

# The Culture of Change in Telemedicine

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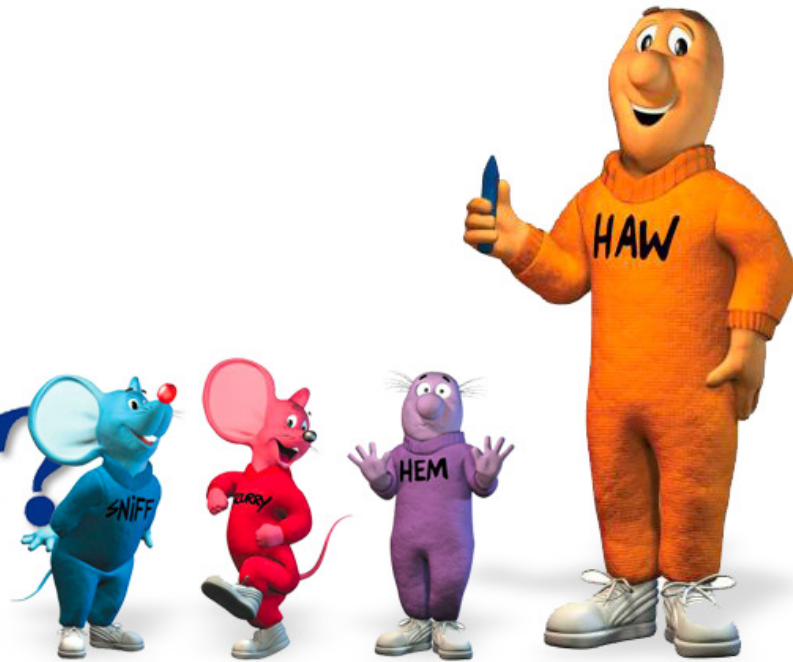


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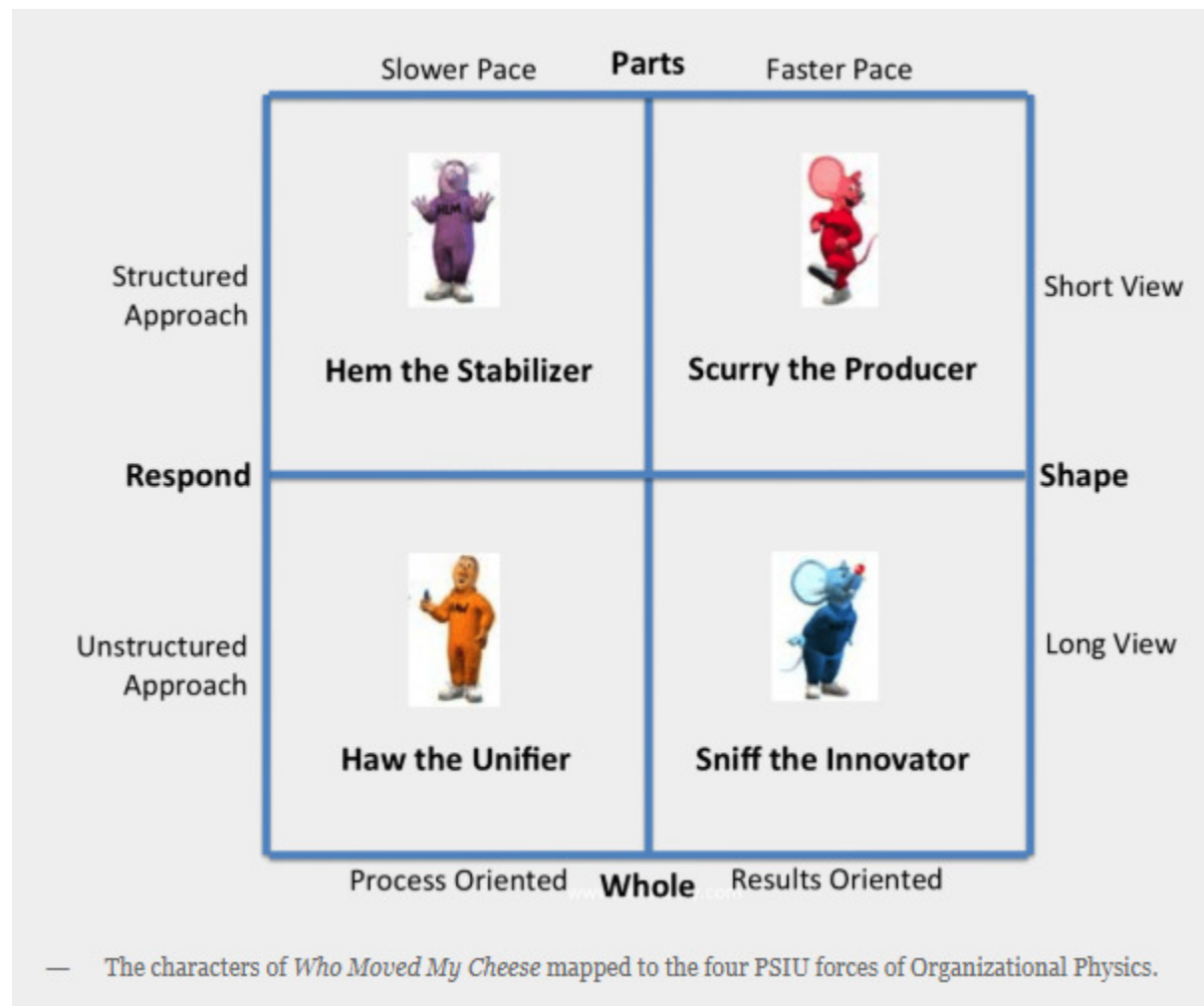
# Who Moved My Cheese?

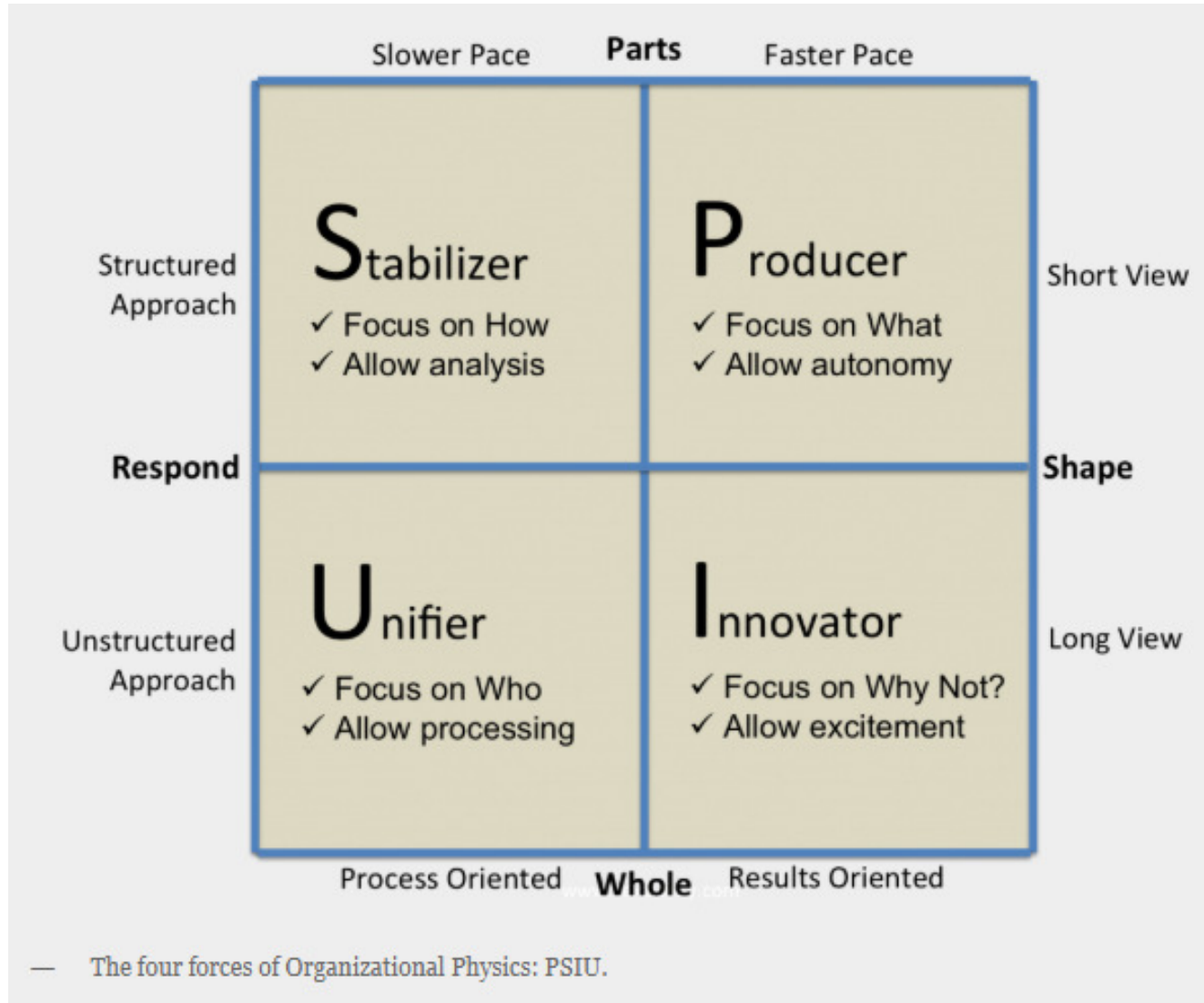
Who  
Mo<sup>🧀</sup>ved  
My  
Cheese?



By Spencer Johnson





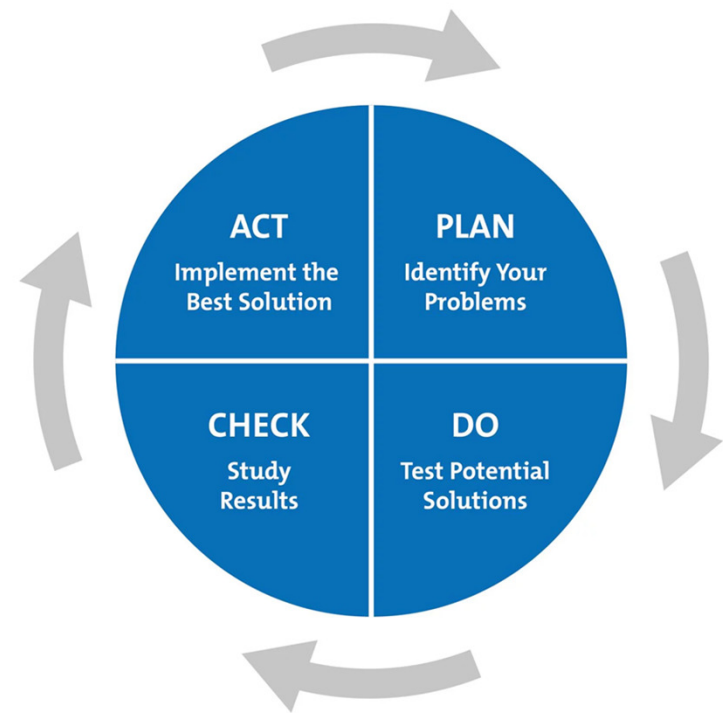


<http://organizationalphysics.com/2013/04/01/who-moved-my-cheese-and-the-four-forces/> by Lex Sisney

# Developing a Telemedicine Program

- Assess & Define
- Develop & Plan
- Implement & Monitor

Figure 1: The Plan-Do-Check-Act Cycle



[www.MindTools.com](http://www.MindTools.com)



# Access & Define

- Assess Service Needs & Environment
  - Do you have a telehealth champion?
  - Is there a corporate willingness to invest in a telehealth program?
    - What healthcare services are not available
    - Identify and prioritize telehealth appropriate services
    - Identify telehealth program assumptions and constraints



# Develop & Plan

- Define and Specify Program Model
  - Where are the patients?
    - Which services meet patient needs?
    - What technology is needed?
  - What is the best organizational model?
    - Human resources?
    - Facility related resources?
    - Who will provide the service?
      - Existing providers/3<sup>rd</sup> party contract?
  - Legal or regulatory constraints?
  - Implementation approach?
    - Phased/pilot?

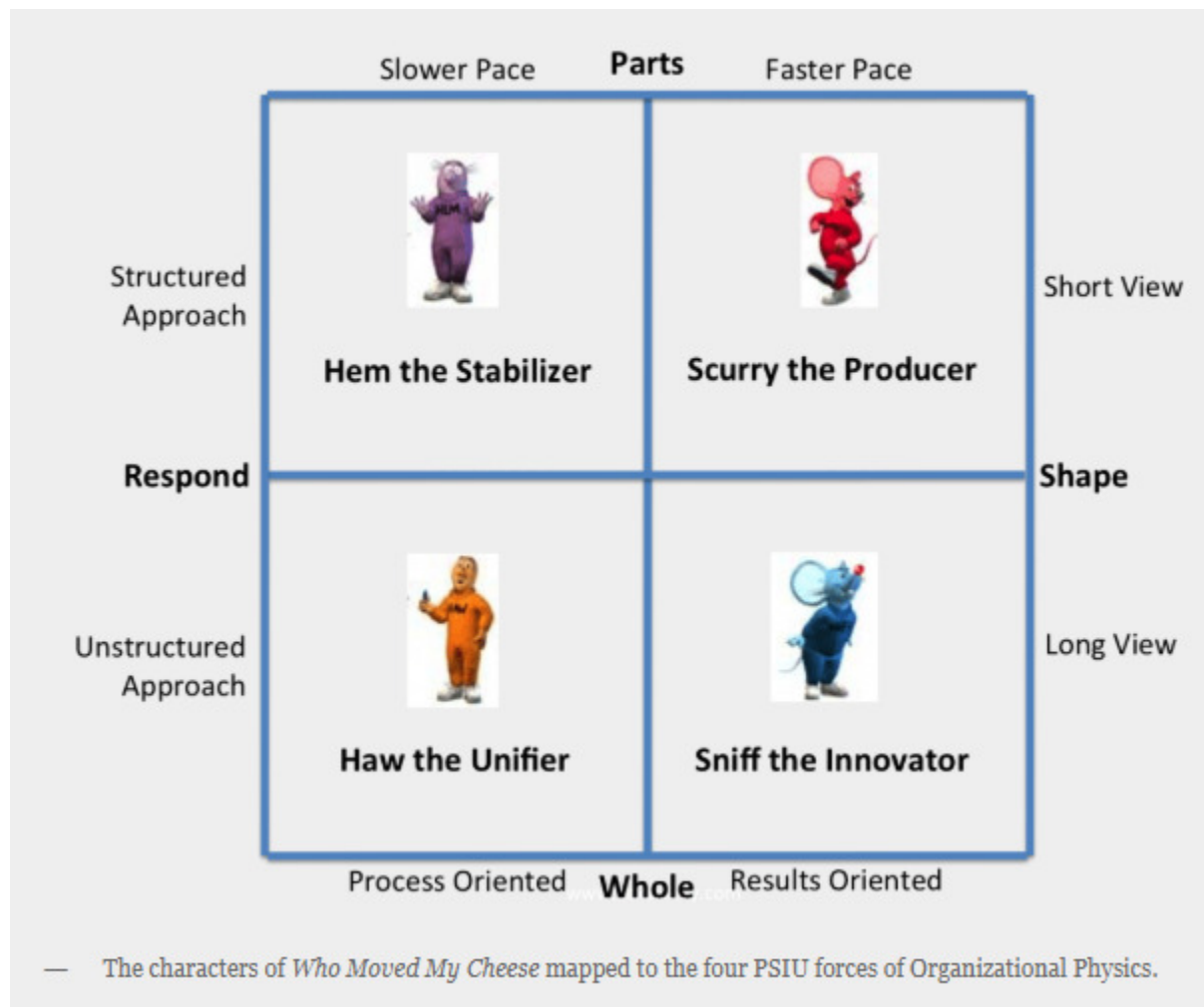


# Develop a Business Case

- Need
  - Community needs
    - Community Health Needs Assessment (CHNA report)
    - Focus groups
  - Organizational mission
- Does the proposed telehealth program fit the mission and the need?
- Obtain financial commitment for implementation and sustainability
  - Outgoing Costs
    - Start-up and operating costs
  - Incoming Revenues
    - Identify the payer mix
  - Is the project sustainable?
- Track program savings
  - Scheduling
  - No more physician travel to rural sites
  - Patient travel miles saved
  - Effect on the local economy (labs/ancillary)
  - Effect on the environment (carbon dioxide footprint)







## Business Perspectives

### Who moved my cheese

- ✓ Monitor, sense and evaluate surrounding business changes, threats and opportunities
- ✓ Use available resources, strength and limitation to address the situation changes to organisation advantage
- ✓ Revamp strategies to adapt to external situations and remain competitive
- ✓ Address employees resistance to changes

### I moved your cheese

- Innovation, entrepreneurship, creativity, problem solving, and business growth
  - Ability to challenge accepted notions,
  - reshape the environment,
  - play by a different set of rules
- By analysing assumptions about the limitations and discover how to overcome them.
- Change the 'game' to your design and not affected by the changes

3



# Plan Program and Technology

- Work Plan Objectives
  - Identify personnel
    - Team Lead
      - Roles/responsibilities
    - Team members
      - Roles/responsibilities
  - Communication / Marketing Strategy
    - Local newspaper add
    - TV commercials
    - Direct Mail
    - Social Media
  - Policies and Procedures
    - Clinical Referral Guidelines
    - Scheduling
  - Process integration
    - Process training for staff
    - Equipment training for staff



# Plan Program and Technology

- Work Plan Objectives (cont'd)
  - Clinical telehealth space
    - Patient room
    - Broadband access
    - Hardware and software needs
  - Support
    - Service Level Agreements for broadband (2hr / 4hr)
    - Maintenance Support Agreement software/hardware
  - Interoperability and scalability
    - EMR integration
    - Interfaces with existing equipment and IT network (firewalls)
  - Organizational Approval
    - Authorization to assign personnel/other resources
    - Authorization for procurement



# Plan Program and Technology

- Outcomes
  - What need do you propose to meet?
    - Project Goals
    - Project Objectives
    - Project Outcomes
  - Patient volumes and utilization
    - Measure
    - Track
    - Achieve



# Plan Program and Technology

- Outcomes (cont'd)
  - Impact Tracking
    - Data collection methodology
    - Are volume / quality / clinical objectives being met?
      - If not, then what?
      - Course correction process
      - Course correction implantation
  - Program improvements
    - Define
    - Plan
    - Implement
    - Test
    - Manage



# Sample Work Plan

S - Specific  
M - measurable  
A - achievable  
R - relevant  
T - timely

Goal	Strategies & Objectives	Activities	Responsibility	Time Period	Outcomes & Process Measures
What do you want?	How are you going to get there?	What are the steps?	Who is going to do it?	How long will it take?	How do you know if you achieved your goal?
Reduce ED wait times for psych consults	Provide telepsych services in the ED	Find a space Invest in video technology Hire a psychiatrist	Team Lead Team member A Team member B	By 4 <sup>th</sup> Quarter 2018	1) By the end of 2018, we will see 10 patients via telepsych

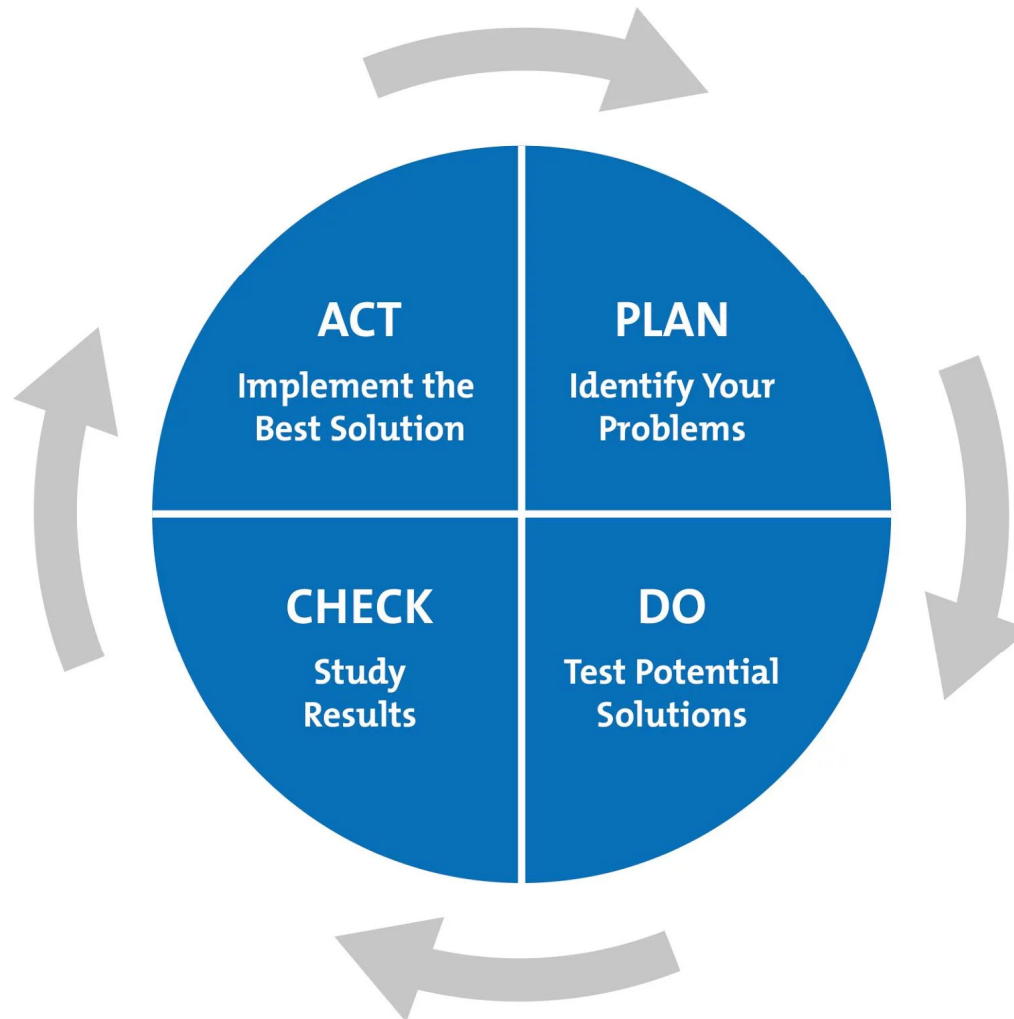
# Implement & Monitor

- Implementation
  - 3, 2, 1, GO
  - Communication plans in action
  - Identify and mitigate risks if necessary
  - Identify and manage program modifications
- Monitoring
  - Are deliverables being met in accordance with the project plan?
  - Is the program meeting its objectives
    - If not, what changes are needed





**Figure 1: The Plan-Do-Check-Act Cycle**



# The Handwriting on the Wall

## **Change Happens**

They keep moving the cheese

## **Anticipate Change**

Get ready for the cheese to move

## **Monitor Change**

Smell the cheese often so you know when it is getting old

## **Adapt to Change Quickly**

The quicker you let go of the old cheese, the sooner you can enjoy the new cheese

## **Change**

Move with the cheese

## **Enjoy Change!**

Savour the adventure and enjoy the taste of the new cheese!

## **Be Ready to Change Quickly and Enjoy it Again**

They keep moving the cheese

From: Spencer Johnson, MD; *Who Moved My Cheese?*

# Implementation

- Not as easy as it sounds!
  - Change management theories
  - Work Plan
- Telemedicine room setups
  - The good, bad and the ugly
  - Problem solving solutions



# Telemedicine Room Design

- Location
- Size
- Placement of equipment & furniture
- Electrical & telecommunications connections
- Lighting
- Acoustics
- Wall color



# Existing Patient Room



# Room Location

- In a quiet location
  - Minimize noisy, busy corridors
  - Parking lots
  - Waiting rooms
  - Restrooms
- Microphones are sensitive
- Windows can generate glare



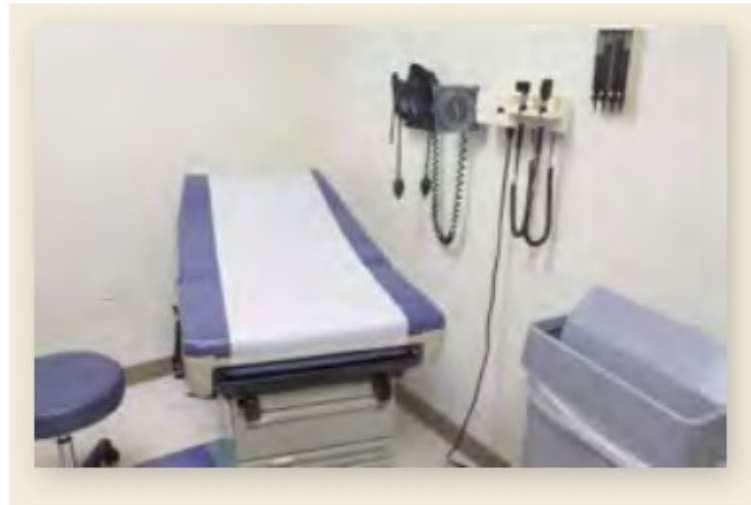
# Room Size

- Depends upon service being provided
- Type and size of equipment
- Clinical or patient education
  - Conference seating
- Specialty consultations
  - Exam tables



# Existing Patient Room

- Large enough to move around comfortably
  - Exam table
  - Chairs
  - Telemedicine equipment
  - Patient
  - Telepresenters
  - Work surface
  - Phone/computer, etc.





# Clinician / Education Rooms

- Remote Clinician Room
  - Room size can be smaller than patient exam room
    - No exam table needed
  - Consider camera viewing area/angle
- Clinical Education Room
  - Classroom setup
  - Writing desk/tables
  - White board
  - Adequate audio and video feeds
  - Size of viewing monitor
    - Should be larger than exam room monitors

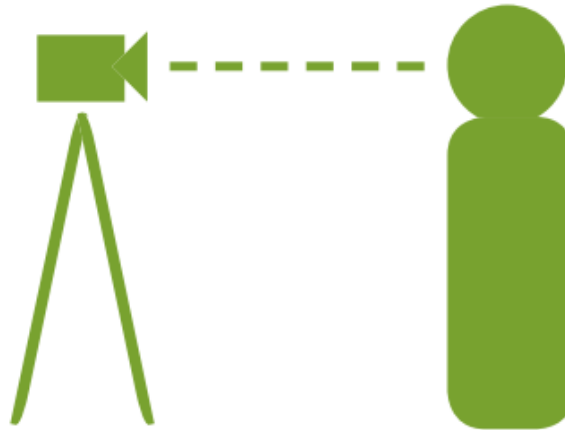


# Examples



# Clean and Uncluttered

## Clean and Uncluttered



An uncluttered background optimizes camera function and improves the view at the remote site. Wires, telephones, fax machines, monitors, computers, peripheral equipment and furniture can contribute to a cluttered and inefficient workspace. Make an effort to arrange and store them in an organized, efficient way.



# Camera Positioning & Placement

**Both participants should be looking directly at each other, simulating an in-person discussion**



Even though the patient is looking directly at the consultant, it does not appear that way because the camera is mounted too high. Mounting the camera too high makes it difficult for the consultant and patient to maintain eye contact.



When the camera is mounted at approximately the same height as the patient it produces a more precise view of the patient, allowing the patient and consultant to make eye contact.



# Optimal Lighting

- Diffused soft light source
  - No shadows
  - Depicts colors naturally
- Place a light in front of a patient to reduce shadows
- Avoid backlight from windows or overhead lights



# Harsh Directional Lighting



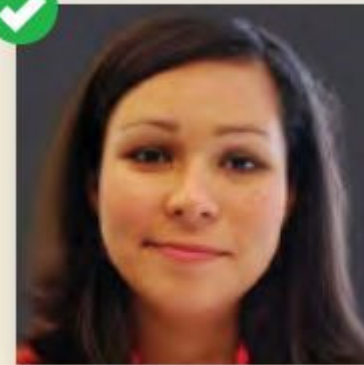
Harsh directional lighting creates shadows and makes it difficult to see facial features.



Diffused lighting creates even lighting.



# Impact of Backlighting



Diffused light placed in front of the patient allows for a more accurate depiction of the colors and features in the image.



Backlighting from windows and other concentrated light sources can create dark images and shadows.





# Impact of Supplemental Lighting



Images taken using only ceiling-mounted fluorescent light fixtures can lack dimension and contrast.

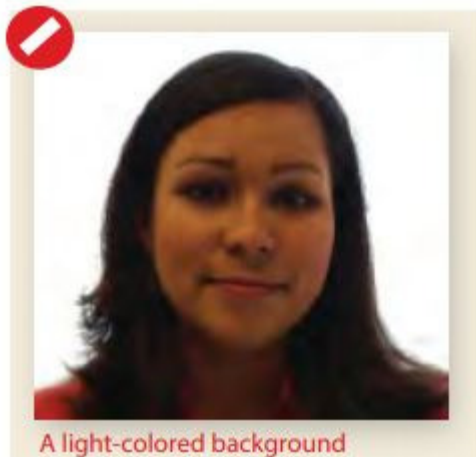


Supplemental lighting enables the subject in the image to stand out against the background.





# Impact of Wall Color



A light-colored background makes the image appear too dark.



A dark-colored background makes the image appear washed out or too light.



# Ideal Wall Color

White or light walls can darken faces.  
A dark wall can lighten faces.



Ideal: Light Blues



Ideal: Light Grey Background

A robin's egg blue or light gray background  
works well on all skin tones.



# Acoustics

- High ceilings and hard surface floors
  - Can create echoes
- External noises
  - from facility HVAC
  - From traffic outside
- Sound dampening
  - Carpet, drapes, acoustic tiles on the ceiling
  - Sound dampening paint





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