

Choosing Wisely in Long-Term Care During COVID

Elliot Lass, MD, MSc, CCFP

Twitter: @ELassMD

Care of the Elderly Resident, University of Toronto

Vic-SI Long-Term Care Learning Series Event

March 30, 2021

Faculty/Presenter Disclosure

- Faculty: Elliot Lass
- Relationships with financial sponsors:
 - Any direct financial relationships including receipt of honoraria: None
 - Memberships on advisory boards or speakers' bureau: None
 - Patents for drugs or devices: None
 - Other: financial relationships/investments: None

Disclosure of Financial Support

Potential for conflict(s) of interest:

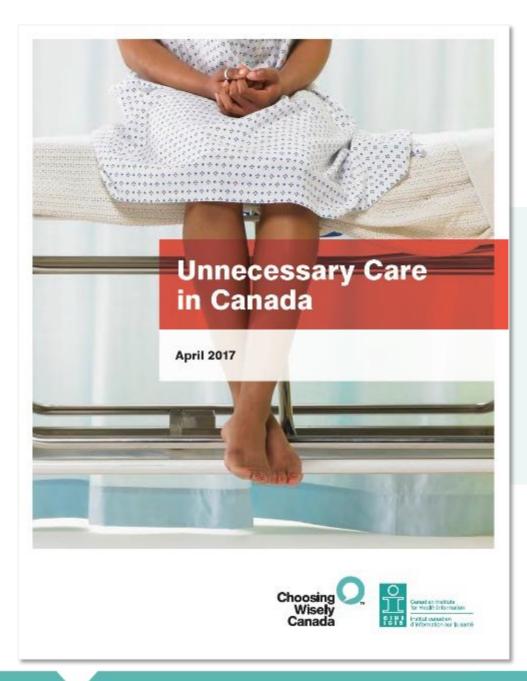
- I am on the Choosing Wisely Canada Primary Care Advisory Committee
- I helped create the newest recommendation for COVID in conjunction with the Canadian Society for Long-Term Care Medicine as part of my fellowship's academic project
- Neither of these positions were paid

Mitigating Potential Bias

• None



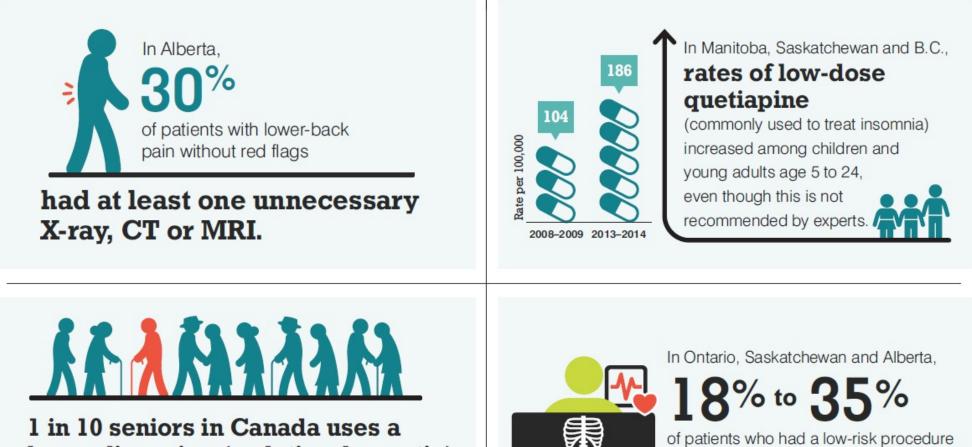
- 1. Choosing Wisely Canada Overview
- 2. Choosing Wisely Canada Long-Term Care Recommendations *including the newest recommendation!*
- 3. Choosing Wisely Canada for COVID
- 4. COVID adaptations for Long-Term Care



The report found that up to 30% of the tests, treatments and procedures associated with the 8 selected CWC recommendations are potentially unnecessary.



Key findings



1 in 10 seniors in Canada uses a benzodiazepine (sedative-hypnotic) on a regular basis, even though this is not recommended by experts.

of patients who had a low-risk procedure **had a preoperative test.**

MORE IS ALWAYS BETTER

www.ChoosingWisely.ca



Choosing Wisely Canada is the national voice for reducing unnecessary tests and treatments in health care.

What is unique about CWC?

۲

 \mathfrak{A}

0

 \bigcirc



Bottom-up approach

Evidence-based

Simple

FOUR QUESTIONS TO ASK YOUR DOCTOR

1) Do I really need this test, treatment or procedure?

- 2) What are the downsides?
- 3) Are there simpler, safer options?
- 4) What happens if I do nothing?

Choosing Wisely Canada in LTC

- CIHI has illustrated that long-term care settings are an area of interest for potential improvement
- Patients are more complex, have more comorbidities, and there is more uncertainty with the stewardship of their care
- 54% of patients in long-term care in Canada have dementia, making it difficult to communicate emerging illnesses
- Temptation to overtreat in this setting, to risk avoiding community spread in the home

Long-Term Care Recommendations







1. Don't send the frail resident of a nursing home to the hospital without reviewing goals of care and advance directives with the resident or substitute decision-maker, unless their urgent comfort and medical needs cannot be met in their care home.

ADVANCE HEALTH CARE DIRECTIVE

INSTRUCTIONS

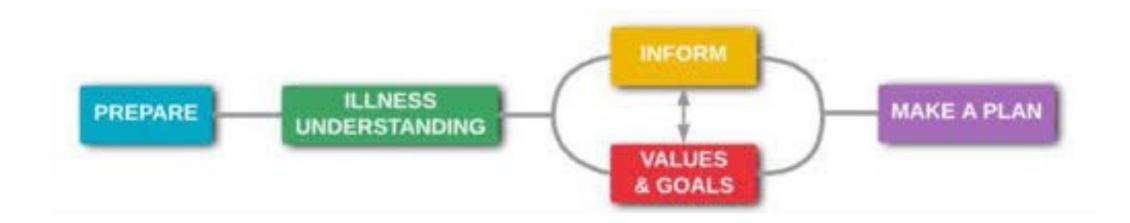
Part 1 of this form lets you name another individual as agent to make health care d become incapable of making your own decisions, or if you want someone else to ma you now even though you are still capable. You may also nand an alternate agent to choice is not willing, able, or reasonably available to make decions for you. Your agent m r supervising health care provider. agent also may emplove re facility or a residential care fa where you are employ tution where you are receiving ca ess such per is a co Unles form, your agent will have the righ. 1. Co. any care, treatment, service, or proc o mair othe al condition. Select 2. car s and institutions. Approve or disapprove diagnostic te cal procedures, and prov Direct the provision, withholding, or withdra 4. tificial nutrition and h of health care, including cardiopulmonary resus

5. Donate organs or tissues, authorize an autopsy, and Sposition of re.

- Transfers to hospital may result in increased morbidity
- Canadian study noted that 47% were considered avoidable
- Transfers are to the ER which are usually unfamiliar and stressful environments
- Hazards include:
 - Delirium
 - Hospital acquired infection
 - Medication side effects
 - Sleep disturbances
 - Deconditioning

- If transfer is necessary, give clear instructions to hospital of the patients' needs
- Understand patient's goals prior to change in health status and if possible, confirm them before transferring
- Goals of Care:
 - Resuscitation
 - Medical management
 - Hospital Transfer
 - Interventions (Surgery/procedures, transfusions, IV fluids, etc.)
 - Comfort

- Seek out resources on Advanced Care Planning (ACP).
- <u>www.speakupontario.ca</u> COVID Specific ACP for LTC



Antipsychotics

2. Don't use antipsychotics as first choice to treat behavioural and psychological symptoms of dementia.



Antipsychotics

- Antipsychotics are commonly prescribed for behavioural symptoms for residents with dementia
- Antipsychotics can cause serious harm, including premature death
- These medications should be limited to cases where non-drug measures have been tried and failed
- Frequently review attempts at reduction or discontinuation to reduce harm

Urinary Tract Infections

3. Don't do a urine dip or urine culture unless there are clear signs and symptoms of a urinary tract infection (UTI).



Urinary Tract Infections

- Don't prescribe antibiotics unless there are lower urinary tract symptoms
- 50% of those tested showing bacteria present in the absence of symptoms
- Over-testing and over-treatment leads to: diarrhea, C. difficile, and resistant organisms
- It also potentially increases the risk of failure to consider other causes of change in condition such as COVID

Practice Change Recommendations for management of UTI in Long-Term Care

What is a toolkit?



Key ingredients of intervention



Measuring your performance



Sustaining early successes





Additional resources and patient aids

PROCESS OF CARE

PRACTICE CHANGE RECOMMENDATIONS



NEW ADMISSION/ PERIODIC HEALTH EXAMINATIONS/NEW REFERRALS IN LTC

Don't perform screening urinalysis/urine dipstick and/or urine culture and sensitivity for residents on admission, during periodic health examinations, or prior to new specialist referrals.



USE OF URINE DIPSTICK OR URINALYSIS

Don't perform urine dipstick/urinalysis to diagnose a UTI.

3.

ASSESSMENT OF RESIDENT WITH CHANGE IN HEALTH STATUS (E.G. CHANGE IN URINE ODOUR OR COLOUR, CHANGE IN BEHAVIOUR, FEVER, ETC.)

MINIMUM CRITERIA FOR UTI (MODIFIED LOEB CRITERIA ^{1,2})	MINIMUM	CRITERIA	FOR UTI	(MODIFIED	LOEB CRITERIA ^{1,2})
---	---------	----------	---------	-----------	--------------------------------

In a non-catheterized resident:

- Acute dysuria or 2 or more of the following:
 - fever [> 37.9°C (100°F) or a 1.5° C (2.4°F) increase above baseline on at least two occasions over the last 12 hours]
 - new or worsening urgency
 - frequency
 - suprapubic pain
 - gross hematuria
 - flank pain
 - urinary incontinence

In a catheterized resident:

- Any one of the following after alternate explanations have been excluded:
 - fever [> 37.9°C (100°F) or a 1.5° C (2.4°F) increase above baseline on at least two occasions over the last 12 hours]
 - flank pain
 - shaking chills
 - new onset delirium

¹Note that these are clinical criteria validated for diagnosis for a UTI and differ from criteria that are used for surveillance. ²Note that confusion alone is not symptom of UTI in non-catheterized resident.



SUBSTITUTE DECISION MAKER/FAMILY REQUEST TO SUBMIT A URINE CULTURE OR TREAT A UTI Don't collect a urine culture upon request without first seeking to understand and address resident/substitute decision maker/family concerns. Provide a differential diagnosis and a rationale for the investigations that will help identify the etiology of the symptoms.



MANAGEMENT OF RESIDENT WITH CLINICAL CRITERIA FOR A UTI

Don't order a urine culture unless minimum criteria for a UTI are present.



MANAGEMENT OF RESIDENT WITH POSITIVE URINE CULTURE

Don't prescribe antibiotics unless minimum criteria for a UTI are met.

Don't treat a UTI for excessive durations.



SELECTING ANTIBIOTIC AND DURATION FOR A RESIDENT WITH CLINICAL CRITERIA FOR A UTI

DURATION OF THERAPY DEPENDS ON UTI SYNDROME

UTI Syndrome	Duration of Therapy	
Uncomplicated cystitis	3-5 days depending on antibiotic chosen	
Complicated cystitis (male resident, catheterized resident, urological abnormalities)	7 days	
Acute pyelonephritis	7 days	



FOLLOW-UP ASSESSMENT OF RESIDENT WITH CLINICAL CRITERIA FOR A UTI

Don't forget to reassess the need for antimicrobial therapy within 3 days of starting antibiotics to check antibiotic sensitivity results and that the resident is improving. Antibiotic therapy should be stopped if result of the urine culture collected before antibiotics is negative.



RESIDENT TRANSFERRED TO THE EMERGENCY DEPARTMENT Don't routinely screen residents from LTC homes with a urinalysis/urine dipstick unless **minimum criteria** for a UTI are present. Look for alternate explanations for change in clinical status. Refer to Practice Change Recommendation #3.

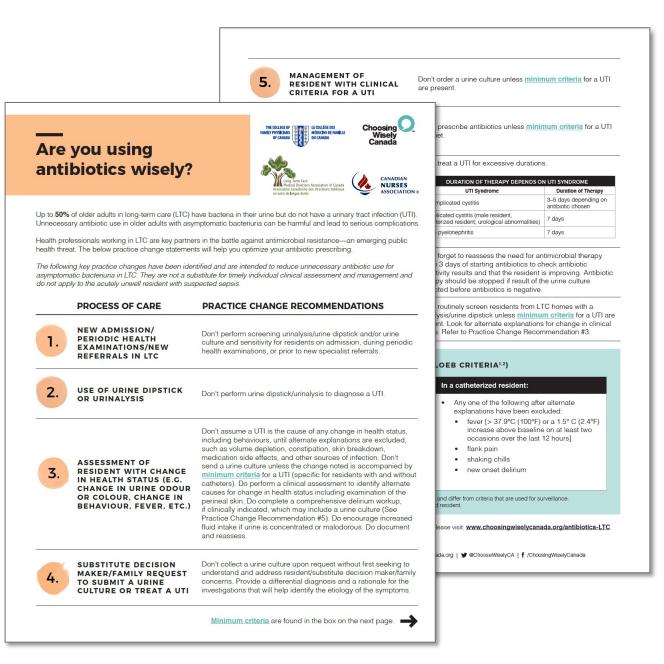
Supporting Materials

Reflect before you collect.

Up to 50% of older adults in long-term care have bacteria in their urine but do not have a UTI. Don't rush to urine testing without considering other causes.

Use Antibiotics Wisely. To learn more, visit: www.choosingwiselycanada.org/antibiotics





Infection Control & Hospital Epidemiology (2020), 1–6 doi:10.1017/ice.2020.1255



Original Article

Comparison of diagnosis and prescribing practices between virtual visits and office visits for adults diagnosed with uncomplicated urinary tract infections within a primary care network

Kaitlyn L. Johnson PharmD¹ ⁽ⁱ⁾, Lisa E. Dumkow PharmD, BCIDP¹ ⁽ⁱ⁾, Lisa A. Salvati PharmD, BCACP^{1,2} ⁽ⁱ⁾, Kristen M. Johnson PharmD, BCPS¹, Megan A. Yee MD³ and Nnaemeka E. Egwuatu MD, MPH⁴

¹Department of Pharmacy Services, Mercy Health Saint Mary's, Grand Rapids, Michigan, ²Ferris State University College of Pharmacy, Grand Rapids, Michigan, ³Family Medicine Innovative Primary Care, Mercy Health Physician Partners, Grand Rapids, Michigan and ⁴Division of Infectious Diseases, Mercy Health Saint Mary's, Grand Rapids, Michigan

- **Design:** Telemedicine visits for assessment of uncomplicated urinary tract infections were examined.
- **Methods:** Retrospective cohort study comparing antibiotic prescribing for UTI between virtual/in-person visits
- Primary care network composed of 44 outpatient sites and a single virtual platform
- Results: 350 patients included: 175 per group virtual care vs office visits



Patients treated for a UTI through a virtual visit:

- were more likely to receive a first-line antibiotic agent (74.9% vs 59.4%; *P* = .002)
- receive guideline-concordant duration (100% vs 53.1%; *P* < .001)



Patients treated through virtual visits were:

- less likely to have a urinalysis (0% vs 97.1%; *P* < .001) or urine culture (0% vs 73.1%; *P* < .001)
- less likely to revisit within 7 days (5.1% vs 18.9%; *P* < .001)



UTI care through a virtual visit was associated with:

- more appropriate antimicrobial prescribing compared to office visits
- decreased utilization of diagnostic and follow-up resources.

Feeding Tubes

4. Don't insert a feeding tube in individuals with advanced dementia. Instead, assist the resident to eat.



Feeding Tubes

- Feeding tubes do not prolong or improve quality of life in advanced dementia
- Studies show that tube feeding does not make the patient more comfortable or reduce suffering
- Tube Feeding causes:
 - Fluid overload
 - Diarrhea
 - Abdominal pain
 - Discomfort
 - Aspiration pneumonia

Long-Term Medications

5. Don't continue or add long-term medications unless there is an appropriate indication and a reasonable expectation of benefit in the individual patient.

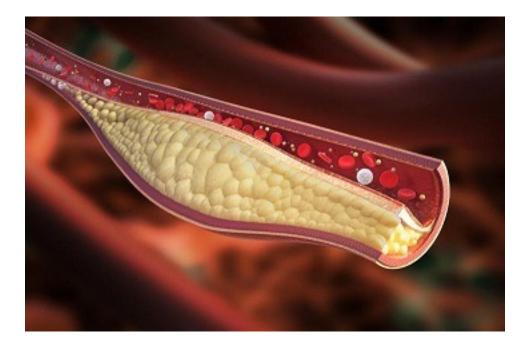


Long-Term Medications

- Examples of medications that can be potentially deprescribed depending on health status and goals of care:
 - PPIs
 - Anti-hypertensives
 - Statins
 - Bisphosphonates
 - Antidiabetic medications can consider target of A1C of 8.5% depending on frailty (Canadian Diabetes Association, 2018)
- Keeping these medications can cause issues with mobility, function, quality of life, and mortality

Screening and Routine Testing

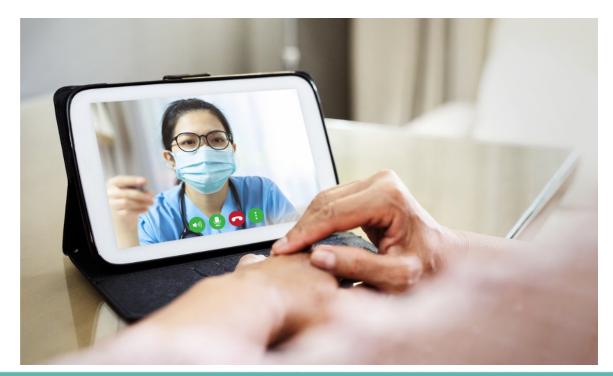
6. Don't order screening or routine chronic disease testing just because a blood draw is being done.



Screening and Routine Testing

- Do not do these tests unless it adds to quality of life
- Screening/routine testing could lead to harmful overtreatment in frail residents nearing end of life and misuse of resources
- Screening in frail older people: an ounce of prevention or a pound of trouble? (Clarfield, 2010)
 - Individualized approach to screening based on frailty, goals of care, comorbidities, life expectancy, and patient preference

7. Don't hesitate to use virtual care to complement in-person visits in order to meet the needs of residents in long-term care during the COVID-19 pandemic



- Telemedicine in nursing homes can reduce unnecessary emergency care, contribute to high quality medical care, thus decreasing hospitalization
- Telemedicine should be integrated into primary care of the resident
- Reimbursement for telemedicine should be based on medical necessity of care
- More studies required to understand telemedicine tools and measures and processes for nursing home residents

- Virtual care is useful for non urgent and administrative tasks
- In-Person assessment should be considered for acute illness or significant change in condition
- Standardized process is required including:
 - Hardware
 - Software
 - Privacy and security
 - Transfer of health information offsite

- Physical leadership can be provided by clinical care and administrative organization
- Physical presence can ease staff, resident, and the public's anxiety
- Timely access to care to assess acute change in status including respiratory complaints and delirium

Case Study – Participation House:

- April, 2020 in Markham, Ontario
- Six residents died from COVID and dozens tested positive



Choosing Wisely Canada COVID Public and Clinician Recommendations

 Don't go out for non-essential reasons. Keep a safe physical distance from others (2 m or 6 ft.) and follow guidance from your national and local public health authority.



2. Don't go in person to a hospital, clinic, or health care provider for routine care (preventative visits, routine blood work) or non-essential care without calling ahead.



3. Don't go to the emergency department for evaluation of mild COVID-19 symptoms. Use virtual tools or assessment centres if available.



British Columbia COVID-19



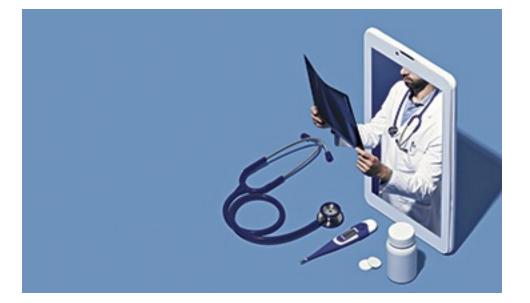
Help to stop the spread and stay informed by using these tools:



4. Don't self-prescribe or request unproven therapies to prevent or treat COVID-19.



5. Don't offer non-essential services to patients in person, if virtual tools such as telephone or online visits are available. Delay non-essential care and laboratory testing when possible.



6. Don't send frail residents of a nursing home to the hospital, unless their basic care and medical needs cannot be met on site.



7. Don't give red blood cells (RBC) based solely on an arbitrary hemoglobin level. Give one-unit of RBC at a time and reassess the need for more.



8. Don't intubate frail elderly patients in the absence of a discussion with the substitute decision maker regarding the patient's advance directives whenever possible.



9. Don't prescribe unproven therapies for COVID-19 patients other than in an approved clinical trial.



The Need to Adapt LTC to COVID

ANALYSIS HEALTH SERVICES CPD

COVID-19 in long-term care homes in Ontario and British Columbia

Michael Liu AB, Colleen J. Maxwell PhD, Pat Armstrong PhD, Michael Schwandt MD MPH, Andrea Moser MD MSc, Margaret J. McGregor MD MHSc, Susan E. Bronskill PhD, Irfan A. Dhalla MD MSc

Cite as: *CMAJ* 2020 November 23;192:E1540-6. doi: 10.1503/cmaj.201860; early-released September 30, 2020

Key Points from the CMAJ Article: Ontario vs BC

- Many more LTC residents died in Ontario than BC
- BC was faster in response to COVID-19 with actions to address public health, LTC staffing, and IPAC
- Better coordination with public health, greater funding, less shared rooms, more non-profit facilities, and overall more comprehensive inspections
- Links between hospitals, LTC, and public health were stronger in BC prior to the pandemic

Key Points from the CMAJ Article: Ontario vs BC

- Leaders in BC were more decisive, coordinated, and consistent in overall communication
- Solutions to allow clinicians to effectively Choose Wisely need to address the root issues

Supporting Education

- Processes for hiring workers with specific competencies:
 - Quality improvement
 - Transitions of care
 - Frailty
 - Polypharmacy
 - Cognitive and behavioural disorders

Access to Personal Protective Equipment

 Provincial government must manage and ensure LTC homes have adequate access to personal protective equipment (PPE)



Access to Vaccination

- Increase vaccine supply
- Combat vaccine hesitancy
 - Have a good understanding of causes and contexts
 - Interventions tailored to the individual



Access to Vaccination

- Create systems for vaccine delivery
 - Prioritize elderly and LTC residents/workers
 - Increase family doctor and pharmacist's ability to administer the vaccine in their clinics/storefronts
 - Bring the vaccine to the patient OR bring the patient to the vaccine

NEWS RELEASE

Ontario Helping People Get their COVID-19 Vaccination

2021 Budget to Ensure No One is Left Behind during Vaccine Rollout

March 23, 2021 Office of the Premier

The Cold Standard Adapted for Choose Wisely during COVID

- Majority of acute respiratory tract infection visits can be managed virtually
- Do not prescribe antibiotics after virtual visits alone
- Do recommend an in-person visit if antibiotics are being considered





Sorry, but no amount of antibiotics will get rid of your cold.

The best way to treat most colds, coughs or sore throats is with plenty of fluids and rest. Talk to your health care provider.



To learn more, visit: www.choosingwiselycanada.org/antibitiotics

ANTIBIOTICS: THREE QUESTIONS TO ASK YOUR HEALTH CARE PROVIDER

1) Do I really need antibiotics?

Antibiotics fight bacterial infections, like strep throat, whooping cough and bladder infections. But they don't fight viruses – like common colds, flu, or most sore throats and sinus infections. Ask if you have a bacterial infection.

2) What are the risks?

Antibiotics can cause unwanted side effects such as diarrhea and vomiting. They can also lead to "antibiotic resistance"- if you use antibiotics when you don't need them, they may not work when you do need them in the future.

3) Are there simpler, safer options?

The best way to treat most colds, coughs or sore throats is with plenty of fluids and rest. Talk to your health care provider about the options.

Talk about what you need, and what you don't. To learn more, visit www.choosingwiselycanada.org/antibiotics





VIRAL PRESCRIPTION (PS Telus Integration)

Available languages:

English, French, Arabic, Chinese (Traditional and Simplified), Farsi (Persian), German, Hindi, Romanian, Russian, Spanish, Ukrainian, Urdu

Myth: patients want antibiotics

Satisfaction linked to reassurance, info, and symptom relief

RX Patient Name : ______ Date : ______ The symptoms you presented with today suggest a VIRAL infection. □ Upper Respiratory Tract Infection (Common Cold) : Lasts 7-14 days □ Flu : Lasts 7-14 days □ Acute Pharyngitis ("Sore Throat") : Lasts 3-7 days, up to ≤10 days

Acute Bronchitis/"Chest Cold" (Cough) : Lasts 7-21 days

You have not been prescribed antibiotics because antibiotics are not effective in treating viral infections. Antibiotics can cause side effects (e.g. diarrhea, yeast infections) and may cause serious harms such as severe diarrhea, allergic reactions, kidney or liver injury.

When you have a viral infection, it is very important to get plenty of rest and give your body time to fight off the virus.

If you follow these instructions, you should feel better soon :

- »→ Rest as much as possible
- Drink plenty of fluids
- >>> Wash your hands frequently
- >>> Take over-the-counter medication, as advised :

Acetaminophen (e.g. Tylenol®) for fever and aches

□ Ibuprofen (e.g. Advil[®]) for fever and aches

□ Naproxen (e.g. Aleve®) for fever and aches

- □ Lozenge (cough candy) for sore throat
- Nasal Saline (e.g. Salinex®) for nasal congestion

Other:

(e.g. Nasal decongestant if Salinex[®] does not work, for short-term use only!) Please return to your provider if :

- »-> Symptoms do not improve in _____ day(s), or worsen at any time
- >>> You develop persistent fever (above 38°C, or ______ as directed)
- »→ Other : ____

Prescriber

This 'Viral Prescription Pad' has been adapted from the RQHR Antimicrobial Stewardship Program www.rqheath.cs/antimicrobialstewardship.and is available in other languages. p://www.rxfiles.ca/rxfiles/uploads/documents/ABX-Viral-Prescription-Pad-Languages.

DELAYED ANTIBIOTIC PRESCRIPTION (PS Telus Integration)

 Decreases antibiotic use

No difference in satisfaction

RESCRIPTION

About Your Delayed Prescription

WAIT. Don't fill your prescription just yet. Your health care provider believes your illness may resolve on its own. Follow the steps below to get better.

First, continue to monitor your symptoms over the next few days and try the following remedies to help you feel better:

- · Get lots of rest.
- Drink plenty of water.
- · For a sore throat: ice chips, throat lozenges or spray, or gargle with salt water.
- · For a stuffy nose: saline nasal spray or drops.
- For fever and pain relief: acetaminophen or ibuprofen.
- Other:_____

Wash your hands often to avoid spreading infections.

If you don't feel better in _____ days, go ahead and fill your prescription at the pharmacy.

If you feel better, you do not need the antibiotic and the prescription can be thrown out.

If things get worse, please contact your health care provider.

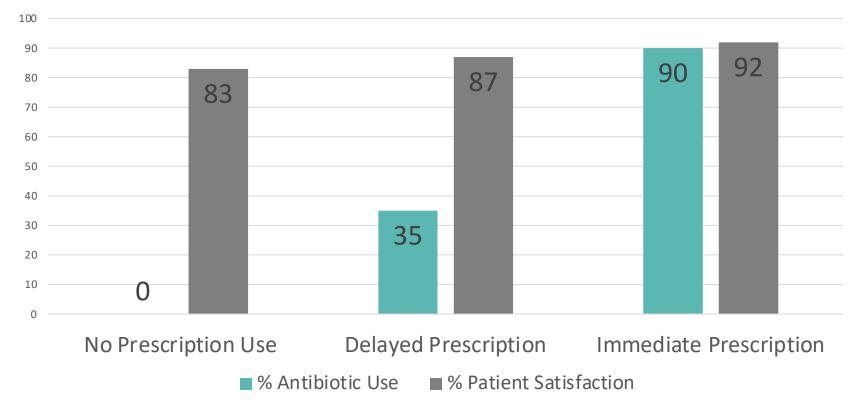
Antibiotics should only be taken when medically necessary. Unwanted side effects like diarrhea and vomiting can occur, along with destruction of your body's good bacteria that can leave you more susceptible to infections.

To learn more, visit www.choosingwiselycanada.org/antibiotics



Antibiotic Use & Patient Satisfaction

Patient Satisfaction with Delayed Prescriptions (Cochrane 2013)



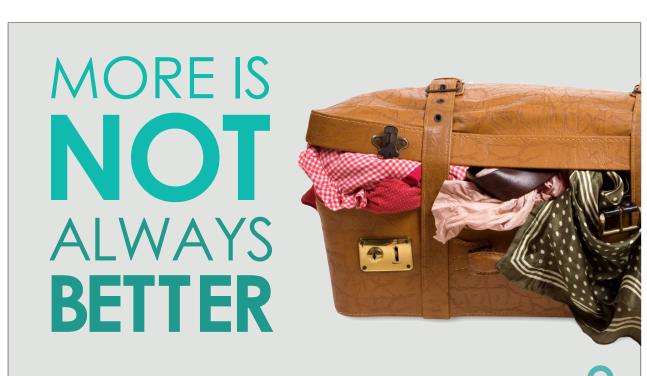
Summary

- Choosing Wisely is difficult in the long-term care setting
- COVID has further exacerbated our ability to practice high value care
- Standards for quality need to be set and adhered to for practicing during pandemics
- Toolkits can be employed to facilitate resource stewardship in longterm care



Thank You!

- To Jessica Swinburnson and the Vic-SI Long-Term Care Initiative for inviting me.
- Choosing Wisely Canada & for supporting my work on the advisory committee.
- To Drs. Andrea Moser and Amy Freedman for allowing me work with the the Canadian Society for Long-Term Care Medicine



choosine

Nisel

Canada

The same is true for medical tests and treatments. Talk with your health care provider about what you need, and what you don't. To learn more, visit www.choosingwiselycanada.org



Unnecessary Care in Canada. Choosing Wisely Canada. Canadian Institute for Health Information. 2017.

https://www.cihi.ca/en/unnecessary-care-in-canada

Levinson, W., & Huynh, T. Engaging physicians and patients in conversations about unnecessary tests and procedures: Choosing Wisely Canada. CMAJ, 2014. 186(5), 325-326.

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3956556/

Walker JD, Teare GF, Hogan DB, Lewis S, Maxwell CJ. Identifying potentially avoidable hospital admissions from Canadian long-term care facilities. Medical Care. 2009 Feb 1;47(2):250-4.

https://www.ncbi.nlm.nih.gov/pubmed/19169127

Advance Care Planning LTC COVID

https://www.speakupontario.ca/

Schneider LS, Dagerman K, Insel PS. Efficacy and adverse effects of atypical antipsychotics for dementia: meta-analysis of randomized, placebo-controlled trials. The American Journal of Geriatric Psychiatry. 2006 Mar 1;14(3):191-210.

https://www.ncbi.nlm.nih.gov/pubmed/16505124

High KP, Bradley SF, Gravenstein S, Mehr DR, Quagliarello VJ, Richards C, Yoshikawa TT. Clinical practice guideline for the evaluation of fever and infection in older adult residents of long-term care facilities: 2008 update by the Infectious Diseases Society of America. Clinical Infectious Diseases. 2009 Jan 15;48(2):149-71.

https://www.ncbi.nlm.nih.gov/pubmed/19072244



Hanson LC, Ersek M, Gilliam R, Carey TS. Oral feeding options for people with dementia: a systematic review. Journal of the American Geriatrics Society. 2011 Mar;59(3):463-72.

https://www.ncbi.nlm.nih.gov/pubmed/21391936

Dalleur O, Spinewine A, Henrard S, Losseau C, Speybroeck N, Boland B. Inappropriate prescribing and related hospital admissions in frail older persons according to the STOPP and START criteria. Drugs & aging. 2012 Oct 1;29(10):829-37.

https://www.ncbi.nlm.nih.gov/pubmed/23044639

Clarfield AM. Screening in frail older people: an ounce of prevention or a pound of trouble? J Am Geriatr Soc. 2010 Oct;58(10):2016-21. PMID: 20929471. https://www.ncbi.nlm.nih.gov/pubmed/20929471

Johnson KL, Dumkow LE, Salvati LA, Johnson KM, Yee MA, Egwuatu NE. Comparison of diagnosis and prescribing practices between virtual visits and office visits for adults diagnosed with uncomplicated urinary tract infections within a primary care network. Infection Control & Hospital Epidemiology. 2020 Oct 29:1-6.

https://www.ncbi.nlm.nih.gov/pubmed/33118916/

Liu M, Maxwell CJ, Armstrong P, Schwandt M, Moser A, McGregor MJ, Bronskill SE, Dhalla IA. COVID-19 in long-term care homes in Ontario and British Columbia. CMAJ. 2020 Jan 1.

https://pubmed.ncbi.nlm.nih.gov/32998943/



Collins R, Charles J, Moser A, Birmingham B, Grill A, Gottesman M. Improving medical services in Canadian long term care homes. Canadian Family Physician. 2020 Oct 7.

https://www.cfp.ca/news/2020/10/07/10-07

Gillespie SM, Moser AL, Gokula M, Edmondson T, Rees J, Nelson D, Handler SM. Standards for the use of telemedicine for evaluation and management of resident change of condition in the nursing home. Journal of the American Medical Directors Association. 2019 Feb 1;20(2):115-22.

https://www.ncbi.nlm.nih.gov/pubmed/30691620/

Gillespie SM, Handler SM, Bardakh A. Innovation Through Regulation: COVID-19 and the Evolving Utility of Telemedicine. Journal of the American Medical Directors Association. 2020 Aug 1;21(8):1007-9.

https://www.ncbi.nlm.nih.gov/pubmed/32736843/

Unruh MA, Yun H, Zhang Y, Braun RT, Jung HY. Nursing home characteristics associated with COVID-19 deaths in Connecticut, New Jersey, and New York. Journal of the American Medical Directors Association. 2020 Jul 1;21(7):1001-3.

https://www.ncbi.nlm.nih.gov/pubmed/32674812/

Leis JA, Born KB, Theriault G, Ostrow O, Grill A, Johnston KB. Using antibiotics wisely for respiratory tract infection in the era of covid-19. bmj. 2020 Nov 13;371.

https://www.ncbi.nlm.nih.gov/pubmed/33187951/