Defining a Research Question

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Why is defining a scientific question important for CMS data users?

- HIPAA allows for health care related data to be released for Research purposes
  - Therefore, potential users of CMS need to be able to write their request in the form of a research question
Research is about...

- The creation of generalizable knowledge that has value beyond the specific subjects and circumstances
- Creating information about the association of variables to each other to answer questions about “the role of”, “association with”
Research is NOT about...

- Describing the state of the world at a particular point in time
- Developing a tool that is not linked to a particular RESEARCH question
Consider...

- I want to know whether the patients who came to my diabetes clinic on Thursday got guideline compliant care

  NOT A RESEARCH QUESTION
  - The patients
  - My diabetes clinic on Thursday

- I want to know what predicts receipt of guideline compliant care for diabetics attending family medicine clinics

  A RESEARCH QUESTION
  - (all) patients
  - Family medicine clinics
Consider...

- I want to develop an algorithm to classify admissions as complicated or not
  
  **NOT A RESEARCH QUESTION**
  
  - No purpose, just a method

- I want to develop an algorithm to classify admissions as complicated or not and then use it to identify predictors of complicated admissions
  
  **A RESEARCH QUESTION**
  
  - Method being applied for generalizable knowledge
Consider...

- I want to create a book of maps to show how use of procedures vary across geography
  
  NOT A RESEARCH QUESTION
  
  - Just a picture, no theory

- I want to see whether variation in use of procedure X varies geographically by local area income, number of hospital beds, and urban rural status. I’d also like to map use.
  
  A RESEARCH QUESTION
  
  - Study examines predictors of geographic variation with identified variables that you expect to inter-relate
Bottom Line:

FOR SOMETHING TO QUALIFY AS RESEARCH:

- Knowledge must extend beyond the specific patients/admissions/records/providers being studied (generalizable knowledge)
- There must be a hypothesized association among things being measured (you can be wrong).
- Tool development is secondary to the plan to use it for answering a research question (it must be used to support the creation of generalizable knowledge)
Don’t Forget:

- Studies can have multiple goals, it is ok for one goal to be development of a method or creation of maps or graphs as long as one goal is the generalizable knowledge.
- Whether creating a tool or conducting an analysis, the use, inference and knowledge must extend beyond the specific patients/admissions/records/providers being studied.