Urinary Tract Infection (UTI) Program in Long Term Care Homes (LTCH)

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IPAC Central South Ontario (CSO) Education Day
Did You Know...

One-third of prescriptions for presumed UTIs are given for asymptomatic bacteriuria\textsuperscript{1}

- Up to 80% of long-term care home (LTCH) residents with asymptomatic bacteriuria are treated with antibiotics
- Results of a Public Health Ontario (PHO) survey of Ontario LTCHs in 2013 discovered that 50% interpreted bacteria in the urine without symptoms of a UTI

Studies of antibiotic therapy for asymptomatic bacteriuria in LTCH residents have shown NO clinical benefit\textsuperscript{2,3}

**Asymptomatic bacteriuria (ASB)** is the presence of bacteria in the **urine** in the absence of symptoms of a urinary tract infection
Prevalence of Asymptomatic Bacteriuria

- Prevalence of **asymptomatic bacteriuria** in LTCH residents is high\(^2\)
  - 15%–30% of men
  - 25%–50% of women
- LTCH residents have multiple reasons for bacteria in the urine
- Bacteria in the urine without symptoms is not a reliable indicator of a UTI\(^2\)
Story of UTI Program

UTI working group

Provincial survey (needs assessment)

UTI Program (using Implementation Science)
PHO’s UTI Program

• Goal: To decrease antibiotic-related harms in LTCH
• A program that engages prescribers, administrators, and front-line staff

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**Recommended Strategies**

- Increase capacity, opportunity and motivation to change
- Quality execution of the practice changes

**Decrease antibiotic-related harms**

- Decrease urine cultures and urinary antibiotics prescribed in absence of indicated symptoms of UTI
- Five practice changes
The UTI Program: Practice Changes and Implementation

- What do we want to improve?
- Are we ready to make changes?
- Who should we involve?

- Monitor changes
- Support sustainability

- What barriers do we anticipate?
- What strategies can we use?

- Obtain urine cultures only when residents have indicated clinical signs and symptoms of a UTI.
- Obtain and store urine cultures properly.
- Prescribe antibiotics only when specified criteria have been met, and reassess once urine culture and susceptibility results have been received.
- Do not use dipsticks to diagnose a UTI.
- Discontinue routine annual/admission screening if residents do not have indicated clinical signs and symptoms of a UTI.
Why are Implementation Teams effective?

From “Letting it Happen”

No Implementation Team

Implementation Team

14%
17
Years

Improvement in Intervention Outcomes

80%
3 Years

Sources:
Fixsen, Blase, Timbers, & Wolf, 2001
Balas & Boren, 2000
Green & Seifert, 2005

Get Your Implementation Team Together!
Appendix D: Get the implementation team together

Another essential part of the UTI Program involves the creation of an implementation team. This team is responsible for moving the UTI Program forward and developing a plan to ensure the program is sustained.

When choosing and setting up the implementation team, consider the following:

- **Look for action people**—individuals who enthusiastically participate in challenges and opportunities.

- Try to ensure representation from as many key groups as possible (e.g., registered nurses, front-line staff, director of care, infection prevention and control leads, personal support workers, resident assessment Instrument coordinators, lead physicians, nurse practitioners, pharmacists, corporate infection control consultants). However, it is not necessary to include all groups on the team, since getting buy-in from key groups/roles is a strategy addressed in the Plan phase.

- Implementation team membership and size will vary depending on facility size and resources.

- Outline the roles and responsibilities of the implementation team (e.g., the team will review this Implementation Guide, the team will complete an initial assessment phase, the team will outline the plan for how strategies will support staff, the team will continue to meet to assess how things are going).

- Outline the roles, process, and responsibilities for implementation team members. Consider who can act as champions, who could coach front-line staff. This will be explored more during the Plan phase.

After LTCHs have addressed their readiness, decided to move forward with the UTI Program and created an implementation team, they can move on to the Plan phase.

Review pages 9 – 10 for more information on the implementation team.
Readiness Assessment

• Have you discussed this opportunity with the Medical Director and/or physicians at your home?
  • Share resources:
    • Implementation Guide, evidence resources

• Have you discussed this opportunity with other staff in your homes yet? (i.e. Other staff involved in clinic decision making to ensure buy in)

• Does the project conflict with other priorities or projects occurring at this time?

• Do you have access to laboratory reports and pharmacy reports?
  • Can you review the total number of urine specimens sent each month?
  • Can you review the total antibiotics prescribed for UTIs?
NEW PUBLICATION!

Reducing unnecessary urine culturing and antibiotic overprescribing in long-term care: a before-and-after analysis

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Abstract

Background: Antibiotic use in long-term care homes is highly variable. High rates of antibiotic use are associated with antibiotic resistance and Clostridium difficile infection. We asked 2 questions regarding a program designed to improve diagnosis and management of urinary tract infections in long-term care: whether the program decreased urine culturing and antibiotic prescribing rates and whether specific strategies of the program were more or less likely to be adopted.

Image credit © CMAJ Open. Available from: http://cmajopen.ca/content/7/1/E174.full
UTI Program in LTCH Resources


Reducing Antibiotic Harms in Long-term Care

www.publichealthonline.ca/UTI
Resources

**Increase buy-in and support**

- Guidance for the Development of a Policy and Procedure for the Management of UTIs in Non-catheterized Residents
- Sample Policy and Procedure for Assessment and Management of UTIs in Non-Catheterized Residents

**Educate and develop skills**

**Communication material**

- Frequently Asked Questions for Residents and Families
- Resident and Family Update Form
- Communication for Family Newsletter

**Fact sheets**

- Asymptomatic Bacteriuria
- Causes of Mental Status Changes
- When to Collect a Urine Specimen for Culture Susceptibility for Non-Catheterized Residents
- How to Collect Mid-Stream Urine Specimen
- How To Interpret a Urine Culture Report and Methods for Specimen Collection

**Infographic**

- Antibiotic overuse in Ontario’s long-term care homes

**Presentation**

- Management of UTIs in Non-Catheterized Long-Term Care Home Residents
Fact Sheets

Asymptomatic bacteriuria

What is asymptomatic bacteriuria?
Asymptomatic bacteriuria is the presence of bacteria in the urine without symptoms. It is common in elderly individuals. In fact, 25% to 30% of men and 20% to 50% of women have asymptomatic bacteriuria.

Why do some residents have asymptomatic bacteriuria?
A number of age-related factors and medical conditions are associated with asymptomatic bacteriuria. These include diabetes, bladder or kidney problems, urinary tract infections, and certain medications. In addition, dehydration may also contribute to asymptomatic bacteriuria.

Should asymptomatic bacteriuria be treated with antibiotics?
No. Antibiotics are not required for asymptomatic bacteriuria. If left untreated, asymptomatic bacteriuria may develop into a urinary tract infection.

Does asymptomatic bacteriuria lead to overuse of antibiotics?
Yes. One-third of UTI prescriptions in long-term care homes are unnecessary. This means that a large number of residents are receiving antibiotics that are not needed.

Urine specimens

How to Interpret a Urine Culture Report

1. Bacterial count greater than or equal to 10^5 CFU/mL with typical signs or symptoms of a urinary tract infection is considered significant.

2. The physician or nurse practitioner should reassess antibiotic treatment need, susceptibility, route and duration based on the culture report.

3. More than two organisms is not significant and indicates probable contamination of the sample.

Methods for Specimen Collection

1. Correct method for urine culture collection:
   a. Clean catch or mid-stream collection
   b. If use catheterization
   c. Ensuring the quality of the urine specimen

2. Incorrect method for urine culture collection:
   a. Condom catheter
   b. From indwelling or urinary catheter
   c. From body fluids or specimen

Contact

This resource is part of Public Health Ontario’s UTI Program. For more information, please visit www.publichealthontario.ca/uti or email uti@tohealth.ca.

Public Health Ontario
Santé publique Ontario

August 2016

Causes of delirium and mental status changes

In the UTI Program, we are addressing the accepted clinical signs and symptoms of urinary tract infection (UTI). Delirium is no longer an accepted clinical sign. This resource will consider the potential causes of delirium.

DEMENTIA (Delirium’s Acronym)

Delirium is a syndrome of impaired attention and awareness.

Medications

- Lithium: Anionic, anticholinergic properties (effects may be additive)
- Sedatives (e.g., benzodiazepines)
- NSAIDs: Treatment
- Antidepressants (e.g., SSRIs)
- Antipsychotics (e.g., chlorpromazine, thioridazine)
- Stimulants (e.g., amphetamine, methylphenidate)
- Antihypertensives

Drug interactions

- Lithium and/or anticholinergic properties (effects may be additive)
- Sedatives and/or antipsychotics
- Antidepressants and/or antipsychotics
- Stimulants and/or antipsychotics

Contact

This resource is part of Public Health Ontario’s UTI Program. For more information, please visit www.publichealthontario.ca/uti or email uti@tohealth.ca.

Public Health Ontario
Santé publique Ontario

August 2016
To learn more: www.publichealthontario.ca/UTI

Urinary Tract Infection (UTI) Program

We have developed the Urinary Tract infection (UTI) program to respond to concerns about the overuse of antibiotics for presumed UTIs in residents in long term care homes (LTCHs) and the associated antibiotic-related harms. The UTI Program supports LTCHs to improve the management of UTIs for non-catheterized residents in their homes and helps them implement the organizational and individual practice changes required. For more information contact your Regional Support Team or email us at ipac@oahpp.ca.

Why was the UTI Program Developed?
References


References


For More Information About This Presentation, Contact:
IPACCENTRALWEST@oahpp.ca

Public Health Ontario keeps Ontarians safe and healthy. Find out more at PublicHealthOntario.ca
UTI initiative

Prepared by:
W. Plummer
A. Bidzinska
Overall goal: Improving IPC in all homes

Standardization across all homes – IPC Leads completed Core Competencies
Initiating regular Peer Meetings/Community of Practice
Formation of IPAC Task Force to review Polices and processes
Collaboration with IPC Unit(s)
Adopting the ARO Screening tool

**LTC UTI Program to:**
- Antibiotic stewardship
- To decrease unnecessary transfers to hospitals
Introducing RMI, the operator of 1 homes across Ontario.

**Phase 1** – May 2018 - Oct 2018
3 homes in Hamilton area with support from PHO Central West Regional IPAC Specialist

**Phase 2** – Oct 2018-Feb 2019
Remaining 8 homes with support from PHO Central Regional IPAC Specialist
PUBLIC HEALTH ONTARIO (PHO) in collaboration with RMI CORPORATE SUPPORT

IPC LEADS COMMUNITY OF PRACTICE

IPC TASK FORCE TEAM

LOCAL IPC LEADS – STAFF – RESIDENTS – FAMILIES
IPC LEADS COMMUNITY OF PRACTICE

All 11 Homes have an IPC Lead
- Lead local IPC Committees
- Responsible for IPC Initiatives within the Home

Responsibly for Implementation of UTI project in home

Supported by PHO Regional IPAC specialists.
RMI hosted Regional CoP (Toronto Central) Meeting

-3 collaborative meetings with PHO Regional IPAC Specialists (webinar/teleconference)

- PHO Regional IPAC Specialists available for further support
IPC TASK FORCE TEAM

Team members:

- Corporate Implementation Team & 3 IPC Leads

IP&C Policy Manual Review

- Review of all related UTI policies and procedures
- Utilized UTI Implementation Guide and resources
- Integration of the 5 Practice changes in policy
- Policy roll-out to all homes via monthly teleconferences and Face to Face meetings.
The UTI Program – 5 Change Ideas

- Obtain urine cultures only when residents have indicated clinical signs and symptoms of a UTI.
- Obtain and store urine cultures properly.
- Prescribe antibiotics only when specified criteria have been met, and reassess once urine culture and susceptibility results have been received.
- Do not use dipsticks to diagnose a UTI.
- Discontinue routine annual/admission screening if residents do not have indicated clinical signs and symptoms of a UTI.
INFECTION PREVENTION AND CONTROL MANUAL

SECTION: INFECTIONS

SUBJECT: ASSESSMENT AND MANAGEMENT
         URINARY TRACT INFECTIONS (UTIs)
         IN NON-CATHETERIZED RESIDENTS

APPROVED BY:

INDEX I.D.: IFC D-15

PAGE: 1 OF 3

ORIGINAL DATE: Jan. 30, 2004

REVISED DATE: Feb. 15, 2019

STANDARD:
To promote best practice (evidence-based) for the assessment and management of urinary tract infections (UTIs) in medically stable elderly non-catheterized residents.

GUIDING PRINCIPLES
1. Obtain urine cultures only when residents have the indicated clinical signs and symptoms of a UTI.
   In the absence of a minimum set of symptoms or signs of a UTI, urine should not be cultured and antimicrobials should not be prescribed. Unnecessary use of antimicrobials can lead to adverse consequences, including the development of multi-drug resistance, drug-related adverse effects, harmful drug interactions, and excessive cost.

2. Obtain and store urine for culture properly. (See policy SCP B-15, SCP B-20).
   Place the urine sample immediately in specimen refrigerator and keep it refrigerated until
Implementation strategies

- Organization-wide Implementation Meeting with Regional IPAC specialist,
- Corporate Implementation Team, All IPC Leads (and back up) across the Homes.
- Random Home visits and monthly teleconferences with Corporate IPC Lead to check on progress of project
- Discuss UTI Project at local Nursing Staff meetings, Resident council meetings, PAC, QI Meeting.
- UTI Knowledge gap surveys by staff and families (draw for prize)
- Incorporate in New Staff Orientation
- Removal of all dipsticks from inventory
- Review of UTI Policy by IPC Task Force team
- Engage Regional IPAC Specialist in policy review
- Engage Medical Team in the Homes and Clinical Pharmacist
• Utilize PHO UTI resources and Algorithms
• Information Boards and Brochures for Residents, Families and Staff
• Que cards: **Clinical signs and symptoms of UTI / I think my resident may have a UTI**
• MDs/NPs communicating with ED personnel prior to transfer to hospital reassessments.
• Consolidate Infection Surveillance tools with UTI monitoring tool.
• Include UTI trends in PCC QIA tab for monthly reporting and further trending analysis
• Reviewed existing Medical directives to ensure annual urine C/S is removed.
• UTI project became a standing agenda item on various peers meetings such as: DOC meetings, QA Leads
• Realization that UTI initiative will also be helpful in HQO Mandatory QIP
• Engaging Interdisciplinary Team: MD, NPs Pharmacists
IMPLEMENTATION CHALLENGES

- Competing priorities e.g. Accreditation
- SDM/Family Buy in
- Urine C/S being ordered as baseline assessment for Responsive Behaviour referral
- IPC Lead competing priorities (not a dedicated position)
- Challenge with roll out in large vs smaller size home
- New staff coming on board
- Lab pick up of samples
- Implementation guides/resources require attention and learning how to navigate
- Fear of not treating, resulting in negative resident outcomes.
- Double documentation of UTI symptoms on Surveillance tools
# SUSTAINABILITY PLAN

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<td>Include UTI trends in PCC QIA tab for monthly reporting at IPC Leads meetings and further analysis and trending</td>
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<td>Weekly Home visits and monthly teleconferences with Corporate IPC Lead to check on progress of Implementation</td>
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ONGOING COLLABORATION
THANK YOU!