

Design Thinking & Medical Education

Medical Education for the 21st Century

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<http://www.ucsfcmecme.com/MedEd21c/>

#UCSFMedEd21



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Disclosure

No one involved in the planning or presentation of this activity has any relevant financial relationships with a commercial interest to disclose.

Objectives

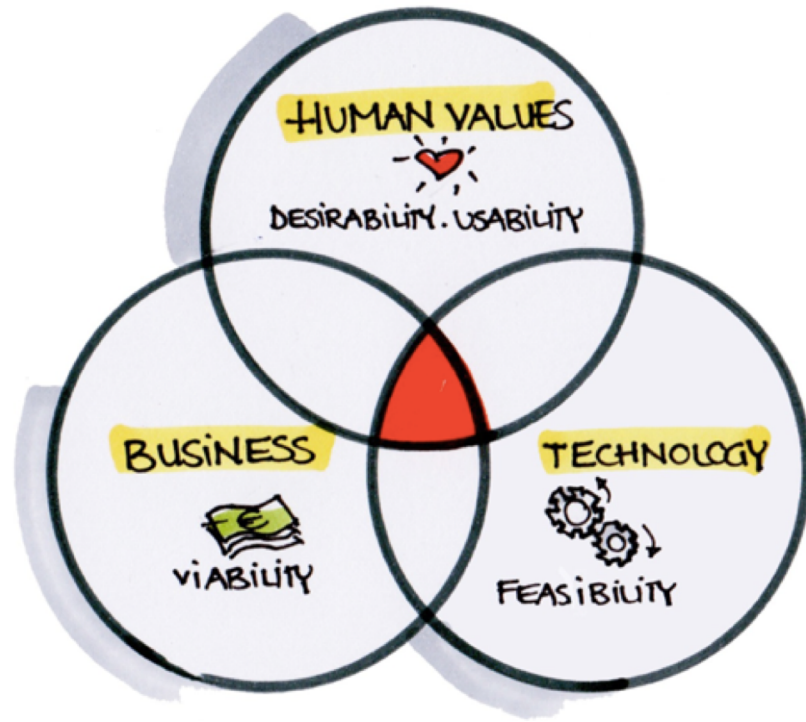
By the end of this workshop, learners should:

- Be able to describe design thinking and the main aspects of a design cycle
- Have hands on experience using a few elements of a design cycle
- Describe opportunities to use design thinking in medical education

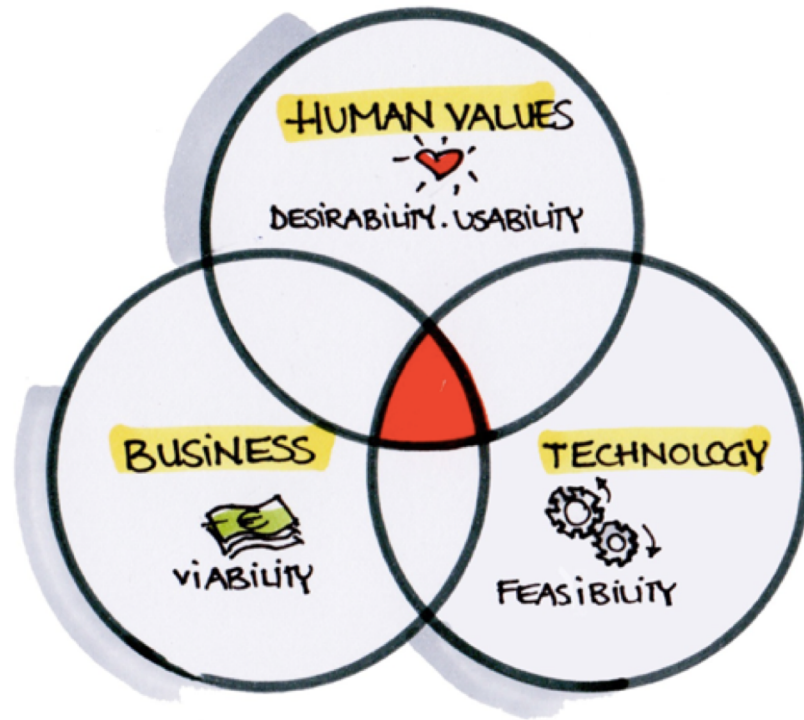
Design Thinking and Healthcare: An Introduction

Outline

- What is design thinking?
- Design thinking in health
 - How does this apply to healthcare?
 - Lean: similarities and differences
 - Challenges
 - Opportunities

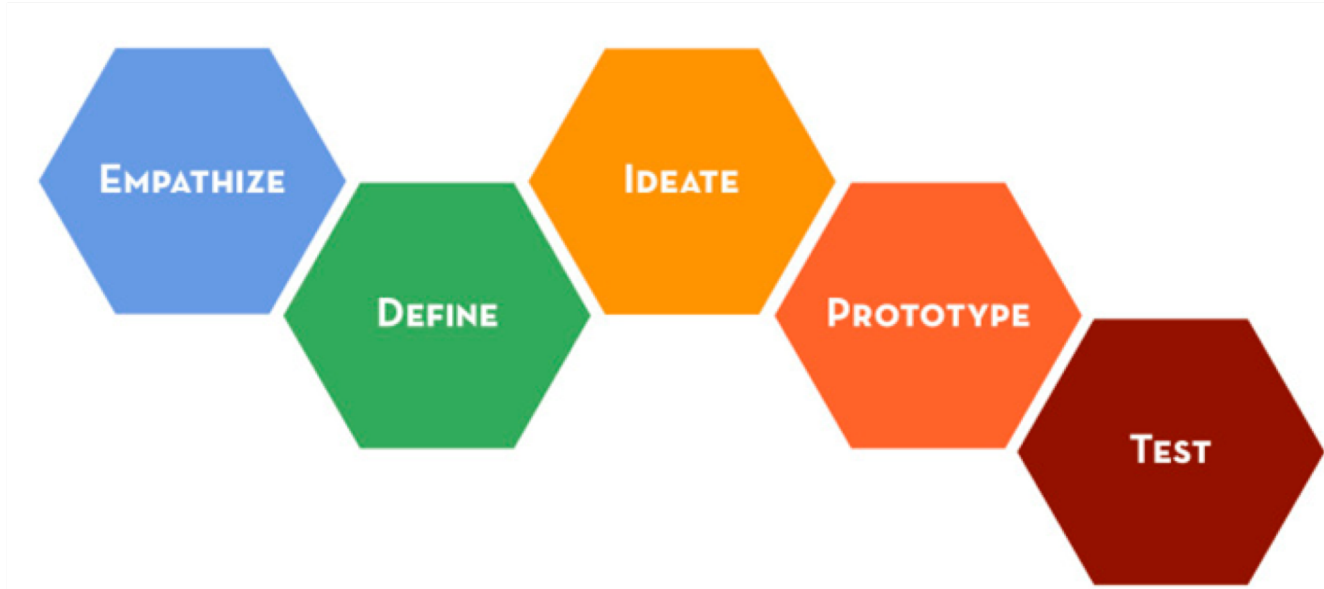


What is design thinking?



Design thinking is a **human-centered approach to innovation** that draws from the designer's toolkit to integrate **the needs of people**, the possibilities of technology, and the requirements for business success.—Tim Brown, CEO, IDEO

Design Thinking Steps



d. mindsets



FOCUS ON
HUMAN VALUES



SHOW
DON'T TELL



EMBRACE
EXPERIMENTATION



BE MINDFUL
OF PROCESS



BIAS TOWARD
ACTION



RADICAL
COLLABORATION



CRAFT CLARITY



Outline

- What is design thinking?
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 - Opportunities

THE
SAME
OLD
THINKING

THE
SAME
OLD
RESULTS



Empathy



Focus on Human Values

A photograph of a magnetic resonance imaging (MRI) machine in a clinical setting. The machine is a large, white, cylindrical structure with a patient bed extending from the front. The room has a blue-tinted lighting. The text "Problem: Design a smaller, quieter MRI" is overlaid on the image in white.

Problem:

Design a smaller, quieter MRI



HMW redesign the *experience* of going through an MRI?



HMW redesign the *experience* of going through an MRI?

Imagination as Design Opportunity



CABLE
CAR RIDES
THIS WAY



Process – not outcome – oriented

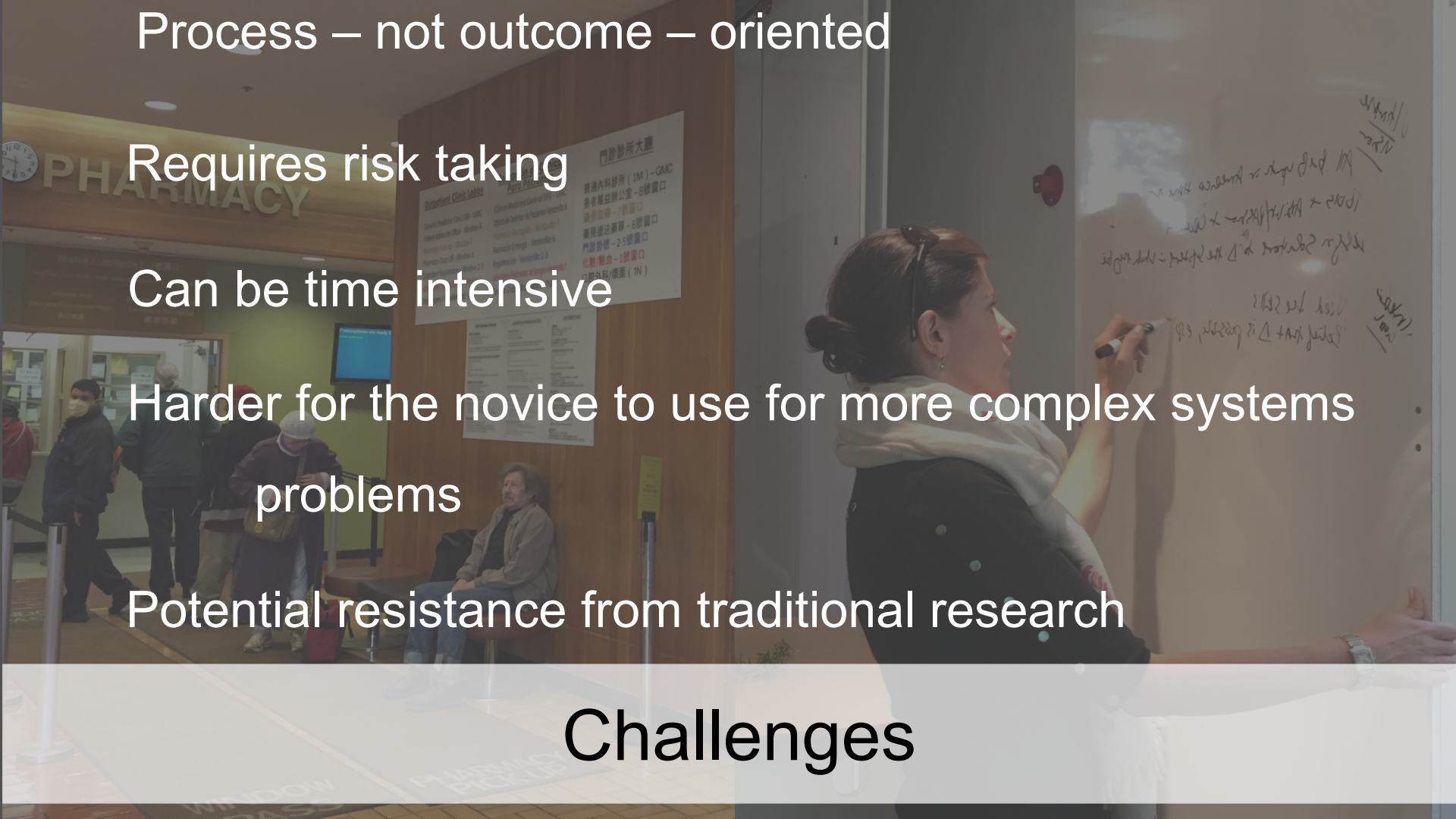
Requires risk taking

Can be time intensive

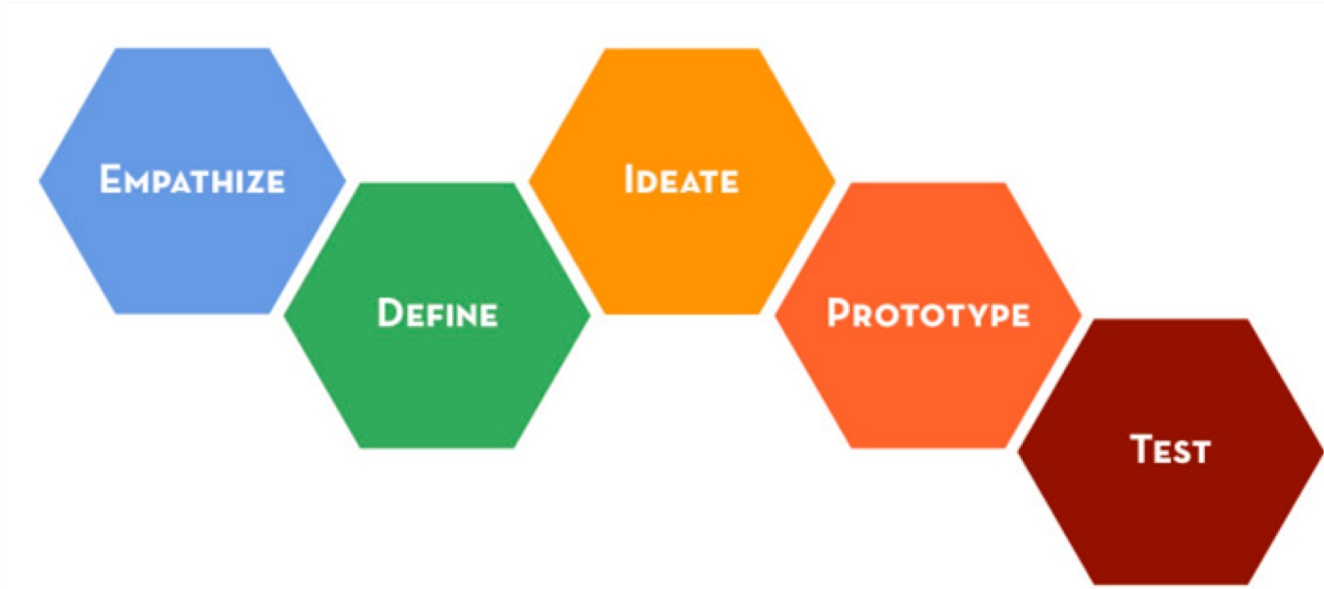
Harder for the novice to use for more complex systems
problems

Potential resistance from traditional research

Challenges



Design Thinking Design Cycle



Inspiration

How might we...

increase pedestrian safety at
this busy junction?



Your Challenge

How can we promote well-being for ourselves and our colleagues at work?



Divide into teams of ~3-4

EMPATHIZE

DEFINE

IDEATE

PROTOTYPE

TEST

Empathy: Starts with the User



Wallet Exercise

Hear a good story

Dig into a couple things you saw and interview your partner about his/her experiences.

Your goal is to hear (at least) one good story from your partner

2 Create a quick interview guide (with open-ended questions!)



3 Interview your partner (just have a conversation!)



A. Be human: build rapport

Introduce yourself. "How are you today?"

B. Seek stories

"Could you tell me story about . . .

(. . . how you acquired [that item] in your wallet?)
(. . . a time your wallet had an adventure?)

?"

"What would I find surprising about . . .

(. . . why you still keep [that item]?)
(. . . how you shop for yourself?)

?"

" [write more of your own] "

C. Talk about feelings. Dig deeper by following up

"Why do you say that? . . . "Tell me more."

"How did you feel at that moment, when . . . happened?"

" [write more of your own] "

2 min

Interview notes:

Get stories!

3 min each

Go deeper into one story: remember to ask "Why?"

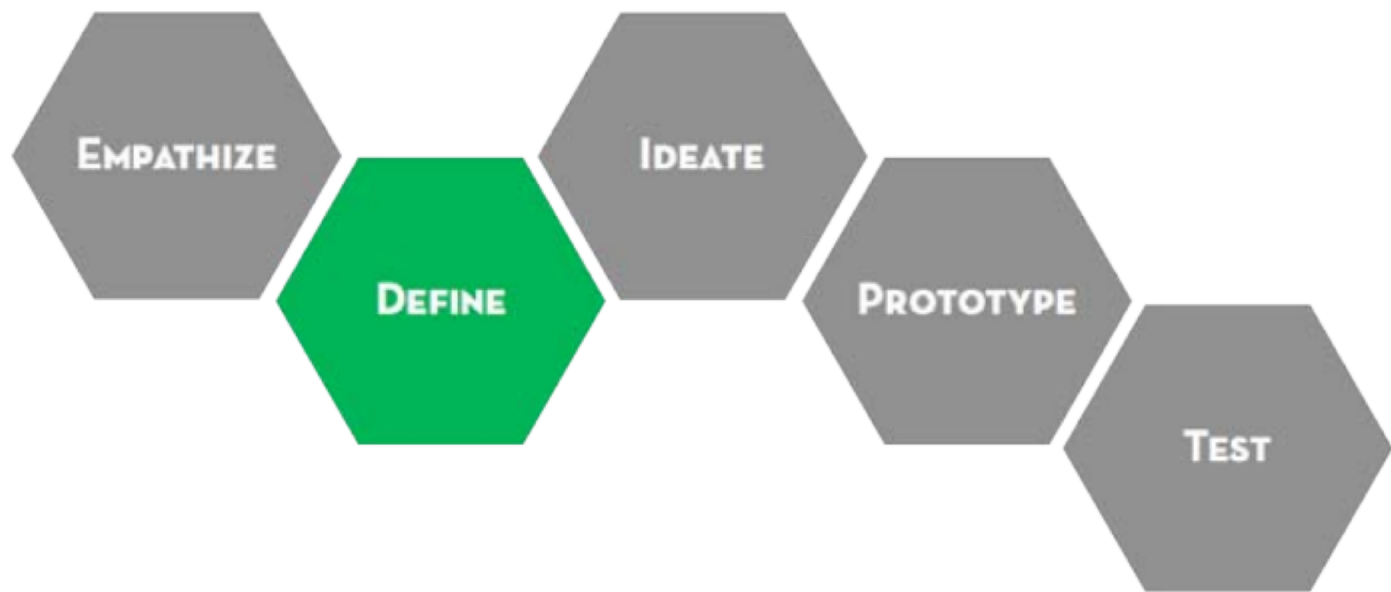
Use prompts: Tell me more...

How did you feel when that happened?

3 min each

10 minutes: Empathy Exercise

Interview 1 person on your team using the wallet exercise to hear their experiences and how it might reflect what they value for well-being at work.



Wallet Exercise

What does it mean?

Gain insights by thinking of what might be the deeper meaning behind what you heard. Have fun with it.

Your goal is to take an extreme, inspired stance

4 **Imagine the meaning**
(notice something, then infer what the meaning might be)



Imagine possibilities for the following statements:

It's interesting/surprising/telling that s/he ...

Jen's wallet has 5 museum passes

One thing that seems to be important to him/her is ...

Cultural experiences/activities

I wonder if this means ...
[WRITE A COUPLE HUNCHES]

Jen feels a cultural void at work

Jen feels artistically constrained at work

Jen likes the freedom to wander around and appreciate art + ambiance



5 **Create a brainstorming topic**
(turn your insight into a question)



Select one hunch ("I wonder if this means . . .") that gives you the most unique and exciting perspective. Write it below to make a brainstorming question.

Given my hunch that

YOUR HUNCH

how might we

What does it mean?

Gain insights by thinking of what might be the deeper meaning behind what you heard. Have fun with it.

Your goal is to take an extreme, inspired stance

4 Imagine the meaning (notice something, then infer what the meaning might be)



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5 Create a brainstorming topic (turn your insight into a question)



Select one hunch ("I wonder if this means . . .") that gives you the most unique and exciting perspective. Write it below to make a brainstorming question.

Given my hunch that

Jen feels a cultural void at work

How might we bring art into Jen's work?

Jen likes the freedom to wander around and appreciate art + ambiance

HMW give Jen opportunities to mentally "wander" during her workday?



10 minutes: Define the problem

Using hunches or insights gained from your interviews, create your “how might we” question.

Given my hunch that _____,
how might we _____?

Share your HMW question with your table and pick one you all like for the next step!



EMPATHIZE

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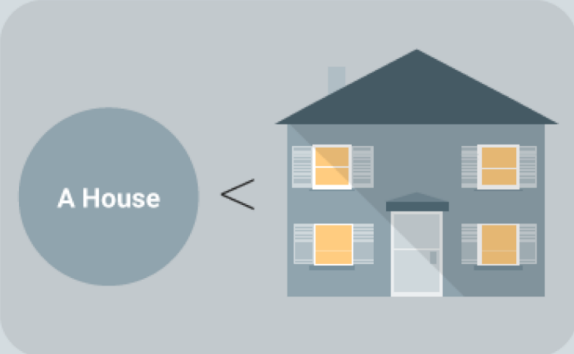
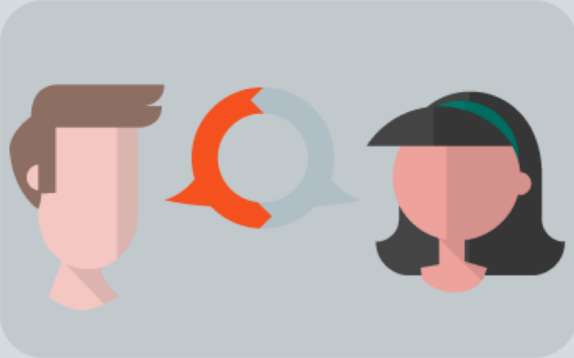
TEST

Why Do We Ideate?

- Push beyond obvious solutions
- Use strengths and diverse perspectives of team members
- Volume and variety



Brainstorm: Guidelines



8 minutes: Ideate

Brainstorm solutions to your table's "how might we" question.

Brainstorm for 2 minutes by yourself

Brainstorm for 6 minutes as a group

Remember:

- Big ideas
- No judgement
- Yes and...
- Quantity, not quality
- Headlines
- Visual > Text

5 minutes: Group share

Share your HMW question & one of your favorite ideas

EMPATHIZE

DEFINE

IDEATE

PROTOTYPE

TEST

Application to Medical Education

- Well Being
- Health Equity

Design Thinking for Well-being:
Internal Medicine Well-being 2.0

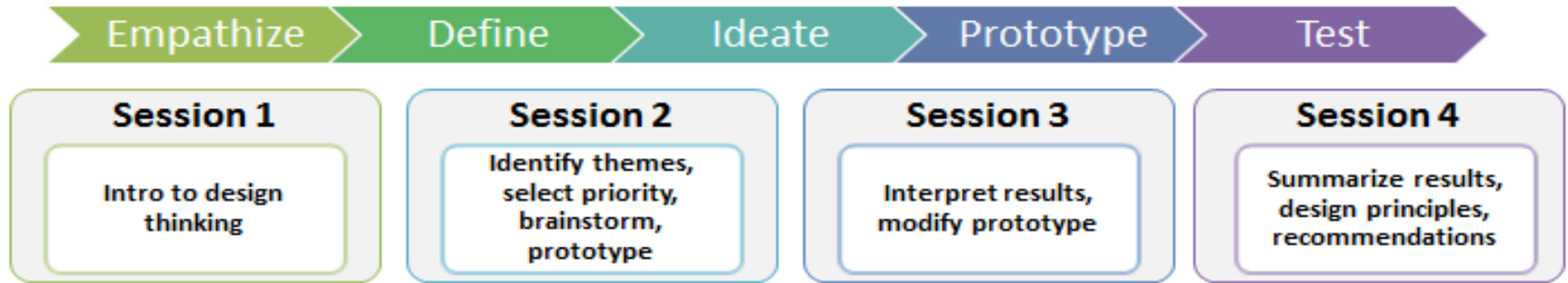
Objectives

Apply principles of design thinking to develop resident-driven initiatives that address organizational well-being challenges.

Use semi-structured interview techniques to identify and analyze well-being challenges and design interventions.

Develop personal empowerment and self-efficacy through the design thinking process.

Curriculum



18 Internal Medicine Residents

4 two-hour sessions (every other month)

Majority of residents:

Little or no familiarity with design thinking

Had never developed well-being interventions

Project Work: Empathy Interviews

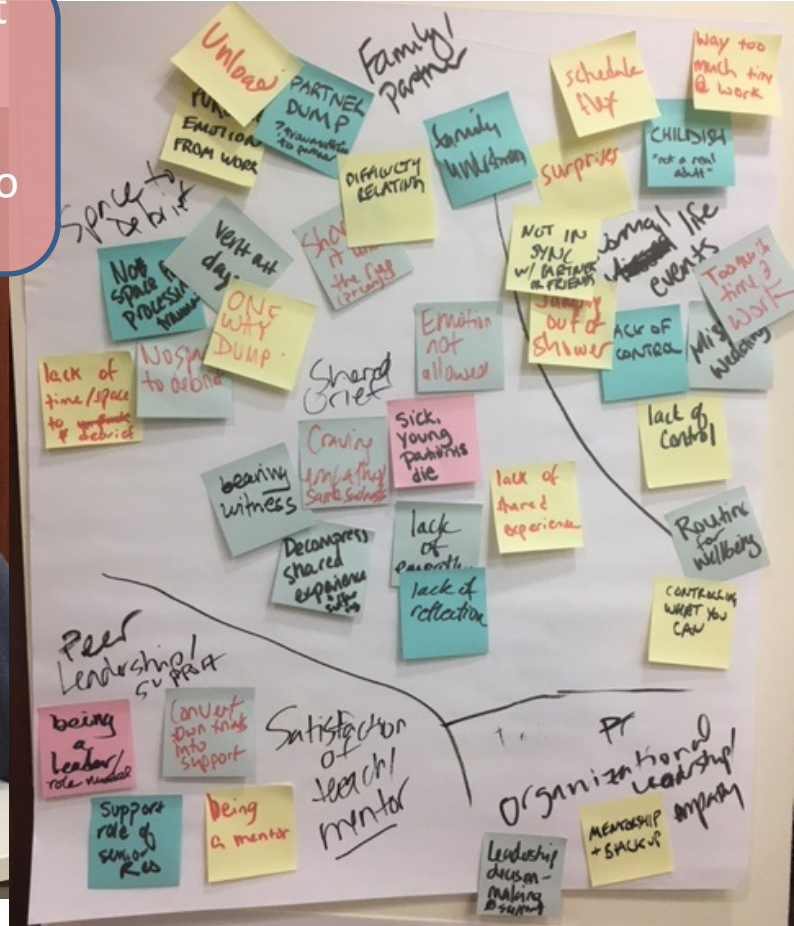
Tell me about a time you did something for yourself

Tell me about a time you wanted to quit.

Tell me about the last time you were really proud to be a doctor.

Tell me about a time that "X" couldn't be with you due to work.

Tell me about a time you appreciated "X"'s work as a doctor.



Project Work: Ideation and Prototyping



How MIGHT WE

- create opps to learn from each other

✓ - NORMALIZE THE DISCOMFORT/CHALLENGE w/ RESIDENCY

✓ - CREATE SENSE OF CONNECTION w/ OTHER RESIDENTS

- BEST SUPPORT ONE ANOTHER

Q - QUICK

B - BREAKTHROUGH

~~Q~~ Q
Moustache on
Trung VA pic

DELIGHTFUL

escape
rooms
Q

Restart
button
(C)

NOISE
ANALYSIS
-
EYER
(C)

RANT
ROOM
(C)

Programmatic Impact

Space to Process

Mental Reflection Space

Individualized wellness

Wellness Exchange

Camaraderie Through Competition

Community

Peer Support Program
Contest Crowdfunding
Well-being Elective

Families

Peer Support

Creative and Divergent Thinking

Potential for Systems Change

“Design Thinking...helped us be creative and free, and push us to think outside the box, and be liberated even to do magical thinking. All structures removed, no limitations, what would be the ideal scenario? And maybe the dream innovations or changes that we proposed aren't feasible, but the principles of what was driving our concerns about well-being stick, and I think really helped us.”

“[I]t made me realize that when multiple people are working on it, and [with] faculty and program recognition, [there] are some things that we may be able to more...systemically change or integrate into the structure than just what I can do as an individual alone.”

Views of Program Leaders/Culture

“I'd say previously I had low expectations, and then the wellbeing committee increased my expectations and...it was really nice to see faculty members, the rest of them were really engaged and motivated and interested and clearly felt like this was an important thing to work on.”

Design Thinking for Equity

The PLUS Experience

UCSF PLUS Residency Program: Pediatric Leaders Advancing Child Health Equity



How does design thinking relate to health equity?



- Human centered & collaborative
- Develops adaptive skills in trainees
- Provides tools to tackle the “wicked problems”

Design Thinking Builds Adaptive Skill Set

- Solve complex systemic problems
- Identify new solutions
- Build collaborations
- Manage change
- Tolerate ambiguity



Professionalism Milestone

PROF6. Recognize that ambiguity is part of clinical medicine and to recognize the need for and to utilize appropriate resources in dealing with uncertainty					
Not yet Assessable	Level 1	Level 2	Level 3	Level 4	Level 5
	Demonstrates state of being overwhelmed and unsure when faced with uncertainty or ambiguity; communications with patients/families and development of therapeutic plan are approached in a limited and authoritarian manner;; patient/family numeracy (understanding of probability/risk) is presumed; seeks only self or self-available resources to manage response to this uncertainty, resulting in a response characterized by their (individual) preexisting state of risk aversion or risk taking; does not regard patient need for hope; feels compelled to make sure that patients	Expresses recognition of uncertainty and the tension/pressure from not knowing or knowing with limited control of outcomes; explains situation to the patient in framework most familiar to the physician, rather than framing it with terms, graphics, or analogies familiar to the patient; seeks rules and statistics and feels compelled to transfer all information to the patient immediately, regardless of patient readiness, patient goals, and patient ability to manage information	Anticipates and focuses on uncertainty, looking for resolution by seeking additional information; informs the patient of the more optimal outcome(s), framed by physician goals; does not manage overall balance of patient/family uncertainty with quality of life, need for hope, and ability to adhere to therapeutic plan; focuses on own risk management position for a given problem and does not suggest that more or less risk taking (different from physician's position) could be chosen; still seeks	Anticipates that uncertainty at the time of diagnostic deliberation will be likely; uses such uncertainty or ambiguity as a prompt/motivation to seek information or understanding of unknown (to self or world); balances delivery of diagnosis with hope, information, and exploration of individual patient goals; works through concepts of risk versus hope using conceptual framework that includes cost (e.g., suffering, lifestyle changes, financial) versus benefit, framed by patient health	Acknowledges and manages personal level of risk aversion or risk-taking tendencies; seeks to understand patient/family goals for health and their capacity to achieve those goals,; engages in discussion with high sensitivity towards health literacy and numeracy, emphasizing patient/family control of choices; openly and comfortably discusses strategies and outcomes anticipated with the patient/family, emphasizing that all plans are subject to the imperfect knowledge and

Innovations Funding in Education Grant

- “Design Thinking for Health Equity” module
- Delivered to over 70 residents and medical students



One month post training...

- Comfort with new concepts persisted over time
- Application of concepts
 - Empathy - engaging community
 - Brainstorming
 - Prototyping



What will you do differently?

Engage community and users



“Design thinking for health equity requires active listening to users of programs and systems that are targeted to reduce disparities -- how do you make [Golden Gate Regional Center] better? You have the experiences of families and children who use this service at the core of your redesign process....This means speaking with most at-risk populations to find out what they want and need to improve their health and quality of life.”

“I will be more intentional about empathizing and asking people what problems and solutions they have without thinking I already know because of my experience”

What will you do differently?

Incorporate Prototyping



“I think I spend a lot of time thinking about how to implement an idea without actually trying it because of fear of failure. The comfort with failure in design thinking has stuck with me.”

“After storyboarding the project with the team, I moved quicker to actually shooting and editing the project than I normally would. I think this is because I was not afraid to make a bad edit. I showed several drafts to the team within the span of two weeks and they were able to give more substantive feedback because there was something already 'prototyped' or edited”

What's Next?

- 10 week design thinking course
- Developing faculty education workshop
- Considering adding design thinking to curriculum for medical students working on clinical projects

Want to Learn More?

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- <https://dschool.stanford.edu/resources/>