

# Using 3P in Lean Healthcare Facilities Design

**Mike Wroblewski**





Mike  
Wroblewski  
Lean Sensei

# Mike Wroblewski

Visual Aid



Row



Bless



Ski

**My Blog!**

**Got Boondoggle?**

**Author and Creator**

**[www.gotboondoggle.blogspot.com](http://www.gotboondoggle.blogspot.com)**

# Background



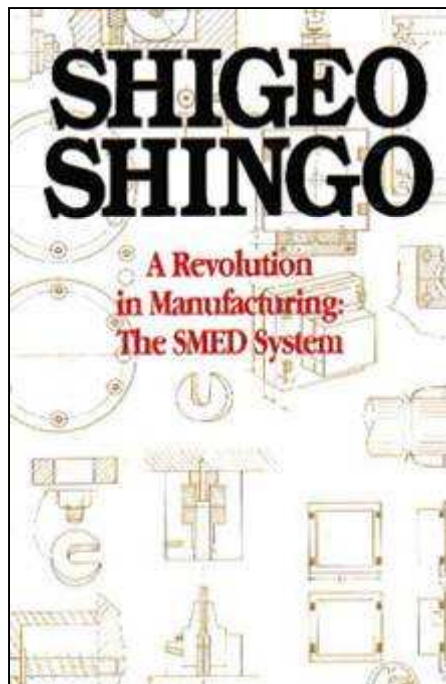
**Hill-Rom**



**Batesville Casket  
Company**

# My Lean Introduction

## 1985 SMED Lesson



**“There are four purposes of improvement: easier, better, faster and cheaper. These four goals appear in the order of priority”.**

**Shigeo Shingo**



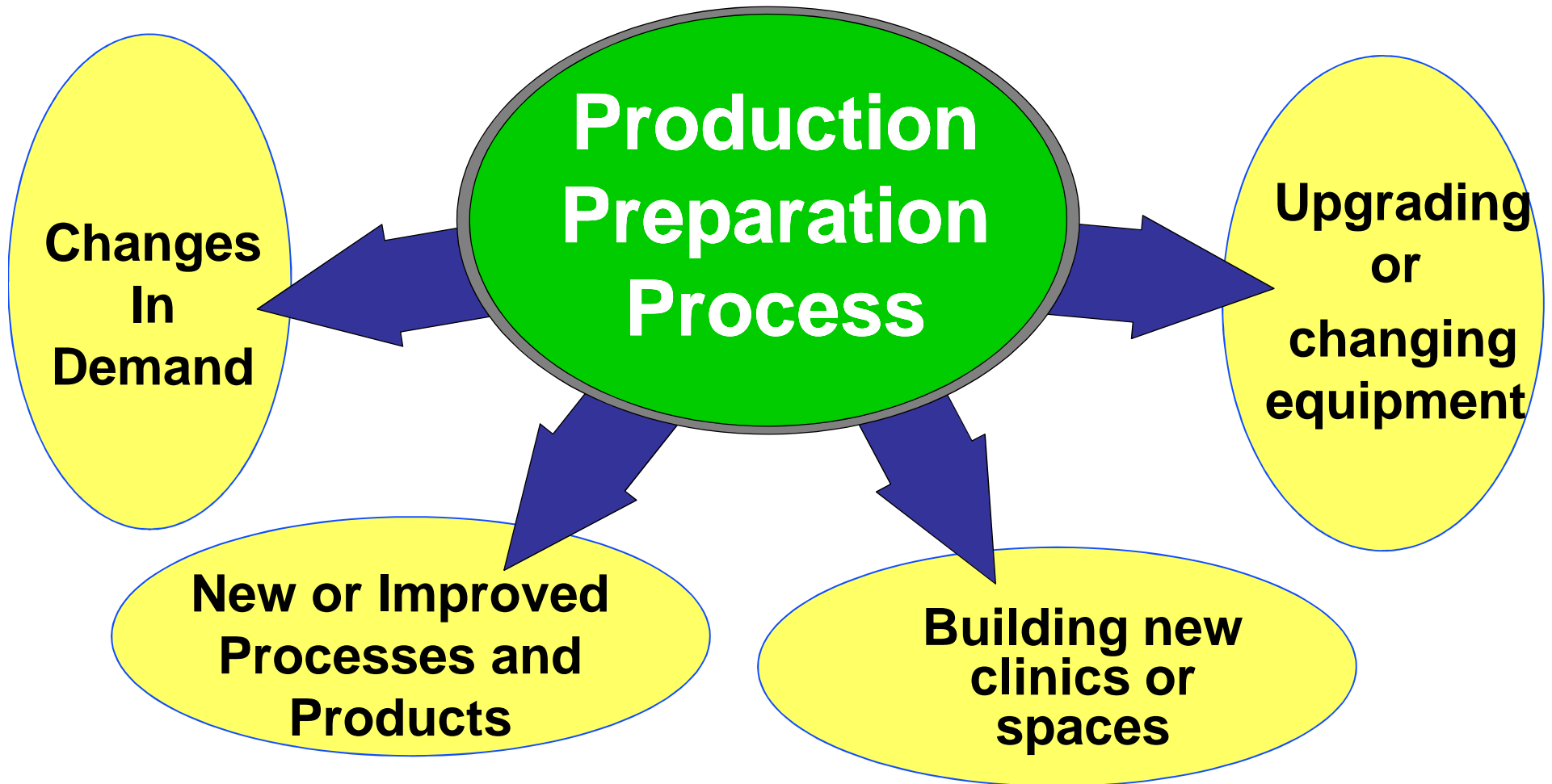
## **Production Preparation Process (3P)**

is one part of an overall Lean design approach that includes the rapid testing of ideas and the embedding of Lean principles into process and workspace design.

# **3P Target**

**Providing from day one of implementation,  
100% quality of care,  
flowing with no waste,  
in a safe and effective manner**

# When is 3P used?



# Goals

Remove inefficiencies  
Optimal space  
Patient safety  
Healing environment  
Optimal service pattern  
More time with patient  
Less energy cost



**“I could try to think differently”**



# Some of the Benefits

- Cross Functional Team
- Rapid Testing of Ideas
- Embedding of Lean Principles into process design



# Challenge

We don't challenge the current system,  
stuck on existing models

Avoid replicating the status quo but only  
bigger

# Why not the conventional way?



**Problems overlooked**



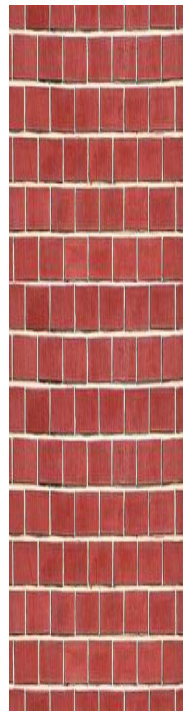
**Function focus,  
not patient**



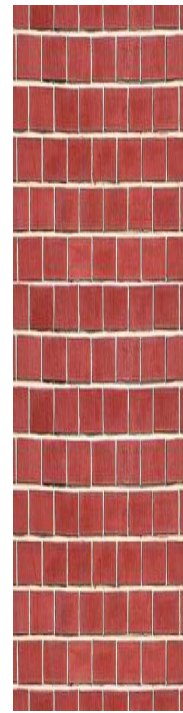
**High costs**

# Silo Approach

Hospital  
Leadership



Architects



Builders



# **Team Approach**

**Hospital Leadership + Staff + Architects + Builders**

# Cost Impact

80-90% of cost encountered after construction is directly related to decisions made during the design phase.

# Our Quest



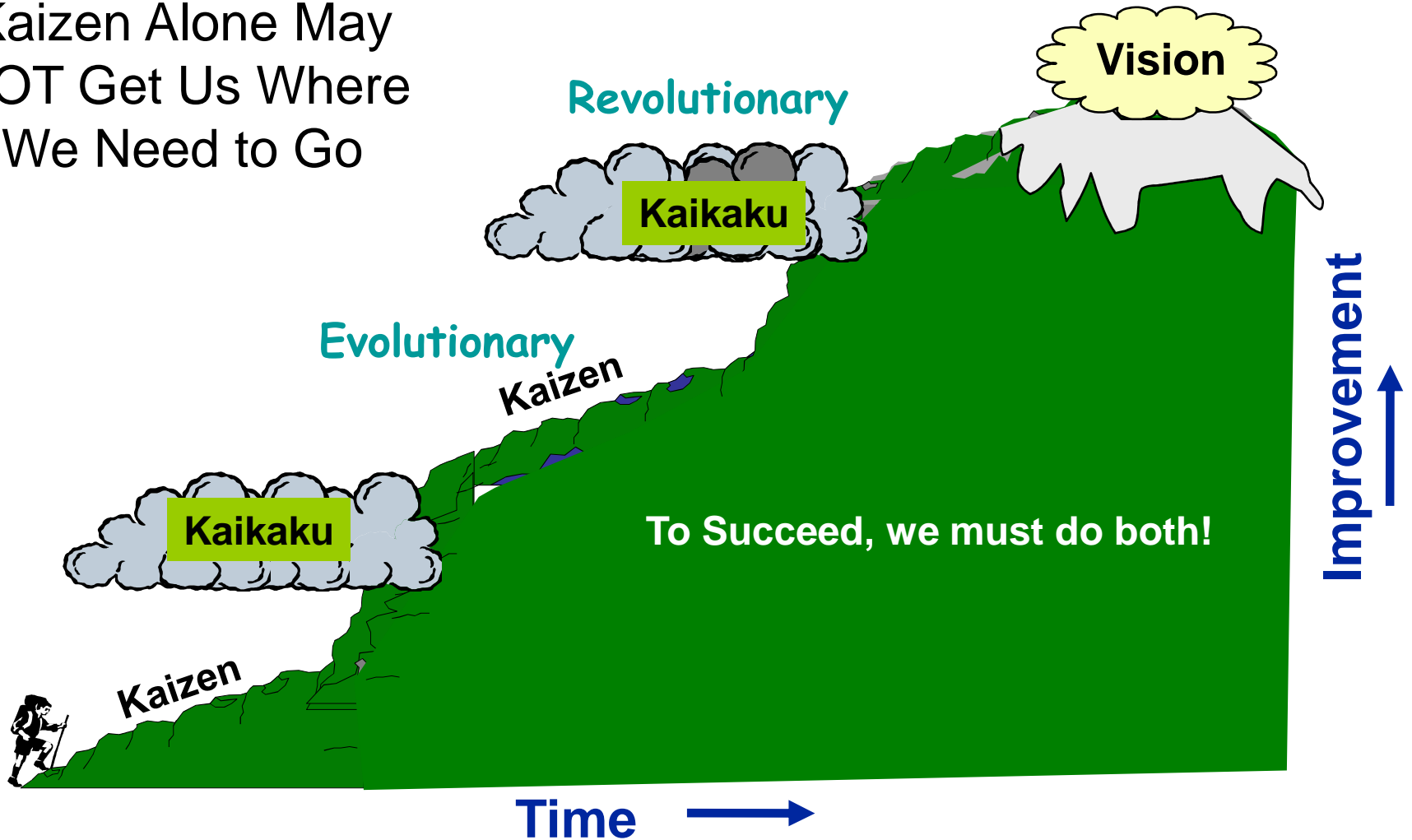
**We are the Architects of the Future**

# **Our Mission**

**To fundamentally reinvent the health care experience from the ground up – for patients, physicians and staff – to achieve breakthrough results in satisfaction, patient safety, clinical outcomes and operating performance.**

# Production Preparation Process

Kaizen Alone May  
NOT Get Us Where  
We Need to Go



# 3P Steps

1. Determine Function
2. Collect “Real” Data
3. Develop “7” Alternatives
4. Evaluate “7” Alternatives
5. Select Better “3” Alternatives
6. Construct Model Operations
7. Simulate “3” Alternative Processes
8. Select Better “1” Design & Process Combination
9. Create Standard Work
10. Develop Equipment Concepts
11. Develop implementation Plan
12. Follow Up!



# Understand Customer Requirements

- Marketing spec?
- Design spec?
- Customer surveys, focus groups?
- Customer complaints?

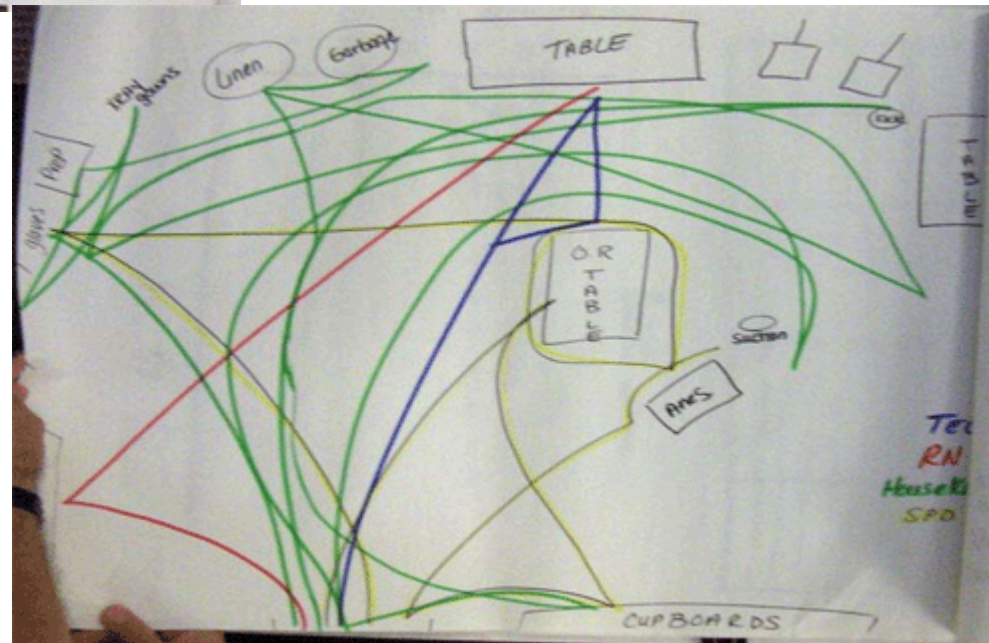
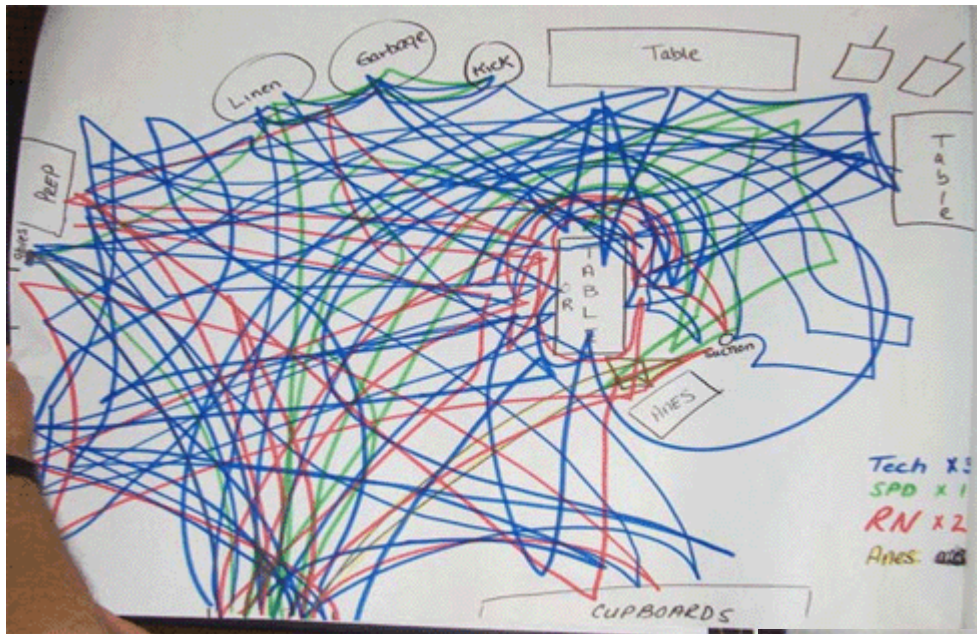
# Let our Customer define Value





**Collect “Real” Data**

# Collect “Real” Data



# Understanding the current state



# **Karen's Ride**

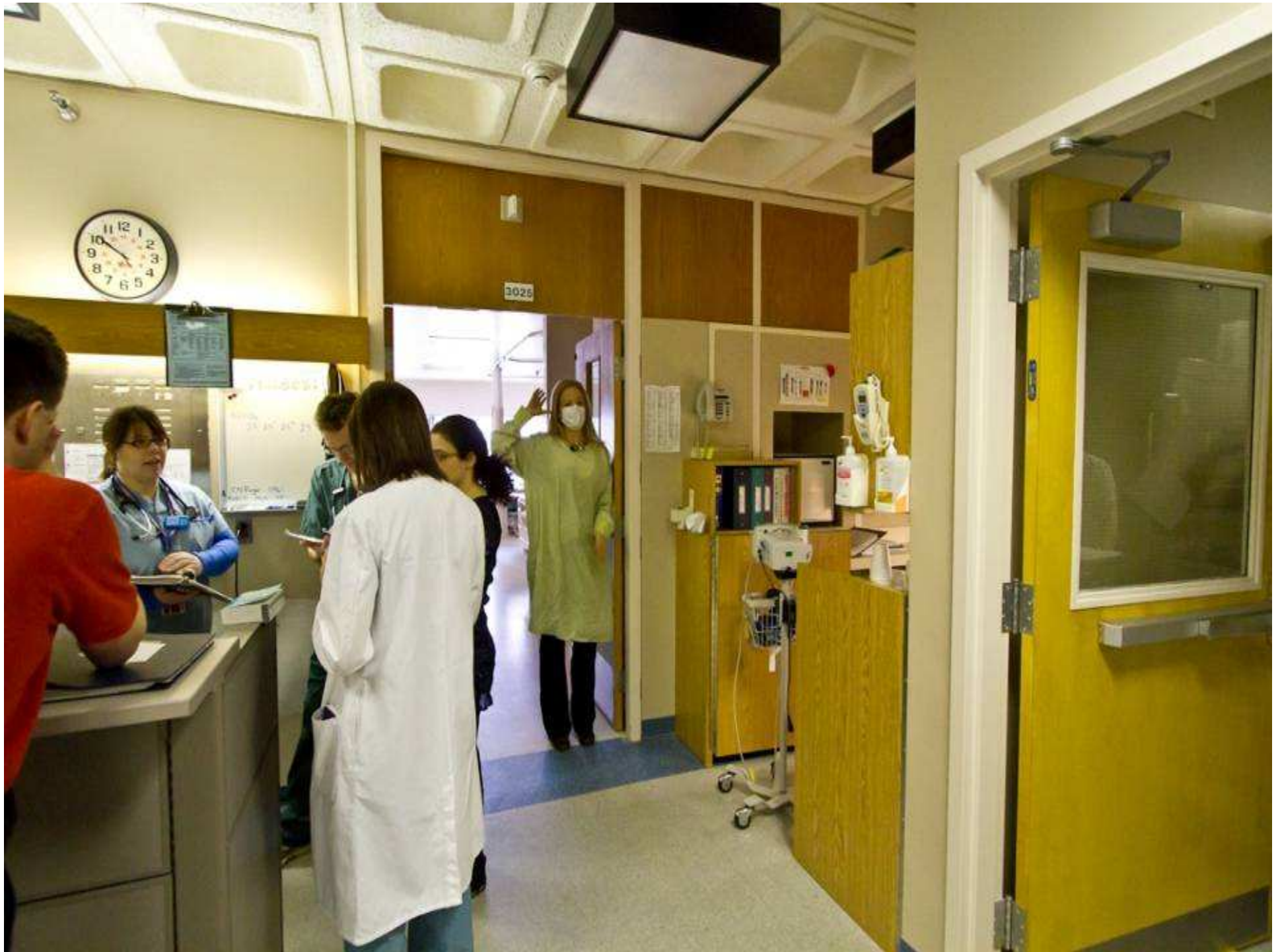
**Our Customer's Experience  
Seeing through our Patient's Eyes**













# Develop 7 Alternatives



Each alternative must be a good workable solution.

Define “what would it take” to make the idea work.

Do not evaluate ideas, focus on what might work!

Consider process steps, not equipment

Do not rely on old or in-house process - select what is best?

# Patient Centered



Design around the patient experience

# Efficient



Minimize waste and duplication



**Safe**

# Timely



No unnecessary waiting



**Reduce Steps**

# Elimination of Patient Handoffs



Move care to patients to minimize patient moves

# Fewer Dedicated Spaces



Flexible Space

# Select Better “3” Designs

What criteria and evaluations will identify the 3 better alternatives?



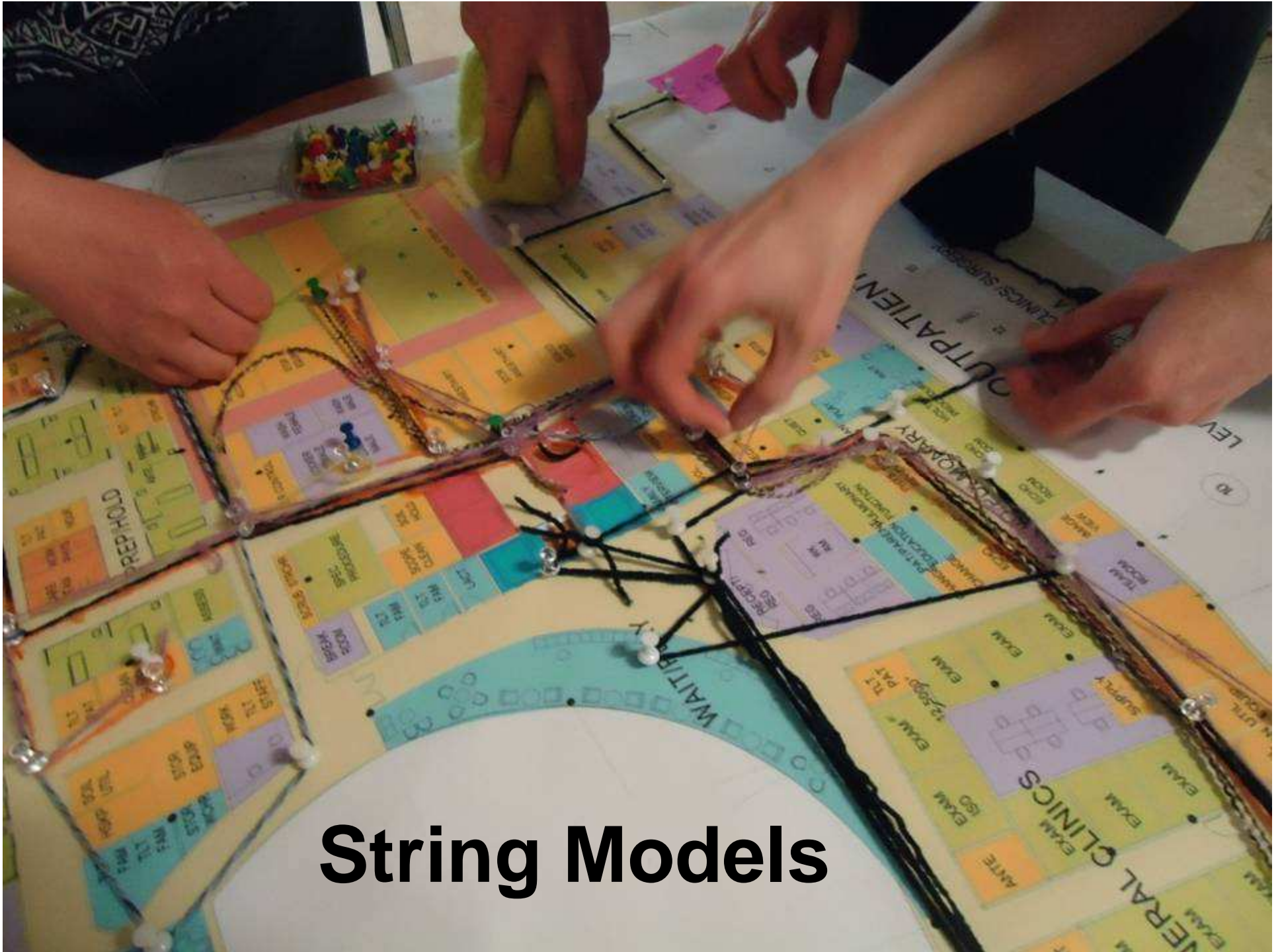
# Redesign of an Outpatient Pavilion

Key Criteria	Weight	Design 1	Design 2	Design 3	Design 4	Design 5	Design 6	Design 7
Privacy/Confidentiality	4	12	20	12	12	12	12	12
Patient Flow	7	7	21	21	21	21	21	7
Minimize Walking	5	15	15	15	25	15	5	25
Accessibility	6	30	6	30	18	6	18	30
Openness to Environment	1	3	1	3	3	3	3	3
Cost to Implement	2	6	2	2	10	2	2	2
Flexibility/ROI	3	9	3	3	15	15	15	9
<b>Total Score</b>		<b>82</b>	<b>68</b>	<b>86</b>	<b>104</b>	<b>74</b>	<b>76</b>	<b>88</b>

Score: 1, 3, 5 (highest) X weight

# 3P Tools

- 7 flows (Spaghetti diagrams, String Models)
- 7 ways (think like 12 year old)
- Simulation/Modeling (post-it notes)
- Life size mock-ups



# String Models

# String Model



# 3P: “Intelligent Design” of our workspaces (mockup, try, practice)



# Life-Size Mock up









**Be Curious**

# Kaizen-man

Develop our  
Kaizen Eyes  
Kaizen Mind



# Don't Jump to only one Idea

Start with SEVEN concepts

Condense to THREE

Distill to ONE



# 3P Guide

- Have defined scope/goal from the start
- Clearly articulate/communicate your scope/goal to team
- Measurement and good data are critical to the process
- Participation from patients is essential
- Standard work is necessary for efficiency
- Flexibility is achieved by breaking down department barriers
- Interdisciplinary groups should always design facilities
- Visualization is a key to understanding flow and processes
- Simulation is enlightening, it changes peoples' views on flow

A Buddhist monk in orange robes stands on a stone path, looking towards a traditional building with a tiled roof and a body of water. The scene is lush with greenery and trees. The text "Find your own Way!" is overlaid in white at the top right.

**Find your own Way!**

*“Do not seek to follow in the  
footsteps of the wise. Seek  
what they sought.”*

- Matsuo Basho  
Japanese Poet

# Thank you

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