VMBARS MEDICINE FIELD GUIDE

Research Project Operating Guide for Medical Trainees

A practical system for converting a research opportunity into reliable, reviewable, and appropriately credited contribution.

PURPOSE

Research often breaks down between a good question and a finished output: roles stay vague, evidence loses provenance, decisions disappear after meetings, and quality checks happen too late. This guide gives trainees a lightweight operating system for preventing those failures.

The operating loop

1. Charter	2. Map	3. Execute	4. Control	5. Close
Define the question, output, scope, roles, and approvals.	Map evidence, stakeholders, methods, dependencies, and risks.	Move bounded work through named owners and reviewable deliverables.	Track decisions, versions, exclusions, deviations, and quality checks.	Translate work into a reproducible output, contribution record, and next decision.

Designed for trainees contributing to:

- literature reviews, evidence syntheses, educational audits, and survey projects;
- retrospective or prospective research under an approved protocol;
- data abstraction, quality control, figures, presentations, and manuscripts;
- community-informed, qualitative, clinical, health-services, or implementation research.

SCOPE AND AUTHORITY

This guide supports project operations. It does not determine scientific validity, regulatory status, authorship, statistical methods, clinical care, or data permissions. Follow the principal investigator, institutional policies, IRB or ethics requirements, data-use agreements, protocol, and applicable law.

1. Create a one-page project charter

Do not begin with a task list. Begin with a shared definition of the work. The charter should be brief enough to revisit and specific enough to expose disagreement.

Charter field	Question it must answer
Research question	What precise uncertainty are we trying to reduce? What population, setting, exposure or intervention, comparator, and outcome matter when applicable?
Decision or use	Who may use the answer, and what could it change?
Primary output	Protocol, dataset, abstraction table, analysis, figure, abstract, presentation, manuscript, or another defined product?
Scope	What is included, excluded, deferred, or still unresolved?
Method and standard	What approved protocol, rubric, codebook, analysis plan, reporting guideline, or institutional procedure governs the work?
People and roles	Who decides, executes, reviews, approves, advises, and must be informed?
Milestones	What are the reviewable deliverables, dependencies, and decision dates?
Ethics and data	What approvals, consent rules, access controls, confidentiality requirements, and retention rules apply?
Definition of done	What evidence will show that the deliverable is complete and ready for the next stage?

THE CHARTER IS NOT THE PROTOCOL

The charter coordinates the team around the approved work. It must not quietly expand eligibility, outcomes, data access, methods, or recruitment beyond the protocol and institutional approvals.

Charter test

- Could a new collaborator understand what the team is producing and what remains undecided?
- Can each person identify their next reviewable deliverable and reviewer?
- Would a scope change be visible before the work proceeds?

2. Build an evidence system, not a reading pile

Every claim should remain connected to its source, study design, context, and limits. The evidence table should make duplication, disagreement, and missing perspectives easier to see.

Field	Record
Citation and stable identifier	Full citation plus DOI, PMID, registry ID, URL, or institutional locator when available.
Question and design	What the study asked and whether it is experimental, observational, qualitative, evidence synthesis, conceptual, commentary, or other.
Population and setting	Who or what was studied, where, when, and under what eligibility criteria.
Exposure, intervention, or phenomenon	What was measured, delivered, experienced, or compared.
Outcome and finding	The authors' reported result, separated from your interpretation.
Limitations and applicability	Bias, missingness, uncertainty, implementation conditions, and boundaries on generalization.
Project use	Why the source matters: background, method, measure, comparison, gap, contradiction, or discussion.
Disposition	Include, exclude, hold, replace, or seek full text - with a reason and reviewer.

Evidence discipline

- Preserve article-level provenance. Do not blend several papers into one unsupported summary.
- Flag shared trials, cohorts, datasets, and overlapping publications so they are not counted as independent evidence.
- Distinguish association from causation and authors' findings from team interpretation.
- For culturally responsive work, name the actual adaptation: language, setting, community participation, personnel, family, food, faith, economics, access, or structural barrier.

EXCLUSIONS ARE DATA

Document why a source, participant, organization, variable, or record was excluded. A silent exclusion cannot be audited, reproduced, or defended later.

3. Translate the protocol into executable work

A protocol describes the approved scientific plan. The operating layer converts that plan into roles, fields, definitions, review rules, and handoffs without changing it.

Operating element	Minimum specification	Control question
Unit of work	The article, record, participant, image, institution, variable, interview, or other item being processed.	What exactly moves through the workflow?
Eligibility	Operational inclusion and exclusion rules with examples and an escalation path.	Would two trained reviewers make the same call?
Data dictionary or codebook	Field name, definition, allowed values, source, missing-value rule, and notes.	Can another person interpret every field?
Rubric	Observable anchors for each score or classification, including borderline cases.	What distinguishes adjacent ratings?
Review model	Single review, dual independent review, adjudication, or another approved model.	Who checks what, and how are disagreements resolved?
Handoff	Owner, reviewer, file or system location, due date, acceptance test, and next state.	What must be true before the item moves?
Deviation path	How unexpected cases, protocol questions, and possible errors are paused, logged, and escalated.	Who has authority to decide?

PILOT BEFORE SCALING

Run a small, representative sample through the full workflow. Compare interpretations, revise instructions through the approved process, freeze the next version, and only then expand. A pilot is a test of the operating system, not permission to change the study informally.

A reporting guideline helps you describe the work

Select the appropriate guideline early enough to reveal missing documentation. EQUATOR emphasizes that reporting guidelines support transparent reporting; they do not replace study design decisions or quality appraisal.

4. Make ownership and contribution visible

Titles alone rarely explain how work moves. Track responsibility for each deliverable and separately track the contributions people actually make.

Role	Operational responsibility
Decision owner	Makes or escalates the defined decision; confirms scope and acceptance criteria.
Work owner	Produces the deliverable and communicates risks before the due date.
Reviewer	Checks against the protocol, rubric, codebook, analytic plan, or other agreed standard.
Approver	Authorizes the work to move to the next state when formal approval is required.
Contributor	Provides a defined input, technical function, relationship, interpretation, or supporting deliverable.
Informed stakeholder	Needs the decision or status but does not own the work.

Deliverable ownership table

Deliverable	Owner	Reviewer	Due / state	Acceptance test

Discuss credit before submission

- Use the team's institutional and journal authorship policies; do not promise authorship casually.
- Revisit expectations when scope, contribution, or personnel changes.
- Use CRediT roles to describe contributions such as conceptualization, data curation, methodology, analysis, visualization, supervision, and writing.

IMPORTANT DISTINCTION

CRediT makes contributions visible but does not determine who qualifies as an author. Authorship also carries accountability and must follow the applicable policy. Confirm assigned roles with contributors.

5. Run the project from a controlled workboard

A useful workboard shows state, ownership, evidence, and blockers. It should not become a second undocumented protocol or a private list that the team cannot interpret.

Field	Why it matters
Task or record ID	Creates a stable reference across meetings, files, and review comments.
Deliverable and acceptance test	Defines the output and what must be true before it is complete.
Owner and reviewer	Prevents invisible labor and ambiguous handoffs.
State	Use a small controlled set: Not started, Active, In review, Blocked, Waiting, Complete.
Due date and dependency	Separates real deadlines from preferences and exposes sequence risk.
Source or file location	Points to the canonical artifact instead of spawning copies.
Blocker and next action	Names what is preventing movement, who can resolve it, and when it will be revisited.
Decision or change reference	Links the work to the decision log, version, protocol clarification, or approved deviation.

State-transition rules

Move	Required evidence
Active -> In review	The deliverable exists in the canonical location; the acceptance test is self-checked; known limitations are stated.
In review -> Complete	The named reviewer has checked it; required changes are resolved or documented; approval is recorded when applicable.
Any state -> Blocked	The blocker, effect, decision owner, next action, and review date are visible.
Complete -> Reopened	New evidence, discovered error, changed scope, or failed acceptance test is logged with a reason.

FREEZE THE SENT RECORD

When outreach, abstraction, coding, or review has been completed, preserve the historical record. Correct through a visible change or new version rather than silently overwriting what happened.

6. Make meetings produce decisions

A research meeting should reduce uncertainty and move work. Circulate enough context for the team to decide, then capture the outcome where the work lives.

Before the meeting

Item	Prepare
Decision	State the choice, decision owner, deadline, and consequence of waiting.
Evidence	Link the relevant protocol section, table, analysis, example, or prior decision.
Recommendation	Offer a proposed direction and the strongest credible alternative.
Risks	Name the scientific, ethical, operational, timeline, and stakeholder risks.
Status	Use Situation, Meaning, Action, Need for concise updates that do not require discussion.

After the meeting

Decision	Rationale / evidence	Owner	Due	Reopen trigger

Decision note

- What was decided, deferred, rejected, or escalated?
- What evidence and assumptions shaped the decision?
- What changed in the protocol, codebook, rubric, analysis, timeline, or workboard?
- Who owns the next output, who reviews it, and when is it due?

SILENCE IS NOT AGREEMENT

Name the decision and ask for confirmation. When power differences matter, provide a channel for questions or dissent that does not require challenging a senior person publicly.

7. Control quality before the final draft

Quality control should be designed into each handoff. A final review cannot reconstruct missing provenance or reliably detect every silent change.

Control	Apply it to	Evidence retained
Training and calibration	Eligibility, abstraction, scoring, coding, interviewing, or other interpretive work	Training examples, questions, calibration results, and approved clarifications.
Independent review	High-risk classifications, key outcomes, or protocol-defined dual-review work	Reviewer records, disagreements, and adjudication decisions.
Range and logic checks	Structured data and calculated fields	Rules, exceptions, queries, resolutions, and rerun results.
Source verification	Claims, numbers, quotations, tables, and figures	Direct source locator and verifier.
Version control	Protocols, codebooks, datasets, code, figures, and manuscripts	Version, date, owner, change summary, and approval when needed.
Reproducibility check	Analysis or transformation workflows	Inputs, code or steps, environment or software details, and expected output.
Privacy and access check	Data, outreach lists, recordings, transcripts, and shared files	Approved location, permissions, retention rule, and incident path.

Change log

Date / version	What changed	Why	Approved by	Affected work / action

STOP WHEN THE SOURCE AND OUTPUT DISAGREE

Do not patch a table or figure without identifying whether the source data, definition, analysis, transcription, or display is wrong. Correct the causal layer, rerun dependent work, and document the change.

8. Build the output while the work is happening

Do not wait for a blank manuscript to discover that methods, decisions, limitations, and contributor records are missing. Build a living output map from the beginning.

Output element	Maintain during the project
Introduction	Problem, decision relevance, prior evidence, contradiction or gap, and the precise study objective.
Methods	Protocol and approvals, design, setting, eligibility, variables, instruments, procedures, analysis, missingness, quality controls, and deviations.
Results	Planned tables and figures, denominator logic, participant or record flow, primary findings, uncertainty, and sensitivity analyses when applicable.
Discussion	What the findings establish, what they do not establish, relation to prior evidence, implementation implications, limitations, and next questions.
Contributions	Current contribution record, acknowledgements, data or code availability statements, conflicts, funding, and required disclosures.
Submission	Target audience and journal, author instructions, reporting checklist, word and figure limits, required files, and approval sequence.

Figure and table brief

Decision	Question
Purpose	What single claim, pattern, comparison, flow, or distribution should the reader understand?
Source	Which version of the data and analysis produced it?
Definition	What are the denominator, units, categories, missing values, and exclusions?
Review	Who verifies the numbers, labels, accessibility, privacy, and consistency with the text?
Boundary	What should the reader not infer from this display?

REPORTING GUIDANCE IS AN EARLY-WARNING SYSTEM

Use the relevant EQUATOR guideline during protocol and output planning to reveal documentation needs. Confirm the journal's current requirements before submission. A completed checklist does not prove that a study was well designed or executed.

One-page research control sheet

Project / question: _____

Primary output and use: _____

Scope and governing documents	People and decision rights
Protocol / IRB or ethics status / codebook / reporting guideline / data-use rules / inclusions / exclusions	PI or decision owner / work owners / reviewers / approvers / advisors / stakeholders
Current evidence and uncertainty	Current deliverables and dependencies
Strongest evidence / contradiction / gap / assumption / unresolved scientific or operational question	Output / owner / reviewer / state / due date / blocker / acceptance test

Decision needed	Quality, ethics, and data checks
Choice / owner / deadline / recommendation / alternative / cost of waiting / reopen trigger	Approval / privacy / access / calibration / verification / version / deviation / incident path

Next update

Situation: _____ Meaning: _____

Action: _____ Need and deadline: _____

WEEKLY CONTROL QUESTION

What could make the team believe the project is moving while the scientific, ethical, or operational foundation is quietly weakening?

Standards and scope

Use this operating guide within the approved protocol, your assigned role, and current institutional requirements. It supports reliable trainee contribution but does not replace project-specific research, ethics, data-governance, authorship, or reporting policy.

Authoritative resources to consult

Resource	Use
EQUATOR Network reporting-guideline library	Find reporting guidance appropriate to the study design. EQUATOR states that reporting guidelines support clear reporting and are not design or quality-appraisal tools.
ICMJE Recommendations: roles of authors and contributors	Check widely used biomedical-journal guidance on authorship credit and accountability, then follow the target journal and institution.
CRediT Contributor Role Taxonomy	Describe specific contributions through 14 standardized roles. CRediT explicitly does not determine authorship.
NIH Rigor and Reproducibility resources	Review current NIH policy and resources on rigor, transparency, and reproducibility when relevant.
Local protocol, IRB or ethics office, data-use agreement, and institutional policy	These govern the actual project and take precedence over this guide.

Links verified September 16, 2026

equator-network.org/reporting-guidelines

icmje.org/recommendations - authors and contributors

credit.niso.org

grants.nih.gov - rigor and reproducibility

Before using the system

- Confirm the approved scope, your role, data location, access permissions, and escalation path.
- Use only systems and data that you are authorized to access; never move sensitive data into a personal tool.
- Ask when uncertain. A hidden assumption is more dangerous than a visible question.

THE STANDARD

Reliable contribution means the team can understand what you did, trace it to its source, review it against an agreed standard, reproduce the critical steps where appropriate, credit the people involved, and see when or why the work changed.

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