

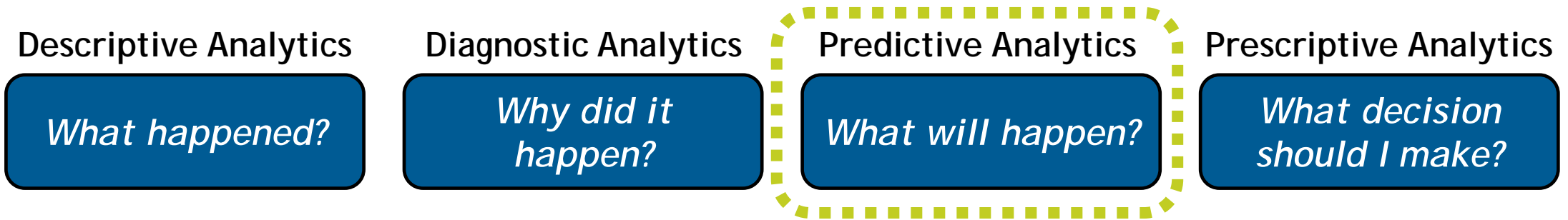


# Predictive Analytics in Child Welfare

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# What is Predictive Analytics?



Predictive analytics is a set of advanced analytical methods that may enable child welfare agencies to leverage a range of case-level data about families' situations and turn hindsight into insight, and improve child welfare outcomes.



# Environmental scan

- Interviewed twelve stakeholders in September 2016
  - County-level agencies
  - Research / Academic partners
  - For-profit vendors
- Discussed the problem areas
- Understand the challenges and successes
- Discussed any concerns they had or expected to have



# Problem Areas Identified

Many specific problems are being addressed through the use of predictive analytics that can be summarized into the following areas:

Estimating *elevated risk* of maltreatment, serious injury, or a child fatality during or following preventive services

Forecasting the likelihood of *repeated events*, such as maltreatment of children or re-entry into the foster care system

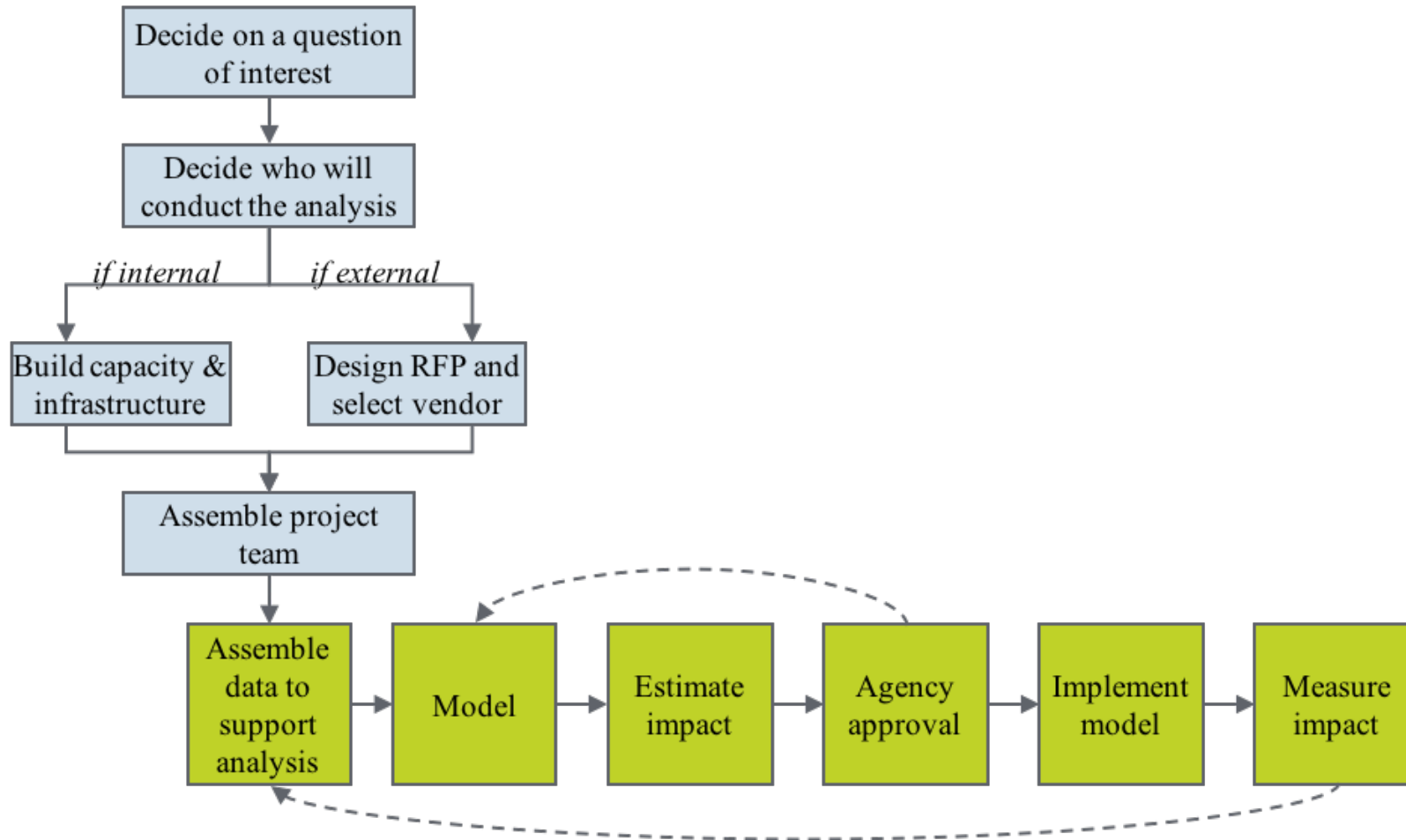
Analyzing *system issues*, including cross-system interactions between the child welfare system and individuals or external agencies

Providing insight into *agency operations*, such as evaluating caseworker turnover or trends of incoming cases

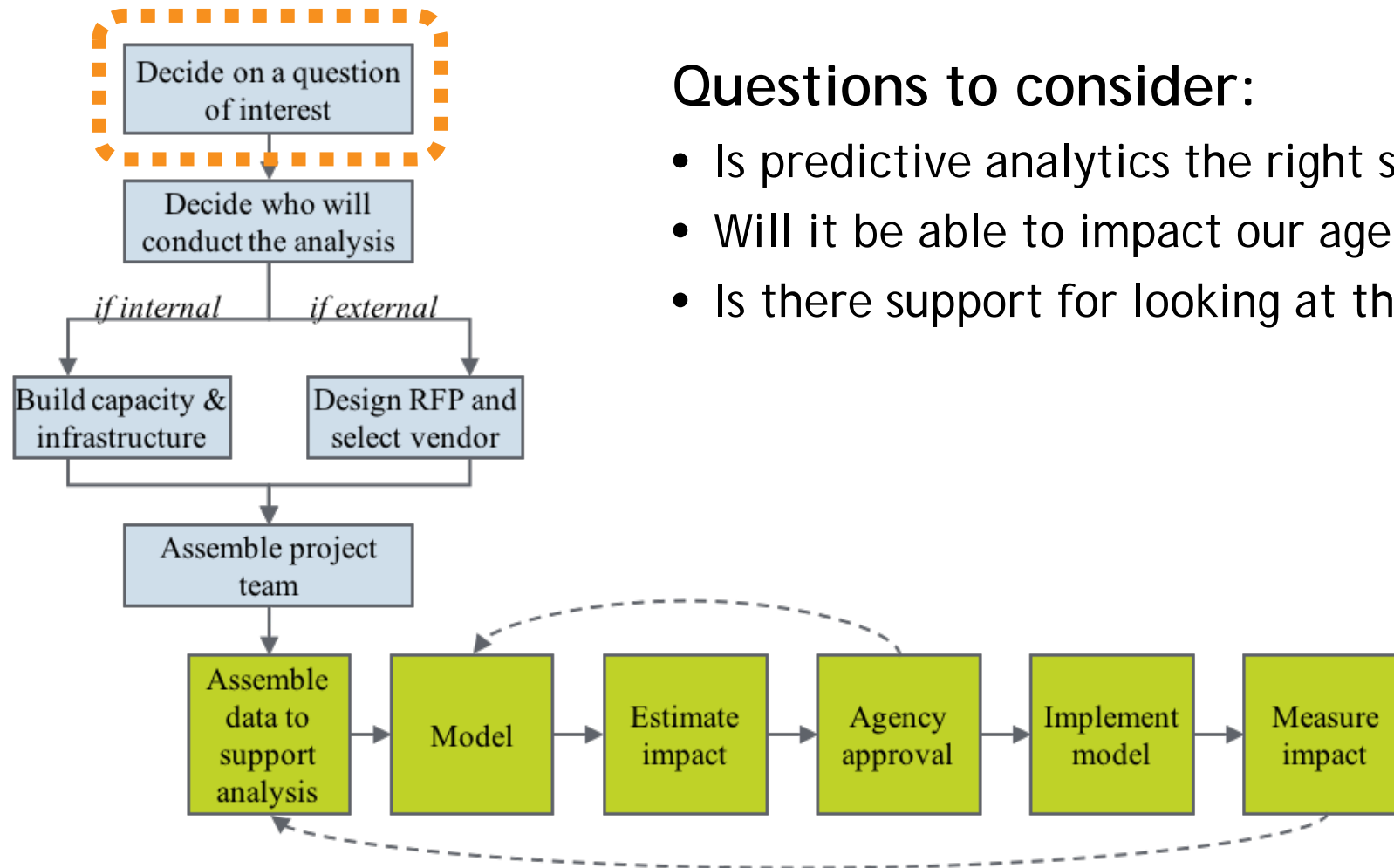


# Predictive Analytics Solution Design

# Flow Chart for a Predictive Analytics Project



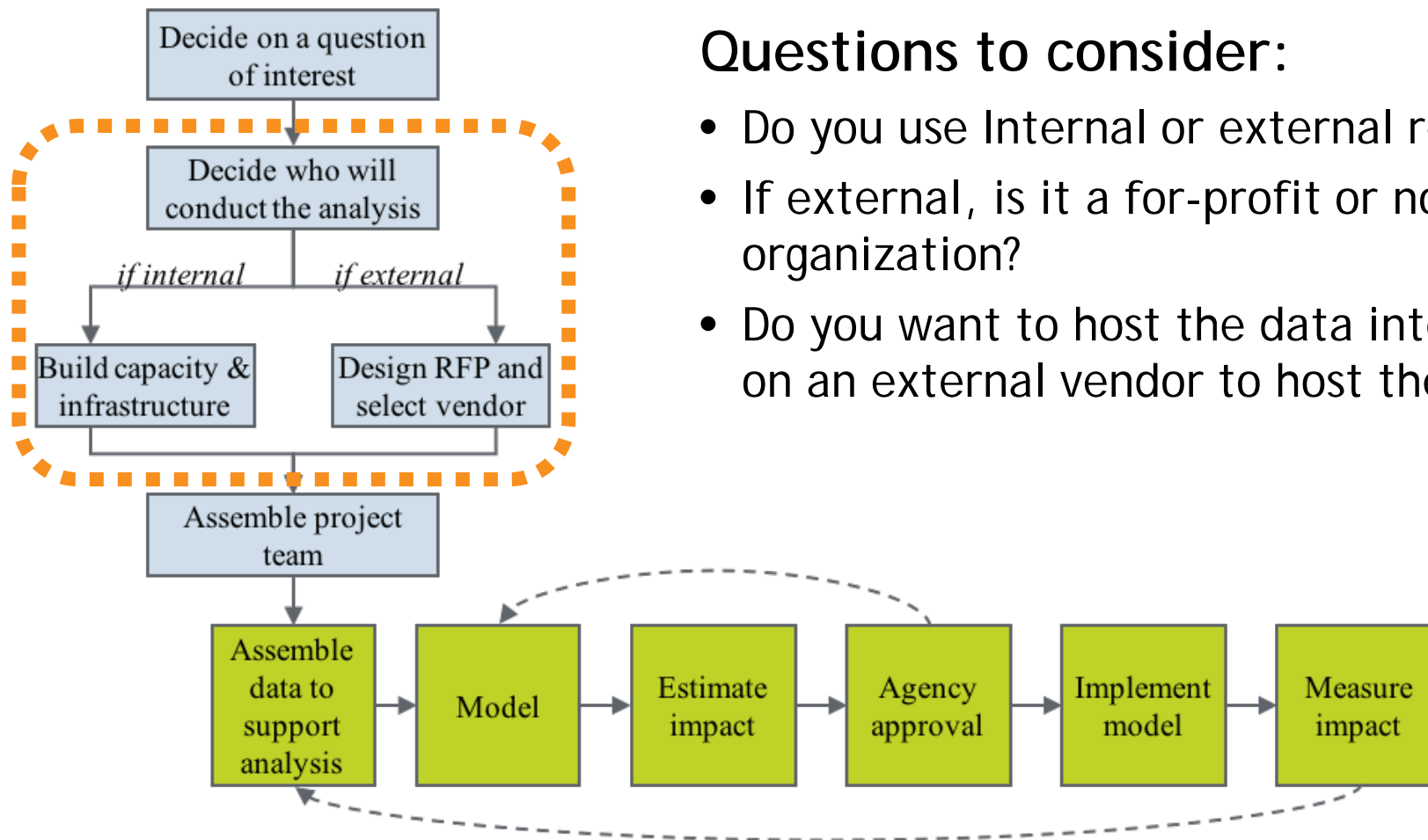
# Which problem do you choose?



## Questions to consider:

- Is predictive analytics the right solution?
- Will it be able to impact our agency?
- Is there support for looking at this problem?

# Deciding on resources

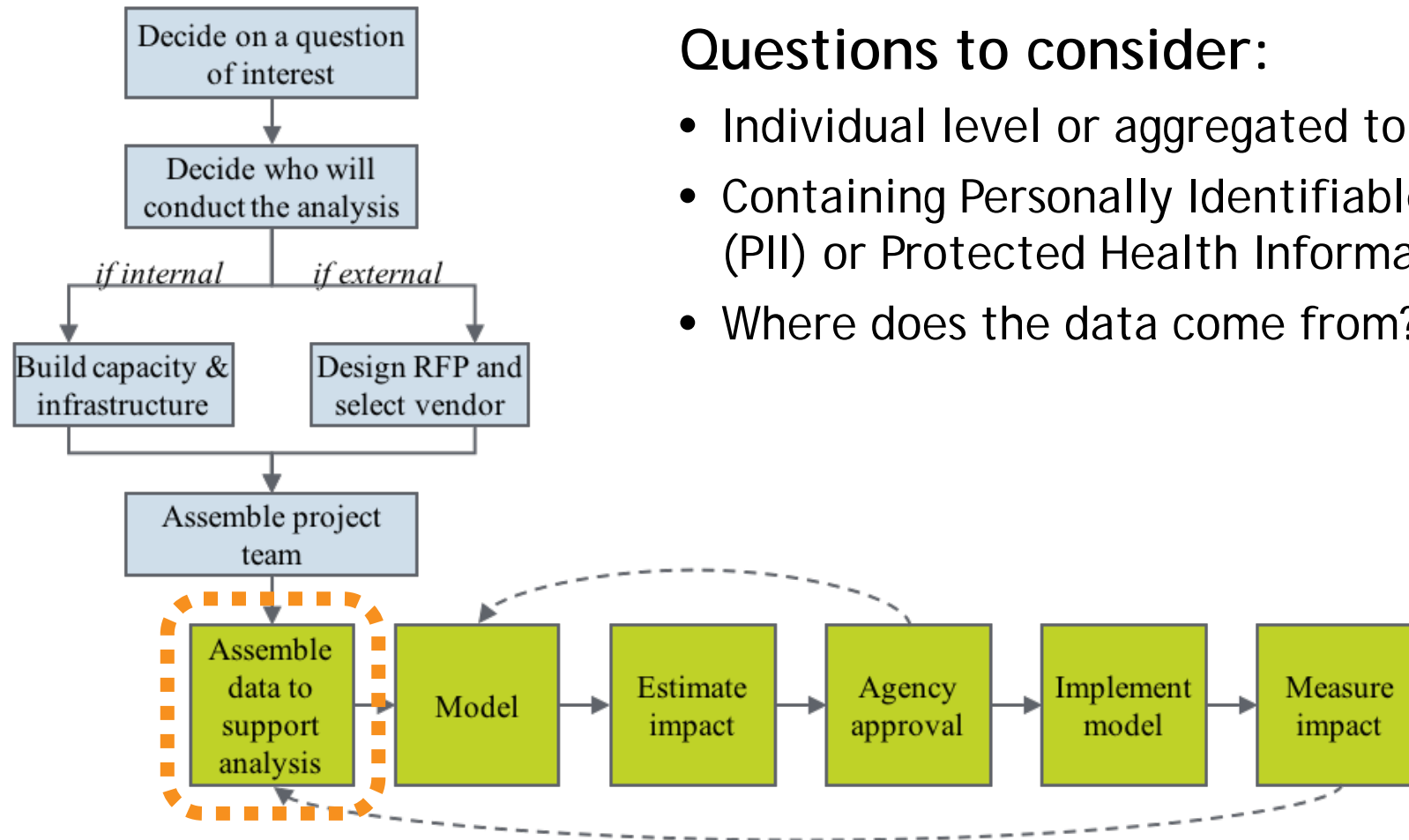


## Questions to consider:

- Do you use Internal or external resources?
- If external, is it a for-profit or not-for-profit organization?
- Do you want to host the data internally or rely on an external vendor to host the analysis?



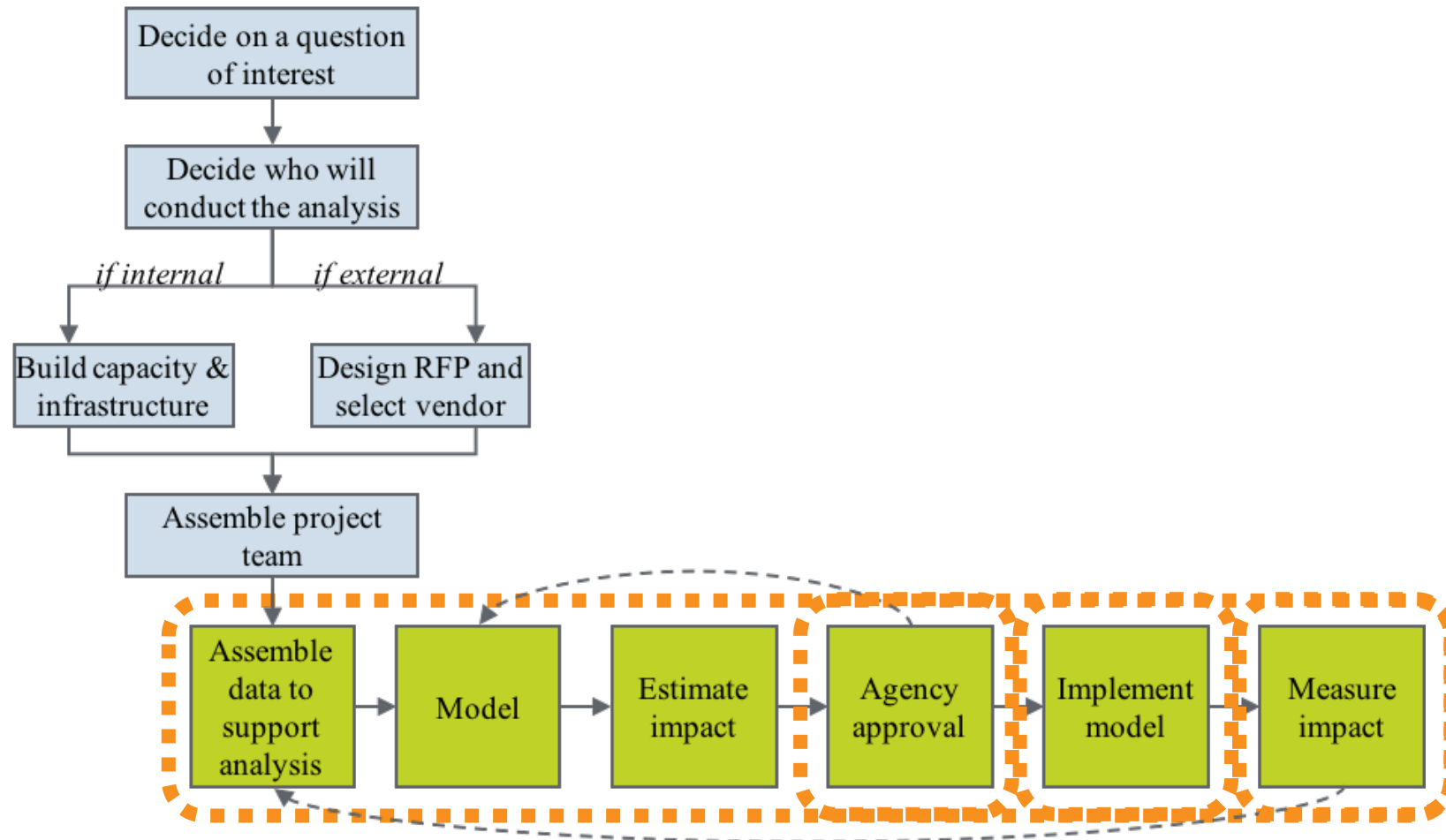
# Obtaining data



## Questions to consider:

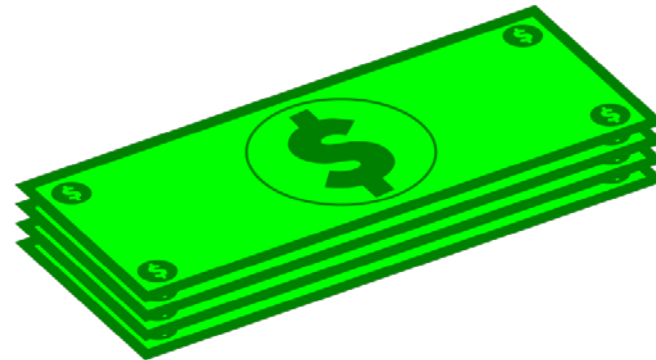
- Individual level or aggregated to zip code?
- Containing Personally Identifiable Information (PII) or Protected Health Information (PHI)?
- Where does the data come from?

# Potential Obstacles



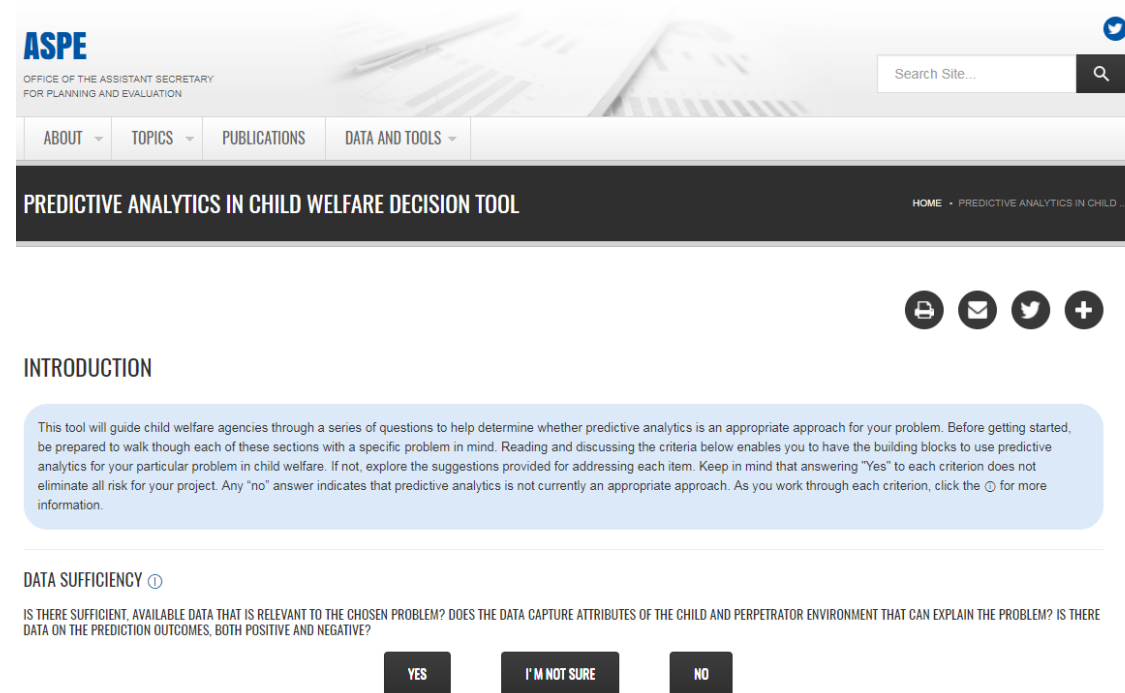
# Challenges in Predictive Analytics Projects

- Most common problem...data quality!
- Designing an appropriate request for proposal (RFP)
- Money and resources to do this type of work
- Implementing the model results into current architecture
- Moral or ethical concerns behind specific data elements
- Suspected bias or profiling against a common demographic



# Pilot Predictive Analytics Tool

CAMH is developing a tool to support child welfare administrators in determining if predictive analytics is an appropriate tool for a problem.



The screenshot shows the top portion of a website. At the top left is the ASPE logo (Office of the Assistant Secretary for Planning and Evaluation). To the right is a search bar and a Twitter icon. Below the logo is a navigation menu with 'ABOUT', 'TOPICS', 'PUBLICATIONS', and 'DATA AND TOOLS'. A dark banner below the menu reads 'PREDICTIVE ANALYTICS IN CHILD WELFARE DECISION TOOL' with a breadcrumb trail 'HOME > PREDICTIVE ANALYTICS IN CHILD...'. Below the banner are social media icons for print, email, Twitter, and a plus sign. The main content area is titled 'INTRODUCTION' and contains a light blue box with text: 'This tool will guide child welfare agencies through a series of questions to help determine whether predictive analytics is an appropriate approach for your problem. Before getting started, be prepared to walk through each of these sections with a specific problem in mind. Reading and discussing the criteria below enables you to have the building blocks to use predictive analytics for your particular problem in child welfare. If not, explore the suggestions provided for addressing each item. Keep in mind that answering "Yes" to each criterion does not eliminate all risk for your project. Any "no" answer indicates that predictive analytics is not currently an appropriate approach. As you work through each criterion, click the ⓘ for more information.' Below this is a section titled 'DATA SUFFICIENCY ⓘ' with the question: 'IS THERE SUFFICIENT, AVAILABLE DATA THAT IS RELEVANT TO THE CHOSEN PROBLEM? DOES THE DATA CAPTURE ATTRIBUTES OF THE CHILD AND PERPETRATOR ENVIRONMENT THAT CAN EXPLAIN THE PROBLEM? IS THERE DATA ON THE PREDICTION OUTCOMES, BOTH POSITIVE AND NEGATIVE?'. At the bottom of this section are three buttons: 'YES', 'I'M NOT SURE', and 'NO'.

**Please sign up if interested in piloting and providing feedback on this tool!**

# Discussion and Questions

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