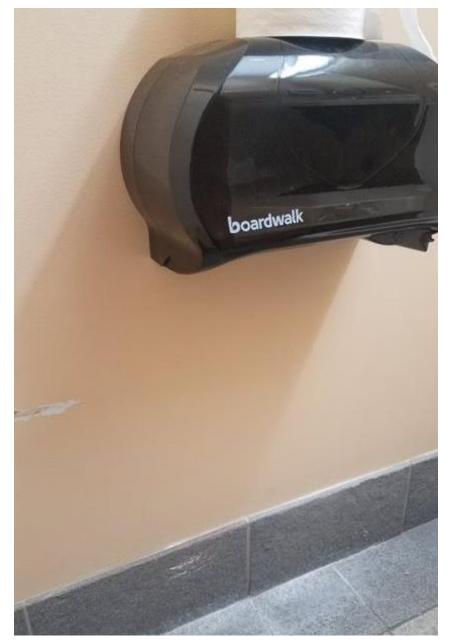
The Missing Link in Long Term Care Construction

DEANN RICHARDS, RN, BSN, CIC, CPHQ, CPPS









Objectives



1

Upon completion, participants will be able to identify resources available that address the healthcare construction and renovation Infection Control Risk Assessment process and components.

2

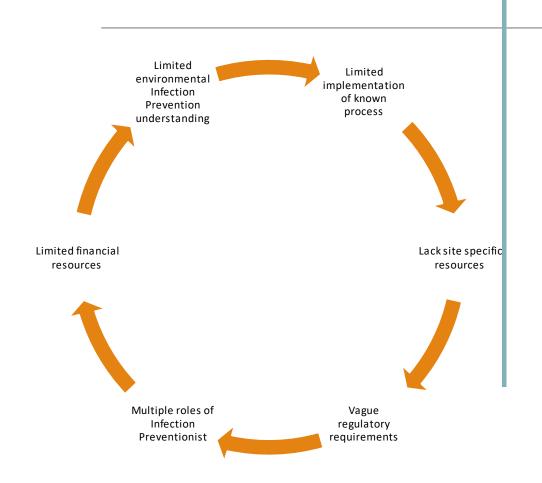
Upon completion, participants will be able to determine patient safety elements to consider when planning for an upcoming project.

3

Upon completion, participants will be able to replicate the construction and renovation ICRA process within their facility.

Frustrations

CMS Expectations



"The facility must establish and maintain an infection prevention and control program designed to provide a safe, sanitary, and comfortable environment and to help prevent the development and transmission of communicable diseases and infections."



Traditional ICRA Implementation

	Inspection and noninvasive activities					
	Includes, but is not limited to, the following:					
TYPE A	 Removal of ceiling tiles for visual inspection only (for example, limited to o tile per 50 square feet) 	ne				
	Painting (but not sanding)					
	 Wall covering, electrical trim work, minor plumbing, and activities that do generate dust or require cutting of walls or accessing ceilings other than for visual inspection 					
	Small-scale, short-duration activities that create minimal dust					
	Includes, but is not limited to, the following:					
TYPE B	 Installation of telephone and computer cabling 					
	Access to chase spaces					
	 Cutting of walls or ceilings where dust migration can be controlled 					
	Work that generates a moderate to high level of dust or requires demolitic removal of any fixed building components or assemblies					
	Includes, but is not limited to, the following:	Pa				
	Sanding of walls for painting or wall covering	LO				
TYPE C	Removal of floor coverings, ceiling tiles and casework	M				
	New wall construction	н				
	Minor duct work or electrical work above ceilings	HI				
	Major cabling activities					
	 Any activity that cannot be completed within a single work shift 					
	Major demolition and construction projects					

Low Risk	Medium Risk	High Risk	Highest Risk
Office areas	 Cardiology Echocardiography Endoscopy Nuclear medicine Physical therapy Radiology/MRI Respiratory therapy 	 Critical care unit Emergency room Labor and delivery Laboratories (specimen) Medical units Newborn nursery Outpatient surgery Pediatrics Pharmacy Postanesthesia care unit (PACU) Surgical units 	 Any area caring for immunocompromised patients Burn unit Cardiac cath lab Central sterile supply Intensive care unit Negative pressure isolation rooms Oncology Operating rooms, including C-section rooms

Construction Project Type

Patient Risk Group	TYPE A	TYPE B	TYPE C	TYPE D	
LOW Risk Group	- 1	- 11	- 11	III/IV	
MEDIUM Risk Group	1	11	Ш	N/	
HIGH Risk Group	- 1	II	III/IV	N/	
HIGHEST Risk Group	II.	III/IV	III/IV	N.	

Source: Joint Commission Resources & American Society for Healthcare Engineering

Facility Guidelines Institute (FGI)

Adoption of FGI Residential Guidelines by Facility Type and State

Facility Type		State Adopted		
Adult day care	Delaware*	New York	Vermont*	
facility	New Hampshire**			
Assisted living	Colorado (intellectually/develop-	Louisiana	Vermont*	
facility	mentally disabled)	New Hampshire**	Washington State**	
	Delaware*	Tennessee	West Virginia	
	Florida**	Utah (dementia unit)		
Hospice facility	Alaska	New Hampshire	Vermont*	
	Colorado	Rhode Island	Virginia*	
	Connecticut	Tennessee	Washington State**	
	Delaware	Utah	West Virginia*	
Nursing home	Alaska	Iowa	Rhode Island	
	Arizona	Louisiana	Tennessee	
	Colorado	Nebraska	Utah	
	Connecticut	Nevada	Vermont*	
	Delaware*	New Hampshire	Virginia*	
	D.C.*	New Jersey*	Washington State**	
	Florida**	New York	West Virginia*	
	Georgia North Dakota** Wyoming			
Other	North Dakota ("basic care" facility)		

^{*}Regulations say "current" or "latest" edition

No asterisk indicates a previous version was adopted.

Plan Design Implement Commission

^{**}Adopted 2014

Center for Medicare & Medicaid

- Environment
- Hazards
 - Over which facility has control
 - Free from accident hazards is possible
- Avoidable Accident
 - Identify hazards and assess resident risk
 - Evaluate, analyze, and eliminate hazards and risk
 - Implement interventions
 - Monitor effectiveness and modify as needed
- Water Management Program
 - Established program
 - Risk Assessment
 - Monitoring of control measures and corrective actions



2003 Guidelines for Environmental Infection Control in Health-Care Facilities

- Multidisciplinary team
- Education
- Mandatory adherence
- Surveillance
- Infection Prevention Measures
 - Utility, HVAC, or plumbing shut down
 - Barrier specifications
 - Dust containment
 - Air pressurization

Pre-Planning Staff Questions

Purpose or goal of the space



What operations will occur in the space

Where will each function occur within the space and what resources are needed

Is there enough space to perform all functions, ensure privacy, and remain productive

Will bulk body fluid or waste removal or negative pressure room be needed

Will chemicals be used that require chemical or biological hoods or eye wash stations or emergency shower

Does equipment generate heat or humidity or noise or vibration

Pre-Planning Staff Questions

What type of surfaces or finishes are needed

What lighting is needed while avoiding visual distraction

What are potential infection sources

Will family, POA, visitors use the space

Will the area serve individuals who have memory or behavioral needs



Pre-Planning Staff Questions

Are there any ergonomic considerations

How will residents be mobilized or transferred

What is the security risk

Will residents need to be visualized at all times

Are their current concerns or needs for the space



Risk Matrix and Bidding

Resident Area Risk Rating: Choose all impacted by the work.

Risk Level		Areas
Low Risk □ Yes □ No	 Office areas Non-resident areas Mechanical & Maintenance Spaces Parking 	 Infectious or Hazardous Waste Containment or Storage Conference Rooms Space not occupied by residents Space occupied only by employees
Medium Risk □ Yes □ No	 Lobby Reception Public corridors outside of Resident wing or units Cafeteria 	 Materials Management PT/OT/Speech Family Support Area Receiving Dock or Station Dietary or Food Service
High Risk □ Yes □ No	Linen StorageClean Storage	Lab Support Space
Critical Risk □ Yes □ No	 All Resident Care Rooms Medication Rooms Storage Area for Medication or Treatment Carts 	 Sterile Storage Pharmacy Negative Pressure Isolation Rooms

Risk Matrix and Bidding

	Inspection and Non-Invasive Activities includes normal maintenance activity and the
	following:
	 Inspection or removal of access panel(s)
Type A	Minor repair
□Yes	Minor electrical work
□No	Plumbing repair
	Removal of three ceiling tiles for visual inspection
	 painting (no patching or sanding)
	 Activities with little to no drilling, cutting. Or other dust raising activity
	Small scale, short duration activities which minimal dust generation (finish in one shift or
	work can stop at the end of the shift and retore to normal function) includes, but is not limited
Type B	to:
□Yes	 Minor cutting or drilling of plaster or dry wall where dust migration can be controlled
ПИо	Carpet removal
LINO	 Sanding or other dust making activity within a room or other controlled area
	Cabling
	Access to chase spaces
	Medium scale (start and finish within one calendar week) includes, but is not limited to:
	Remove hard surface flooring
Type C	Sanding of walls for painting or wallcovering
□Yes	Wall demolition and construction
□No	Ductwork
	Major ceiling work
	 Any activity which cannot be completed within a single work-shift
Type D	Large Scale construction or demolition (takes longer than seven days)
□Yes	
□No	

Risk Matrix and Bidding

_ ·	ny ceiling tile dis roken, or stained e to Construction vacuum. tor: e are implemente	d and maintained.	s can be removed combined all areas without a posal and be always covered or bagged.
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Construction Classification

Barrier construction will consist of the following:						
□ ECU □ Existing Structure □ Barrier Created						
 Plug HEPA in and ensure the 	Use current door and add a	☐ Seven Days of Less	☐ Longer than Seven Days			

Create barrier with Steel stud/Fire

the NFPA 701 Method 2 Test

Install an overlapping flap or a

(hardscape)

temporary door.

retardant poly sheeting that passes

(softscape) or prefabricated panels

Steel stud, drywall, and type 2 poly

or prefabricated fire-rated panels

sheeting behind exterior drywall layer

Cut edges of drywall will be taped.

drywall and poly if needed for sound

Seams and screw heads will be

Insulation may be placed between

taped or painted.

control

Defined mute for Chute: □ No □ Y Location: Air Positive Pressur Negative Pressu Biohood Will the AHU be I served by this Al-

lass III or IV	Co	ntract
□Yes	•	All it
□ No	•	Valid

- tems in Class I & II.
- date construction workers bath and breakroom location.
- Conduct daily work site inspection and note corrections.
- Barrier must remain intact through the entire project.
- Until approved by IP or designee and sign posted, work cannot be started.
- Record baseline/beginning HEPA meter reading and change filter when unit is not effective. You cannot clean or vacuum the filter and re-use.
- · Prevent foot or cart traffic from tracking dust outside of the barrier with a walk-off matt.
 - Surface must be large enough to capture all traffic in and out.
 - There are to be no footprints outside of the barrier.
 - If tact mats, exchange when ¾ of mat is no longer sticky.
 - If wet mat, vacuum daily and when visibly dirty. Replace weekly.
- To the extent possible, control durst from cutting with detergent/water mist, wet sanding, wet coring, or HEPA.

Confractor:

- All material must be wrapped, HEPA vacuumed, or disinfected prior to entering or exiting the construction. project.
- Before construction the hardscape barrier, a temporary softscape barrier will be constructed unless using prefabricated panels or construction completed of barrier off site.
- Barriers go all the way to the deck (do not end at suspended ceiling).
- Critical location requires an antercom.
 - Air will be monitored to ensure the antercom is negative to occupied area and negative to the construction. 5080e.

 Seal holes. Class IV Wet-wipe to

ПҮев

П Мо

vacuum atta

- Work site w
- Remove de
- Prevention
- Insulation Heat tage
- Water at
- If work on A
- Construction C

- Prior to the
 - Notify are will be rer
 - o Post the forcers.
 - Construction Risk Assessment
 - Daily checklist for contractor
- Responsible for contractor compliance and weekly verification.
- Schedule commissioning and turnover of the project.
 - Schedule housekeeping for terminal cleaning at least three days in advance.
 - Follow re-occupancy checklist prior to IP inspection.

Infection Preventionist:

- Inspect and approve barrier.
- Approve re-occupancy of area following the checklist.

Pre-Work Construction Coordinator and Contractor Questions

How will planned and unplanned utility, HVAC, or plumbing shutdowns be addressed

Will offensive odors be generated and when

Will it generate significant noise or vibration and when

Have all trade members received training in healthcare construction

Will potentially asbestos material be disturbed

Will confined spaces be entered or created

Will hot work be performed

Will a fire or smoke barrier be breached

Implementation

- ICRA signed and posted
- Validation of all measures in place prior to the start of work
 - Limit dust
 - Barrier is intact
 - Construction space is negative to surrounding space
 - Fire Safety
 - General Safety
- Validation weekly

Description of work to be reviewed. √=I have checked, and we are following the risk mitigation plan. If gaps exist, document on the back including actions to resolve.	Approved	Not Approved
Is perimeter sealed as tight as possible for job conditions ☐ As Is ☐ Cube or ECU ☐ Poly Sheeting with framing ☐ Drywall ☐ Pre-made Panels	□Yes	□ No
Are doors acting as a barrier Existing Temporary Door Zipper Poly Sheeting Overlapping Flap	☐ closed ☐ latched ☐ weather stripping ☐ sweep	□ Not able to close, zipper, or latch the door □ Existing door missing sweep or weather stripping □ Poly does not contain weighted stud at bottom
Exhaust machine is present, running, and discharging appropriately filtered air Large HEPA	☐ Yes, present and running ☐ Yes, exhausting acceptably filtered air	☐ No, not present or running ☐ Not exhausting acceptably filtered air
Is walk off mat in place ☐ Tack ☐ Wet carpeting with water source	□Yes	□No
Is carpeting which will not be removed covered with sticky back plastic	□Yes □NA	□No
Is the work area under negative pressure (e.g., .02 inches water gauge)?	□Yes	☐ No or unable to verify
Exhaust 🗆 NA 🗆 Sealed 🗆 Filtered 🗆 Removal is part of scope	□Yes	□No
Returns 🗆 NA 🗡 Sealed 🗡 Removal is part of scope	□Yes	□ No
Supply □ NA □ Sealed □ Removal is part of scope	□Yes	□ No
Debris transportation bagged or covered ☐ Not observed	□Yes	□No
Supply and waste follow approved routes Not observed	□Yes	□No
Standing water is not evident	□Yes	□ No

Commissioning

Cleaning of the Site					
Items to Complete		Contracto	ır	Infectio	n
				Preven	tionist
Ceiling tiles seated except those displaced due to barrier	□NA		No	□Yes	□ No
All remaining wall penetrations sealed or covered	□NA		No	□ Yes	□ No
Walls with cleanable primer – final coat can be applied after	er barrier removal	□ Yes □	No	□ Yes	□ No
	□ NA				
Gang boxes and construction materials removed	□NA	□ Yes □	No	□Yes	□ No
Validate sinks work properly and hot water does not excee	d 120 degrees F	□ Yes □	Ю	☐ Yes	□No
	□ NA				
Flush all water lines for 5 minutes for both hot and cold line	es □NA	□ Yes □	No	□Yes	□ No
Soap dispensers are hung but not filled.		□ Yes □	No	☐ Yes	□ No
Paper towel dispensers are hung but not filled.		□ Yes □	No	☐ Yes	□No
Check floor drains and ensure traps have water seals to pr	event sewer gases	□ Yes □	No	☐ Yes	□ No
from entering the room					
Sharps containers are wall mounted but not filled		□ Yes □	No	☐ Yes	□No
Shipping cartons and debris removed		□ Yes □	No	☐ Yes	□No
HEPA set to re-circulated within the space		□ Yes □	No	☐ Yes	□No
Exhaust port from HEPA is sealed	□NA	□ Yes □	No	☐ Yes	□ No
Construction crew has completed an initial cleaning with H	EPA vacuum to	□ Yes □	No	☐ Yes	□No
remove as much dust and debris from the space					
Poly barrier around hardscape barrier in Critical Risk area	□ NA	□ Yes □		☐ Yes	□ No
Terminal Cleaning completed with HEPA recirculating in the	e space before, durin	g, and after			
☐ Contractor ☐ Housekeeping ☐ Outside Company					
Date: Time: AM/F		-			
-	dust was found – pro				
	n dust was found 🗕 co	ntinue to rui	n HE	PA and h	ave site
settle down dust including inside re-cleaned.					
surface of barrier:					
If needed, 2 nd Terminal Cleaning completed with HEPA recirculating in the space before, during, and after.					
☐ Contractor ☐ Housekeeping ☐ Outside Company					
Date: Time: AM/F	M Initials				

Commissioning

Barrier Removal Critical Risk Low, Medium, of High Risk If up more than 24 hours, remove the barrier with the HEPA. Build poly barrier around initial barrier. machine still running. Remove initial barrier with the HEPA machine still running. Materials are covered and removed from area. HEPA vacuum any immediate soiling found trapped by/within barrier. Finish with damp dusting and mopping Final Cleaning completed with HEPA recirculating in the space before, during, and after. □Contractor □Housekeeping □Outside Company AM/PM Date: Initials: Minimally 2 hours after terminal clean, check □ No settle down dust was ☐ Yes, settle down dust was horizontal surfaces for settle down dust: found - proceed found – continue to run HEPA and have site re-cleaned. If needed, 2nd Final Cleaning completed with HEPA recirculating in the space before, during, and after. □ Contractor □ Housekeeping □ Outside Company AM/PM Initials: Date: Time:

Commissioning

Construction Manager Re-occupancy Checklist					
HVAC filters are changed if needed, tested, and balanced	□NA	☐ Yes	□ No		
Vents and ductworks are cleaned	□NA	☐ Yes	□ No		
Validate temperature and humidity controls	□NA	☐ Yes	□ No		
Validate fire alarm and protections systems are active	□NA	☐ Yes	□ No		
Validate fire extinguishers are present	□NA	☐ Yes	□No		
Validate security systems are in place	□NA	☐ Yes	□No		
Final painting of walls if needed	□NA	☐ Yes	□ No		
Evaluate laminar flow or bio-hoods and validate working correctly	□NA	☐ Yes	□No		
Validate pressurized rooms have the correct number of air exchanges and are	□NA	☐ Yes	□No		
pressurized correctly					
Validate all equipment is functioning as designed	□NA	☐ Yes	□ No		
Educate staff on any new equipment and validate PM recorded	□NA	☐ Yes	□ No		
Install refrigerators and validate reach correct temperature and determine monitoring	□NA	☐ Yes	□ No		
method					
Install ice machines	□NA	☐ Yes	□ No		
Hand Hygiene products are stocked including paper towels	□NA	☐ Yes	□ No		
Only cleaning supplies under sinks	□NA	☐ Yes	□ No		
Free standing eyewash stations are installed	□NA	☐ Yes	□ No		
Insert sharps containers	□NA	☐ Yes	□ No		
No clean products are stored with dirty	□NA	☐ Yes	□ No		
Place lined trash containers	□NA	☐ Yes	□No		
Placed lined dirty linen hampers	□NA	☐ Yes	□No		
Ensure stored linen is covered	□NA	☐ Yes	□ No		
Rooms are stocked with necessary supplies	□NA	☐ Yes	□No		

Summary

Plan + Design

- + Implement + Commission
- = Meet CMS and goals in LTC

References

- Draft 2022 Residential Document, https://fgiguidelines.org/revision-process/comment_period/2022-draft-residential-document/
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- Public Health Ontario Environmental Cleaning of Health Care Facilities CRMD Guide, https://www.publichealthontario.ca/-/media/documents/c/2015/crmd-environmental-cleaning-healthcare-facilities.pdf?la=en
- APIC Infection Prevention Manual for Construction & Renovation, https://secure.apic.org/web/ItemDetail?iProductCode=SLS9808&Category=B OOKS
- CDC 2003 Guidelines for Environmental Infection Control in Health-Care Facilities, https://www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm



Questions