APRNs and Health Services Research

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2015 North Bay HealthCare Evidence-Based Practice and Nursing Research Symposium
Objectives

Upon completion of this talk the participant will be able to:

1) State the goals of Health Services Research.
2) Identify opportunities for Advanced Practice Nurses in Health Services Research.
3) List three resources for Health Services Research.
What comes to mind when you think of Health Services Research
What is Health Services Research?

• Health services research . . .
  examines how people get access to health care, how much care costs, and what happens to patients as a result of this care. The main goals of health services research are to identify the most effective ways to organize, manage, finance, and deliver high quality care; reduce medical errors; and improve patient safety. (Agency for Healthcare Research and Quality, 2002)

• Health services research . . .
  is the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations. (Academy for Health Services Research and Health Policy, 2000)

• Health services research . . .
  is a multidisciplinary field of inquiry, both basic and applied, that examines the use, costs, quality, accessibility, delivery, organization, financing, and outcomes of health care services to increase knowledge and understanding of the structure, processes, and effects of health services for individuals and populations (IOM, 1995)
• Health services research . . .
is concerned with problems in the organization, staffing, financing, utilization, and evaluation of health services..[It] subsumes both medical care and patient care research. It could well be termed "socio-medical" research. (Flook and Sanazaro, 1973:1)

• Health services research . . .
is a recognized, multidisciplinary field...[with a focus on certain generic issues, such as] the organization and financing of medical care, utilization patterns, patient and provider relations, social and behavioral epidemiology, health information systems, and monitoring and evaluation of health services. (Marshall, 1985:381,382)

• Health services research . . .
is the integration of epidemiologic, sociological, economic, and other analytic sciences in the study of health services. (Last, 1988:58)
• Health services research . . .
  is inquiry to produce knowledge about the structure, processes, or effects of personal health services. A study is classified as health services research if it satisfies two criteria: it deals with some features of the structure, processes, or effects of personal health services; At least one of the features is related to a conceptual framework other than that of contemporary applied biomedical science (IOM, 1979:14)

• Health services research . . .
  is a field of inquiry that examines the roles of organization, finance, manpower, technology, and prevention in the provision of health care services, and their impact on utilization, cost, and quality of care. The field draws on many disciplines to address this breadth of research, including biostatistics, epidemiology, health economics, medicine, nursing, operations research, psychology, and medical sociology. (Steinwachs, 1991:10)

• Health services research . . .
  is a field of inquiry that examines the impact of the organization, financing, and management of health care services on the delivery, quality, cost, access to, and outcomes of such services. (Valentine, 1991)
# History of HSR

## Timeline of Key Projects, Issues and Milestones in Health Services Research

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1798</td>
<td>Public Health Service created to provide for the care and relief of sick and injured merchant seamen. (<a href="#">History</a>)</td>
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<tr>
<td>1683</td>
<td>William Petty, 1623-1687, a physician and economist in seventeenth century England, attempted to apply quantitative reasoning to assess the benefits of physician practice and hospital care. (<a href="#">History</a>)</td>
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<tr>
<td>1828</td>
<td>The <em>Boston Medical and Surgical Journal</em> [Journal] is first published by the Massachusetts Medical Society. It eventually becomes the well-known <em>New England Journal of Medicine</em> in 1928. (<a href="#">Search</a>)</td>
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<tr>
<td>1837</td>
<td>William Farr, collected statistical data on mortality, morbidity and disability. (<a href="#">History</a>)</td>
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<tr>
<td>1858</td>
<td>Florence Nightingale began work with Farr on a uniform reporting system for London hospitals and publishes <em>Notes on Matters Affecting the Health of the British Army</em>. (<a href="#">History</a>)</td>
</tr>
<tr>
<td>1872</td>
<td>American Public Health Association founded. (<a href="#">History</a>)</td>
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<tr>
<td>1876</td>
<td>American Medical College Association formed. The American Medical College Association (later the Association of American Medical Colleges, AAMC) is organized. (<a href="#">Players</a>)</td>
</tr>
<tr>
<td>1883</td>
<td>The first issue of the <em>Journal of the American Medical Association</em> appeared. (<a href="#">Search</a>)</td>
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• 2005 - The number of uninsured in the United States reached 46.6 million people according to a Bureau of the Census report titled, Income, Poverty, and Health Insurance Coverage in the United States: 2005.

• 2006 - The number of obese people in the United States continued to rise according to a report from the Trust for America's Health (TFAH) titled, F as in Fat: How Obesity Policies are Failing America, 2006. (History)

• In March 2006, JCAHO rebranded itself to become "The Joint Commission." (Players)

What do health services researchers do?

• Health services researchers investigate three major aspects of health care: **access** to care, the **quality** of the care, and its **cost**.

• Health services researchers attempt to **evaluate** the effects and **outcomes** of the health care "system" on people's health.

(https://www.nlm.nih.gov/nichsr/ihcm/01whatis/whatis03.html)
Access

• Often defined as the potential and actual entry of a population into the health care system and by features such as private or public insurance coverage. Entry is based on the person's wants, resources, and needs, and is influenced by distance from health care, waiting time, income, and regular source of care. Researchers define access in terms of utilization rates.
Clinical practice guidelines:
• Quality health care means doing the right thing, at the right time, in the right way, for the right person—and having the best possible results

• Quality of care: ”The degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge”
— Institute of Medicine, 1990
Cost

• Expenses incurred in the provision of services or goods. Types of costs include allowable, direct, indirect, and operating. Costs may not be equal to charges, the price of a service or the amount billed an individual or third party.
• Costs incurred by the “user” of healthcare
Most empirical quality-of-care research focuses solely on the instrumental goals.

The most common framework is that of Donabedian (1980, 1986, 1988) who conceptualized three quality-of-care dimensions:

- **Structure**: the attributes of settings where care is delivered
- **Process**: whether or not good medical practices are followed
- **Outcome**: impact of the care on health status

**Structure**
- Physical and organisational characteristics where health care occurs

**Process**
- Focus on the care delivered to patients (e.g. services or treatments)

**Outcome**
- Effect of health care on the status of patients and populations
3 E’s of HSR

Effectiveness:
• The benefit provided by a treatment, service or technology to a group of people under usual circumstances of everyday life.

Efficacy:
• The benefit provided by a treatment, service or technology to a group of people under ideal or controlled conditions (i.e., not real life).

Evaluation:
• A systematic analysis of the extent to which a program has reached its goals and objectives. In health services research and public health, the target of analysis is a group; in medicine, it is often an individual patient.
Approaches to conducting HSR

- Surveys
- Cohort Studies
- Case-Control Studies
- Randomized Clinical Trials (RCTs)

- Data
Surveys

• Surveys gather data to describe the **demographics** of a group; the **health status** of a group of people at a particular time; the utilization of medical services; or the knowledge, beliefs, and attitudes of people regarding health practices.

**Key Findings from the 2014 Clinical Nurse Specialists Census**

(Based on responses from 3,370 CNSs)

**Practice**

- CNSs provide care in a range of specialties.
- CNSs have a range of duties, from providing direct patient care to managing care, to leading research, to nurse, patient, and family education.

**Employment**

- More than 22% work part time.
- Most CNSs work in a variety of settings, but most are based in hospitals.

**CNSs work in a variety of settings, but most are based in hospitals.**

- Hospital - non-federal: 59.45%
- Hospital - federal: 4.0%
- Hospital - veteran’s: 3.0%
- Nursing Education (all levels): 6.57%
- Ambulatory care (all): 6.93%

**Most CNSs who work in hospitals have responsibility for more than one department.**

<table>
<thead>
<tr>
<th>Responsibility</th>
<th>Percentage</th>
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<tr>
<td>1 unit</td>
<td>21.8%</td>
</tr>
<tr>
<td>2 or more units</td>
<td>39.89%</td>
</tr>
<tr>
<td>Whole system</td>
<td>44.05%</td>
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Cohort studies observe groups of individuals before they develop a disease or a particular outcome.
Cohort studies have the power to detect many different outcomes of an exposure and allow researchers to calculate a relative risk of development.
Case-Control Study

• Case-control studies begin with the outcomes and do not follow people over time.
Randomized Control Trials (RCTs)

• RCTs follow two groups of people over time to see who achieves a particular result. In this case, the researchers assign or randomize the people to their groups.
• Each person has an equal chance of being assigned to either group.
• factual information (as measurements or statistics) used as a basis for reasoning, discussion, or calculation <the data is plentiful and easily available

• information output by a sensing device or organ that includes both useful and irrelevant or redundant information and must be processed to be meaningful
(http://www.merriam-webster.com/dictionary/data)

• Research data is data that is collected, observed, or created, for purposes of analysis to produce original research results
(http://www.bu.edu/datamanagement/background/whatisdata/)
It is used to describe how well current systems are working; what happens when changes are applied, and to document successful performance.

Using data:

• Separates what is thought to be happening from what is really happening
• Establishes a baseline (Starting with low scores is ok)
• Reduces placement of ineffective solutions
• Allows monitoring of procedural changes to ensure that improvements are sustained
• Indicates whether changes lead to improvements
• Allows comparisons of performance across sites

http://www.hrsa.gov/quality/toolbox/methodology/qualityimprovement/
Lots of data is being collected and warehoused
- Web data, e-commerce
- Purchases at department/grocery stores
- Bank/Credit Card transactions
- Social Network
Why is HSR important…?

• … HSR is relied on by decision makers and the public to be the primary source of information on how well health systems in the United States and other countries are meeting the challenge of high-quality, and affordable health care services (Steinwachs)
Crossing the Quality Chasm: A New Health System for the 21st Century the Institute of Medicine proposed that the goals for health services should include six critical elements

1) Patient Safety
2) Timeliness
3) Effectiveness
4) Efficiency
5) Equity
6) Patient Centered
Who’s involved in HSR

Disciplines Involved in Health Services Research
• Medicine
• Biostatistics
• Sociology
• Economics
• Political Science
• Operations Research
• Nursing
• Epidemiology
• Law
• Psychology
• Social Work
• Management
• Others

Stakeholders
• Those with a keen interest in health services research include:
• Clinicians
• Social and Behavioral Scientists
• Managers
• Lawyers
• Policy Makers
• Payors (including insurance companies)
• Private and Public Organizations; and
• Consumer
Many organizations conduct health services research. They include academic departments, private foundations and associations, government agencies, and business organizations. Some of the major players are listed below with descriptions from DIRLINE and other resources.

**Key governmental players**
- Agency for Healthcare Research and Quality (AHRQ)
- Centers for Medicare and Medicaid Services (CMS)
- Medicare Payment Advisory Commission (MedPAC)
- National Center for Health Statistics (NCHS)
- National Institutes of Health (NIH)
- National Information Center on Health Services Research and Health Care Technology (NICHSR)
- Substance Abuse and Mental Health Services Administration (SAMHSA)
- Veterans Administration (VA)

**Key non-governmental** (private players),
- AcademyHealth
- Association of American Medical Colleges (AAMC)
- Commonwealth Fund
- ECRI
- Institute of Medicine (IOM)
- Health Technology Assessment International (HTAi)
- International Society of Technology Assessment in Health Care (ISTAHC)
- Joint Commission (Formerly: Joint Commission on Accreditation of Healthcare Organizations (JCAHO))
- Kaiser Family Foundation (KFF)
- National Association of Health Data Organizations (NAHDO)
- National Committee for Quality Assurance (NCQA)
- Pew Charitable Trusts
- Robert Wood Johnson Foundation (RWJF)
- Patient-Centered Outcomes Research Institute (PCORI)
HSR in the Literature
Examples of some general health services research questions are:

1. Does the organization of renal transplant nurse coordinators’ responsibilities influence live donor rates?
2. What activities of nurse managers are associated with nurse turnover? 30 day readmission rates?
3. What effect does the Nurse Faculty Loan program have on the nurse researcher workforce? What effect would a 20% decrease in funds have?
4. How do psychiatric hospital unit designs influence the incidence of patients’ aggression?
5. What are Native American patient preferences regarding the timing, location and costs for weight management counseling and how will meeting these preferences influence participation?
6. What predicts registered nurse retention in the US Army?
7. How, if at all, are the timing and location of suicide prevention appointments linked to veterans’ suicide rates?
8. What predicts the sustainability of quality improvement programs in operating rooms?
9. Do integrated computerized nursing records across points of care improve patient outcomes?
10. How many nurse practitioners will the US need in 2020?
• AACN Position Statement on Nursing Research
  o *Nursing research worldwide is committed to rigorous scientific inquiry that provides a significant body of knowledge to advance nursing practice, shape health policy, and impact the health of people in all countries.*

  o Scope of Nursing Research:
    ▪ Clinical research
    ▪ Health systems and outcomes research
    ▪ Nursing education research
Clinical Research and Nursing Education Research (AACN)

• Clinical Research
  • Scope of clinical research ranges from acute to chronic care experiences across the entire life span; health promotion and preventive care to end-of-life care; and care for individuals, families, and communities in diverse settings.

• Nursing Education Research
  ○ Centers on developing and testing more efficient educational processes, identifying new ways to incorporate technology in order to enhance learning, and discovering more effective approaches to promoting lifelong learning and commitment to leadership.
Health Systems and Outcomes Research

• Seeks to identify ways that the organization and delivery of health influence quality, cost, and the experience of patients and their families.
• Nursing research is integrated with health services research regarding issues of organization, delivery, financing, quality, patient and provider behavior, informatics, effectiveness, cost, and outcomes.
  o Evaluating both clinical services and systematic structures in which those services are delivered; it explores appropriate balance of personnel to provide effective and efficient care while controlling costs of health care.

• Increased Demand for nurse researchers
Cedars-Sinai HSR team

• The Cedars-Sinai Center for Outcomes Research and Education (CS-CORE) is a group of academicians that supports high quality research efforts using a health services model. Members of the Center have published extensively in the fields of healthcare quality measurement, patient reported outcome (PRO) development, healthcare decision-making, and health economics.

• Physicians (various specialties)
• Public Health Clinicians
• Doctorate prepared researchers
• Human Factors: Linking Design, Behavior, Teamwork and Process to Patient Outcomes
• Development and Implementation of a Quality of Care Program for Chronic Disease
• Social Media as a Big Data Resource for Health Analytics
• Discovering Hidden Themes in Unstructured Biomedical Data
• 1,057 Studies of Health Information Technology: What have We Learned?
• Introduction to Health Services Research
• Volume, Velocity, and Variety: Introduction to Big Data Principles and Their Application to Healthcare
• How to Measure Health Related Quality of Life
Examples of HSR

• Health Insurance Coverage and Mortality Revisited (Richard Kronick)
• Community Factors and Hospital Readmission Rates (Jpeh Herrin, et al)
• Geographic Variation in Public Health Spending: Correlates and Consequences (Glen P. Mays and Sharla A. Smith)
Personal story

http://www.nacns.org/doc/CNSCoreCompetencies
**Frailty Program Workflow**

**Risk Assessment**
- SPICES +, age 65+
- Trained RN completes frailty assessment
- SW completes assessment
- Pharm D completes meds. assessment
- Frailty APN reviews EHR

**POCR Huddle/ Frailty Care Plan**
- RN, SW, Pharm D, findings discussed EBP recommendations made
- Frailty CS link
- Recommendations communicated to appropriate disciplines...volunteers services, PT, (MD for any recommendations that require an MD order)

**Hand Over**
- Rounds - follow up on recommendations
- Monitor for new findings, new recommendations
- Frailty follow up huddle: Post Acute Care Treatment (PACT) note summarizes frailty findings and recommendations for hand over to continuing care providers

**Patient follow up after Discharge**
- Frailty nurse determines if patient meets established inclusion/exclusion criteria for home visit program
- If yes, frailty APN approaches patient for consent
- PACT note to PCP
- Patient referral to home visit APNs
- APN first home visit within 48hrs of discharge
- APN Naylor Model TCM visits/phone calls PRN making appropriate referrals throughout the case (2 month +)
Questions