

How to Make an Idea Become Research: Everyone can do it!

Learning Objectives for this Overview

By the end of this module the Student or Community member will be able to:

1. Understand what research is.
2. Have a beginning understanding of the research process.
3. Understand the importance for research and for community participation in research.

What is Research?

- ❖ The word "research" is used to describe a number of similar and often overlapping activities involving a search for information.

OR

- ❖ A detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding.

What is Research?

- ❖ This search for information can be as different as asking:
 - What is the best price for a new car?
 - Why does a butterfly prefer one type of flower?
 - What is the best way to make a library wheelchair accessible?
 - What is the best treatment for a particular disease?

What is Research?

- ❖ At its core, research is just asking a question or a series of questions about a topic that is important to you.
- ❖ Everyone is capable of asking a question; therefore, everyone has the ability to be involved with research.

Why is Research Important?

1. It allows us to answer questions about topics such as:
 - How to improve health (treatments)
 - The best way to perform a task
 - How the world around us works.
2. Helps us determine what does not work

The Process of Research

Defining the problem:
Something should be done

Developing knowledge:
This should be done to address the problem

Implementation:
This should be done in this way to be effective.

The Research Process

Step 1: Identify the Research Question - Where to start?

- ❖ Select a topic area.
 - Stimulated by patient need, your passion, your experience
- ❖ Conduct an efficient literature search.
 - A lot of research is done in the library or online
 - The literature review helps form the question
 - It lets you know what information already exists

The Research Process

Step 1: Identify the Research Question - Where to start.

- ❖ Critically consider the literature you have read.
 - Determine if the information is reliable. This is very important. Just because it is in print (or on the net) doesn't make it correct.
- ❖ Determine what is lacking in the literature; where are the gaps?
- ❖ Formulate the question you would like to ask or test.

The Research Process

Step 2: Design the study – How will you ask your question?

❖ Quantitative type research.

- “What is happening?”
- Gather: measurements (numbers), surveys, questionnaires
- Ex: Measure blood levels for people with diabetes who are trying a new drug.

The Research Process

Step 2: Design the study – How will you ask your question?

❖ Qualitative type research.

- “Why is it happening?”
- Gather: Interviews, focus groups
- Ex: Explore why the people with diabetes are not taking the new medication even though it helps their illness.

❖ Complementary: includes both

Examples: KARRN Research Questions

- ❖ What do people with spinal cord injury (SCI) who live in rural Kentucky need to improve their quality of life?
 - Are people who use wheelchairs able to move within the Kentucky state parks?
 - What are the issues people who use wheelchairs need to think about when traveling?

The Research Process

Step 3: Develop the Methods (the nuts and bolts) by which you will ask/test your question.

- ❖ Who will do what?
- ❖ Are you working with people or basic science?
 - A whole population or just a small group?
- ❖ Sample Size
 - Power analysis can help tell you how many people you need to work with.
- ❖ What type of measurements will you use?
 - Survey, interview, Blood pressure, strength etc.

The Research Process

Step 3: Develop the Methods. Institutional Review Board (IRB).

- ❖ If you are working with people there are additional forms you will need to have approved by an IRB.
 - Involves developing Consent forms
 - Involves having all of your methods approved to make sure they are safe to use with people.
- ❖ The IRB process is there to make sure the welfare of the subjects is taken care of.
 - It protects the person from harm as well as protects the information they give you from being used inappropriately.

The Research Process

Step 4: Data Analysis (Results) – How do you determine what your data actually mean?

- ❖ Descriptive analysis
- ❖ Statistical Analysis
- ❖ Can work with another researcher or other resource (statistician) who can help you with this.
- ❖ Interview narrative analysis

Example: What do people with SCI living in rural Kentucky need to improve their quality of life?

- ❖ Interview narrative analysis
- ❖ Identify common themes
 - Wheelchair accessibility (e.g. state parks)
 - Activity levels after acute rehab
 - Support from others with similar experiences
 - Knowledge base of health care providers in the area of spinal cord injury
 - Challenges faced by caregivers

The Research Process

Step 5: Communication - How will you tell others about what you have found out?

- ❖ In-service for your facility
- ❖ Presentations (local, state, National, international)
- ❖ Publications
- ❖ On-line posting
- ❖ Newsletters
- ❖ Handouts/brochures

The Research Process

Step 6: Develop new questions and/or resources based on the information discovered.

- ❖ Develop database of available community resources
- ❖ Develop Registry of persons with SCI to follow them across the continuum of care
- ❖ Develop Peer-mentoring program
- ❖ Develop Caregiver support network
- ❖ Annual continuing education for health care providers

Step 6: Develop new questions based on the information discovered.

Examples:

- ❖ Is there a higher incidence of secondary complications in persons with SCI depending on where in Kentucky they live?
- ❖ Are Kentucky parks wheelchair accessible?
- ❖ What is the best method for developing a peer-mentoring program in rural communities?

Levels of Involvement in Research

Community-Based Participatory Research.

1. Is research in which there is an equal partnership between traditionally trained "experts" and members of a community.
2. The community participates fully in all aspects of the research process.
3. Projects start with the Community.
The most important questions come from the community.

Levels of Involvement in Research

Community-Based Participatory Research.

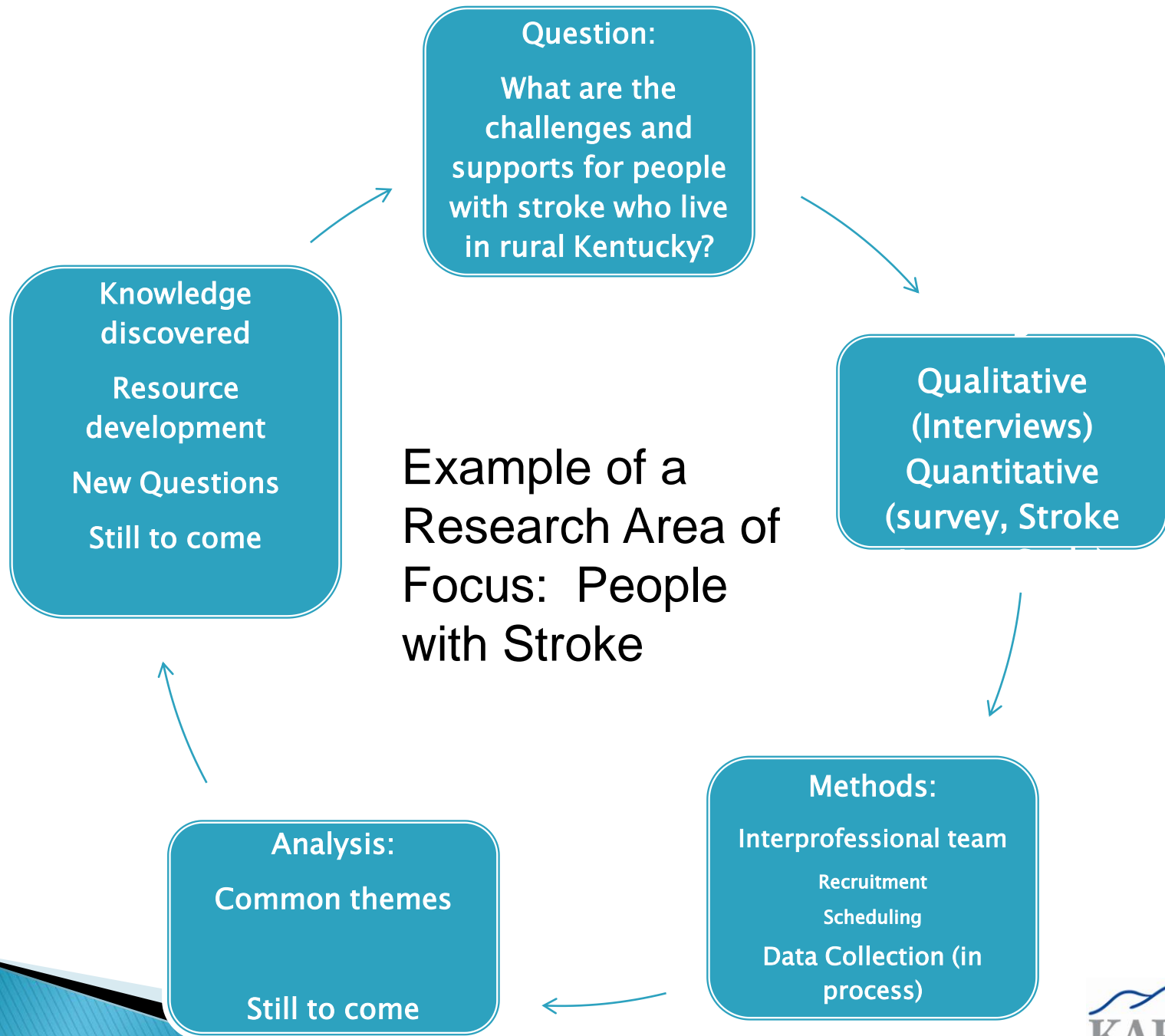
4. Is focused on developing outcomes that are usable by the community.

- KARRN follows this model for our research.

Levels of Involvement in Research

1. You can help come up with a question and work with someone/team who will develop and conduct the project.
2. You can participate as part of a team and help collect the data/information.
3. You can come up with the idea, design the project, collect the data and analyze the data (DO It ALL).

**So you can be as involved as you want in research!



Short Research Module Survey

Please follow the link to a short survey that will give us feedback about the training module you just finished. Your answers are completely confidential and we will not contact you for any additional information. Your feedback is important to us and will allow us to modify this module as needed.

<https://docs.google.com/spreadsheet/viewform?formkey=dHhKODVLMzM5VE9vaEJGMGZ0ZzJXX1E6MQ>

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