



OREGON HEALTH & SCIENCE UNIVERSITY

A NEW  
VISION FOR  
PROCEDURAL  
CARE :  
PLAYING IN THE  
SAME SANDBOX

Lisa Newman RN BSN  
Endoscopy Nurse Manager  
OHSU  
June 7, 2017



An aerial photograph of a city, likely Los Angeles, showing a complex highway interchange and surrounding urban development. The image is overlaid with a semi-transparent green filter. A black rectangular box is positioned on the right side of the image, containing the agenda text.

# AGENDA

- 1 Project Goals
- 2 Setting the Stage
- 3 Value Opportunity
- 4 Lessons Learned
- 5 Now

A group of people are gathered around a table in a meeting room, looking at documents. The scene is overlaid with a green tint. A black box in the upper right contains the text 'PROJECT GOALS' in green, with a white underline. The word 'Project' is written in large, white, semi-transparent letters across the middle of the image, and 'Goals' is written in even larger, white, semi-transparent letters across the bottom. The documents on the table have handwritten notes, including 'ALING SOUTH HOSPITAL', 'HEALTH', 'Wayfinding', 'patient', 'family', 'community', 'supplies', 'eyeboard', 'Liner', 'Cost', 'care', 'friendly', 'Neighborhood', 'place', 'care', 'ORF', 'HEALTH CENTER', and 'Wayfinding'.

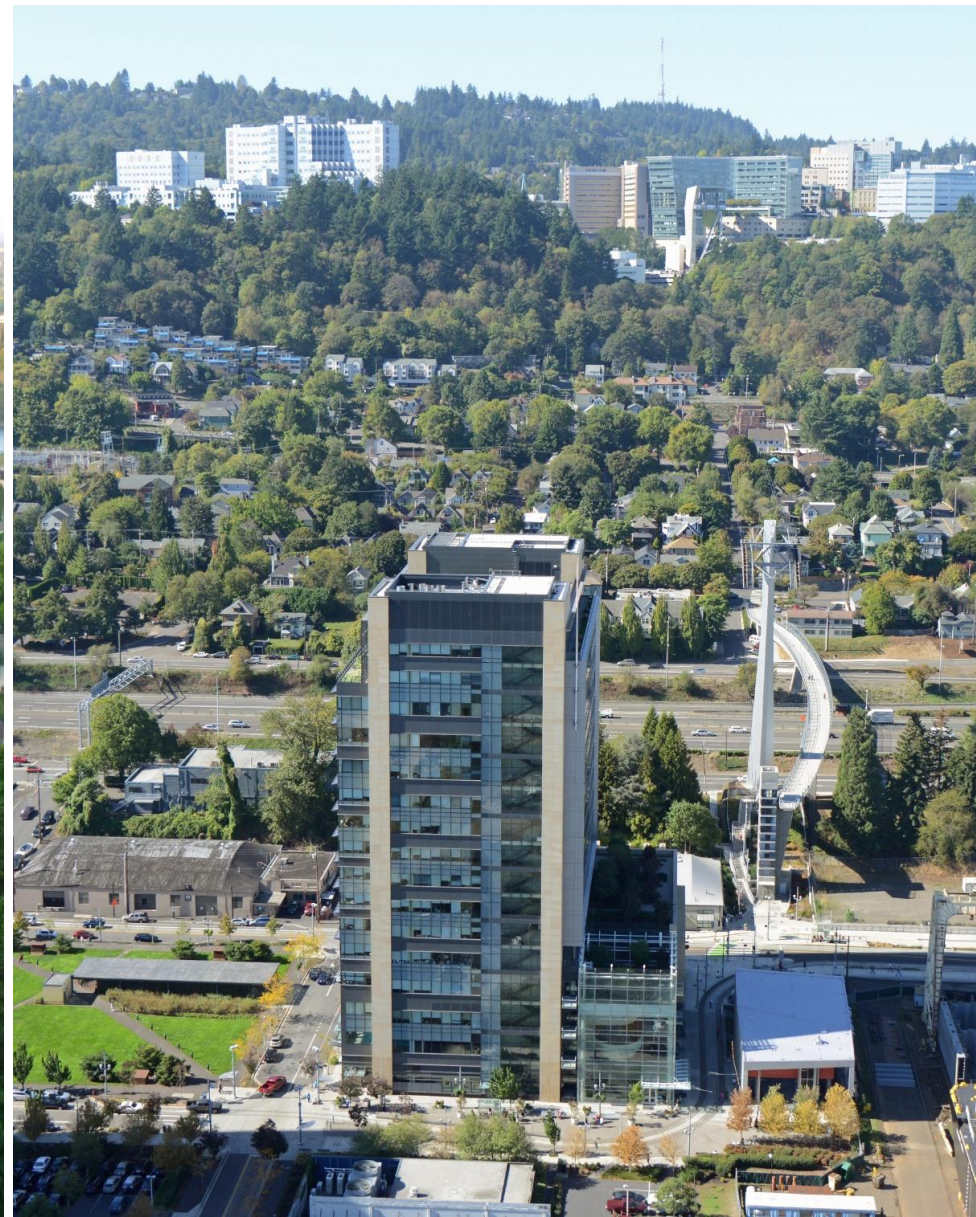
# Project Goals

# ABOUT OHSU

OHSU is where healing, teaching and discovery come together

- Based in Portland, Oregon
- Only Academic Medical Center in Oregon
- Academic programs include: GME, SoM, SoN, SoD and PA
- Annual operating budget: \$2.4 billion
- Employees: 15,098
- Patients: 276,778; Patient visits: 1,017,964
- OHSU Adult Hospital: 428 Beds
- Doernbecher Children's Hospital: 145 Beds
- Recent OHSU partners include Salem Health and Tuality Healthcare

# CAMPUS EXPANSION



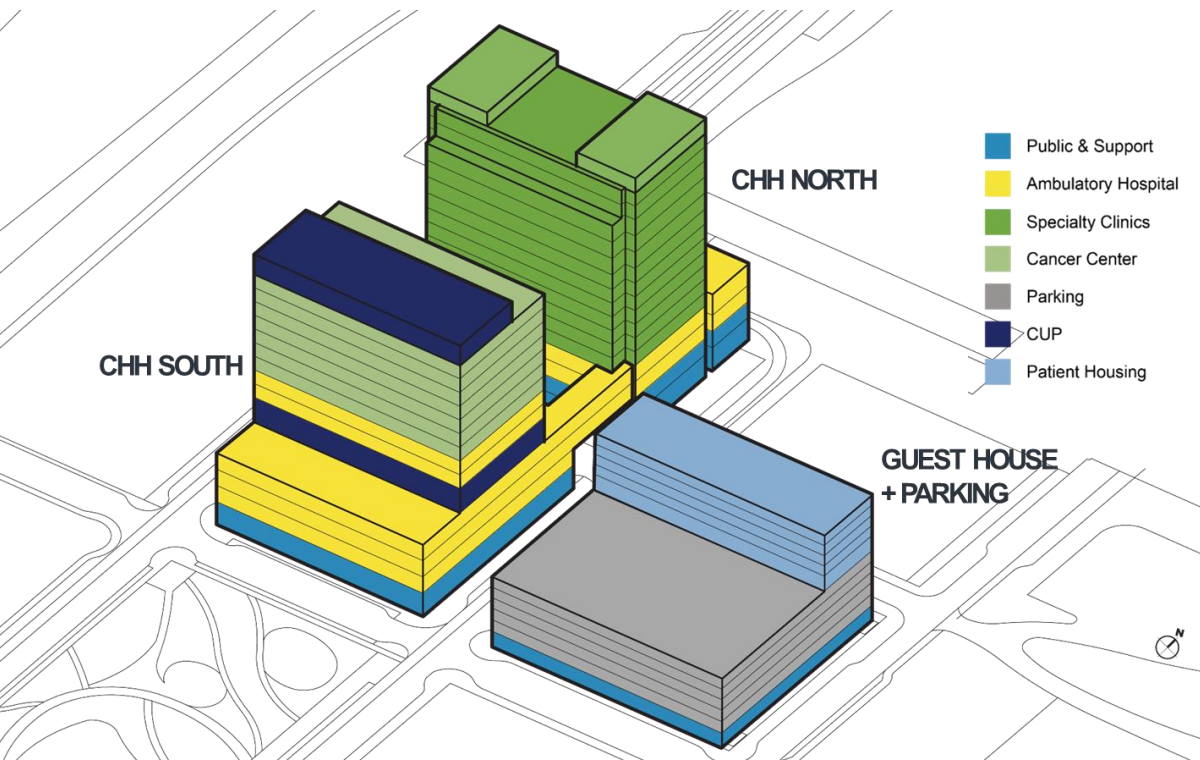
# CAMPUS EXPANSION



Portland, OR

CHH South

# PROJECT



## Procedural Service

- Outpatient Surgery – 10 ORs
- Center for Image Guided Procedures (Endo, GI, Cath/EP) – 14 Procedure Rooms
- Outpatient Rooms – 48
- Procedural Support
- Sterile Processing
- Pathology, Lab, Blood Bank, Physician Work & Call Rooms

## Outpatient Clinics

- Future Urgent Care
- Pre-Op Medicine Clinic
- Digestive Health
- ENT

## Knight Cancer Institute

- Knight Cancer Clinics
- Knight Cancer Infusion
- Knight Cancer Clinical Trials
- Women's Center

## Guest House & Parking Garage

- Guest Housing – 76 units
- Parking Garage
- Conference Center
- Support Space





# SETTING THE STAGE

---

# Setting The Stage

# PLANNING & DESIGN PROCESS/FUN FACTS



**750,000 SF**  
TOTAL PROJECT SIZE



**29** TOTAL FLOORS  
Block 28 | 14  
Block 29 | 15

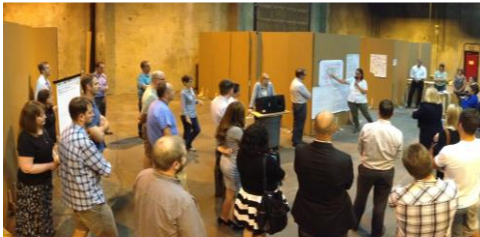


**200**  
AVERAGE MEETINGS PER MONTH



**2,600**  
SANDWICHES SERVED (NOT INCLUDING HOT LUNCHES)

**97** PEOPLE AT COLOCATION



**307** PARTICIPANTS

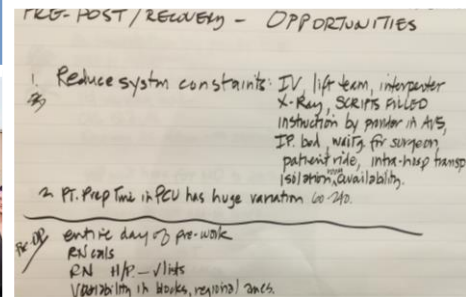


**2,000** SHEETS OF CARDBOARD

**\$349M**  
TOTAL PROJECT COST



**300+** PROJECT TEAM MEMBERS

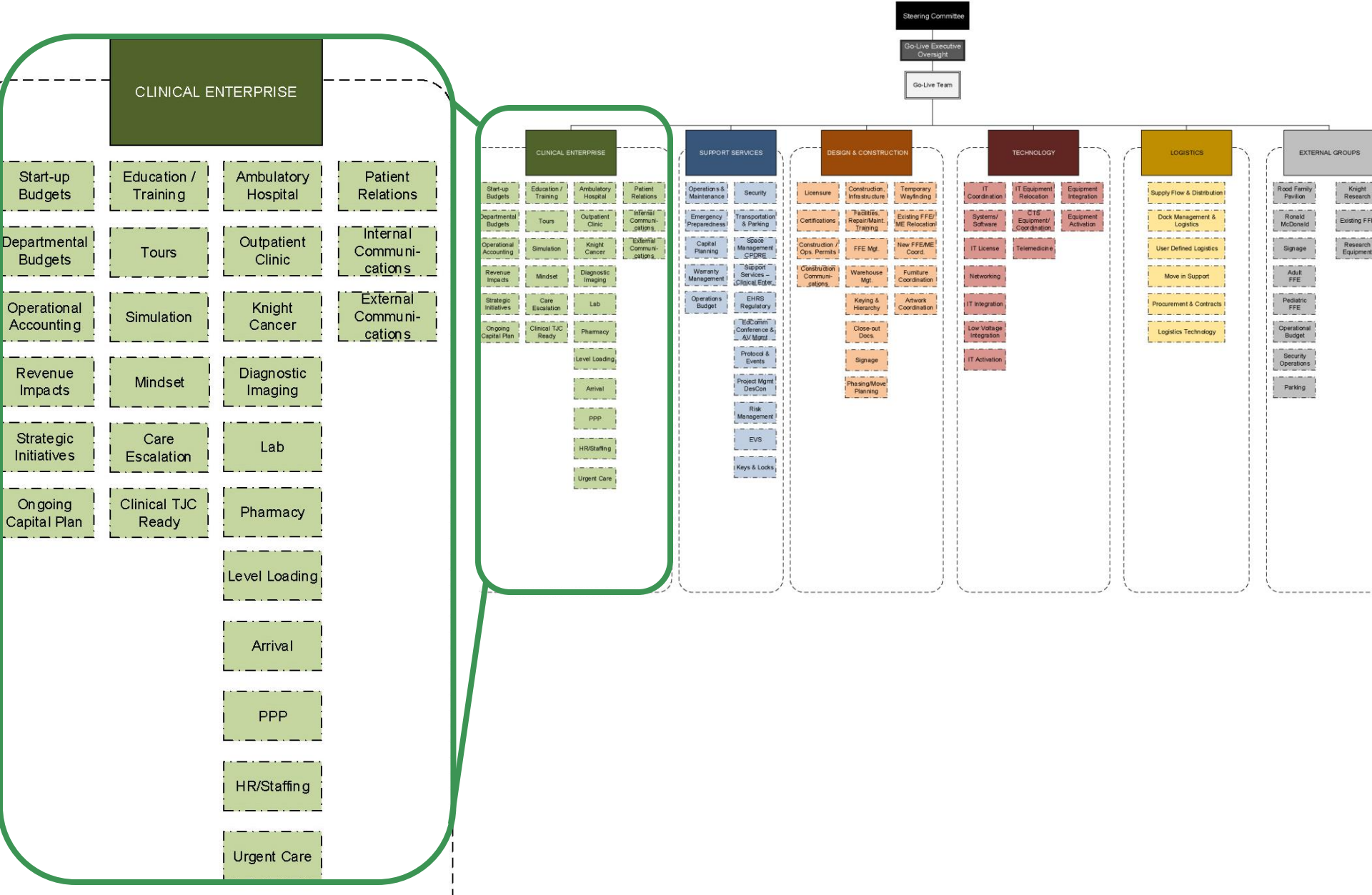


**120+** FLIP CHARTS



**500+** PACKS OF POST-ITS

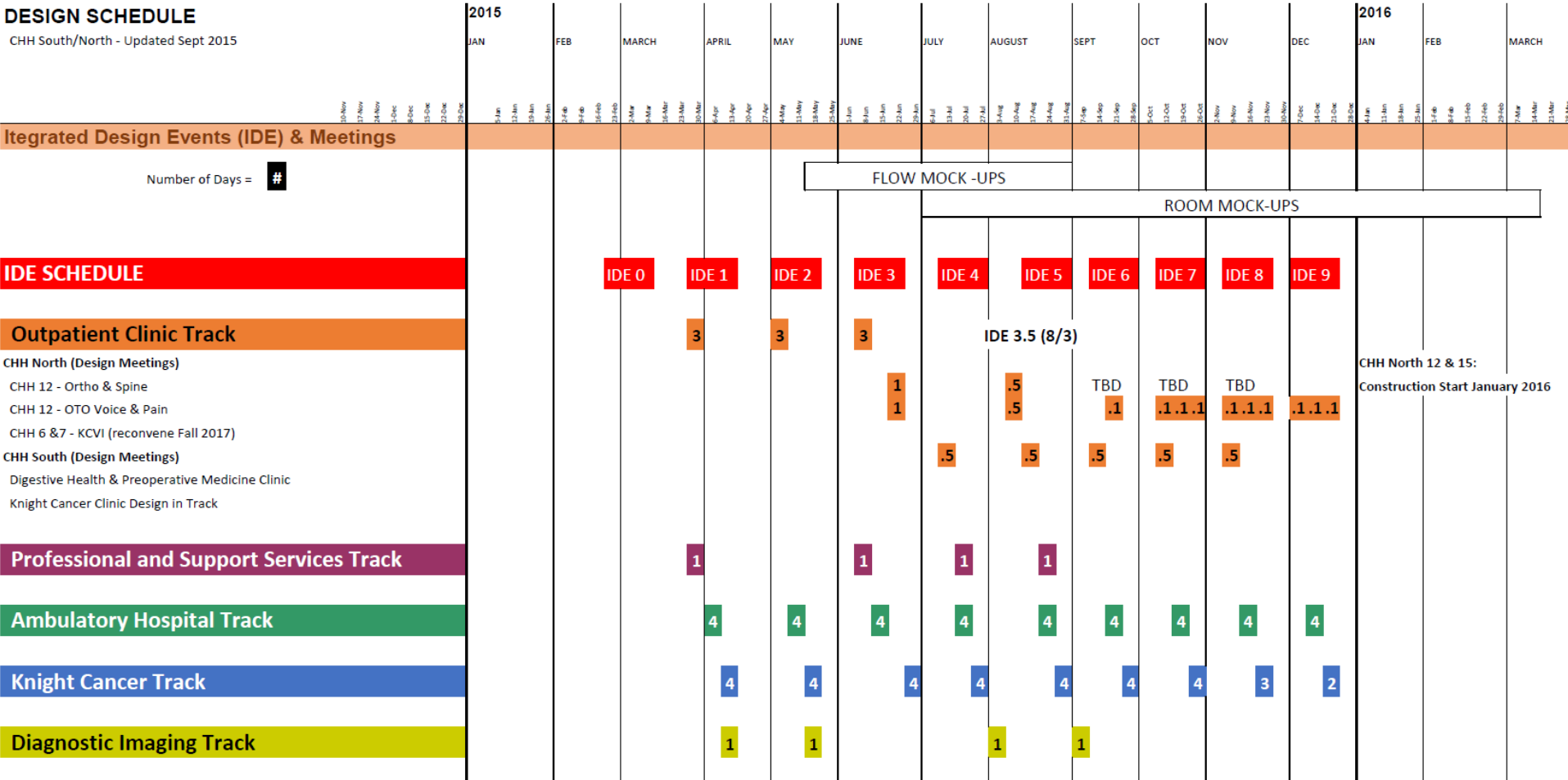
# ORGANIZATION CHART



# IDE UPDATE

## DESIGN SCHEDULE

CHH South/North - Updated Sept 2015



# PLANNING & DESIGN PROCESS



## Cross Functional Representation

- Care team
- Research
- Patient & family
- Professional services
- Support services
- Infection Control
- Information Technology, Telemedicine, Epic
- Education Communication, Events and Foundation
- Facilities
- Contractor & trade partners
- Consultants
- Quality Management / Process Improvement

# PLANNING & DESIGN PROCESS



## Integrated Design Process

- Establish vision
- Set target metric & strategic imperatives
- Understand current state
- Identify future state delivery model
- Design options
  - Standardization
  - Test flows
  - Propose new ideas
- Detail room layout
  - Mockup, evaluate, simulate, test, refine

# GUIDING PRINCIPLES

## Operating Principles

- Patient centered
- System-level coordination
- Shifting acuity and mode of care
- Centers of emphasis
- Lower operational and capital costs
- Pre/post care management
- Attract and serve traveling patients
- Employer of choice

## Design Principles

- Utilize LEAN principles
- Design for flexibility
- Create a healing environment
- Integrate sustainability
- Prioritize access & wayfinding
- Connect vertically
- Be a good neighbor



VALUE  
OPPORTUNITY

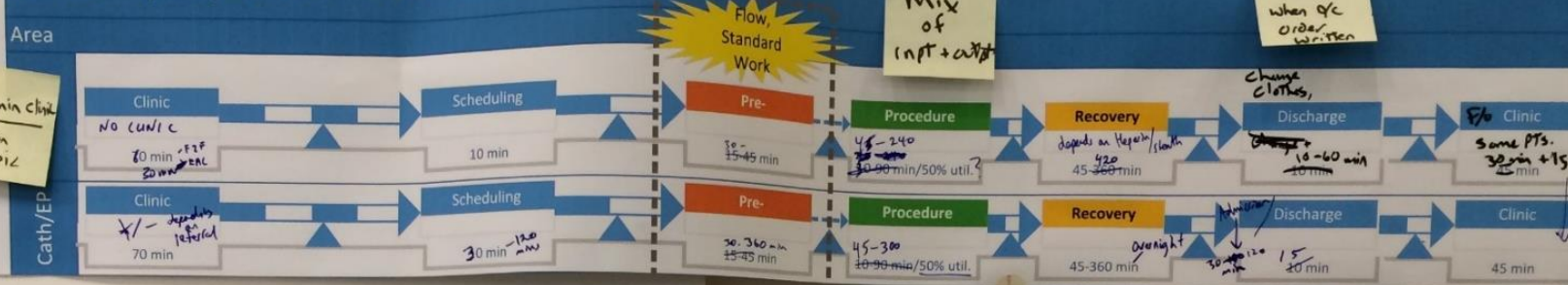
Value  
Opportunity



# CURRENT VALUE STREAM MAP (CVSM)

## IR and Cath/EP

### Ambulatory Hospital Patient Flow – Current State (DRAFT)



IR

ADMITTING  
15 min

PCU  
60 MIN PREP  
H&P on PAPER FOR IR  
H&P in EPIC

OR SCHEDULING

DR. TO GET CONSENT + H&P. DO THIS BETWEEN CASES

INPT + OUTPT. MIX. TRANSPORT DELAYS

PROCEDURE 45-240'

EMERGENCIES WILL BUMP PCU CASES

BLOOD PRODUCTS CO ORDINATE P&I

FELLOWS FIELDING PHONE CALLS DURING CASES

RN TRANSPORT PTS TO PCU → PCU → ICU

CONSENT + H&P ON GOING THROUGH DAY

✓ LABS RN/MD

RN TO CALL REPORT - RN/TECH CLEAN ROOM

RN/TECH SET UP FOR NEXT CASE

MD FELLOWS/STAFF IN PROCEDURE

RN GETS REPORT/H&P OFF FOR NEXT CASE IF INPT

RN → PCU HOOKING PT TO MONITORING → REPORT

RN XI TECH XI OR 22 IN PROCEDURE

WRITE D/C ORDER

RECOVERY EDUCATION D/C INST.

ROOMING IN P.M. AT END OF PROCEDURE DAY

= WASTE

Cath/EP

Admitting + travel to PCU 15 min

PCU Check and prep 20-240

MD/ consent H&P other discussion 30 mins

Anesthesia consent

We pick up patient transport to Cath/EP 5 mins

Room set up 20 mins

W/ Anesthesia 30 mins

At in room set up prior to procedure 10 mins

Procedure 30-360 mins

Dictating Record signing 30 mins / week

Emerging from procedure 10 mins

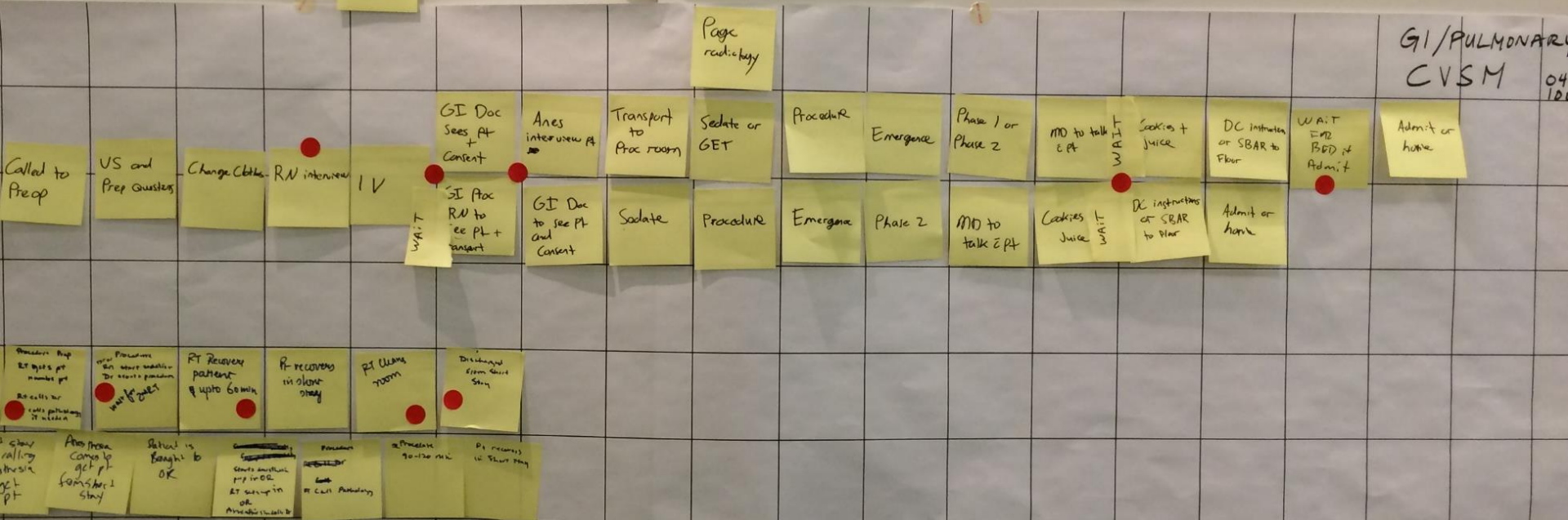
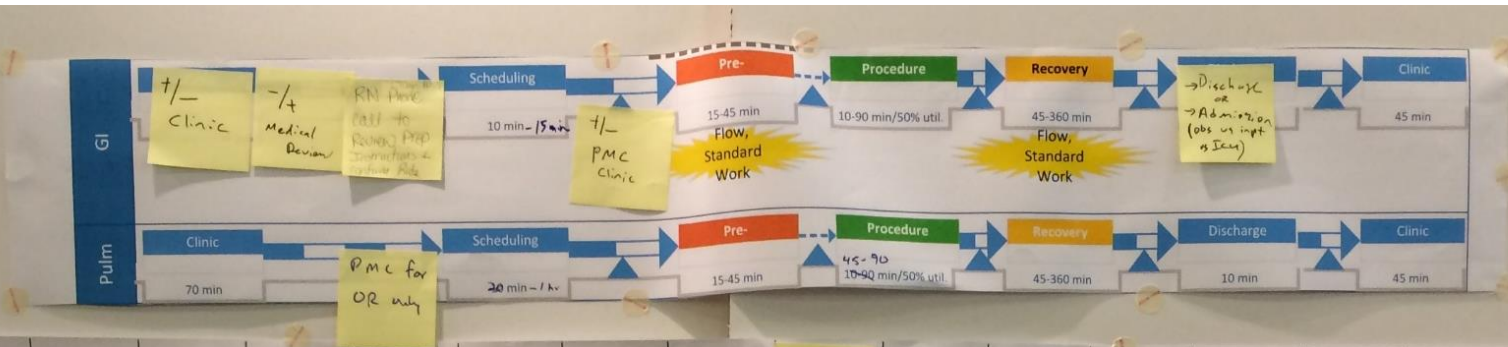
Travel to PCU + handoff 15 mins

Admin turnover by staff 30 mins

FELLOWS HOOKING PRESSURE - WRITE 2000s - PROCEDURE NOTES

# CURRENT VALUE STREAM MAP (CVSM)

## GI and Pulmonary



GI/PULMONARY  
CVSM  
04  
12

= WASTE



# PATIENT FVSM: PROCEDURE

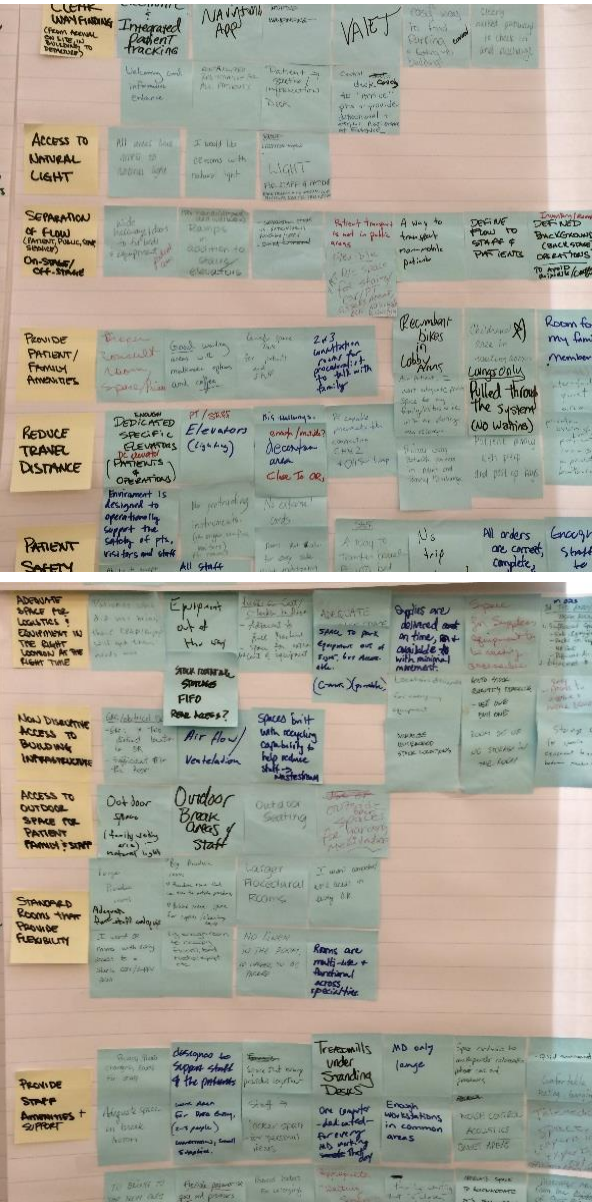
## Round 4



## Big Ideas:

- "Culture change"
- Standardizing supplies & instruments
- Provider remote access
- Identify resources
- Manage inventory
- Leverage SPD
- Utilize OpTime
- Charge nurse role?

# HOPES AND ASPIRATIONS



- Clear and intuitive wayfinding
- Separation of flow
- Access to natural light
- Reduce travel distance
- Patient safety
- Non-disruptive access to building infrastructure
- Access to outdoor
- Standard rooms that provide flexibility
- Provide staff amenities and support
- Patient control of environment
- Adequate space for logistics and equipment
- Provide patient amenities

# VALIDATE OPERATIONAL METRICS

## OPERATIONAL METRICS

AMBULATORY HOSPITAL  
IDE 1  
4/7/2015

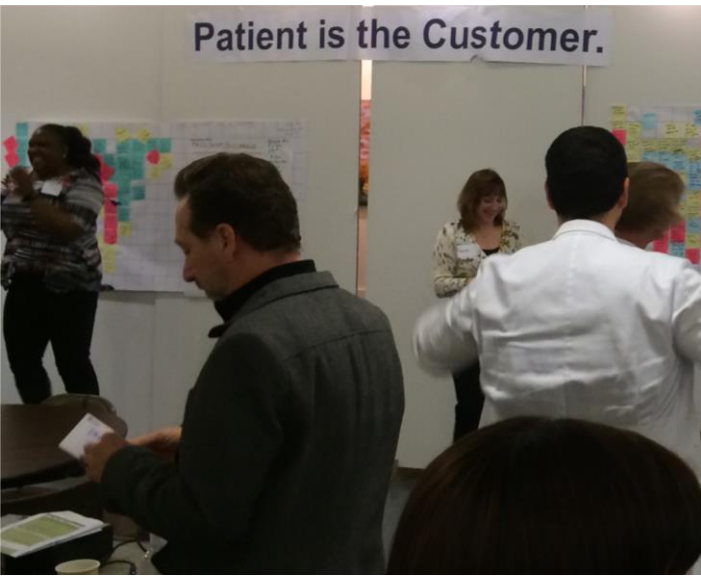
- ✓ PATIENT EXPERIENCE
- ✓ PATIENT WAIT TIME
- ✓ CASE CART ACCURACY
- ✓ ON TIME START %
- ✓ FIRST CASE DELAY TIME
- ✓ PRE-PROCEDURE LEAD TIME
- ✓ PROCEDURAL LEAD TIME
- ✓ RECOVERY LEAD TIME
- ✓ PROCEDURE ROOM TURNOVER TIME
- ✓ SCHEDULE (PLAN) VS ACTUAL TIME IN ROOM
- ✓ PROCEDURE ROOM UTILIZATION (PATIENT IN ROOM)
- ✓ PROVIDER/CARE TEAM SATISFACTION

SAFETY	Quality	SERVICE	AFFORDABLE
Employee injuries		Patient Experience ↳ roll up ↳ process ↳ notification of delays	Cost/case? Overtime
PSN		Wait time	Productivity per unit of staff
Joint commission citations		First case Delays →	
Workers comp claims		On time start →	
SSI		Case cart accuracy →	Room util
H/H/H		← Turn over time →	
		← Patient Enter to Exit →	
	Referring MD Satisfaction Scheduling Accur		Materials and equipment costs
<u>ENGAGEMENT</u>			Equipment/Room/Room Downtime
	Staff satisfaction		

Follow up to occur after IDE 1 to identify operational performance and process metrics for the program

# PATIENT IS THE CUSTOMER!

## LEAN Principles



# DESIGN CRITERIA

## Evaluating Planning Options Through Design Process

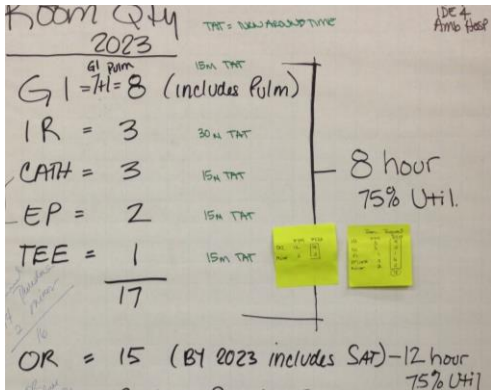
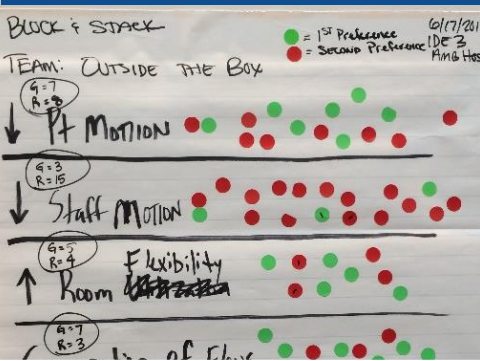
<b>UTILIZE LEAN PRINCIPLES</b>
Reduce Travel Distance/ Minimize Patient and Staff Movement
Separation of Flows (Patients, Public, and Service)
Adequate Space for Logistics & Equipment (Right location, Right amount, Right Time)
Collaborative Team Work Area: Right Size Staff, Support Areas and Teaching Space
Visual Environment That Provides Communication and Teamwork
Minimize Handoffs
External Set-up for Procedures
Maximize Flow and Efficiency (Decreasing Lead time and increasing throughput)
<b>DESIGN FOR FLEXIBILITY</b>
Standardize Rooms (that provides flexibility and adaptability)
Non-Disruptive Access to Building Infrastructure
Design Flexible Space and Accommodate Focused Growth
<b>CREATE A HEALING ENVIRONMENT</b>
Access to Outdoor Space
Access to Natural Light
Quiet Environment

<b>PRIORITIZE ACCESS &amp; WAYFINDING</b>
Clear and Intuitive Wayfinding
<b>CONNECT VERTICALLY</b>
Efficient Flow for Staff and Service
<b>PATIENT CENTERED</b>
Provide for Patient Safety and Safe Mobilization
Patient / Family Amenities (Accommodate Choices)
Patient Control of Environment (In Prep & Recovery Areas)
Customer Friendly Environment (Accommodates ALL patient types)
Ensure Patient Privacy
<b>LOWER OPERATIONAL &amp; CAPITAL COSTS</b>
Maximize Revenue Generating Spaces
<b>EMPLOYER OF CHOICE</b>
Staff Safety and Staff Amenities



# TOOLS

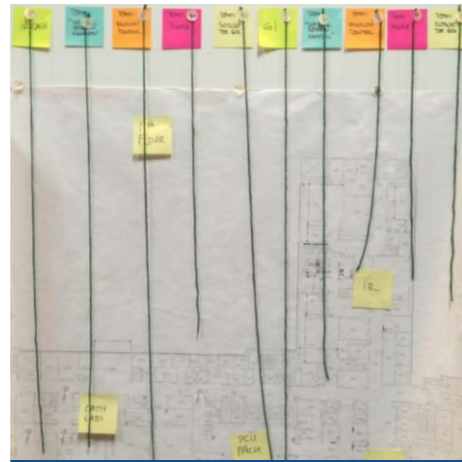
## CRITERIA/EVALUATION



## DATA/ANALYSIS



## VALUE STREAM MAP



## STRING DIAGRAM

## MOCKUPS



## SIMULATION



## SPAGHETTI DIAGRAM

## TABLETOP

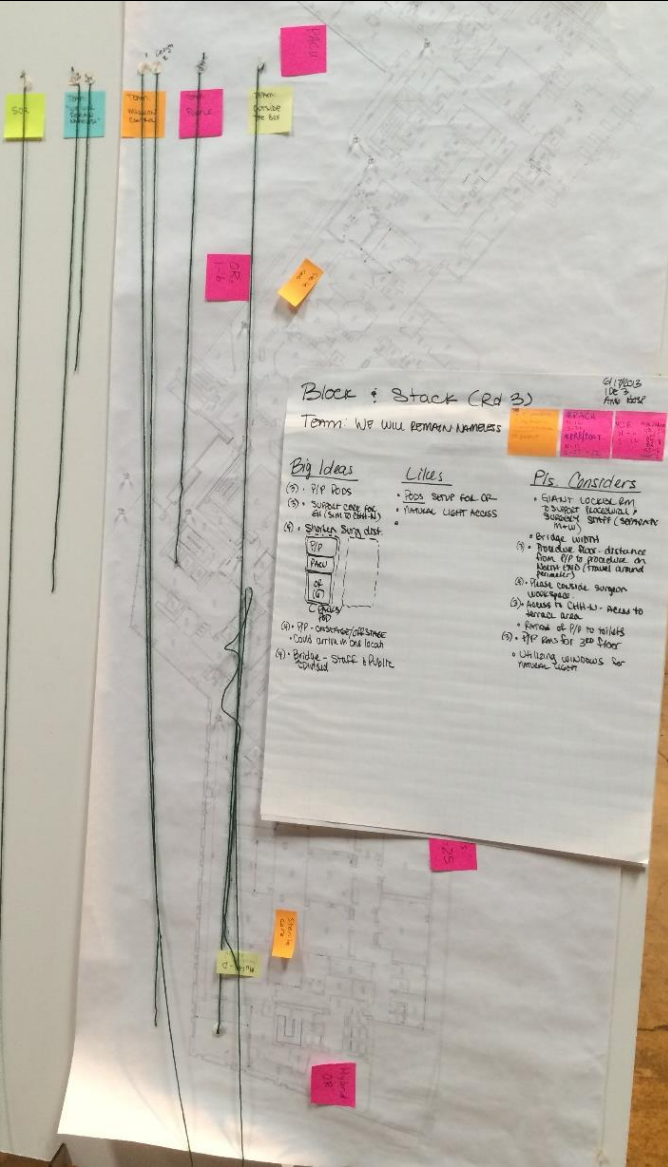


## FLOW MAPPING

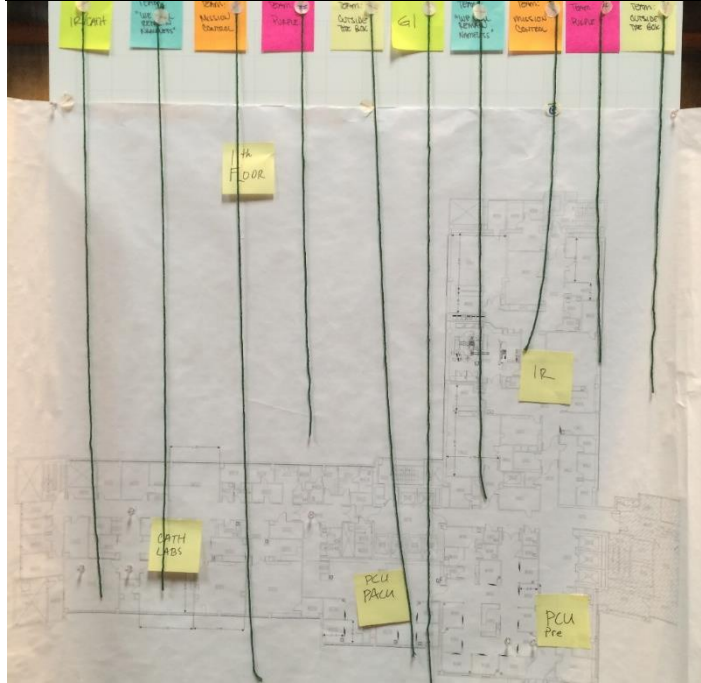
# PUZZLE PIECE

## Patient Travel Distance from Prep to Procedure Room

**Surgery**




**IR/ Cath      GI**




# PUZZLE PIECE DESIGN VOTE

## Voting on the Options



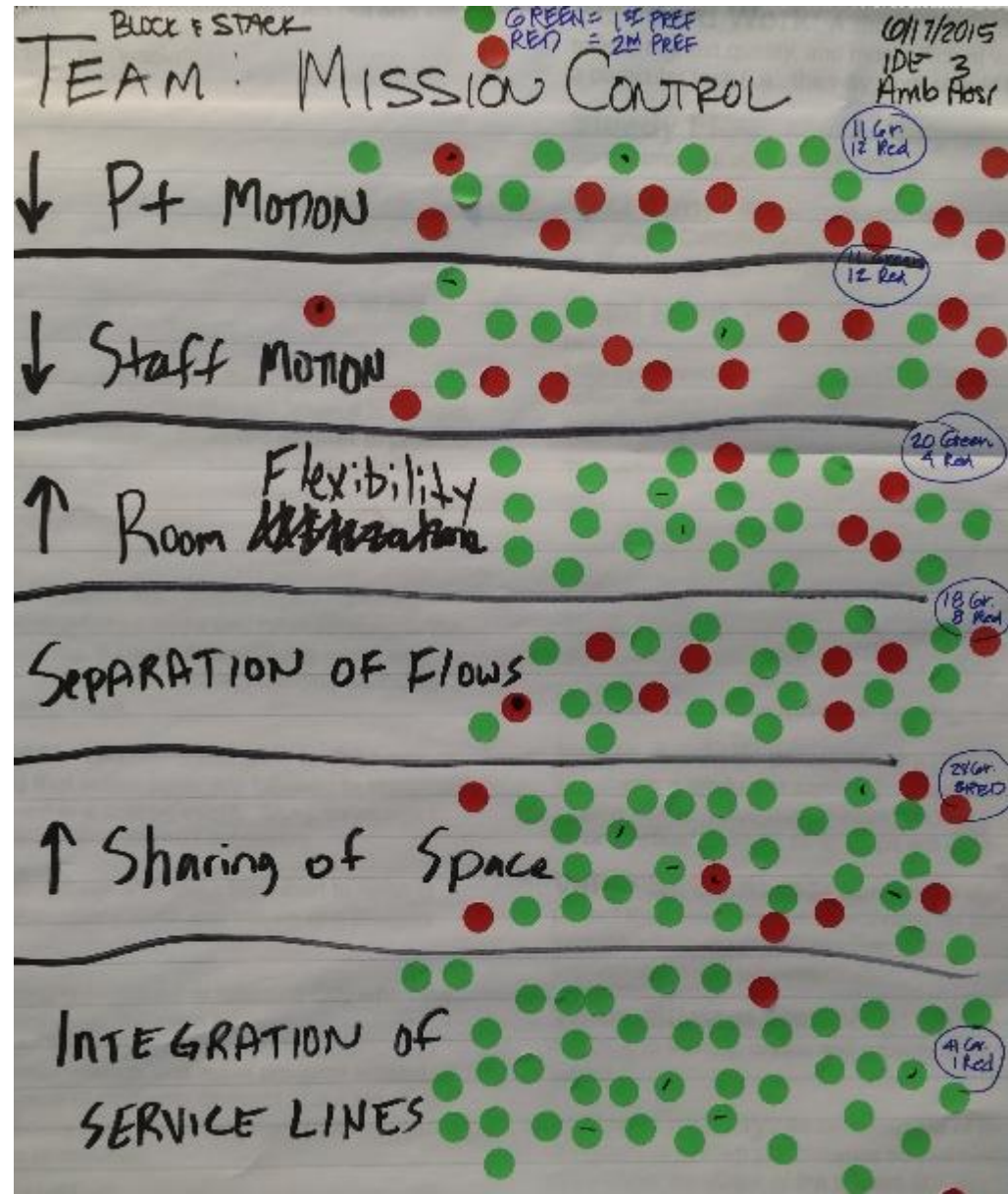
 *This option was the best at meeting the Design Criteria*

 *This option was the second best at the meeting the Design Criteria*



# PUZZLE EXERCISE

## Team Mission Control



# DESIGN CRITERIA

## For Evaluating Puzzle Exercise

Criteria ranked most important

Criteria ranked secondary

**DESIGN CRITERIA**

- 19 (P) ↓ PATIENT MOTION
- 20 (M) ↓ STAFF MOTION
- 21 (P) ↑ ROOM FLEXIBILITY
- 15 (M) SEPARATION OF FLOWS
- 15 (M) ↑ SHARING OF SPACE
- 16 (M) INTEGRATION OF SERVICE LINES

Purple	Outside the Box	We will remain nameless	Mission Control	DEBIL	VIA
Option 1 Purple 51/2	2	3	4	159	
45/2	22/0	52/5	34/3	130	
11/1	14/2	26/3	44/4	95	
36/3	17/2	32/5	44/1	129	
18/1	22/0	22/2	64/9	126	
21/2	20/3	24/2	83/8	148	
31/9	19/	31/	49/5		



# LEVEL 2

## Schemes Progression

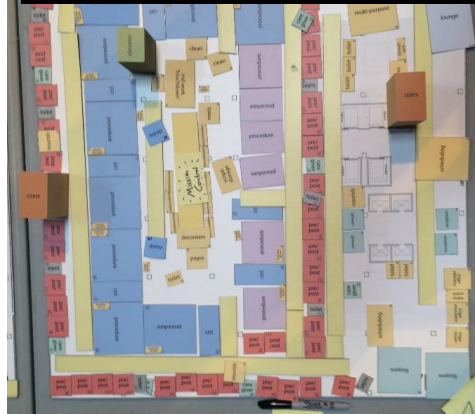
Option A



Option B



Option C



Option D



- Based on **design criteria**, the group chose to not carry Option A and B forward. Merged Option C/D
- Consolidate Procedural Rooms with central core – “Mission Control”
- Consolidate Pre/Post
- Consolidated conference area with movable dividers to accommodate small and large huddles



# LEVEL 2

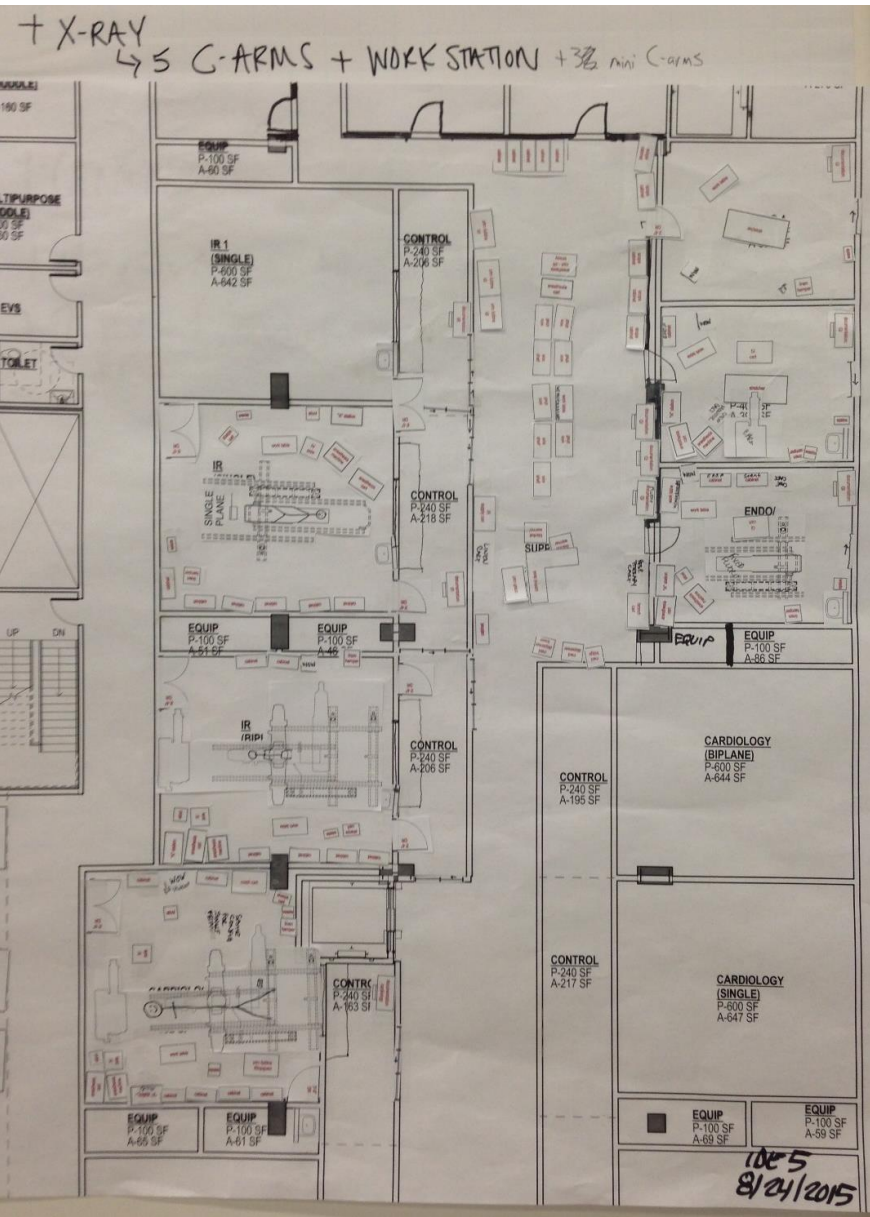
## Schemes Progression

- Based on **Testing Flows**, Option C/D was modified to reduce travel distances



# TABLE TOP

## Image Guided



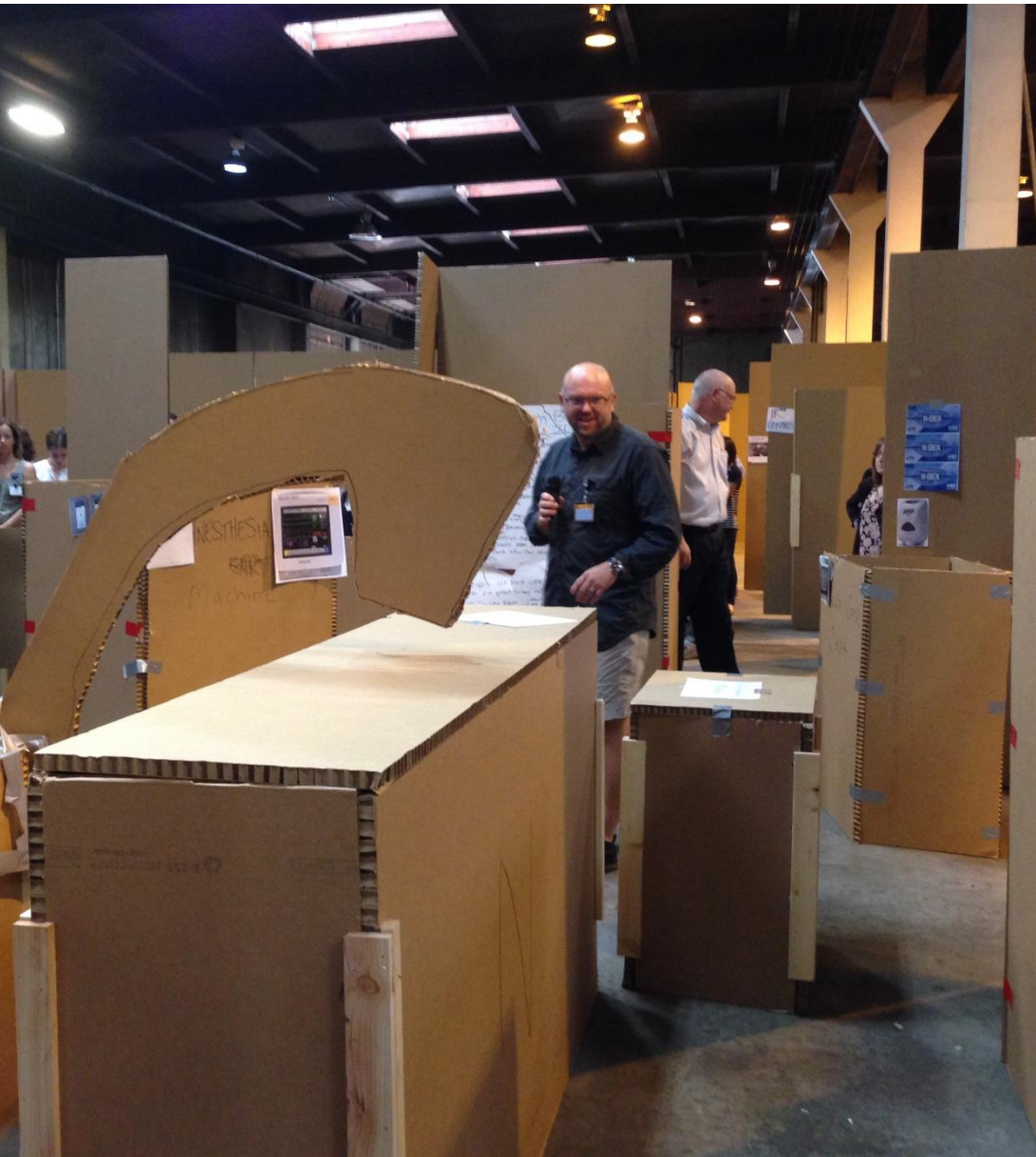


# DRONE CLIP



# MOCK UP SIMULATION

## Level 2 Image Guided

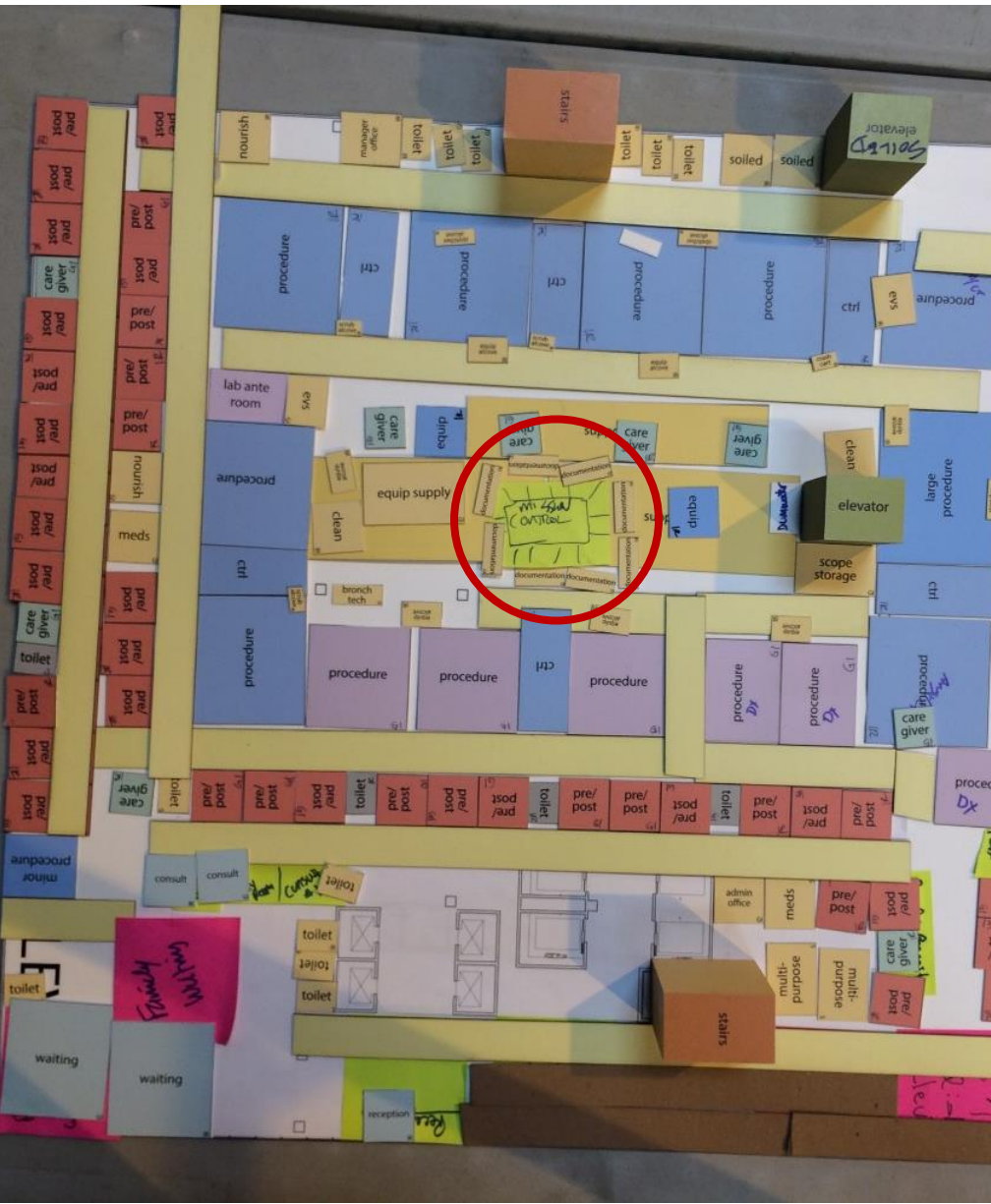


## GI/Pulm Big IDEAS

- 2 Doors ↓ Motion when bringing equip. into rooms
- Pulm has anesthesia access w/o going to OR.
- Room Design Maint. Flexibility to support Pulmonologist practicing opposite side of bed from Gastroenterologist.
- Bringing all GI outpatient & Pulm together increases Staffing flexibility
- Pulm. has increased times for scheduling cases (ie pt can arrive before 9 AM)
- Nursing support for Bronchoscopy sedation.
- All Rooms in Endoscopy should be negative Flow to support Flexible Room Scheduling.
- Mobile case carts rather than cabinets to increase Room Flexibility
- Scopes all must come out of room via patient "on stage" hallway to the Dirty Elevator Room. (clarification of how this process will work is needed)
- Mission Control Design encourages collaboration between service lines / Disciplines

# BIG IDEAS

## Level 2



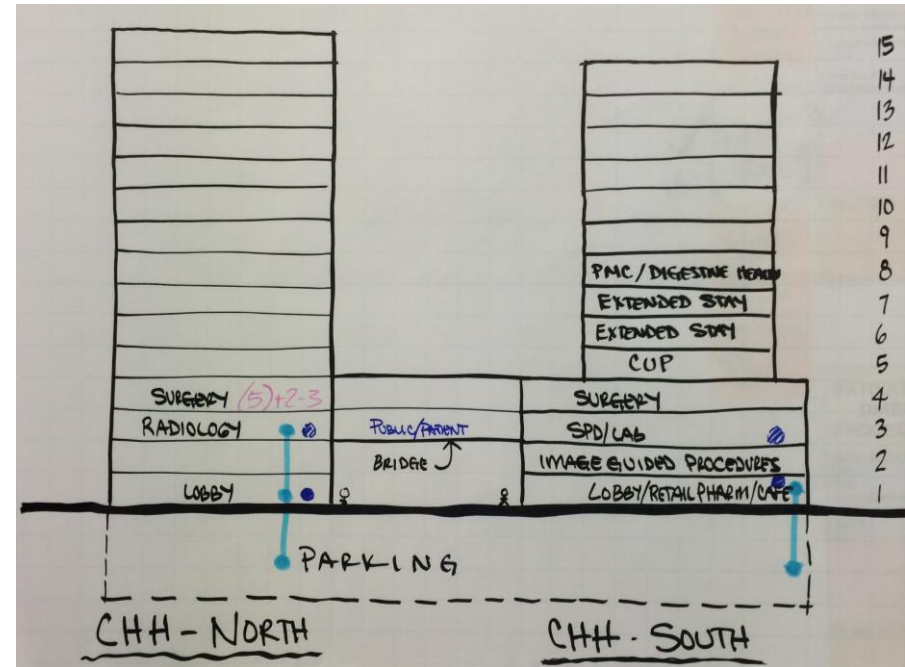
- “Super” charge nurse
- Video camera in each room
- Daily management for assessment and leveling
- Patient satisfaction (reduce wait time)
- Decrease staffing cost (guiding principles)
- Putting service lines together reinforces collaboration

A photograph of a trade show booth. In the foreground, there is a large, curved cardboard structure, possibly a display or a piece of furniture. On the side of this structure, there is a small screen or poster. In the background, several people are visible, some looking at the display. The overall scene is a busy trade show environment.

# LESSONS LEARNED

# Lessons Learned

# OUTCOMES



- Centralize sterile
- Improving operations
- Standardized rooms / documentation / sterile

# UNANTICIPATED OUTCOMES

## IDE Format



## Unanticipated relationships and outcomes:

- Relationships drove standardization
- It was all about the patient
- Endoscope reprocessing
- Sedation orders
- Referral processing and scheduling
- Specialty collaboration
- New Director Position Created

NOW

Now



# OPERATIONAL PLANNING

Technology needs in green

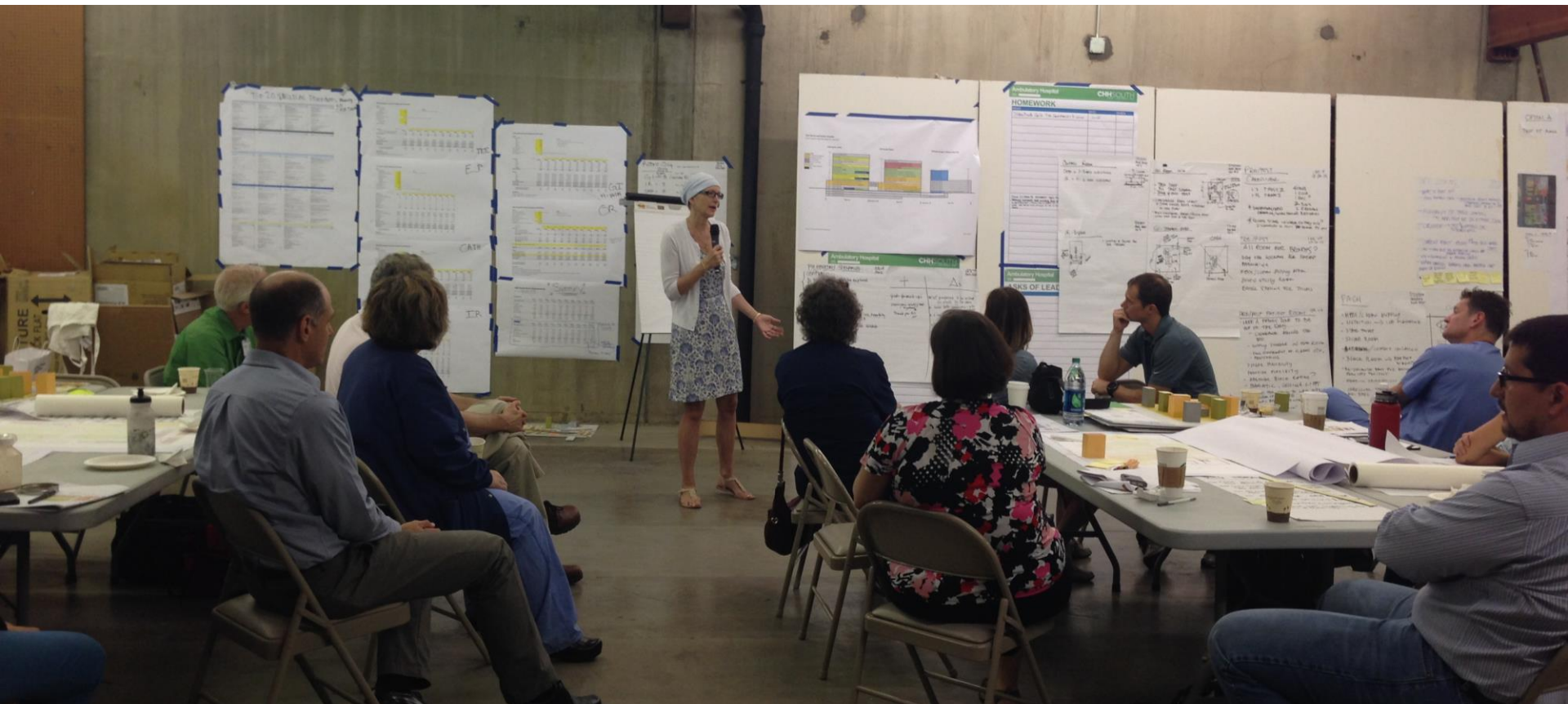
- Centralized Scheduling
- Centralized check in
- Creating a pull system
- Centralized scope cleaning
- Achieving Flow
- Flexing Procedure rooms
- Sharing Equipment
- Sharing Staff





# Properly Prepared Patient

- Identifying Patient's special needs
- Being ready for their special needs
- Knowing when the patient arrived
- Knowing where the patient is in facility
- Visibility of patient status



# QUESTIONS

