

Building an Infrastructure for Research at Magnet Hospitals



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Objectives

- Describe vertical infrastructure that assists all nurses with nursing research
- Discuss horizontal structure that will *build* and *sustain* research momentum
- State “tips” learned from 1 hospital system about building infrastructure

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Cleveland Clinic Nursing

- Main campus in Cleveland OH- 1400 beds
- 8 hospitals in NE Ohio
 - 2 large community sites; ~ 500 beds each
 - 1 faith based site; ~ 300 beds
 - 5 small community hospitals; < 250 beds
- 2 affiliate site in NE Ohio
- 1 hospital in Weston FL; ~ 150 beds
- 18 regional medical/ACS practices
- 2 stand alone EDs
- 1 new hospital will open in NE Ohio (2016)
- 1 hospital in Abu Dhabi (opened March 2015)

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WHEN DO BEDSIDE NURSES CONDUCT & USE RESEARCH?



NONE OF THE ABOVE

- A. When a patient gets ill and they “look up” data on the topic
- B. When time is given to do it
- C. Its time to show clinical ladder experiences
- D. The goal is optimal patient care
- E. Need evidence for “Magnet” designation

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WHY DO RESEARCH?

- We need creative approaches to old and new health problems
 - To make a difference in the health status of the patients we serve
 - To match or integrate the rapidly expanding evidence-based knowledge about biological, behavioral and environmental influences on health

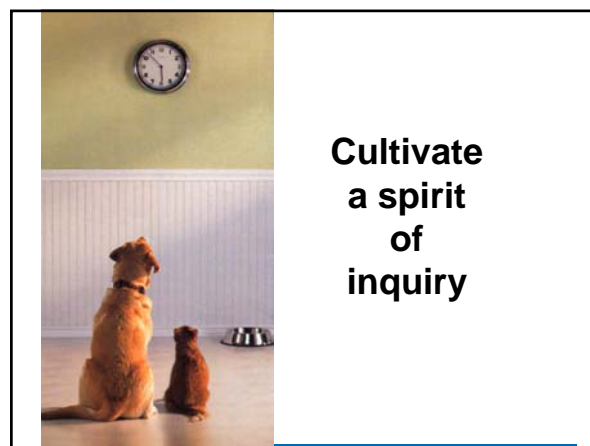
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EVIDENCE-BASED PRACTICE

- Half of what you are taught in ^{nursing} medical school will be proved to be wrong in 10 years, and the trouble is, none of your teachers know which half. S. Burwell, Harvard Medical School
- We double our medical information every 3-5 years

Do we change nursing practices every 3-5 years to match medical knowledge?

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DEVELOPING an INFRASTRUCTURE

- Why are YOU developing a research program and infrastructure?
- What are your long and short term goals?
- What are the immediate needs?
 - We can only get better
 - Make research happen
 - More research



VERTICAL INFRASTRUCTURE

- Available to all nurses who choose to use or meet criteria for using
- Global in nature
- May change over time based on nursing needs

Other Resources
Intranet Resources
Database
Personnel

Infrastructure

Vertical Infrastructure - Personnel

Nurses trained in nursing research with:

- Publication history in peer-reviewed journals as 1st author
- Grant writing history
- Mentoring history
- Desire to be a coach, cheerleader, educator

Time:

- ~40% own research program
- ~40% coaching others
- ~20% meeting Office goals
 - Annual research conf.
 - Annual innovation summit
 - Research and Pub Edu. Workshops/sessions
 - Award, abstract reviews

Personnel

Infrastructure

Vertical Infrastructure - Personnel

Minimum Expectations – APR:

- 2 publications/year as 1st author in peer-reviewed journals
- Mentoring nurses in research
- Grant writing history
- Desire to be a coach, cheerleader, educator
- Abstract submission to CCF/national meetings

~ 9750 RNs/6.0 FTEs = 1625 RNs each

Personnel

- Leadership within national organizations
- Interdisciplinary and/or multicenter collaborations

Infrastructure

Vertical Infrastructure - Personnel

- **Quality Research Coordinator**
 - Conducts audits of study activities to ensure RNs meet IRB policies
 - New study start-up activities
- **Part-time RN**
 - Research accounting
 - IRB paperwork
 - Orients students to research practicum work
- **RNs and research coordinators hired to manage funded nursing research studies**

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Vertical Infrastructure - Database

Hardware (Server)? Programmer? Or Excel/Access? to manage research projects:

- Adding/revising projects
- Organizing projects by themes
- Warehousing project documents—
 - in progress
 - after completed
 - when abandoned

Database

Personnel

Infrastructure

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Vertical Infrastructure - Database

Resources at your fingertips

- Templates
- Inter- and Intranet sites
- Award applications
- Checklists/forms
- Research translation
- Research dissemination
- How to...Getting started
- +: SPSS; space; budget (statistician; tools...)

Intranet Resources

Database

Personnel

Infrastructure

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Nursing Research Center



Nursing Research staff members monitor nurses as principal and co-investigators in studies

4 clicks to get to home screen

**Reference info/
Useful links on
all pages**

Writing a Proposal

References on Research

- Instrument Development
- Miscellaneous
- Sample Size
- Using Visual Analog Scales

IRB

- Cleveland Clinic Institutional Review Board
- Common Issues Associated with Research Studies
- Frequently Asked Questions

Useful Links

- Am. Nurses Assoc. Research Toolkit
- Center for Clinical Research
- CTRI Human Subject Course
- EBP resources and web links
- Libraries, CCHS
- Library, Main Campus
- Nursing Research Institute

Vertical Infrastructure - Intranet

General Information

- EPIC Data Retrieval
- General Templates
- Journal Club Toolkit
- Checklists
- Evidence Based Practice
- Research vs. Quality vs. Product Evaluation
- Contacts

Conducting Research

- Overview
- Literature Review
- Writing a Proposal
- Resources

Disseminating Research and Evidence Based Practice

- Completed Research Projects
- Presentations
- Publications
- Resources
- Research Newsletter

Education, Policies, Grant Funding & Councils

- NURP and NURF LA Awards
- Research Education
- Standards of Practice and Nursing Research Policies
- Nursing Institute Research Council
- Nursing Research and Evidence-Based Practice Council on Main Campus

Useful Links

- Am. Nurses Assoc. Research Toolkit
- Center for Clinical Research
- CTRI Human Subject Course
- EBP resources and web links
- Libraries, CCHS
- Library, Main Campus
- Library, Nursing, Virginia Henderson Inst.
- Nursing Journals
- Nursing Organizations
- Nurse Author & Editor
- Office of Sponsored Research
- Random number generator

Sample Size Calculators

- Power and Sample Size calculator (Vanderbilt University)
- O'Power 3 (Research Home)

Clinical Research Proposal Template

Clinical Research Proposal

Nursing Institute Format and Content

Title / Investigators / Version number

Title should reflect the question (topic) you are addressing. Place on a separate page. Keep as short as possible.

Investigators: Include yourself and ALL other collaborators. First name listed is assumed to be the Principal Investigator (PI). Include your nursing research mentor as well (can place "mentor" in parenthesis, as desired)

Version number: Place the version of your proposal in a footnote. Generally, version 1 is the version that the IRB receives for approval. Anytime you make a change and submit an amendment to the IRB due to protocol revision, the version number is updated.

Abstract

For most proposals, the IRB requires a 250 word abstract that provides an overview of the problem, study methods, data collection methods, sample characteristics and sample size.

- Place the abstract on a separate page

Internal Budget Worksheet Template

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NURSING INSTITUTE
Office of Nursing Research and Innovation
INTERNAL BUDGET WORKSHEET

Study Title: _____ IRB #: _____

Expense Category Code	Expense Category	Budget Amount	DETAILS - COMMENTS
---	IRB Administrative fee		For computer sponsored studies ONLY \$2,500 (\$3,000 for IRB fee + \$ 5,000 fee for IRB OIR paperwork initiation and ongoing). Note: additional \$100 fee for each year of IRB renewal
10000	Personal		
10010	Fringe benefits		
10030	Equipment		
10200	Supplies		
10300	Traavel		
10400	Contractual Consultant (i.e. Biostatistics costs)		
10500	Personnel		
10600	Other expense		
---	Total of all rows above		
10900	Indirect expense		For computer sponsored studies ONLY 30% of total. For NIN personal studies (check OIR for latest %)
Total Budgeted Cost:			
Payments expected			
Predictions			

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Case Study Report Form Template

Cardiovascular Status (continued)

☐ Valves replaced / repaired
(please specify): _____
☐ Other (please specify): _____

RHYTHM STATUS (check all that apply)

☐ Normal sinus ☐ Paroxysmal Atrial Fibrillation
☐ Atrial flutter ☐ Persistent or Very Persistent Atrial Fibrillation
☐ Sick sinus syndrome ☐ Paroxysmal event(s)

Aids a novice researcher in seeing:

- Use of spacing, color highlights, data collection variations (check box, fill in the blank)
- Use of words, fonts, font variation (italics, bold)
- Level of detail in instructions

☐ China (please specify): _____

TRANSPLANT MEDICAL STATUS
Is the heart patient on a transplant waiting list? ☐ Yes ☐ No
If YES, specify date placed on heart transplant list: _____
Was this patient taken off the transplant list after receiving an iSync Sentry implant? ☐ Yes ☐ No

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Content Validity Testing Template

- Uses Lynn methodology
—Nursing Research 1986;35(6):382-385.

Content Validity Index for (Insert title of survey here) SURVEY

About yourself Are you a: ☐ NM or ADM ☐ CI or CNS ☐ Staff nurse

How long have you worked on your present unit? _____ years.

For each of the statements in the survey below, please assess content validity by providing information about:	CONTENT RELEVANCE	ITEM CLARITY	ITEM IMPORTANCE
Item relevance (does the statement belong on a survey of assessment of place (name of survey here), clarity and importance	1. Item is not relevant 2. Doubtful to assess relevance without item revision 3. Relevant but needs minor alterations 4. Item is very relevant and succinct	1. Unclear 2. Unclear without revision 3. Clear with minor alterations 4. Clear	1. Not important, remove 2. Somewhat important, keep on survey if costs 3. Important, keep on survey 4. Very important, do not remove from survey
Choose a number for each statement:	Content Relevance score (1-4)	Item Clarity score (1-4)	Item Importance score (1-4)

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Faculty / Student Checklist

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Student check-off	Faculty check-off	Students and College Faculty: Place a check in each box if not blacked out to show that you read content and understand your expectations
		<p>Criteria:</p> <ul style="list-style-type: none"> Monitoring coaching in development of the proposal to meet CC research coach requests and CC IRB requirements Monitoring coaching in revisions (beyond minor changes) to the proposal to meet CC research coach requests and CC IRB requirements Deliver instructions in collecting data (qualitative or quantitative data) Deliver instructions on developing an electronic database Deliver instructions on data entry into an electronic database Deliver instructions on data cleaning/assessment for quality data entry Assist with or provide resources toward data analysis i.e., provide a statistician Explain analysis results Assist in developing an abstract, tables or other post analysis reports <p>The research project will automatically be reviewed at some point while "active" by the CC Nursing Institute Quality Research Council representative to assure that all CC IRB rules are being followed.</p> <p>Another nurse cannot assist with the student's data collection without prior IRB amendment request and approval.</p> <p>If the research coach determines that the CC employee is NOT following IRB rules and/or has carried out research work incorrectly or incompletely, such that it does not meet IRB requirements, the research coach may:</p> <ol style="list-style-type: none"> (1) ask for a formal teleconference with both parties to discuss expectations and ability to meet them or (2) ask the student to "close" the project with the IRB to prevent further issues in ensuring human subjects protection and/or other IRB rules. <p>If data is leaving CC, the IRB MUST give approval before any data leaves CC.</p> <p>If data leaves CC on a USB drive or a personal computer, the IRB MUST give approval and the USB drive must be assessed to be sure it is encrypted.</p>

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Do some nurses need help getting started?



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General Information

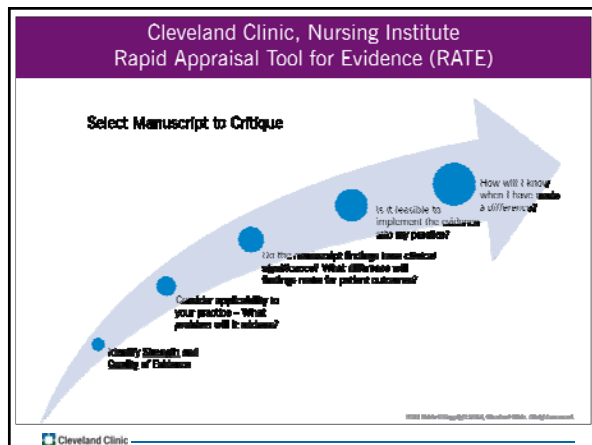
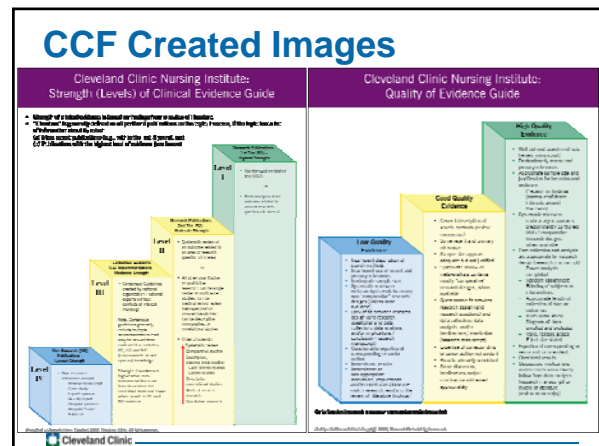
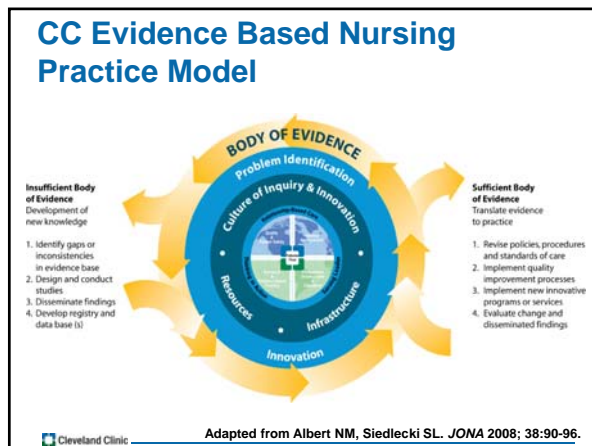
EPIC Data | Templates | Checklists | EBP | Research vs. Quality | Contacts

- Delegation of Responsibility and Study Training Log
- Federal or Foundation Grant Checklist
- Industry Sponsored Study Checklist (inc. devices)
- Overcoming Common Issues Associated with Research Studies
- Protocol Feasibility Checklist
- Regulatory Binder Checklist
- Study Close-Out Checklist
- Study Start-Up Checklist for Research Initiated and Sponsored by Industry

Useful Links

- Am. Nurses Assoc. Research Toolkit
- Center for Clinical Research
- CITI Human Subject Course
- EBP resources and web links
- Libraries, CCHS

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Conducting Research

Nursing Research Center | General Info | Conducting Research | Disseminating Research and Evidence Based Practice | Education, Policies, Grant Funding & Councils

References on Research

- Instrument Development
- Miscellaneous
- Sample Size
- Using Visual Analog Scales

IRB

- Cleveland Clinic Institutional Review Board
- Common Issues Associated with Research Studies
- Frequently Asked Questions

Useful Links

Overview | Lit. Review | Writing a Proposal | Resources

- Developing a Research Question
- Steps of the Nursing Research Process

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Disseminating Research and Evidence Based Practice

Posters | Presentations | Publishing | Resources | Newsletter

Creating Posters

- Poster Board Presentation
- Tabletop Poster Template

Completed Posters

- Completed Nursing Research Posters
- Completed Literature Reviews on Current Evidence

Useful Links

- Am. Nurses Assoc. Research Toolkit
- Center for Clinical Research
- CITI Human Subject Course
- EBP resources and web links
- Libraries, CCHS

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Internal Translation and Internal (Poster) and External (Published Paper) Dissemination

Completed Research Posters

Browse records in: all searchable columns | Post | Center

Year: Poster Title First Author Download Translation Paper Dissemination

Year	Poster Title	First Author	Download	Translation	Paper Dissemination
2010	Are Clean, Ready-To-Use, Reusable ECG Leadwires a Source of Pathogenic Microorganisms? A Multicenter Study	Albert NM, Hancock K, Murray T, Karala M, Runner JC, Fowler SB, Austel Nadreau C, Rice KL, Krajewski S, Are Cleaned, Ready-To-Use, Reusable ECG Leadwires a Source of Pathogenic Microorganisms? A Multicenter Study. Am J Crit Care 2010;19:e73-e80.	Download	Translation	Paper Dissemination

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Disseminating Research and Evidence Based Practice

Posters Presentations Publishing Resources Newsletter

CONSORT Checklist - 2010
CONSORT Flow Diagram - 2010
CONSORT Statement
Criteria for authorship
Examples of Disclosure Form for Conflict of Interest

Nurse Author & Editor
Nurse Author & Editor is an international publication dedicated to nurse authors, editors and reviewers.

Nursing Journals
Quantitative research paper review template
Qualitative research paper review template
SQUIRE guidelines for publishing quality improvement studies
Virginia Henderson International Nursing Library
Writing for Publications - 2009

Cleveland Clinic Institutional Review Board
Common Issues Associated with Research Studies
Frequently Asked Questions

Useful Links
Am Nurses Assoc. Research Toolkit
Center for Clinical Research
CITI Human Subject Course
EBP resources and web links
Libraries, CCHS
Library, Main Campus
Library, Nursing, Virginia Henderson Int.
Nursing Journals
Nursing Organizations
Nurse Author & Editor

Useful Links

Nursing Journals

Journals are categorized by letter below. This list was last updated on July 31, 2013. Please email any corrections to the nursing website.

A
B
C
D
E
F
G
H
I
J

JACC - Cardiovascular Intervention
JAGS - Journal of Acquired Immune Deficiency Syndrome
JAMA - Journal of the American Medical Association
JMAAC
JEN - Journal of Emergency Nursing
Jona's Healthcare Law, Ethics, and Regulation
Journal for Healthcare Quality
Journal for Nurse Practitioners (JNP), The
Journal for Specialists in Pediatric Nursing
Journal of Adolescent
Journal of Adolescent Health
Journal of Aging and Health
Journal of Clinical Investigation

Useful Links

Nursing Organizations

This data applies as of July 30, 2013

Organization	Annual Meeting	Grant Awards	Research abstract submission	Best practices
Academy of Medical-Surgical Nurses	Yes	Yes	Yes	Yes
Academy of Critical Care Nurses	Yes	Unknown	Yes	Unknown
Air & Surface Transport Nurses Association	Yes	Unknown	Unknown	Unknown
American Academy of Ambulatory Care Nursing	Yes	Yes	Yes	Unknown
American Academy of Nurse Practitioners	Yes	Unknown	Yes	Unknown
American Academy of Nursing	Yes	Unknown	Yes	Yes
American Assembly for Women in Nursing	Yes	Unknown	Yes	Yes
American Association of Long-Term Care Nurses	Yes	Unknown	Unknown	Unknown
American Association for the History of Nursing	Yes	Yes	Yes	Unknown
American Association of Colleges of Nursing	Yes	Yes	Yes	Unknown
American Association of Critical Care Nurses	Yes	Yes	Yes	Unknown
American Association of Diabetes Educators	Yes	Yes	Yes	Yes
American Association of Heart Failure Nurses	Yes	Unknown	Yes	Unknown
American Association of Hospital Nurse Consultants	Yes	Unknown	Unknown	Unknown
American Association of Managed Care Nurses	Yes	Unknown	Unknown	Unknown
American Association of Neuroscience Nurses	Yes	Yes	Unknown	Unknown
American Association of Nurse Anesthetists	Yes	Yes	Yes	Unknown
American Association of Nurse Assessment Coordinators	Yes	Unknown	Yes	Unknown
American Association of Nurse Informaticists	Yes	No	Unknown	Unknown
American Association of Nurse Educators	Yes	Yes	Yes	Unknown
American Association of Nurse Life Care Planners	Yes	No	Yes	Unknown
American Association of Occupational Health Nurses	Yes	Yes	Yes	Unknown
American College Health Association	Yes	Yes (own research)	Yes	Unknown
American College of Nurse Educators	Yes	Unknown	Unknown	Unknown
American College of Nurse Practitioners	Yes	Unknown	Yes	Unknown
American Forensic Nurses	Unknown	Unknown	Unknown	Unknown

Education, Policies, Grant Funding & Councils

Students/Visitors Education NuRF NuRF Lit Policies Councils

CCF Nurse Visiting Researcher Review
Non-CCF Nurse Visiting Researcher Overview
Visiting Research Checklist
CITI Course Instructions
Mandatory Research Education Instructions
Student-College Faculty (Signature) Form
Visiting Researcher Form

Miscellaneous
Sample Size
Using Visual Analog Scales

IRB
Cleveland Clinic Institutional Review Board
Common Issues Associated with Research Studies
Frequently Asked Questions

Useful Links
Am Nurses Assoc. Research Toolkit
Center for Clinical Research
CITI Human Subject Course
EBP resources and web links

Award Applications

NURF Award - to fund nurse-led research projects

The Nursing Research Fund (NURF) Award

- Competitively awarded to RN investigators at any Cleveland Clinic site with research proposals that enhance patient, nursing practice or nursing management outcomes
- Award amounts vary with a maximum of \$25,000
- Research must be conducted at Cleveland Clinic
- Awards are given biannually: May-June and November-December
- For more information contact Connie Serenda at 216.445.0905

Application documents are available from the links below:

- Principles and Terms of the NURF Award
- NURF Applications
 - New Award
 - Continuation of Award
 - Additional Funding Request
- Application Review and Grading Criteria
- How to Obtain Awarded Funds
- Call for Proposals

NURF Lit Award - to fund nurse-led literature reviews

The Nursing Research Fund Literature Review Award

- Competitively awarded to nursing staff working in any Cleveland Clinic site who desire to increase their knowledge of evidence-based practice through the conduct of a comprehensive review of research literature
- The award will allow the recipient approximately sixteen (16) hours of office time to complete the literature review
- Award amount is \$500
- Up to twelve (12) awards will be granted annually. The application deadlines are Friday of the second week in March and September of each year
- For more information contact Connie Serenda at 216.445.0905

Application documents are available from the links below:

- Application and Instructions
- Call for Applications

Annual Awards Schedule

Application Submission Deadline	Friday of the second week in March
Announcement of Awards <td>May-June / November-December</td>	May-June / November-December

Print out schedule

Vertical Infrastructure - Database

Other Resources:

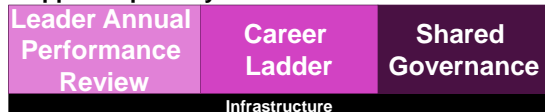
- Statistician support
- Art department
- Posters
- Figures- slides/papers
- Marketing
- Internal sharing of research
- Notable Nursing ext pub.
- Library - Librarians
- Center for Clinical Research
- IRB office

Other Resources
Intranet Resources
Database
Personnel

Infrastructure

HORIZONTAL INFRASTRUCTURE

- Goals:
 - Help clinical nurses understand the importance and power of rigorous data, new knowledge and high strength/quality EBP
 - Sustain nursing research
- Specific in nature
- Foundational- *should not* change often if applied optimally



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DEVELOPING a FOUNDATION



Lay a strong foundation for nursing science

Chief Nursing Officer & Other Leadership Support

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HORIZONTAL INFRASTRUCTURE

- Do physicians and other healthcare providers understand the value of nursing research?
- How do nurse leaders visually and verbally advocate for nursing research?
 - Ask for evidence when someone suggests spending \$ on products/services?
 - Share /discuss important research papers at meetings?
- Suggest research to answer important practice questions?

Leader Annual Performance Review

Chief Nursing Officer & Other Leadership Support

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Example

- Companies pushed disposable ECG lead wires to ↓ HAI
- RoL showed bacteria on LW but no research on HAI rates based on ECG LW type
- Recent theme:
 - Bath basin soap/H₂O vs. CHG wipes

INFECTION RATES IN INTENSIVE CARE UNITS BY ELECTROCARDIOGRAPHIC LEAD WIRE TYPE: DISPOSABLE VS REUSABLE

By Nancy M. Albert, PhD, CCNS, CHFN, CCRN, NE-BC, Ellen Shickel, RN, BA, Joel D. Beach, BA, James F. Bena, MS, Gregory Horvath, RN, BA, MBA, Sue Wilson, RN, BSN, Roslyn Van Den Bosche, RN, BSN, MBA, Nemy Vargas, RN, MSN, CCRN, CEN, Victoria Rhoades, RN, BSN, CCRN, Katrina M. Hartig, RN, BSN, MS, NE-BC, Heather Lachiewicz, RN, MSN, CCRN, CNML, and Terri Murray, RN, MSN

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HORIZONTAL INFRASTRUCTURE

- Career Ladder:
 - Points for leading nursing research
 - Points for participating in nursing research
 - Points for intellectual property in novel research interventions
 - Points or disseminating research in peer-reviewed journals

Leader Annual Performance Review

Career Ladder

Chief Nursing Officer & Other Leadership Support

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HORIZONTAL INFRASTRUCTURE

- Unit Based Shared Governance:
 - How embedded is nursing research at the unit level?
 - Or, do you rely on a global nursing research council to facilitate staff-nurse led research?

Leader Annual Performance Review

Career Ladder

Shared Governance

Chief Nursing Officer & Other Leadership Support

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INFRASTRUCTURE



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Tips in the Nursing Research Magnet Journey



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So, You Want To Do Research; Now What?

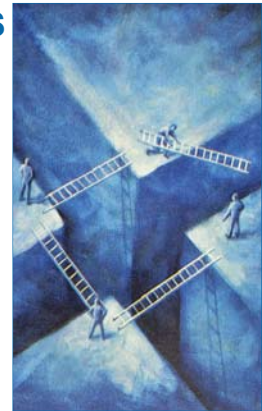


- The research question is the most important piece!
- Always develop the question before discussing:
 - Full research team
 - Research methods
 - Tools
- Pick a topic/question you are really interested in!

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BUILDING BRIDGES

- People
 - Internal and external
- Resources
 - If you do not have resources; find some- they are out there
- Show evidence of research findings
 - Research leads to more research



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TEAMWORK



- Encourage nurses to work in teams, when possible
- Involve non-nursing experts
- Determine group rules early
 - Author status
 - Work expectations
 - Outcomes

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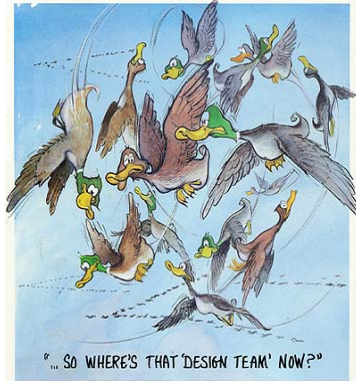
Replication Studies



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Data Collection

- Data collection takes time & attention to detail
- Momentum can be lost if team does not support



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SHARE EVIDENCE & OUTCOMES

- Must publish!
- Poster presentations on our website
- 11 x 17" posters hung on wall
- *Notable Nursing* – 2 articles/issue
- Local presentations
 - Leaders
 - Colleagues



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NEGATIVE RESULTS ARE STILL POSITIVE!



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CONCLUSION

- Research is like a foreign language
- An infrastructure that supports:
 - RoL
 - Research conduct and analysis
 - Research translation and dissemination
 - Helps nurses get started
- Use resources: national organizations, nurse/other experts, college resources

Research moves your nursing dept. one step forward in making a mark as a leader

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Your nursing research infrastructure can create footsteps that set a new course for nursing practice



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