



# Introduction to Research: **Developing research questions**

This document presents information and strategies for community partners to use when developing research questions. If research will be conducted in partnership with academic partners, this process should include input from and discussions with the academic partners. It may be helpful for community partners to review and consider this background in advance of those conversations.

# Goals for session

**Overview research process:** Video of research question background:

<http://www.youtube.com/watch?v=sqHSPdAqApA&feature=youtu.be>

- Describe what makes a good research question
- Share some methods for generating research questions
- Overview the logic of research
- Review common research designs
- Share “real life” account of community engaged research project: Video of Lucy & Maryann’s case presentation: <https://www.youtube.com/watch?v=D1vTAVEXVT8>
- Practice developing/evaluating research questions and designs

# Research Questions



What is a research question?

- A question that specifically states what the researcher will attempt to answer.

What do research questions do?

- Drive the research design:
  - what data is collected
  - data collection methods
  - data analysis methods
- Set up how you will communicate findings
- Good indicator of how relevant findings will be to your organization



# Research question development: Process matters

- What helps?
  - Right mix of people at the table...
  - Vision for using results
  - Engaging experts
  - Having a “champion”
  - Creating a process that evolves



# Starting research question development

- ***In a group meeting...***

- *Brainstorm but...follow rules*
  - *Nothing is too silly, basic, etc.*
  - *Everybody's ideas count*
  - *Combine/extend ideas*

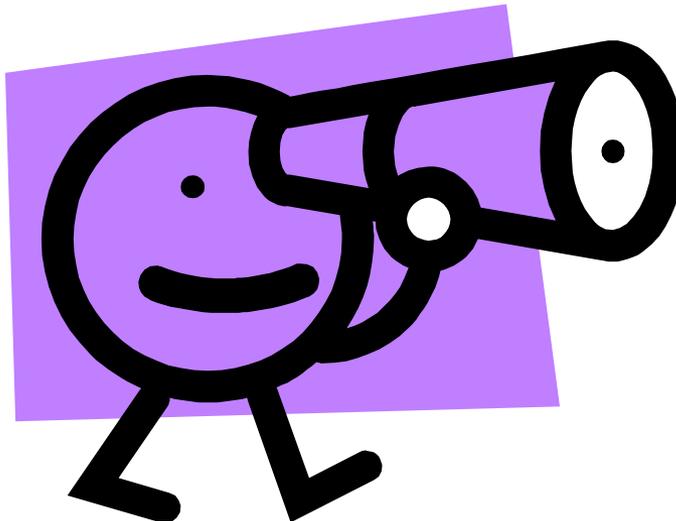


- ***Working w/individuals...***

- Ask co-workers, program participants, etc.. to finish this sentence: “I want (more) information on \_\_\_\_\_....” and turn in anonymously...

## Starting research question development within an organization or team...

- Sleuth -- Do some research of your own, look around at what is going on in your community, your organization, your programs and bring it to others for reaction...

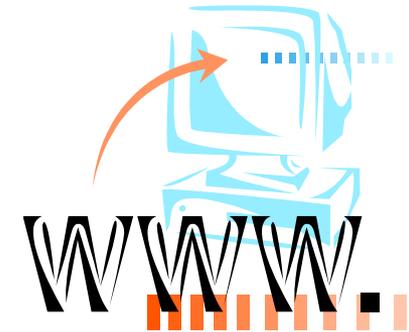


## Starting research question development within an organization or team...

### **Look at existing research**

Try the Internet

Google Scholar



**Look at resources/publications** sections of national organization websites

(e.g. American Diabetes Assoc, American Heart Association, National Cancer Institute, etc)

## Concept mapping: a tool for developing research questions

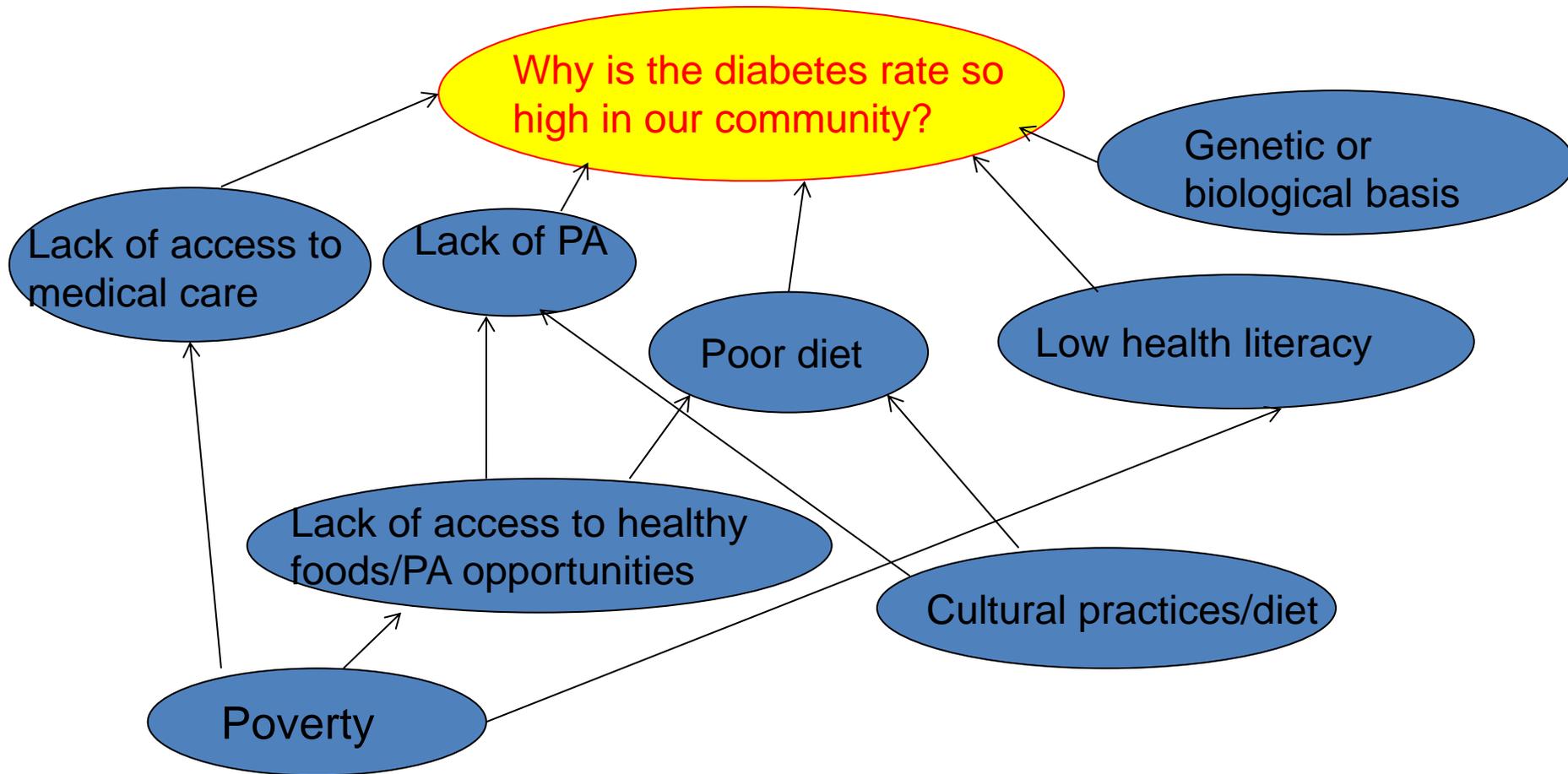
- Take a problem area or general question:



Why is the diabetes rate so high in our community?

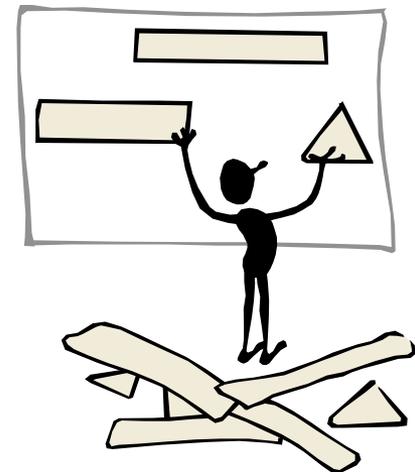
## Concept mapping:

Sketch out things you think are related



# Concept mapping: use your “map” to form a specific research question...

- Will providing health literacy instruction to community members at risk of developing diabetes reduce their likelihood of developing diabetes over a two-year period?
- Don't be afraid to refine, refine, refine...



## Exercise

- Your organization wants to develop a question to research based on an interest of the board of directors.

What processes/techniques could you use to go about coming up with a research question?

# What makes a good research question?

## Is it on **F.I.R.E.**?

- **F**easible
  - Is it answerable?
  - Is it in scale with resources available?
  - Do you have the technical expertise needed?
- **I**nteresting
  - Does it provide information you plan to use?
  - Do people in your organization have an interest in it?, are they supportive?
- **R**elevant
  - To your organization's plans and goals
  - To scientific knowledge
- **E**thical
  - Cause no harm to participants
  - Benefit participants directly or indirectly



Maryann's FIRE research question presentation:

<http://www.youtube.com/watch?v=sqHSPdAqApA&feature=youtu.be>

# What makes a better research question?

## Specifics!

- What group, population, community are you looking at?
- What phenomenon are you interested in?
- What time period does it apply to?



Example:

**Good:** why are amputees readmitted to the hospital?

**Better:** What is the primary diagnosis for lower extremity amputees' first post amputation hospital admission?

**Best:** For non-institutionalized elderly (aged 65 and older) lower extremity amputees' who experienced their first amputation within the last five years (2006 to 2011), what is the primary diagnosis for first hospital admission in the 12 month period post first amputation discharge?

# Case study: research question development

Story of how a collaborative research project developed: specifically, how research questions were identified

## Partners:

- Lucy Gomez-Feliciano,  
Logan Square Neighbors Association, Chair, Health Kids, Healthy Communities (HKHC) Leadership Team/ARCC Steering Committee
- Maryann Mason,  
Northwestern University, Feinberg School of Medicine; Consortium to Lower Obesity in Chicago Children (CLOCC) Community and Evaluation research Director/ARCC Faculty-Community Research Liaison

Lucy and Maryann's case presentation: <https://www.youtube.com/watch?v=D1vTAVEXVT8>

## Case study: research question development

Chicago Partnership

Healthy Kids, Healthy Communities (HKHC)

RWJF funded

Focus on “park centric” policy change opportunities to make parks more accessible, and access healthier foods available at the park.



## Case study: research question development

- Leadership team, leads advocacy efforts
- Work includes:
  - Healthier snack and beverage vending
  - Concession stands at Humboldt Park
  - Safe routes to parks: Park Zone
- Lucy identifies an issue would like to know more about:  
Poses research question

## Case study: research question development

Will training CPD employees in nutrition improve the success of the healthier snack vending policy?



Maryann asks:

- Is this a researchable question as it is stated?
- Which employees?
- What does success mean in this context?

# Case study: research question development

What happened next?

Maryann and Lucy talk about...

- What training/promotions will be provided?
- Time line?
- Scale?
- Other partners?
- Funding?
- Who will provide training/promotion?
- Done anything like this before?
- CPD on board?
- Who else involved?
- Most important measures of success?
- What else is known about similar “interventions”?



## Case study: research question development

- Meanwhile...  
a funding opportunity is identified!
  - Seed grant : lead to a bigger fundable project
  - Tied to NU faculty status (evaluator built in)
  - Timeline: LOI due in a couple weeks
  - notification within 6 weeks
  - Full proposal due 2 months notification

## Case study: research question development



- Next steps:
  - Lucy elaborates vision
  - Maryann proposes a couple of research questions:
- How do healthier vending sales compare to vending sales prior to healthy vending policy?
- How do healthy vending sales in sites receiving staff training and patron taste testing and signage compare to sites without these features?

## Case study: research question development

Lucy brings Maryann back to reality with her knowledge of the specifics of the healthier vending policy and CPD capacity

- No prior vending sale data
- Likely not able to control the use/non-use of signage
- There are 250 field houses

## Case study: research question development

- Lucy calls a meeting of interested partners to discuss the potential project
- Outcome: **MORE REVISIONS!!**

### Based on

- Previous CPD experience w/training employees
- Review of pilot taste test promotions
- CPD administrator knowledge re: CPD healthy vending contracting
- Best practices in health promotion research experience
- Budget considerations



## Case study: Research question development: Revised questions

- What is the impact of
  - 1) the intervention on healthy item vending sales as determined by a comparison of item and overall sales at **control** and **intervention** sites and
  - 2) nutrition education training on park staff nutrition knowledge, attitude and behavior through comparison of pre/post scores using a survey instrument inclusive of material covered in education sessions.

## Exercise: revising an initial research question

### ***Scenario 1:***

You work for a local chamber of commerce and have observed a number of recent business closures. A board member wants you to look into this.

Your team comes up with the following question to guide your research:

Why are businesses in our target area closing?

How can you improve upon this question?

# Exercise: revising an initial research question

## ***Scenario 2:***

You have a long-time relationship with a University-based researcher who is interested in understanding “food acquisition patterns of low income families living in communities designated as ‘food deserts.’” She has proposed a joint project with this central research question “Using cost-distance analysis methods for measuring distance traveled, what is the average distance single parent Hispanic families with children between the ages of 2 and 5 travel to buy fruits and vegetables for home preparation and consumption?”

Your organization is interested in identifying local sources of fruits and vegetables for all families in your community.

Suggest some ways for modifying the original question in order to meet both of your needs.

## Exercise: revising an initial research question

### ***Scenario 3:***

A student from a local MPH program wants to evaluate your organization's after school program, "Forward for Children", serving children aged 6 - 12 for a class project. She has presented your Board with the following research question for consideration:

**Is the Forward for Children program a good program?**

The Board is interested but want her to refine the research question.

Suggest some revisions...

## Exercise: revising an initial research question

### **Scenario 4:**

A local hospital closed its doors one year ago. You want to understand how this has affected survival rates for trauma victims residing in the Gray Bay neighborhood. Your team has come up with the following question: “are fewer trauma victims surviving in Gray Bay?” Revise this question to make it more “researchable”.

## Exercise debrief: revising an initial research question

- What was difficult about this exercise?
- What things did you consider when making suggestions for revision?