The Society is grateful to the National Endowment of the Arts for its support of its technical assistance programs, which strive to provide affordable assistance to organizations wishing to establish or advance the arts in healthcare.
PART ONE

The process of writing a proposal, the selection of appropriate research methodologies (qualitative and/or quantitative), considerations of feasibility and logistics, and issues of IRB (Institutional Review Board).

Upali Nanda, PhD, Assoc.AIA,EDAC
Director of Research
American Art Resources
Outline

• Research Basics
  – Theory
  – Hypothesis
  – Methods

• Getting Started
  – Site
  – Team
  – Funding & Logistics

• Writing the Research Protocol
  – Components
  – IRB
  – Training

• Conducting Research
  – Resources
  – Rigor
  – Dissemination
Importance of Research

• Dollars spent on “add-ons” like art need to be justified

• There is a trend towards a “conscientious” approach to healthcare

• Arts must meet the burden of proof to qualify as “Healing”
Research on the Effect of the Arts on Health

Diligent and systematic inquiry or investigation into a subject in order to discover or revise facts, theories, applications, etc

(www.dictionary.com)
A theory is a system, model, or framework of statements that describe and explain natural or social phenomena. A good theory should be logically consistent and cohesive by itself. It should also be consistent with all existing empirical research findings. A theory is not directly observable by itself but should be able to predict or explain certain phenomena.
Hypothesis

- Hypotheses are predictions that are logically derived from theories and can be tested in empirical research.

- Nature views reduce stress.
- Listening to music can reduce anxiety.
Nesting of Research Thought

System of Inquiry: Philosophical Stance

Strategies:
Overall research plan or structure of the study (Research Design)

Tactics:
Specific Techniques used

Groat & Wang, 2002
Philosophy-Theory-Method Chart

foundations for research  →  domain of research

philosophy  →  theory  →  strategy  →  tactics
Early Decisions

Who: Population Sample
Where: Research Site
Why and How: Research Design

Building Theory
Advancing Industry
Differentiating Research from Evaluation

- The main difference between research and evaluation is that research is usually conducted with the intent to generalize the findings from a sample to a larger population.
- Evaluation, on the other hand, usually focuses on an internal situation, such as collecting data about specific programs, with no intent to generalize the results to other settings and situations. In other words, research generalizes, evaluation particularizes.

# The Two Approaches in Research

<table>
<thead>
<tr>
<th>Qualitative</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>&quot;All research ultimately has a qualitative grounding&quot;  - Donald Campbell</td>
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<tr>
<td>The aim is a complete, detailed description.</td>
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<tr>
<td>Researcher may only know roughly in advance what he/she is looking for.</td>
<td></td>
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<tr>
<td>Recommended during earlier phases of research projects.</td>
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<tr>
<td>The design emerges as the study unfolds.</td>
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<tr>
<td>Researcher is the data gathering instrument.</td>
<td></td>
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<tr>
<td>Data is in the form of words, pictures or objects.</td>
<td></td>
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<tr>
<td>Subjective - individuals’ interpretation of events is important, e.g., uses participant observation, in-depth interviews etc.</td>
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<tr>
<td>Qualitative data is more 'rich', time consuming, and less able to be generalized.</td>
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<tr>
<td>Researcher tends to become subjectively immersed in the subject matter.</td>
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<tr>
<td>Quantitative</td>
<td></td>
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<tr>
<td>There's no such thing as qualitative data. Everything is either 1 or 0</td>
<td></td>
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<tr>
<td>The aim is to classify features, count them, and construct statistical models in an attempt to explain what is observed.</td>
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<tr>
<td>Researcher knows clearly in advance what he/she is looking for.</td>
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<tr>
<td>Recommended during latter phases of research projects.</td>
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<tr>
<td>The design emerges as the study unfolds.</td>
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<tr>
<td>Researcher uses tools, such as questionnaires or equipment to collect numerical data.</td>
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<tr>
<td>Data is in the form of numbers and statistics.</td>
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</tbody>
</table>
Types of Research Questions

- **Descriptive.** When a study is designed primarily to describe what is going on or what exists.

- **Relational.** When a study is designed to look at the relationships between two or more variables.

- **Causal.** When a study is designed to determine whether one or more variables (e.g., a program or treatment variable) causes or affects one or more outcome variables.

Source: http://www.socialresearchmethods.net/kb/resques.php
Understanding Causality

Effect OF Art ON Healing

Art
(independent variable)

Healing/ Satisfaction
(dependent variable)
Outcomes: Examples

- PRN Medication Rate
- Systematic Behavioral Observation
- Physiological Outcomes

Existing Metrics

Trained Observers

Clinical Staff
Identifying Population and Methods

- Pediatric Patients
- Acute Care
- Long-term Care Patients
- Psychiatric Patients
- Staff and Caregivers

Surveys
Questionnaires
Interviews

Self-Reports
Observations

Outcomes
- Error Rates
- Medication
- Physiological Outcomes
10 Steps to Research

1. Determine your theory or educated guess about a relationship. Involves identifying and defining a problem and reviewing the current literature.

2. Operationally define all variables to be involved in the research.

3. Develop hypothesis by plugging variables into original theory. A hypothesis is a testable theory with operationally defined variables.

4. Standardize the research methods by developing a research protocol to be used with every subject. Include in this step the methods for subject selection and assignment as well as how you will attempt to control for any extraneous variables.

5. Select subjects and assign to groups using the protocol developed in step 4.

6. Test subjects using the protocol developed in step 4.

7. Analyze results.

8. Determine the significance of the results and how these results compare with other studies. Critique your research and suggest needs for further research based on your findings.

9. Communicate results through journal publication, book, book chapter, report, presentation, or any means that will benefit those to whom the research applies.

10. Replicate. While part of the research process, this step is most often completed by a different researcher.

If Human Subjects are involved, Get IRB approval

http://allpsych.com/researchmethods/introduction.html
Before Starting

• Identify Challenges:

  – Availability of Funds

  – Availability of Expertise (multi-disciplinary)

  – Gaps in the existing knowledge (Lack of an existing, comprehensive, "searchable" database)

  – Logistics of conducting research (feasibility of interrupting operations)
First Steps

STEP I:
KNOWING THE FIELD
Literature Review
Developing a Database

STEP II:
IDENTIFYING RESEARCH HYPOTHESIS

STEP III:
SCOUTING VENUES
NETWORKING
UNDERTAKING
FEASIBILITY STUDIES

 PubMed
Jstor
Google Scholar
Center for Health Design Library
Society for Arts in Healthcare resources
RIPPLE database
Informedesign
The “research protocol” is a formal design for research involving human subjects or research animals that an investigator submits to an Institutional Review Board (IRB) or an Institutional Animal Care and Use Committee (IACUC) for review. A protocol generally has an objective, rationale, design, eligibility requirements, a description of research and data analysis methods. Protocols must conform to stringent federal regulations.

http://rac.berkeley.edu/compliancebook/introduction.html
Research Protocol

• Objective
  – What (e.g., study the impact of visual art on anxiety levels of dialysis patients)

• Rationale
  – Why (patients in hospitals are stressed, research shows art can reduce stress and anxiety with inpatients, but no research on dialysis procedures)

• Design
  – How (by collecting physiological measures such as heart rate and blood pressure, and asking patients to answer standardized anxiety state self-reports such as STAI)
• Eligibility requirements, a description of research and data analysis methods
  – Who (e.g., adult patients in the age group of 35-65, who can speak English, who consent to the study, and are identified by the nurse as eligible (not in too much pain or under medication))

• Description of Research and Analysis
  – How (detailed) (how many patients (sample) – based on statistical analysis, how will the data be collected, how will it be entered, where will it be stored, how will patient information be kept confidential, and how will the data be analyzed (statistical methods))
Taking Required Training

• Many IRBs will require the PI (Principal Investigator) to undertake Research Ethics training, before granting approval.

  – Most healthcare institutions have their own ethics training, such as
    • https://www.citiprogram.org/Default.asp?
    • http://phrp.nihtraining.com/users/login.php
INSTITUTIONAL REVIEW BOARD (IRB)

An institutional review board (IRB), also known as an independent ethics committee (IEC) or ethical review board (ERB), is a committee that has been formally designated to approve, monitor, and review biomedical and behavioral research involving humans with the alleged aim to protect the rights and welfare of the research subjects.

IRB Review

- Full Review
- Expedited Review
- IRB Exempt
Figuring out IRB Issues

- Whether an activity is research that must be reviewed by an IRB
- Whether the review may be performed by expedited procedures, and
- Whether informed consent or its documentation may be waived.

http://www.hhs.gov/ohrp/humansubjects/guidance/decisioncharts.htm
Revisiting the Research Process

- Research Idea
- Lit Review, Theoretical Basis
- Developing a Hypothesis
- Creating a Research Design
  - Target population
  - Scope
  - Instrument
- Drafting Research Protocol for
- IRB submission
- Collecting Data
- Analyzing Data
- Publishing and Presenting
Fostering Collaboration

HAVE COMMON GOALS AND A REALISTIC IDEA OF FEASIBILITY
KEEP THE DIALOGUE OPEN

The Society for Arts in Healthcare Webinar Series & Research Dept at American Art Resources
<table>
<thead>
<tr>
<th>Research Design</th>
<th>Data Collection</th>
<th>Analysis &amp; Report</th>
<th>Conference Presentation</th>
<th>Publication</th>
</tr>
</thead>
</table>

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**BUDGET**

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**TIME**
Visibility/ Credibility

- Peer Reviewed Publications
- Conference Presentations
- Magazine Articles
- White Papers
Some Tips for Quantitative Research

• Use existing metrics
• Partner with local universities
• Pick the right team with the right expertise
• Tackle small scale projects before taking on the big scale
• Collaborate with experts globally
• Cross disciplinary boundaries
• PRESENT AND PUBLISH
The greatest enemy of knowledge is not ignorance, it is the illusion of knowledge

Einstein

Contact:
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The Society for Arts in Healthcare Webinar Series & Research Dept at American Art Resources
Coming up ... in Part TWO

• Research Proposals for Qualitative Research
  – Design
  – Methodology
  – Analysis

• Funding for Arts and Health Research
Questions????

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