

JULY 28, 2025

DATA COLLECTION PRACTICES

Ally Calderon



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Research Outcomes in
Children's Surgery (ROCS)

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OVERVIEW



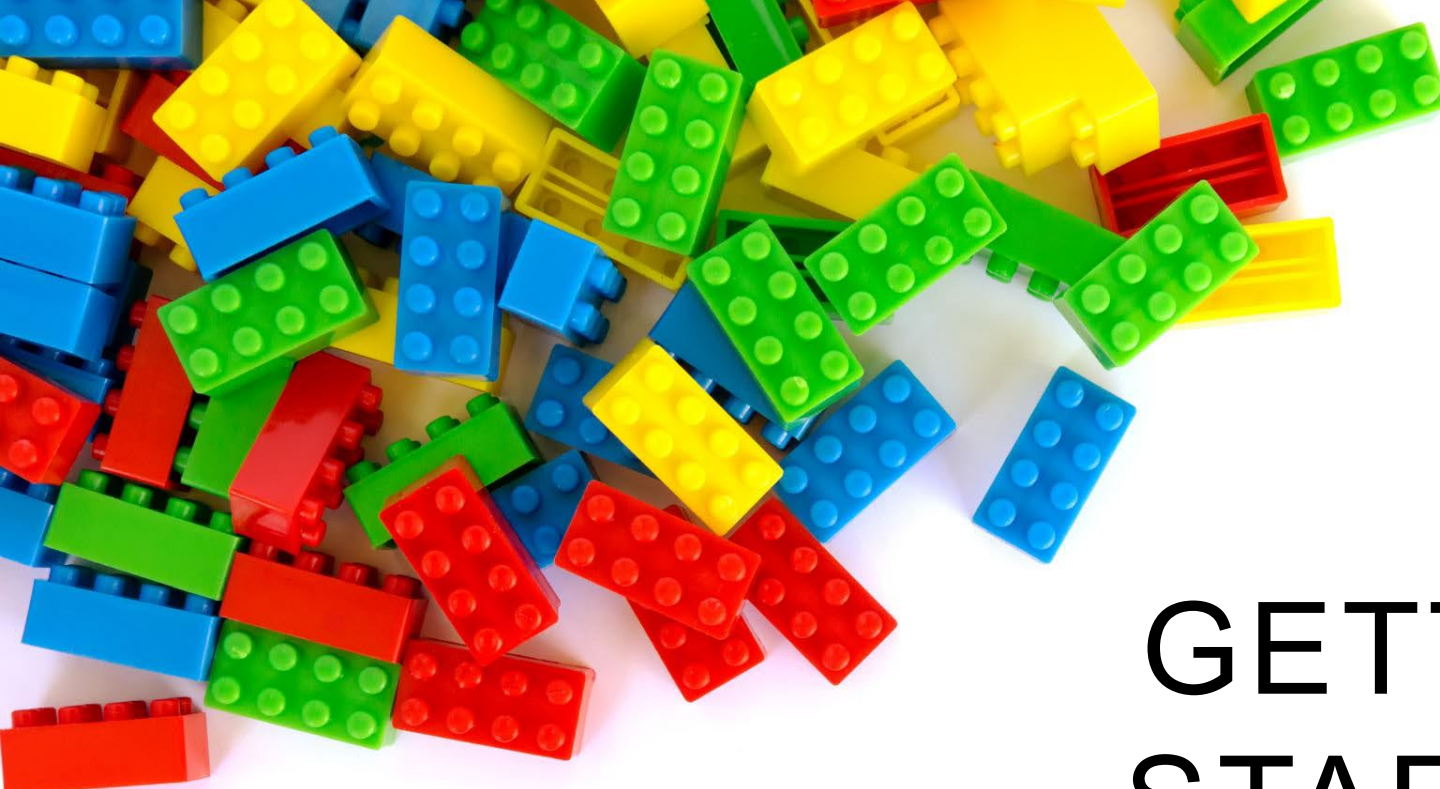
GETTING STARTED

BUILDING A DATABASE

DATA DICTIONARY

TIPS & TRICKS





GETTING STARTED



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REDCAP

Free with university account and CCTSI membership

- <https://redcap.ucdenver.edu/>

If you are a CHCO only employee and need InfoEd access:

- <https://research.cuanschutz.edu/comirb/home/request-poi>

For REDCap access:

- <https://redcap.ucdenver.edu/surveys/?s=5ZLmzX>

Getting Started:

1. Complete the full online REDCap tutorial
2. Online tutorial takes approx. 2 hours
3. View REDCap Resources for additional project design/setup help

<https://cctsi.cuanschutz.edu/resources/informatics/redcap-resources>



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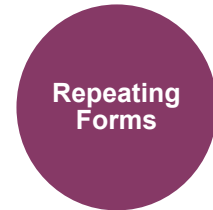
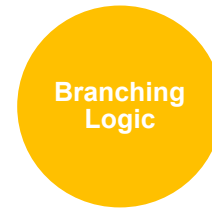
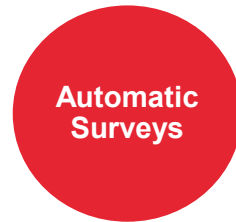
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LEARNING MORE

[Projectredcap.org/resources/videos](https://projectredcap.org/resources/videos)

YouTube: UCD REDCap



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STRATEGIZE

Know Who will be interfacing with the data entry form

- Patients, providers
Research Staff, etc.

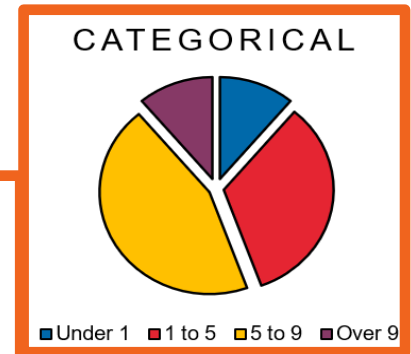
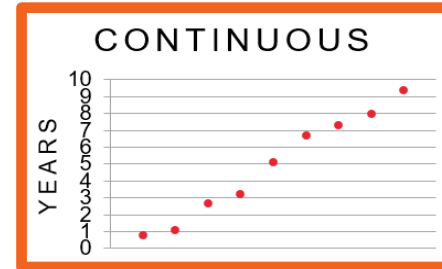


Instrument type

- Online Survey, data entry form

Data Capture

- Continuous vs Categorical
- Longitudinal vs Cross-Sectional



STRATEGIZE – STRONG VARIABLES

Strong Variables.....

Provide the information you need to address your aims

Add important information about your study population (gender, age, race)

Fall under the scope of information you are going to analyze



No Data Fishing



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BUILDING A DATABASE



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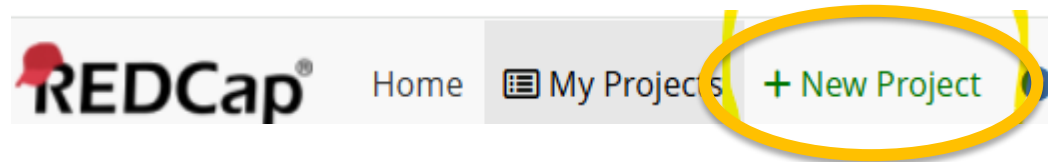
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Open a new project



Start Building Out The Fields

Add New Field

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video](#).

Field Type: Multiple Choice - Radio Buttons (Single Answer)

---- Select a Type of Field ----
Text Box (Short Text, Number, Date/Time, ...)
Notes Box (Paragraph Text)
Calculated Field
Multiple Choice - Drop-down List (Single Answer)
Multiple Choice - Radio Buttons (Single Answer)
Checkboxes (Multiple Answers)
Yes - No
True - False
Signature (draw signature with mouse or finger)
File Upload (for users to upload files)
Slider / Visual Analog Scale
Descriptive Text (with optional Image/Video/Audio/File Attachment)

Question Number
Displayed only on the form

Field Label

Choices (one or more)

Variable Name (utilized in logic, calcs, and exports)

ONLY letters, numbers, and underscores

How to use Smart Variables Piping Field Embedding

Required?*: ☒ No ☐ Yes
* Prompt if field is blank

Identifier?: ☒ No ☐ Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment: Right / Vertical (RV)
Align the position of the field on the page

Field Note (optional)
Small reminder text displayed underneath field

Codebook

the Rich Text Editor

Copy existing choices

[How do I manually code the choices?](#)



Field Labels vs Variable/Field Names



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FIELD LABELS

Field Labels:

The visual element you interact with on a data entry form or survey, like a text box, dropdown menu, or checkbox.

You may add a new project field to this data collection instrument by completing the fields below and clicking the Save button at the bottom. When you add a new field, it will be added to the form on this page. For an overview of the different field types available, you may view the [Field Types video](#).

Field Type: Multiple Choice - Radio Buttons (Single Answer) ▼

Codebook

Question Number (optional)
Displayed only on the survey page

Field Label

☐ Use the Rich Text Editor ?

Variable Name (utilized in logic, calcs, and exports)

ONLY letters, numbers, and underscores

How to use: [Smart Variables](#) [Piping](#) [Field Embedding](#)

Required?* ☒ No ☐ Yes

* Prompt if field is blank

Identifier? ☒ No ☐ Yes

Field Labels Should be descriptive and intuitive.

- Avoid acronyms/abbreviations
- Be clear on what information you would like the data to reflect!
- Include units of measurement



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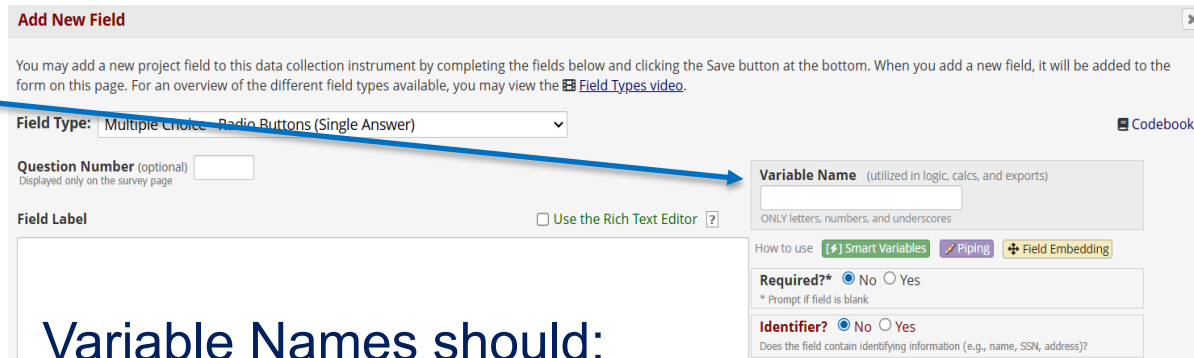
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VARIABLE NAMES

Variable Name:

The unique identifier that REDCap uses internally to store the data collected from a specific field.

It's how REDCap keeps track of what data belongs where.



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Field Type: Multiple Choice Radio Buttons (Single Answer)

Question Number (optional)
Displayed only on the survey page

Field Label ☐ Use the Rich Text Editor ?

Variable Name (utilized in logic, calcs, and exports)
ONLY letters, numbers, and underscores

How to use: [Smart Variables](#) [Piping](#) [Field Embedding](#)

Required?* ☒ No ☐ Yes
* Prompt if field is blank

Identifier? ☒ No ☐ Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Variable Names should:

- Be short, but somewhat descriptive
- Not include spaces, but can use _ (automatically replaces a space)
- Not include units or be more than 26 characters



EXAMPLE:

You want to make a field for C-reactive protein lab results on day 2.



Variable: d2_crp

Variable name is short, but describes the data to be entered

What was the patient's C-reactive protein (mg/l)
on post op day 2?

Units are included in field name and 'crp' is spelled out



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INDICATE IDENTIFIERS

Edit Field

Field Label ☐ Use the Rich Text Editor ?
Date of Birth

Action Tags / Field Annotation (optional)

Learn about [@ Action Tags](#) or [using Field Annotation](#)

Variable Name (utilized in logic, calcs, and exports)
dob ☐ Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores

How to use [Smart Variables](#) [Piping](#) [Field Embedding](#)

Validation? (optional) Date (D-M-Y)
Minimum:
Maximum:

Tip for min/max limits: You may use the word **today** or **now** (not wrapped in quotes) for date/time fields to set dynamic range limits. Also, you may pipe a value from another field - e.g., `[visit_date]` or `[event_1_arm_1][age]`.
-- OR --
-- select ontology service --

Required? ☒ No ☐ Yes
* Prompt if field is blank

Identifier? ☐ No ☒ Yes
Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment Right / Vertical (RV)
Align the position of the field on the page

Save **Cancel**



INDICATE REQUIRED FIELDS

Edit Field

Field Label ☐ Use the Rich Text Editor ?

Date of Birth

Action Tags / Field Annotation (optional)

Learn about [@ Action Tags](#) or [using Field Annotation](#)

Variable Name (utilized in logic, calcs, and exports)

dob ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

How to use [Smart Variables](#) [Piping](#) [Field Embedding](#)

Validation? (optional) Date (D-M-Y)

Minimum:

Maximum:

? Tip for min/max limits: You may use the word **today** or **now** (not wrapped in quotes) for date/time fields to set dynamic range limits. Also, you may pipe a value from another field - e.g., `[visit_date]` or `[event_1_arm_1][age]`.

-- select ontology service --

Required?* ☒ No ☐ Yes

* Prompt if field is blank

Identifier? ☐ No ☒ Yes

Does the field contain identifying information (e.g., name, SSN, address)?

Custom Alignment Right / Vertical (RV)

Align the position of the field on the page

Save **Cancel**



Data Validation (Optional)

Ensures Consistent Formatting

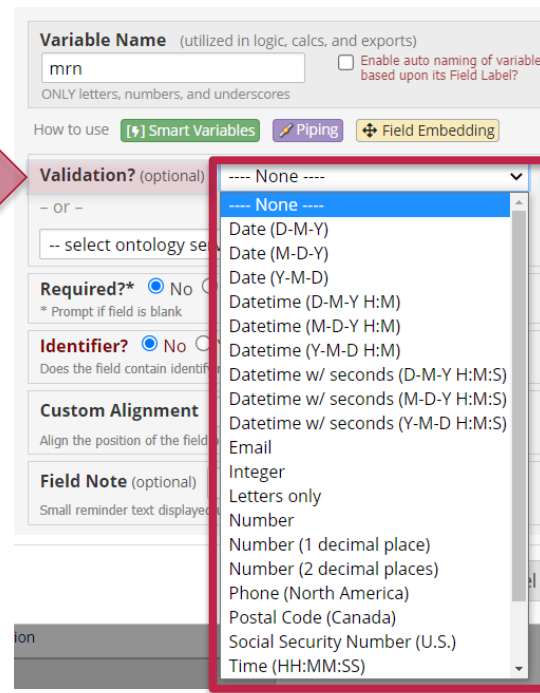
Validates entries like dates, emails, phone numbers, and numeric ranges.

Prevents Errors

Blocks incorrect or mis formatted data during entry.

Improves Data Quality

Supports clean, analyzable datasets for research.



The screenshot shows a configuration interface for a variable named 'mrn'. The 'Validation?' section is highlighted with a red box, and its dropdown menu is open, showing a list of validation options. A red arrow points from the text 'Validates entries like dates, emails, phone numbers, and numeric ranges.' to the 'Validation?' dropdown.

Variable Name (utilized in logic, calcs, and exports)
mrn ☐ Enable auto naming of variable based upon its Field Label?
ONLY letters, numbers, and underscores

How to use **Smart Variables** **Piping** **Field Embedding**

Validation? (optional)
-- select ontology set

Required?* ☒ No ☐ Yes
* Prompt if field is blank

Identifier? ☒ No ☐ Yes
Does the field contain identifier

Custom Alignment
Align the position of the field

Field Note (optional)
Small reminder text displayed

Validation options (from dropdown):

- None ---
- Date (D-M-Y)
- Date (M-D-Y)
- Date (Y-M-D)
- Datetime (D-M-Y H:M)
- Datetime (M-D-Y H:M)
- Datetime (Y-M-D H:M)
- Datetime w/ seconds (D-M-Y H:M:S)
- Datetime w/ seconds (M-D-Y H:M:S)
- Datetime w/ seconds (Y-M-D H:M:S)
- Email
- Integer
- Letters only
- Number
- Number (1 decimal place)
- Number (2 decimal places)
- Phone (North America)
- Postal Code (Canada)
- Social Security Number (U.S.)
- Time (HH:MM:SS)



BE EFFICIENT!



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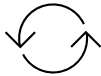
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Functions That Boost Efficiency



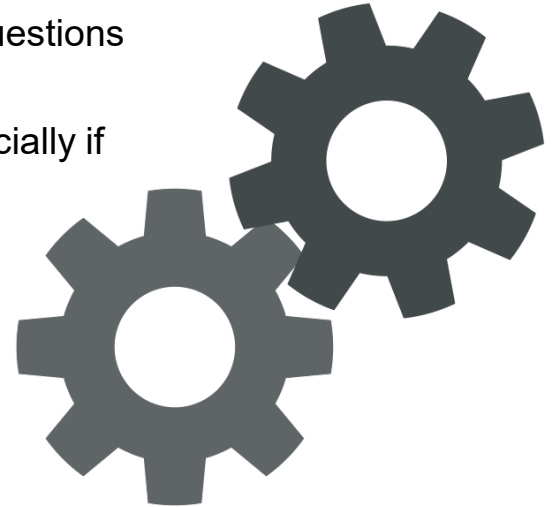
Branching Logic

- Use to “expand” answers and ask conditional follow-up questions
- Pros: Helps keep data & surveys clean
- Cons: Unintended errors in logic can happen easily, especially if there are a lot of branches



Repeating Instruments

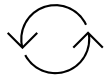
- Use for repeat data that do not have defined time points
- Longitudinal studies



Example

Defined Timepoints: Not Repeating

Record ID	Record ID	Enrollment Data	Demographics	Clinical Information	Week 2 Survey	Week 2 Photo	Week 4 Survey	Week 4 Photo	Week 6 Survey	Week 6 Photo	Week 8 Survey	Week 8 Photo
<u>1</u>												
<u>2</u>												

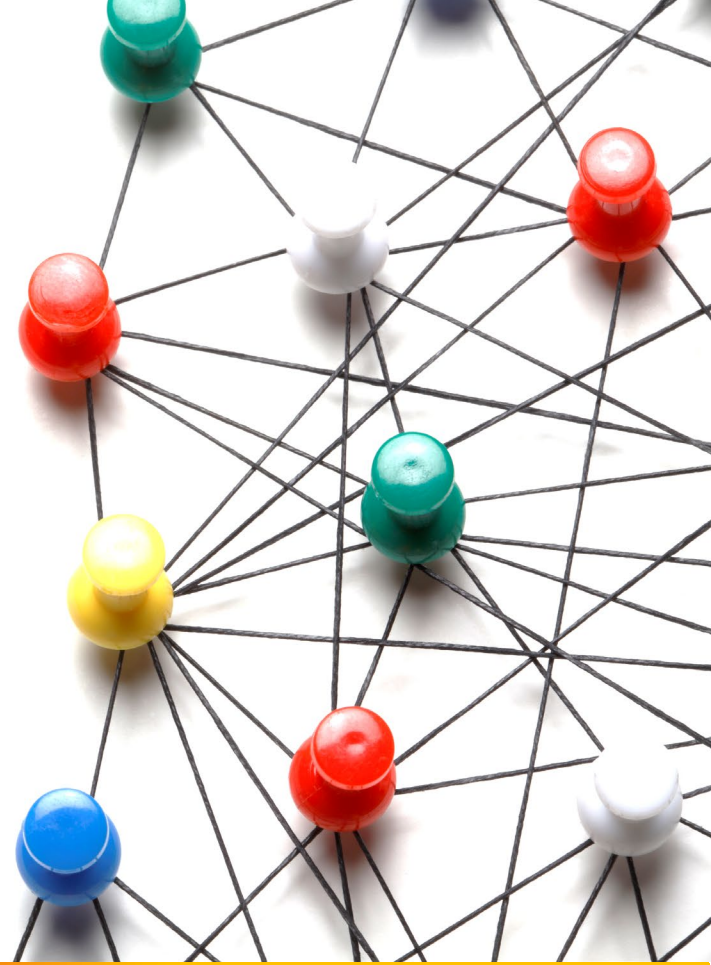


Repeating Instruments

Record ID	Demographics	Pre-op Patient Info	Clinical Details	Post-Op Day	Hospital Discharge	Follow-up	Complications
<u>1</u> (Subject ID 01-001)				+		+	
<u>2</u> (Subject ID 01-002)				+		+	



DATA DICTIONARY



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WHAT IS A DATA DICTIONARY?

A document (commonly .csv file), that contains your variable names, Field labels/descriptions, choices, calculations, etc. for your database

Ways to view:

- Download your data dictionary as excel file from the “Dictionary” tab
- View your data dictionary in the “Codebook” tab



	#	Variable / Field Name	Field Label <i>Field Note</i>	Field Attributes (Field Type, Validation, Choices, Calculations, etc.)						
Instrument: Demographics (demographics) ^ Collapse										
	1	[record_id]	Record ID	text						
 	2	[mrn]	Medical Record Number	text (number), Identifier Custom alignment: LH						
 	3	[dob]	Date of Birth	text (date_dmy), Identifier						
 	4	[visitdate]	Date of Visit	text (date_dmy), Identifier Custom alignment: RH						
 	5	[age]	Age at Visit	calc Calculation: rounddown(datediff([dob], [visitdate] , 'y')) Custom alignment: RH						
 	6	[gender]	Gender	radio <table><tr><td>1</td><td>Male</td></tr><tr><td>2</td><td>Female</td></tr><tr><td>3</td><td>Other</td></tr></table>	1	Male	2	Female	3	Other
1	Male									
2	Female									
3	Other									



THE DATA DICTIONARY IS A BRIDGE



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TIPS & TRICKS



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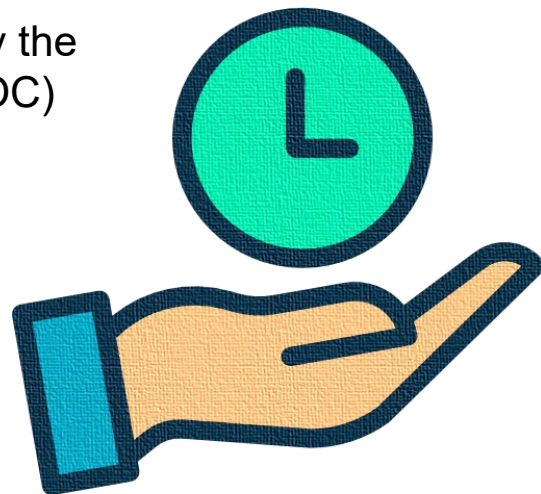
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TIME SAVERS



Shared Library

- Thousands of curated instruments approved by the REDCap Library Oversight Committee (REDLOC)
- Examples:
 - ICD10 Major Depression Inventory
 - PROMIS Emotional Distress – Anger - Short Form 8a
 - Pelvic Floor Distress Inventory Short Form 20 Scored
 - Toronto Empathy Questionnaire
- <https://projectredcap.org/resources/library/>



AVOIDING MESSY DATA

❑ Minimize Free Text Fields

Sensitive to spaces, punctuation, spelling variations, typos, etc.

❑ Use drop-downs, radio buttons, & check boxes whenever possible

Limits data inputs and automatically codes data

[allergy]	Allergy	text
[allergy_2]	Allergy	radio
		1 Sulfonamide
		2 Penicillin
		3 Tetracycline

Free Text Fields
VS
Radio Button

	A	B
1	allergy	allergy_2
2	sulfa drugs	1
3	tetracycline	3
4	sulfonamide	1
5	penicillin	2
6	tetra cycline	3
7	penecilin	2
8	sulpha	1



AVOIDING MESSY DATA

- ❑ Use Data Validation
- ❑ Be Consistent

Dates

Use the same format throughout

Variable Name (utilized in logic, calcs, and exports)
mrn ☐ Enable auto naming of variable based upon its Field Label?

ONLY letters, numbers, and underscores

How to use ☒ Smart Variables ☒ Piping ☒ Field Embedding

Validation? (optional)

-- OR --

-- select ontology set

Required?* ☒ No ☐ Yes
* Prompt if field is blank

Identifier? ☒ No ☐ Yes
Does the field contain identifier?

Custom Alignment

Align the position of the field

Field Note (optional)
Small reminder text displayed

Validation List:

- Date (D-M-Y)
- Date (M-D-Y)
- Date (Y-M-D)
- Datetime (D-M-Y H:M)
- Datetime (M-D-Y H:M)
- Datetime (Y-M-D H:M)
- Datetime w/ seconds (D-M-Y H:M:S)
- Datetime w/ seconds (M-D-Y H:M:S)
- Datetime w/ seconds (Y-M-D H:M:S)

Coding

Use consistent coding practices across all data entries.

Use
2, No
3, IRB Exempt

Use
2, Verbal
3, Neither/Exempt

Use
2, No

Use
2, Verbal



Coding Consideration - Checkbox Vs Multi-select

Single Select
option

Multi-select
option

Multiple Choice

Checkboxes

	record_id	mrn	dob	visitdate	age	gender	race	race_2	race_2	race_2	race_2	race_2	race_2	d2_crp	demographics_complete		
2	1	111111	8/8/2010	8/8/2022	12	1	1	1	0	0	0	0	0	3	2		
3	2	111112	8/8/2008	8/8/2022	13	2	2	0	1	0	0	0	0	2.7	2		
4																	
5																	

From a coding perspective

- Checkbox fields create individual columns for each option



Checkbox Use – Add Screening Questions

Use a “screening” question
before checkbox fields –
add branching logic!

Does your child have a bedtime routine?

☒ Yes

☐ No

reset

Which of the following are a part of your child's bedtime routine?
(check all that apply)

☐ Brushing teeth

☐ Reading a book

☐ Listening to music

☐ Taking melatonin

☐ Taking a bath/shower

☐ Sound machine/white noise

☐ Snack or drink



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DATA COLLECTION: SURVEYS



Question Phrasing

- Survey vs. Data Entry
- Cultural sensitivity



Reading Level

- Aim for <6th grade
- Flyers, educational materials



Clear & Concise!

- Avoid double negatives & double-barreled questions
- Add a “N/A” option for screening question

Ask someone unfamiliar with your study to look at your materials!



DO:

- ✓ Be consistent, clear, and concise
- ✓ Be descriptive in field labels
- ✓ Consider reading level
- ✓ Consult your biostatistician!

DON'T:

- ✓ “Fish” for data
- ✓ Use free text fields if possible
- ✓ Use double-barreled questions
- ✓ Be afraid to get an outside perspective!





THANK YOU

QUESTIONS?



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MEETING WITH YOUR BIOSTATISTICIAN

ROCS Biostats Team



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OVERVIEW

1 ROCS Biostatistics Services

2 Rules of Collaboration

3 Excel Data Cleaning

4 Developing a Data Dictionary

5 Preparing to Discuss Your Analysis

6 Data Sharing Guidelines





**Suhong Tong,
MS**

Senior Research
Scientist, Dept of
Pediatrics

Areas of Expertise:

- Large data
- Longitudinal data
- Time series
- Survey analysis with population complex design
- Structural equation modeling
- Quality improvement analysis
- Survival analysis



**Kaci Pickett-
Nairne, MS**

Senior Research
Scientist, Dept of
Pediatrics

Areas of Expertise:

- Survival analysis
- Dynamic prediction
- Statistical consulting

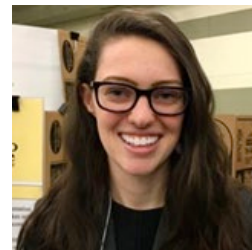


**Emily Cooper,
MS**

Research Scientist,
Dept of Pediatrics

Area of Expertise:

- Large Data
- Statistical consulting



**Samantha
Bothwell, MS**

Research Scientist,
Dept of Pediatrics

Area of Expertise:

- Time Series
- Longitudinal Data
- Clustering Analysis
- Spatial Statistics
- Statistical Consulting



**Kaitlin Olson,
MS**

Research Scientist,
Dept of Pediatrics

Area of Expertise:

- Survival analysis
- Missing data
- Statistical consulting



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ROCS BIOSTATISTICS SERVICES

The biostatistician can collaborate in all parts of protocol development and implementation, not just the statistics!

- Sample size calculation
- Analysis plan and protocol development
- Big data analysis (PHIS, TQIP)
- Retrospective data consulting
- Prospective data consulting
- Randomization schedules
- Database structure and review (REDCap)
- Clinical trial and general study design
- Abstract and poster development
- Manuscript and grant preparation



RULES OF COLLABORATION WITH ROCS BIOSTATISTICIANS

1. Involve your biostatistician early and communicate often!
2. Data should be stored in REDCap!
 - If your data is already in Excel, the data should be cleaned and include a data dictionary
3. Be considerate of the time we need to complete your analysis!
 - For simple analyses, we need at least 4 weeks from receiving clean data
4. Your biostatistician should be considered a co-investigator
 - Considered co-authors on manuscripts, usually 2nd author
5. Notify us of any co-authored submissions and acceptance, even for abstracts



RULES OF COLLABORATION WITH ROCS BIOSTATISTICIANS

Hours of work doesn't equal weeks of work!

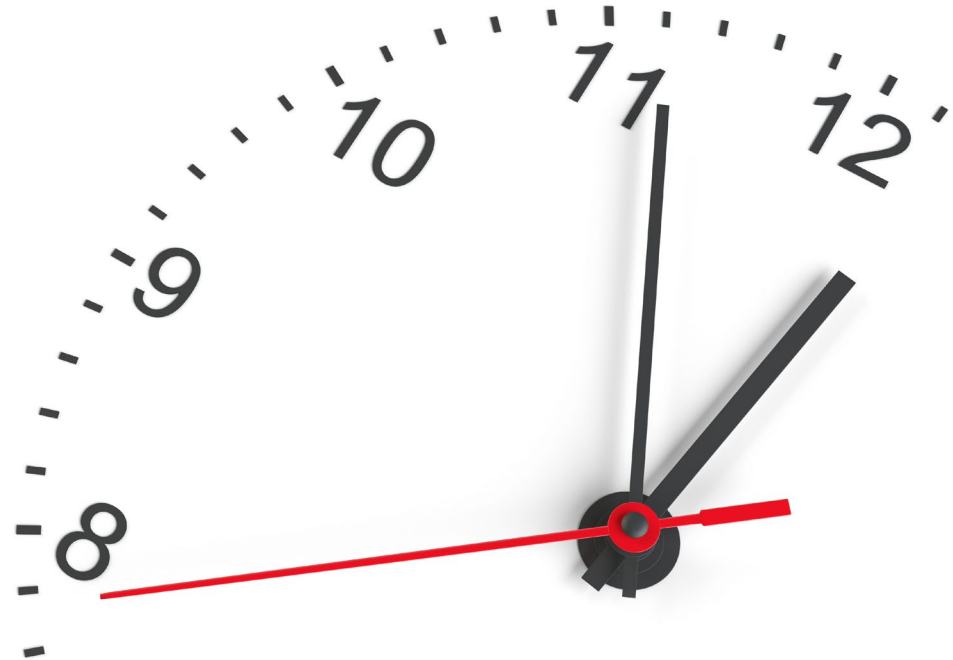
Request	Minimum Time Required
Power/Sample size calculation	10-20 hours
Protocol and analysis plan development	20-40 hours
Data analysis (depending on complexity)	40-120 hours +
Abstract assistance	10-40 hours



EXCEL DATA CLEANING

Data cleaning can take a lot of time!

It is usually an iterative process
between you and your biostatistician.
Ask your biostatistician for a meeting
to discuss data cleaning expectations
before you start!



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EXCEL DATA CREATION & CLEANING

Tips for Creating Clean Data in Excel:

1. Create concise variable names
2. Leave cells blank/fill with NA to indicate missing values
3. For categorical variables, use consistent, shorthand notation to label categories
4. Ensure dates use identical formatting, such as MM-DD-YYYY or MM/DD/YYYY
5. For select all that apply questions, each option should be a separate yes/no variable
6. Free text should only be used for notes that won't be used in analysis!
7. Don't highlight, color-code, or hide rows/columns of your data!
8. Always keep an original copy of your data, even if it's messy!



DEVELOPING A DATA DICTIONARY

Your data dictionary is usually a separate Excel document or sheet!

It should be up-to-date and include the same information as a REDCap codebook!

Variable Name	Variable Label	Variable Attributes
record_id	Unique record identifier	
mrn	Medical record number	
dob	Date of birth	MM-DD-YYYY
sex	Patient sex	1=Female, 2=Male
ethnicity	Ethnicity	H=Hispanic or Latino, N=Not Hispanic or Latino, U=Unknown
height	Height (cm)	
iss	Injury severity score	0-75



PREPARING TO DISCUSS YOUR ANALYSIS

Main types of data analysis we see in ROCS:

1. Descriptive statistics
2. Hypothesis testing
3. Correlations
4. Regression analyses
5. Survival analyses
6. Publication-ready figures

If you don't know what type of analysis you'd like, we're here to help!



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PREPARING TO DISCUSS YOUR ANALYSIS

Things to discuss with your biostatistician:

- What is your primary aim?
 - When possible, provide your IRB protocol to your biostatistician!
- Is there similar published literature?
 - Consider looking at adult studies!
 - Helpful for identifying covariates/potential confounders and information on standard statistical tests
- What tables & figures would you like created?
- What is the end goal of this project?



PREPARING TO DISCUSS YOUR ANALYSIS

Things to discuss with your biostatistician:

- Will some patients have repeat events, admissions, or measurements?
- What is your primary outcome?
- Are there known cofounders?
- What are your inclusion and exclusion criteria?
- Should the analysis be stratified? Should the analyses be performed separately within groups?
- Do you want to perform a sub-analysis? Do you want to repeat the analyses in a smaller group?



PREPARING TO DISCUSS YOUR ANALYSIS

Regardless of what you find in similar literature, understand that a specific analysis may not be feasible for your study!

Your biostatistician has the expertise to know when and how to appropriately implement analyses! We will consider:

- Sample size
- Study type
- Statistical assumptions



DATA SHARING GUIDELINES

Data containing PHI should not be shared with ROCS biostatisticians via email!

Some alternative methods:

- OneDrive
- Microsoft Teams
- REDCap Send-It

Reach out to ARC for specific information on data sharing best practices!



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THANK YOU!

Questions?



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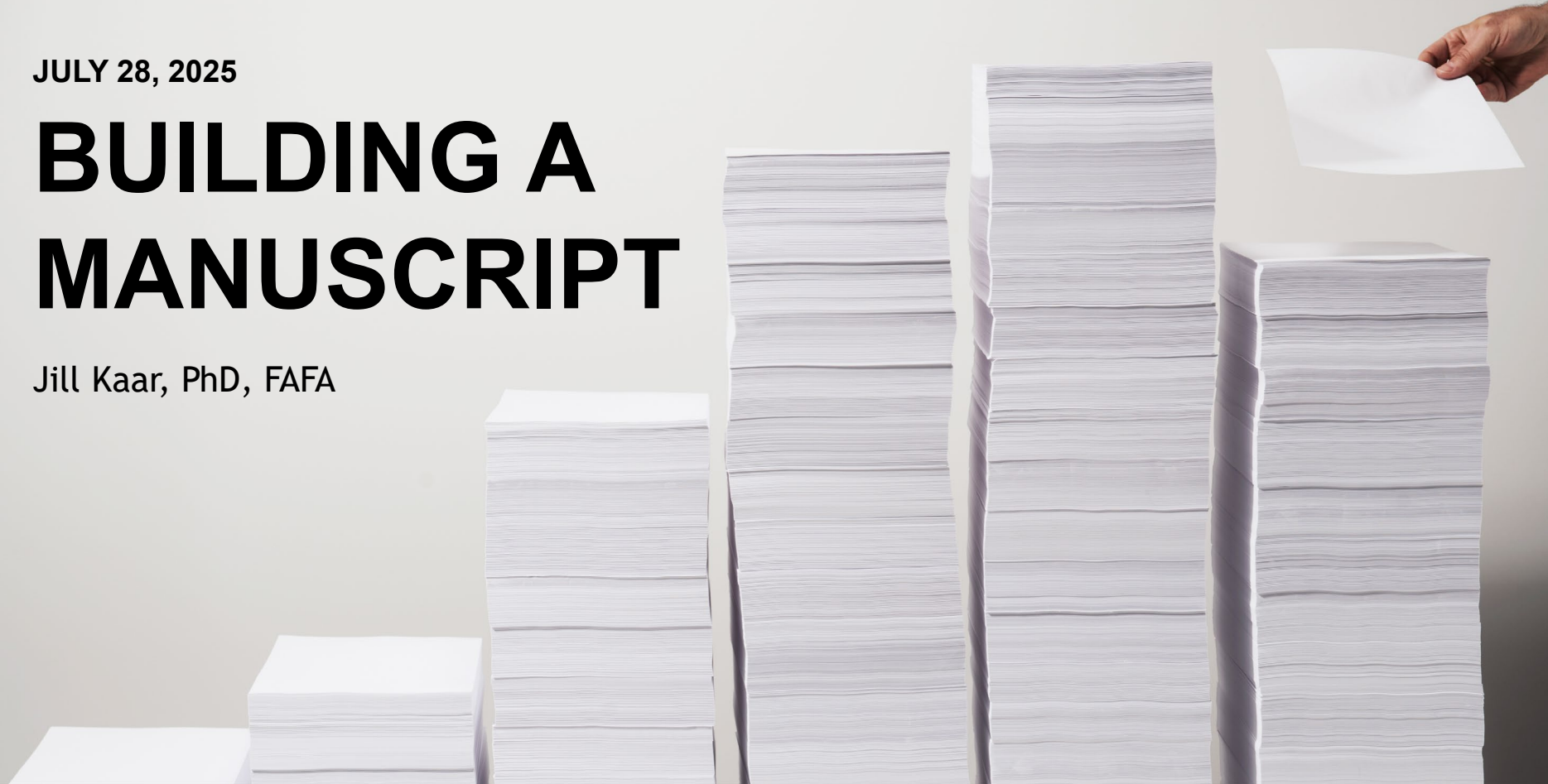
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JULY 28, 2025

BUILDING A MANUSCRIPT

Jill Kaar, PhD, FAFA



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OVERVIEW

1

Preparation

2

Writing Your Manuscript

3

Steps to Getting Published

4

Submission Process



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TYPES OF MANUSCRIPTS



- Reports
- Protocols
- **Original Research**
- Narrative Review
- Systematic Review
- Meta Analysis
- Editorial Commentary
- Other



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BEFORE WRITING YOUR MANUSCRIPT

1. Think about the take-home message of your research.
2. Select 3-5 journals that may publish your work.
3. Send an email to your mentor/senior author to confirm:

- ✓ Take home message
- ✓ Order of submission for selected journals
- ✓ Confirm authorship order



Metrics

2.4

2022 Impact Factor

2.6

2022 5-Year Impact Factor



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Note on AUTHORSHIP

The International Committee of Medical Journal Editors (ICMJE) recommends that authorship be based on the following 4 criteria:

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2. Drafting the work or revising it critically for important intellectual content; AND
3. Final approval of the version to be published; AND
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

*International Committee of Medical Journal Editors



Outline for WRITING YOUR MANUSCRIPT

1. Review journal requirements in the Guide for Authors.
2. Note formatting guidelines – figures/tables, references, required headings/subheadings.
3. Draft manuscript including title page, sections to be completed, and set up references.
4. Contact your biostatistician to discuss analysis requests & include mock versions of tables/figures.



A B S T R A C T

Purpose: Injured children are at risk for a variety of physical and emotional sequelae that may impair their ability to return to prior function. The effect of traumatic injury on mental health in children is not well characterized or understood. We sought to determine factors associated with new mental health diagnoses and/or mental health resource utilization following admission to a Level 1 pediatric trauma center for traumatic injury.

Methods: A retrospective chart review of patients admitted for accidental trauma between 2016 and 2019 was performed. Demographic data, injury characteristics, new mental health diagnoses and/or mental health resource utilization following hospitalization were extracted. Patients with prior mental health diagnosis, psychotropic prescription(s), or resource utilization were excluded from this cohort. A multi-variable logistic regression model was used to examine predictors of new mental health diagnoses and/or resource utilization.

Results: The prevalence of new mental health diagnoses or resources utilization was 9.5% (363/3828). The most common diagnoses were anxiety disorders and nonbipolar depression. The most common psychotropic medication prescribed was antidepressants. Patients with new mental illness were older (odds ratio [OR] 1.1 [95% CI: 1.06, 1.12]), more likely to sustain burn injuries (OR 6.3 [4.2, 9.5]), have non-sports related injuries (OR 3.5 [2.1, 6.0]), and be pedestrian struck (OR 2.7 [1.5, 4.8]). They additionally were more likely to sustain head, neck, and spine injuries (OR 3.8 [2.9, 5.1], 2.4 [1.1, 5.5], and 2.1 [1.3, 3.3], respectively).

Conclusions: There are a variety of demographic and injury specific factors associated with new mental health diagnoses and/or resource utilization in children following admission for trauma. Knowledge of these risk factors may ensure patients are allocated adequate resources to promote timely access to appropriate mental health services after hospitalization.

Type of Study: Retrospective comparative study

Level of Evidence: III

Example Outline

- Introduction
- Methods
- Results
- Discussion
- Previous Communication
- Funding
- Conflicts of Interest
- Acknowledgements
- References

Table 1
Demographics of Overall Population, and Stratified by New Mental Health Diagnosis and Resource Utilization after Injury.

	New Mental Health Diagnosis and/or Resource Utilization (n=363)	No Mental Health Diagnosis or Resource Utilization (n=3828)	p-value	Overall Population (n=3828)
Age	11.0 (6.0,14.0)	8.0 (4.0,13.0)	<0.0001	8.0 (4.0,13.0)
Sex			0.0937	
Male	242 (66.7%)	2155 (62.2%)		2397 (62.6%)
Female	121 (33.3%)	1310 (37.8%)		1431 (37.4%)
Race			<0.0001	
White	232 (65.4%)	2301 (69.3%)		2533 (68.9%)
Black	33 (9.3%)	159 (4.8%)		192 (5.2%)
Hawaiian or PI	2 (0.6%)	349 (10.5%)		351 (9.6%)
Other	88 (24.8%)	511 (15.4%)		599 (16.3%)
Ethnicity			0.2042	
Hispanic	94 (26.4%)	981 (29.6%)		1075 (29.3%)
Non-Hispanic	262 (73.6%)	2330 (70.4%)		2592 (70.7%)
Insurance			0.3623	
Private	192 (52.9%)	1672 (49.0%)		1864 (49.4%)
Public	154 (42.4%)	1576 (46.2%)		1730 (45.8%)
None	17 (4.7%)	164 (4.8%)		181 (4.8%)

Table 2
Injury Characteristics of Overall Population, and Stratified by New Mental Health Diagnosis and Resource Utilization after Injury.

	New Mental Health Diagnosis and/or Resource Utilization (n=370)	No Mental Health Diagnosis or Resource Utilization (n=3870)	p-value	Overall Population (n=4240)
Trauma Type			<0.001	
Blunt	283 (78.0%)	3074 (88.7%)		3357 (87.7%)
Penetrating	13 (3.6%)	174 (5.0%)		187 (4.9%)
Burn	56 (15.4%)	217 (6.3%)		273 (7.1%)
Other	11 (3.0%)	0 (0.0%)		11 (0.3%)
Mechanism of Injury			<0.001	
Motor Vehicle Collision	72 (19.8%)	376 (10.9%)		448 (11.7%)
Sports Injury	17 (4.7%)	569 (16.4%)		586 (15.3%)
Pedestrian Struck	25 (6.9%)	76 (2.2%)		101 (2.6%)
Fall	95 (26.2%)	953 (27.5%)		1048 (27.4%)
Gunshot Wound	5 (1.4%)	49 (1.4%)		54 (1.4%)
Assault	4 (1.1%)	19 (0.5%)		23 (0.6%)
Other	92 (25.3%)	1220 (35.2%)		1312 (34.3%)



WRITING YOUR MANUSCRIPT

1. Methods

- Use text from study protocol or previously published data
- Ask your biostatistician to send you text for analysis section

2. Results

- Describe your population
- Use text from your biostatistician

3. Introduction

- Why is this study important
- What do we know
- What gap will your manuscript fill
- Last section includes clear objective of your work

4. Discussion

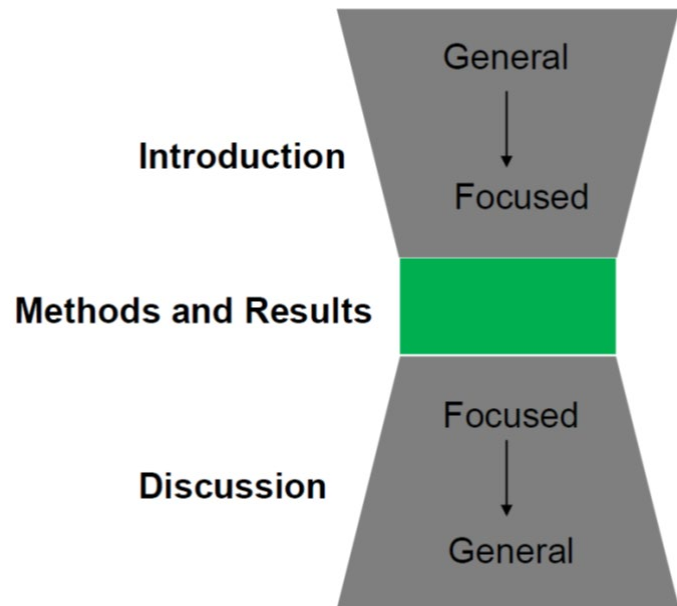
- First paragraph is take-home message
- Next paragraph(s) discuss your findings compared to other published work – are your findings similar/different – why (i.e., different time points, younger/older population, etc)
- Next paragraph document strengths and limitations

5. References

- Format references
- Check for missing information or inaccurate references
- Ensure all references are included in text



WRITING YOUR MANUSCRIPT Tips



AVOID

Instead Use

"it is proved/confirmed"

"there is evidence that"

"we can conclude"

"our data suggest"

"X causes Y" (Cohort Study and below)

"X is associated with Y"

"statistically significant"

"clinically meaningful with $p < 0.05$ "





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Acknowledgement Language

If our services were utilized for your work, please include [our logo](#) in presentations and posters. Find a [research poster PowerPoint template here](#), and [institutional logos for CU](#) and [Children's Hospital Colorado](#).

When a manuscript is ready to be published, please reference ROCS in the acknowledgement section with the language below:

Support was provided by the Children's Hospital Colorado, University of Colorado Anschutz, Research Outcomes for Children's Surgery



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GETTING YOUR MANUSCRIPT PUBLISHED

Ann Surg Oncol (2018) 25:850–855
<https://doi.org/10.1245/s10434-017-6320-6>

Annals of
SURGICAL ONCOLOGY
OFFICIAL JOURNAL OF THE SOCIETY OF SURGICAL ONCOLOGY



EDITORIAL – MELANOMAS

Steps to Getting Your Manuscript Published in a High-Quality Medical Journal

Charles M. Balch, MD¹, Kelly M. McMasters, MD,PhD², V. Suzanne Klimberg, MD,PhD³, Timothy M. Pawlik, MD,MPH,PhD⁴, Mitchell C. Posner, MD⁵, Mark Roh, MD⁶, Kenneth K. Tanabe, MD⁷, Deborah Whipple, BA⁸, and Naruhiko Ikoma, MD,MS¹

¹Department of Surgical Oncology, The University of Texas MD Anderson Cancer Center, Houston, TX; ²Department of Surgery, University of Louisville, Louisville, KY; ³Division of Surgical Oncology, Department of Surgery, University of Texas Medical Branch, Galveston, TX; ⁴Department of Surgery, Ohio State University, Columbus, OH; ⁵Department of Surgery, University of Chicago, Chicago, IL; ⁶UF Health Cancer Center, Orlando Health, Orlando, FL; ⁷Division of Surgical Oncology, Massachusetts General Hospital Cancer Center and Harvard Medical School, Boston, MA; ⁸Editorial Office, Annals of Surgical Oncology, North Fort Myers, FL



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Criteria for ACCEPTANCE

Significance does it pass the “so what?” test?

Originality of the research and conclusions

Methodologic and statistical validity

Ethical research practices

Impact on clinical practice or on science

Article *citable* by other authors?

Clarity of message and data presentation

Appropriateness or relevance of the subject *for the journal's readership*



Reasons for REJECTIONS

General Topic not of sufficient interest to readership, manuscript does not conform to journal requirements, subject not appropriate for journal readership

Methods Retrospective design, case study, small sample size, follow-up too short, or invalid statistics or control

Results Nothing new, data previously presented elsewhere, data not supportive of conclusions, or outcomes worse than those with the current standard of care

Discussion section Poorly written (grammar/content), conclusions vague or not supported by the data, found in another of your manuscripts, or references incomplete



Before Submitting

Step 1: Confirm authors, select a journal, and read the journal's instructions

Step 2: Prepare the manuscript; ensure that all authors contribute to and approve of the final version

Step 3: Submit the manuscript with all authors' conflicts of interest disclosed in the manuscript

Step 4: Receive the editors' communication and revise the manuscript

Step 5: Resubmit revised manuscript with changes highlighted and a summary letter describing responses to reviewers' comments



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USE ACCEPTED TOOLS FOR REPORTING

CONSORT for randomized trials.

STROBE for observational studies.

PRISMA for systemic reviews and meta-analyses of clinical trials.



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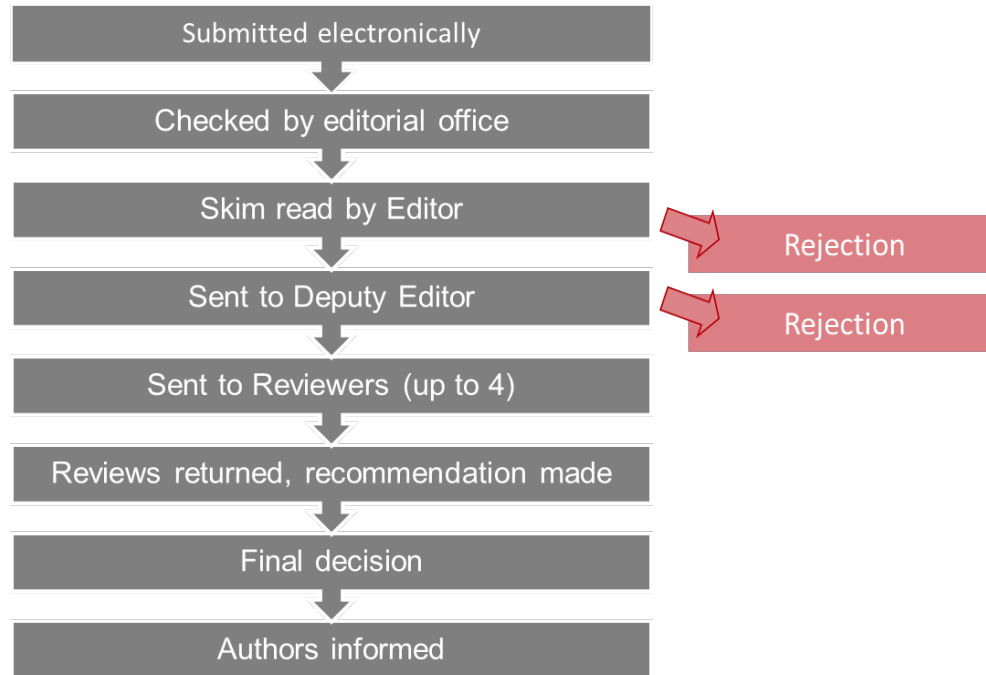
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SUBMISSION Process



REVISE YOUR MANUSCRIPT

Decisions regarding your manuscript



Rejection



Conditional acceptance (revise and resubmit)



Acceptance



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REVISE YOUR MANUSCRIPT

Your reviewer response should include



- Thank the reviewers for their time and effort.
- Point-by-point responses.
- Well-reasoned arguments, including relevant citations.
- Specific location in the manuscript of the changes made (e.g., page and line number, table number).





THANK YOU

Questions?



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JULY 28, 2025

Presenting Your Work

Jazmyn Mosqueda | ROCS Coordinator



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Outline

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Design Basics

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Presenting Tips

3

Posters



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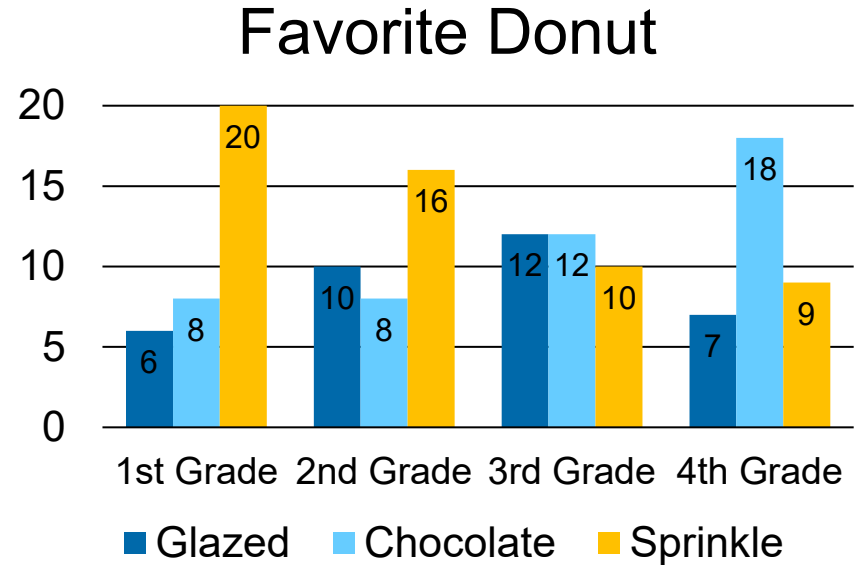
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Visuals & Design

- **Keep it simple and concise**
- **Large, easy-to-read fonts**
 - **Sans Serif**
- **Minimal use of text**
 - **Images and figures preferred**
- **High contrast colors**



40 Shall I compare thee to a summer's

32 Thou art more lovely and more temperate:

28 Rough winds do shake the darling buds of May,

24 And summer's lease hath all too short a date; - Headers

20 Sometime too hot the eye of heaven shines,

18 And often is his gold complexion; - Tables/Figures

16 And every fair from fair sometime declines,

14 By chance or nature's changing course; - Bare minimum

12 But thy eternal summer shall not fade,

10 Nor lose possession of that fair thou ow'st;

8 Nor shall death brag thou wander'st in his shade,

6 When in eternal lines to time thou grow'st:

4 So long as men can breathe or eyes can see,
3 So long lives this, and keeps this life.



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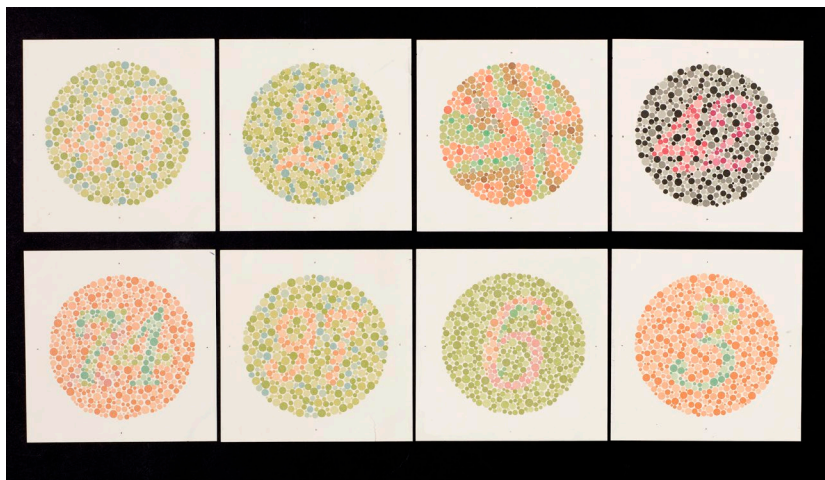
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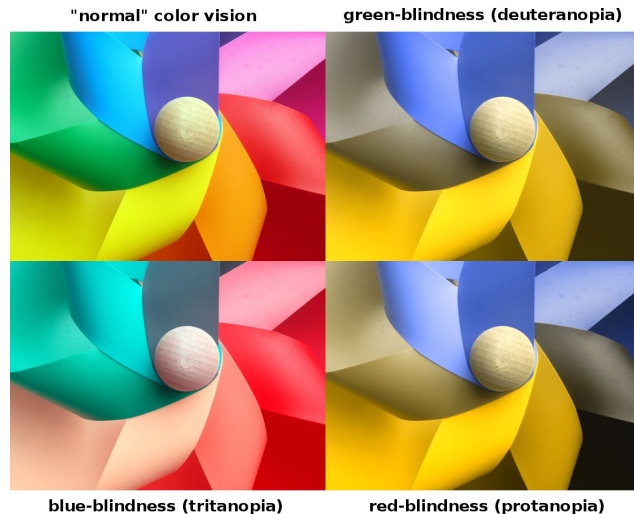
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Color

Use high contrast colors



Avoid using red-green
(most common color blindness)



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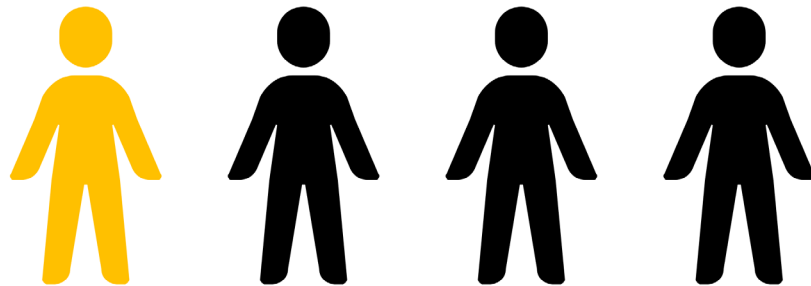
Style

- **Play to your strengths**
- **Consider your “brand”**
- **Add interest, but top priority is being clear**



Showcase your data in a visually meaningful way.

25%



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PRESENTING



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THINK LOGISTICS

Time constraints

- 1 slide/minute (15-minute presentation = ~15 slides)
- Leave time for questions

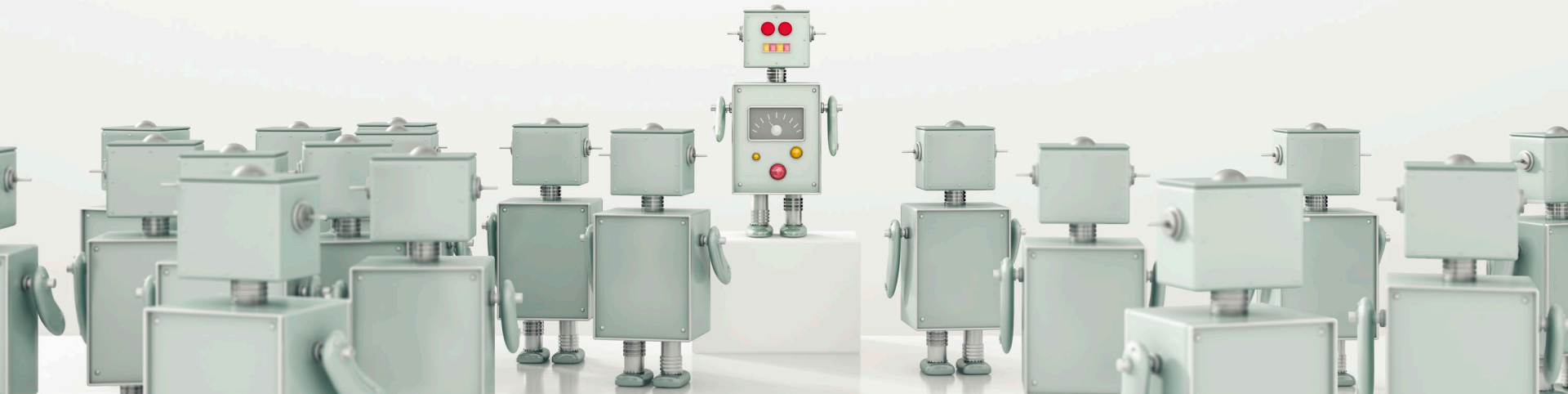
Consider the presentation venue

- Is the screen big or small for the space?



CONSIDER YOUR AUDIENCE

How much does the average audience member know?



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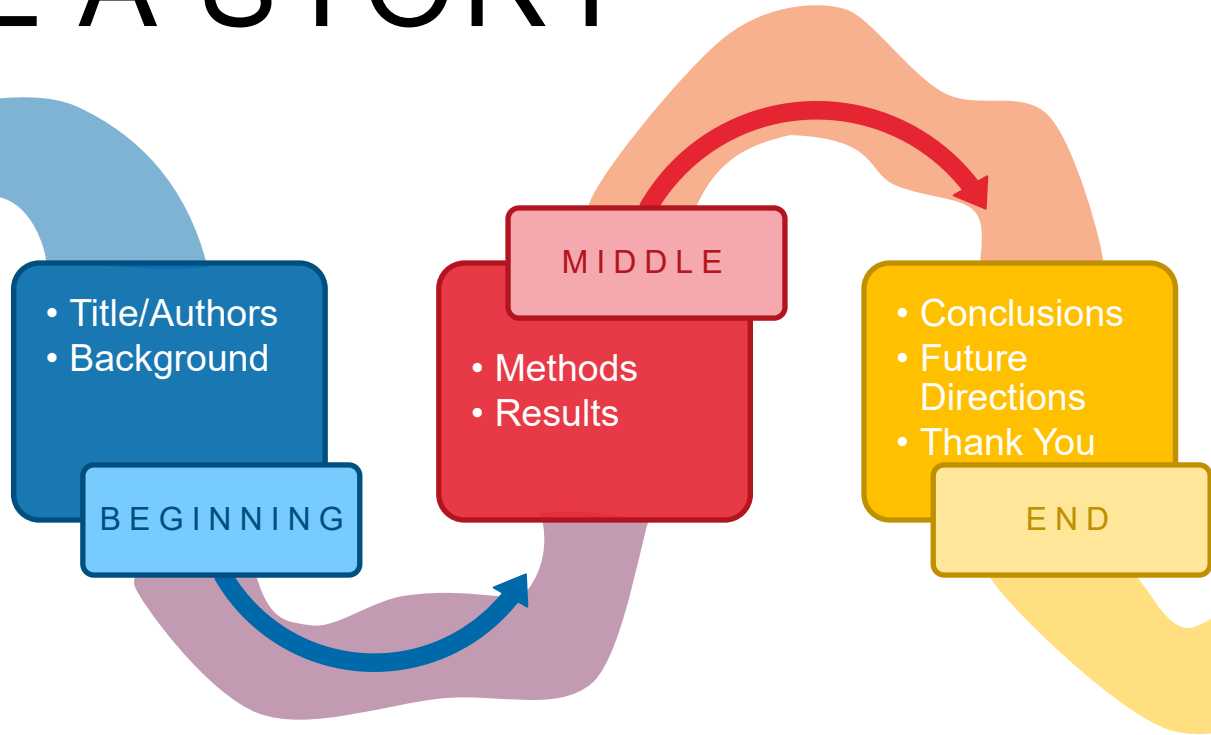
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TELL A STORY



PRACTICE



Practice in front of someone unfamiliar with your presentation topic

Ask for feedback:

- Do things make sense?
- Areas that could be clearer?
- Does it flow?



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REVISE!

Don't expect it to be perfect
the first time around!



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POSTERS



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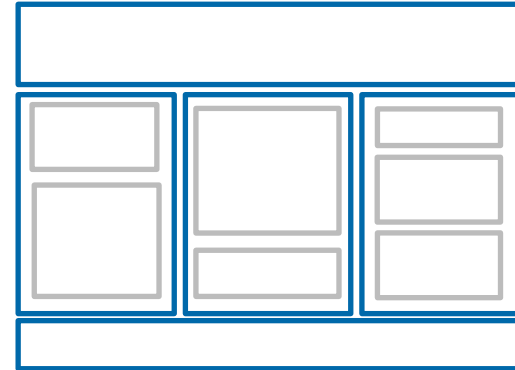
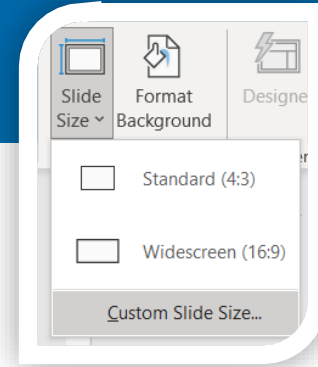


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MAKING A POSTER

- Customize slide size to poster size (Design tab)
- Use a template of boxes to keep clean lines
- Use rulers and gridlines to double check alignment



POSTER SECTIONS

- ✓ Background
- ✓ Objective
- ✓ Methods
- ✓ Results
- ✓ Conclusions
- ✓ Implications
- ✓ Disclosures

The Missing Link In Current Prevention Strategies Focused On Reducing CVD Risk Among Youth: Youth's Mental Health

Jill L Kaar, PhD¹, Anne E Bowen, BS², Melissa Pangelinan, PhD³, Christina R Studts, PhD¹, Lauren B Shomaker, PhD^{1,2,4}, and Stacey L Simon, PhD¹
¹University of Colorado Anschutz Medical Campus, Aurora, CO | ²Children's Hospital Colorado, Aurora, CO | ³Auburn University, Auburn, AL | ⁴Colorado State University, Fort Collins, CO



Background

- Physical activity (PA), sedentary behavior such as screen time, and sleep are well known health behaviors associated with CVD risk factors among youth.
- CVD risk factors are prevalent among youth with mental health diagnosis, in particular, depression.
- Low PA, high screen time, and insufficient sleep have been independently associated with increased risk of depression among youth.
- How these health behaviors interact together and influence CVD risk among youth remains unclear.

Objective

To examine the interplay of health behaviors, mental health indicators, and other sociodemographic predictors of obesity risk among youth.

Methods

- Youth (aged 13-18 years) from the 2018-2019 National Survey of Children's Health data was utilized.
- Obesity risk was defined as overweight (BMI% $\geq$ 85-94) or obese (BMI% $\geq$ 95).
- Demographics (age, sex, race, ethnicity), PA, screen time, hours of sleep per night on weeknights, and diagnosis of depression or anxiety from a health care provider were extracted.
- Meeting recommendations defined as follows
 - Physical Activity: 60 minutes/day, 4-7 days/week
 - Screen time: $\leq$ 2 hours/day
 - Sleep: $\geq$ 8 hours/night
- Statistical Analysis
 - Multivariable logistic regression analyses examined predictors of obesity risk.
 - Significance: Odds Ratio > 1.50

Main Findings

The most significant predictors of obesity among youth are being male, not meeting physical activity recommendations, and being depressed.

Table 2. The association between demographics, health behaviors, and mental health on weight status among youth (ref: healthy weight)

	Overweight BMI% $\geq$ 85-94	Obese BMI% $\geq$ 95
Demographics		
Sex (Male)	1.07 (0.97-1.17)	1.59 (1.44-1.76)
Race (Minority)	1.04 (0.93-1.17)	1.30 (1.16-1.46)
Ethnicity (Hispanic)	1.21 (1.05-1.40)	1.31 (1.13-1.52)
Not Meeting Recommendations		
Physical Activity	1.31 (1.19-1.44)	1.82 (1.64-2.01)
Screen Time	1.05 (0.96-1.17)	1.21 (1.10-1.35)
Sleep	1.10 (1.00-1.22)	1.20 (1.09-1.34)
Mental Health		
Anxiety	1.10 (0.95-1.25)	1.06 (0.92-1.23)
Depression	1.20 (1.02-1.41)	1.74 (1.48-2.03)

Results

Table 1. Characteristics of Cohort (N=1590)

	Healthy	Overweight	Obese
Participants, n (%)	11307 (73%)	2248 (14%)	2035 (13%)
Age (years)	15.6 1.1	15.5 1.1	15.6 1.1
Sex (%)			
Male	50%	51%	59%
Female	50%	49%	41%
Ethnicity (%)			
Hispanic	9%	11%	12%
Non-Hispanic	91%	88%	88%
Race (%)			
White	81%	80%	77%
Minority	19%	20%	23%

Figure 1. Youth diagnosis of mental health outcome by weight status

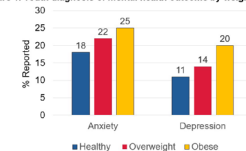
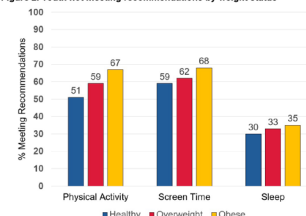


Figure 2. Youth not meeting recommendations by weight status



Conclusion

In light of the increased mental health concerns among youth, the interplay of health behaviors, mental health, and CVD risk factors need to be examined further to elucidate possible mechanisms of causation. Further, CVD prevention programs should include a focus on mental health.



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FORMATTING A POSTER

- Use high resolution (300+ dpi) & full-color images & logos (.jpeg, .png)
- 3-4 figures or tables
- Text size:
 - ✓ Title – 50+ pt
 - ✓ Headers – 36+ pt
 - ✓ Bodies of text - 24+ pt

36x36

The Missing Link In Current Prevention Strategies Focused On Reducing CVD Risk Among Youth: Youth's Mental Health

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Background

- Physical activity (PA), sedentary behavior such as screen time, and sleep are well known health behaviors associated with CVD risk factors among youth.
- CVD risk factors are prevalent among youth with mental health diagnosis, in particular, depression.
- Low PA, high screen time, and insufficient sleep have been independently associated with increased risk of depression among youth.
- How these health behaviors interact together and influence CVD risk among youth remains unclear.

Methods

- Youth (aged 13-18 years) from the 2018-2019 National Survey of Children's Health data was utilized.
- Obesity risk was defined as overweight (BMI% ≥ 85-94) or obese (BMI% ≥ 95).
- Demographics (age, sex, race, ethnicity), PA, screen time, hours of sleep per night on weeknights, and diagnosis of depression or anxiety from a health care provider were extracted.
- Meeting recommendations defined as follows
 - Physical Activity: 60 minutes/day, 4-7 days/week
 - Screen time: ≤ 2 hours/day
 - Sleep: ≥ 8 hours/night
- Statistical Analysis
 - Multivariable logistic regression analyses examined predictors of obesity risk.
 - Significance: Odds Ratio >1.50

Objective

To examine the interplay of health behaviors, mental health indicators, and other sociodemographic predictors of obesity risk among youth.

Main Findings

The most significant predictors of obesity among youth are being male, not meeting physical activity recommendations, and being depressed.

Table 2. The association between demographics, health behaviors, and mental health on weight status among youth (ref: healthy weight)

	Overweight BMI% ≥ 85-94	Obese BMI% ≥ 95
Demographics		
Sex (Male)	1.07 (0.97-1.17)	1.59 (1.44-1.76)
Race (Minority)	1.04 (0.93-1.17)	1.30 (1.16-1.46)
Hispanic	1.21 (1.05-1.40)	1.31 (1.13-1.52)
Not Meeting Recommendations		
Physical Activity	1.31 (1.19-1.44)	1.92 (1.64-2.01)
Screen Time	1.05 (0.96-1.17)	1.21 (1.10-1.35)
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Mental Health		
Anxiety	1.10 (0.95-1.25)	1.06 (0.92-1.23)
Depression	1.20 (1.02-1.41)	1.74 (1.48-2.03)

Results

Table 1. Characteristics of Cohort (n=1100)

	Healthy	Overweight	Obese
Participants, n (%)	1107 (73%)	2248 (14%)	205 (13%)
Age (years)	15.6 ± 1.1	15.5 ± 1.1	15.6 ± 1.1
Sex (%)			
Male	50%	51%	50%
Female	50%	49%	41%
Ethnicity (%)			
Hispanic	9%	11%	12%
Non-Hispanic	91%	89%	88%
Race (%)			
White	81%	80%	77%
Minority	19%	20%	23%

Figure 1. Youth diagnosis of mental health outcome by weight status

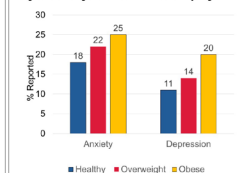
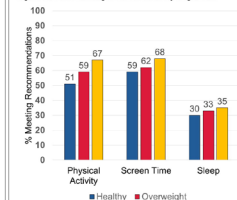


Figure 2. Youth not meeting recommendations by weight status



Conclusion

In light of the increased mental health concerns among youth, the interplay of health behaviors, mental health, and CVD risk factors need to be examined further to elucidate possible mechanisms of causation. Further, CVD prevention programs should include a focus on mental health.



THANK YOU

Questions?



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