

High Reliability in Healthcare and Infection Prevention

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Continuing Education Disclosure

No conflicts to disclose



Cleveland Clinic

A 97-year-old, not-for-profit, specialized group practice led by physicians, focused on patient care.



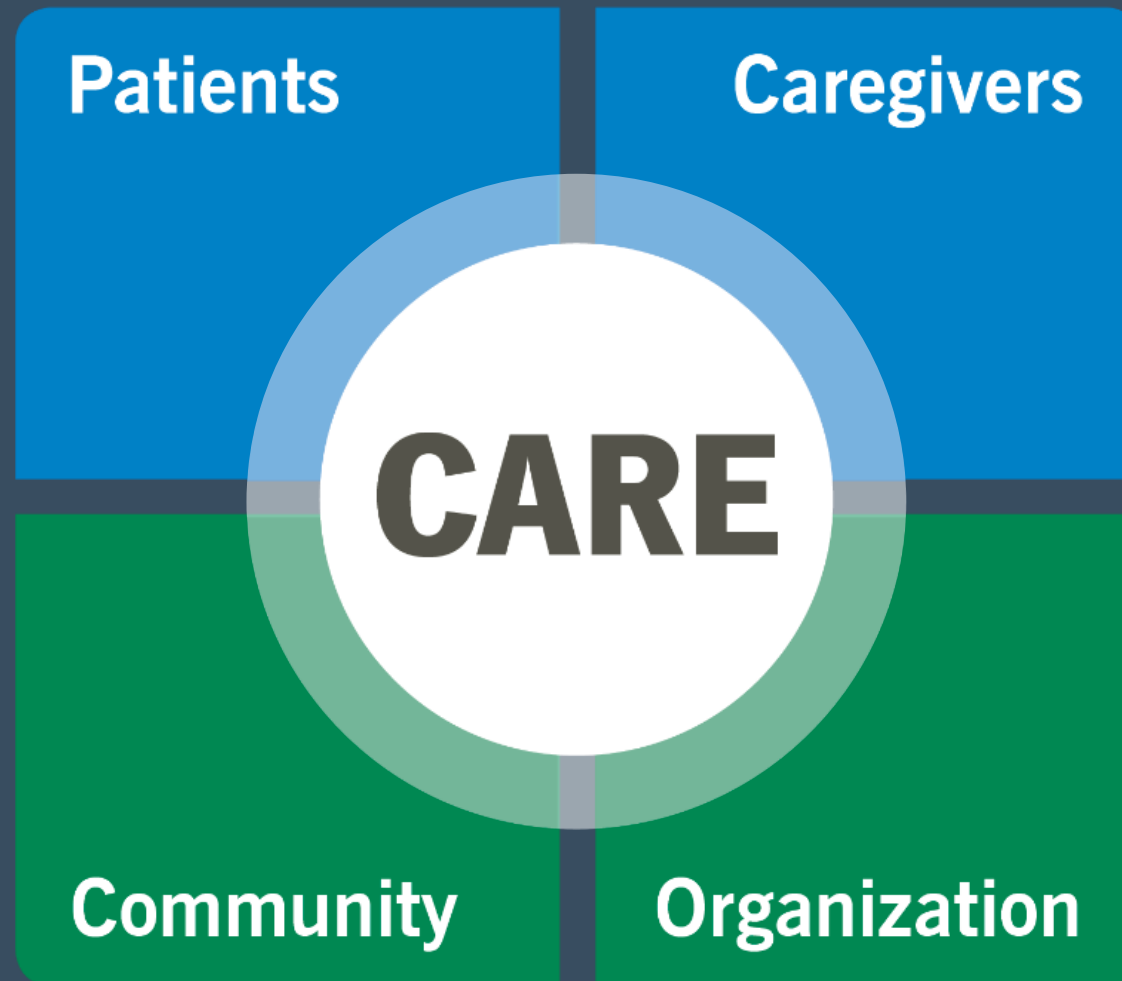
Neurological Institute

- Neurosurgery
- Cerebrovascular
 - Brain Health
 - Epilepsy
- Rehabilitation
 - Psychiatry
 - Psychology
- Sleep Disorders



Tom Mihaljevic, MD
CEO and President
Cleveland Clinic





Undisputed champions of Safety

- What matters most?
- Quality, Safety and Experience
- How do we get there?



Cleveland Clinic Today



51,500

Caregivers



11

Hospitals



4,435

Total Beds



220,059

Admissions



207,610

Surgical cases



7.14 M

Outpatient Visits



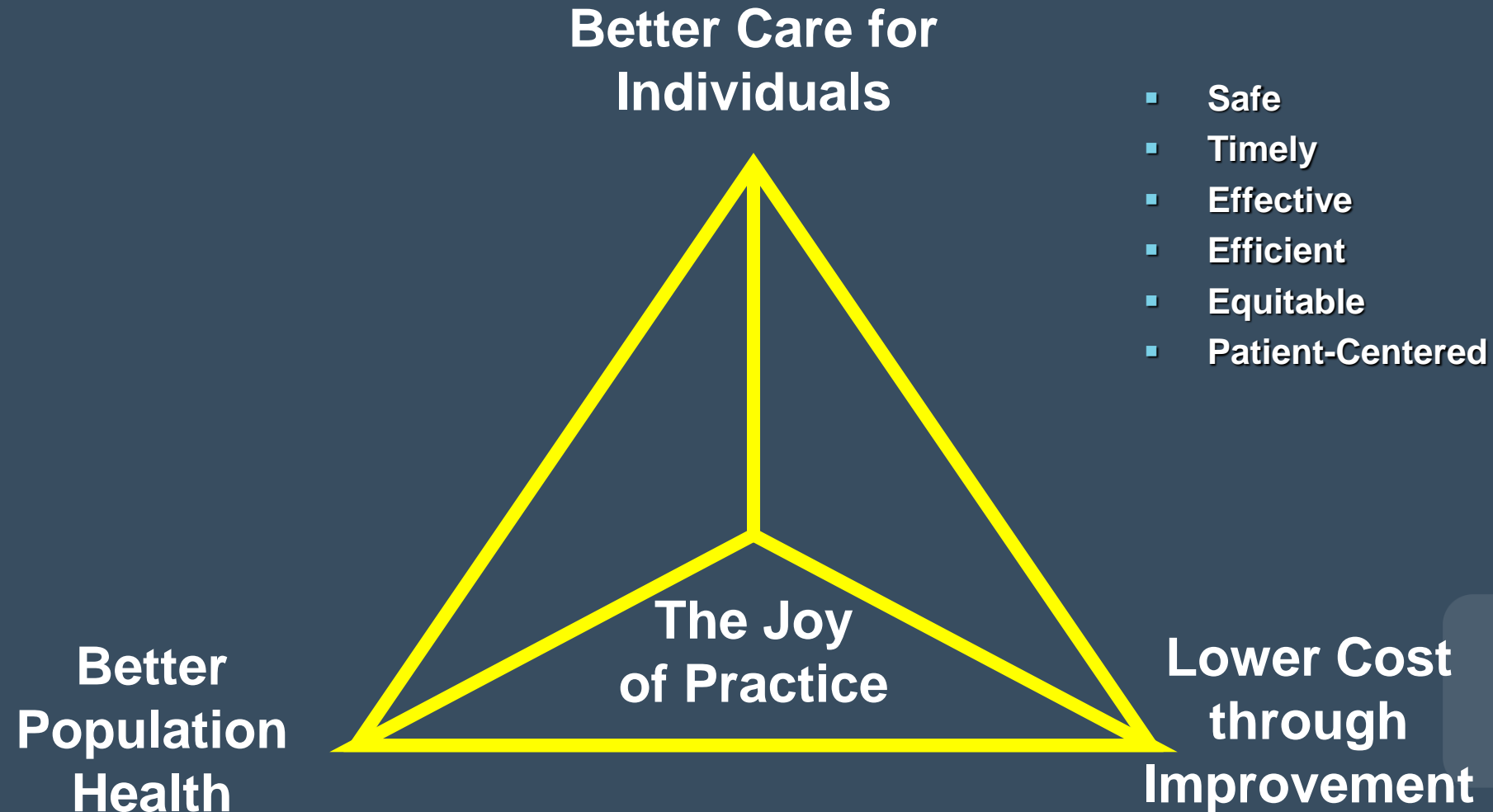
\$8 B

Operating Revenue

Cleveland Clinic Locations



The Quadruple Aim



2018 Goals and Priorities

MISSION

To provide better care of the sick, investigation into their problems, and further education of those who serve.

GOALS

Patients First

Caregivers

Affordability

Growth

Impact

ENTERPRISE PRIORITIES

Access Solutions

Digitalization

Engagement

High Reliability

Population
Management

System
Development





**The Value Proposition:
The Right, Safe, High Quality Care
at the Right Cost, in the Right Setting**

What IS High Reliability in Healthcare?



Key Performance Indicators (KPIs)

Serious Safety Events

Physician and Nursing Communication

Caregiver Injury rate

High Reliability Index

Carepath Compliance

Appointment when wanted



“Every caregiver in a high reliability organization finds what could go wrong, speaks up, and works to achieve consistent excellence every day”

**HIGH
RELIABILITY**

LISTEN
to each other

LEARN
from each other

LEAD
together



Cleveland Clinic



High Reliability Model



What is Harm?

- Safety Events
- Avoidable complications and readmissions
- Diagnostic error
- Access and treatment delay
- Incorrect billing
- Lack of empathy
- Poor responsiveness and communication
- Inequity of care



“The hallmark of a High Reliability Organization is not that it is error-free, but that errors don’t disable it”

The Amazon logo is displayed in a white rectangular box. It features the word "amazon" in a bold, black, lowercase sans-serif font. Below the text is a curved orange arrow that starts under the letter 'a' and points to the right, ending under the letter 'n'.

amazon

“A Collective Mindfulness”

- Preoccupation with failure
- Reluctance to simplify observations
- Sensitivity to operations
- Resilience
- Deference to expertise

High Reliability Key Behaviors

- Speaking up
 - Near misses
 - Unsafe conditions
 - Errors
- Seeking to learn
- Leadership support of the caregiving teams
- Reduce unnecessary variation

Safety reporting theory

- Safest units = highest reporting
- ANY member can “stop the line”



- Non-punitive response
- Loop will be closed – “My voice was heard”

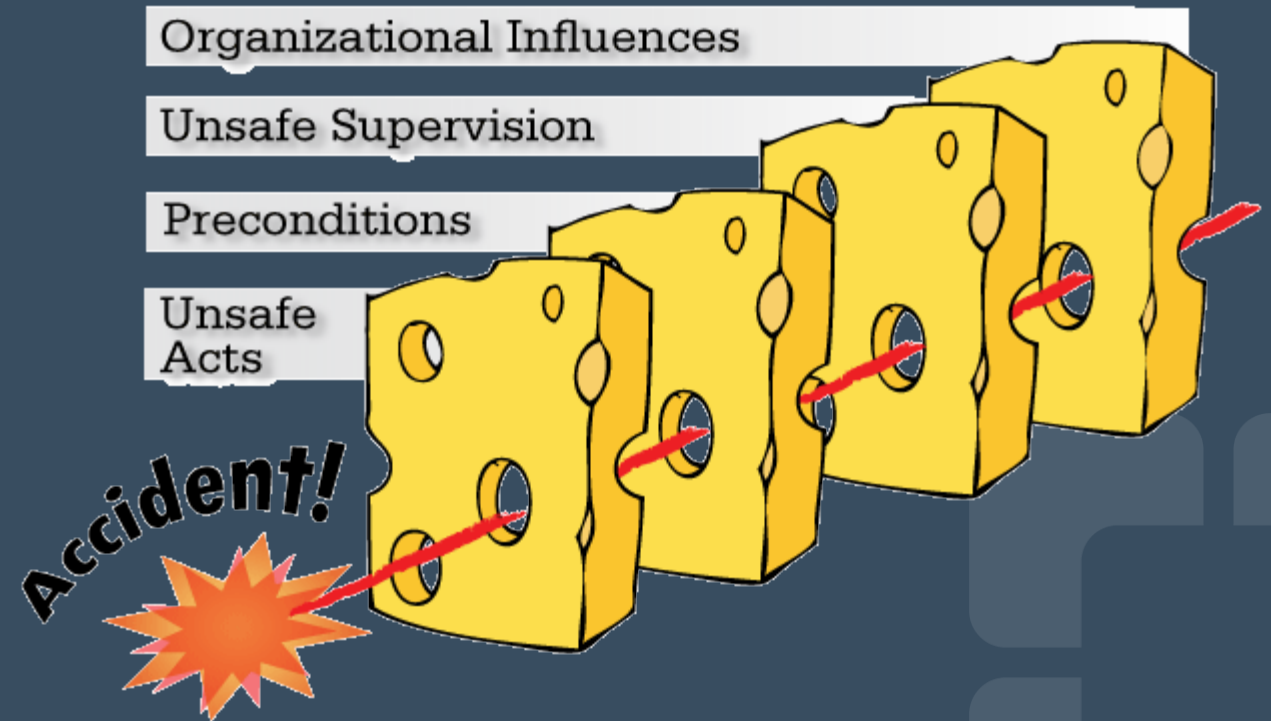
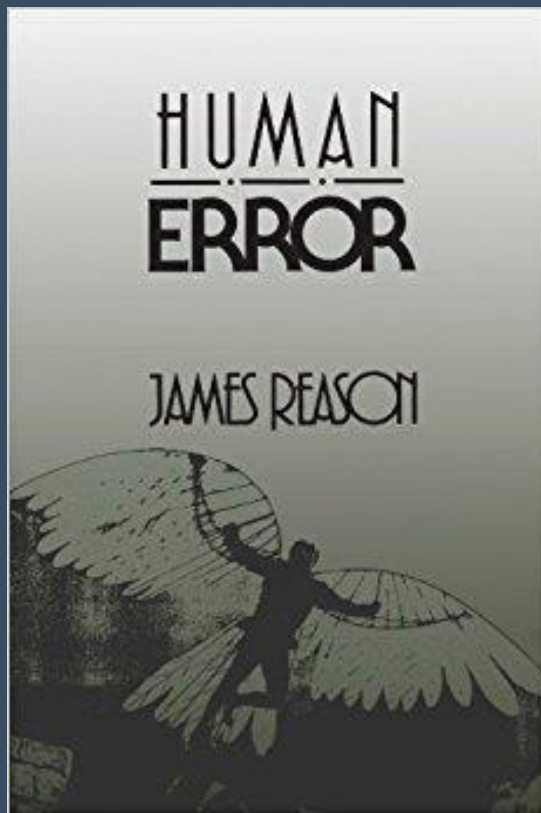
Cleveland Clinic Learning Culture



We all own safety

- Every member of the team matters
- Must be driven and led by caregiving teams
 - That's you!
- Model exceptional behaviors – your team is watching

“Safety is not a goal; it is a continually emerging, dynamic property of a system”



Infections After Endoscopy

HEALTH

Deadly CRE Germs Linked to Hard-to-Clean Medical Scopes

By SABRINA TAVERNISE FEB. 19, 2015



Officials at the U.C.L.A. Medical Center reported this week that a superbug had infected seven people, killing two of them. Damian Dovarganes/Associated Press

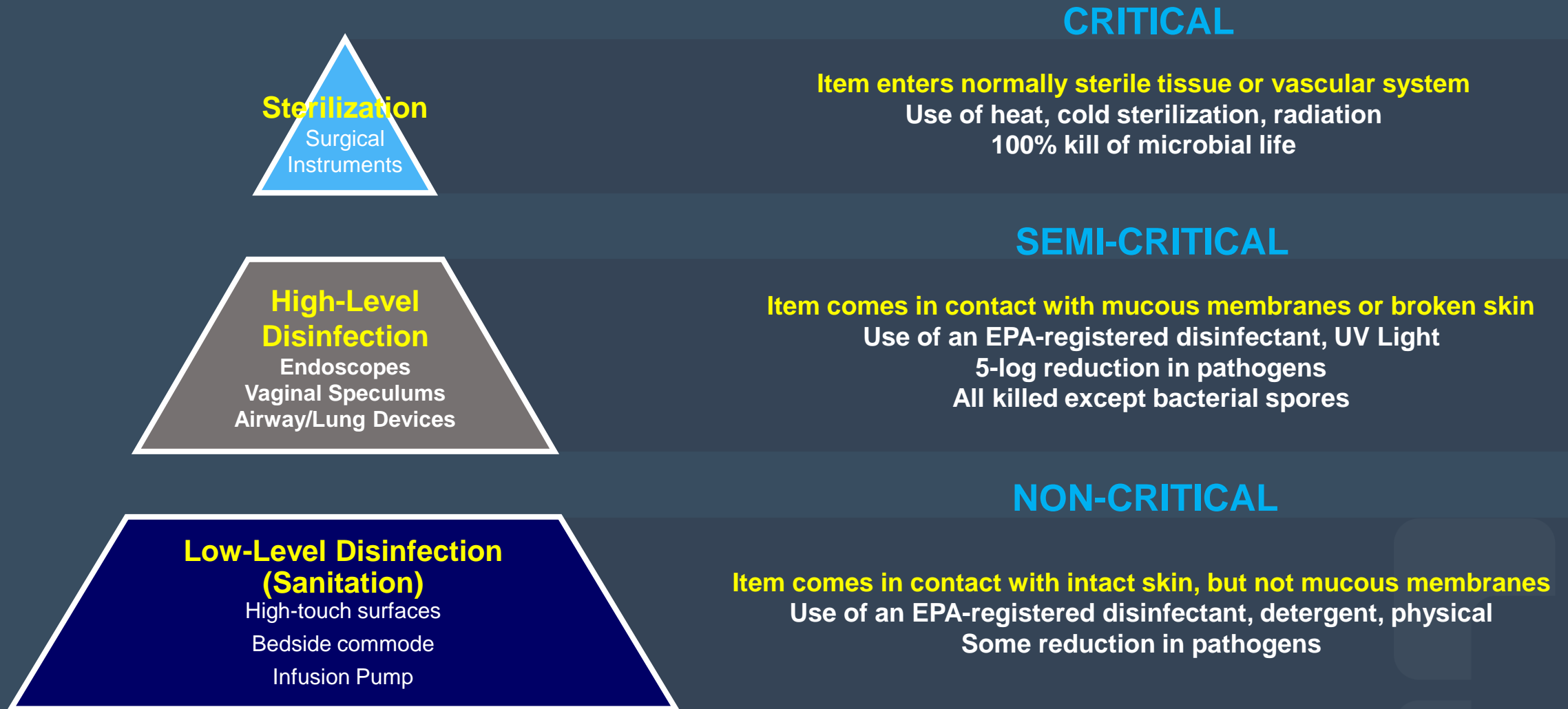


CRE bacteria in an illustration provided by the C.D.C.

February 2015

CC Guidance for Appropriate Reprocessing

Spaulding Classification System + Manufacturer Instructions for Use (MIFU)



Sterilization

Surgical
Instruments

CRITICAL

Item enters normally sterile tissue or vascular system

Use of heat, cold sterilization, radiation
100% kill of microbial life

SEMI-CRITICAL

High-Level Disinfection

Endoscopes
Vaginal Speculums
Airway/Lung Devices

Item comes in contact with mucous membranes or broken skin

Use of an EPA-registered disinfectant, UV Light
5-log reduction in pathogens
All killed except bacterial spores

NON-CRITICAL

Low-Level Disinfection (Sanitation)

High-touch surfaces
Bedside commode
Infusion Pump

Item comes in contact with intact skin, but not mucous membranes

Use of an EPA-registered disinfectant, detergent, physical
Some reduction in pathogens

Re-usable Equipment Processing

Pre-Clean & Preparation



Processing



Transport & Storage



OBJECTIVES

- Remove bio-burden & biofilm
- Prepare for:
 - Temporary hold
 - Potential Transport
 - Processing

HOW

- Physical clean, detergent, enzymatic solution
- May be performed at point-of-use

OBJECTIVES

- Thorough manual cleaning
- Use-level appropriate elimination of pathogens

HOW

- Sterilize
- Disinfect
- Cleanse

OBJECTIVES

- Maintain processed state

HOW

- Appropriate containers/packaging
- Traceability



Urodynamics testing here
(not at the same time)

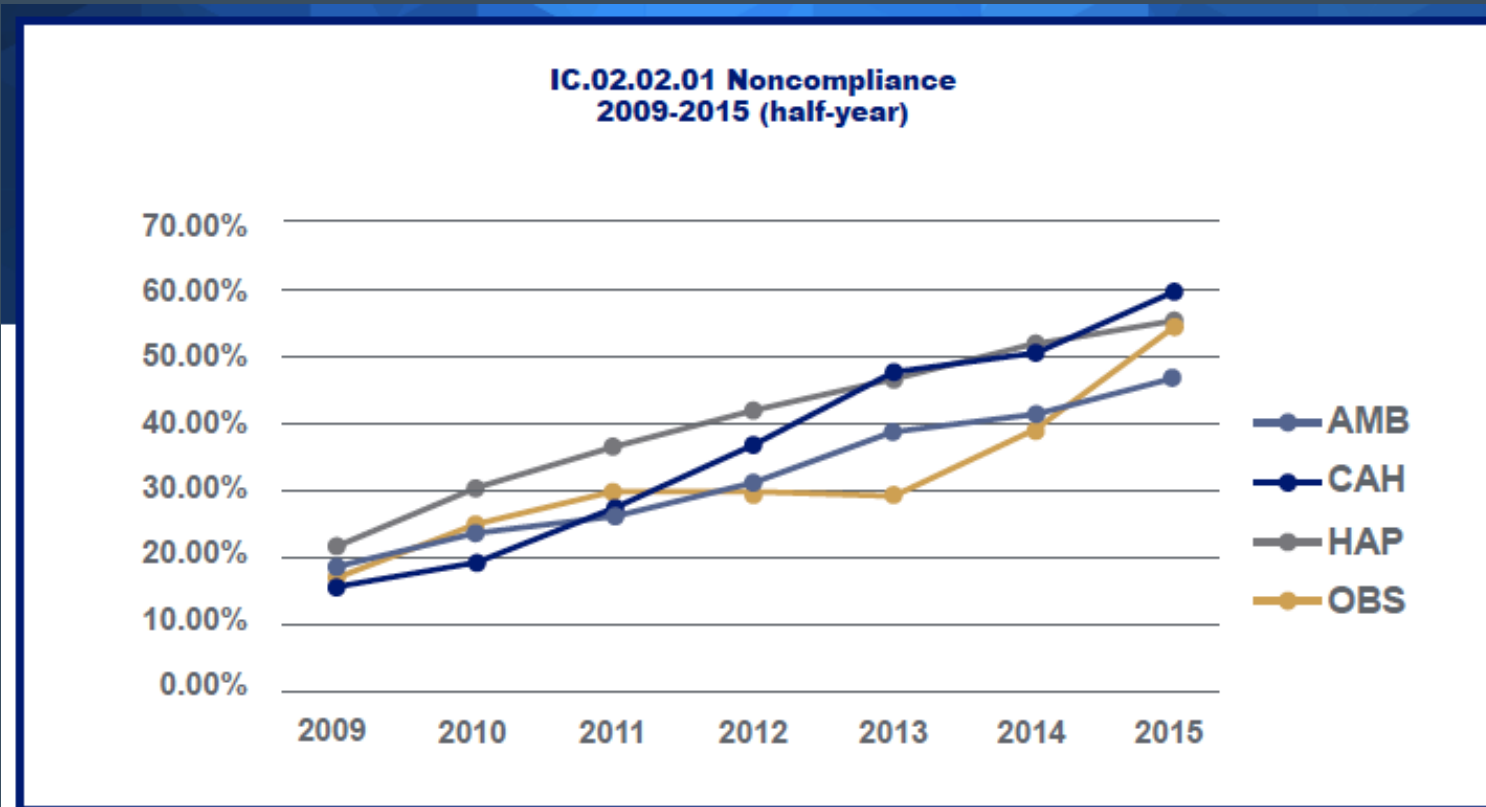
Devices from previous patient soaking here



Urology procedures completed here

Clean equipment stored here

Increased Regulatory Scrutiny



This graph illustrates the annual percentages from years 2009-2015 (half-year) of noncompliance with Standard IC.02.02.01 scored during accreditation surveys in the above noted settings, specific to surveyor identified findings with high-level disinfection and sterilization breaches. AMB= Ambulatory, CAH= Critical Access Hospitals, HAP= Hospitals, OBS= Office-based Surgery Practice Settings

Developing an Enterprise Strategy



Enterprise Risk Assessment



People

Competency of those performing the task?



Process/Workflow

Is the HLD&S workflow followed?



Equipment

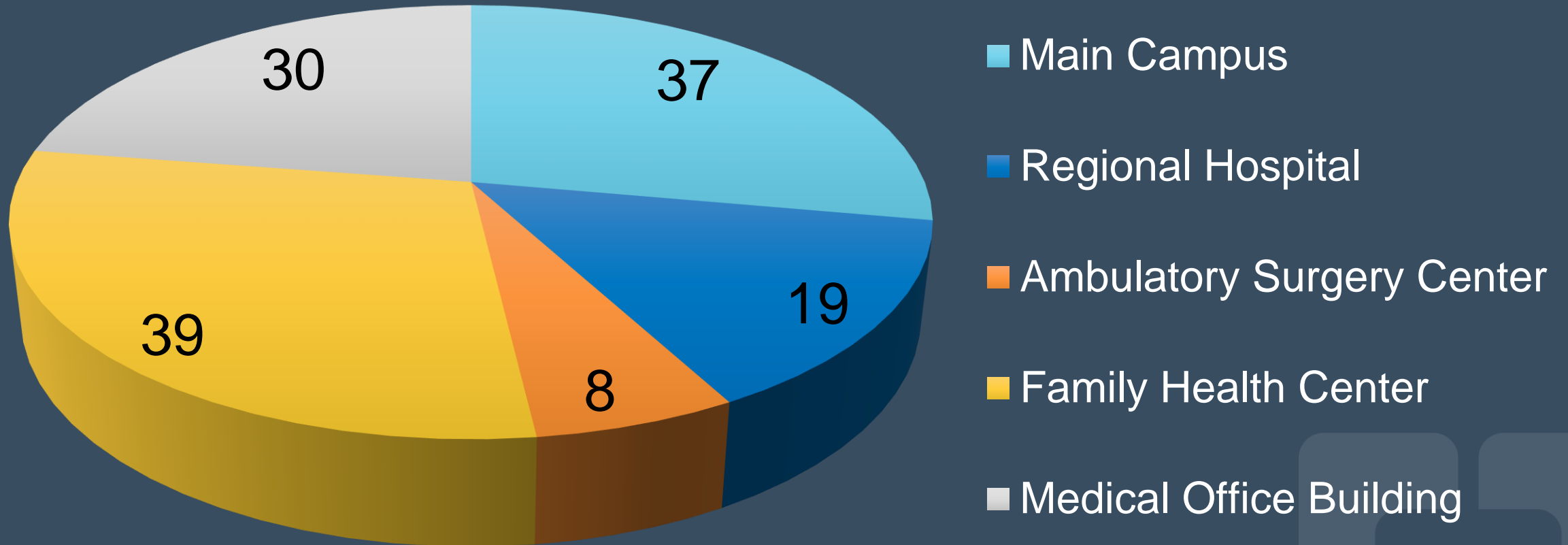
Do you have the materials you need?



Environment

Is the location conducive for HLD&S?

Sites Assessed by Type



133+ Sites Reprocessing!

Gap Resource Analysis

- Facilities
- Space
- Training Educators
- Training Materials
- Workflow or Process Decision
- SPD Support
- Cleaning Logs
- Supplies
- Workflow Redesign
- Training
- Transport
- Outdated Equipment
- Assess Current Workflow
- Equipment Maintenance
- MIFU Knowledge/Availability

Assessment Summary

People



Equipment



Environment



Process / Workflow



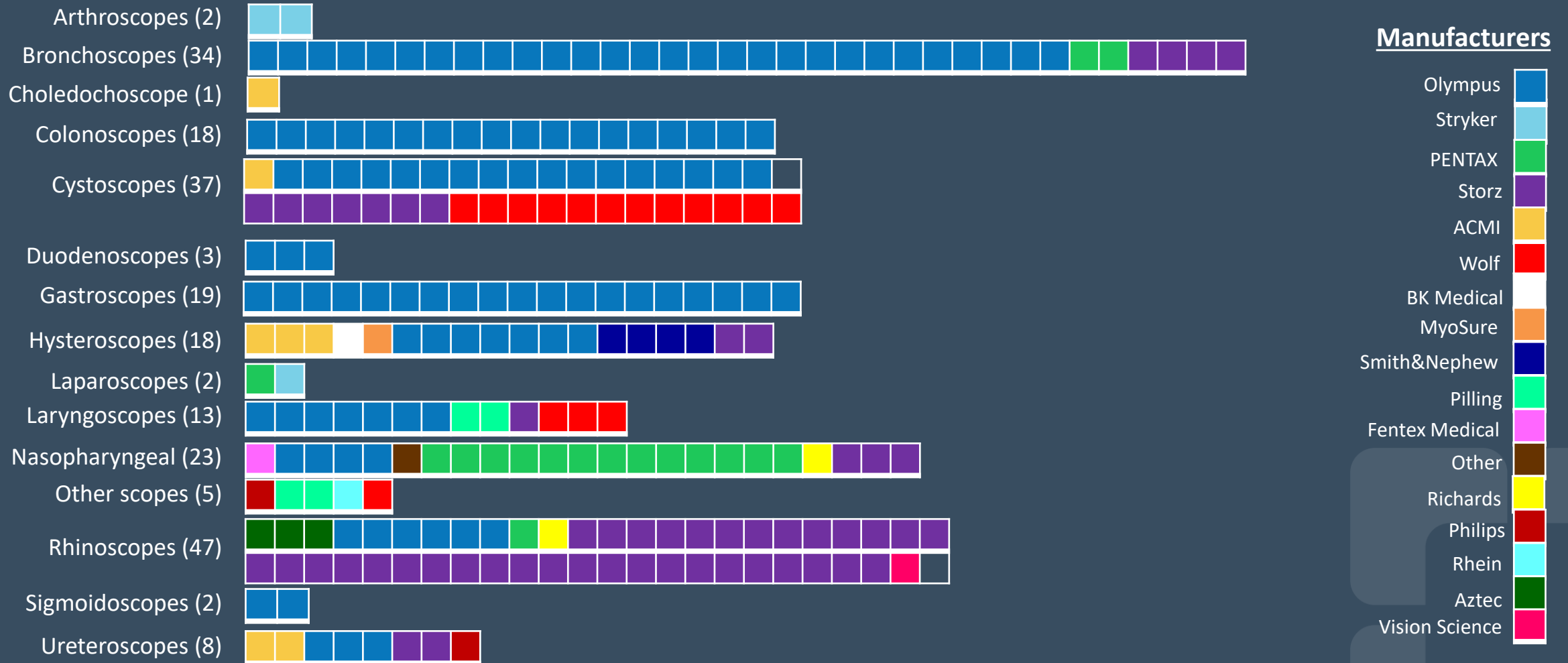
 = Good

 = Acceptable

 = Opportunities

High Equipment Variation

15 Device types, 17 Manufacturers, 232 Models



Learning from Similar Challenges

- Distributed process
- Enables:
 - Distribution of clinical services
 - Local efficiency
- High regulatory scrutiny
- No central oversight/guidance
- Requirements on physical space
- Staff education/competency

**Point-of-Care
Testing**



**High-Level
Disinfection**



Priorities

(In this order.)

- ① **Safety** of patients and caregivers
- ② **Compliance** with regulation and scientific evidence
- ③ **Efficiency** of operations and clinical care

HLD Governance Council

Areas Represented
Operations
Quality
Digestive Disease Institute
Clinical Institutes
Nursing
Infection Prevention
Accreditation
CC Florida
Supply Chain
Surgical Operations
Regional Operations

- 1. Review and own standard operating procedures**
- 2. Develop standards for HLD (space, process, staff competency)**
- 3. Inventory and authorize existing and new HLD sites**
- 4. Follow and implement developments in standards, technology, and best practice**

Key Strategies

1) Physical Space

- Operate in as few locations as possible
- Build/renovate to one standard

2) Process

- Utilize automated reproprocessors where ever possible
- Combine reprocessing volume from multiple Institutes/Departments where possible
- Standardize equipment to minimize training/competency/efficiency

3) People

- Use dedicated reprocessing professionals whenever possible
- Hire dedicated FTE for training and competency

HLD Site Inventory

Where is the HLD work being performed?	Why (what clinical service is supported?)	Who is performing the work?	What is being disinfected and what is the volume?	How is the HLD work being performed?
<ul style="list-style-type: none">• Site• Building• Unit• Room	<ul style="list-style-type: none">• Type of procedure• Freq. of procedure	<ul style="list-style-type: none">• Title• FTE (incl. partial)• Training• Competencies	<ul style="list-style-type: none">• Type of instrument• Daily/weekly volume• Where did the equipment come from?	<ul style="list-style-type: none">• Equipment• Process description• Space description (photo)

HLD Eligibility Criteria

- Orientation / Training
- Competency Assurance
- Occupational Safety



- Sufficient Volume
- Appropriate Space
- Safe & Efficient Workflow

- Decontamination Technology (AER, disinfectants, transport)
 - Instrument Tracking System (traceability, productivity)

Potential Site Resolutions

Site Disposition	Driving Factors	Complications
End Clinical Program	<ul style="list-style-type: none"> • Volume doesn't justify risk/complexity 	<ul style="list-style-type: none"> • Need to find alternative to offer to patients
Switch to One Time Use (Disposable)	<ul style="list-style-type: none"> • Low volume • Simple device/instruments 	<ul style="list-style-type: none"> • Potential for cost increase • Cannot affect quality
Harden Local Process	<ul style="list-style-type: none"> • Short turn-around required • No other option 	<ul style="list-style-type: none"> • Potential construction/space needs
Leverage Another HLD Site	<ul style="list-style-type: none"> • Use of location and staff from another area/Institute 	<ul style="list-style-type: none"> • Requires written service level agreement • Transport time/cost/inventory
Centralize to new independent HLD location	<ul style="list-style-type: none"> • New dedicated area and staffing 	<ul style="list-style-type: none"> • Transport time/cost/inventory • Violate manufacturer Instructions for use. • Potential construction/space needs

HLD Space Standards

“Ideal Space”	“Compliant Space”
Applies to all new construction and renovation (when possible)	Applies to all space where HLD is performed
* Creation of ideal space may be cost prohibitive or impossible within space constraints of an existing facility	* Working in compliant, but not ideal space requires excellent process

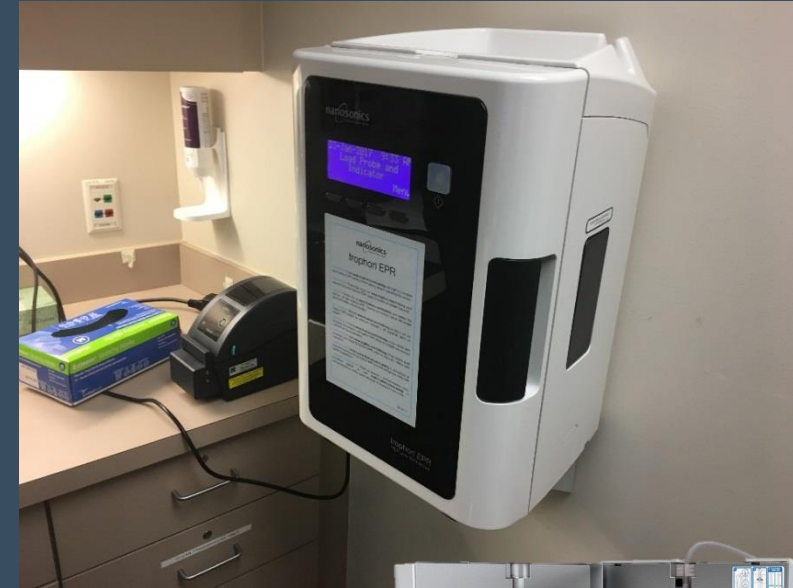
- Covers designs for single room layout and multi-room layout

Automation

Chemical Soak (Cidex)



Automated HLD



61 Devices **28** Locations

Scope Standardization

Flexible ENT Scopes

178 Scopes in Inventory

4 Manufacturers

30 Models



Instrument Standardization



Caregivers

- Education
- Competencies
- Manufacturers Instructions for Use
- Standard Operating Procedures
- Turnover
- New services



Key Takeaways

- High Reliability
- Improving outcomes
- Reducing variation
- HLDS risks patients, caregivers, compliance and reputation
- Teamwork
- Ongoing commitment





Every life deserves world class care.