



WONDERFUL WORLDS OF RESEARCH, EBP, AND QI

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LEARNING OBJECTIVES

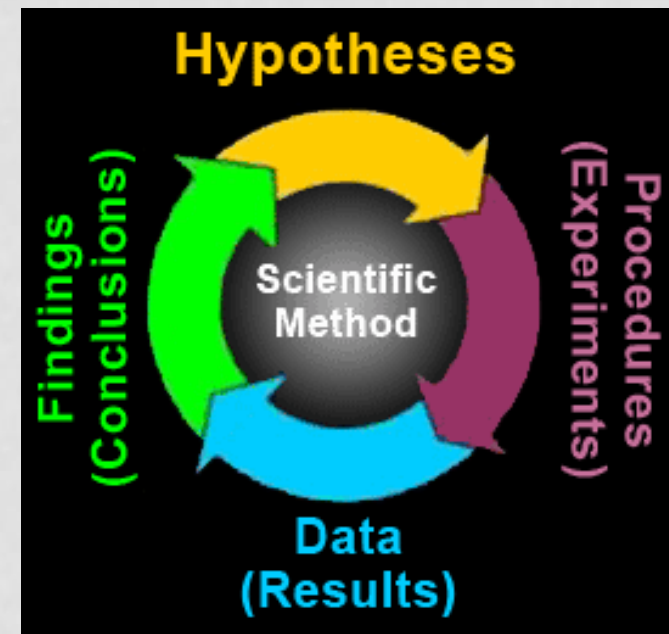


- At the end of this presentation, the learner will be able to:
 - State 3 differences between the worlds of nursing research, EBP, and QI
 - Describe 2 methods to achieve the unique objectives of research, EBP, and QI worlds

CONCEPT OF RESEARCH

The world of research is not isolated activities or tasks

- Surveys, interviews, and observations
- Data collection
- Statistical analysis
- Improvement processes
- Evidence-based practice changes



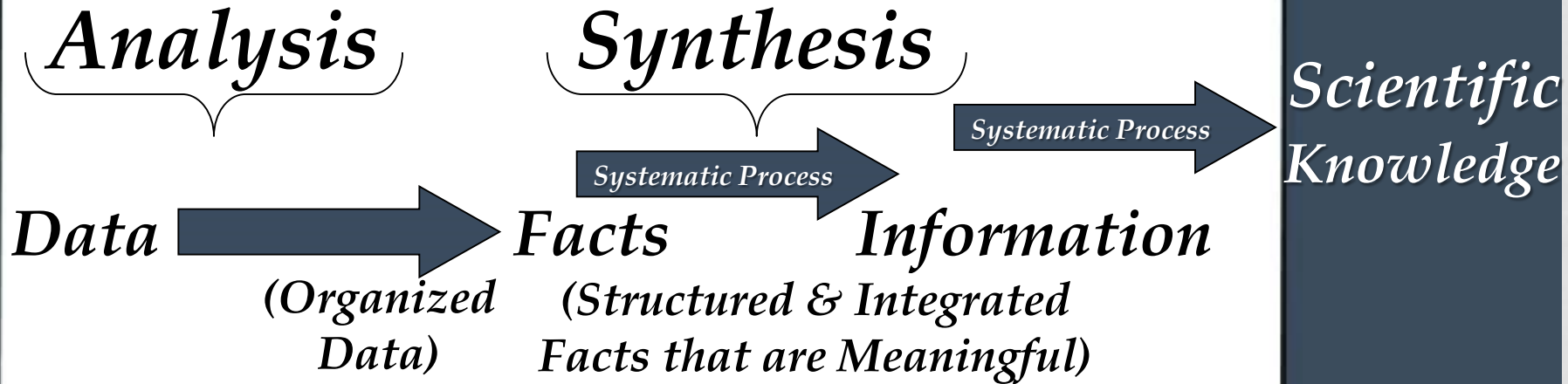
RESEARCH

A rigorous & systematic process

- Generates new knowledge through the application of basic scientific principles and theory development
- Overarching intent of research is *description, prediction, and control*
- Asks "What is not known?"
- Final Product: *New knowledge* that can be generalized in appropriate patient populations

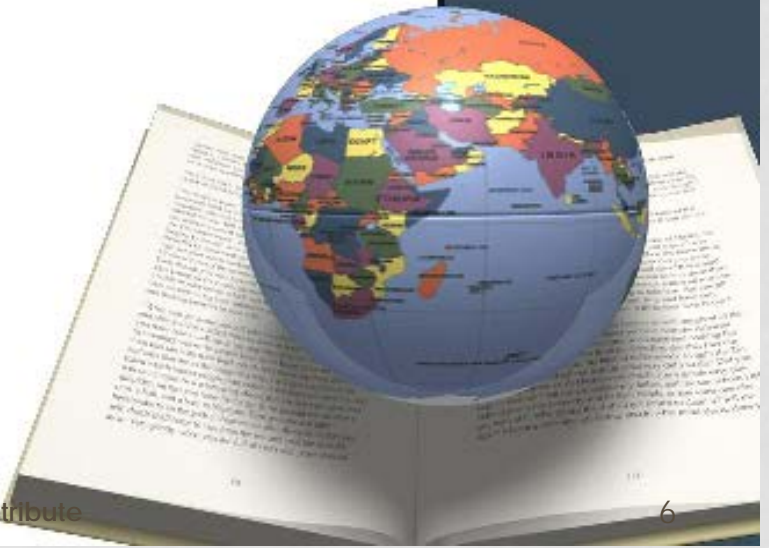
THE PROCESS OF KNOWLEDGE DEVELOPMENT

(OMERY, 1998)



The quality process IS the systematic process that produces information

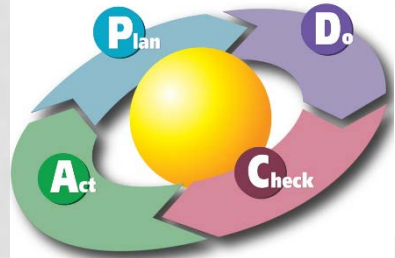
The research process IS the systematic process that produces scientific knowledge



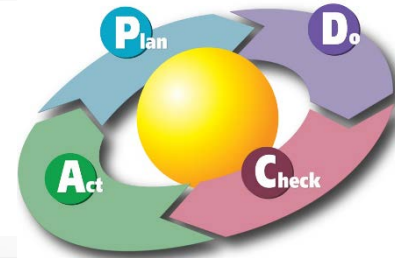
EVIDENCE-BASED PRACTICE

A systematic process

- Implements and evaluates interventions stemming from new knowledge generated by research
- Overarching intent of EBP changes is to *integrate* scientific discoveries into healthcare practice
- Asks “What is known?” and “What can be done with this knowledge?”
- Final Product: *Systems change and outcome improvement* in patient populations



QUALITY IMPROVEMENT



A structured process that:

- Evaluates a specific system's strengths and limitations, systems parts, and resulting outcomes
- Overarching intent: *Improve* processes specific to local systems + patient outcomes
- Asks "What is happening?" and "How can it be improved?"
- Final Product: *Information*; may contribute new learning & practices

TRANSLATIONAL RESEARCH

A systematic process

- Investigation sourced from evidence (including theory testing) or previous research
- Overarching intent is the *application* of new knowledge
- Asks “What is safe?” and “What works?”
- Final Product: *New knowledge to explain or improve clinical practice*

FACTORS NECESSARY FOR SUCCESS: #1

Successful research studies, EBP projects, QI projects always have these 2 elements:

- A committed *team* (not 1 or 2 people) with a passion for the clinical problem
 - Teams members with various talents, expertise, and research experience

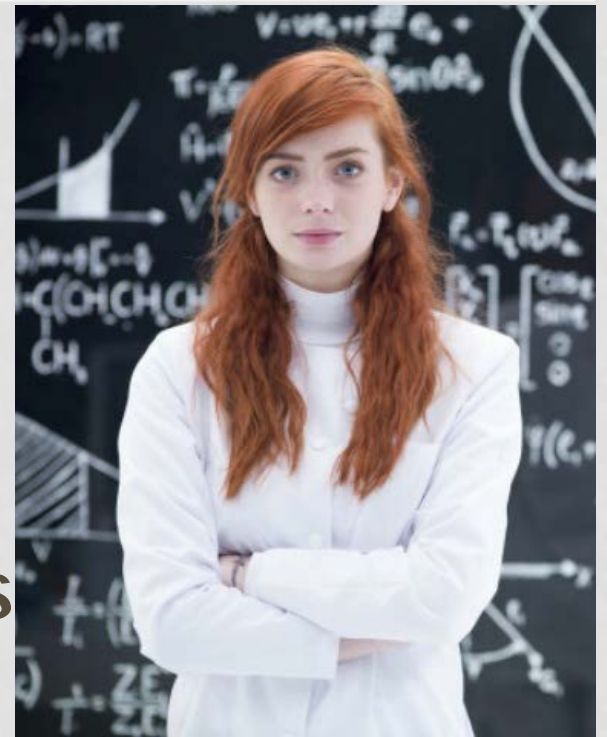


FACTORS NECESSARY FOR SUCCESS: #2



An expert researcher, EBP mentor, or QI/PI mentor to ensure a systematic and evidence-based approach, who is either:

- Part of team OR
- A consultant for the team



RESEARCH, EBP, QI

Similarities

- Start with data and analysis
- Have a defined process
- Committed team for success
- Contributes to knowledge & outcome improvement



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Differences:

- Structures
- Processes
- Intent
- Outcomes
- Data required

Structure, Process, Intents, and Outcomes of QI vs. EBP vs. Research

| Structure | Questions | Process | Intent | (Final Product) | Examples |
|------------------------|---------------------------------------|--|---|--|--|
| QI | What is happening? | Structured process that evaluates a specific system's strengths and limitations, systems parts, and resulting outcomes | Improve processes specific to a local system and patient outcomes | Information | Simulation-based Small Tests of Change or plan, do, study, act (PDSA cycle) to develop a rapid response team (RRT) protocol |
| | Can it be improved? | | | | |
| EBP | What is known? | Systematic process that implements and evaluates interventions stemming from new knowledge generated by research | Integrate scientific discoveries into healthcare practice | Systems change | Simulation-based education/training of RRT members, as based on the results of high-quality research studies |
| | What can be done with this knowledge? | | | Outcome improvement | |
| Research | What is not known? | Rigorous and systematic process that generates new knowledge through the application of basic scientific principles and theory development | Description, prediction, and control | New knowledge | Simulation-based research study to generate new knowledge regarding the efficacy of an RRT program that is generalizable for medical/surgical patients |
| Translational research | What is safe? | Systematic investigation sourced from evidence (including theory testing) or previous research | Investigation for the purpose of new application of knowledge | New knowledge to explain or improve clinical practices | Simulation-based comparison and assessment of evidence-based RRT protocols in a virtual environment for medical/surgical patients |
| | What works? | | | | |

Note: Sources: Mallock and Porter-O'Grady (2006), Polit and Beck (2012), and Woods and Magyary (2010). Created by C. Crawford (2012), Kaiser Permanente Southern California Regional Nursing Research Program. QI = quality improvement; EBP = evidence-based practice.

DATA REQUIREMENTS

| Aspect | Improvement | Research |
|---|--|--|
| <u>Aim</u> | Improvement of care | New knowledge |
| <u>Methods:</u> | Test observable | Test blinded or controlled |
| • Test Observability | | |
| • Bias | Accept consistent bias | Design to eliminate bias |
| • Sample Size | Small sequential samples | Sample adequate (powered) for generalizability of data |
| • Flexibility of Hypothesis | Hypothesis flexible, changes as learning takes place | Fixed hypothesis |
| • Testing Strategy | Sequential tests | One large test |
| • Determining if a change is an improvement | Run charts or Shewhart control charts | Hypothesis, statistical tests (t-test, F-test, chi square, p-values) |
| • Confidentiality of the data | Data used only by those involved with improvement | Research subjects' identities protected |

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RESEARCH/EBP/QI PROCESS

| Component/Phase | Activities |
|---|--|
| <p data-bbox="46 486 832 576">First Component:</p> <p data-bbox="46 615 761 705"><u>Development of</u></p> <p data-bbox="46 739 639 829"><u>Study/Project</u></p> <ul data-bbox="46 862 1136 1048" style="list-style-type: none"><li data-bbox="46 862 1136 939">•Phase 1: Conceptualization<li data-bbox="46 968 1136 1048">•Phase 2: Design & Planning | <ul data-bbox="1174 439 1870 1310" style="list-style-type: none"><li data-bbox="1174 439 1870 511">•Topic/Problem<li data-bbox="1174 554 1870 696">•Framework/Theory Model<li data-bbox="1174 753 1870 825">•Team Creation<li data-bbox="1174 868 1870 1011">•Protocol Development<li data-bbox="1174 1068 1870 1139">•IRB Review<li data-bbox="1174 1182 1870 1310">•Protocol Operationalization |

RESEARCH/EBP/QI PROCESS

| Component/Phase | Activities |
|--|---|
| <p data-bbox="46 468 1020 691">Second Component: <u>Implementation</u></p> <ul data-bbox="46 725 1136 1016" style="list-style-type: none">•Phase 3: Data Collection•Phase 4: Data Analysis•Phase 5: Data Identification | <ul data-bbox="1186 428 1889 1310" style="list-style-type: none">•Quantitative/ Qualitative Data•Data Collection Team•Data Entry/ Storage•Data analysis with statistician/ analyst |

RESEARCH/EBP/QI PROCESS

| Component/Phase | Activities |
|---|--|
| <p data-bbox="46 468 877 562">Third Component:</p> <p data-bbox="46 601 1087 682"><u>Dissemination of Results</u></p> <ul data-bbox="46 722 1226 1039" style="list-style-type: none"><li data-bbox="46 722 1226 803">•Phase 6: Data Interpretation<li data-bbox="46 836 1132 1039">•Phase 7: Dissemination of findings | <ul data-bbox="1292 429 1895 1253" style="list-style-type: none"><li data-bbox="1292 429 1895 586">•Identification of themes<li data-bbox="1292 619 1895 776">•Interpretation of findings<li data-bbox="1292 809 1895 966">•Organizational Spread<li data-bbox="1292 999 1895 1156">•Podium/Poster Presentations<li data-bbox="1292 1189 1895 1253">•Publication |

CASE STUDY: HOSPITAL ACQUIRED PRESSURE ULCERS

Research • Intent: Learn via retrospective chart review

EBP • Intent: Integrate new scientific knowledge into clinical practice

QI • Intent: Identify changes to achieve goals

RESEARCH EXAMPLE

A systematic process

- What is not known: 2010

Unavoidable Pressure Ulcers:

A Causal Model (Primary

Investigator, SCAL PI Anna K.

Omery, NCAL PI Gretchen

Summer)

- Retrospective chart review
- Adult ICU patients
- Statistical analysis of variables



- Descriptive, predictive, & controlled

RESEARCH EXAMPLE

- Scientific knowledge via a rigorous and systematic research process
 - Data
 - Facts
 - Synthesized Information
 - Knowledge
- Final Product = New knowledge that can be generalized for adult ICU patients in the U.S. at risk of HAPU development



EBP EXAMPLE

Pre-albumin Screening to Decrease Hospital Acquired Pressure Ulcers

- KP Los Angeles Medical Center
- What is known: Monitoring pre-albumin levels can be used as a screening tool to identify patients at risk for HAPU and plan nutritional interventions



EBP EXAMPLE

Pre-albumin Screening to Decrease Hospital Acquired Pressure Ulcers



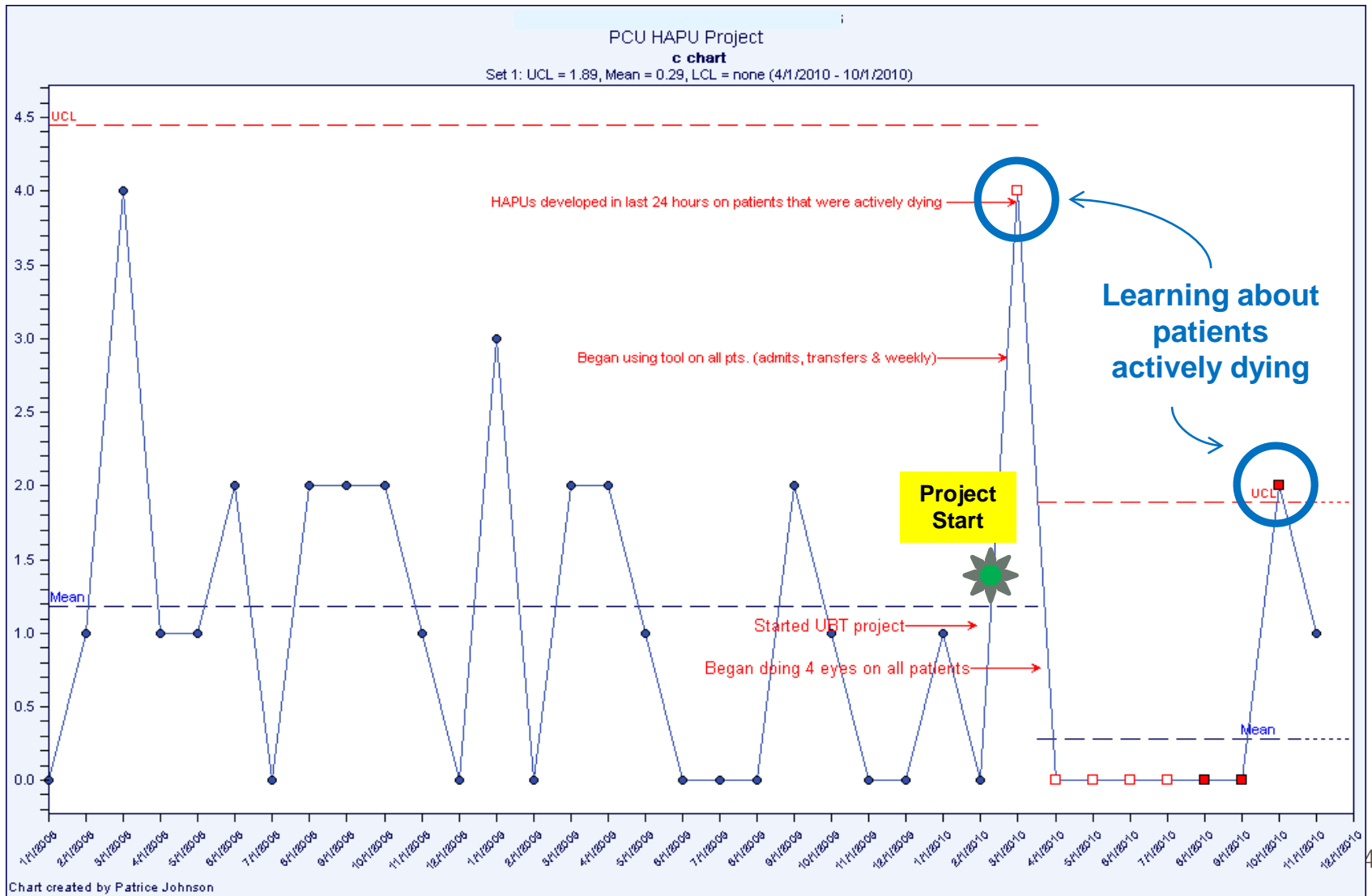
Final Outcomes:

- Decreased HAPU hospital-wide
- Improved QOL, decreased pain, cost, & LOS
- Systematic integration of new knowledge into nursing practice
- Maximize patient's nutritional regime

QI/PI EXAMPLE

1. Analyzed baseline data = 12 in 4 months
2. Set SMART goal: PCU will reduce the number of HAPUs from average of 2 / month to no more than 1 / month by Sept 30, 2010
3. Assessed current practices and identified potential changes
 - Better skin assessment skills: Use 2 nurses
 - Better risk assessment: Create assessment tool
 - WOCN as clinical expert and resource
 - Investigated other practices/interventions

QI/PI EXAMPLE



FOOD FOR THOUGHT

- How have YOU used research, EBP, or QI to improve nursing care?



- What challenges have YOU faced determining when to use research or EBP or QI?

SAN DIEGO SOLAR SYSTEM

Research

- Charge Nurses (CNs) and Patient Safety (Heather Cathro, PhD, RN)



EBP

- Bathing with CHG wipes in ICU

QI

- VAP Bundle

CHARGE NURSES + PATIENT SAFETY



Intent: Explore
actions processes
CNs implement to
keep patients safe

Question: What
actions and
processes do CNs
on medical-
surgical nursing
units implement to
keep patients'
safe?

CHARGE NURSES + PATIENT SAFETY

Using semi-structured interviews + observations,
3 themes and a substantive theory were created



Final Outcome: Navigating through Chaos

CNs balance multiple rules, maintain a watchful eye, and work with and leading health care teams to keep patients safe

CHG BATHING WIPES IN ICU

2010: Implemented CLASBI evidence-based protocol

- CHG bathing wipes

4th Q 2010-2015: 2

CLABSI incidents, with 3 consecutive years of 0 incidents



VAP BUNDLE



- Implemented evidence-based VAP Bundle in 2011, Qtr 1
- NO ventilator associated pneumonia since Oct. 2011



KAISER PERMANENTE NURSES



Nurses ensure high quality and safe patient care through the worlds of research, EBP, and QI

GALACTIC SUMMARY



- **Research, EBP, and QI vary in structure, intent, processes, outcome, data requirements**
- **Both have similarities:**
 - **Start with data**
 - **Conduct an analysis**
 - **Need a committed team**
 - **Rely on experts for guidance**

WONDERFUL WORLD OF DATA

- Data transcends international boundaries, cultures, language
- The wonderful world of data offers nurses the opportunity to see the quantitative and qualitative results of research, EBP, and QI related to patient care...But...

WONDERFUL WORLD OF DATA

...Nurses see yet another world...



*We see a world with human beings
- patients, families, and others -
- who are hidden in the data*

CECELIA'S RABBIT HOLE

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KP IRB RESOURCES

Institutional Review Board



Protecting the Rights and Welfare of Human Research Subjects

- **Standard Operating Procedures**
- **Applications, Forms, Reports**
- **IRB Guidance**
- **Link: <http://irb.kp-scalresearch.org/>**

RESEARCH RESOURCES



Southern
California
Nursing
Research

- KPSC-Nursing-Research@kp.org
- <http://kpsc nursingresearch.org/>

RESEARCH RESOURCES

Gretchen.J.Summer@kp.org

- <http://nursingpathways.kp.org/ncal/research/nursingresearchprogram/index.html>



QUESTIONS?



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