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CLINICAL PROTOCOL DEVELOPMENT SERIES (DAY 1)

Kim Brownley, PhD, CIP Joyce M. Lanier, MSRC, RRT, CCRC

Online Logistics - Questions

- To avoid connectivity issues, we ask that participants please turn off their video.
- Please enter questions using the chat function.
 We will be monitoring the chat and saving questions until the end.
- Any questions we do not get to will be compiled into a Q&A document and distributed to registered attendees.





Objectives for Day 1

- Understand when and why a clinical protocol is required
- Review how a protocol is helpful to researchers
- Describe the Scientific Review Process
- Review available protocol templates and resources
- Discuss content expectations for sections of the protocol



Protocol Development Support Team

NC TraCS



Kim Brownley PhD, CIP Co-Director



Marie Rape RN, BSN, CCRC Associate Director



Joyce M. Lanier, RRT, MSRC, CCRC Protocol & Quality Assurance Specialist

Office of Clinical Trials



Monica Coudurier, BA Clinical Trials Project Manager



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Day 1: Background, SRC Review & Process, Protocol Templates

Kim Brownley, PhD, CIP Co-Director, TraCS Regulatory Service Chair, UNC IRB Member, Scientific Review Committee



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Grant Proposal vs Protocol – key differences

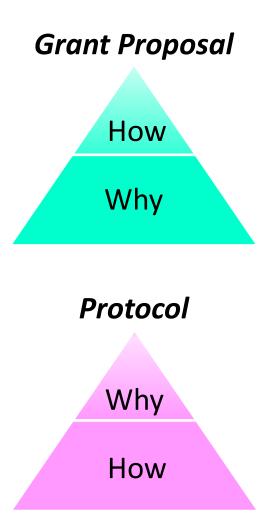
- **Grant proposal:** *rhetorical document, comparable to an artist's painting of a concept car or a rendering of an architectural vision*
 - Page limitations per funding mechanism
 - Document to propose an idea worth funding
 - Summary of clinical plan
 - May include a component for training individual
- **Protocol:** analytic document, comparable to a schematic drawing or recipe meant to present an effective plan for conducting the study and analyzing the data
 - No page limitations
 - Sections describe all aspects of clinical plan
 - Roadmap for study teams to implement study
 - Dynamic document (updates, changes)



What is a Clinical / Research Protocol?

A document that describes:

- Why a study will be conducted
 > Background and rationale
 > Objectives and aims
- How a study will be conducted
 - Design
 - Methodology
 - Statistical considerations
 - Organization of the project





How is a Protocol Helpful?

- Helps PI translate scientific aims into actionable steps and clear deliverables/outcomes
- Standardizes processes and provides a detailed plan for the study team to implement
 - Clarifies role responsibilities
 - Reduces noncompliance/unanticipated problems

Helps ensure the safety of the trial subjects

- Helps ensure the integrity of the data collected
- > Multicenter trials all sites follow same protocol
- Source material for other submissions (CT.gov, IRB, manuscripts)
- Facilitates IRB Review
 - Maps onto and supports the IRB application
 - \succ Signals attention to detail ("bad" science \rightarrow unethical)



Why Require a Protocol?

- FDA IND or IDE submission
- NIH clinical trial grant submission (protocol synopsis)
- **Single IRB review** many IRBs require a protocol (not just IRB application)
- <u>ClinicalTrials.gov</u> registration & results reporting
- **UNC** = "industry standard" for scientific review



UNC Scientific Review Policy

 $AII \stackrel{\bigstar}{\sim} clinical$ research conducted at the University of North Carolina at Chapel Hill involving greater than minimal risk (full board) must undergo scientific review.

Industry-sponsored, multi-site trials generally excluded 🔀





Scientific Review – Why?

Regulatory Criteria for Approval – RISKS ARE:

- Minimized through sound research design.
- Reasonable in relation to anticipated benefits and the

importance of the knowledge to be gained.



There is *no acceptable risk* to human subjects *in the absence of valid scientific benefit*.





UNC Scientific Review – Who?

- Externally by an independent organization that has no COI with the research activity
 - Not NIH study section

Not Foundation peer review

- LCCC PRC for oncology research
- UNC SRC for all other clinical/biomed research^{*}

*****Both require a protocol!!





Oncology Protocol Review Committee (PRC) Process

The PRC reviews local and national research protocols involving cancer prior to IRB submission.

Oncology trials to be reviewed by the PRC must have at least a final protocol and a signed PRC cover sheet (and a statistician signoff, if it is an Investigator Initiated Trial), all of which are sent to the <u>PRC</u> <u>Coordinator</u>. The Protocol Development team is available to assist with any IIT protocols that will be reviewed by the PRC. Visit their website (<u>https://unclineberger.org/iit/</u>) for more information.

After submissions have been initially previewed by the PRC Coordinator, they are assigned to the next available PRC meeting (every other week).

Once the protocol has been approved by the PRC, the study team will attach the PRC approval letter to the IRB application and submit it for review.

For more information about the PRC, visit the PRC website (<u>https://unclineberger.org/protocolreview/</u>), or contact the <u>PRC Coordinator</u>.







How Does the SRC Process Work? <u>https://research.unc.edu/clinical-trials/src/review-process/</u>

- Protocol Submitted through UNC Office of Clinical Trials "SRC Portal" (<u>https://apps2.research.unc.edu/src/index.cfm?event=review.request</u>)
- 2. SRC Coordinator Evaluates Protocol
 - a. Shares reviewable protocols with SRC Chairman and with OCT Director and IRB as needed
 - b. If needed, revisions are requested, protocol sent back to PI
- 3. "Ready" protocols received by Monday at noon
 - a. Scheduled for committee review the following Monday
 - b. Chair assigns three reviewers (primary, secondary, biostatistician)
- 4. Post review: Investigator advised of next steps
 - a. Revise, resubmit through portal to 3 reviewers only **OR** to the full committee; may include TraCS Protocol Specialist referral
 - b. Proceed to the IRB



Distinctions Between SRC and IRB Review

IRB

- Subjects' Rights & Welfare
- Ethical Conduct in Research
- Appropriate Background & Training of Research Personnel
- Transparency Regarding Risks and Benefits of Participation
- Equal Opportunity & Parity
- Adherence to Federal & State laws, OHRP & UNC Policies

Contact:

UNC Office of Human Research Ethics IRB_questions@unc.edu

SRC

- Scientific Merit & Importance
- Feasibility
- Clearly Stated Aims
- Relevant Outcome Measures
- Appropriate Data Management Plan
- Statistical Integrity
- Adherence to GCP, UNC Research Requirements

Contact: SRC@unc.edu



• WHO ARE THE CURRENT SRC MEMBERS?

Chair

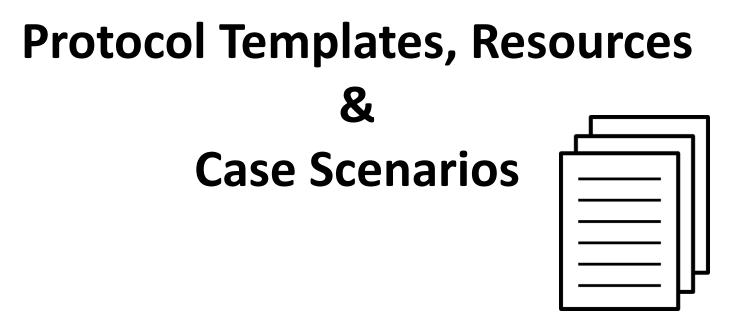
Eric T. Everett, PhD (Oral/Dental/Craniofacial, Genetics)

Reviewers

Statistician Reviewers

- Feng-Chang Lin, PhD (Biostatistics)
- Jipcy Sulbaran, PhD Candidate (Biostatistics)
- Kim Brownley, PhD, CIP: (Psychology, Mental Health, HSR-regulations)
- Michelle Floris-Moore, MD, MS: (Infectious Diseases)
- Marianne Muhlebach, MD: (Pediatrics, Pulmonology)
- Gretchen S. Stuart, MD, MPH: (OB-Gyn)
- **Claudia M. Testa, MD, PhD**: (Neurology, Genetically-based Therapeutics)
- Michael Wagner, PhD: (Genetic Medicine, Pharmacogenetics, Genomics)
- Laura Young, MD, PhD: (Endocrinology)





Joyce M. Lanier, MSRC, RRT, CCRC

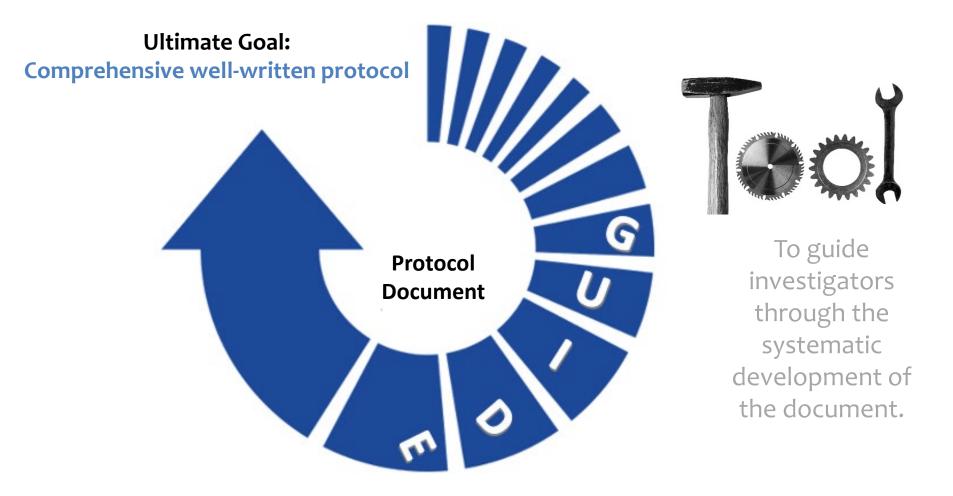
Protocol & Quality Assurance Specialist

North Carolina Translational & Clinical Sciences Institute





Why Use a Protocol Template?







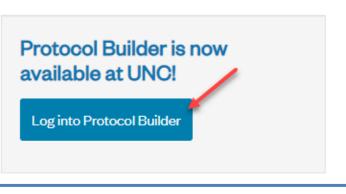
Protocol Builder Tool

UNC Research Home / Office of Clinical Trials / Training & Resources / Protocol Builder

Protocol Builder

Protocol Builder is an online tool designed to help investigators develop clinical protocols with all of the elements needed for efficient scientific and ethical review by the UNC Scientific Review Committee and UNC IRB.

Anyone with a UNC ONYEN, including UNC affiliates at other institutions, can log in and start building a protocol.



Link: https://research.unc.edu/clinical-trials/training/protocol-builder/

PB administration contact: src@unc.edu





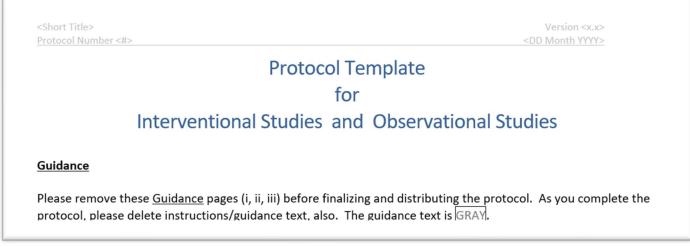


SRC Protocol Development Tips & Resources

UNC Research Home / Office of Clinical Trials / Scientific Review Committee / Protocol Deve

Protocol Development Tips and Resources

Download UNC Master Protocol Document Template: This document is a comprehensive guide to protocol development for UNC investigators.

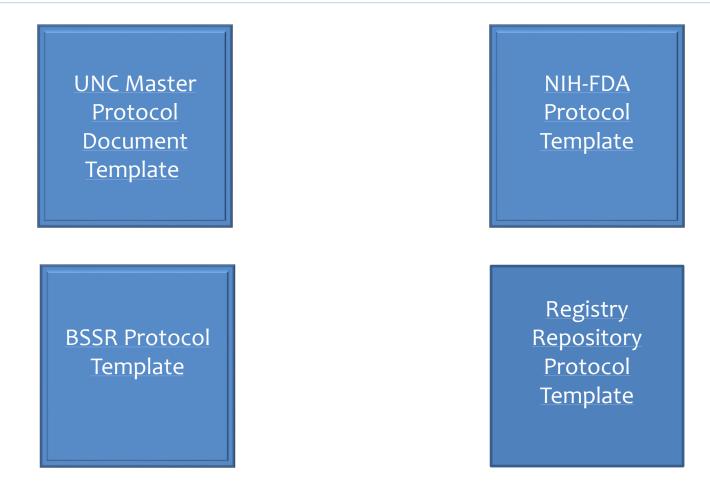


https://research.unc.edu/clinical-trials/src/protocol-development/

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SRC Protocol Development Tips & Resources



https://research.unc.edu/clinical-trials/src/protocol-development/





TIPS for Speedy Scientific Review

- Submit protocol to SRC early
- Pick the right protocol template . . .
- grant
- Cleary describe relationships and roles of the:
 - Sponsor
 - Institution
 Research Partners
 - Investigator
- Clearly describe the investigational drug/device status

IRB

- Address all elements per the protocol template
- Be consistent (aims \rightarrow procedures \rightarrow measures \rightarrow analyses)





Clinical Protocol Templates (LCCC)

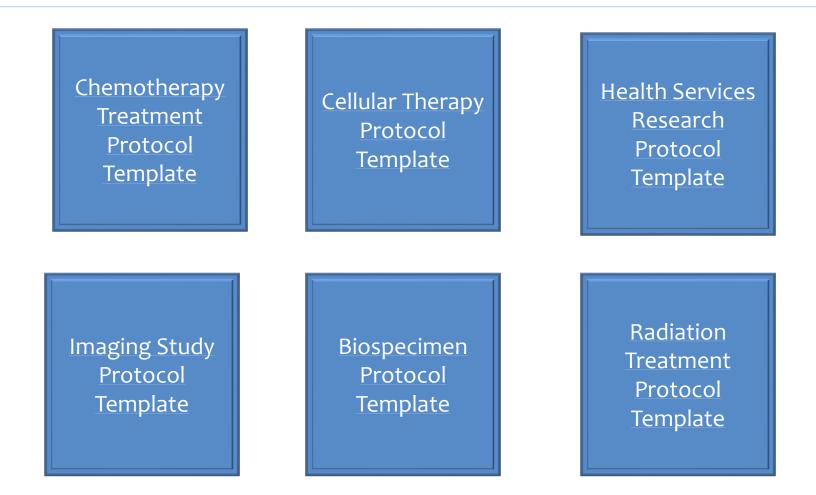
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UNC Lineberger Comprehensive Cancer Center		
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Investigator Initiated Trials (IITs)		
guide		
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Home / Getting Started / Initial Protocol Development / Writing Your Protocol		
	Writing Your Protocol	
Getting Started	witting tour riotocor	

<u>https://unclineberger.org/protocolreview/forms/</u> <u>Writing Your Protocol - Investigator Initiated Trials (IITs) (unclineberger.org)</u> <u>Investigator Initiated Trials (IITs) - Investigator Initiated Trials (IITs) (unclineberger.org)</u>

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Clinical Protocol Templates (LCCC)



Writing Your Protocol - Investigator Initiated Trials (IITs) (unclineberger.org)





Additional Protocol Templates



Protocol Templates and Guidelines | Protocol Development | CTEP (cancer.gov)

<u>nidcr-clinical-trial-interventional-protocol-template.dotx (live.com)</u>

Protocols and Informed Consent | NIH: National Institute of Allergy and Infectious Diseases





Study Record: PHS Human Subjects and Clinical Trials Information		
* Always required field	OMB Number: 0925-0001 Expiration Date: 09/30/2024	
Section 1 - Basic Information		
Section 2 - Study Population Characteristics		
Section 3 - Protection and Monitoring Plans		
Section 4 - Protocol Synopsis		
4.1. Study Design		
4.1.a. Detailed Description		
4.1.b. Primary Purpose		

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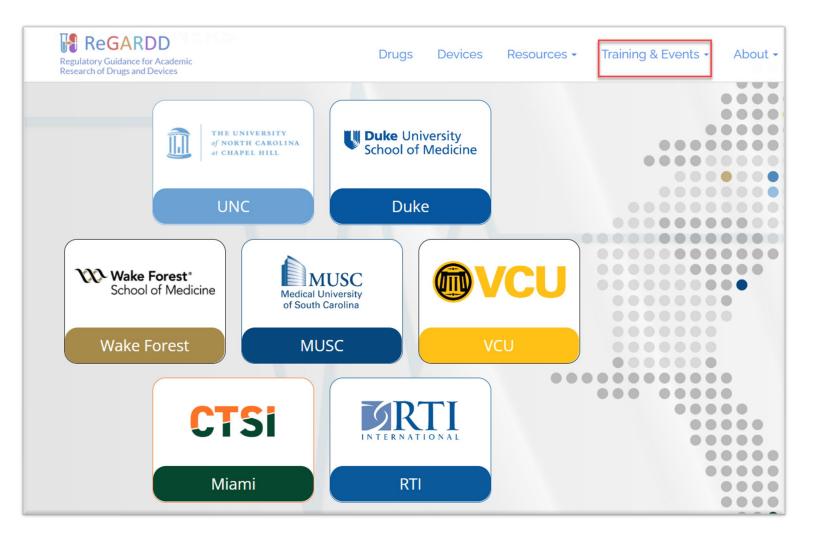
ReGARDD.org (unc.edu)

http://regardd.org/resources

ReGARDD - Regulatory Guidance for Academic Research of Drugs and Devices

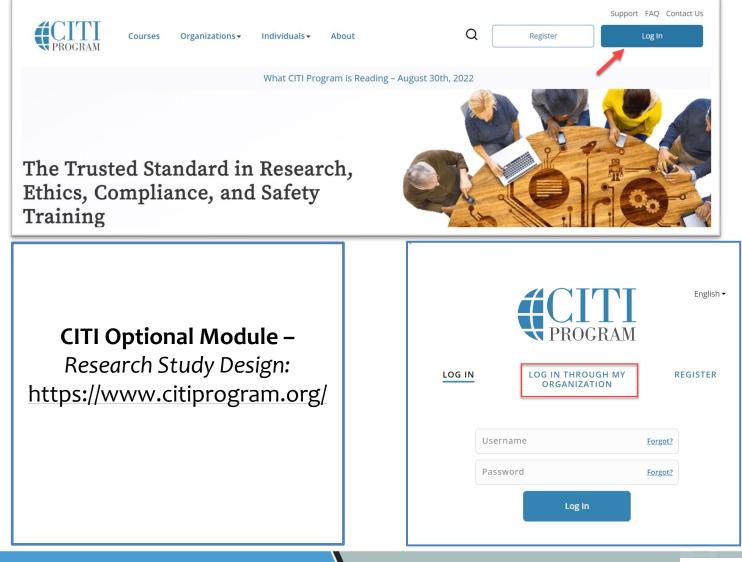
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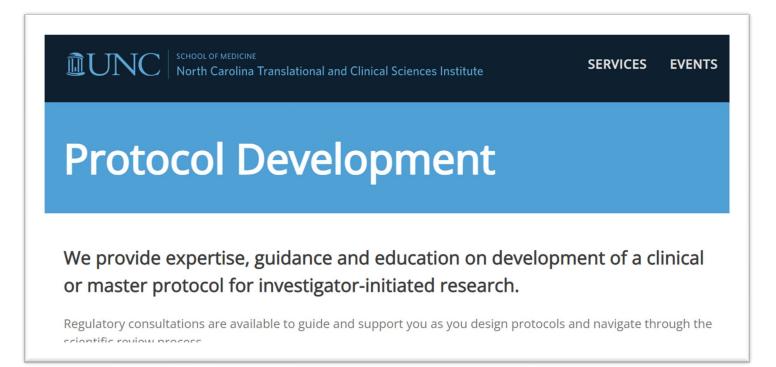




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TraCS Regulatory:



https://tracs.unc.edu/index.php/services/regulatory/protocol-development

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Protocol Development Services

Virtual consultation services

Provide protocol templates

Protocol review with annotated recommendations

Assist PI & study team with review committee responses

Protocol writing services – Fee for Hire

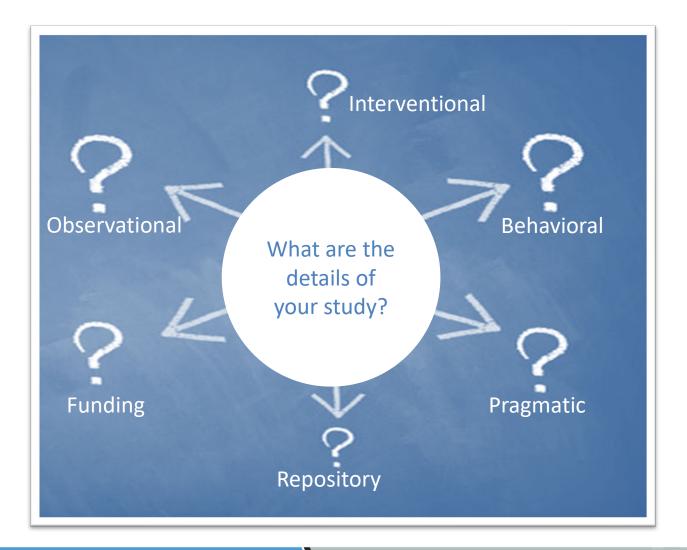
Joyce Lanier (Protocol Specialist) – joyce_lanier@med.unc.edu

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Choosing Appropriate Protocol Template



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Interventional vs. Observational Studies

- Interventional: Participants are assigned (based on the randomization of the research study) to groups that receive one or more intervention / treatment (or no treatment) so researchers can evaluate the effects of the intervention on biomedical or health related outcomes. Assignments are determined by the protocol / study participation (typically prospectively assigned).
- **Observational:** Researchers **observe** the effect of a risk factor, diagnostic test or treatment or other intervention without trying to change who is or isn't exposed to it. Subjects receive treatment via standard of care typically determined by their health care provider (NOT assigned by study).



Anonymous Case Scenario Poll #1

Study 1 is comparing the impact of **Drug A** versus **Drug B** for physiological changes in the liver.

Study Aim: To characterize changes in liver microbiome structure

Inclusion Criteria: Diagnosis of liver disease; Clinical decision to start Drug A or Drug B

Study Design: 4 study visits after starting the drug which includes specimen collection and the administration of questionnaires

Is this an interventional or observational study?





Case Scenario Poll #1 (Revised)

Study 1 is comparing the impact of **Drug A** versus **Drug B** for physiological changes in the liver.

Study Aim: To characterize changes in liver microbiome structure

Inclusion Criteria: Diagnosis of liver disease; Clinical decision to start Drug A or Drug B where drug has been prescribed by the treating physician as standard of care prior to enrollment.

Study Design: 4 study visits after starting the drug which includes specimen collection and the administration of questionnaires

Is this an interventional or observational study?





Pragmatic Trial = Clinical Trial = Interventional

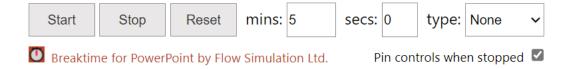
• Pragmatic trial

- Typically randomized and controlled, but participants often randomized at the group level (hospital, nursing home, clinic) with a similar group matched as control group.
- Purpose is to inform decisions about practice
- Designed to evaluate the effectiveness of interventions in real-world clinical settings.
- Recommend use of an Interventional Protocol Template
- Resource: <u>Pragmatic Elements: An Introduction to</u> <u>PRECIS-2 - Rethinking Clinical Trials</u>



Break Time

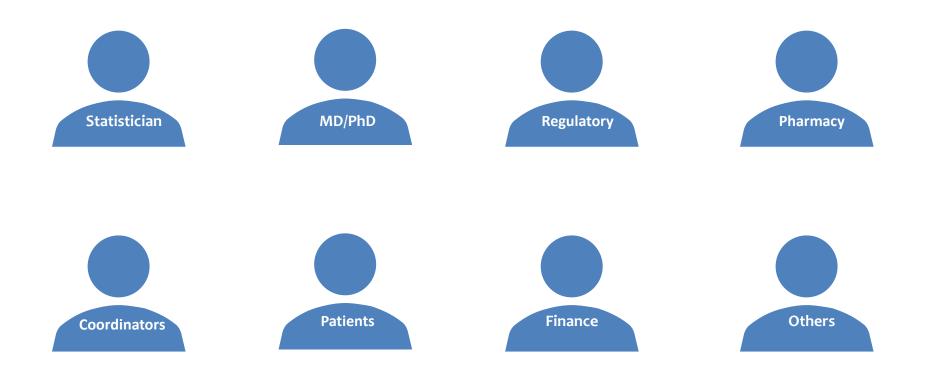
05:00





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How to Develop a Protocol



Additional tips: Anticipate several drafts of the protocol Check for consistency across protocol



Basic Protocol Template Outline

- Title Page
- Table of Contents
- Abbreviations
- Protocol Summary
- Study diagram, SOE
- Introduction (Background, Rationale, Risk/Benefit)
- Study Objectives, Endpoints
- Study Design
- Study Population (I/E criteria)
- Study Intervention Administration

- Assessments & Procedures
- Adverse Event & Safety Management
- Statistical Considerations
- Recruitment Strategy
- Consent Process
- Study Team, Oversight, Monitoring
- Data Collection/Management
- References
- Appendix



Protocol Summary or Synopsis

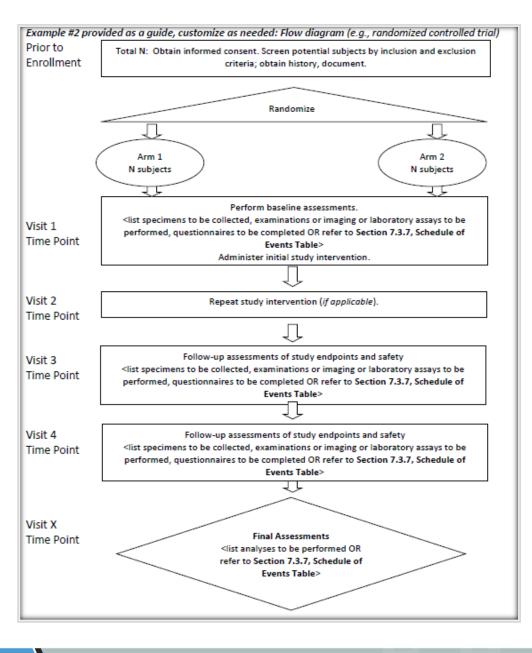
Limit to 1-2 pages – brief, concise, specific

Title:	Include type of trial (e.g., dose-ranging, observational, double-blind)						
Phase:	I, II, III, IV						
Population:	Include sample size, gender, age, general health status, geographic location						
Number of Sites:	3 or fewer, list here; otherwise, list only in Section 1						
Study Duration:	Provide time from when the study opens until the monitor completes the close out visit.						
Subject Participation Duration:	Provide time it will take to conduct the study for each individual participant.						
Description of Agent or Intervention:	Include dose and route of administration						
Objectives:	Copy objectives and clinical/laboratory outcome measures from the appropriate sections of the protocol. Include primary/secondary outcome measures and method by which outcome will be determined. Primary: Secondary:						
Description of Study Design:	This schematic should provide an overview of the study design, including study arms, sample size and schedule of interventions (e.g., vaccine administration), if applicable;						

DUN



Study Schema







Study Schema: Dose Escalation Study (Phase I)

Dose Escalation Schedule							
Dose Level	Dose of [IND Agent]*						
Level 1							
Level 2							
Level 3							
Level 4							
Level 5							
 Doses are stated as exact dose in units (e.g., mg/m², mcg/kg, etc.) rather than as a percentage. 							





Schedule of Events / Activities (SOE)

	Pre-screening (Pre-consent)	Visit 1 Day 1	Visit 2 Day 14 ±7	Visit 3 Day 28 ±7	Visit 4 Day 42 ±7	Visit 5 Day 56 ±7	Visit 6 Day 365 ±30	Unscheduled Visit
EMR Review Eligibility	Х							
Informed Consent		Х						
Demographics		Х						
Clinical history		Х					Х	
Height & Weight		Х	Х				Х	
Outcome Evaluation								
Assessment		х			х		х	х
Questionnaire		х	Х	х	х	х	х	
Randomization		Х						
Control & Experimental Interventions		х	Х	х	х			
Adverse Events Reporting		Х	Х	Х	Х	Х	Х	Х

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Study Rationale

(state the problem or research question)

Known Risks

(potential risks from clinical or nonclinical studies) **Background** (summary of relevant clinical research)

Known Potential Benefits (relevant published data)



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Background/Rationale

Before:

Condition P is common and causes enormous human suffering and societal cost. P is the leading cause of psychiatric morbidity among minority US women. There is a need for culturally sensitive P treatments that can reach large numbers of women. This study proposes to use a mobile device app to deliver intervention for P.





Background/Rationale

What SRC Reviewers Look For...

There must be **thoughtful justification** for conducting a study. It should draw upon results from **previous or pilot studies** and investigator experience to identify knowledge gaps, and devise a strategy to answer one or more questions - while maximizing resources and minimizing burden on participants.





Background/Rationale

After:

Childbirth is a potent trigger for the condition, P, with potentially harmful outcomes for mother and child. Prevalence of P is estimated at 5% in Western societies but may be as high as 35% in minority women living in the southeastern US, especially among women in rural counties. The main feature of P is depression. Six of 8 women in our pilot feasibility study found the mobile app (called P-I) easy to use and helpful for dealing with feelings of depression. This study will assess feasibility and efficacy of P-I for mothers with P living in rural NC.



Study Objectives & Endpoints



What answers are you searching for through the conduct of your study?





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Study Design

General Overview of the Study Features

Type: Randomized Clinical Trial, Observational, Cross-sectional, Parallel arm, Open-label

Single site or multi-site (and # sites)

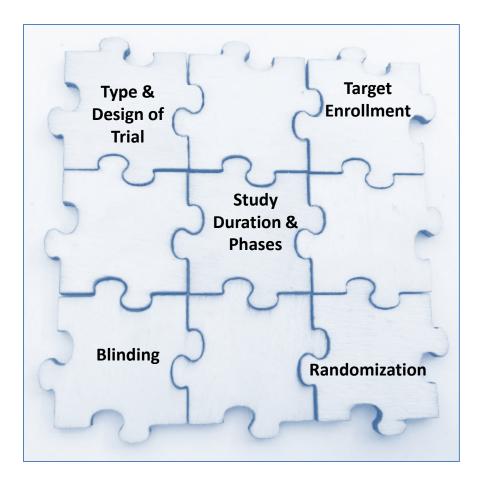
Target: # of participants, # of groups/arms

Randomization: method for assigning participants to study groups/arms

Blinding: Will there be blinding, who blinded (PI, subjects?)

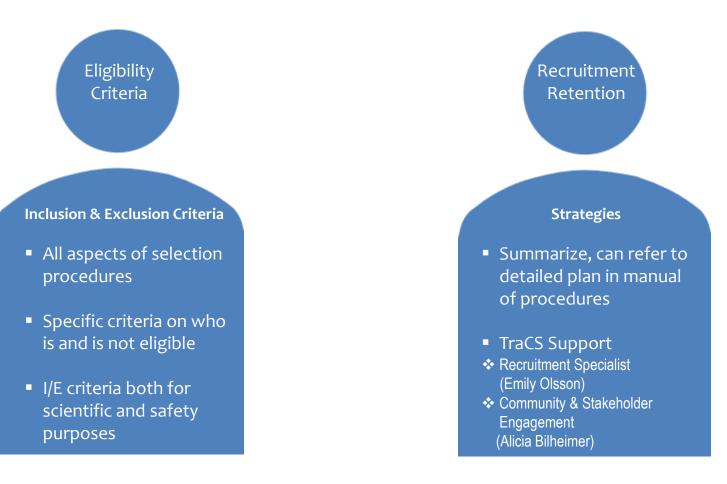
Duration:

- Screening/baseline
- Intervention/treatment
- Follow up, Unscheduled visits





Study Population



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What are the strategies for achieving adequate participant enrollment in order to reach the proposed sample size?





Study Intervention



This section has sub-sections to describe.....

- administration of the study intervention, dosing, or info on the experimental manipulation
- preparation handling and storage of the product or device,
- randomization & blinding, placebo/control
- intervention compliance





Study Assessments and Procedures

- Efficacy Assessments (evaluations done to support determination of efficacy of the intervention on study endpoints)
 - Biological specimen collection, PKs, physical measures
 - Assessments of intervention adherence
 - Survey and interview data
- **Safety Assessments** (study procedures and evaluations done to monitor safety)
 - Physical Exams, Vital signs, EKGs, X-rays
 - Laboratory evaluations
 - Adverse event monitoring



Include descriptions **specific** to your study (not boilerplate)

- Plan on how AEs / SAEs will be <u>assessed</u> by study team
- Specific events to monitor, based on what is known & expected from intervention (e.g., kidney or liver affects)
- Events that lead to <u>stopping</u> intervention in participant
- Events leading to stopping entire study
- Classification scale to evaluate <u>severity</u> of adverse events
 e.g., GI side effects → nausea, vomiting, hosp. for dehydration





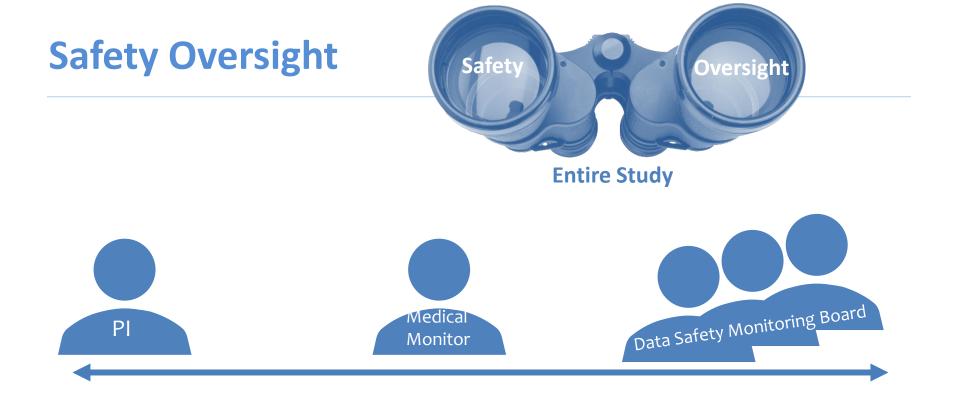
When it comes to evaluating adverse events, you should have a scale to grade the **severity**, a **classification scale**.

- Mild-Moderate-Severe Scale
- CTCAE scale (5 levels of severity)
- DAIDS AE Grading Table
- Other Specific Scale

The classification scale should be described in the protocol and used consistently for all subjects and by all investigators.







- □ Who would be providing the safety oversight?
- □ What are their responsibilities?
- What are the frequencies for when the reviews would be done?
- What data would they review to decide if the study was safe to continue?



Safety Management-Monitoring

Before:

No new safety evaluations will be implemented as the intervention is a reduction of doses compared to current practice. We do not anticipate any moderate or severe AEs from the intervention as compared to the usual care group. However, AEs will be monitored and recorded in both treatment groups.





Safety Management - Monitoring What SRC Reviewers Look For...

When conducting a high risk research study, it is recommended to have independent Data Safety Monitoring (board or medical monitor) with *a* priori stopping rules. Such stopping rules should be safety based and not necessarily based on statistical numbers at interim review. This is especially important when the sample size is small and the literature suggests large variations in response.



Safety Management - Monitoring

After:

Dr. [x] and Dr. [y], both board-certified and not otherwise involved in the study or treatment decisions, will serve as independent safety monitors. AEs will be reported to the IRB and safety monitors through regular progress reports. In addition, AE reports will be generated every 3 mo. or after 20 participants are enrolled, whichever comes first. If any of the following are met in either arm we will suspend the study to investigate: death at 30 days-20%; pleural hemorrhage-15%; increase in pain medications-50%.





Consent Process

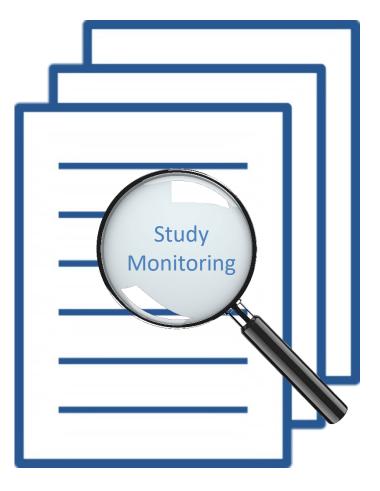
- Where will participants be consented?
- Is there any consent training required for the staff?
- Does your consent process require any waivers?
- □ Will interpreters be needed?
- Are you enrolling decisionally impaired individuals?
- What is the process for reconsent?





Study Team, Oversight, Monitoring

- What does your study team consist of? (PI, SC, research nurse etc...)
- □ Is there a manual of procedurals (MOP)?
- How is the conduct of the study being monitored?
- Who is responsible for monitoring your study?
- What is your process for ensuring the rights & welfare of study participants?
- □ Is there a clinical monitoring plan?





Questions/Discussion

Any questions we do not get to will be compiled into a Q&A document and distributed to registered attendees.

Also, email joyce lanier@med.unc.edu if you would like to submit a question for the Q&A document or be included in distribution.

Thank you!

Study Design Statistics SRC Problem Spots CT.gov Registration & Results reporting



Workshop Evaluation

- Please use the link provided to complete the online evaluation. Your comments are especially helpful as we update and improve the workshop for future sessions.
- If you would like an attendance certificate, which includes the equivalent of 2.0 Clinical Research Education Contact Hours, please complete the evaluation and email joyce lanier@med.unc.edu





Workshop Evaluation QR Code



 Image: School of Medicine
 School of Medicine

 North Carolina Translational and Clinical Sciences Institute





Workshop Evaluation Link:

https://unc.az1.qualtrics.com/jfe/form/SV_5zhykCE1KeVtaSO

Thank you!

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Websites, Links, Resources

- PRC Website: <u>https://unclineberger.org/protocolreview/</u>
 - kaitlin_morrison@med.unc.edu; stacy_maxwell@med.unc.edu, christinegrace_narag@med.unc.edu
- SRC Website: <u>https://research.unc.edu/clinical-trials/scientific-review-committee/</u>
- UNC CT.gov information: <u>https://research.unc.edu/clinical-trials/clinical-trials-gov/overview-policy/</u>
 - Monica Coudurier <u>m_coudurier@unc.edu</u>
 - Melahat Canter gmelahat@email.unc.edu
- Recruitment Resources at TraCS:
 - Recruitment Specialist (Summer Choudhury, summer.choudhury@unc.edu)
 - Community & Stakeholder Engagement (Alicia Bilheimer, alicia_bilheimer@med.unc.edu)
 - Inclusive Science Program (Laura Villa Torres) villal@unc.edu
 - UNC Health Science Library guide https://guides.lib.unc.edu/c.php?g=787212&p=5636824



References

- Best Practices in Clinical Research Protocol Writing: Eight tips from an IRB member. <u>10 Kinetiq WP BestPracticesinClinicalResearchProtocolWriting-EighttipsfromanIRBmember 020416-1.pdf (usc.edu)</u>
- Minnesota Department of Health. Different Ways to Write SMART Objectives.

http://www.health.state.mn.us/divs/opi/qi/toolbox/objectives.html

- SPIRIT Group:
 - <u>http://www.spirit-statement.org/about-spirit/</u>
 - <u>http://www.spirit-statement.org/publications-downloads/</u>
- Protocol Writing in Clinical Research. <u>J Clin Diagn Res</u>. 2016 Nov; 10(11): ZE10–ZE13. Published online 2016 Nov 1. doi: <u>10.7860/JCDR/2016/21426.8865</u>. PMID: <u>28050522</u>
- Rho Protocol Design presentation: <u>https://www.slideshare.net/BrookWhitePMP/protocol-design-</u> <u>development-what-you-need-to-know-to-ensure-a-successful-study</u>
- Workshop by Paul Stewart: <u>Designing Your Research Study: Essential</u> <u>concepts, Best practices, Pitfalls, Speedy IRB approval</u>

