





**BUT WHY
DADDY????
WHY?**

**What is the REAL
WHY of Healthcare
Design?**

Copyright Materials

This presentation is protected by US and International Copyright laws. Reproduction, distribution, display and use of the presentation without written permission of the speaker is prohibited.

Gary Schindele

FHFI, CHEP

CEO, Founder

William Hercules

FAIA, FACHA, FACHE

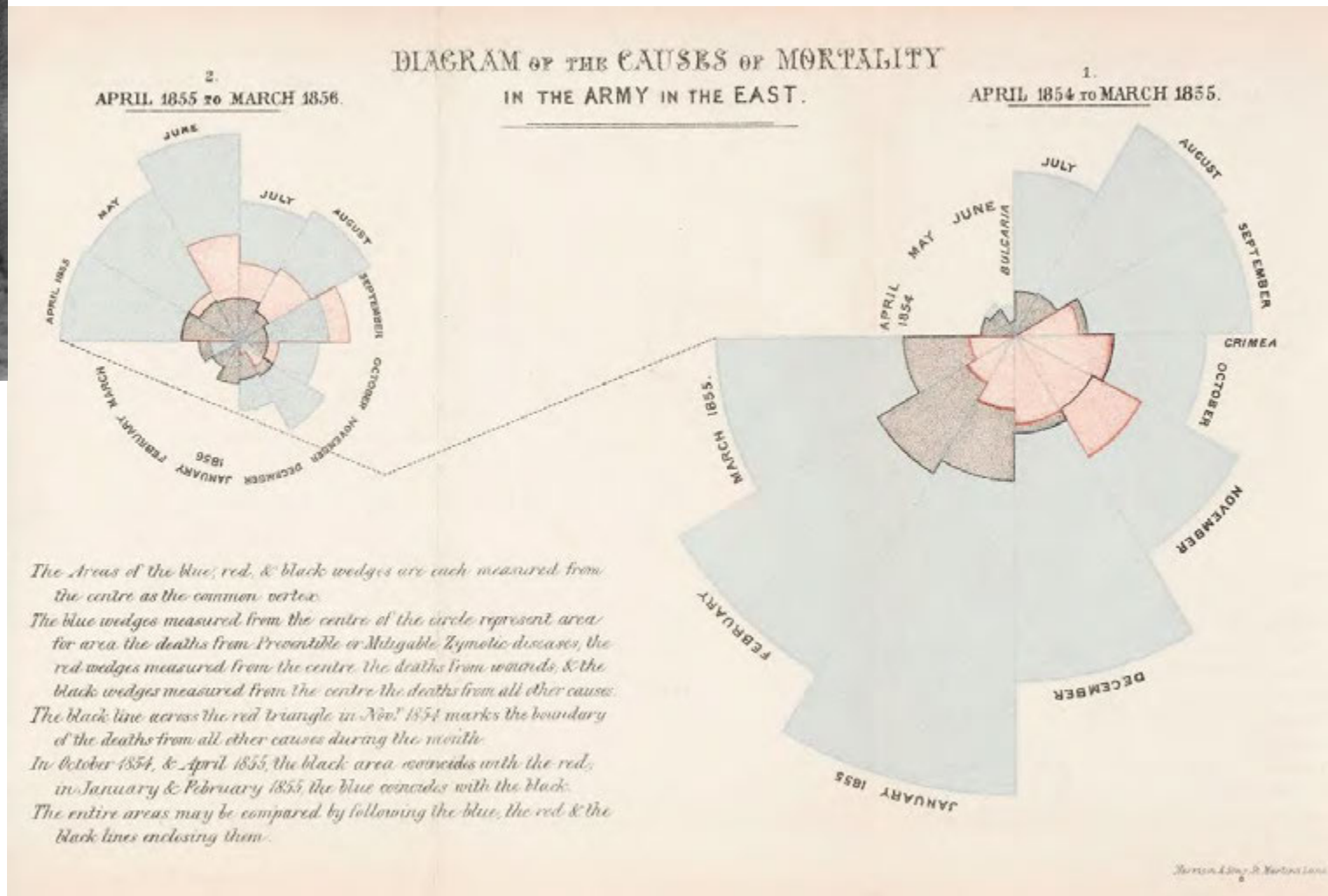
CEO, Founder

WJH HEALTH





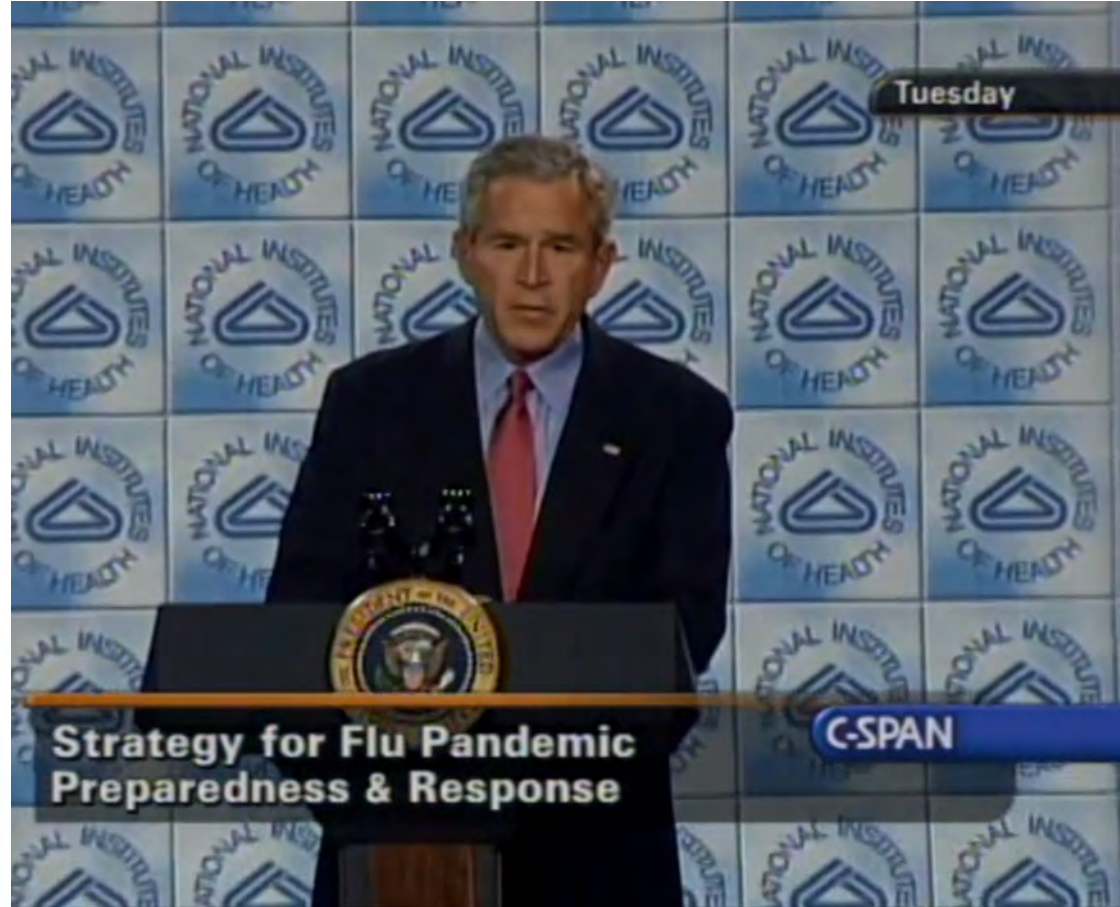
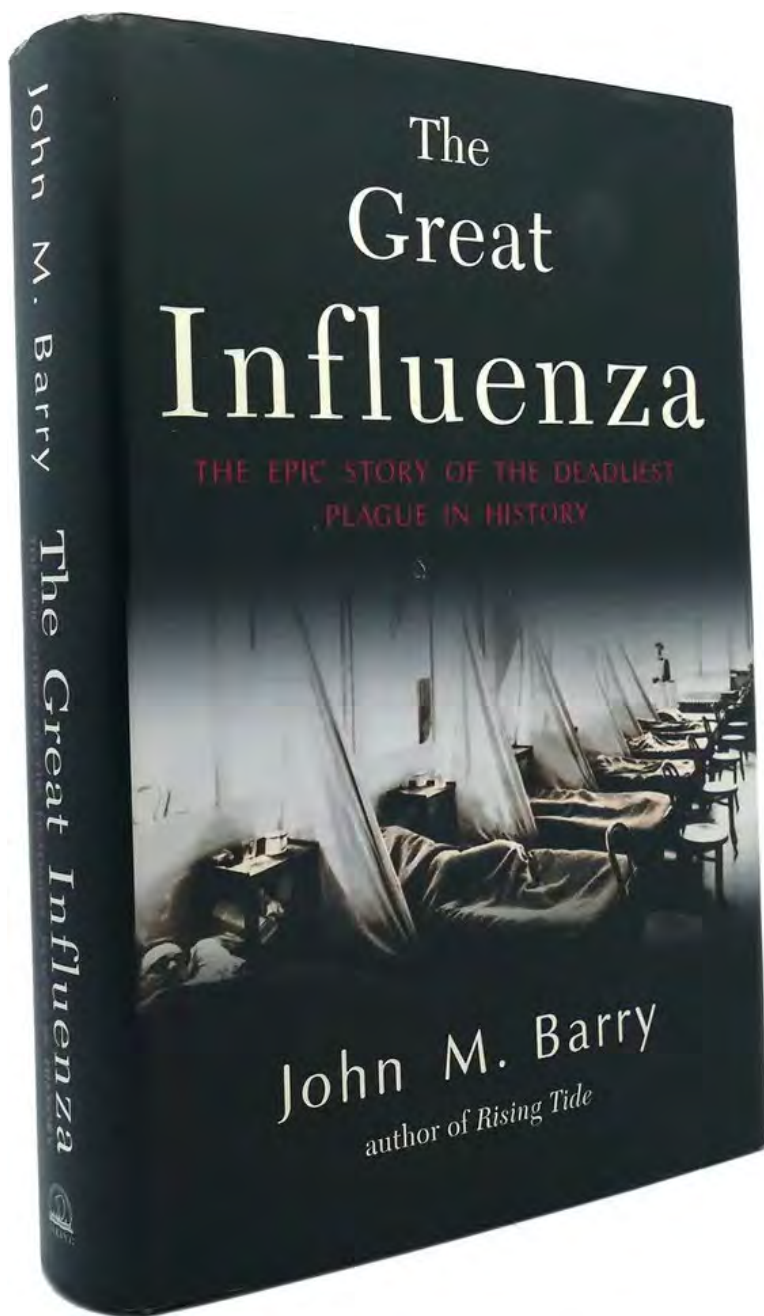
- wounds
- other causes
- preventable or mitigable zymotic diseases



What was discovered 170 years ago...

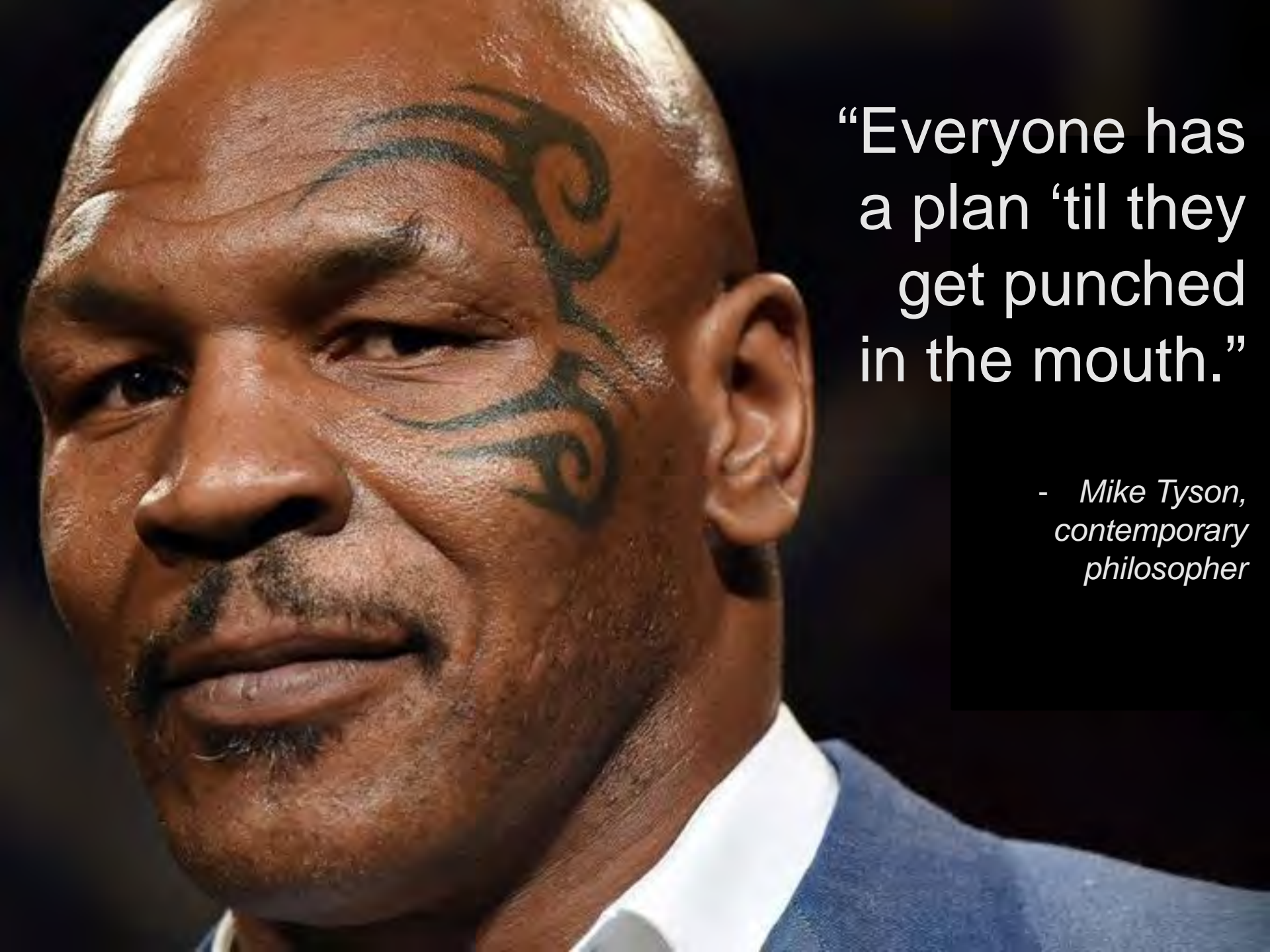
...was never really learned.





Sources: John M. Barry. *The Great Influenza: The Epic Story of the Deadliest Plague in History*. New York: Viking Adult, 2004. First Edition; ISBN: 0670894737

C-Span. *National Strategy for Pandemic Preparedness*. 1 November 2005. <https://www.c-span.org/program/white-house-event/national-strategy-for-pandemic-preparedness/149650> Accessed 4 April 2025.



“Everyone has
a plan ‘til they
get punched
in the mouth.”

- *Mike Tyson,
contemporary
philosopher*

Has our Purpose Really Changed? All we wanted to do is go North or South or East or West



All firefighters want to do is put wet stuff on red stuff

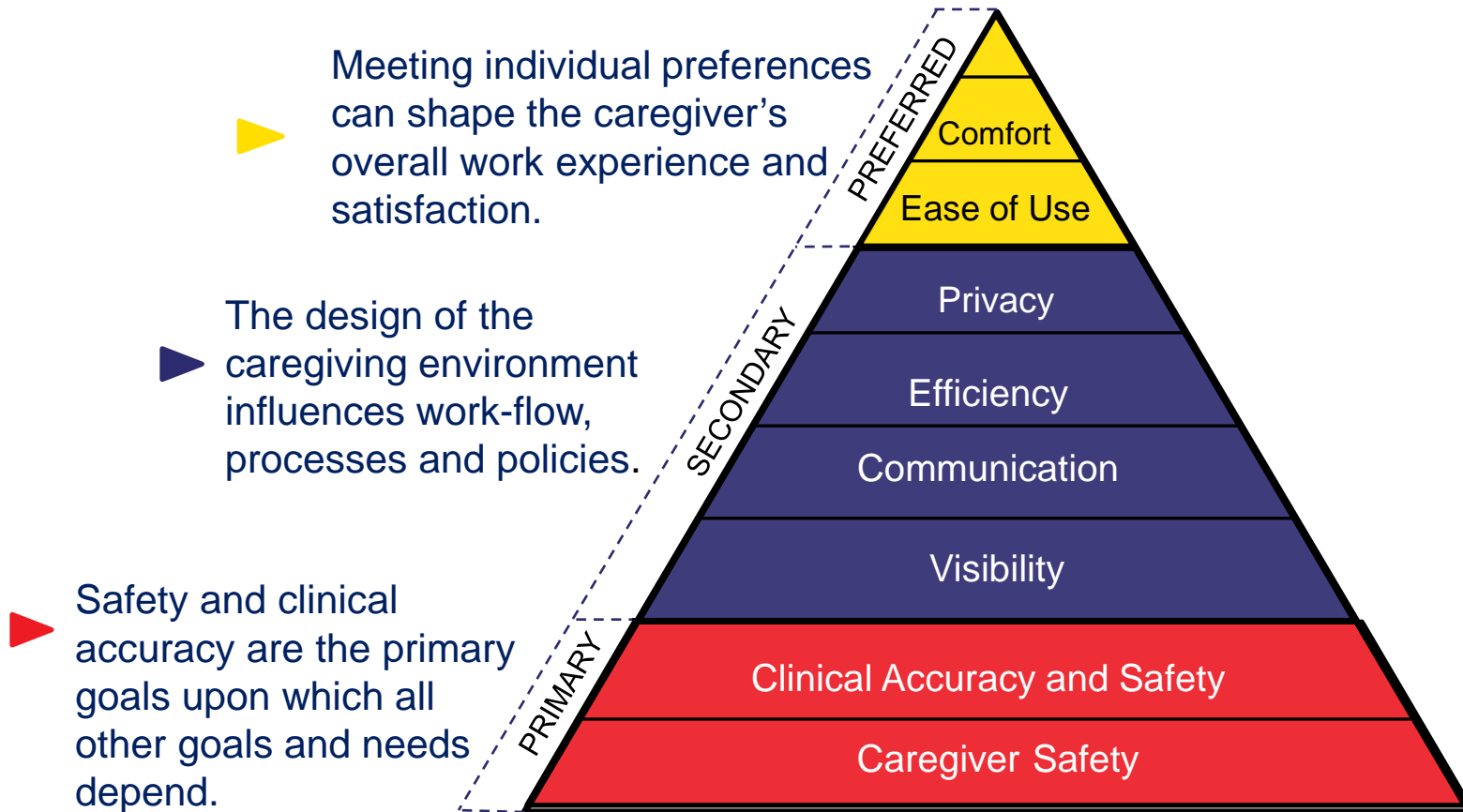


Has our Purpose Really Changed? All we want to do is care for the sick and injured.



So, what is our “Why” in Healthcare Design?

Why are we designing a healthcare environment in the first place?



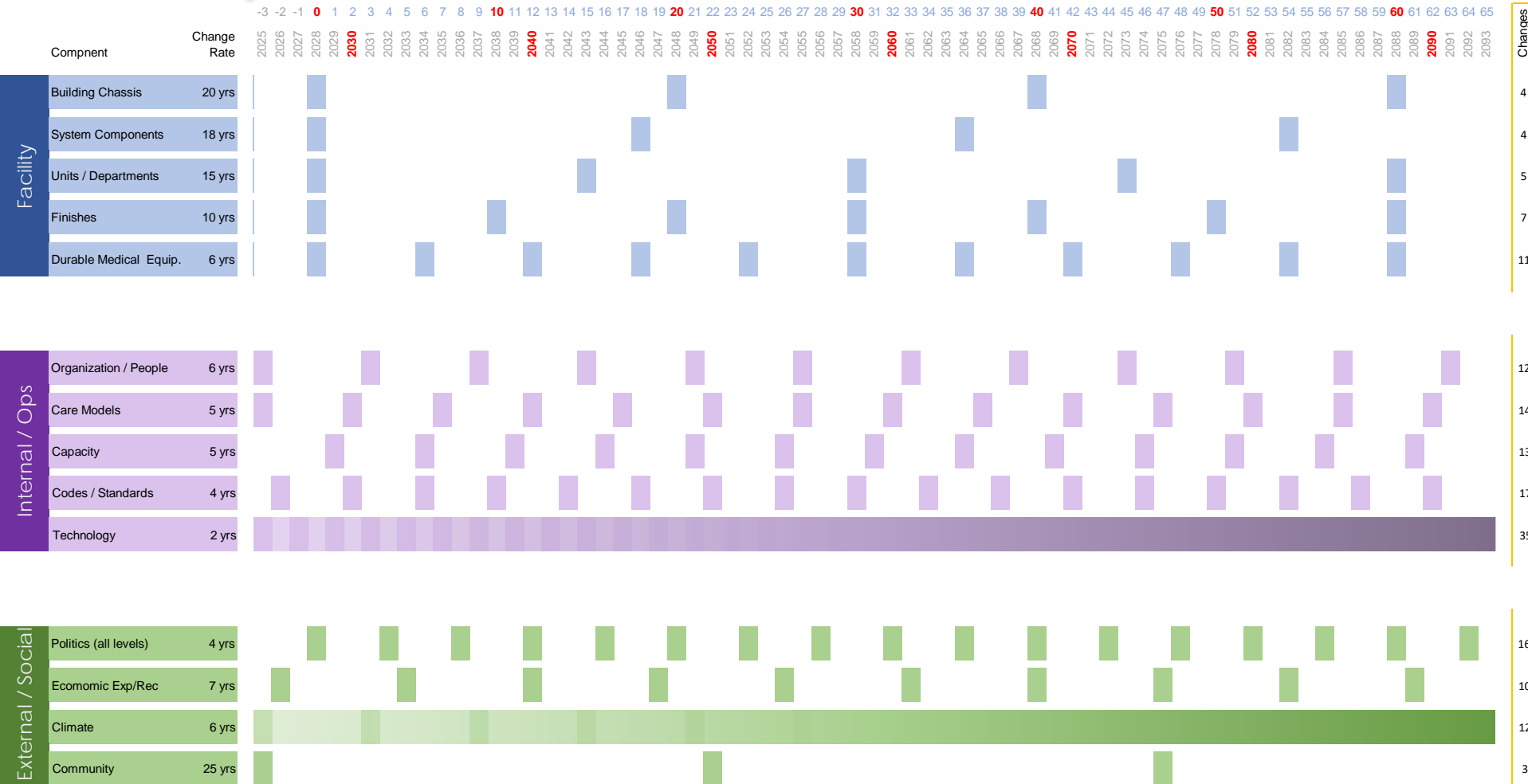
Flexibility of spaces

For hospitals in 2023 and beyond, the **flexibility of spaces** will remain a constant in design. Not only are flexible spaces essential when the next pandemic or natural disaster occurs and facilities need to **adapt and mobilize** to meet short-term needs, but they are also necessary due to the fast rate at which technology is advancing. As the healthcare sector continues to evolve, **designing flexible spaces** does more than just prepare hospitals for crises, it increases the utilization of a facility by providing more options to **adapt in unforeseen situations**.

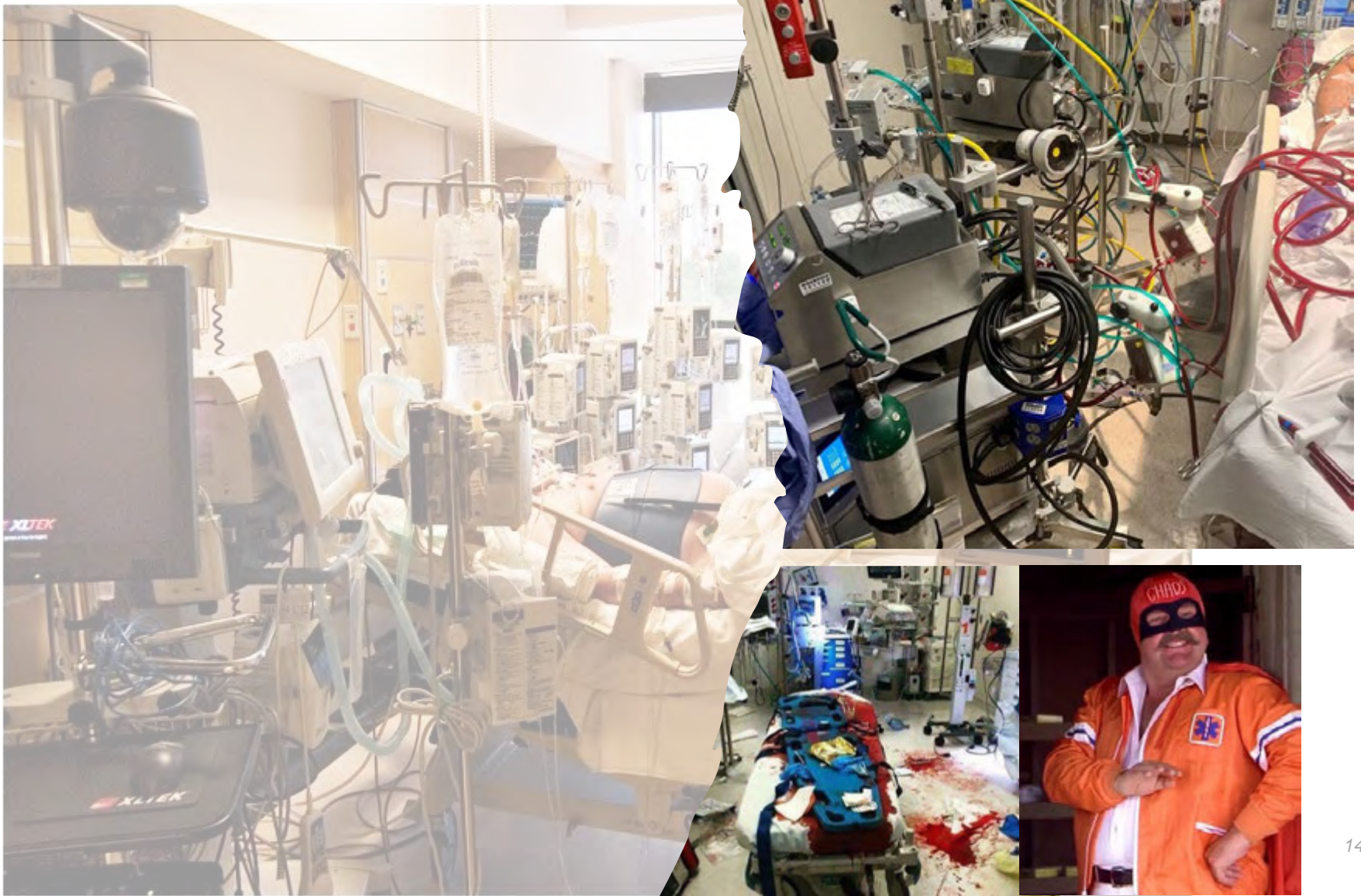
For example, **acuity-adaptable patient rooms** — hospital rooms that allow care to come to the patient rather than moving the patient to where care is — are becoming more predominant. **Acuity-adaptable patient rooms help solve the issue of overcrowding** within hospitals, while ensuring the patient is cared for in the same room no matter their care needs. In pandemic-specific situations, a **flexible solution** that will rise in popularity will be the use of patient units that can be fully exhausted in the event that an isolation unit is needed. For instance, emergency department observation units that can be fully exhausted and **mobilized as additional treatment areas** provide the dual purpose of serving as an ED and substitute trauma unit when needed. **Flexibility in design** can be carried into other areas of hospitals, such as ambulance bays that transform into mass decontamination zones and education spaces that shift to become emergency triage when the need arises.

Adaptability, convertibility and flexibility of healthcare spaces will be more important than ever, cementing a standard across the industry as a way to care for patients and support caregivers in an efficient and effective manner.

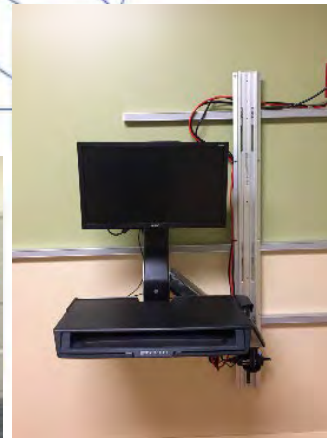
Why is this Important? Context for Flexibility & Complex Adaptive Systems



C.H.A.O.S.: Clinicians Have Arrived On Site



Patient Care Environments Are Dysfunctional Applications of Dissimilar Technologies....and the A & D community can do nothing to influence this



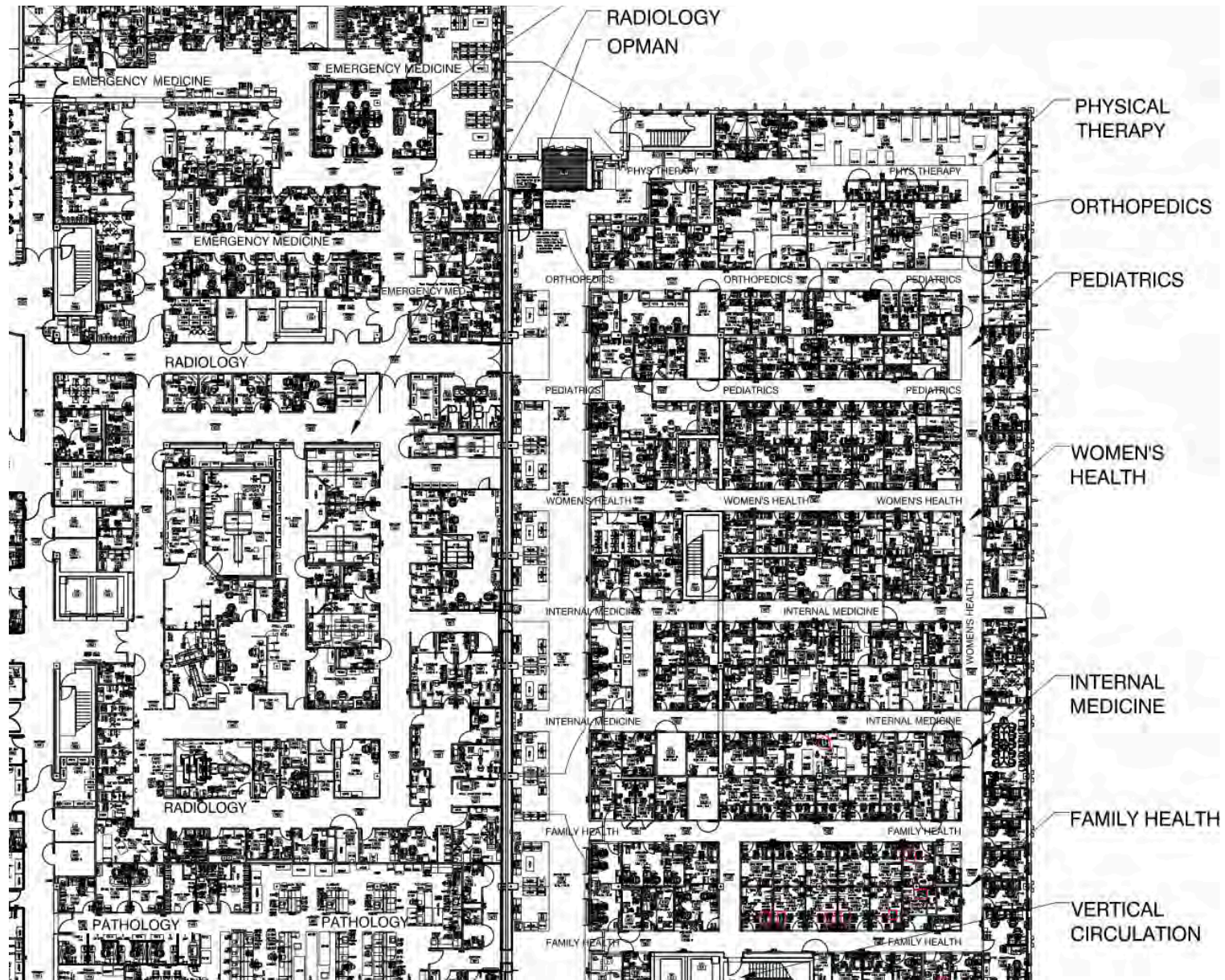
And with technology, come the people who operate these devices.....not just a doctor and a nurse



Not every patient is a “serious” patient, but the technology remains the same

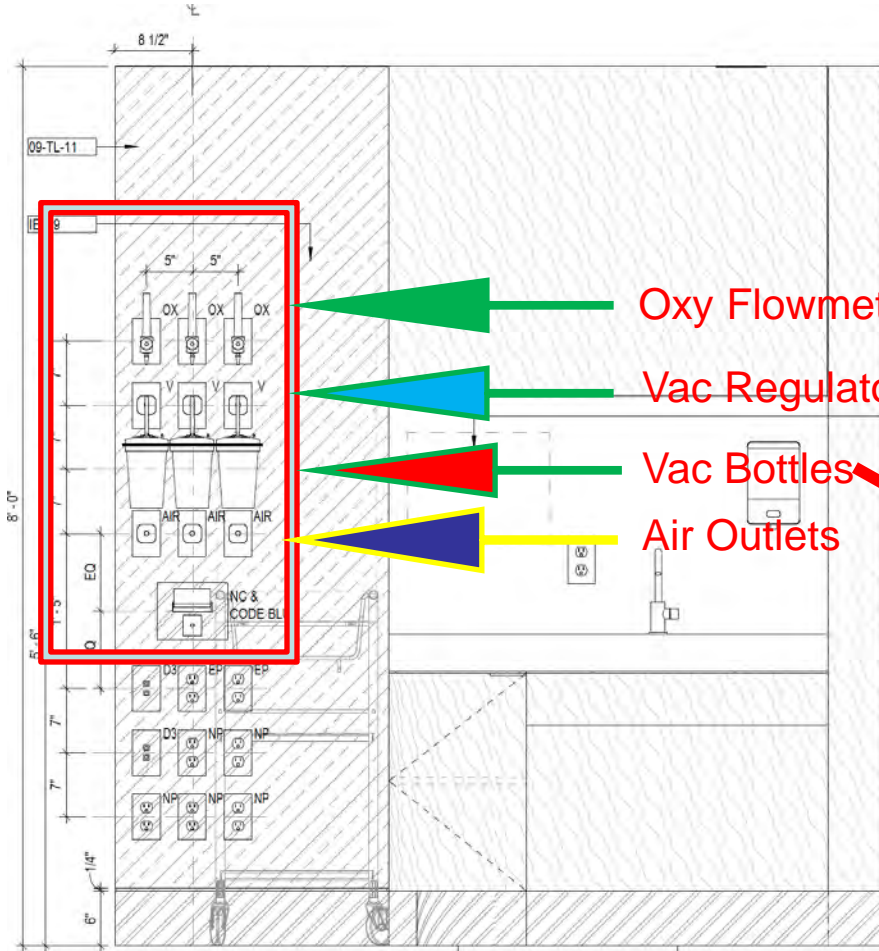


It ALWAYS Works on Paper





Post occupancy reality has NOTHING to do with a symbol on an elevation. We need to respect this reality at the time of design.



Oxy Flowmeter

Vac Regulator

Vac Bottles

Air Outlets

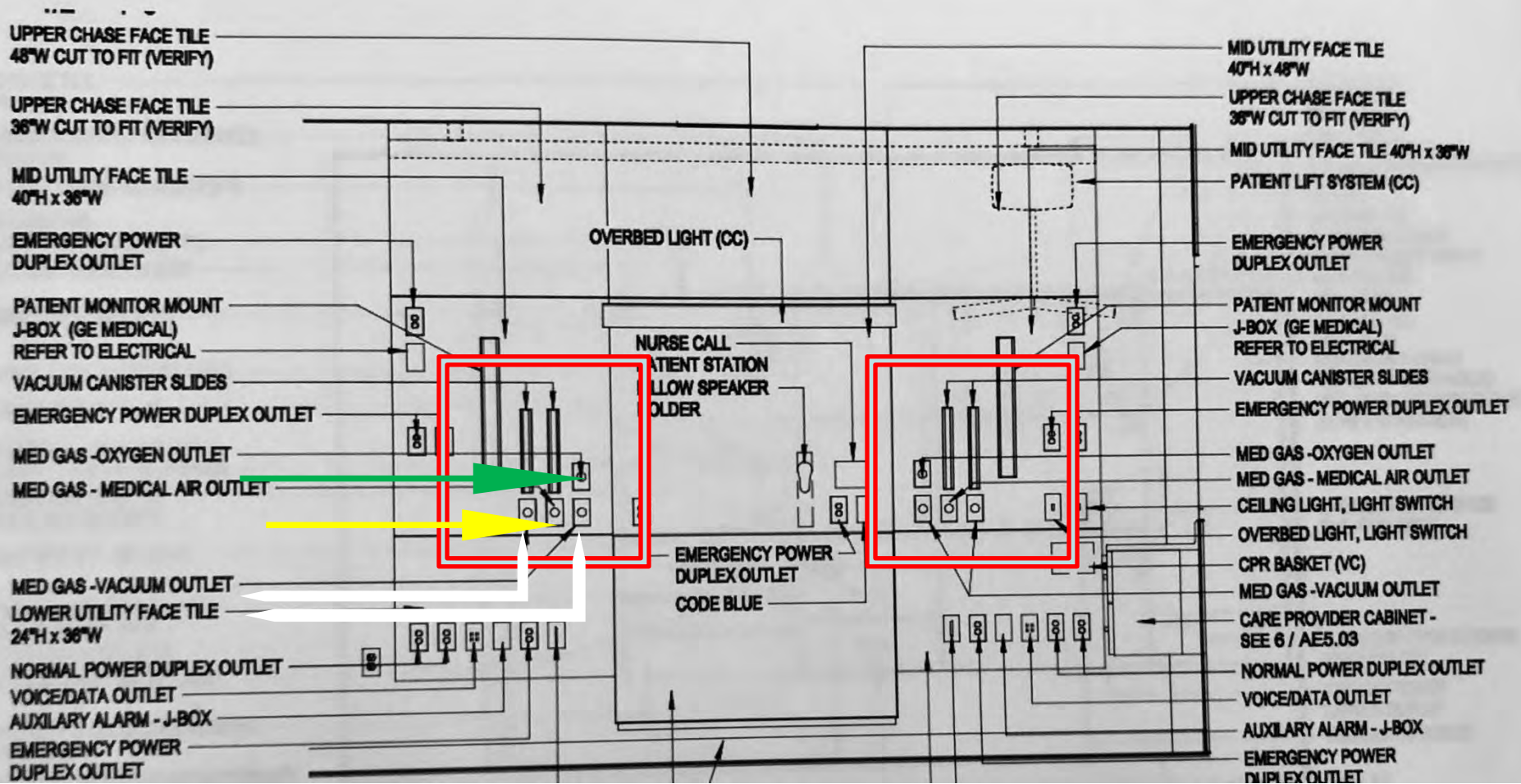
ENLARGED TYPICAL 30" BABY HEADWALL W/ LDR 10 FOOTWALL

6

1" = 1'-0"



The Drawings **Never** Lie





Best intentions, but no post occupancy reality taken into consideration during design.



All that money spent on a ceiling boom which can not even be used and is completely out of play.

No “real world” post occupancy spatial planning taken into consideration during design.



Sometimes It Just Doesn't Work



Post-occupancy Chaos....
No caregiver safety or
infection control consideration



Casework Headwall designs look terrific right until the day after open house?



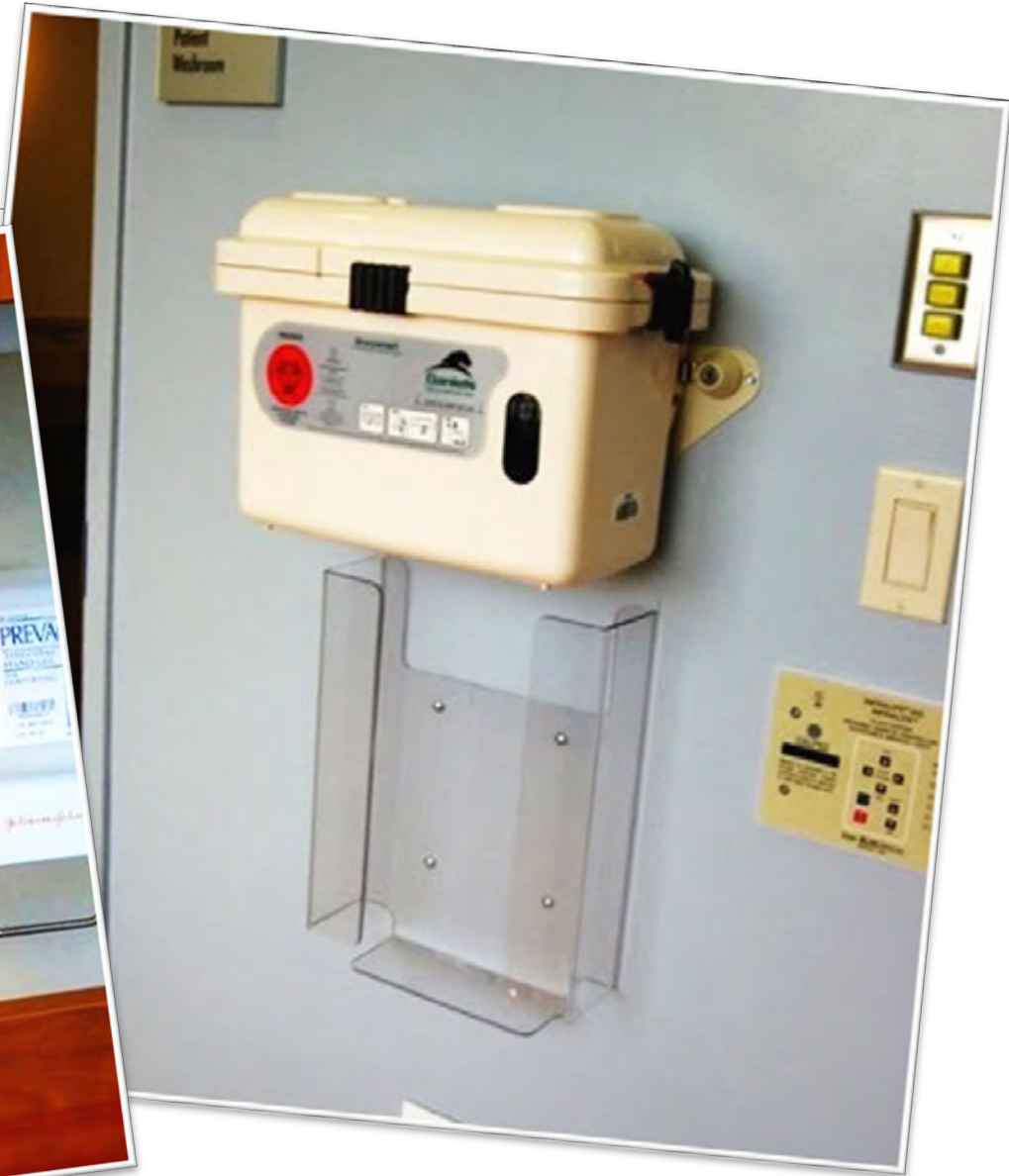
How happy are nurses when they need to bend down and over to adjust a suction regulator? How much did that casework cost for doors which NEVER close?



When was the last time this counter was “REALLY” cleaned?



Post Occupancy fixes
are never budgeted.....



....but we seem to always find the money to fix that which could have been prevented in the first place.



Perception Drives Reality

If you think patients are not paying attention,
Think again.....

Actual quote from a chemo patient's responding HCAHP Survey:

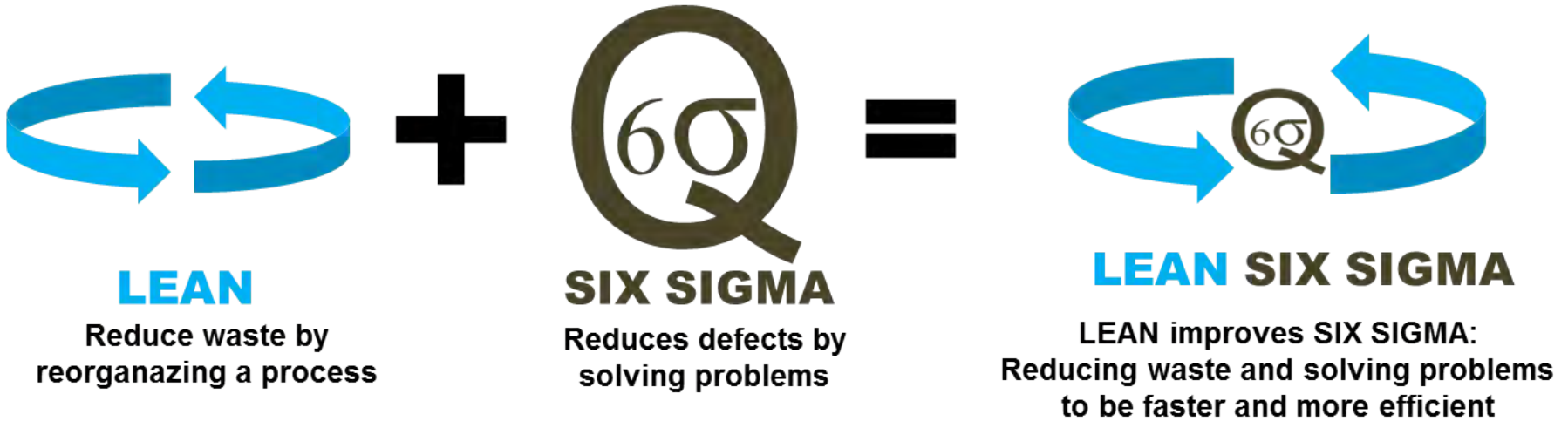
“If you can't fix a simple hole in the wall, how can I expect you to fix me?”





"LEAN" is the systematic method for waste minimization within a process without sacrificing productivity.

What is **LEAN SIX SIGMA**?



LEAN evaluation and process improvement must start where the work takes place (Gemba).

In a healthcare facility, "Healthcare work" takes place where the patient is.



What are the KEY COMPONENTS of process improvement for clinicians at the bedside?

Give them:

WHAT they need

WHERE they need it

WHEN they need it



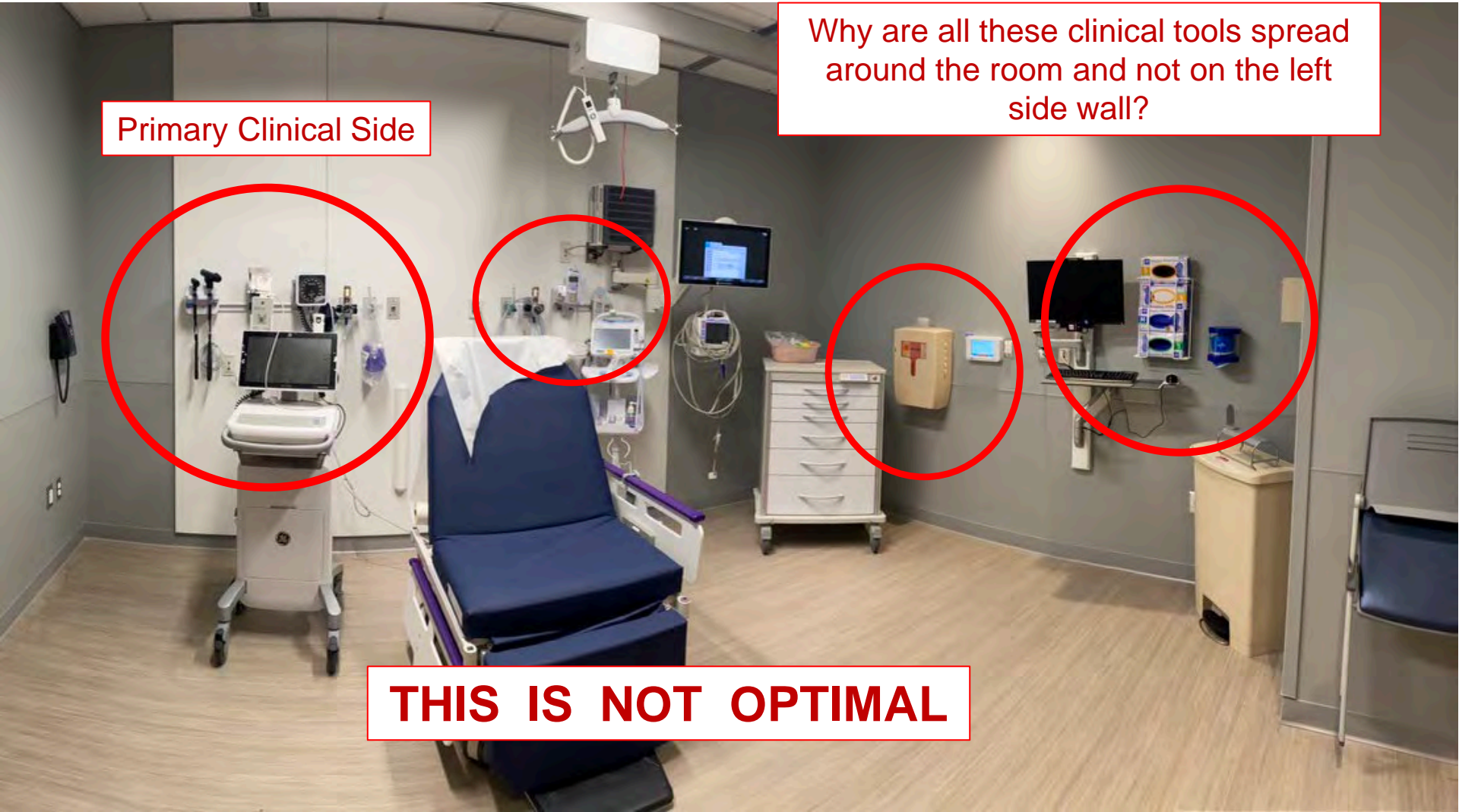
WORKFLOW MATTERS

Kaizen Process Improvement Initiatives

Primary Clinical Side

Why are all these clinical tools spread around the room and not on the left side wall?

THIS IS NOT OPTIMAL





Best practice ED Exam room....



Image: Orlando Health



ED Trauma BEFORE



This ED Trauma room had no inventory controls and clinicians had no idea what was where.....



ED Trauma AFTER



.....In this real-world scenario, LEAN Implementation reduced inventory by 60% and 25 square feet of area was re-captured.



Trauma Rooms.....





BEFORE



AFTER





Guidance for Designing Health and Residential Care Facilities that Respond and Adapt to Emergency Conditions

FGI Emergency Conditions Committee



FGI Guidelines address Alternate Care sites both in-hospital and external to healthcare facilities, as well as guidelines for managing surge populations





What If... gas outlets were pre-positioned behind artwork in a lobby. Now picture the deployment of mobile equipment stations to these areas, where, in a matter of minutes, an entire triage and patient care environment can be created.



What If... you could bring a self-contained system of clinically appropriate technology and PPE to any point of care location immediately and without long delays or set up times?





The new FGI guidelines for Emergency Conditions also makes reference to incorporating means to Rapidly deploy medical gas delivery systems.

Figure 2-11: Medical Gas Expansion Rail



Integration by design of an equipment management rail allows for safe and clinically appropriate on-demand gas expansion.



BECKER'S HEALTHCARE

Violence against nurses hits all-time high:
Erica Carbajal. 05 April 2024

Last year, reported assaults against nurses were up 5% compared to 2022, according to an April 2 Press Ganey Report on safety culture in healthcare. From 2022 to 2023, the rate of **reported assaults against nurses jumped from 2.59 per 100 personnel to 2.71, an all-time high**. The report also found that nearly a third of registered nurses report experiencing violence "occasionally" or "frequently" from patients or their family members while at work.

The Emergency Nurses Association recently conducted a **survey of nearly 500 members in which 56% of respondents said they had been physically or verbally assaulted or faced threats of violence in the 30 days prior**. Ten percent of respondents said they're considering exiting the profession due to workplace violence.



CFDMC Free Standing Emergency Department (FSED) Guidelines and Best Practices

FSED Standards for Behavioral Health Management:

With an increase of behavioral health patients being seen in the ED, there are generally more patients than there are rooms designated to manage them. This has become a pressing concern, as the Emergency Nurses Association recently conducted a survey of nearly 500 members in which 56% of respondents said they had been physically or verbally assaulted or faced threats of violence in the 30 days prior. Ten percent of respondents said they're considering exiting the profession due to workplace violence.

Last year, reported assaults against nurses were up 5% compared to 2022, according to an April 2 Press Ganey Report on safety culture in healthcare. From 2022 to 2023, the rate of reported assaults against nurses jumped from 2.59 per 100 personnel to 2.71, an all-time high. The report also found that nearly a third of registered nurses report experiencing violence "occasionally" or "frequently" from patients or their family members while at work.

To address the challenge of managing the increasing number of behavioral health patients and to enhance the safety of both patients and healthcare providers, a practical solution involves the use of Flexible Equipment Management carts. These carts utilize a universal rail system allowing clinical team members to remove and strip rooms of devices and other potentially hazardous equipment. These carts will work with all conventional pre-installed headwall rail systems thereby facilitating on-demand transformation of any exam room into behavioral health "Safe Rooms". This approach not only maximizes the efficient use of available space but also ensures that the environment is adapted to meet the specific needs of behavioral health patients, reducing the risk of harm and improving overall safety and care delivery in the ED.



As systems approach to Equipment Management, including mobile carts will allow unparalleled flexibility to adapt to changing environments and clinical demands.



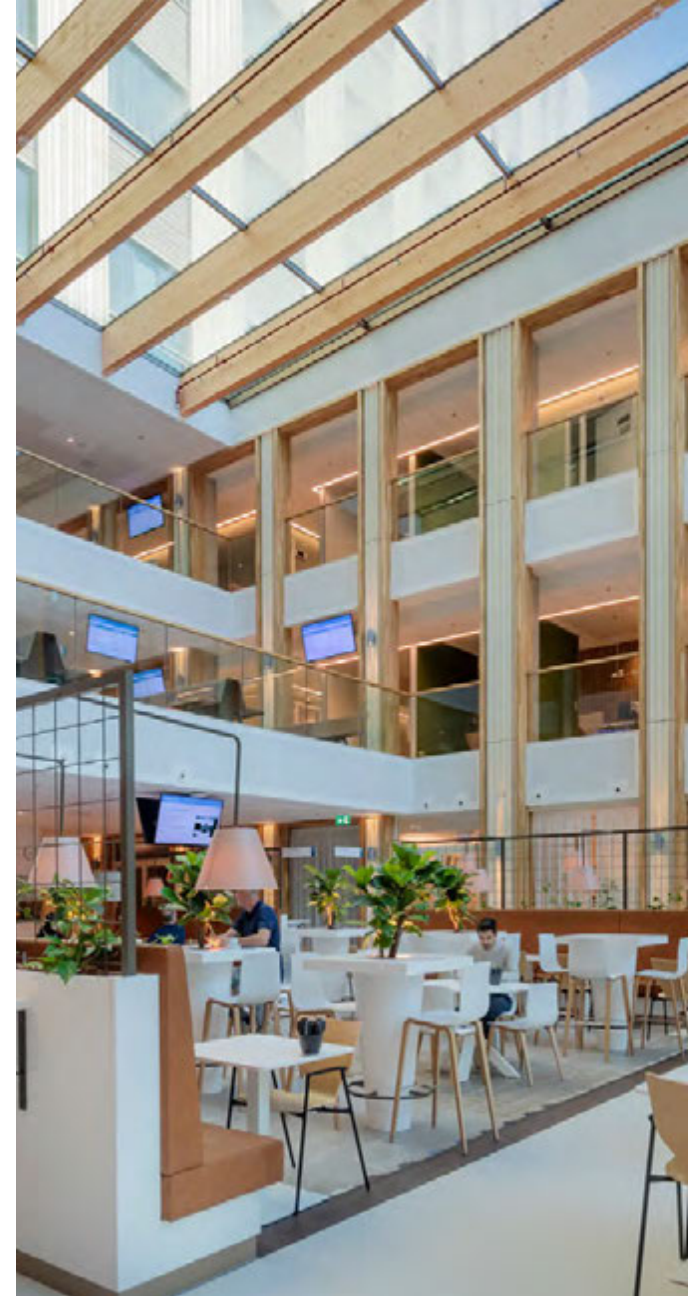
By having a universal rail cart in the department allows on demand creation of Behavioral Health “LITE” a.k.a “SAFE” rooms.



All items from headwalls and side/foot walls can immediately be removed and safely be managed on the mobile cart

Recommendations

1. Conduct Pre-Occupancy Evaluations!
2. Help clinical teams understand unbuilt space and challenge them to walk through “real” clinical space with the equipment and devices going into that space in high-definition.
3. Don’t pretend that the senior design staff knows it all – go to Gemba on every project with a fresh collection of questions.
4. Photograph existing operational environments to share with new and remote team members.
5. Simulate environments with high-definition, high-fidelity mockups in worst-case situations.



Recommendations

6. A universal room requires a “universal patient”. You can only accommodate 80% of the cases
7. Consider technology options which may have higher first cost but will reduce overall cost over time.
8. Do a literature review and highlight the gaps – on **every** project.
9. Owners: financially support this, because the downstream costs of not doing this are manifold.

“Plans are worthless,
but planning is essential”

- *Dwight D. Eisenhower*
34th U.S. President
Supreme Allied Commander Europe



Sabará Children's Hospital, São Paulo, Brazil;
Perkins&Will

Copyright Materials

This concludes The American Institute of Architects
Continuing Education Systems Course

Gary Schindele

FHFI, CHEP

gschindele@paladinhc.com

William Hercules

FAIA, FACHA, FACHE

Bill@wjh-health.com

