Research and Quality Improvement / Patient Safety (QIPS)
Rotation Goals & Objectives

INTERNAL MEDICINE RESIDENCY PROGRAM

San Antonio Regional Hospital | OPTI West GME Consortium

ACGME Program ID: 2445140C0

Purpose

This combined Research and Quality Improvement/Patient Safety (QIPS) rotation curriculum establishes a unified, ACGME-aligned framework for resident education in scholarly activity, clinical investigation, systems-based practice, and patient safety. The curriculum develops resident competency in evidence-based medicine, quality improvement methodology, research design, and academic dissemination, in alignment with ACGME Common Program Requirements, CLER pathways, and institutional performance-improvement priorities.

Through structured mentorship, interdisciplinary collaboration, and experiential learning, residents build the skills necessary to critically appraise evidence, design and lead improvement and research initiatives, and disseminate findings — competencies essential to lifelong clinical excellence, academic leadership, and patient-centered care.

I. Rotation Goals

Overall Aim

To develop resident physicians who are competent in identifying healthcare system gaps, designing and conducting evidence-based research and quality improvement initiatives, improving patient outcomes, and fostering a culture of scholarship, patient safety, and high-value care.

Program Goals

Goal 1: Promote a Culture of Patient Safety

Residents will actively participate in patient safety reporting, root cause analysis (RCA), and system-based interventions to reduce preventable harm.

Goal 2: Improve Clinical Outcomes Through Data-Driven Interventions

Residents will utilize clinical performance metrics and evidence-based practices to improve patient outcomes and reduce healthcare disparities.

Goal 3: Develop Competency in QI Methodology and Research Design

Residents will demonstrate proficiency in Plan-Do-Study-Act (PDSA) cycles, process mapping, fishbone analysis, run charts, performance measurement, and core clinical research study designs.

Goal 4: Enhance Interprofessional Collaboration

Residents will collaborate effectively with nursing, pharmacy, case management, social work, administration, and research faculty in QI and scholarly initiatives.

Goal 5: Strengthen Systems-Based Practice

Residents will understand healthcare systems, resource utilization, transitions of care, and social determinants of health that impact patient outcomes.

Goal 6: Cultivate Scholarly Activity and Academic Leadership

Residents will critically appraise medical literature, conduct clinically relevant research and QI projects, and disseminate findings through presentations and publications at institutional, regional, or national forums.

II. Learning Objectives by Training Level

PGY-1 Objectives

Quality Improvement / Patient Safety (QIPS)

1. Define quality improvement and patient safety terminology.
2. Describe the principles of high reliability organizations.
3. Recognize common inpatient safety events and near misses.
4. Submit patient safety event reports appropriately.
5. Participate in interdisciplinary rounds and transitions of care.
6. Identify gaps in clinical care using basic data analysis.
7. Demonstrate understanding of hospital-acquired condition prevention (CAUTI, CLABSI, falls, pressure injuries, sepsis).
8. Participate in at least one supervised QI project.
9. Understand the role of social determinants of health (SDOH) in healthcare outcomes.

Research & Scholarly Activity

10. Understand the principles of evidence-based medicine.
11. Perform basic literature searches using medical databases.
12. Critically appraise journal articles.
13. Identify research questions from clinical practice.
14. Complete research ethics and IRB training.
15. Participate in journal club discussions.
16. Understand core study designs (case reports, cohort, case-control, randomized controlled trials).
17. Identify a faculty mentor for scholarly activity.
18. Participate in at least one scholarly project.
19. Understand the basics of biostatistics and data interpretation.

PGY-2 Objectives

Quality Improvement / Patient Safety (QIPS)

20. Lead small-scale QI interventions.
21. Conduct Root Cause Analysis (RCA) and Fishbone Analysis.
22. Utilize PDSA methodology independently.
23. Interpret basic healthcare quality metrics and dashboards.

24. Analyze readmission data and transitions of care.
25. Participate in peer review and morbidity & mortality conferences.
26. Lead interdisciplinary discussions regarding patient safety.
27. Apply cost-conscious and high-value care principles.
28. Mentor PGY-1 residents in QI methodology.

Research & Scholarly Activity

29. Develop a structured research proposal.
30. Submit IRB applications with faculty supervision.
31. Conduct retrospective chart review studies.
32. Participate in data collection and analysis.
33. Interpret statistical results relevant to clinical research.
34. Lead journal club presentations.
35. Participate in manuscript or abstract preparation.
36. Present scholarly work at institutional conferences.
37. Mentor PGY-1 residents in research activities.

PGY-3 Objectives

Quality Improvement / Patient Safety (QIPS)

38. Design and implement advanced QI initiatives.
39. Analyze institutional performance data.
40. Lead multidisciplinary quality committees.
41. Evaluate sustainability of QI interventions.
42. Integrate CLER pathways into patient care systems.
43. Demonstrate leadership in patient safety initiatives.
44. Teach junior residents and medical students QI methodology.
45. Develop sustainable workflow and systems-based interventions.

Research & Scholarly Activity

46. Independently lead scholarly projects.
47. Conduct advanced literature appraisal.
48. Design clinically relevant QI or research studies.
49. Present research at regional or national meetings.
50. Prepare manuscripts for publication.
51. Analyze healthcare outcomes and performance metrics.
52. Teach junior residents research methodology.
53. Develop sustainable academic and scholarly habits for future practice.

III. ACGME Core Competency Alignment

ACGME Competency	Research & QIPS Educational Focus
Patient Care	Safe, effective, evidence-based patient management
Medical Knowledge	Evidence-based quality improvement and research science
Systems-Based Practice	Healthcare systems, transitions of care, resource utilization
Practice-Based Learning & Improvement	Self-assessment, PDSA cycles, data review, critical literature appraisal
Professionalism	Accountability, patient safety culture, research ethics
Interpersonal & Communication Skills	Team-based communication, handoffs, scholarly dissemination

IV. CLER Pathway Integration

Patient Safety

- Event reporting
- Near miss analysis
- Just culture principles
- RCA participation

Healthcare Quality

- Outcome tracking
- Performance metrics
- Clinical dashboards
- Evidence-based interventions

Care Transitions

- I-PASS handoffs
- Medication reconciliation
- Discharge planning
- Readmission reduction

Supervision

- Escalation protocols
- Indirect/direct supervision understanding
- Night float safety practices

Well-Being

- Fatigue mitigation
- Burnout prevention
- Team communication
- Psychological safety

Professionalism

- Accountability
- Ethical reporting
- Respectful interdisciplinary communication

V. Longitudinal Curriculum Schedule

The QIPS and Research curricula run in parallel across the academic year, integrating monthly didactics, workshops, and experiential learning.

Month	QIPS Topic / Activity	Research Topic / Activity
July	Introduction to QI & Patient Safety — Orientation workshop	Introduction to Research & Scholarly Activity — Orientation lecture
August	ACGME CLER Pathways — Interactive lecture	Evidence-Based Medicine — Interactive workshop
September	PDSA Cycles — Small group exercises	Literature Search Strategies — Library session
October	Root Cause Analysis (RCA) — Case-based workshop	Study Designs & Methodology — Didactic lecture
November	Fishbone & Process Mapping — Team simulation	Biostatistics Basics — Small-group workshop
December	Event Reporting & Just Culture — Patient safety conference	Research Ethics & IRB — Compliance training
January	Healthcare-Associated Infections — Infection prevention workshop	Abstract & Poster Preparation — Writing workshop
February	Readmissions & Care Transitions — Case review session	Manuscript Writing Skills — Faculty-led seminar
March	High-Value Care & Cost Awareness — Evidence-based discussion	Data Collection & Analysis — Research lab session
April	Social Determinants of Health — Interdisciplinary seminar	Journal Club Leadership — Resident presentations
May	Data Analysis & Run Charts — Practical data session	Research Presentation Skills — Opti-West Research Conference / Scholarly Symposium
June	QI Project Presentations — Resident QI symposium	Scholarly Symposium — Capstone presentations

VI. Resident Project Requirements

QI Project Expectations

Each resident must:

54. Participate in at least one QI project annually.
55. Develop a SMART AIM statement.
56. Utilize PDSA methodology.
57. Present baseline and outcome data.
58. Participate in interdisciplinary collaboration.
59. Present project findings at the QI conference.

Suggested QI Project Topics

- Reducing readmissions
- Handoff communication
- Sepsis bundle compliance
- Hypertension control
- Diabetes management
- Vaccination rates and compliance
- Medication reconciliation
- Resident handoff quality
- CAUTI prevention
- CLABSI reduction
- SDOH screening implementation & compliance

Research / Scholarly Project Expectations

Each resident must:

60. Identify a faculty research mentor by early PGY-1.
61. Complete required research ethics and IRB/CITI training.
62. Develop and, where applicable, submit an IRB application with faculty supervision.
63. Participate in at least one scholarly project annually.
64. Present scholarly work at an institutional, regional, or national forum.
65. Pursue manuscript or abstract preparation as project scope allows.

Suggested Research Areas

Clinical Research

- Heart failure outcomes
- Hypertension management
- Diabetes quality metrics
- Sepsis outcomes
- Readmission reduction
- Antimicrobial stewardship

Medical Education Research

- Simulation-based education
- Resident wellness
- Clinical reasoning assessment
- Feedback systems
- Curriculum innovation

VII. Mentorship Structure

Faculty / Research Supervisor Responsibilities

66. Mentor resident QI and research projects.
67. Guide project development and assist with IRB applications.
68. Supervise patient safety activities and provide methodological/statistical support.
69. Provide feedback on QI methodology; review abstracts and manuscripts.
70. Participate in interdisciplinary teaching and encourage scholarly dissemination.
71. Model systems-based practice behaviors and monitor resident academic progress.

Resident Responsibilities

72. Meet regularly with the assigned research supervisor/mentor.
73. Maintain project timelines for QI and scholarly work.
74. Complete scholarly and QI assignments and present progress periodically.
75. Participate actively in academic and interdisciplinary discussions.

VIII. Evaluation and Assessment

Resident Assessment Methods

Direct Observation

- Participation during interdisciplinary rounds
- Handoff evaluations
- Team communication assessment

Project Evaluation (QI and Research)

- SMART AIM / research question quality
- Data analysis accuracy
- Intervention implementation or study execution
- Sustainability / dissemination planning

Milestone Assessment

Residents will be evaluated using ACGME milestones in:

- Systems-Based Practice
- Practice-Based Learning and Improvement
- Professionalism
- Communication Skills

Additional Evaluation Tools

- Faculty and research supervisor feedback
- Self-reflection exercises
- Peer evaluations
- Simulation performance

IX. Metrics for Program Success

Resident Outcomes

- Percentage of residents completing QI and scholarly projects
- Resident participation in safety reporting
- Scholarly presentations/publications
- Improvement in milestone evaluations

Patient Care Outcomes

- Reduced readmissions
- Reduced healthcare-associated infections
- Improved handoff compliance
- Increased guideline adherence
- Improved patient satisfaction

System / Program Outcomes

- Increased interdisciplinary collaboration
- Improved safety culture survey results
- Sustainable workflow improvements
- Annual scholarly activity participation rate
- Regional/national presentations and publications achieved

X. Sample SMART AIM Statements

Example 1: Readmission Reduction

Reduce 30-day readmissions for heart failure patients by 15% within 12 months through standardized discharge education and follow-up calls.

Example 2: Sepsis Bundle Compliance

Increase sepsis bundle compliance from 65% to 90% in the inpatient medicine service within 6 months.

Example 3: CAUTI Prevention

Reduce CAUTI rates by 25% over one year using nurse-driven catheter removal protocols and resident education.

XI. Recommended Educational Resources

Organizations

- Institute for Healthcare Improvement (IHI)
- ACGME CLER Program
- CDC Infection Prevention Resources
- Society of Hospital Medicine

Literature & Research Databases

- PubMed
- Cochrane Library
- UpToDate
- Google Scholar

Suggested Training

- IHI Open School Modules
- Patient Safety Certification Modules
- CITI Training Modules
- Biostatistics workshops
- Institutional research office and medical librarian support
- Morbidity & Mortality conferences
- ACP Educational Resources

XII. Acknowledgment of Rotation Goals & Objectives

By signing below, the resident, research supervisor, and Program Director acknowledge review of the Research and QIPS Rotation Goals & Objectives outlined in this document.

Resident Name (print): _____

PGY Level: _____ **Academic Year:** _____

Research Supervisor Signature: _____

Print Name: _____

Date: _____

Program Director Signature: _____

Print Name: Nandini Gowda, MD, FACP

Date: _____