

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

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April 11 2019

IPAC Central South Ontario (CSO) Education Day

Did You Know...

One-third of prescriptions for presumed UTIs are given for **asymptomatic bacteriuria**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^{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 high²
 - 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 UTI²

Story of UTI Program



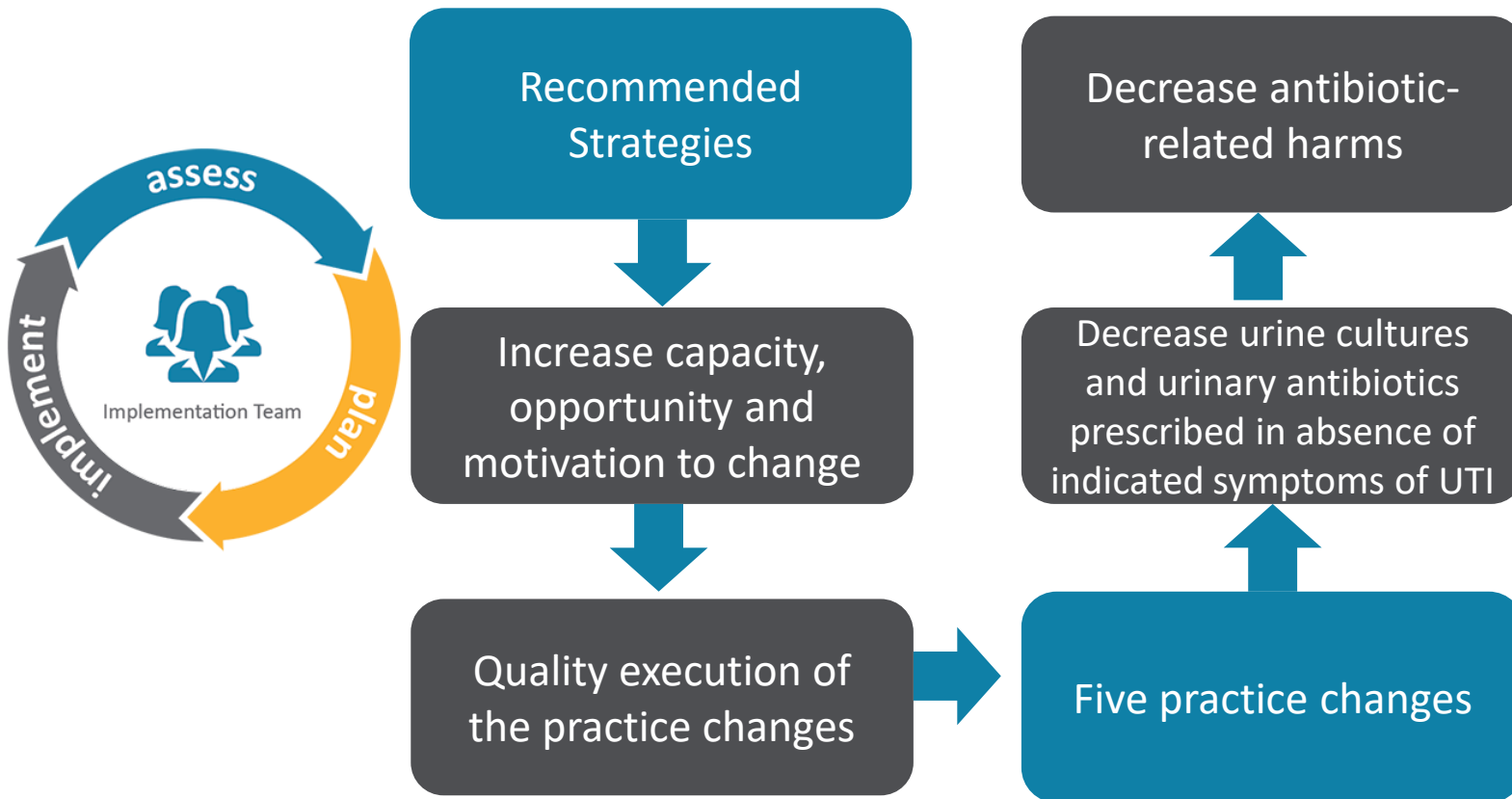
UTI working
group

Provincial survey
(needs
assessment)

UTI Program
(using
Implementation
Science)

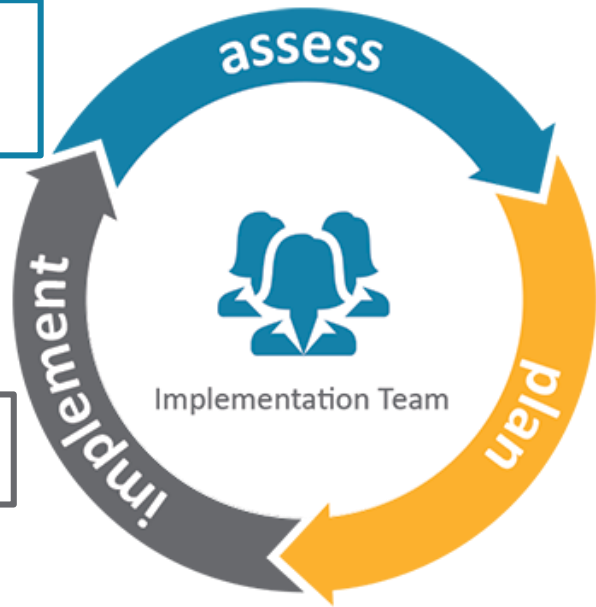
PHO's UTI Program

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



The UTI Program: Practice Changes and Implementation

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



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

- Monitor changes
- Support sustainability



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?

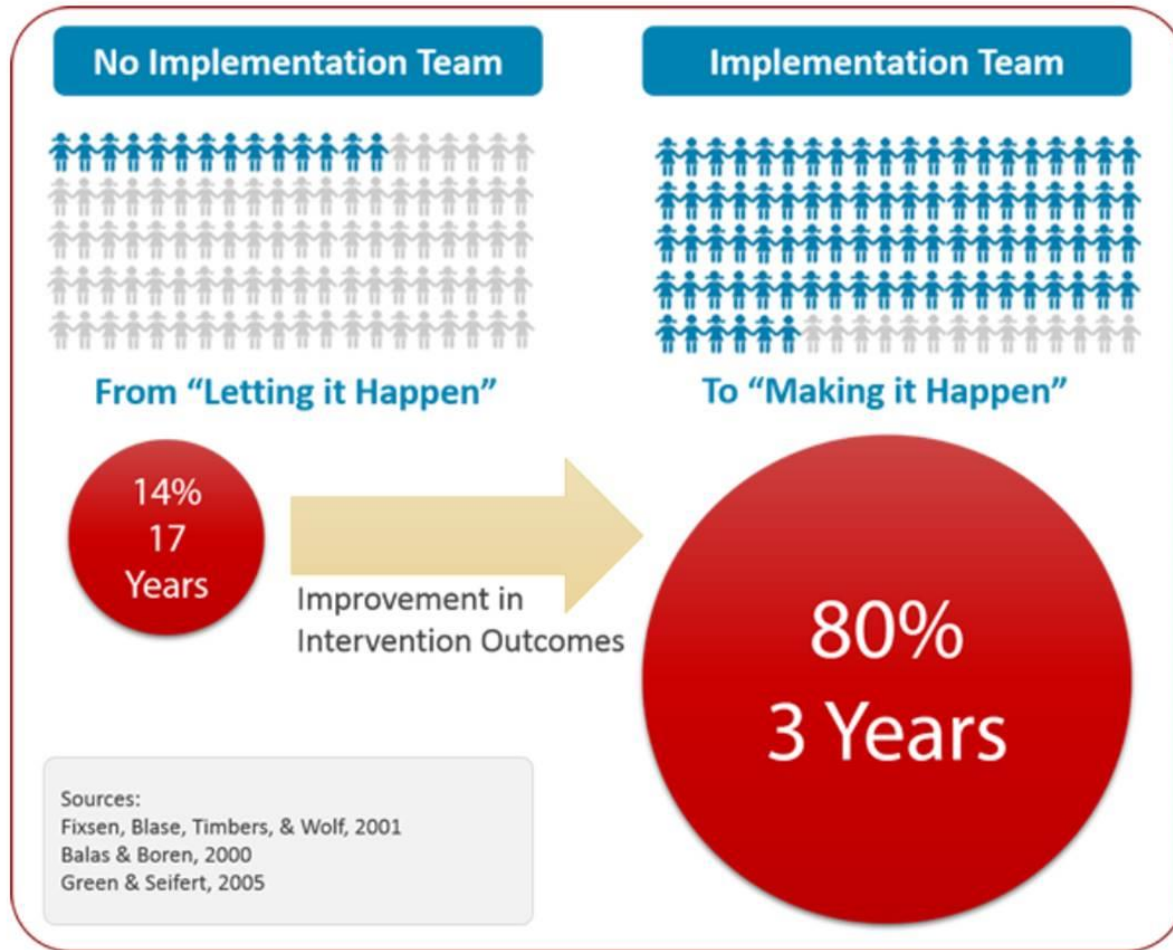


Image credit: © The National Implementation Research Networks Active Implementation Hub. Module 3:Implementation Teams. Available from: <https://implementation.fpg.unc.edu/module-3/topic-2>

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

Kevin Antoine Brown, PhD, Andrea Chambers, PhD, Sam MacFarlane, RN, Bradley Langford, PharmD, Valerie Leung, BScPhm MBA, Jacquelyn Quirk, MPH, Kevin L. Schwartz, MD MSc, Gary Garber, MD

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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

Urinary Tract Infection (UTI) Program: Implementation Guide, 2nd Edition

Reducing Antibiotic Harms in Long-term Care



April 2018

April 2018

UTI Program

Appendix B: Practice change questionnaire

This is an excerpt from the Urinary Tract Infection (UTI) Program: [Implementation Guide \(Appendix B\)](#). This questionnaire will help you identify potential practice change activities within your home. This questionnaire contains five questions: the first three address activities that should be implemented; the last two address activities that should be stopped.

Activities recommended in the practice change	Your answer
In our LTCH, we obtain urine cultures only when residents have the indicated clinical signs and symptoms of a UTI	<input type="checkbox"/> Yes, we do this in our LTCH <input type="checkbox"/> No, we don't do this in our LTCH
In our LTCH, we obtain and store urine cultures properly	<input type="checkbox"/> Yes, we do this in our LTCH <input type="checkbox"/> No, we don't do this in our LTCH
In our LTCH, we ensure that antibiotics are prescribed only when specified criteria have been met, and that residents are reassessed once urine culture and susceptibility results have been received	<input type="checkbox"/> Yes, we do this in our LTCH <input type="checkbox"/> No, we don't do this in our LTCH



These activities are *not* recommended. LTCHs should discuss this list and determine whether they are doing either of them.

Activities <i>not</i> recommended in the practice change	Your answer
In our LTCH, we use dipsticks to diagnose a UTI	<input type="checkbox"/> Yes, we do this in our LTCH <input type="checkbox"/> No, we don't do this in our LTCH
In our LTCH, we obtain routine annual urine screening and screening at admission if residents do not have indicated clinical signs and symptoms of a UTI	<input type="checkbox"/> Yes, we do this in our LTCH <input type="checkbox"/> No, we don't do this in our LTCH

www.publichealthontario.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

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UTI Program

Asymptomatic bacteriuria

What is asymptomatic bacteriuria?
Asymptomatic bacteriuria is the presence of bacteria in the signs and symptoms of a urinary tract infection (UTI). It is common in their urine. In fact, 15%–30% of men and 25%–50% of women have bacteria in their urine without symptoms.

Why do some residents have asymptomatic bacteriuria?
A number of age-related factors and medical conditions are associated with asymptomatic bacteriuria. Diabetes, pelvic prolapse or cystocele, enlarged prostate, vaginal atrophy, and dehydration may all contribute to asymptomatic bacteriuria.

Should asymptomatic bacteriuria be treated with antibiotics?
No. Antibiotics are not required for asymptomatic bacteriuria. Treatment of asymptomatic bacteriuria does not improve or prevent the development of or have any other benefits. Harms have been seen with the use of antibiotics to treat asymptomatic bacteriuria.

Does asymptomatic bacteriuria lead to overprescription of antibiotics?
Yes. One-third of UTI prescriptions in long-term care homes means that a large number of residents are receiving antibiotics unnecessarily in long-term care homes.

Urine tests (such as dipsticks and urinalysis) are often positive for leukocytes and nitrites in residents with asymptomatic bacteriuria, but do not require the use of antibiotics. These tests are not recommended or required for long-term care home residents.

What are the risks associated with treating asymptomatic bacteriuria with antibiotics?
Treating asymptomatic bacteriuria does more harm than good. Antibiotic use is associated with antibiotic side effects (e.g., gastrointestinal, neurologic, renal, and allergic reactions), infection and drug interactions. Unnecessary use of antibiotics also means that fewer antibiotics are available to treat true infections.

UTI Program: Asymptomatic bacteriuria




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Urine Specimens

How to Interpret a Urine Culture Report

-  Bacterial count greater than or equal to 10⁵ CFU/L with typical signs or symptoms of a urinary tract infection is considered significant.
-  The physician or nurse practitioner should reassess antimicrobial treatment need, susceptibility, route and duration based on the culture report.
-  More than two organisms is not significant and indicates probable contamination of the sample.

Methods for Specimen Collection

-  **Correct methods for urine culture collection^a**
Clean catch or mid-stream collection | in/out catheterization
^aStrict adherence to aseptic technique is essential for ensuring the quality of the urine specimen
-  **Incorrect methods for urine culture collection^b**
Condom catheter | From blue pads or briefs | From urinal, bed pan or specimen hat
^bThese methods lead to contaminated specimens and are unacceptable

Contact

This resource is part of Public Health Ontario's UTI Program.
For more information please visit www.publichealthontario.ca/UTI
or email ipac@oahop.ca.

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UTI Program: Causes of delirium and mental status changes

1 of 3

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UTI Program

Causes of delirium and mental status changes

The UTI Infection Program is reinforcing the accepted clinical signs and symptoms of delirium. Delirium* is no longer an accepted clinical sign. This resource will help you to consider the many potential causes of delirium.

Delirium is a clinical syndrome of impaired attention and awareness.¹

Delirium (DELIRIUMS Acronym)

Dose: increased dose or drug interaction. Including but not limited to:
opioids (especially meperidine [Demerol])
benzodiazepines
corticosteroids

Effects: drugs with "anticholinergic" properties (effects may be additive), such as:
antihistamines (e.g., diphenhydramine [Benadryl]), hydroxyzine (Atarax), dimenhydrinate (Gravol), diphenoxylate/atropine (Lomotil);
antidepressants (e.g., amitriptyline, nortriptyline, desipramine, imipramine, doxepin, paroxetine); ranitidine (Zantac); muscle relaxants (e.g., cyclobenzaprine [Flexeril], methocarbamol); antipsychotics (e.g., haloperidol, risperidone, olanzapine, quetiapine); bladder agents (e.g., oxybutynin, tolterodine, darifenacin, solifenacin); benzotropine; amantadine; zolpidem; amazequine, etc.

Interactions: seizure medications
if drug levels are too high

Multiple medications; multiple psychoactive drugs
withdrawal (e.g., sedatives/benzodiazepines, alcohol, nicotine, antidepressants)

UTI Program: Causes of delirium and mental status changes 1 of 3

To learn more: www.publichealthontario.ca/UTI

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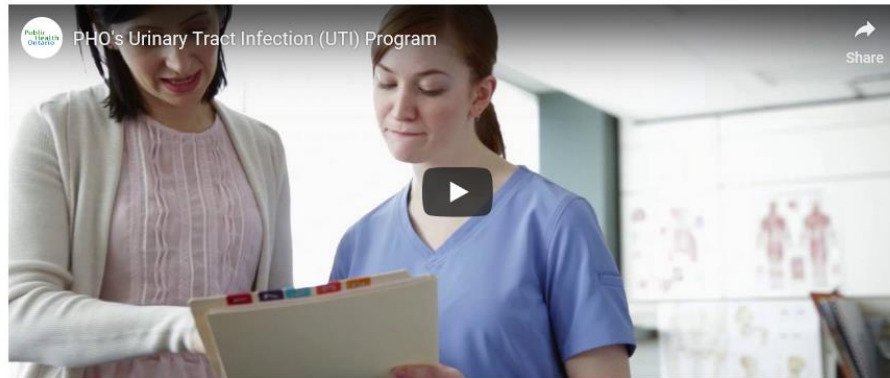
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Urinary Tract Infection (UTI) Program

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.



PHO's Urinary Tract Infection (UTI) Program

An overview of our UTI program. We explain the rationale and evidence behind this program and how you can implement it in your home.

Duration: 2 min

- Introduction
- 1. Assess
- 2. Plan
- 3. Implement
- Checklists and Resources

Why was the UTI Program Developed?

PROGRAM IMPLEMENTATION MATERIAL

References

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For More Information About This Presentation, Contact:

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UTI initiative



URINARY
TRACT



INFECTION



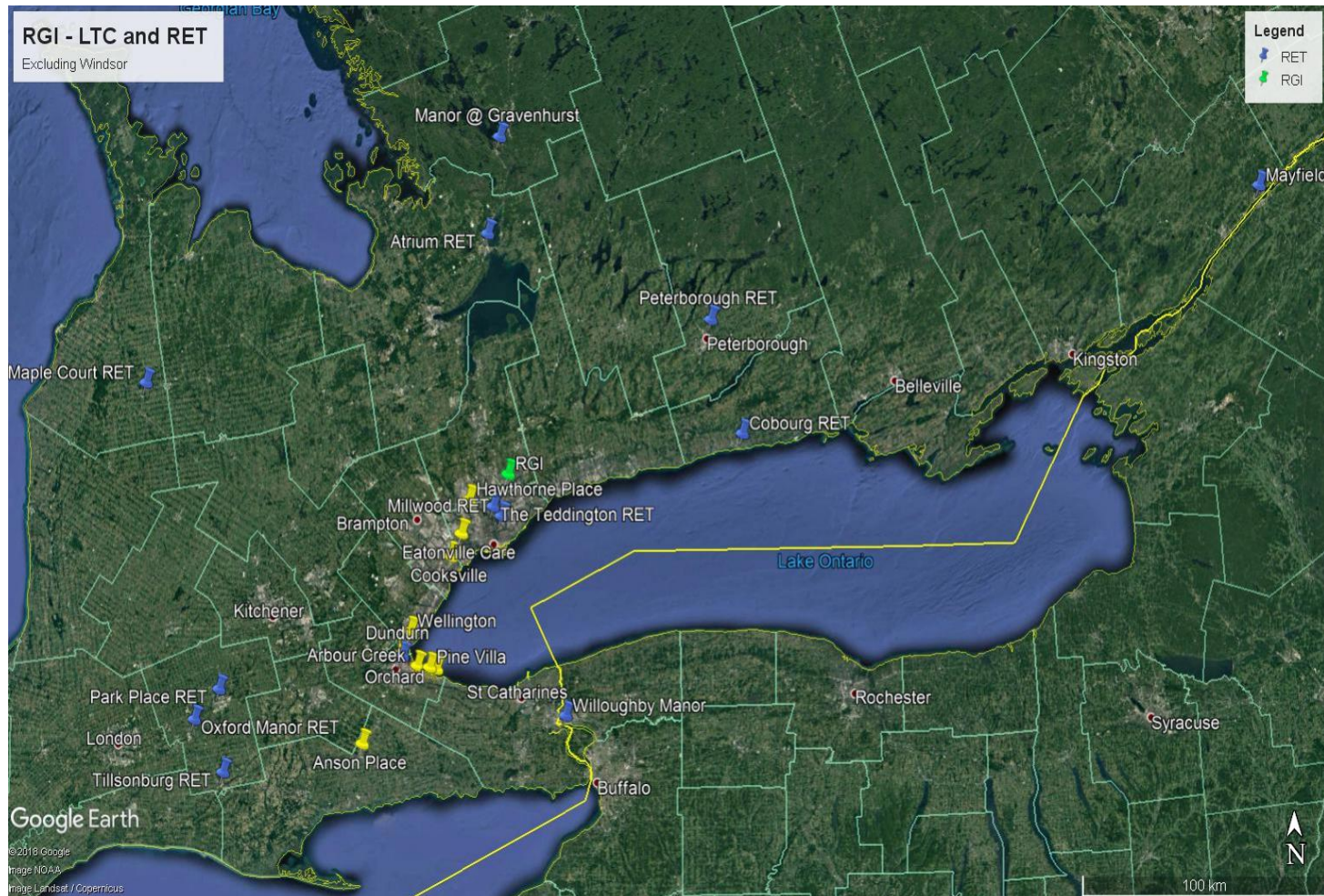
PROGRAM

Prepared by:
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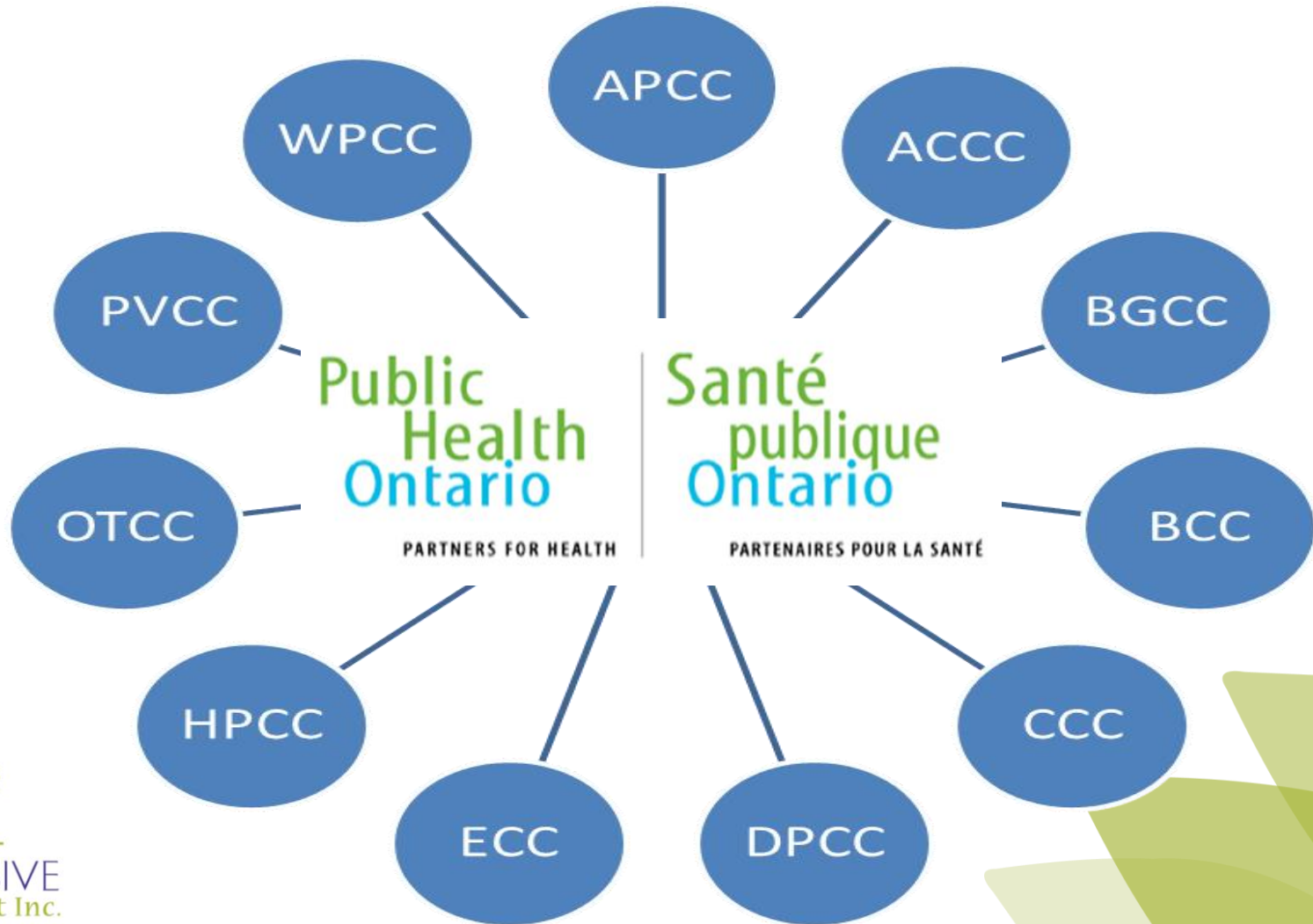
RESPONSIVE
MANAGEMENT
INC.

RMI homes:





RESPONSIVE MANAGEMENT INC.



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 Policies and processes

Collaboration with IPC Unit(s)

Adopting the ARO Screening tool

LTC UTI Program to:

- Antibiotic stewardship
- To decrease unnecessary transfers to hospitals





**RESPONSIVE
MANAGEMENT
INC.**



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

Responsible 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.

D-15 Assessment and Management of Urinary Tract Infections (UTIs).pdf - Adobe Acrobat Reader DC

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Home Tools D-15 Assessment a... x

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INFECTION PREVENTION AND CONTROL MANUAL

SECTION: INFECTIONS	INDEX I.D.: IFC D-15
SUBJECT: ASSESSMENT AND MANAGEMENT URINARY TRACT INFECTIONS (UTIs) IN NON-CATHETERIZED RESIDENTS	PAGE: 1 OF 3 ORIGINAL DATE: Jan. 30, 2004 REVISED DATE: Feb. 15, 2019

APPROVED BY:

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

8.50 x 11.00 in

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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

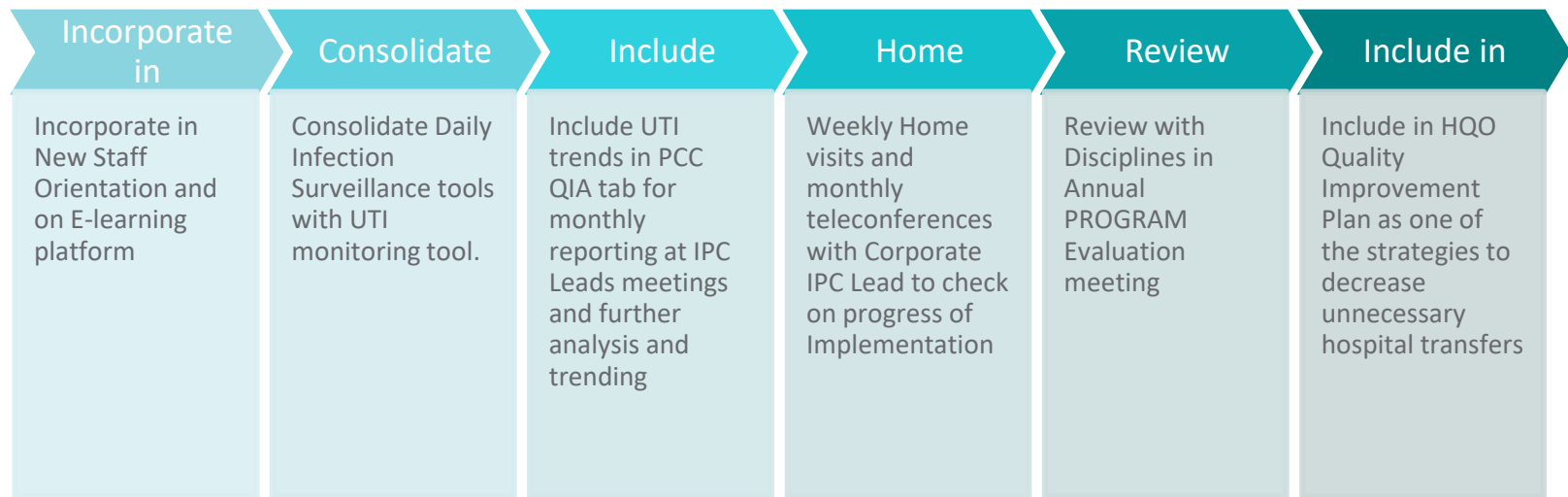
IMPLEMENTATION Strategies Cont'd

- 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



SUSTAINABILITY PLAN



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ONGOING COLLABORATION

