health Service, Department of Research

Department of Health, Government of Western Australia

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CAHS Research Education Program Research Skills Seminar Series

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Sample Size Calculations



PRESENTATION SLIDES

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Government of Western Australia
Child and Adolescent Health Service

Sample Size Calculations

Calculating simple sample sizes using
PS software

2nd August 2024



Michael Dymock

Biostatistician

Telethon Kids Institute

Compassion

Excellence

Collaboration

Accountability

Equity

Respect



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

-  Over 25 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

Overview



4

Overview

- What is a sample size and why does it matter?
- A little theory
- Calculating sample sizes using the PS software
- Considerations for clinical trials
- Where can I get more statistical help?

5



What is sample size and
why does it matter?

6

What is a sample size?

- To answer a research question effectively we should design a study carefully
- We need to decide how many subjects (participants, patients, etc.) to include and how many observations (measurements) to make on each subject
- The **sample size** is the total number of subjects*
 - *But we must consider the number of observations per subject: E.g., measuring blood pressure two times on three subjects may be considered a sample size of six

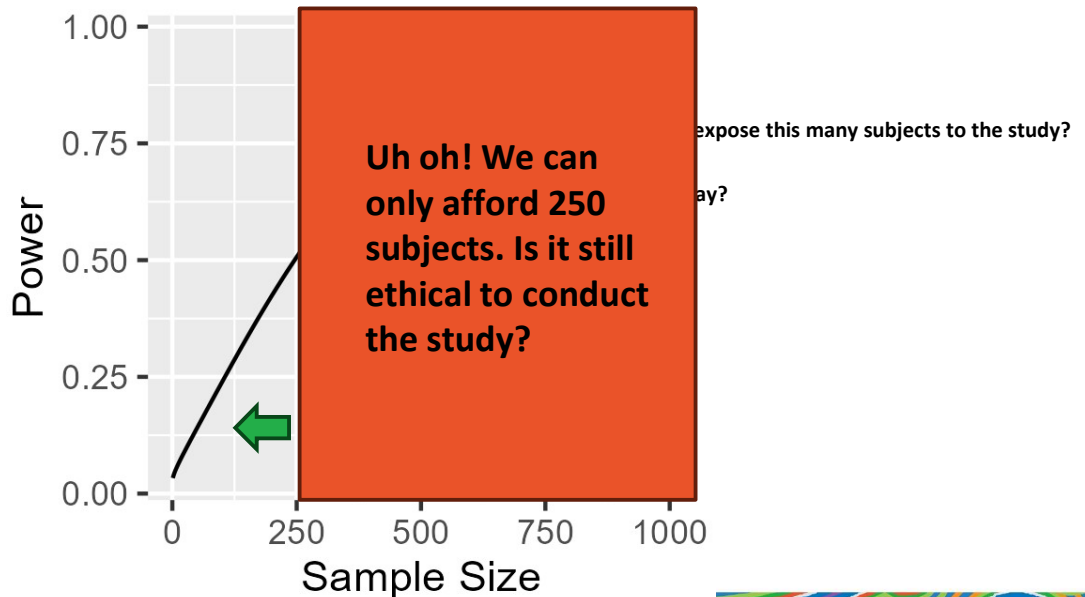
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Why does everyone care so much?

- Before conducting a study, the research team must demonstrate that it will be feasible and ethical, and this requires estimating the sample size
 - Do we have the resources to conduct the study at this sample size?
 - Are we likely to be able to draw objective conclusions (i.e., power)?
 - What is the burden/risk to the subjects?
- Small studies are not always unethical (pilot studies, contribute to meta-analyses, low risk, etc.)
- Unfortunately, often the sample size is determined by the resources available

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The sample size trade-off...



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What does the statistician think?

- After contemplating the ethical considerations, in general, the larger the sample size the better
- A larger sample size means:
 - Reduced variability in our results (increased precision)
 - May be able to detect a smaller effect size
 - More likely to make objective conclusions

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A little theory

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Two errors, one study

- When answering a scientific question (e.g., does the treatment work?) you can be wrong in **two** different ways:
 - False positive: declaring the treatment **works** when it **doesn't**
 - False negative: declaring the treatment **doesn't work** when it **does**

Type I Error



Type II Error



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You have the power!

- Probability of declaring the treatment/intervention effective (with assumptions)
- Need a (hopefully) clinically meaningful effect size
 - i.e., if the treatment has an effect size of X units, then I will declare the treatment effective Y% of the time in a series of hypothetical trials



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The generic problem

- We want to minimise the probability of making a Type I or Type II error
- Power = 1 – Type II error (want to maximise)
- We usually choose the Type I error and Type II errors and hold them constant and compute the required sample size
 - e.g., significance level = 5%, power = 80%

YOU CAN CHOOSE YOUR OWN VALUES

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Calculating a sample size

- What sample size do I need so that Type I error = α and Type II error = β ?
- We use formulas! (Or simulations when it is too hard!)
- For example, one sample Z-test sample size formula:

$$n = \left(\frac{\sigma(Z_\alpha + Z_\beta)}{\delta} \right)^2$$

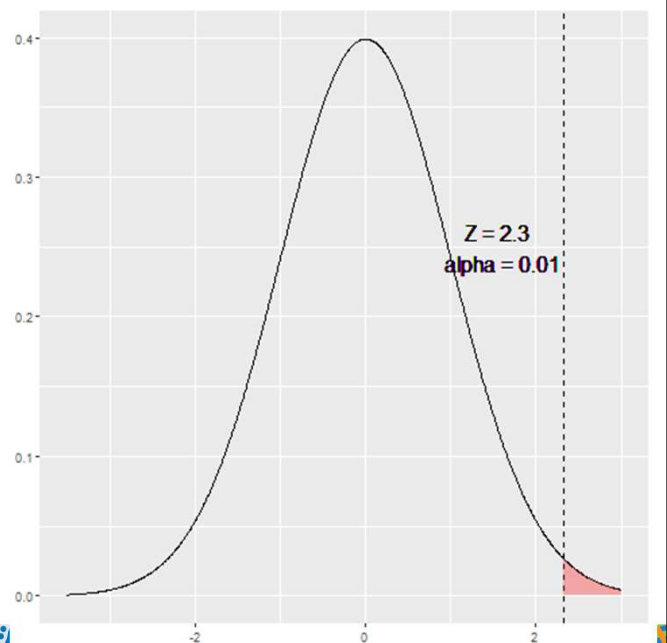
Known standard deviation \rightarrow σ \leftarrow Quantiles of the standard normal distribution $Z_\alpha + Z_\beta$

Sample Size \rightarrow n \leftarrow Effect Size δ

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A quick note on the standard normal distribution

- A **probability distribution** (something that allocates probabilities over a set of possible outcomes)
- Mean = 0 and Variance = 1
- Z_α is the point on the x-axis where there is α probability to the right (upper tail)



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What factors will affect the sample size?

- Recall: $n = \left(\frac{\sigma(Z_{\alpha} + Z_{\beta})}{\delta} \right)^2$
- Significance level (Type I error)
- Power (1 - Type II error)
- Data variability (standard deviation)
- Detectable effect size (delta)
- *Statistical method*

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An example

- Recall: $n = \left(\frac{\sigma(Z_{\alpha} + Z_{\beta})}{\delta} \right)^2$
- Suppose that we wanted to conduct a one sample Z-test on an outcome with known standard deviation of 3 units. Using a significance level of 5% we want 80% power to detect an effect size of 0.5 units.

$$n = \left(\frac{3 \times (Z_{0.05} + Z_{0.2})}{0.5} \right)^2 = \left(\frac{3 \times (1.64 + 0.84)}{0.5} \right)^2 = 222.6 = 223$$

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Calculating sample sizes using the PS software

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Who needs formulas anyway...

- PS: Power and Sample Size Calculation v3.1.6, 2018
 - William D Dupont and Walton D Plummer, Jr.
 - <http://biostat.app.vumc.org/wiki/Main/PowerSampleSize>
- PS is an interactive program for performing power and sample size calculations for free
- Can be downloaded or used via a web browser (recommended)



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Walkthrough

The screenshot shows the PS program interface. At the top, a navigation bar contains links for 't-test', 'z-test', 'Dichotomous', 'Survival', 'Regression', and 'Mantel-Haenszel', along with a home icon. A red oval highlights this navigation bar. Below it, a text box says 'Choose a study design to get started.' with a green arrow pointing to it. On the left, there is a logo with the letters 'PS' in green, overlaid with a red and blue sine wave. Below the logo, it says 'Department of Biostatistics VANDERBILT UNIVERSITY' and 'Build version: a57e8c3 (Feb 16, 2021)'. The main text area describes the program: 'PS is an interactive program for performing power and sample size calculations. It may be run as a web app at <https://vbiostatps.app.vumc.org/> or downloaded for free. This version can be used for studies with dichotomous or continuous, response measures. An older version, which also handles other designs may be downloaded from <http://biostat.app.vumc.org/wiki/Main/PowerSampleSize>. Work on expanding the new version to handle all of the designs from the older version are in progress.' A red oval highlights this text. Below this, another paragraph describes the alternative hypothesis and the program's capabilities. A third paragraph describes the graphs the program can produce. Two green arrows point from the text 'Choose the test (statistical method)' and 'Survival, regression and Mantel-Haenszel under development' to the 'Survival' and 'Regression' links in the navigation bar.

PS is an interactive program for performing power and sample size calculations. It may be run as a web app at <https://vbiostatps.app.vumc.org/> or downloaded for free. This version can be used for studies with dichotomous or continuous, response measures. An older version, which also handles other designs may be downloaded from <http://biostat.app.vumc.org/wiki/Main/PowerSampleSize>. Work on expanding the new version to handle all of the designs from the older version are in progress.

The alternative hypothesis of interest may be specified either in terms of differing means, or in terms of relative risks or odds ratios. Studies with dichotomous or continuous outcomes may involve either a matched or independent study design. The program can determine the sample size needed to detect a specified alternative hypothesis with the required power, the power with which a specific alternative hypothesis can be detected with a given sample size, or the specific alternative hypotheses that can be detected with a given power and sample size.

The PS program can produce graphs to explore the relationships between power, sample size and detectable alternative hypotheses. It is often helpful to hold one of these variables constant and plot the other two against each other. The program can generate graphs of sample size versus power for a specific alternative hypothesis, sample size versus detectable alternative hypotheses for a specified power, or power versus detectable alternative hypotheses for a specified sample size. Multiple curves can be plotted on a single graphic.

Department of Biostatistics
VANDERBILT UNIVERSITY
Build version: a57e8c3 (Feb 16, 2021)

Choose the test (statistical method)

Survival, regression and Mantel-Haenszel under development

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What study designs can it evaluate?

- PS can calculate the power and sample size for a range of study designs including those that require a:
 - t-test (continuous variable, two groups)
 - z-test (t-test with normality assumption)
 - binary analysis (odds ratios, matched case-control etc.)
 - survival analysis (time to event, e.g., remission, death)
 - linear regression (continuous variable, covariates)
 - Mantel-Haenszel test (2 x 2 tables, odds ratios etc.)

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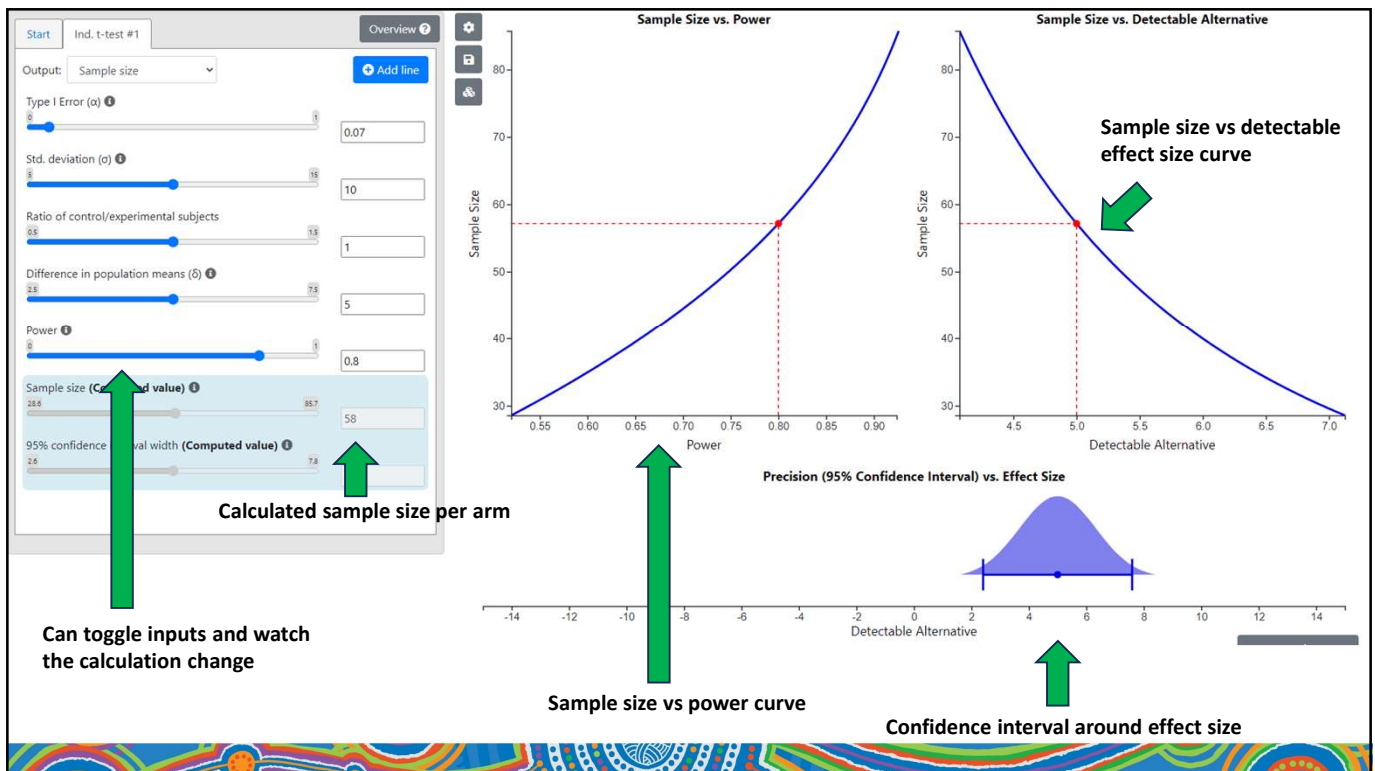
t-test Design: Paired **Independent**

Independent t-test

- ← Want to calculate the sample size
- ← Set the significance level
- ← Set the estimated population standard deviation
- ← Set the effect size to detect
- ← Set the power level
- ← Set the ratio of subjects between control/experimental (usually one)

- Suppose we are comparing the mean FEV1 between two groups (control and treatment)

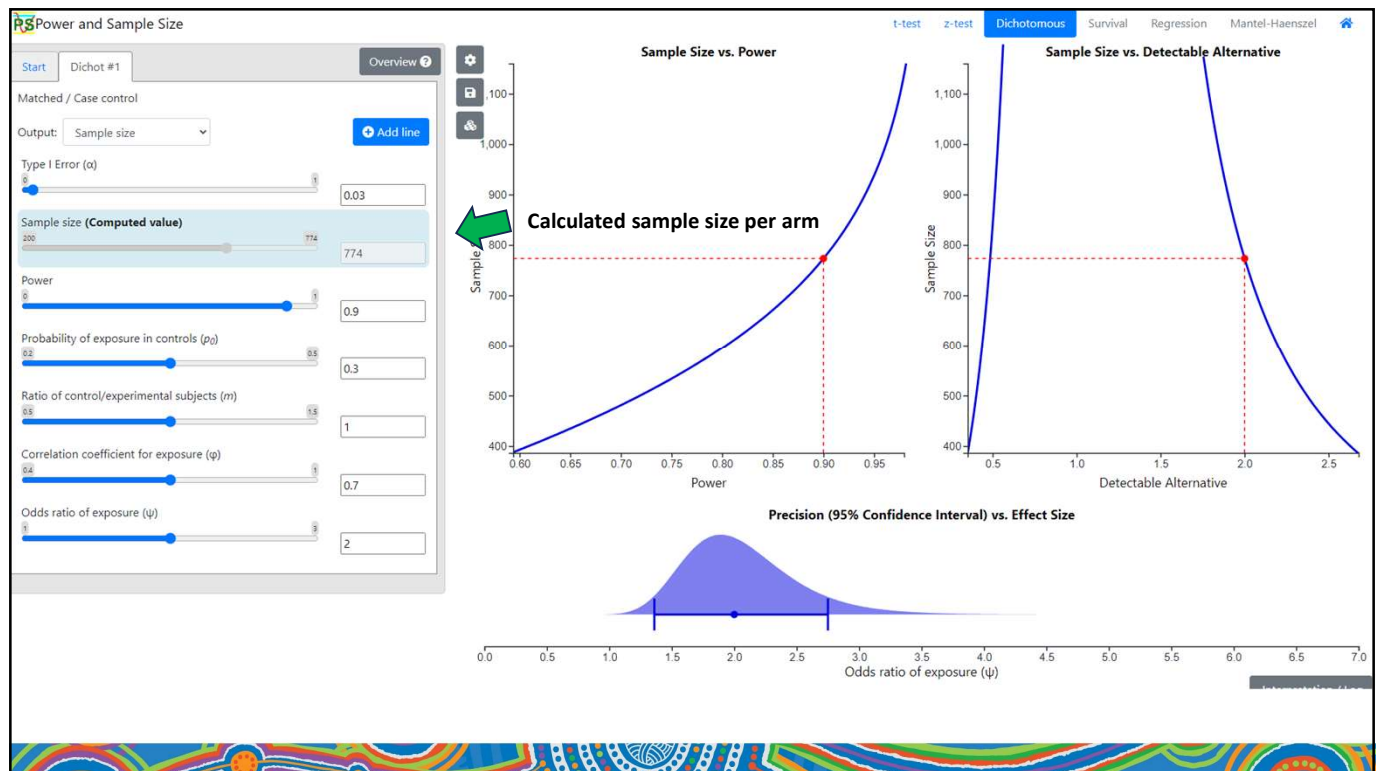
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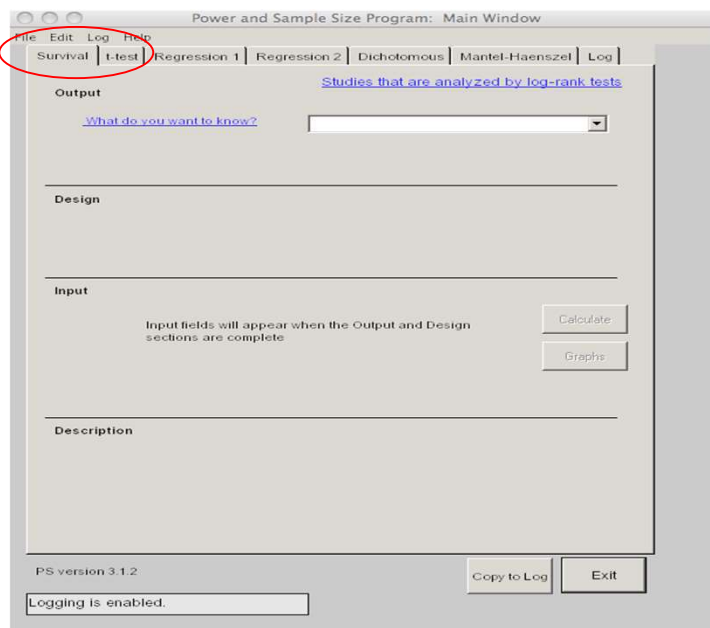
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- Suppose we are comparing a binary outcome between two groups (control and treatment)
 - Are the groups matched case-control?
 - What is the probability of exposure in the control group?
 - What is the correlation coefficient for exposure? (2 x 2 table)
 - What is the odds ratio of exposure?

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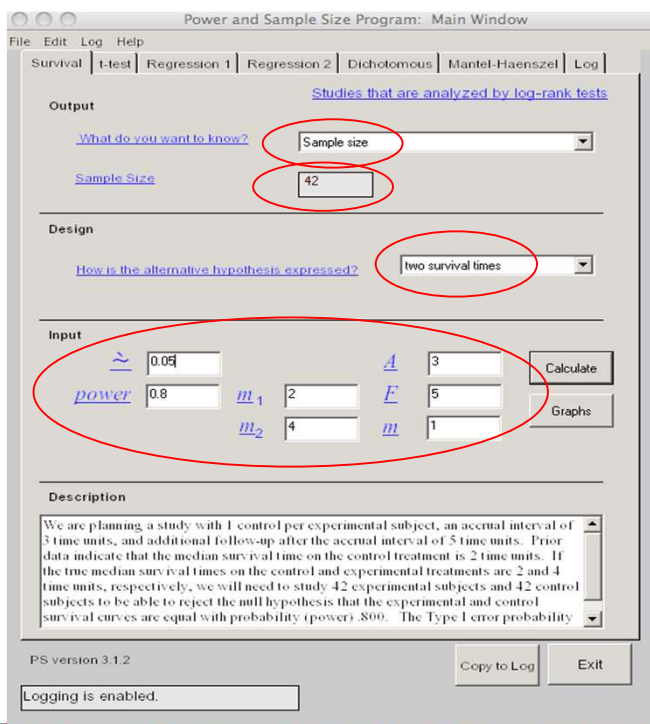


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- Suppose we were comparing time to death between two groups (control and treatment)
- Each participant has two outcomes:
 - Dead/alive
 - Time to death (may be censored)

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- significance = 0.05
- power = 0.8
- $m = 1$ (ratio of control/treatment)
- $m_1 = 2$ (median survival time - control)
- $m_2 = 2$ (median survival time - treatment)
- $A = 3$ (accrual time)
- $F = 5$ (follow up time)
- Make sure the time units are consistent between parameters!
- Sample size = 42 units per arm

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Power and Sample Size Program: Main Window

File Edit Log Help

Survival | t-test | Regression 1 | Regression 2 | Dichotomous | Mantel-Haenszel | Log

Output

[What do you want to know?](#) Sample size

[Sample Size](#) 42

Design

[How is the alternative hypothesis expressed?](#) hazard ratio or relative risk

Input

α 0.05 R 0.534 A 3

power 0.8 m_1 2 E 5

m 1

Calculate

Graphs

Description

We are planning a study with 1 control per experimental subject, an accrual interval of 3 time units, and additional follow-up after the accrual interval of 5 time units. In a previous study the median survival time on the control treatment was 2 time units. If the true hazard ratio (relative risk) of control subjects relative to experimental subjects is 0.534, we will need to study 42 experimental subjects and 42 control subjects to be able to reject the null hypothesis that the experimental and control survival curves are equal with probability (power) .800. The Type I error probability

PS version 3.1.2

Copy to Log

Exit

Logging is enabled.

- Alternatively specify alternative hypothesis using a hazard ratio / relative risk
- $m_1 = 2$ (median survival time - control)
- $R = 0.534$ (hazard ratio)
- Sample size = 42 units per arm

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Considerations for clinical trials

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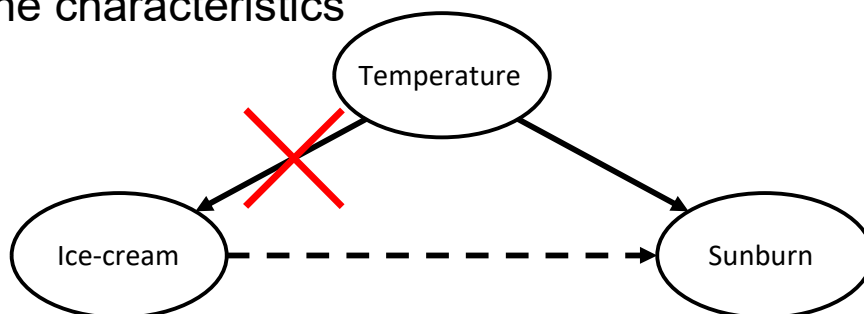
Observational studies vs randomised designs

- In an **observational study** the **independent variable** (such as a treatment) is **not under the control** of the researcher
- In a **randomised design** (such as an RCT), the **independent variable** is **randomly** allocated to participants
- This “breaks” the links with any **uncontrolled** variables

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Randomised controlled trials

- Randomised controlled trials (RCTs) are the gold standard in clinical research
- The goal of randomisation is to break the link between treatment assignment and confounders and to balance the baseline characteristics



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How do I estimate the variability?

- Previous research work (pilot study?)
- Similar published clinical studies
- Animal studies (although humans tend to be more heterogeneous than lab animals)
- For studies restricted by resources you may want to consider a more homogeneous sample with lower variability (but beware of generalisability)

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What about inclusion/exclusion criteria?

- Inclusion/exclusion criteria determines the generalisability of the results
- The standard deviation is directly affected as it is a function of how homogeneous your target population is
- Should the study be pragmatic?

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Where can I get more help?

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Where can I find a statistician?

Perth Children's Hospital:

Free advice through **Telethon Clinical Research Centre**

Telethon Kids Institute (consultancy service):

Biometrics@telethonkids.org.au

UWA (consultancy service):

consulting-cas@uwa.edu.au

The Centre for Applied Statistics, UWA, offers free advice to UWA postgraduate research students

More in handouts



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Checklist for talking to a Statistician

- Clear hypothesis
- Proposed study design
- Primary endpoint & estimate of variability
- Clinically relevant effect size
- Estimate of feasible sample size based on budget or potential annual patient recruitment
- Important confounders & source of bias
- Similar publications or systematic reviews

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How can I learn more about statistics?

- In the absence of large, randomised, well-controlled clinical trials to address every research question we all need to increase our **statistical literacy**

In person at Perth Children's Hospital:

Attend Research Skills Seminars.

In person at UWA:

The Centre for Applied Statistics provides short courses in statistics which are heavily discounted for students.

Joint Clinical-Statistical Supervision:

If one of your supervisors is a statistician, then you will have “unlimited” access to statistical knowledge/training.

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How can I learn more about statistics?

Online: **Data Science Specialization**
Johns Hopkins University

FAQ: You can access the course for free via
<https://www.coursera.org/specializations/jhu-data-science#courses>

This will allow you to explore the course, watch lectures, and participate in discussions for free. To be eligible to earn a certificate, you must either pay for enrolment or qualify for financial aid.

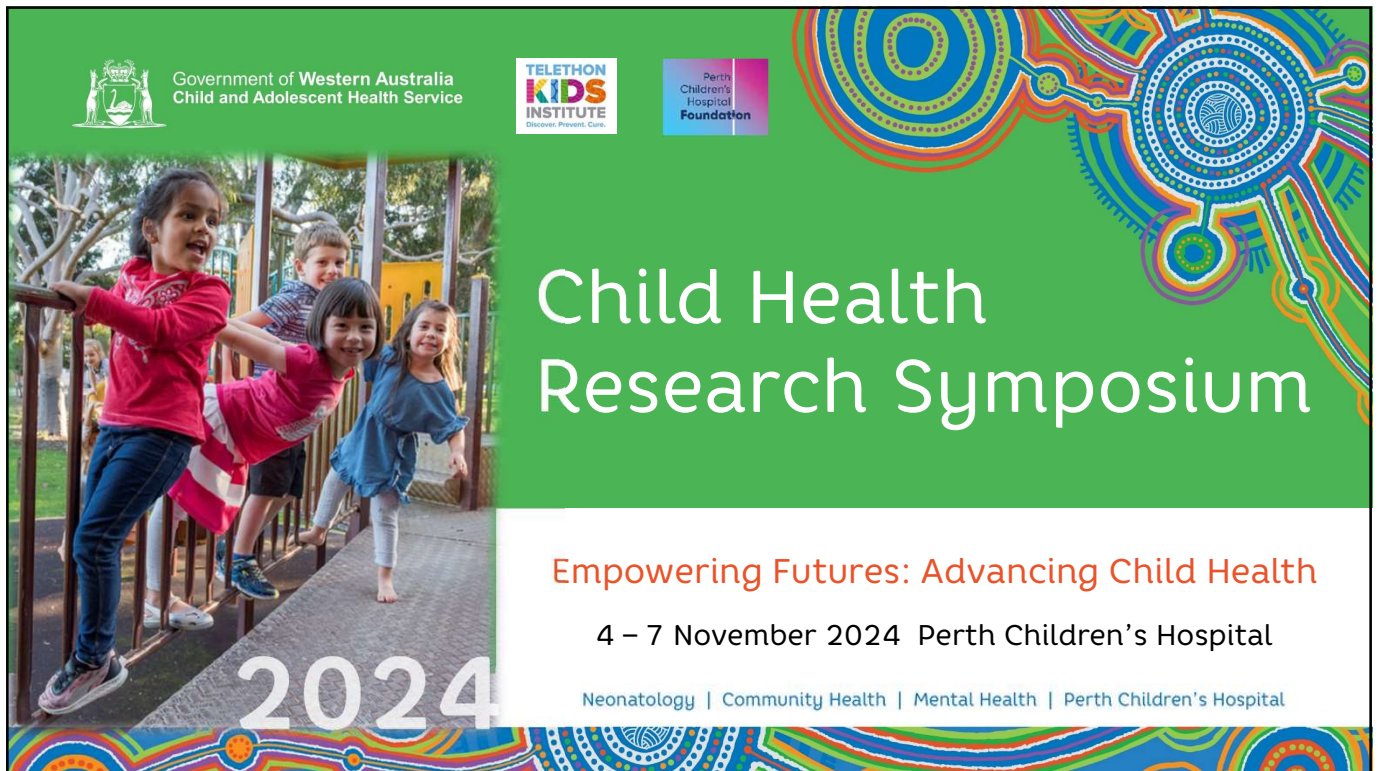
Links in your handouts

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Questions?
Comments

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KIDS
INSTITUTE
Discover. Prevent. Care.

Perth
Children's
Hospital
Foundation

Child Health Research Symposium

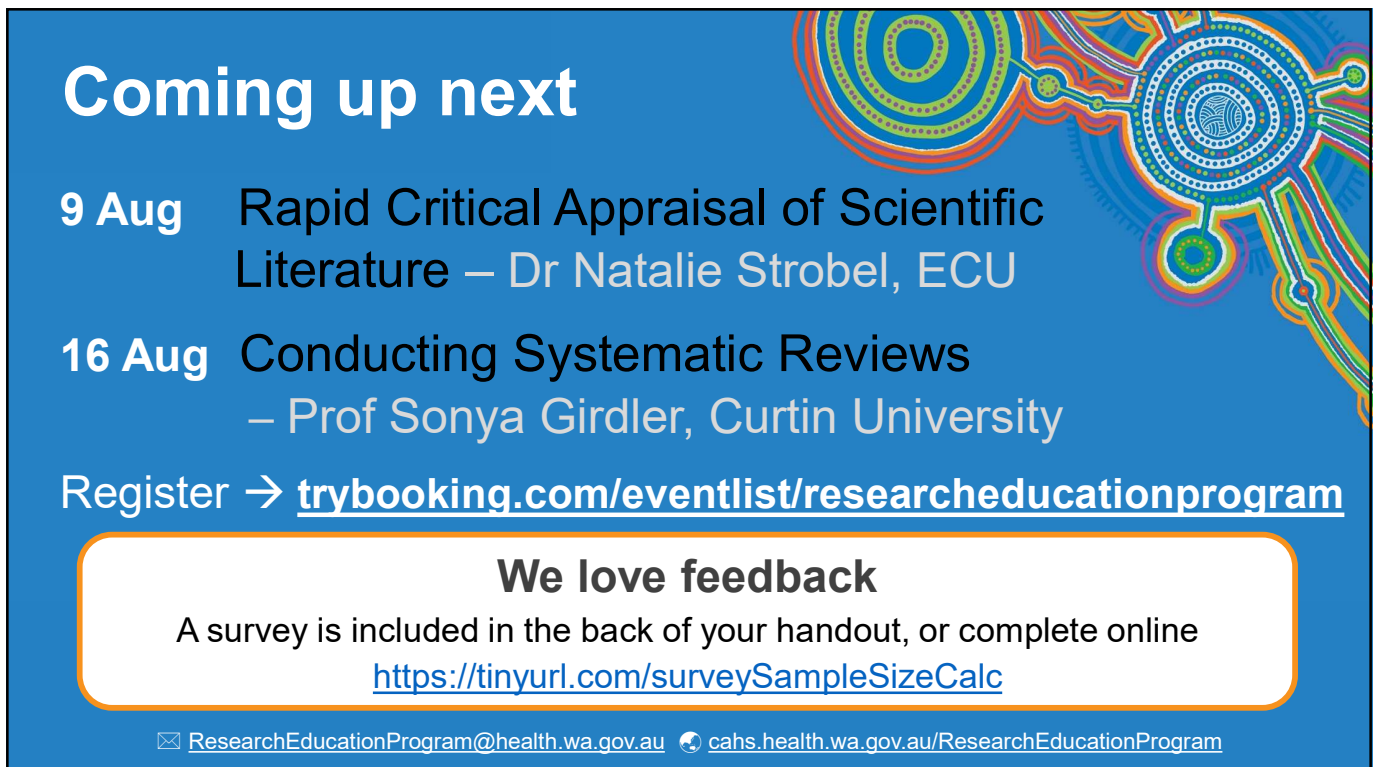
Empowering Futures: Advancing Child Health

4 – 7 November 2024 Perth Children's Hospital

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

2024

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Coming up next

9 Aug Rapid Critical Appraisal of Scientific Literature – Dr Natalie Strobel, ECU

16 Aug Conducting Systematic Reviews – Prof Sonya Girdler, Curtin University

Register → trybooking.com/eventlist/researcheducationprogram

We love feedback

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

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RESOURCE NOTES

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1. Additional reading

- Ethics in Sample Size (2004) American Journal of Epidemiology, by Bachetti et al.
<https://academic.oup.com/aje/article-lookup/doi/10.1093/aje/kwi014>
- PS: Power and Sample Size Calculations v3.1.2 (2014) by William D Dupont and Walton D Plummer, Jr.
<https://biostat.app.vumc.org/wiki/Main/PowerSampleSize>

2. Statistical support contacts

2.1. Perth Children's Hospital

Telethon Clinical Research Centre (TCRC)

Department of Research, Child and Adolescent Health Service

Phone: (08) 6456 0124

Email: CAHS.TCRC@health.wa.gov.au

Website: <https://cahs.health.wa.gov.au/Research/For-researchers/Research-suites-at-Perth-Childrens-Hospital>

Biostatistics and Data Management Support through TCRC

<https://cahshealthpoint.hdwa.health.wa.gov.au/directory/research/researchers/Pages/Biostatistics.aspx>

(WA Health employees only)

2.2. Telethon Kids Institute

Consultancy Service

Email: Biometrics@telethonkids.org.au

2.3. University of Western Australia

The Centre for Applied Statistics

Offers free advice for UWA postgraduate research students

Email: consulting-cas@uwa.edu.au

2.4. 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/>

2.5. 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

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

Interactive in pdf format
Last updated 30/7/24

2024 Seminar Schedule

#	DATE	TOPIC	PRESENTER	ENROL	WATCH
1	9 Feb	Research Fundamentals	Dr Kenneth Lee, UWA	-	2024
2	16 Feb	Introductory Biostatistics	Michael Dymock, TKI	-	2024
3	8 Mar	Social Media in Research	Dr Amy Page, UWA	-	2024
4	22 Mar	Introduction to Good Clinical Practice	Alexandra Robertson, CAHS	-	2024
5	19 Apr	Research Governance	Dr Natalie Giles, CAHS	-	2024
6	3 May	Scientific Writing	A/Prof Tony Kemp, UWA	-	2024
7	17 May	Project Management	Melanie Wright, SMHS	-	2024
8	7 Jun	Research Impact	Dr Tamika Heiden, Vic	-	2024
9	21 Jun	Consumer & Community Involvement in Research	Belinda Frank, TKI	-	2023
10	19 Jul	Getting the Most out of Research Supervision	Dr Timothy Barnett, TKI	-	2022
11	26 Jul	Enrolling Incapacitated Patients into Medical Research in WA	Prof Daniel Fatovich and Mark Woodman, EMHS	-	2024
12	2 Aug	Sample Size Calculations	Michael Dymock, TKI	-	2023
13	9 Aug	Rapid Critical Appraisal of Scientific Literature	A/Prof Natalie Strobel, ECU	REGISTER	2023
14	16 Aug	Conducting Systematic Reviews	Prof Sonya Girdler, Curtin Uni	REGISTER	2023
15	23 Aug	Knowledge Translation	Prof Fenella Gill, Curtin/CAHS	REGISTER	2023
16	30 Aug	Media and Communications in Research	Peta O'Sullivan, CAHS	REGISTER	2023
17	6 Sep	Involving Aboriginal Communities in Research	Cheryl Bridge, TKI and co.	REGISTER	2023
18	11 Oct	Grant Applications and Finding Funding	Dr Tegan McNab, TKI	REGISTER	2023
19	18 Oct	Oral Presentation of Research Results	Dr Giulia Peacock, CAHS	REGISTER	2023
20	25 Oct	Statistical Tips for Interpreting Scientific Claims	Michael Dymock, TKI	REGISTER	2023
21	1 Nov	Survey Design and Techniques	Dr Giulia Peacock, CAHS	REGISTER	2023
22	15 Nov	Ethics Processes for Clinical Research in WA	Dr Natalie Giles, CAHS	REGISTER	2023
23	22 Nov	Qualitative Research Methods	Dr Lorna Davin, Uni Notre Dame	REGISTER	2023
24	29 Nov	Innovation and Commercialisation	Dr Helga Mikkelsen (Brandon BioCatalyst) & Ashley Schoof (TKI)	REGISTER	2022
25	6 Dec	Data Collection & Management (REDCap)	Dr Giulia Peacock, CAHS	REGISTER	2023

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Seminars are held from 12:30-1:30pm at Perth Children's Hospital Auditorium and are broadcast live online through Avaya and Teams.

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. Attendance certificates are available on request.



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.

Rapid Critical Appraisal of Scientific Literature



9th August 2024

12.30 - 1.30pm

Given the sheer volume and variable quality of published papers even in high impact journals, it is essential to have skills to target and rapidly appraise relevant literature to answer current clinical questions. This seminar provides simple strategies to help focus your reading, examine validity of results, and decide whether to accept and apply them in your setting.



Meet the presenter

A/Prof Natalie Strobel

Associate Dean (Research), Kurongkurl Katitjin, Edith Cowan University



Natalie is the team leader on the evidence synthesis stream for the Centre for Improving Health Services for Aboriginal and Torres Strait Islander Children and Families (ISAC) at the Edith Cowan University. She has been working in health services research and epidemiology to improve service delivery to children, in particular Aboriginal and Torres Strait Islander children. Dr Strobel has been consulting with WHO on various neonatal guidelines including for preterm and low birth weight infants. Her work has had a strong focus on ensuring projects delivered are needs based and inform policy and practice.

Perth Children's Hospital Auditorium

Level 5, 15 Hospital Ave Nedlands

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or

Access online via Teams or Avaya or

Watch from a hosted video-conferencing site

- Fiona Stanley Hospital
- Lions Eye Institute
- Pathways in Shenton Park
- Royal Perth Hospital



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A light lunch is provided for
our in-person attendees.
Bookings are essential.





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

Conducting Systematic Reviews



16th August 2024

12.30 - 1.30pm

Systematic reviews play an important role in health research. They provide a high level summary of studies and can inform policy and practice relevant to a particular area of inquiry. Understanding review methodologies is useful for those who wish to undertake a systematic review, or just read one. This seminar provides an overview of several types of reviews, along with simple strategies to focus a review and support review methodology.



Meet the presenter



Curtin University

Prof Sonya Girdler

Director of the Curtin Autism Research Group (CARG)

Director of Program 3 of the 'Living with Autism' CRC

Sonya has published over 100 papers, including publishing more than 20 reviews (Systematic and Scoping), supervised 12 PhD students to completion and has extensive experience in conducting research in health and community settings.

Sonya is active in advocating and supporting other women in research in STEMM related fields.

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Level 5, 15 Hospital Ave Nedlands

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or

Access online via Teams or

Watch from a hosted video-conferencing site

- Fiona Stanley Hospital
- Lions Eye Institute
- Pathways in Shenton Park
- Royal Perth Hospital



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A light lunch is provided for
our in-person attendees.
Bookings are essential.





CAHS Research Education Program

REDCap Workshop Series

Research Electronic Data Capture



The Research Education Program - supported by the Perth Children's Hospital Foundation and the Telethon Kids Institute - offers a series of hands-on workshops that focus on the most integral features of REDCap and its application to your research project data. Workshops aim to directly build user skills in a guided environment, with time to ask questions and work on your own project.

Dates below are still being finalised so check back again for latest version.

Presented by: Research Education Program Research Fellow Dr Giulia Peacock

Location: PCH, TKI Seminar Room, Level 5 (West).



Topic	Day	Date	Time	Max No (in person)
Workshop 1 – Basic Walkthrough	Tuesday	27 Feb	2:30pm to 4:30pm	Watch
Workshop 2 – Intermediate Walkthrough	Tuesday	12 March	1:00pm to 3:30pm	Watch
Workshop 3 – Advanced REDCap - Creating Surveys	Tuesday	30 April	1:00pm to 3:30pm	Watch
Workshop 4 – REDCap Troubleshooting Workshop	Tuesday	28 May	2:00pm to 4:00pm	cancelled
Workshop 5 – Basic Walkthrough	Tuesday	16 July	1:00pm to 3:30pm	40 Register
Workshop 6 – Intermediate Walkthrough	Tuesday	20 Aug	1:00pm to 3:30pm	40 Register
Workshop 7 – Advanced REDCap - Creating Surveys	Tuesday	10 Sep	2:00pm to 4:30pm	40 Register
Workshop 8 – REDCap Troubleshooting Workshop	Tuesday	15 Oct	1:00pm to 3:30pm	40 Register

IMPORTANT

Attendance is open to all Department of Health and Telethon Kids Institute staff.

Places are strictly limited and offered on a first-come, first-serve, basis. If you are not able to attend a workshop for which you have registered, please contact Research Education Program support via phone or email to cancel your reservation and/or be placed in another workshop or on the waitlist.

[Register](#) via Trybooking.com

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Contact Us

or Register here



(08) 6456 0514



researcheducationprogram@health.wa.gov.au



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CAHS Research Education Program

Workshop Series

REDCap Workshop 6: Intermediate Walkthrough

20th August 2024

1.00 - 3.30pm



Beyond the basics

- This level offers a more comprehensive look at creating a database and using surveys, and builds upon the topics in the REDCap Basics Workshop.
- Those who attend this workshop should be familiar with navigating and using REDCap for project set-up and it will be most beneficial to those who have identified an upcoming need for the advanced functionality covered in this workshop.
- Do you already know how to create a project from scratch and use branching logic? If no, please register for a Basics Workshop. This workshop is for users who are already familiar with the REDCap interface. Open to all WA Health and TKI staff only.



Meet the presenter

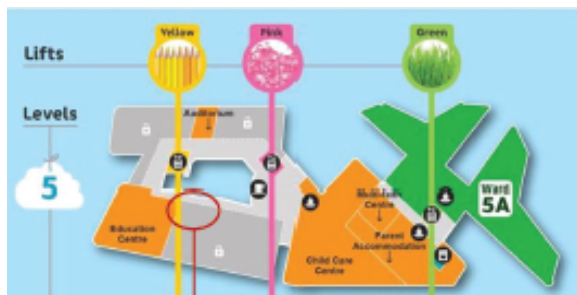
Dr Giulia Peacock

CAHS Research Education Program Research Fellow

Giulia graduated medical school from the University of Notre Dame Fremantle in 2014. She supplements her clinical work as an Advanced Paediatric Trainee by conducting and publishing research in paediatric cardiology and through active involvement in medical education.

She is currently completing her Masters in Clinical Science, Child Health Research at the University of Western Australia. She hopes to ensure easy accessibility to research education and support, to create best outcomes for all patients.

PCH, TKI Level 5 Seminar Room



Accessible via the yellow or pink lifts



Register via [Trybooking.com](https://trybooking.com)



View recorded workshops online



Subscribe to our mailing list

Places are capped at 40. Laptops are available if required



(08) 6456 0514



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



The CAHS Research Education Program REDCap Workshops are proudly supported by the Perth Children's Hospital Foundation and Telethon Kids Institute.





CAHS Research Education Program

2024 Research Skills Workshop Series



The Research Education Program (REP) Research Skills Workshop Series, supported by the Perth Children's Hospital Foundation and the Telethon Kids Institute, offers a series of interactive workshops that focus on building the most fundamental research skills required to undertake clinical research projects.



Workshops aim to directly build user skills and knowledge in a guided environment, with time to ask questions specific to your own project.

Presented by: CAHS Research Department and invited guests

Location: PCH, TKI Seminar Room, Level 5 (W)

Topic	Day	Date	Time	Max (in-person)
Workshop 4 - Navigating Research Ethics and Governance in WA 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 aims to help you understand the process of ethical and governance review for research approvals at CAHS - includes PCH, CACHS, CAHMS and Neonatology.	Tue	23 April	2.00pm - 4:00pm	40 Watch
Workshop 1 - Setting up Clinical Trials Clinical trials are the benchmark for testing interventions in healthcare. This workshop aims to provide practical advice to clinical researchers who want to gain insight on how to develop and complete their clinical trial on time and within budget. Come learn practical aspects of the steps involved in developing a clinical trial from the research idea to protocol development and execution.	Mon	20 May	12.00 noon - 2.00pm PCH level 6 TKI Manda	40 Watch
Workshop 2 - Manuscript Writing Journal publications are an integral part of dissemination of research findings. However, it can be overwhelming to convert several months of research into a succinct manuscript that will be loved by peer-reviewers and attract readers. This workshop is designed to give those who have completed their research projects, practical skills to transform their research data into publishable peer-reviewed literature.	Tue	11 June	2.00pm - 4:00pm	40 Recording coming soon
Workshop 3 - Oral Presentation of Research Results Dissemination of research findings is integral in knowledge translation and clinical practice change. Oral presentations provide rapid dissemination of research findings to a target audience. We invite you to a practical session that will provide useful tips, practice sessions and personalised feedback to help deliver an adequate depth of your research findings to various research stakeholders.	Tue	22 Oct	2.00pm - 4:00pm	40 Register

IMPORTANT

Places are strictly limited and offered on a first-come, first-serve, basis. If you are not able to attend a workshop for which you have registered, please contact Research Education Program support via phone or email to cancel your reservation and/or be placed on the waitlist.

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REP Website



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



Child Health Research Symposium

**Empowering Futures:
Advancing Child Health**

4 - 7 November

2024

You are invited!

Monday 4 November at 5pm
PCH Collegiate Lounge

Join us in opening our CAHS Symposium

For more information, contact us on

✉ pch.symposium@health.wa.gov.au

**Poster
Opening
Night**

Neonatology | Community Health | Mental Health | 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.

Sample Size Calculations

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	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The session was well structured	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Presentation style retained my interest	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The speaker communicated clearly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The material extended my knowledge	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The additional resources were helpful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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!

cahs.health.wa.gov.au/ResearchEducationProgram

