Long Term Care: Infection Prevention Plan, Risk Assessment and Isolation Recommendations

Marianne Pavia MS, BS, MT(ASCP), CIC, FAPIC

CMS Final Rule Requirements for Long-Term Care Facilities



 Long-Term Care (LTC) Facilities have health and safety standards that facilities must meet in order to participate in the Medicare or Medicaid Programs.

Regulatory Section	Phase	Implementation Deadline
Infection Prevention and Control (IPCP)	Phase 1	November 28, 2016
Antibiotic Stewardship Program	Phase 2	November 28, 2017
Infection Preventionist (IP)	Phase 3	November 28, 2019
IP participation on QAA committee	Phase 3	November 28, 2019

The Infection Prevention and Control (IPC) Program

It is a comprehensive, effective and supported program that is essential for reducing infection risk and increasing safety.

Effective IPC Program

A clinically qualified, well-trained staff to oversee the program

A risk assessment

- A surveillance program
 - A system for obtaining, managing, and reporting critical data and information
 - Use of surveillance findings in performance assessment and improvement activities

Arias KM, Soule BM, APIC/JCR Infection Prevention and Control Workbook, 2nd Edition 2010

Effective IPC Program

A written, risk based plan with goals and measurable objectives, strategies and evaluation methods

Relevant education and training programs

Available resources to support the program

 Integration with emergency preparedness systems in the organization and community

Collaboration with the health department

Arias KM, Soule BM, APIC/JCR Infection Prevention and Control Workbook, 2nd Edition 2010

Minimum LTC Assessment Domains

- Hand hygiene compliance
- Environmental control
- Outbreak control

Prevention of:

- Urinary tract infections (UTI)
- Respiratory tract infections
- Gastrointestinal
- Multidrug-resistant organism infections (MDROs)
- Skin and soft-tissue infections

The Infection Control Plan should contain 4 components:

- 1. A description of risks
- 2. A statement of goals
- 3. A description of strategies to address the risks
- 4. A description of how the strategies will be evaluated

Creating the Foundation

Infection Control Plan Template

Administrative

- Authority statement
- Vision/mission statement
- Program goals and objectives
- Program assessment

Personnel Job Description

- Director/Coordinator/Manager
- /Infection Control Practitioner

Clinical Infection Control Plan

- Surveillance strategy
- Environmental monitoring
- Antibiotic utilization studies

Investigations

- Outbreak management
- DOH Liaison

General Organizational Policies

- Occupational health
- Medical waste
- Post-exposure communicable disease management

Communicable Disease Reporting Education Departmental Policies and Procedures http://www.infectioncontroltoday.com/articles/2000/12/developing-an-infection-control-program.aspx

The Infection Control Plan

AIC special communication

SHEA/APIC Guideline: Infection prevention and control in the long-term care facility

Philip W. Smith, MD,^a Gail Bennett, RN, MSN, CIC,^b Suzanne Bradley, MD,^c Paul Drinka, MD,^d Ebbing Lautenbach, MD,^e James Marx, RN, MS, CIC,^f Lona Mody, MD,^g Lindsay Nicolle, MD,^h and Kurt Stevenson, MDⁱ July 2008

http://www.apic.org/Resource_/TinyMceFileManager/Practice_Guidance/id_APIC-SHEA_GuidelineforICinLTCFs.pdf

The Infection Control Plan: Administrative

IC Plan: Structure



http://www.apic.org/Resource_/TinyMceFileManager/Practice_Guidance/id_APIC-SHEA_GuidelineforlCinLTCFs.pdf





The Infection Control Team

- Has the **authority** to manage an effective control program
- Reports directly with senior administration
- Responsible for day-to-day functions of IC program
- Prepares the yearly plan
- Has expertise in IC
- Creative in their job
- Remains calm and professional

Infection Control Manual

Every facility should have an infection prevention manual compiling **evidence-based** practices for patient care.

This manual should be developed and updated in a timely manner by the infection control team.

It is to be reviewed and accepted by infection control committee.

Where Is the Evidence?

Guidelinæ for Envir in Health	onmental Infection Control -Care Facilities		ODC.
Recommendations of CDC Practices Advise	2007 Guideline for Preventing Transm Agents in Healthca	Isolation Precautions hission of Infectious hre Settings	Morbidity and Mortality Weekly Report Recommendations and Reports October 25, 2002 /Vol. 51 /No. RR-16
HICPA HEALTHCARE INFECTION OF PRACTICES ADVISORY CO	CONTROL	N MPH CIC; Marguerite Jackson, PhD; Infection Control Practices Advisory C gratefully acknowledge Dr. Larry Strausbaugh ce in the preparation of this guideline.	Guideline for Hand Hygiene in Health-Care Settings Recommendations of the Healthcare Infection Control Practices
GUIDELINE FOR P ASSOCIATED URI Carolyn V. Gontal, MD, MSCR ¹ MD, MPH ² : Gretchen Knitz, MD Heathcare Infection Co <u>ntrol Pra</u>	REVENTION OF CATHETER- IARY TRACT INFECTIONS 2009 Crag A. Unscoled, N.D. NSCE ² , Ratender K. Agawal, XM, NSLIS ² , Gauldia, Pegres, ND ² and the ctbes Adulsory Committee (HICPAC)*	ackson M, Chiarello L, and the Healthcare Infectid ? Guideline for Isolation Precautions: Preventing are Settings 2007.pdf	Management of Multidrug-Resistant Organisms In
⁴ Disis bi of Healthcare Centers to FDisease Cr Attanta, GA ² Center for Buide noe-t University of Pennsylus	infection control and nospital : $S \mathrel{\tt H} \mathrel{\tt E} \mathrel{\tt A} / \mathrel{\tt A}$	EFIDEMIOLOGY SEPTEMBER 2008, VOL. 29, NO. 9 PIC GUIDELINE	Healthcare Settings, 2006
² Duis bi of hitedons Dauid Gefti i Schoolo Los Angeles, CA	SHEA/APIC Guideline: In in the Long-	nfection Prevention and Cont Term Care Facility July 2008	Jane D. Siegel, MD; Bmily Rhine Kart, RN MPH CIC; Margnerite Jackson, PhD; Linda Chlarello, RN MS; the Healthcare in fection Control Plactices Adulto ly Committee Acknowledgement: The authors and HICPAC grateruly acknowlege Dr. Larry Stausbaugh for his many contributions and valued guidance in the preparation of this guideline.
N N			

IC Plan: Elements Polices and Procedures

Policies and procedures

- Standard precautions
- Transmission-based precautions
- Specific Infections-MRSA, Scabies, Tinea
- Employee education
- Hand hygiene
- Central line maintenance

The Infection Control Plan: Clinical

Surveillance Strategies

- Assessing your population (risk assessment)
- Surveillance definitions (McGeer)
- Methods to collect data (EMR, AM report, labs, huddles)
- Outcome measurements (incidence of UTI)
- Performance improvement
- Next year's goals

IC Plan: Clinical Disease Reporting

Dissemination information to:

- Staff
- Patient and family
- Receiving and transferring institutions
- Public heath authorities



IC Plan: Clinical Antimicrobial Stewardship

- Committee or team
- Leadership support
- De-escalation of antibiotics
- Antibiotic "time-out"
- Standardization of length of treatments
- Work on "low hanging fruit"

IC Plan: Clinical Health Programs

Residents	Staff
 TB screening Immunization program Risk assessments Aspiration UTI Skin care 	 TB screening Immunization program Risk assessments Occupational exposures

The Infection Control Plan: Outbreak Management

Clinical Infection Identification and Outbreak Management

Case definitions

Example: Respiratory viral infections

- Fever above 101°F with one of the following:
 - Chills
 - Headache or eye pain
 - Sore throat
 - Muscle ache
 - New or increased cough

Outbreak Threshold- Noso Outbreak Reporting Application (NORA)

- One case of influenza
- Three cases of other respiratory viruses

The Infection Control Plan: General

IC Plan: Education

- New Employee orientation programs including students and volunteers
- Re-orientation of new employee and volunteers
- Live programs as needed to address specific issues Example: Flu Adenovirus
- One-on-one staff education during isolation rounds/during problem solving activities utilizing verbal and printed material
- Support patient, family and visitor education via:
 - Individual consultation with patients and family
 - Various printed information on infection control related issues

IC Plan: General Facility Management Issue

- Food preparation/storage
- Laundry collection/cleaning
- Waste collection/disposal
- Housekeeping/cleaning- who cleans what?
- Disinfection/sterilization
- Plumbing/ventilation



Facilitators for Success

- Supportive/engaged leaders
 - Education, checklists, monitoring
 - Multidisciplinary teamwork
 - Root-cause analysis for adverse infection events
 - Administrative partnership with units
 - Accessibility of supplies at point of care
 - Sharing process outcome data with staff



Practice Barriers Identified

Unavailability of hand sanitizers

Inconsistent antimicrobial monitoring

Lack of prevention strategies

Physician refusal to remove Foley

Limited separation of clean/dirty workspace

ack of family/resident education



Organizational Barriers Identified







Infection Control Program: Risk Assessment





Risk Assessment

- Risks are reviewed and identified at least annually and whenever significant changes occur.
- Risks are assessed with input from, at a minimum, infection control personnel, medical staff, nursing, and leadership.
- Risks that are identified as acquiring and transmitting infections are prioritized and documented!
- Objectives, milestones and process measures are developed and implemented to achieve specific goals and decrease risk.

Infection Control Program Risk Assessment

Risk		Prob	ability of I	Event		(Healt	:h, Finan	Impact cial, Legal F	Regulato	ry)		Curren	t Prepar	edness		Score
	Very Likely	Likely	Potential	Rare	Never	Catastrophic Loss (life/limb/ function/\$\$\$)	Serious Loss (Fx, \$\$\$, or Legal)	Risk of Re- Admission or Transfer to High Acuity	Mod. Clinical or \$\$\$ Impact	Minimal Clinical of \$\$\$ Impact	None	Poor	Fair	Good	Very Good	
	4	3	2	1	0	5	4	3	2	1	5	4	3	2	1	
Flu	/		3					3					2			18
CDI		/	4					3					4			48
UTI		/	2					2					5			20
	/															

Why Perform An Annual Risk Assessment?

Helps focus our activities on essential tasks to reducing critical infection control risks

Constant changes to:

- External guidelines and regulations
- Technologies
- Policies and procedures
- Medications and vaccines
- Populations served
- Services provided



Why Perform An Annual Risk Assessment?

- Improves patient safety
- Improves staff safety
- Improves efficacy (desired results)
- Identifies training issues
- Personal health habits
- Cultural beliefs regarding disease transmission
- Understanding of disease transmission and prevention
- for implementing new interventions
- Avoids adverse events

Improves Efficacy





Examples:

- Staff believes that washing with soap and water is more effective than using an ABHS.
- Staff believes they are required to wash their hands with soap and water after using ABHS ten times

Justify a Need

- Empower us to approach leadership for increase in resources
- New or increased staffing
- Increased training
- Block beds or increase isolation rooms
- Negative pressure room
- Foguses attention on a need
 - Provides a solution to address that need



Performing the Infection Control Risk Assessment

Gather	Gather the leaders
Select	Select categories to assess
Identify	Identify internal and external risks
Develop	Develop methods and be consistent
Perform	Perform the assessment
↓	
Establish	Establish priorities



Step 1: Gather the Leaders

Include key staff:

- Environmental
- Pharmacy
- 🔸 Lab
- Nursing
- Medicine
- Quality
- Opinion leaders



Step 2: Select Categories for Risk Assessment

39	Geographic Location	Natural disasters (Probability)
		Water services
		Bioterrorism
	Community	Community outbreaks
		Migratory population
		Incidence of TB
	Organizational Programs	Sub acute
		Rehab
		LTC
	Equipment and Devices	Scopes
		Instruments- Dental/Podiatry
		New Devices
	Environmental Issues	Construction
		Isolation rooms
	Employee	Needlesticks
X		Vaccinations

Step 3: External Risks

Accidents

- Mass transit (i.e., airplane, train, bus)
- Fires involving mass casualties

Disasters

- Tornadoes, Floods, Hurricanes, Earthquakes
- Breakdown of municipal services (broken water main, strike by sanitation employees)
- Intentional Acts
 - Bioterrorism
 - "Dirty Bomb"
 - Contamination of food and water supplies



Step 3: External Risks

- Community outbreaks of transmissible infectious diseases
 - May be linked to vaccinepreventable illness in unvaccinated population
 - Work with local or county health departments
 - Know local prevalence

Now With 15 Cases of Measles, Rockland Adds Vaccine Clinics

Legionnaires' disease in NYC: What to know

People get Legionnaires' disease by breathing in water vapor containing the bacteria.

The Health Department offers non-immune residents who are 6 months old through age 60 one dose of MMR vaccine at no cost.

By Lanning Tallaferro, Patch Staff | Oct 23, 2018 5:15 pm ET | Updated Oct 24, 2018 12:48 pm ET

🖞 Like 75 Share 🔒

NEWS

7 children dead in virus outbreak at New Jersey facility

By Laura Ly and Susan Scutti, CNN () Updated 9:13 AM ET, Wed October 24, 2018

🖂 🗗

Important Considerations: Possible but not Probable

- Threat to life or health
- Disruption of services
- Loss of function
- Loss of community trust
- Financial impact
- Legal issues
- Regulatory impact
- Standards/requirements



Step 3: External Risks Regulatory and Accreditation Requirements

Federal	State	Others
Occupational Safety and Health Administration CDC FDA	Department of Health State Education Department Department of Sanitation	tjC Apic, shea Aha Aorn Clis



Step 3: Internal Risks The Patient





Step 3: Internal Risks Employee-Related

- General health
- TST conversions
- Flu vaccination/declination
- Immunocompromised
- Pregnancy
- Presenteeism
- Personal health habits
- Cultural beliefs
- Understanding of disease transmission and prevention







Step 3: Internal Risks Environmental-Related

- Construction
- Limited sink/dispensers
- Limited single rooms
- Limited housekeeping
- Confined spaces
- Joint events:
 - The dining experience
 - The great room
 - Music therapy



Step 4: Develop Method

Qualitative Risk Assessment

- Non-numeric scoring system based upon the probability of an event occurring
- Assess risk using written descriptions
- Examples: Gap analysis and Strengths, Weakness, Opportunities, Threats (SWOT)

Quantitative Risk Assessment

 Numeric scoring system based upon probability of event occurring

Example : Resident with a Multidrug-Resistant Organisms (MDRO)

Likelihood

- Likely 66-100%
- Possible 33-66%
- Unlikely 0-33%
- Consequences
 - Minor → can be managed without medical treatment
 - Moderate → requires medical treatment
 - Major → transfer to hospital or death

Qualitative Risk Assessment

Simple Risk Matrix

		Consequences				
		Minor	Moderate	Major		
	Likely					
<u>Likelihood</u>	Possible					
	Unlikely					

Risk Treatment Key

Intolerable Risk Level

Immediate action is required

Tolerable Risk Level

Risks must be reduced so far as is practicable.

Broadly Accepted Risk Level

Monitor andn futher reduce where practicable

Example 1: Resident with a Multidrug-Resistant Organisms (MDRO)

- Likelihood
 - Likely 66-100%
 - Possible 33-66%
 - Unlikely 0-33%
- Consequences
 - Minor → can be managed without medical treatment
 - Moderate → requires medical treatment
 - Major \rightarrow transfer to hospital or death

Qualitative Risk Assessment

52

Simple Risk Matrix

		C	onsequence	es
		Minor	Moderate	Major
	Likely			
Likelihood	Possible		Х	
	Unlikely			

Risk Treatment Key

Intolerable Risk Level

Immediate action is required

Tolerable Risk Level

Risks must be reduced so far as is practicable.

Broadly Accepted Risk Level

Monitor andn futher reduce where practicable

Quantitative Risk Assessment

Risk	Specific Issues	Probability	Severity	Risk Reduction Initiatives	Preparedness	Risk Score Range
		High = 3	Life threatenining; major impact on organization = 3		Poor = 3	Possible 1 27
		Moderate = 2	Moderate harm to patient or organization = 2		Fair = 2	PUSSIBIE 1 - 27
		Low = 1	Minimal impact = 1		Good = 1	Actual 1 10
		None = 0	None = 0			ACLUAI I - 18

Assign values to each risk

 Probability- known risks, historical data, literature

Impact/severity

Preparedness- current systems in place

54 Quantitative Risk Assessment How to Assign Values

- There are no right or wrong answers
- Allow discussion
- Promote consensus
- Each organization's priorities will be different
- Once decided, be consistent



The Infection Prevention Team will revise the risk assessment and the Infection Prevention Committee will review and approve it annually.

Scoring Process Probability x Severity x Preparedness = Risk Score

RISK	Specific Issues	Probability High = 3 Moderate = 2 Low = 1 None = 0	Severity Life threatening, major impact on organization = 3 Moderate harm to patient or organization= 2 Minimal impact = 1 None = 0	Risk Reduction Initiatives	Preparedness Poor = 3 Fair = 2 Good = 1	RISK SCORE Range: Poss 1- 27 Actual 1-18
Clostridium difficile (C.diff)		3	3	 Pt equipment labeling protocol (Patient Ready) Equipment Cleaning Grid Participation in community CDI collaborative Dedicated equipment PPE compliance monitoring Hand hygiene compliance audits on selected units & data feedback to units and leadership ATP testing after cleaning, EVS checklist Ultraviolet light machines for surface disinfection C.diff Prevention Plan & Toolkit Antibiotic stewardship Bleach cleaning Early warning communication to prevent clusters Enhanced protocol for cluster settings. Limit use of quinolones to treat C.A. pneumonia 	2	18

The probability of occurrence, multiplied by the severity of the risk, multiplied by the organization's preparedness to deal with the risk = the organization's risk level for each item.

Tips and Reminders

- Include both actual and potential risks
- Clearly identify priority ranking. If numerical: identify how points are allocated
- If qualitative: articulate high, medium, low, etc., (How is this determined?)
- Include data from rounds and observations
- Identify potential risks from the current world threats

Tips and Reminders

The assessment should address 3 questions:

- 1. What is the probability that a risk event will occur?
- 2. If it occurs, how severe will it be?
- 3. What have we done to decrease the risk?

Consequences of Not Performing Risk Assessment





Isolation Precautions

Preparations for Precautions

Inform resident, family and visitors about PPE and hand hygiene

- Display appropriate signage
- Review the policy and procedure
- Observe and audit for compliance (donning and doffing of PPE, hand hygiene)
- Sypplies available and replenished regularly
 - Increased environmental services
 - Garbage pick-up
 - High touch area cleaning



Patient Placement Before Admission

- 61
- Be represented on the Admissions Committee
- Perform an individual risk assessment

Determine isolation needs as to:

- 1. Medical needs
- 2. / History MDROs
 - Secretions, wounds, devices, immune status, immunization history, personal hygiene
- 4. Psychological risks of depression, anxiety, fear





Transmission-based Precautions: Patient Placement

- If possible, place resident in a private room.
- If not possible, resident should be cohorted with another resident with the same organism.
 - If neither option is possible, the resident should be placed in a room with another resident who is considered at *low risk* for acquistion of a MDRO.

Examples include: no wounds, no invasive devices, not immunocomprised

Discontinuation of Precautions

Phase 1 483.80 Infection control

When and how isolation should be used for a resident, including but not limited to:

- The type and duration of the isolation depending upon the infectious agent or organism involved
- A requirement that the isolation should be the least restrictive possible for the resident under the circumstances



Use precautions on a case by case basis in LTCFs

- 5 C's to assess residents need for addition to Standard Precautions
- 1. Colonized
- 2. Cognizant
- 3. Compliant
- 4. Catheterized (device)
- 5. Continent/Wound

Transmission-based precautions maintained for the duration of illness

It is not necessary to do a test of cure or clearance cultures after treatment complete and resident has no S&S

S&S resolved, discontinue isolation

Following resolution of active infection, the resident may remain colonized. Need to monitor, as colonization increases the risk of future infection

Discontinuation of Precautions

References

- CDC guidelines for isolation precautions in hospitals 1996, Hospital Infection Control Practices Advisory Committee (HICPAC): <u>http://wonder.cdc.gov/wonder/prevguid/p0000419/p0000419.asp</u>
- Principles of Epidemiology in public health practice, 3rd edition
- Sehulster, L.M., Chinn, R.Y.W., Arduino, M.J., Carpenter, J., Donlan, R., Ashford, D., Besser, R., Fields, B., McNeil, M.M., Whitney, C., Wong, S., Juranek, D., and Cleveland, J. (2003).
- Guidelines for environmental infection control in health-care facilities. Recommendations from CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Pp.139. <u>http://www.cdc.gov/ncidod/dhap/pdf/guidelines/Enviro_guide_03.pdf</u>
- Sehulster, L.M., Chinn, R.Y.W., Arduino, M.J., Carpenter, J., Donlan, R., Ashford, D., Besser, R., Fields, B., McNeil, M.M., Whitney, C., Wong, S., Juranek, D., and Cleveland, J. (2003). Guidelines for environmental infection control in health-care facilities. Recommendations from CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Pp. 139.
- 102Sehulster, L.M., Chinn, R.Y.W., Arduino, M.J., Carpenter, J., Donlan, R., Ashford, D., Besser, R., Fields, B., McNeil, M.M., Whitney, C., Wong, S., Juranek, D., and Cleveland, J. (2003). Guidelines for environmental infection control in health-care facilities. Recommendations from CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Pp. 140.

References

- Bradley S, Segal P, Finley E. Impact of implementation of evidence-based best practices on nursing home infections. Pa Patient Saf Advis [online] 2012 Sep [cited 2013 Apr 24].
 <u>http://patientsafetyauthority.org/ADVISORIES/AdvisoryLibrary/2012/Sep;9(3)/Page</u> s/89.aspx.
- Castle NG, Wagner LM, Ferguson-Rome JC, et al. Nursing home deficiency citations for infection control. Am J Infect Control 2011 May;39(4):263-9.
- Centers for Disease Control and Prevention (CDC): Guideline for preventing health-care--associated pneumonia, 2003 [online]. [cited 2013 Apr 24]. http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5303a1.htm.
- Centers for Medicare and Medicaid Services (CMS). Revisions to appendix PP— "Interpretive Guidelines for Long-Term Care Facilities," Tag F441" [transmittal 55 online]. 2009 Dec 2 [cited 2013 Apr 24]. http://www.cms.hhs.gov/transmittals/downloads/R55SOMA.pdf.
- Denham CR. Patient safety practices: leaders can turn barriers into accelerators. J Patient Saf 2005;1:41-55.
- 2007 Guideline for isolation precautions: preventing transmission of infectious agents in healthcare settings: http://www.cdc.gov/hicpac/2007IP/2007isolationPrecautions.html
- CDC guidelines for isolation precautions in hospitals 1996, Hospital Infection Control Practices Advisory Committee (HICPAC): <u>http://wonder.cdc.gov/wonder/prevguid/p0000419/p0000419.asp</u>

Questions?

68



- Wash or clean your hands before and after you provide care to a patient.
- 2. Use gloves the right way.
- Get your shots- including your annual flu shot- and make sure everyone in your family does too.
- Follow the rules of isolation for the patient's protection, your protection, and everyone else's protection.
- Follow safe injection practices remember One needle, One syringe, Only one time.

- Make patient identification a priority: right drug, right time, right dose.
- 7. Keep the patient's room and equipment clean.
- Know when antibiotics are appropriate . . . and when they are NOT.
- 9. What you wear matters! Make sure your attire does not become a source of infection.
- 10. Know about the infection preventionist.