

# Human-Centered Design Research Principles & Practice



# What is Research Jam?

## RESEARCH

**A process of systematic inquiry that entails collection, analysis, and interpretation of data, in accordance with suitable methodologies set by specific professional fields and academic disciplines.**

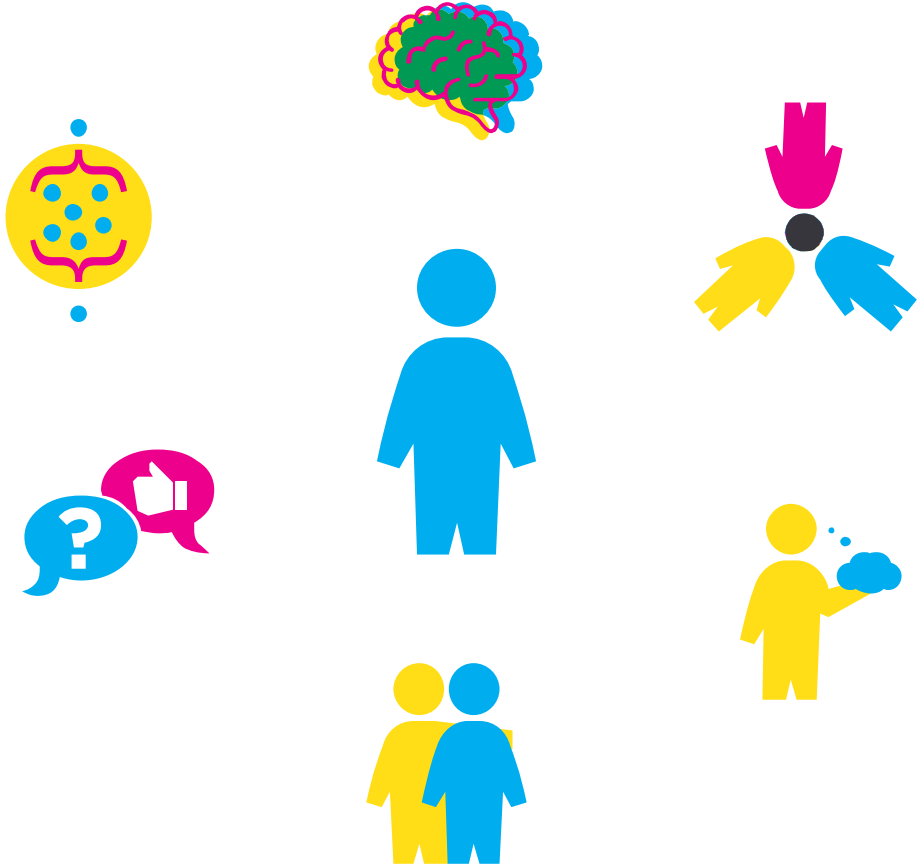
## JAM

- 1. An informal, freely collaborative meeting, conference, or discussion.**
- 2. Something that one particularly likes, enjoys, or does well.**



## What is Research Jam?

Research Jam collaborates with community members, patients, care providers, and other researchers using **human-centered design research** & visual communication to improve health research, health services, and quality of life.



- **put & keep people in the center**
- **develop empathy**
- **collaborate**
- **externalize ideas**
- **involve stakeholders**
- **be comfortable with ambiguity**
- **diverge & converge**

*Adapted from: IDEO (Firm),. (2015). The field guide to human-centered design: Design kit.*



# HCD methodology

SURFACE

METHODS

KNOWLEDGE

SAY: interviews,  
focus groups

Explicit

DO: observation

Observable

DEEP

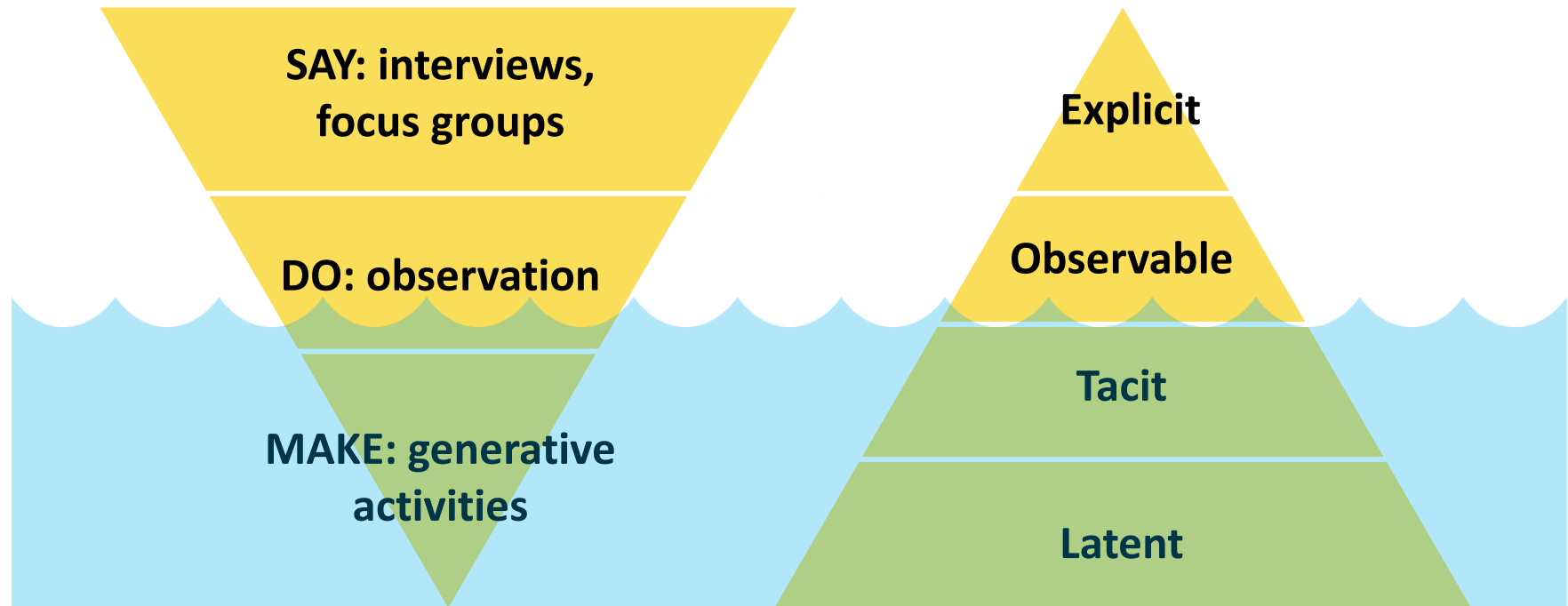
*Sanders, E: Convivial Toolbox: Generative Research for the Front End of Design, 2013*

# HCD methodology

SURFACE

METHODS

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# HCD methodology



**Tacit**

**Latent**

## HCD methodology

**Knowledge that is difficult to express.  
(How do you tie your shoes? How do you  
navigate a grocery store?)**



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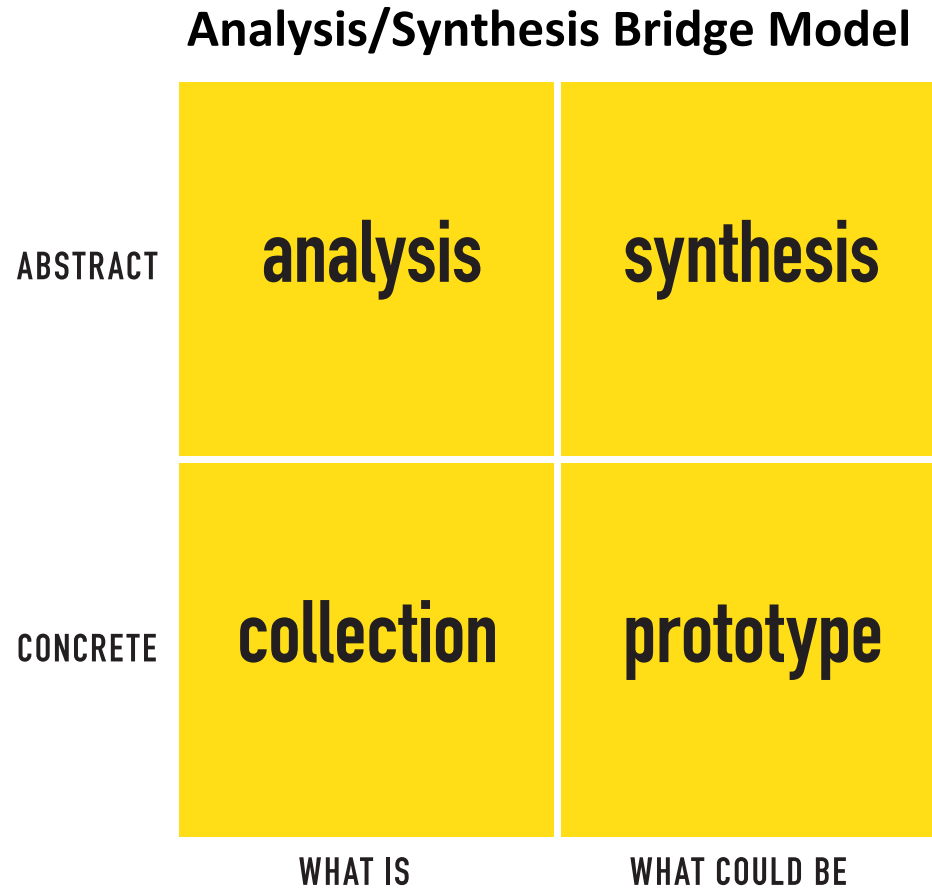


**Tacit**

**Latent**

**Knowledge that you don't know you have  
(anytime you say, "It never occurred to me...")**

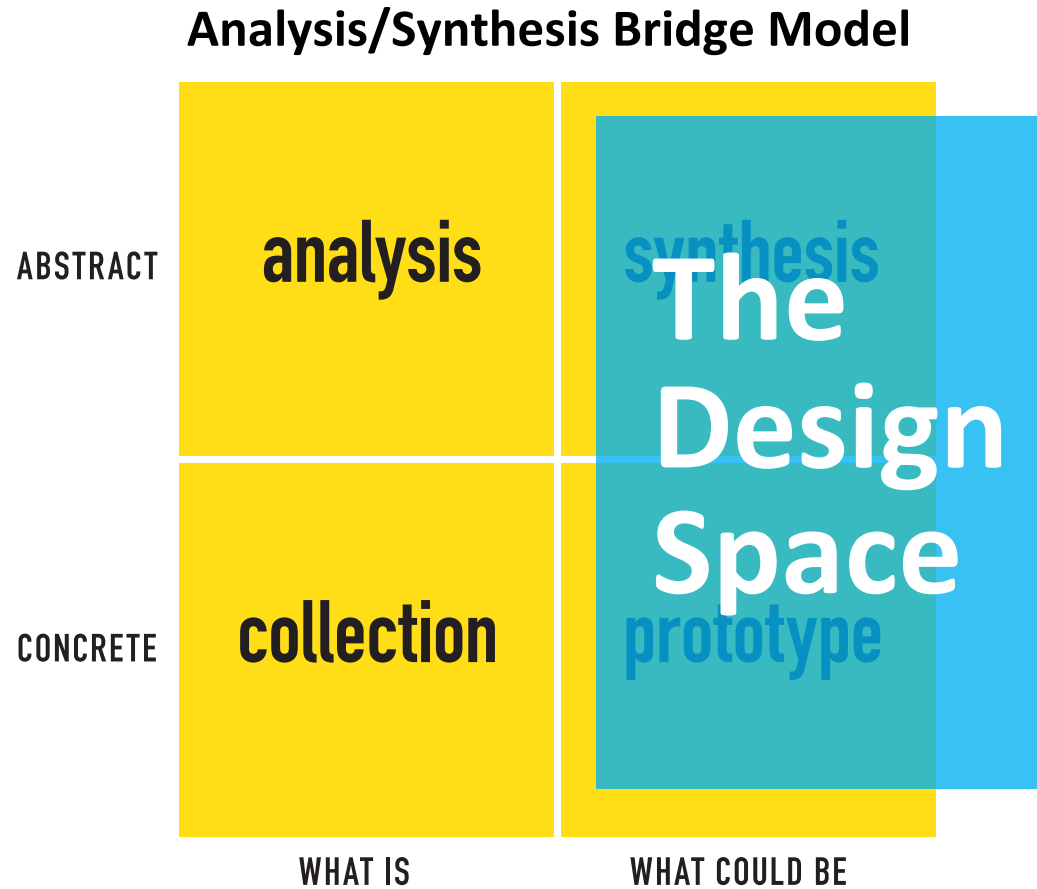
# HCD methodology



**Gathering, analyzing, & synthesizing data to move from insights about what IS to ideas about what COULD BE.**

*Dubberly, H., et. al., "The Analysis-Synthesis Bridge Model" in Interactions, 2008*

# HCD methodology



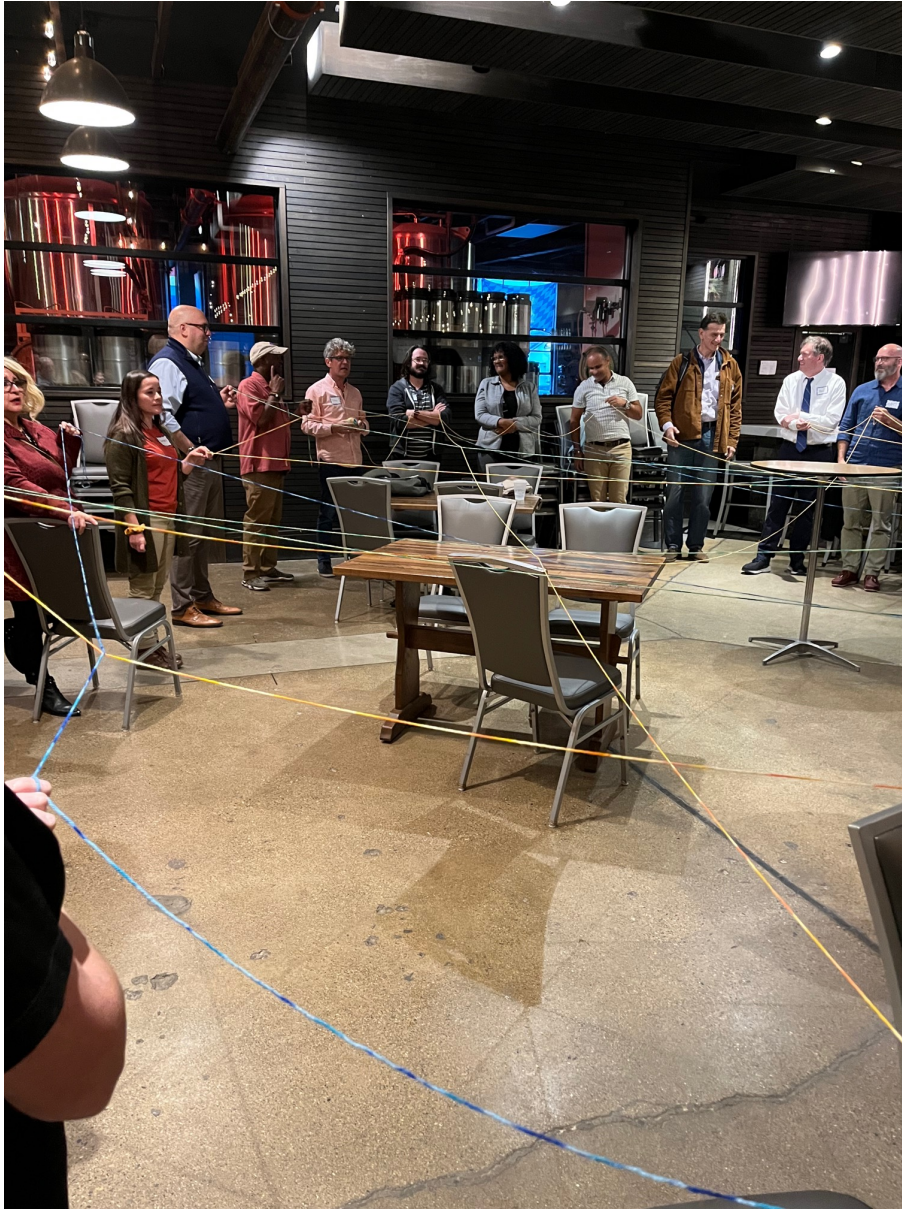
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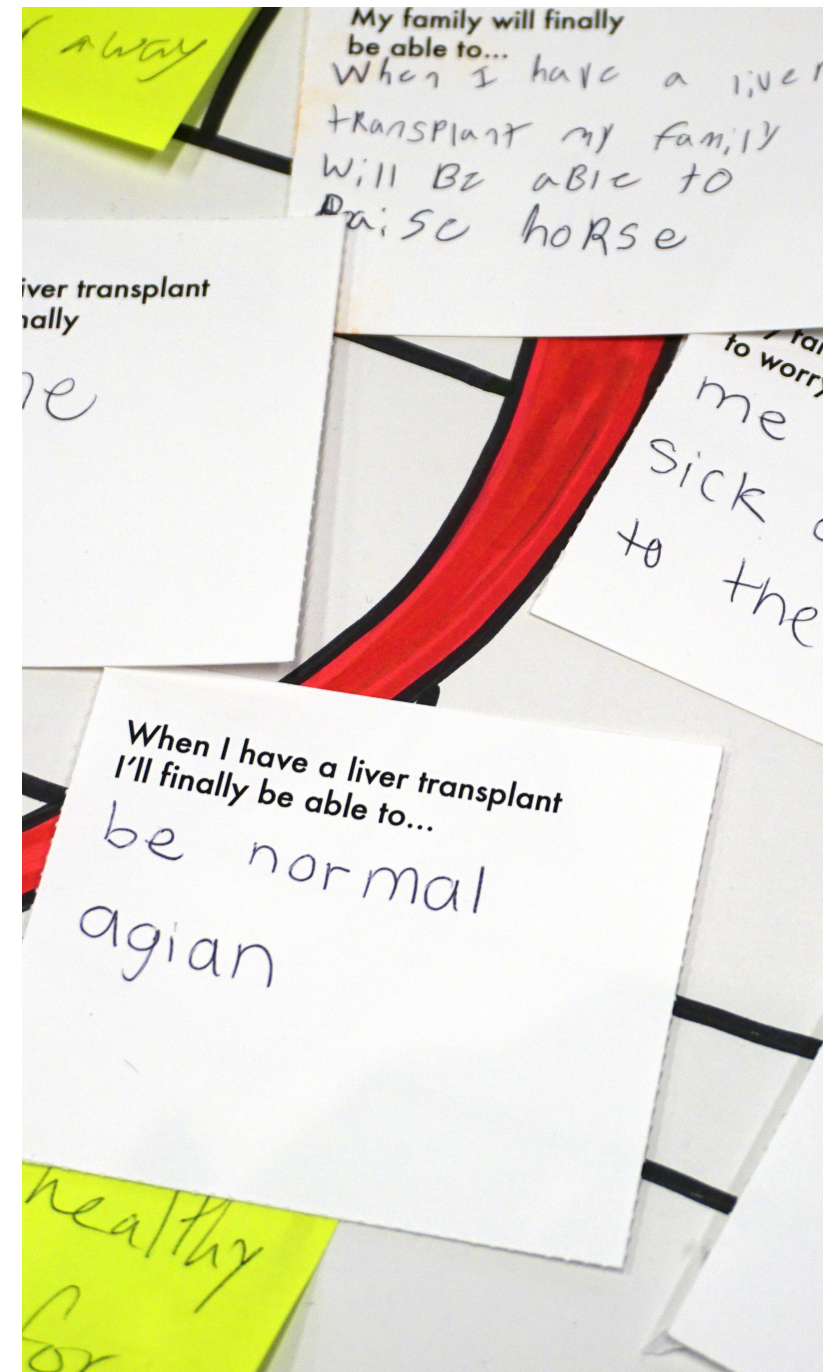
What is \*a\*

**RESEARCH JAM**















get...  
Free healthcare  
All the MONEY  
chicken  
rid of my school loans  
For a piece of mind  
Back the years I spent in love with the wrong person  
My life  
My money  
My left arm  
class anything  
\$5  
my anxiety  
sleep  
Mushrooms  
mushrooms  
Chocolate  
Coffee  
anything  
Jimmie John  
My pride money  
Family  
Comfort  
My hair  
Lucy  
A year of my life  
My soul?  
good steady job  
Any sort of talent  
My comfortable lifestyle  
my childhood home  
My Life  
Chocolate  
Any material thing  
peace  
any part of my body  
My music  
My experience the noises at on because of it.  
For my car. (also, back  
I bet it  
Candy  
Conceded I mean. EVERBODY likes me  
Everything my parents ever wanted  
Starbucks  
For my to accept me as a real person. their love for the love makes me  
Friends + Food  
Freedom  
Matthew Gray Gutter's hand in marriage  
Bella (Lola)  
Stable future  
for dogs  
need  
the 3 are 1  
respect her family again  
To Travel on someone the world  
To be able to achieve things what the best to offer  
world Peace  
\$100  
material stability  
immigration Reform  
a goose in

[illegible]

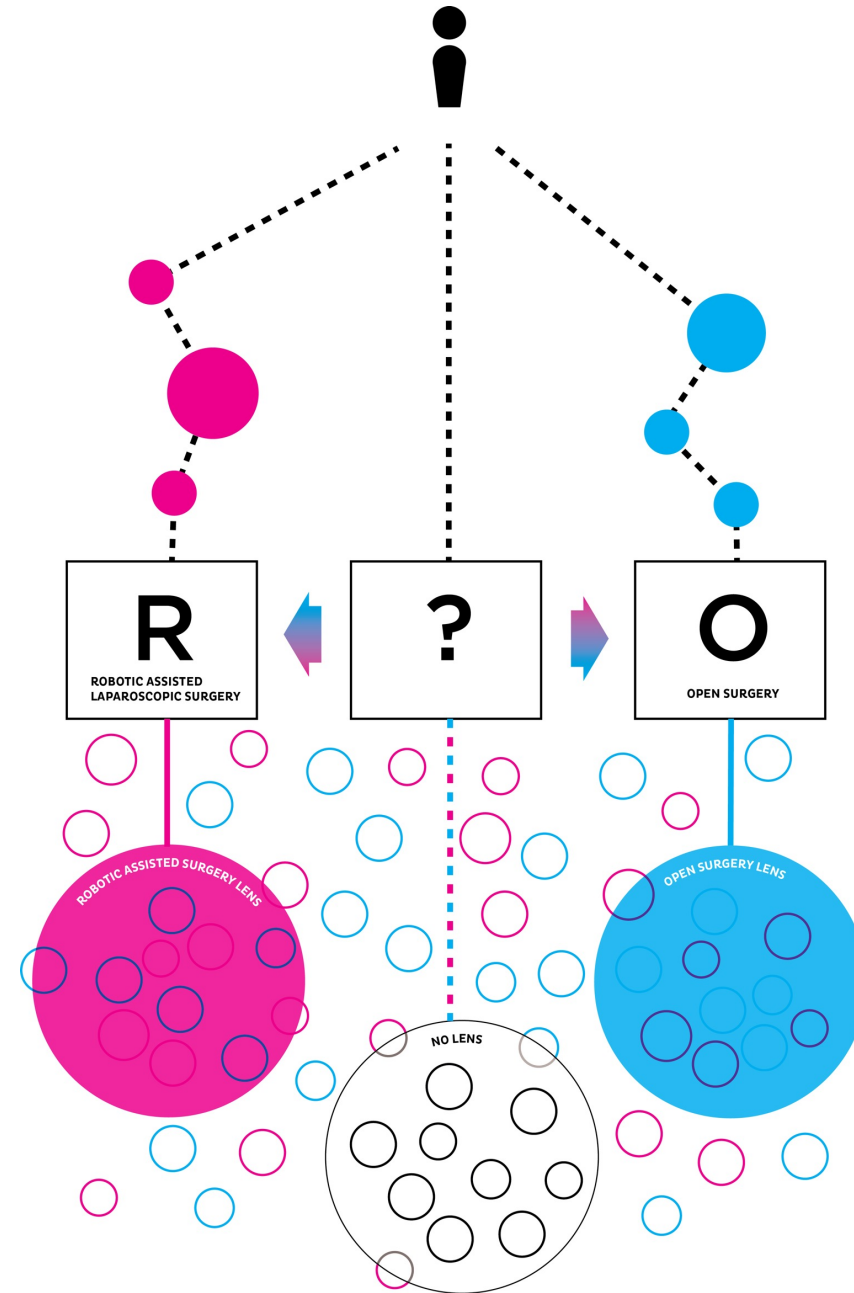
# Case Study

## Objective:

How might we make an RCT acceptable to parents of children with UPJ obstruction.

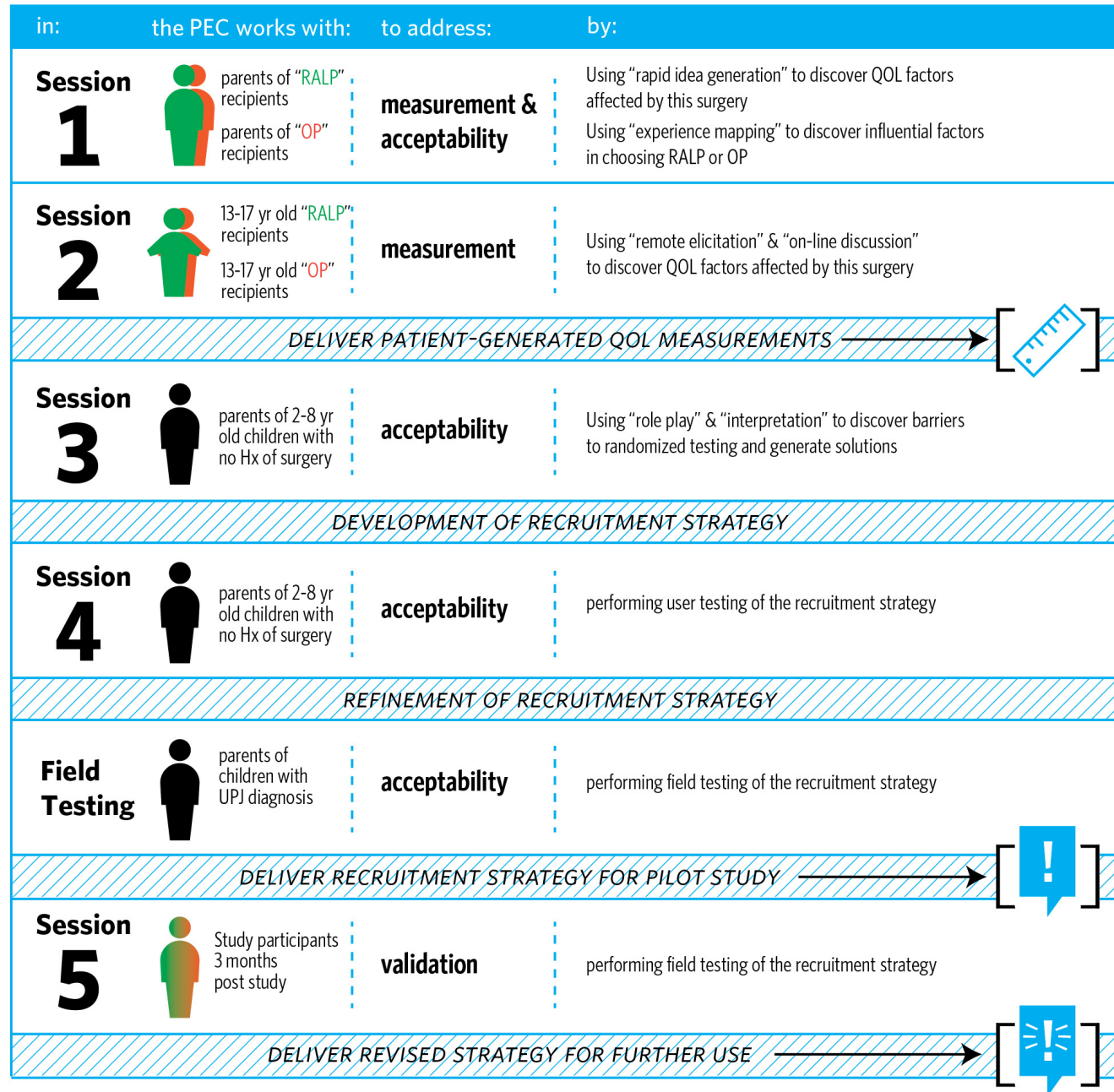
## Barrier:

Asking parents to let which surgery performed on their child be determined by the flip of a coin...And then not told which surgery they received for 48 hours after.





# Case Study



activity:

## QUESTION ON THE BOARD:

### MEASUREMENT

ON THE NOTECARD PROVIDED PLEASE ANSWER:

Why did you choose \_\_\_\_\_ surgery over \_\_\_\_\_ surgery?

Was it a choice?

collect notecards

### WHY?

*This "bookends" the session by getting the participants to think about their reasons for choosing one surgery over another before hearing about the experiences of others.*



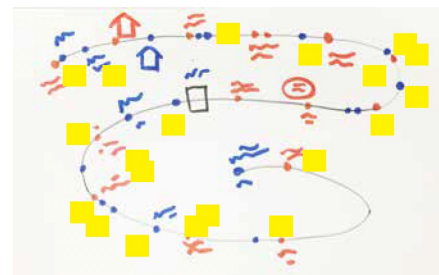
activity:

## SHARED EXPERIENCE MAP PART TWO

### MEASUREMENT

ON THE STICKY NOTES PROVIDED

Please write how you felt at this moment at this location? Where would you have been had you not been here? etc. Drill down, more questions. Lots of post-its.



### WHY?

*By further exploring the moments along the experience map, we uncover barriers and opportunities to decision-making and how they may change based on context. This process also makes it easier to answer "how did you feel?" questions by "how did these things happening at this time make you feel?"*



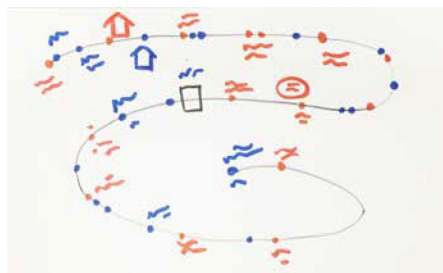
activity:

## SHARED EXPERIENCE MAP PART ONE

### MEASUREMENT

On a (minimum 3' x 4') large sheet of paper, create a path that begins with UPJ diagnosis and ends \_\_\_\_\_.

Points along the path will be divided into the OPEN experience and the RALP experience



### WHY?

*By examining the peripheral experiences leading up to and extending beyond the surgery, we uncover moments that exist within the experience of surgery that may not have previously been considered to impact the family's quality of life.*



activity:

## ADVICE FROM THE FUTURE:

### ACCEPTABILITY

Consider the things you had to think about when you received the UPJ Dx. If you could go back in time and tell yourself something to make your decision easier what would it be?

round table discussion

What if you were given a third choice to be randomized? How would you feel about that then, versus now.

round table discussion

### WHY?

*Asking people what advice they would give themselves can reveal the language that is most acceptable to that person.*

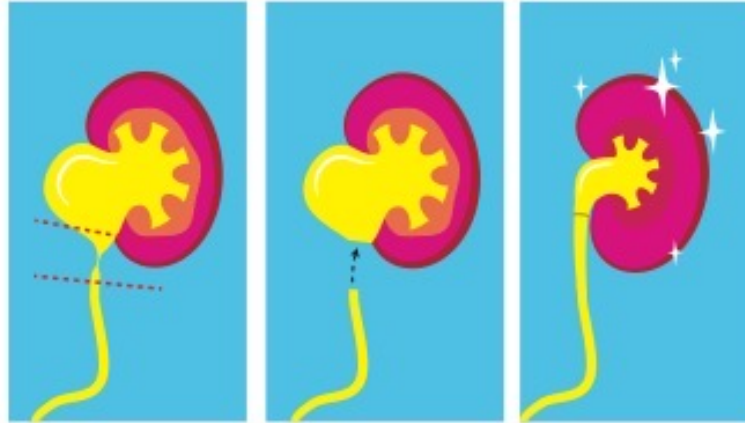
*This also completes the bookend question on the board.*



## Case Study

Deliverable 1:

# We can fix it.







We'll use an anesthetic so your child will be asleep the whole time, detach the ureter from the kidney and remove the narrowed part.

We'll reattach the ureter using stitches & a temporary stent that is removed after the site heals...

leaving your child with a patched up ureter and a perfectly operating kidney.

There are two approaches to the procedure: **Open** Pyeloplasty & **Robotic Assisted** Pyeloplasty. Let's take a look at the medical outcomes for each:

	open	robot
	a few hours in surgery and 1 to 2 days recovery	a few hours in surgery and 1 to 2 days recovery
	one 3-4 centimeter incision on the side	<b>x 3</b> three 1 centimeter incisions on the belly
	1 to 2 weeks rest before resuming normal activity.	1 to 2 weeks rest before resuming normal activity.
	greater than 95% success rate	greater than 95% success rate

Other than incisions, the two approaches are medically the same. So which one is best for **YOUR** child?

The short answer is, we don't know. Usually a surgeon recommends the approach he/she specializes in, which is fine, but it means you're getting the approach most appropriate for your surgeon, not necessarily the one most appropriate for your child.



So how do we find out?...

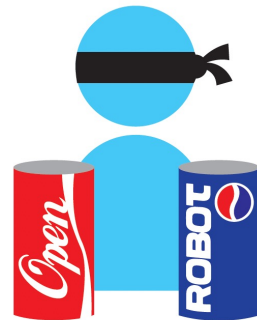


## Case Study

# We need to do a study

We don't want your **expectation** of pain and recovery time to influence your **perception** of pain and recovery time.

Deliverable 1:



It's the same idea as a blind taste test. It's easier to compare things fairly when you don't know which is which.

Both approaches have the same (very high) success rate, so no matter what, your child is getting great care.

## How does the study work?



People in the study would get one of two highly skilled surgeons, picked randomly, to perform the operation; one specializing in Robotic Assisted Pyeloplasty, the other in Open Pyeloplasty.



You would get to meet and talk to both surgeons beforehand, and both surgeons will be there during the procedure so you won't have a bias that could influence your perception of your child's recovery.



We'll even bandage up both sites so for the first 24 hours you won't know where the incision is. Before you leave the hospital we'll check the incision site and the mystery will be over.



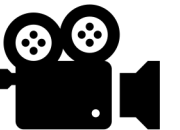
We'll look at the results from the 2 approaches in an unbiased way and learn if they might have aspects that are better for certain cases, or maybe they're exactly the same and we should phase one out.

# Case Study

Deliverable 2:



Watch it here:





# Case Study

**Objective:**

How might we make an RCT acceptable to parents of children with UPJ obstruction.

**Insights:**

The bias of the initial surgeon was the largest factor in the parent's choice of surgery. By mitigating that bias, parents were receptive to the idea.

The word "surgery" is strong. There can't be 2 "right" surgeries for the same condition. But there CAN be two approaches to the "right" surgery.

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**UNEXPECTED INSIGHT:**  
asking a child to remove a stint at home can be a traumatizing event.  
Preparing parents for this and giving them options mitigates this stress.

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Questions?