# Home Patient Safety Series: Reducing Facility-Associated Infections and Hospitalizations Related to UTI, Sepsis, Pneumonia, and COVID-19





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#### **INFECTION PREVENTION SPECIALIST**

Erica Umeakunne is an adult-gerontology nurse practitioner and infection preventionist with experience in primary care, critical care, healthcare administration and public health.

She previously served as the interim hospital epidemiology director for a large health care system in Atlanta and as a nurse consultant in the Centers for Disease Control and Prevention's (CDC) Division of Healthcare Quality Promotion. While at CDC, she served as an infection prevention and control (IPC) subject matter expert for domestic and international IPC initiatives and emergency responses, including Ebola outbreaks and, most recently, the COVID-19 pandemic.

Erica enjoys reading, traveling, family time, and outdoor activities.

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About Alliant Health Solutions



## Scan the QR codes or Click the Links to Complete the Assessments!

CMS requested Alliant Health Solutions, your QIN-QIO, to work with select nursing homes to understand emerging healthcare needs in nursing homes. Alliant Health Solutions is engaging nursing home leadership on each of these key areas to ensure plans are in place to achieve and maintain health quality and equity!

Please scan the QR codes below and complete the assessments.



#### COVID-19

Support nursing homes by establishing a safe visitor policy and cohort plan

Provide virtual events to support infection control and prevention

Support nursing homes and community coalitions with emergency preparedness plans Nursing Home
Emergency
Preparedness
Program (NH EPP)
Self-Assessment



#### TRAINING

Encourage completion of infection control and prevention trainings by front line clinical and management staff Nursing Home Infection Prevention (NHIP) Initiative Training Assessment



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https://bit.ly/AHS NHEPPAssessment

https://bit.ly/NHIPAssessment

https://bit.ly/SafeVisitorVerification



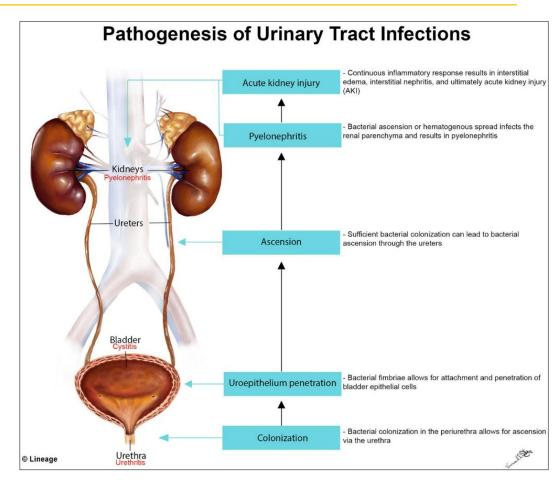
# **Objectives**

- Describe evidence-based interventions to prevent urinary tract infections (UTIs) in nursing home residents
- Discuss appropriate tests and treatments for UTIs
- Share Alliant Health Solutions quality improvement resources to support UTI prevention initiatives



# **Urinary Tract Infections (UTIs)**

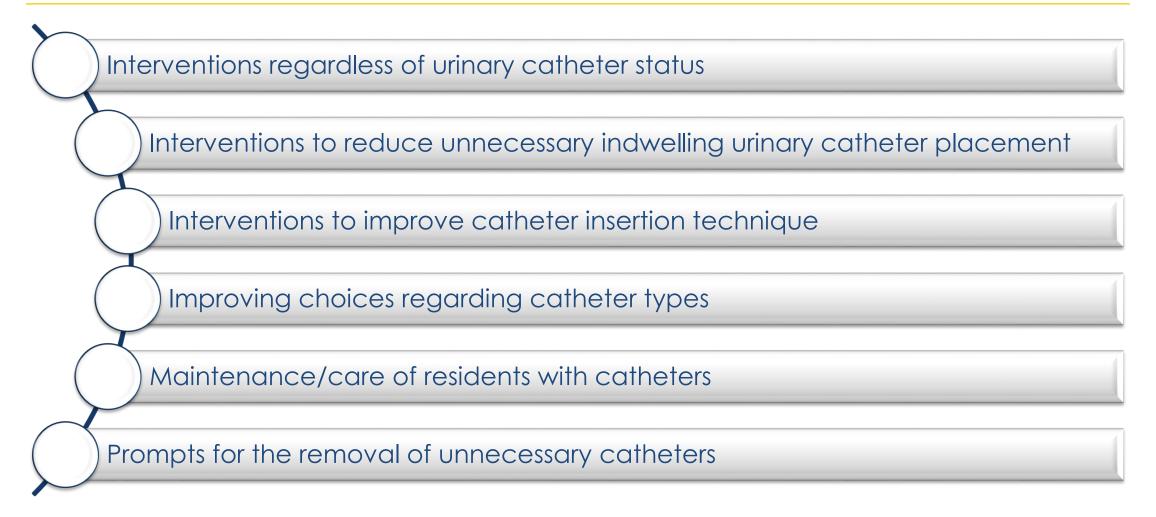
- Most common sites of healthcare-associated infections
  - Accounts for up to 20% of infections reported by long-term care facilities (LTCFs)
- Risk factors for developing bacteriuria and UTI:
  - Age-related changes to the genitourinary tract
  - Comorbid conditions resulting in neurogenic bladder
  - Instrumentation required to manage bladder voiding
- Complications:
  - Cystitis
  - Pyelonephritis
  - Bacteremia
  - Septic shock
  - Declined resident function and mobility
  - Acute care hospitalizations
  - Increased mortality



https://u.osu.edu/utieducation/pathophysiology-of-uti/

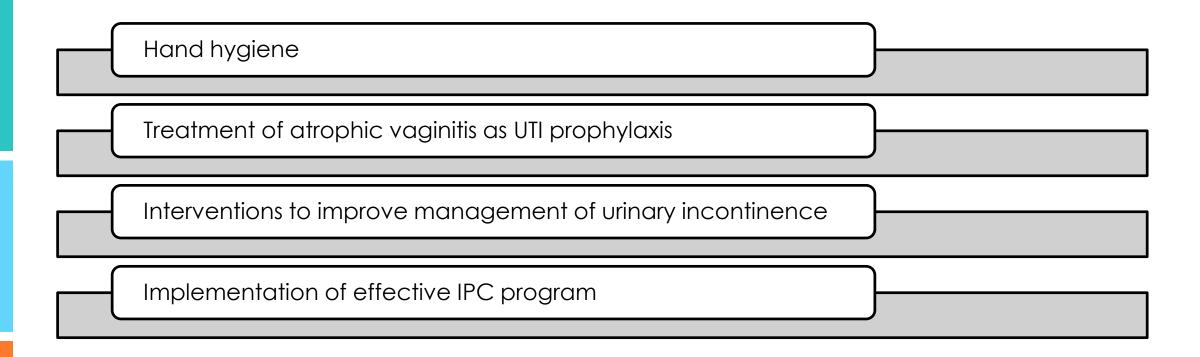


# Systematic Review of Interventions to Reduce Urinary Tract Infections in Nursing Home Residents (2017)





# Interventions for Residents (Regardless of Urinary Catheter Status)





# Hand Hygiene Surveillance Resources



	Hand Hygiene Observation Tool - Park Nicollet Methodist Hospital  (Use one tool per observation period. Obs. period = 1.5 hours or 8 HH opportunities)						
Date Your name         □ 0-30 min           □ 31-60 min.           Obs. start time Obs. end time         Total obs. time for this period (check one)         □ 61-120 min.							
	N= nurse P = physician NA = nurse assist X = xray U = unknown/other IV = IV therapy	RT= resp therapy PT =phys therapy OT= occ. therapy L = lab T = tech TR= transporter		After patient care: After pt. contact, immediately between patient's environment Before patient care:	RTUNITY DEFINITIONS: en 2 pts., after removing gloves, after contact with n desk activities to patient care activities		

1. UNIT/DEPT	2. HCW CODE (from above)	3. TYPE OF OPPORTUNITY (Circle after or before)	4. DID HH OCCUR? (Circle yes or no)	5. WHAT PRODUCT WAS USED FOR HH? (Circle one)	6. CHECK BELOW if HH opportunity occurred during care of a PATIENT IN ISOLATION
1.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
2.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
3.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
4.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
5.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
6.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
7.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
8.		After / Before	Yes / No	a. Alcohol hand rub / b. Soap & water	
		TOTALS			



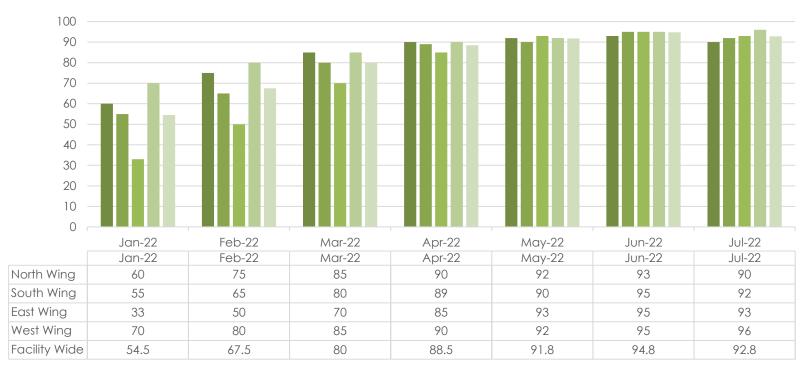


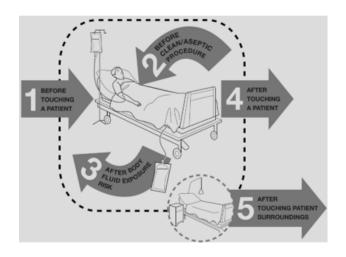
https://quality.allianthealth.org/topic/infection-control/



# Hand Hygiene Surveillance and Reporting

#### Hand Hygiene Compliance (%)





North Wing South Wing East Wing West Wing Facility Wide

https://www.cdc.gov/handhygiene/providers/guideline.html



# Interventions to Reduce Unnecessary Indwelling Urinary Catheter Placement

Education regarding hazards of urinary catheters

Education and/or policies regarding appropriate indications for indwelling catheters

Requiring physician order with appropriate indication prior to indwelling catheter placement

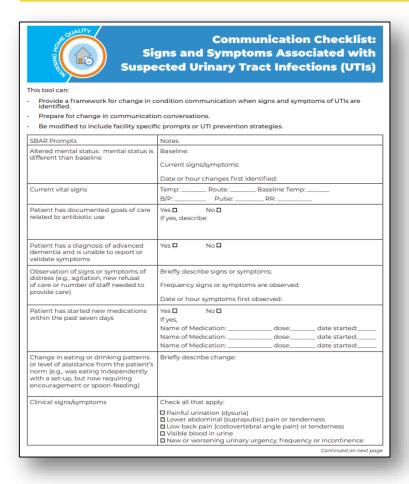
Requiring documentation of who inserted catheters with indication for placement

Education and supplies for alternatives to indwelling catheters

Urinary retention protocols for intermittnent straight catheterization (ICS) ans/or bladder scan



# Communication Checklist: Suspected UTIs



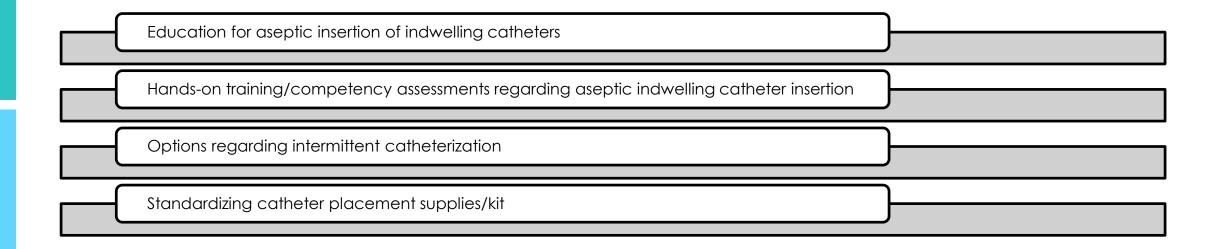
Patient has history of urinary symptoms and	Yes No No D
urinary tract infections	If yes,
	Date of most recent episode:
	Number of episodes in last x months:
	What did the prior culture grow?
	What did the susceptibilities show?
Patient has history of MDROs	Yes No No D
	If yes,
	Date of most recent treatment:
	Organism:
Patient is currently receiving dialysis	Yes D No D
r decress currently receiving diarysis	If yes, type: ☐ Hemodialysis ☐ Peritoneal
	Does the patient have any urine output? Yes □ No □
Patient has an indwelling catheter? How	Yes No No D
often changed? Diagnoses? Due for change?	Diagnosis for indwelling catheter:
	Date of most recent catheter change:
Request initiation of facility hydration	
protocol. (e.g., encourage fluids x	
HRS and monitor for a change. Send a urine	
specimen if change in baseline temp over 2.0 degrees or change in urine)	
Request order to send urine specimen via	
straight catheterization or clean catch	
If antibiotic ordered, request a review of	
antibiotic order when microbiology specimen	
results are ready (e.g., three days from order	
date)	
Resources:	
AHRO Suspected UTI SBAR Toolkit :	
	mine-whether-to-treat/toolkit]-suspected-uti-sbar.html
	The state of the s
nteract® 4.5 Symptoms of UTI Care Path:	
https://pathway-interact.com/tools/	
SBAR Tool: Guidelines + Worksheet:	
http://forms.ihi.org/tools/sbar-toolkit?utm_re	ferrer=http%3A%2F%2Fwww.ihi.org%2F
This material was assessed by Alliant Month Columbna a Contraction of	
This material was prepared by Alliant Health Solutions, a Quality Innovation N Organization (QIN – QIO) under contract with the Centers for Medicare & agency of the U.S. Department of Health and Human Services (HHS). Views er necessarily effect the official views or policy of CMS or HHS, and any reference.	Medicaid Services (CMS), an ATTTANTT GIN-GIU

- Provides a framework for change in condition communication when signs/symptoms of UTI identified
- Helps nursing home staff and prescribing clinicians communicate about suspected UTIs and facilitates appropriate antibiotic prescribing
- Agency for Healthcare Research
   Quality (AHRQ Toolkit) includes:
  - Suspected UTI SBAR form
  - A clinician letter
  - Not All "Infections" Need Antibiotics
  - Urinalysis and UTIs: Improving Care

https://quality.allianthealth.org/wp-content/uploads/2021/10/Communication-Checklist - Signs-and-Symptoms-Associated-with-Susptected-Urinary-Tract-Infections-UTIs.pdf



# Interventions To Improve Catheter Insertion Technique





# Improving Choices Regarding Catheter Types

Type of catheterization (Indwelling vs. ISC vs. External) Catheter coating/materials Catheter size Catheter length "Closed" drainage systems Catheter securing devices



## Maintenance/Care of Residents With Catheters

Hand hygiene Use of appropriate Personal Protective Equipment (PPE) during catheter/bag care Keeping drainage bag below bladder Avoid equipment sharing between catheterized patients Spatial separation of catheterized patients\* Bacterial interference interventions\*





**Instructions:** Observe <u>patients</u> with urinary catheters in place. Observe each practice and record the observation. In the column on the right, sum (across) the total number of "Yes" and the total number of observations ("Yes" + "No"). Sum all categories (down) for overall performance.

Urinary catheter: Observation Categories		Patient 1		Patient 2		Patient 3		Patient 4		Summary of Observations	
										Yes	Total Observed
1	Is the catheter properly secured to the patient?	0	Yes No	0	Yes No	0	Yes No	0	Yes No		
2	Is there unobstructed flow from the catheter into the bag?	0	Yes No	0	Yes No	0	Yes No	0	Yes No		
3	Is the collection bag below the level of the bladder?	0	Yes No	0	Yes No	0	Yes No	<u> </u>	Yes No		
4	Are the bag and tubing off of the floor?	0	Yes No	0	Yes No	0	Yes No	<u> </u>	Yes No		
Tot	Total YES and TOTAL OBSERVED										

https://quality.allianthealth.org/media\_library/urinary-catheter-quick-observation-tool/



## Catheter-Associated Urinary Tract Infection (CAUTI) Prevention Strategies

A gap analysis is a tool used to assess the difference between actual practice and expected performance. It is useful to compare best practice guidelines against your currently accepted practices. It is important to assess practice through observation and audit rather than relying on if a policy is in place, as practice can vary from policy.

CORE Prevention Strategies = Strategies that should always be in place.

ENHANCED Prevention Strategies = Strategies to be considered in addition to core strategies when:

- a) There is evidence that the core strategies are being implemented and adhered to consistently.
- b) There is evidence that CAUTI rates are not decreasing.

Gap Analysis Questions	Yes	No	If answered question "No" – identify the Specific Action plan(s) including persons responsible and timeline to complete.
Patient and Family Education			
The patient and family have been educated about their urinary catheter, such as symptoms of a urinary tract infection, catheter care, and what the patient and family can do to help prevent an infection [4].      If Patient and Family Advisory Committee available, consider having them review educational materials prior to publication  1b) If the patient is to be discharged with an indwelling catheter in place, the patient and family have been educated on how to care for the catheter and symptoms of infection using teach back method to ensure patient's understanding.	0		
Appropriate Catheter Use			
2a) The facility has a process in place to insert urinary catheters only when necessary,			
following CDC/HICPAC indications for urinary catheter insertion and use [1,3,4].  2b) Include insertion criteria into urinary catheter order process [1].			
Utilize the electronic health record to hard wire insertion criteria into order. 2c) The facility has a process in place to consider the use of alternatives to urinary catheter placement, including [1-4]:     Use of condom catheters     Straight catheterization     Use of external female catheters			
facility uses a portable ultrasound device to assess the patient's urine volume to uce unnecessary catheter insertions prior to making a decision regarding catheter			
placement [2-4].			
The facility's indwelling catheter placement practices include the following indication	s 🗆		
for appropriate placement [1-4]: 2e) Management of acute urinary retention and urinary obstruction (consider use of			
bladder scanner to assess urinary retention).  2f) Strict urine output monitoring in critically ill patients (consider alternatives other than indwelling catheters to measure urine output) [1-4].			
2g) Perioperative use for selected surgical procedures such as [1-4]:  CU surgery or other surgery on contiguous structures of the GU tract  Anticipated prolonged duration of surgery (catheters inserted for this reason should be removed in PACU)  Patients anticipated to receive large-volume infusions or diuretics during surgery			

# CAUTI Prevention Strategies Resource

- CAUTI GAP Assessment Tool
- Used to assess the difference between actual practice and expected performance
- Compare best practice guidelines against your currently accepted practices
- CAUTI GAP Analysis Areas:
  - Patient & family education
  - Appropriate catheter use
  - Catheter insertion practices
  - Catheter maintenance practices
  - Urine culturing practices
  - Indwelling catheter removal
  - Documentation
  - Staff education
  - Monitoring & evaluating
  - Infrastructure



# Prompting Removal of Unnecessary Catheters

Trial removal of indwelling catheters present on admission

Urincary catheter reminders for staff

Urinary catheter stop-orders



## When To Test for UTI?

Symptom of UTI – Order Urine Test	Not a Symptom of UTI – No Urine Test
✓ Pain or burning with urination	✓ Foul or strong urine odor
✓ Pain in the lower belly	✓ Confusion, irritability or change in behavior
✓ Pain in the sides and low back	✓ Loss of balance
✓ New or sudden urine leakage	✓ New onset of falls
✓ Strong urge to urinate often	✓ Cloudy or dark urine
✓ Fever	✓ Poor appetite
✓ Blood in the urine that is new	✓ Long standing incontinence

https://quality.allianthealth.org/wp-content/uploads/2020/02/UTI-Flyer\_12SOW-AHSQIN-QIO-TO1-20-66\_508.pdf

https://www.idsociety.org/practice-guideline/asymptomatic-bacteriuria/



## **Loeb Minimum Criteria**

Suspected Infection Syndrome	Minimum Criteria for Starting Antibiotic Therapy								
Urinary tract infection									
without catheter	Either one of the following criteria								
	□ Acute dysuria, OR								
	☐ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline, AND								
	≥1 of the following new or worsening symptoms								
	□ Urgency □ Frequency								
	□ Suprapubic pain □ Gross hematuria								
	□ Urinary incontinence □ Costovertebral angle tenderness								
with catheter	At least one of the following criteria								
	□ Rigors □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline								
	□ New onset delirium □ New costovertebral angle tenderness								
Nate: Residents with intermittent catheteriz	ation or condom catheter should be categorized as 'without catheter'								
Urine culture should be sent prior to starting antibiotics									
Antibiotics should not be started for cloudy or foul smelling urine									

https://www.cidrap.umn.edu/asp/clinicaltools/loeb-minimum-criteria-initiating-antibiotic-checklist



### **Infection Control Resources**

#### Sepsis

**HQIC Sepsis Gap Assessment and Action Steps** 

**HQIC Sepsis: Spot the Signs Magnet** 

**HQIC Sepsis Provider Engagement** 

AQ Sepsis-ZoneTool

Recognition and Management of Severe Sepsis and Septic Shock

#### Catheter Associated Urinary Tract Infection (CAUTI)

**CAUTI Gap Assessment Tool** 

**Urinary Catheter Quick Observation Tool** 

CDC-HICPAC Guideline for Prevention of CAUTI 2009

AHRQ Toolkit for Reducing CAUTI in Hospitals

**CDC TAP CAUTI Implementation Guide** 

#### Hand Hygiene

Handwash the FROG Way - Badges - English

Handwash the FROG Way - Badges - Spanish

Handwash the FROG Way - Poster - English

Handwash the FROG Way - Poster - Spanish

Frequently Asked Questions – Alcohol Based Hand Rub

#### SHOW MORE

#### NHSN

Joining the Alliant Health Solutions NHSN Group
Instructions for Submitting C. difficile Data Into NHSN
5-Step Enrollment for Long-term Care Facilities
CDC's National Healthcare Safety Network (NHSN)
NHSN Enrollment/ LAN Event Presentation

#### Clostridioides Difficile Infection (C. difficile)

**SHOW MORE** 

C.difficile Training

Nursing Home Training Sessions Introduction

Nursing Home C.difficile Infection

#### **Antibiotic Stewardship**

**Antibiotic Stewardship Basics** 

A Field Guide to Antibiotic Stewardship in Outpatient Settings

**Physician Commitment Letter** 

**Be Antibiotics Aware** 

**Taking Your Antibiotics** 

#### SHOW MORE

#### Training

Options for Infection Control Training in Nursing Homes Flyer

#### COVID-19

Invest in Trust (AHRQ Resource for CNA COVID-19 Vaccines)

Nursing Home Staff and Visitor Screening Toolkit - PDF

Nursing Home Staff and Visitor Screening Toolkit - Excel

https://quality.allianthealth.org/topic/infection-control/



# **Questions?**





# Nursing Home and Partnership for Community Health:

CMS 12th SOW GOALS



#### OPIOID UTILIZATION AND MISUSE

Promote opioid best practices

Reduce opioid adverse drug events in all settings



#### PATIENT SAFETY

Reduce hospitalizations due to c. diff

Reduce adverse drug events

Reduce facility acquired infections



#### CHRONIC DISEASE SELF-MANAGEMENT

Increase instances of adequately diagnosed and controlled hypertension

Increase use of cardiac rehabilitation programs

Reduce instances of uncontrolled diabetes

Identify patients at highrisk for kidney disease and improve outcomes



## CARE COORDINATION

Convene community coalitions

Reduce avoidable readmissions, admissions to hospitals and preventable emergency department visits

Identify and promote optimal care for super utilizers



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#### **IMMUNIZATION**

Increase influenza, pneumococcal, and COVID-19 vaccination rates



#### **TRAINING**

Encourage completion of infection control and prevention trainings by front line clinical and management staff



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Program Directors





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**Alliant Health Solutions** 





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