



CAPACITY COMMAND CENTERS

HOSPITAL AND AMBULATORY CARE MANAGEMENT IS BECOMING INCREASINGLY
AUTOMATED AND PREDICTIVE – HOW WILL THIS AFFECT FACILITY DESIGN?

MAY, 2018

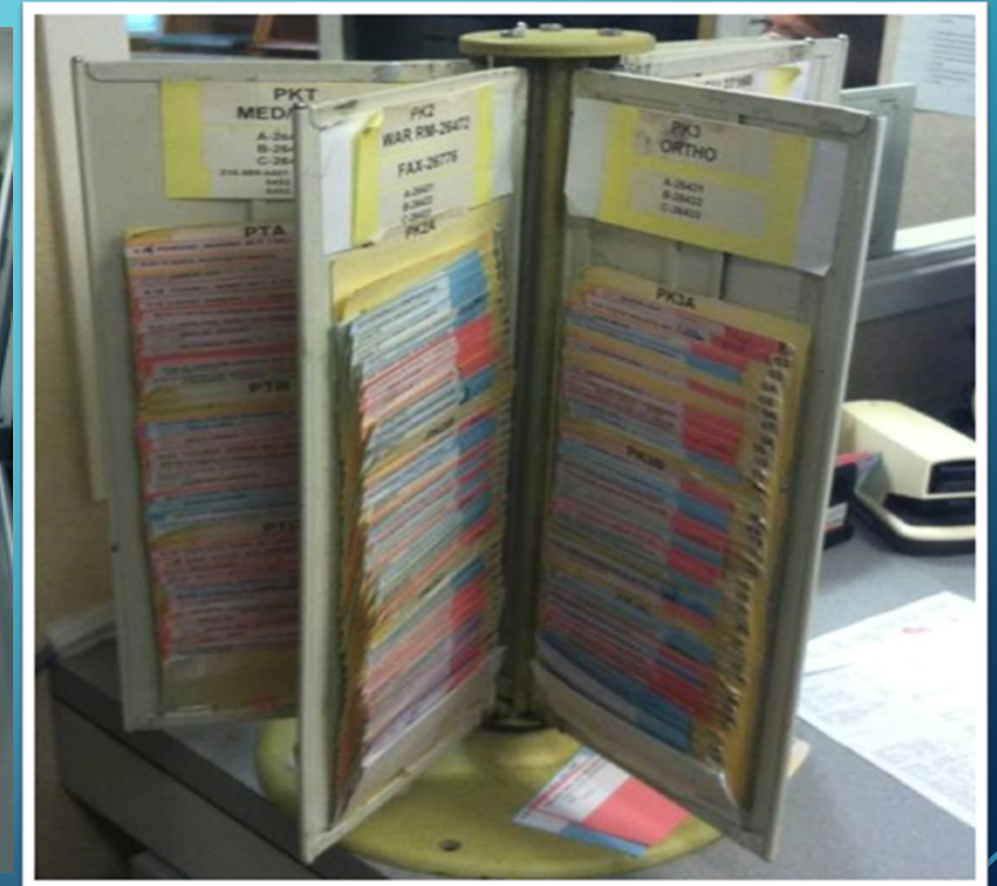
WHAT IS A CAPACITY COMMAND CENTER?

Some or all of:

- Patient flow tracking to the hospital, during the stay, and after discharge
- Plant and utility management; equipment tracking
- Telemedicine including biophysical monitoring, remote surgery, radiology, and pathology
- Electronic ICU's, EDs, med/surg telemetry
- Tele-sitters
- Centralized scheduling and patient support (aka clinical contact or access center)
- Incident command

All use the same technology; in its fully realized form a Capacity Command Center becomes a Network Operations Center

EFFICIENT AND EFFECTIVE PATIENT FLOW IS A PREREQUISITE FOR PROPER CARE



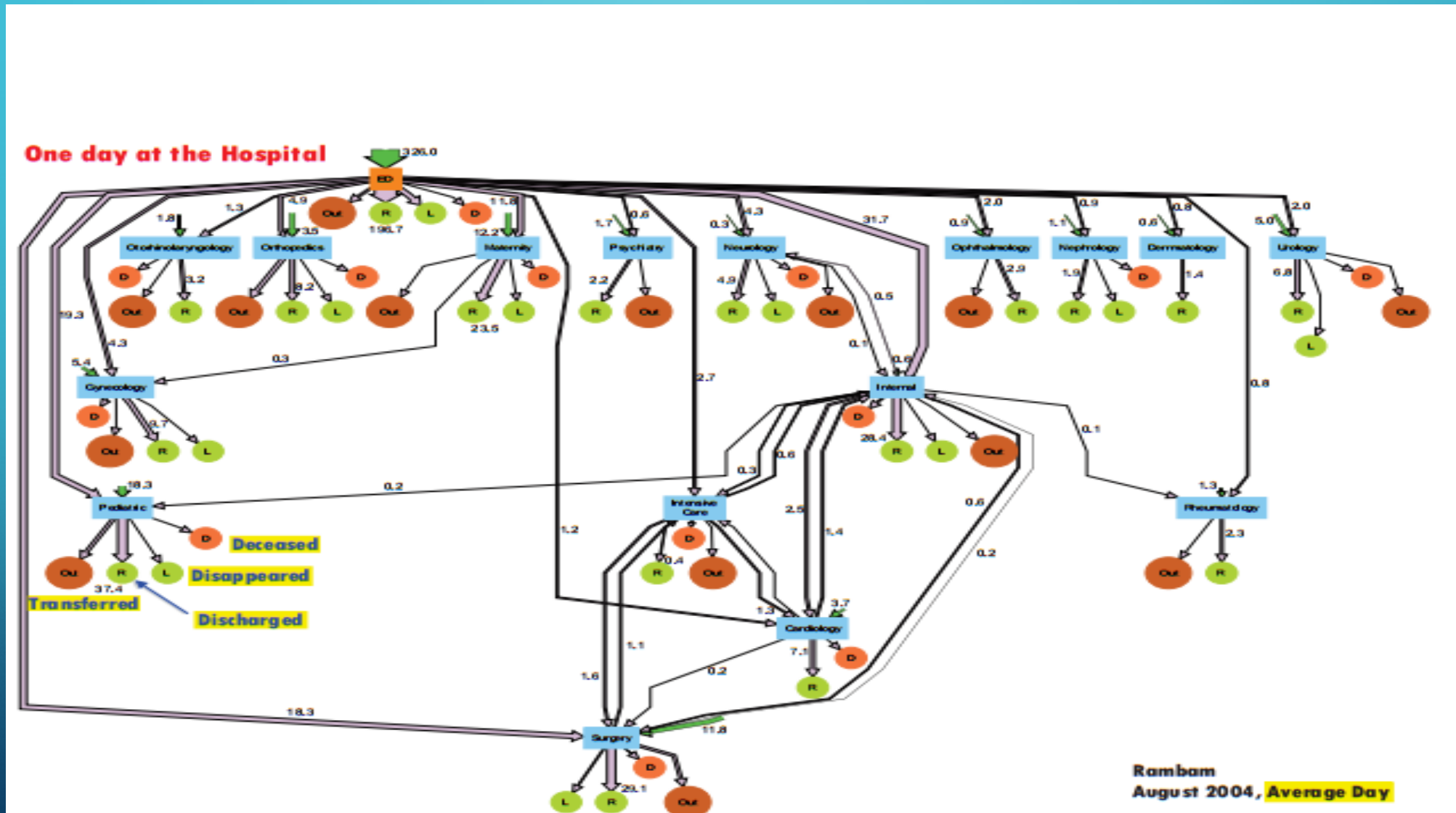
IMPROVING COMPLEX PATIENT FLOW IS...COMPLICATED



Cyberspaceandtime.com

www.telegraph.co.uk

QUEUEING SCIENCE IS LEADING THE WAY



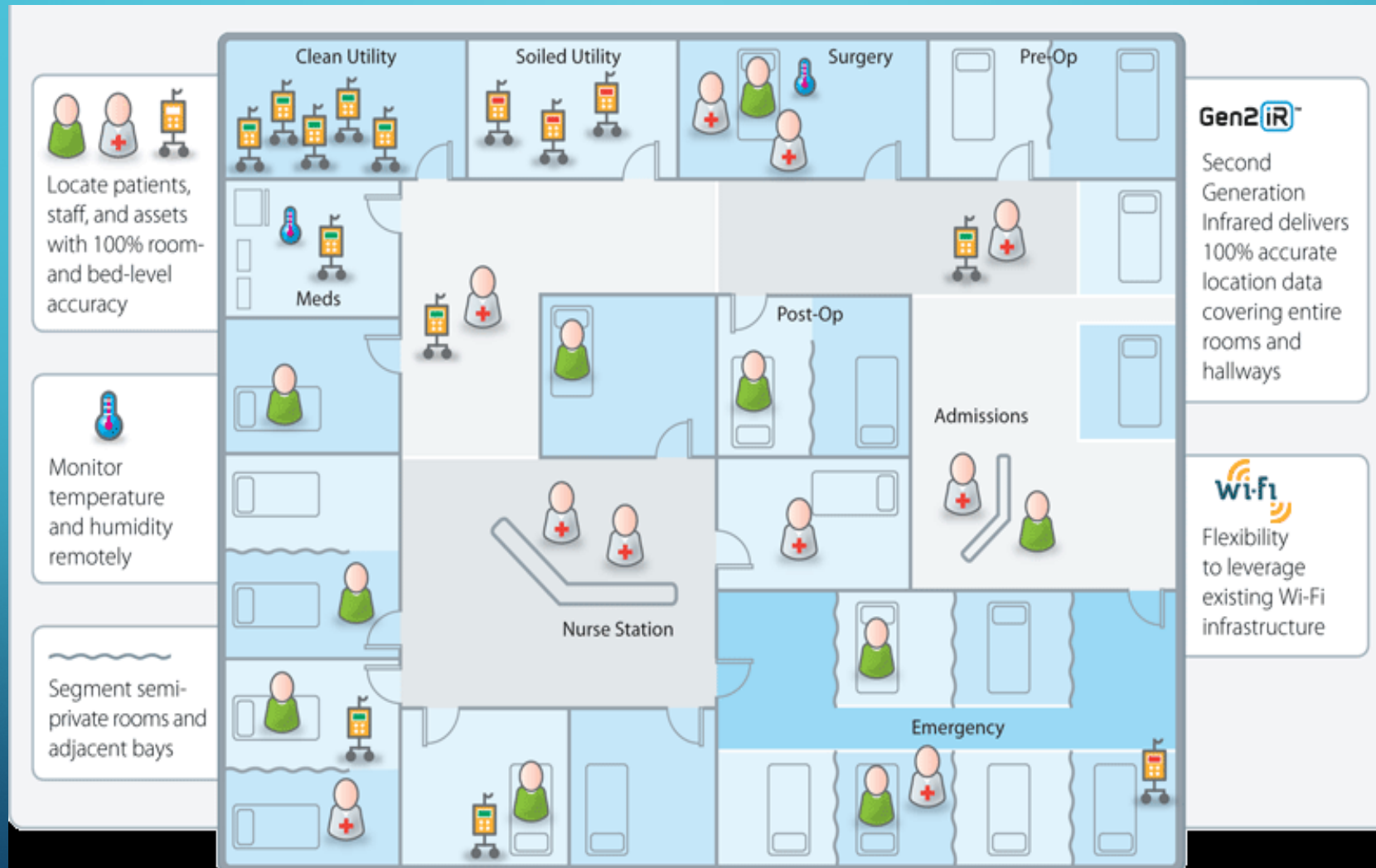
Animated Version

<https://www.youtube.com/watch?v=d5jqIDTeXE4&feature=youtu.be>

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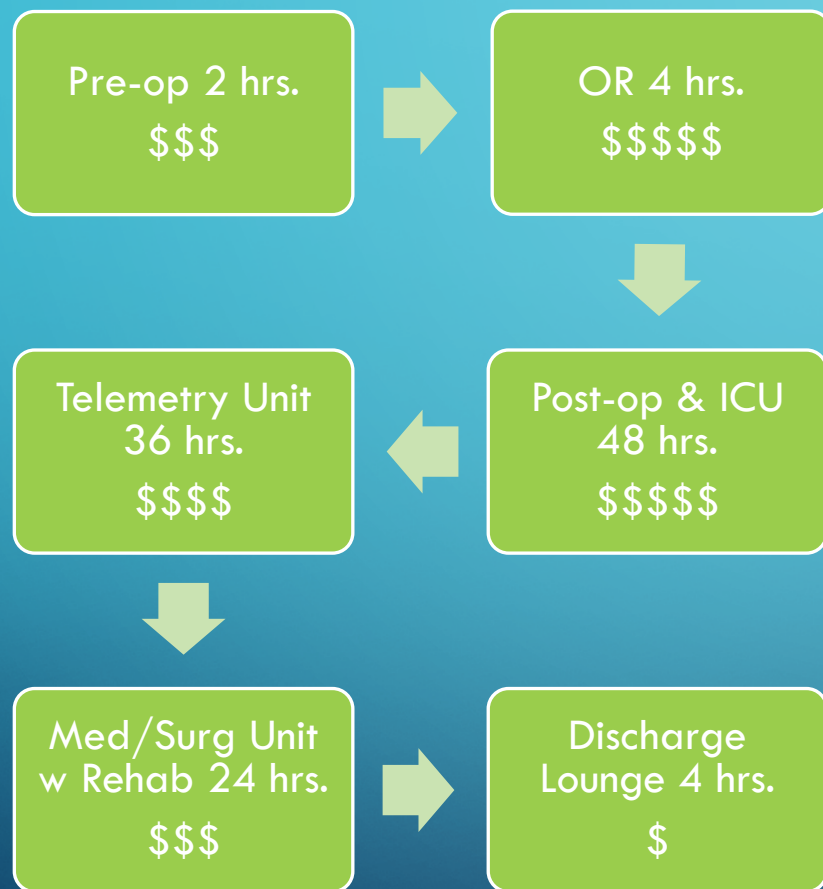
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A PICTURE IS WORTH ...CENTRAK

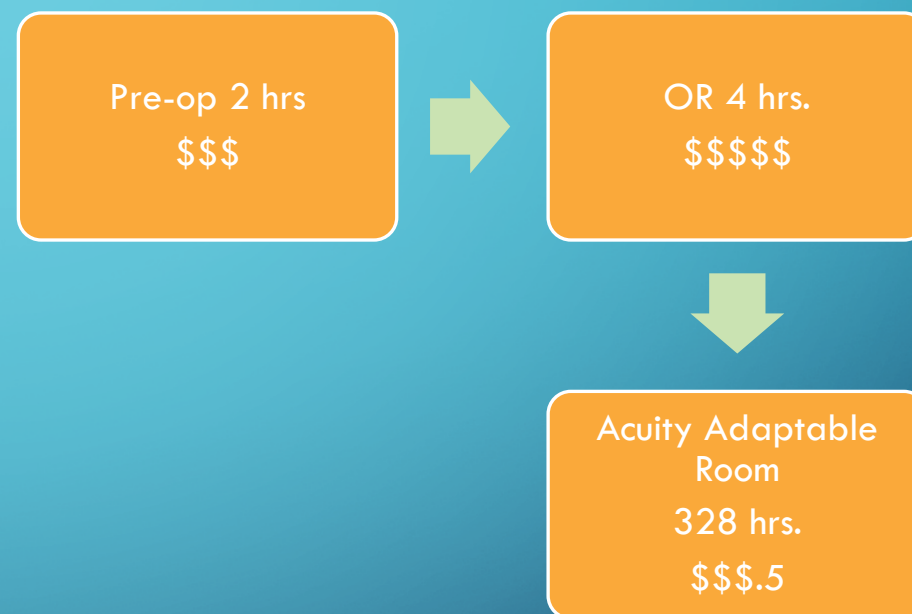


http://www.centrak.com/wordpress/wpcontent/uploads/2015/08/whycentrak_floorplan_nologo.png

SERVICES SHOULD FLOW AROUND PATIENTS NOT PATIENTS AROUND SERVICES



Hypothetical Patient Flow for an Aortic Valve Replacement - Traditional



Hypothetical Patient Flow for an Aortic Valve Replacement - Acuity Adaptable Room

WHAT ARE THE CLAIMS?



The screenshot shows the top of a web page from Advisory Board. The header includes the logo, navigation links (ABOUT, SERVICES, AREAS OF EXPERTISE, EVENTS, BLOGS, CAREERS), and a red banner with the article title. Below the banner, there are links for 'Today's Daily Briefing', 'View the Archives', and 'Print Today's Stories'. The main headline is 'In six months, NewYork-Presbyterian's 'air traffic control center' slashed patient wait times'. A sub-headline states: 'The process helped reduce by 20 percent the time it takes to admit patients and place them in beds'. The date '10:30 AM - September 21, 2016' is at the bottom.

Advisory Board USA | Global

ABOUT SERVICES AREAS OF EXPERTISE EVENTS BLOGS CAREERS

Home / Daily Briefing / September 21, 2016 | The Daily Briefing /
In six months, NewYork-Presbyterian's 'air traffic control center' slashed patient wait times

Today's Daily Briefing | View the Archives | Print Today's Stories

In six months, NewYork-Presbyterian's 'air traffic control center' slashed patient wait times

The process helped reduce by 20 percent the time it takes to admit patients and place them in beds

10:30 AM - September 21, 2016

- 18% reduction in length of stay
- 30 – 40% increase in patient flow
- Bed turnover time reduced by 77%
- Falls decreased 30 – 60%
- Higher occupancy, reduction in cost
- Patient satisfaction up



CAPACITY COMMAND CENTERS COME IN ALL SHAPES AND SIZES



Humber River Hospital, Toronto

<http://www.newswire.ca/news-releases/humber-river-hospital-breaking-new-ground-with-the-opening-of-canadas-first-hospital-command-centre-660975993.html>

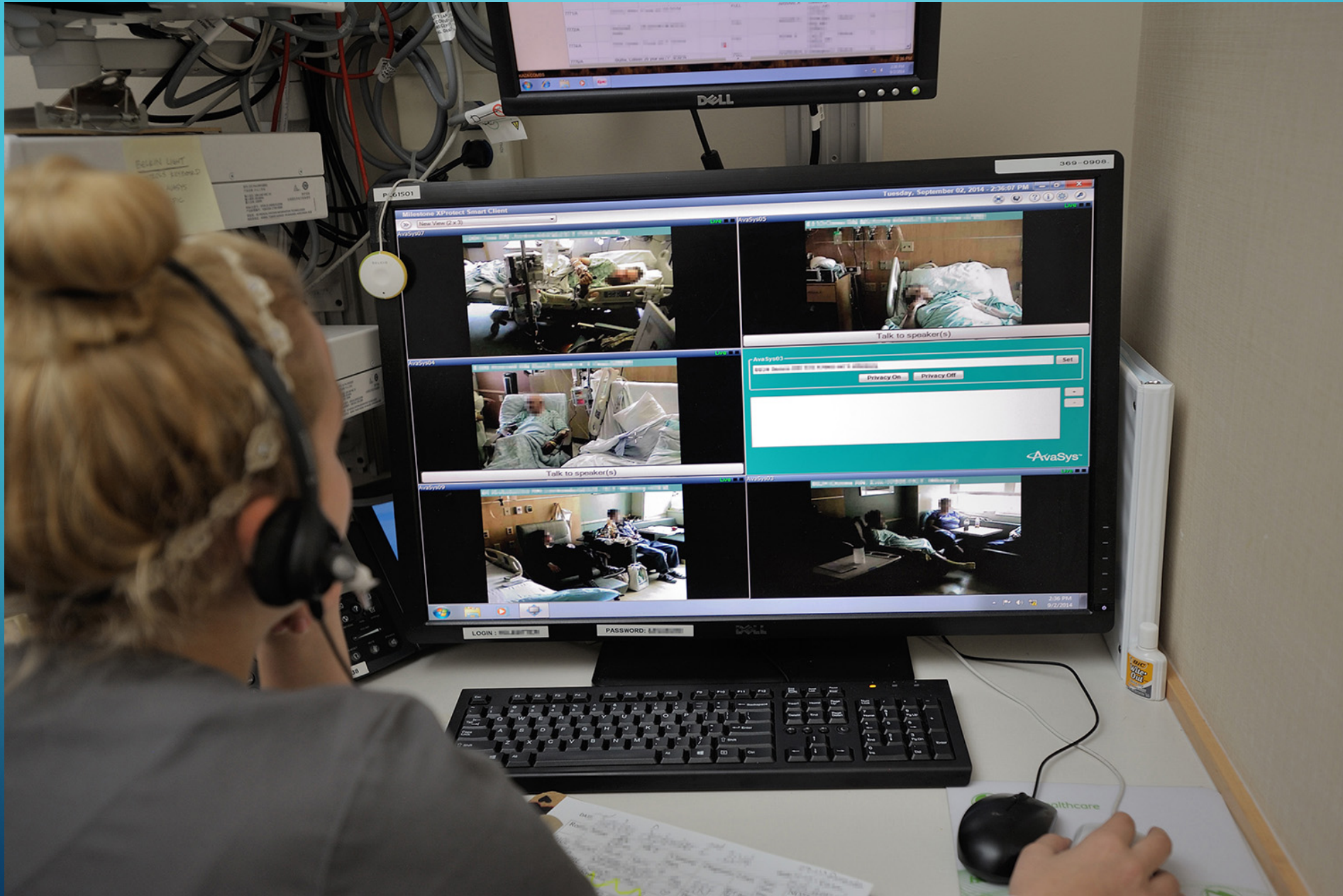


A PICTURE IS WORTH ...

JOHNS HOPKINS
CAPACITY COMMAND CENTER



Sharp Chula Vista Hospital, CA



AvaSure Remote Patient Sitter



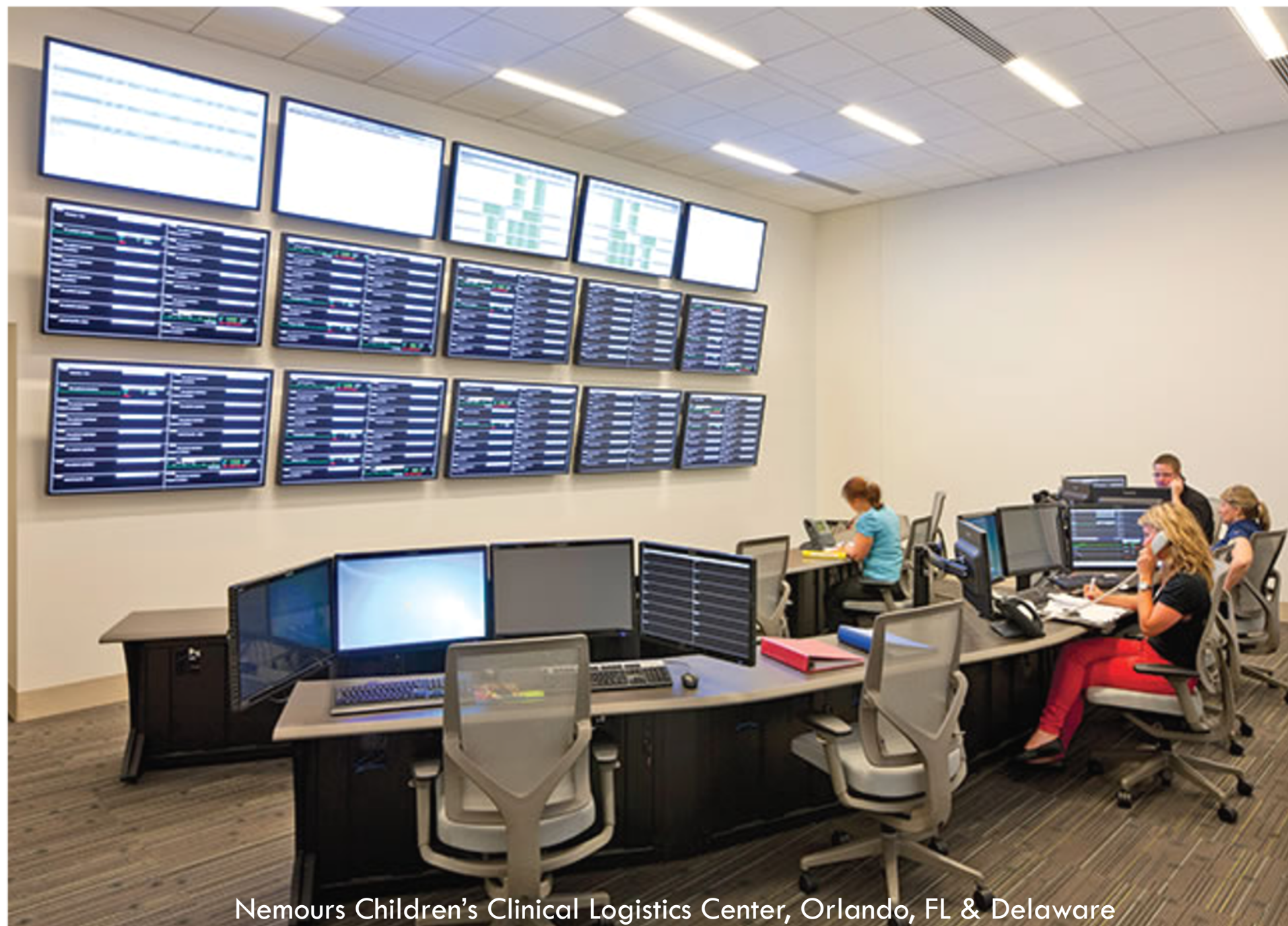




St. Rita's Medical Center Patient Flow Center, Lima, OH



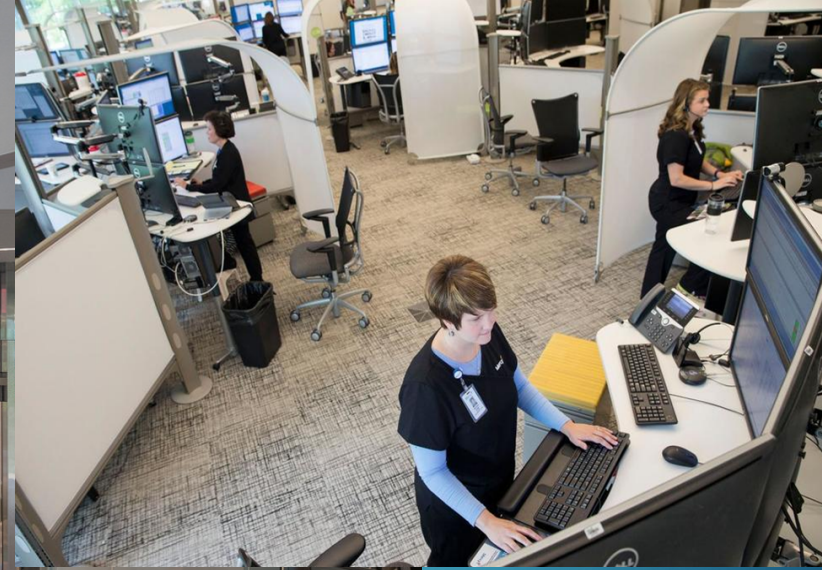
Erlanger Health System Regional Operations Center, Chattanooga, TN



Nemours Children's Clinical Logistics Center, Orlando, FL & Delaware



Dartmouth-Hitchcock, NH ImagineCare Telehealth Center



Energy Management System Monitoring

Roth offers clients an all-inclusive, web-based, system: RIMS, also known as “WatchDog”. This system is utilized to enhance the ability to manage all HVAC needs as well as enforce tools of measurement and analytics:

- Pre-Equipment Analysis
- Post-Equipment Analysis
- Unmanned RTU DashBoard Testing
- Onsite Technical Support
- Mechanical Services
- Electrical Services
- Energy Management Controls Services

Roth, a Sodexo Company houses an extensive software platform to support the Work Order Database management allowing accurate reporting and tracking of support. If a technician is dispatched for Mechanical Repairs, Roth monitors the completion by employing the following steps:

- Technician Check-In and Check-Out via Phone
- Verification of Total System Functionality Before Release
- Historical HVAC Data Provided to Customer Upon Request
- Monitor all Customer Zone Setpoints, Kwh Setpoints, Scheduled Hours, and Demand Response Standards.



Discover the Future of Patient Care

The next generation for Clinical Care
Mobilization!

The Electronic White Board (eWB) has expanded across the enterprise evolving into a comprehensive Care Command Center (CCC) - The next generation for Clinical Care Mobilization!

CAPACITY COMMAND CENTER DESIGN CONSIDERATIONS

Location

- Central or off site?
- Not hospital grade space
- 24X7 operation: Needs amenities, support, and secure access

CAPACITY COMMAND CENTER DESIGN CONSIDERATIONS

Size & Space

- Tall enough to suspend screens
- Lighting control
- Ergonomic work stations
- Equipment redundancy and power back up
- Plan for expansion

CAPACITY COMMAND CENTER DESIGN CONSIDERATIONS

Functions

- Control one hospital or system?
- One service or multiple services?
- Staff, co-location/collaboration, adjacencies

HOW WOULD YOU DESIGN DIFFERENTLY IF...

Hospitals could run at 90% - 95% occupancy with a 3 day length of stay and eliminate peak loads? Would we need fewer hospitals, with less rooms, and less staff per patient?

Services and procedures came to the patient and there was tele-presence in every room?

Caregivers adjusted staffing intensity to the patient in the room instead of moving the patient to a higher or lower intensity room? Would staff satisfaction increase?

There was automated on demand supply replenishment provide by transport robots?

Patient rooms and unused spaces powered down automatically when inactive?

The measured patient experience began before admission and continued after discharge? Would patient satisfaction increase?

WHO'S IN THE BUSINESS?

<p>TeleTracking Technologies – patient flow management Typical Claim: 18% reduction in LOS http://www.teletracking.com</p>	<p>Care Logistics – patient flow management Typical Claim: Reduced ED door-to-door time by one hour http://www.carelogistics.com</p>
<p>Future Flow Rx – patient flow management Typical Claim: ADT process optimized for next 24 hours http://www.futureflowrx.com</p>	<p>GE Healthcare – plant & operations management, partnered with TeleTracking Typical Claim: Decrease wait time, reduce costs, improve the quality and safety of care http://www3.gehealthcare.com/en/services/hospital_operations_management</p>
<p>Schneider Electric – plant & operations management Typical Claim: improve satisfaction, safety, enhance productivity http://www.schneider-electric.com/b2b/en/solutions/for-business/s4/healthcare-comprehensive-intelligent-healthcare-infrastructure</p>	<p>Live Data – periop flow Typical Claim: Deliver predictable OR flow outcomes http://www.livedata.com/analytics</p>
<p>CenTrak – disposable infrared beacon tag attached to patient's wristband, staff, equipment Typical Claim: Increase productivity, workflow, staff satisfaction http://www.centrak.com</p>	<p>Vocera – voice communication and alert system Typical Claim: Increase revenue and reduce expenses https://www.vocera.com</p>
<p>Cerner Smart Hospital Room – automated vitals, device data & integration, alerts, RTLS Typical Claim: Real-time tracking to manage assets, providers and patients http://www.cerner.com/solutions/medical_devices/Smart_Room</p>	<p>Central Logic – patient flow management Typical Claim: \$8,000 average net revenue per patient transfer http://www.centrallogic.com/</p>
<p>Medworxx – patient flow management Typical Claim: Ready for discharge days reduced from 500 to 100 http://www.medworxx.com/company</p>	<p>Intelligent InSites – patient flow management Typical Claim: Decrease operational costs, reduce patient care delays http://intelligentinsites.com/</p>
<p>Sonitor Technologies – patient flow management Typical Claim: improvement in work flow, patient flow, and staff utilization http://www.sonitor.com/</p>	<p>Stanley Healthcare – patient flow management Typical Claim: 10 to 24 min. decrease in OR recovery time http://www.stanleyhealthcare.com/</p>
<p>Versus – patient flow management Typical Claim: 30-40% increase in patient flow http://www.versustech.com/</p>	<p>BedWatch – patient flow management Typical Claim: 340 bed hospital reduced average bed turnover time by 77%, despite an increase in average daily discharges. http://www.bedwatch.com/</p>

MIXED REALITY: HEALTHCARE GAME CHANGER OR JUST ANOTHER GADGET?



WHAT IS IT?



Virtual Reality: Digital environments that shut out the real world; the goggles you wear are non-transparent and the real world around you is blocked from view. For example, you're playing a game in a virtual environment, a made-up world in its own time frame, and all the content is computer generated.

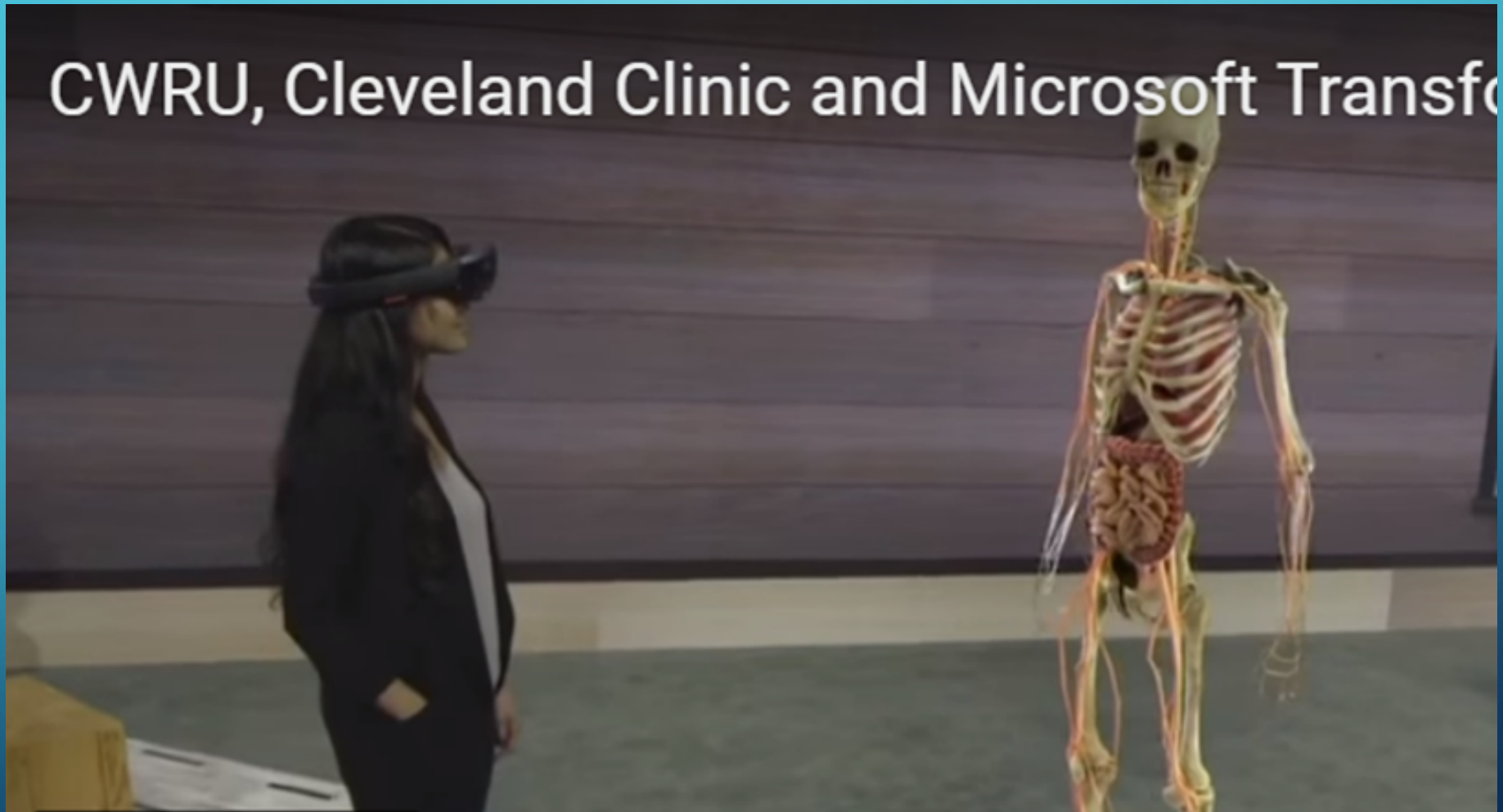


Augmented Reality: Digital content that lies on top of your real world; the glasses you wear are transparent. You are projecting computer generated content onto the real world you see through your glasses in real time. For example, you're walking down the street past local restaurants and menus pop up in your visual field but you can't manipulate the images or do anything with them.

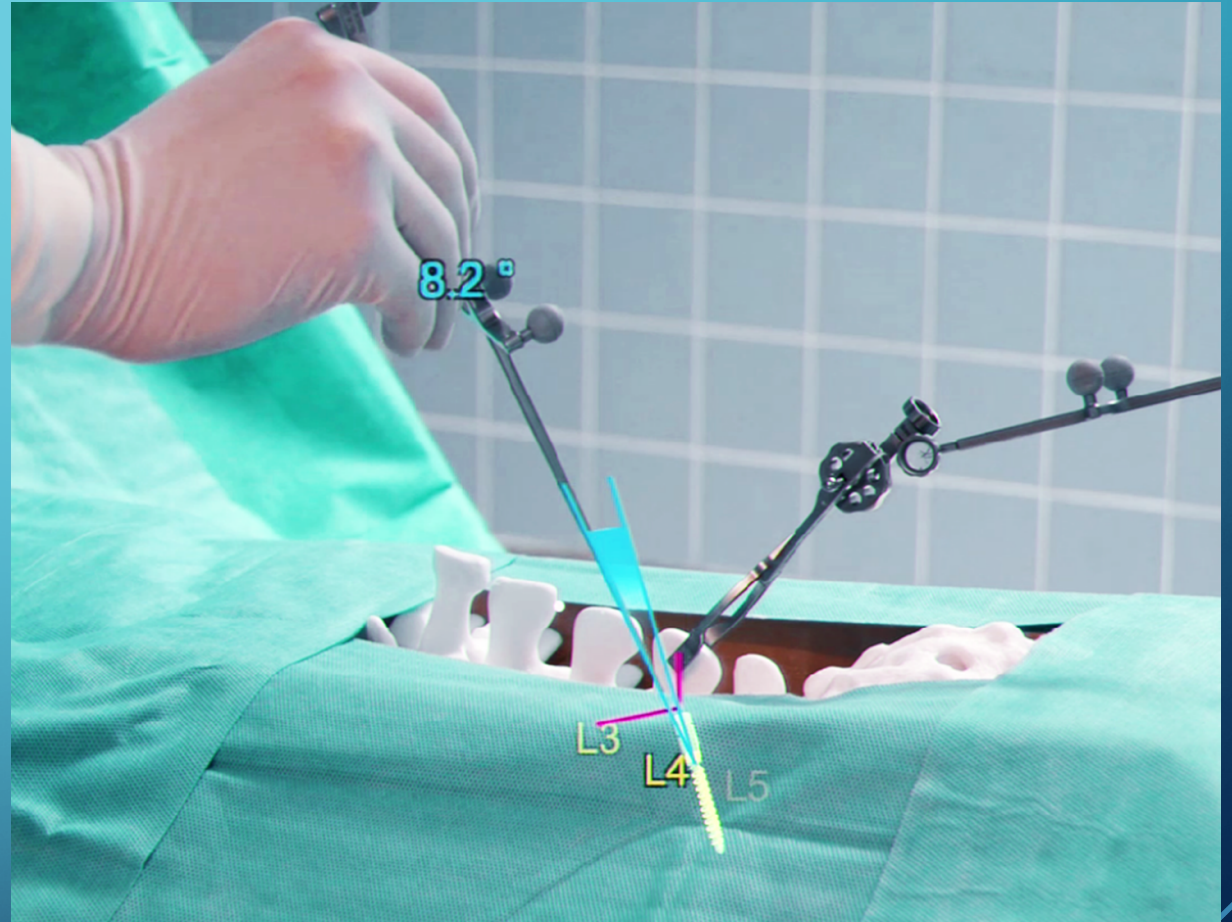


Mixed Reality: Digital content that interacts with your real world; your glasses are transparent. For example, you can call up 3D images of the menu items, manipulate them for different views and portion sizes, order them for take-out or reserve a table.

MEDICAL TRAINING



SURGERY



CARE MANAGEMENT

Silver Chain EMMR experience



ABOUT THOSE GLASSES



Microsoft HoloLens



Meta 2



Magic Leap