Improving the Assessment of Suspected Urinary Tract Infection

RESIST
Antimicrobial Resistance & Infection Control Programme

Date 13th October 2023

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Outline

- Introduction
- Antimicrobial Stewardship in Residential Care Facilities (RCFs) – progress to date
- Why Skip the Dip: Management of UTI in Older Persons RCFs
- Doctor and Nurse Perspective on Skip the Dip
- Case Studies

Introduction

- Reduction of harm in relation to antibiotic use and antimicrobial resistance is a key priority for the HSE.
- Aligns with iNAP-2, AMRIC Action Plan 2022-25 and Patient Safety Strategy 2019-24
- Aim: to reduce inappropriate antibiotic prescribing for UTI in older persons RCFs.
- UK[1] and Australia[2] report reduction in antibiotic use without evidence of harm with similar initiatives

- 1. Beech, E. 'To Dip Or Not To Dip – Improving the management of Urinary Tract Infection in older people' presented at the British Infection Association Annual Scientific Meeting , 23rd May 2019 London
- 2.. Lyn-li Lim and others, P01 The Australian experience of adapting and implementing 'To Dip or Not to Dip' in residential aged care facilities, *JAC-Antimicrobial Resistance*, Volume 5, Issue Supplement 3, August 2023,

Commenced in September 2023 In HSE Older Persons RCFs

Led by HSE Community Antimicrobial Pharmacists and the HSE Quality and Patient Safety Office in collaboration with the national AMRIC team.

Antimicrobial Stewardship in Older Persons RCFs

Progress to date

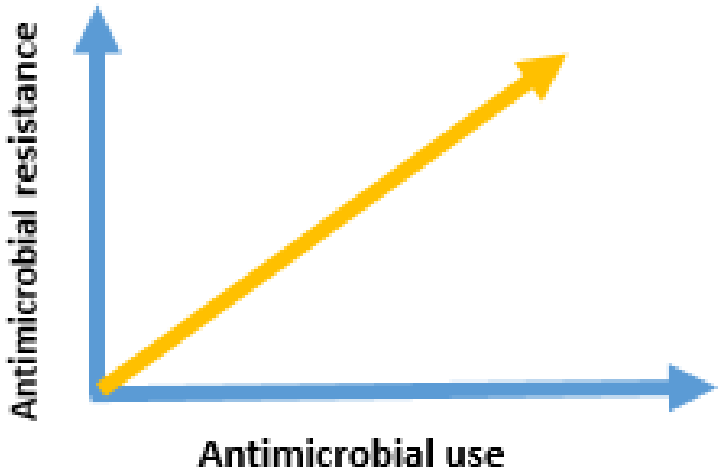
Antibiotics: Benefit versus Harm

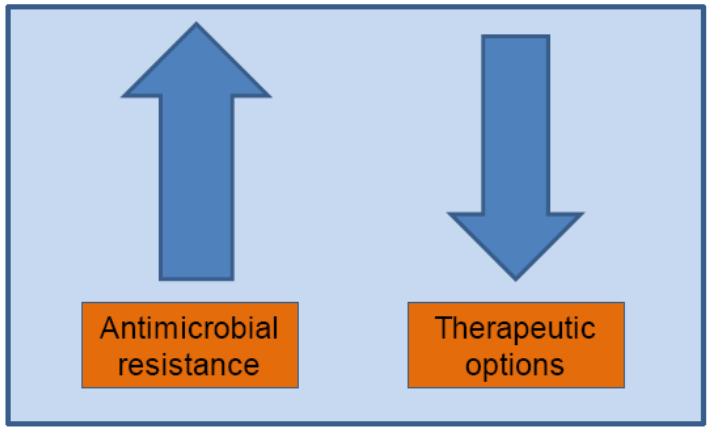
Benefits

- **Treat infections. They are life saving medicines in the treatment of sepsis**
- **Increase life expectancy** of people with chronic conditions such as COPD
- Are **essential to support the treatment of many cancers and surgical procedures**

Harm

- **Adverse effects:** (e.g. nausea, diarrhoea, tendonitis, pulmonary fibrosis)
- **Collateral damage:** Disruption of normal 'good' bacteria of the body can predispose people to further infection e.g. thrush*/ C. diff*
- **Antimicrobial resistance:** occurs when bacteria change over time and no longer respond to antibiotics making infections increasingly difficult or impossible to treat



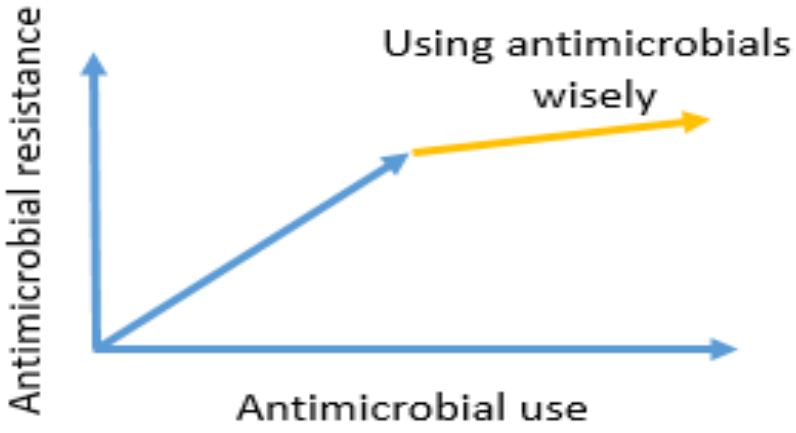


RESIST

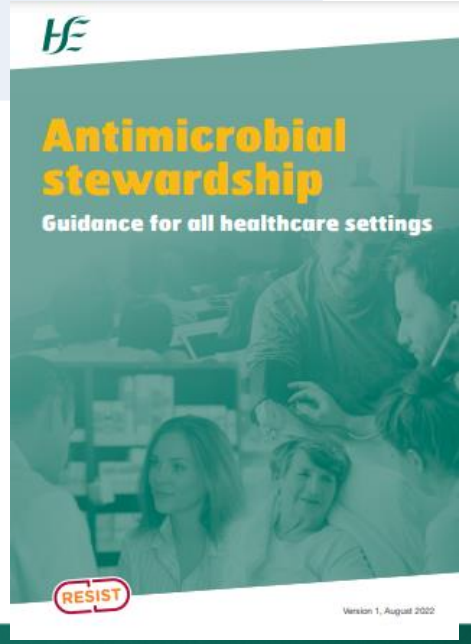
What is Antimicrobial Stewardship?

Ensure optimal use of antimicrobials through variety of structures / interventions

Maximise Benefit	Minimise Harm
Avoid Unnecessary Use	Limit unintended consequences (C.diff, candida)
Optimise Antibiotic selection	Limit emergence of Antimicrobial Resistance
Optimise dose, route, rate, timing	Limit ADRs (e.g. tendonitis, pulmonary fibrosis)
Optimise duration	Limit unnecessary costs



https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/antibicrobial-stewardship-audit-tools/hse-amric-antimicrobial-stewardship-guidance-for-all-healthcare-settings-v1-published-august-2022.pdf



Antibiotic use in HSE older persons residential care facilities in Ireland (national 2020/21 survey)

KEY FINDINGS

4446
Number of persons surveyed
at 135 Facilites

Conducted by CHO based Antimicrobial Pharmacists

1. Prevalence of antimicrobials

Approximately **1 in 8** persons on antimicrobials daily

LOOKBACK 30 DAYS

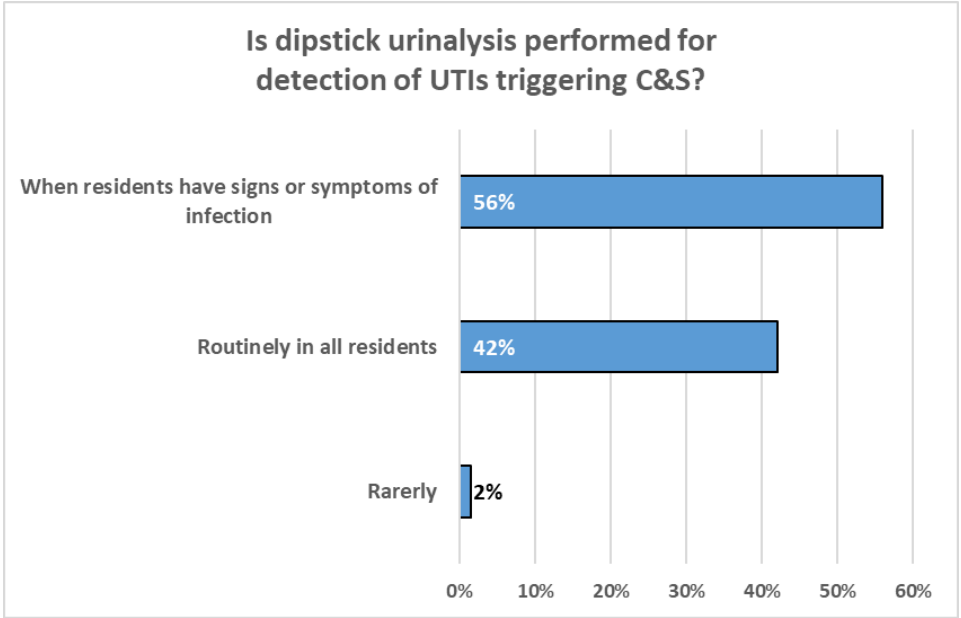
Approximately **1 in 4** persons received an antibiotic in the previous 30 days

Europe HALT 2016	Ireland HALT 2016	Ireland PPS 2020/21
5%	10%	12%

Comparison of prevalence with HALT* 2016 study

2. Infections treated with antimicrobials

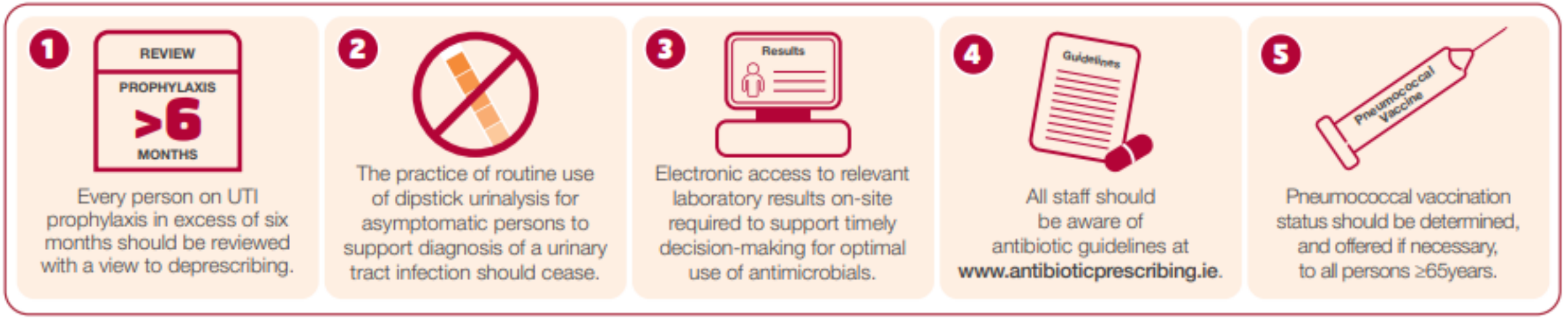
UTI	RTI	SSTI	Other
51%	25%	16%	8%



- 51% antibiotics prescribed for UTI
- Dipstick urinalysis use widespread

Antimicrobial PPS in Older Persons RCFs 2020/21

KEY RECOMMENDATIONS



Direct feedback of results and recommendations were delivered by the antimicrobial pharmacists to all facilities with ongoing engagement with nurses and prescribers

AMS developments for RCFs subsequent to PPS 2021/22:

- New national guidance produced:
  e.g. *UTI prophylaxis de-prescribing and supporting audit tool*

- Development of national e-learning modules by AMRIC (on HSEland):
  e.g. AMS in Practice; Prevention and Management of UTIs

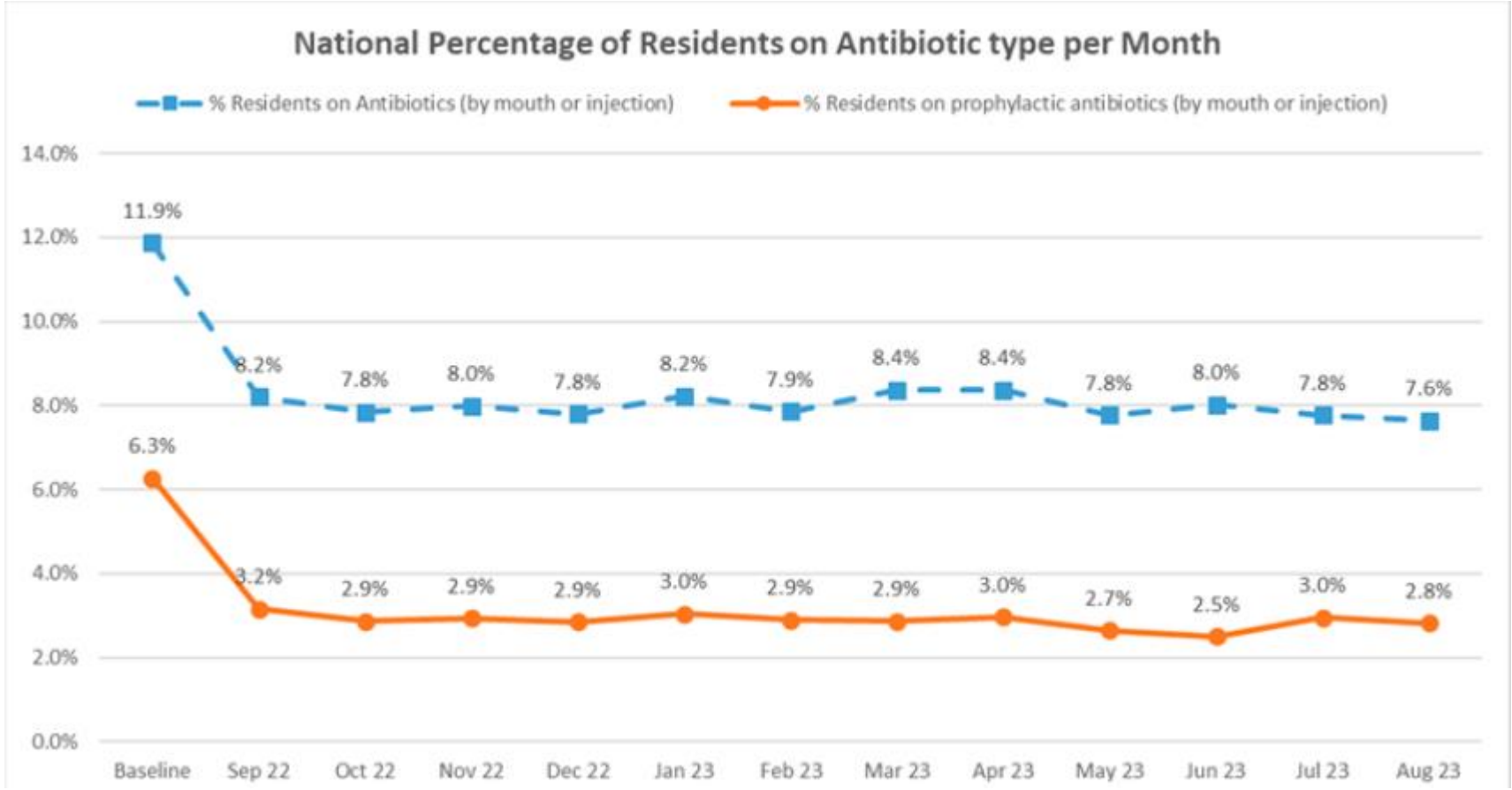
- National position statement on use of dipstick urinalysis for assessing UTIs
- Decision Aid for management of suspected UTI in RCFs

- IPC Link Practitioner Programme commenced to nurture local IPC/AMS champions in individual facilities

- Monthly reporting of antibiotic use in HSE older persons RCFs established

Monthly Monitoring of Antibiotic Use in HSE Older Persons RCFs 2021/22

Sustained decrease in antibiotic use since AMS programme commenced



Acknowledgements:
Thank you to all Older Persons RCFs nursing staff who have engaged with AMS, CHO QSSI Teams and Community Healthcare IPC/AMS Management Team

National Antimicrobial Prescribing Guidelines for Community Settings

www.antibioticprescribing.ie

Conditions and Treatments
View a list of conditions and treatment guidelines

Antimicrobial use in Residential Care Facilities including Nursing Homes

AMRIC Key Messages
Antimicrobial safety alerts and advice issued by AMRIC

What's New
Updates and new content

Infection Prevention and Control
Evidence based approach preventing patients and health workers from avoidable infections

Safe Prescribing
Prescribing safely. Renal impairment dosing. Drug interactions

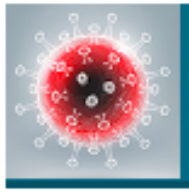
Paediatric Prescribing
Guidelines based on weight and height

Antimicrobial stewardship
Learn about AMS & access tools to improve antimicrobial use

Prescribing in Pregnancy
Prescribing Antimicrobials in Pregnancy, Postpartum infections and Lactation

Dental Prescribing
Guidelines on dental prescribing and treatments

Tips on Penicillin Allergy
Tips on verifying Penicillin Allergy



Covid-19 Acute Respiratory Infection
Prescribing guidance in suspected or proven infection

Multi-disciplinary involvement with >60 experts

- Antimicrobial treatment for infections in community settings

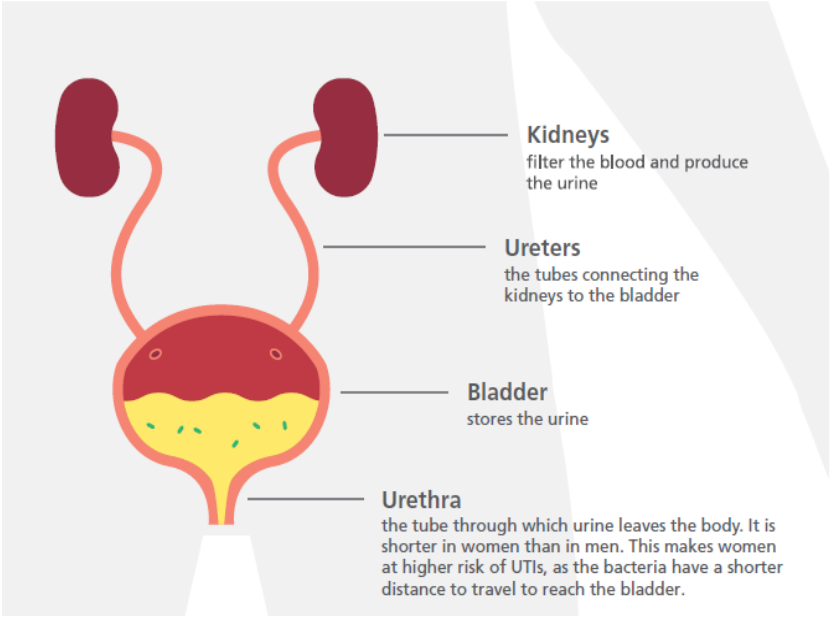
- Paediatric dosing tables
- Dosing in renal impairment
- Antimicrobial drug interactions
- Antimicrobials in Pregnancy / Lactation
- Dental infections
- Penicillin allergy
- AMS Resources/Audit tools

Why Skip the Dip?

Management of Urinary Tract Infections in Older Persons RCFs

What is a Urinary Tract Infection?

- A urinary tract infection (UTI) develops when bacteria enter the bladder through the urethra and multiply, causing tissue damage and disease in the urinary tract.
- Infection can occur in any part of the urinary system (urethra, bladder, ureters or kidney).
- UTIs are usually caused by bacteria that live in the bowel.
- A catheter-associated urinary tract infection (CA-UTI) occurs when someone who is catheterised develops a UTI.
- Urinary catheters make it easier for bacteria to enter the urinary tract and cause infection.
- UTIs are one of the most common and preventable infections



What is asymptomatic bacteriuria (ASB)?

In the urinary tract:

- Bacteria are usually kept in check (e.g. they are washed out and eliminated) & they do no harm.
- Sometimes bacteria multiply, damage tissue & cause inflammation, that is when a UTI (infection) occurs.
- Bacteria can also live in urinary tract without causing harm. This is particularly common in the elderly & those with urinary catheters. This is called Asymptomatic Bacteriuria (ASB).

50-70%

Of people aged 65 and over resident in RCFs are likely to have asymptomatic bacteriuria

If a person has asymptomatic bacteriuria, they will likely test positive on a dipstick for nitrites & leucocytes

This information alone does not mean they need treatment with antibiotics

How do we differentiate between asymptomatic bacteriuria and a urinary tract infection?

Focus on signs & symptoms

Signs and Symptoms of a UTI

The signs and symptoms that a resident/patient may have when they have a UTI can differ depending on whether they are catheterised or not.

Without a Urinary Catheter

Does the resident meet the following criteria:

- New onset dysuria alone

OR

Two or more of:

- Fever (Temperature > 37.9^{o}C, or 1.5 ^{o}C above baseline) OR shaking/chills <u>twice in last 12 hours</u>
- New urinary frequency
- New urinary urgency
- New onset urinary incontinence
- New suprapubic/flank pain or tenderness
- Visible haematuria
- New onset or worsening delirium/debility

With a Urinary Catheter

Does the resident meet the following criteria:

One or more of:

- New suprapubic/flank pain
- Fever (Temperature > 37.9^{o}C, or 1.5 ^{o}C above baseline) OR shaking/chills <u>twice in last 12 hours</u>
- New onset or worsening delirium/debility
- Visible haematuria

What is the problem with dipstick urinalysis for UTI in >65s?

- Dipstick urinalysis is not a reliable or accurate tool to indicate if an older person is likely to have a UTI.
- In older people with no urinary symptoms, these bacteria in the urine usually do no harm.
- There is no evidence to indicate that antibiotics are useful for asymptomatic bacteriuria in older people.
- There is evidence that antibiotics can do harm.
- NB: Dipstick urinalysis may be indicated for other reasons – based on clinical need / judgement

Giving antibiotics for asymptomatic bacteriuria means an older person is five times more likely to experience side-effects[3].

Urine dipsticks are likely to be positive if there are bacteria in urine, whether they are causing an infection or not.

3 Krzyzaniak N et al. Antibiotics versus no treatment for asymptomatic bacteriuria in residents of aged care facilities: a systematic review and meta-analysis. British Journal of General Practice, September 2022.

What do the national guidelines advise?

Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

POSITION STATEMENTS

RESIST

Use of dipstick urinalysis to assess for evidence of urinary tract infection in adults

Statements below are true of persons in the community, hospital and residential care facilities.
Statements below are true of dipstick urinalysis conducted by manual or automated means.

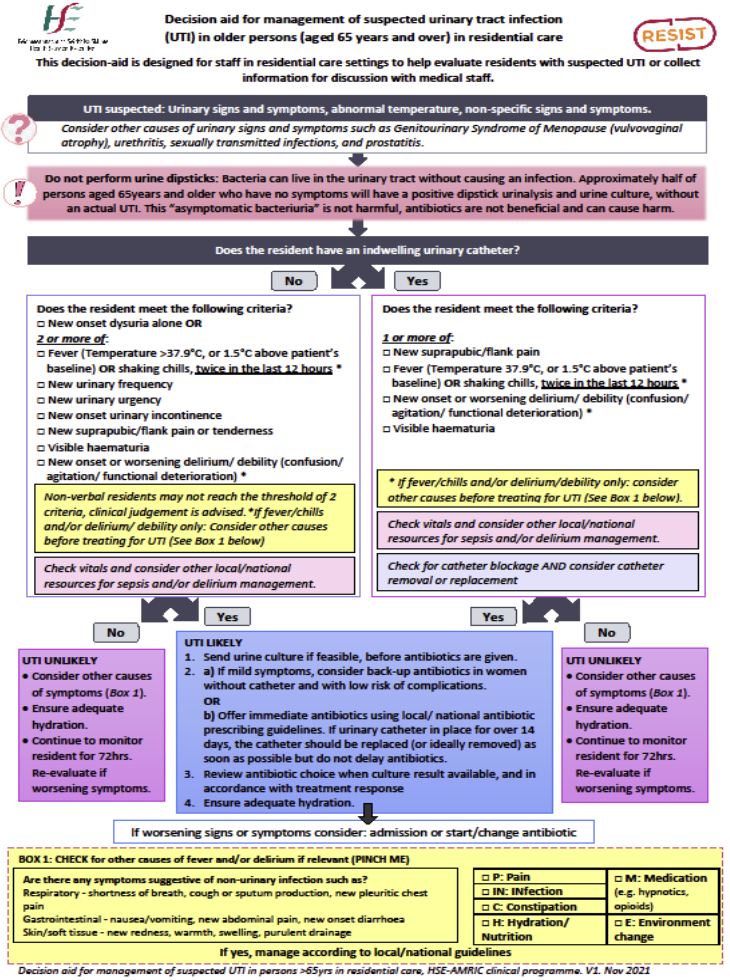
4. **All persons aged 65 years and older:** The use of dipstick urinalysis in assessing for evidence of a UTI is not a useful guide to management and is **not recommended**.
5. **All persons with an indwelling catheter:** The use of dipstick urinalysis in assessing for evidence of a UTI is not a useful guide to management and is **not recommended**.
6. **Response to treatment:** Dipstick urinalysis has no role in assessing response to treatment of a UTI.
7. **Absence of signs and symptoms of a UTI:** The use of dipstick urinalysis to assess for evidence of a UTI is not useful and **should be avoided in people of all ages**. This includes those instances which are commonly reported to trigger dipstick urinalysis such as:
   - Foul smelling, dark, concentrated and/or cloudy urine: In the absence of signs and symptoms of a UTI (*Box A*), this is suggestive of dehydration rather than of infection.
   - Altered mental status and behavioural changes (confusion, decreased appetite, decreased balance, falls, disorientation, wandering, and verbal aggression): In the absence of signs and symptoms of a UTI, these should not be readily attributed to a UTI. Consider other common causes *(Box B below)*.

https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/conditions-and-treatments/urinary/position%20statements%20dipstick%20urinalysis%20for%20utis%20in%20adults/position-statements-dipstick-urinalysis-for-utis.pdf

How should we assess for a suspected UTI?

➢ Use the Decision Aid for suspected UTI in those over 65 years in residential care

- Diagnosis of a UTI should primarily be based on a clinical assessment of the person
- This decision aid provides a stepwise approach to managing symptoms, good practice points and guidance for staff
- For older persons symptomatic of UTI follow the decision aid to ensure those who are most likely to benefit from an antibiotic receive treatment.
- Useful aid for communication with prescriber
- Decision Aid can be found in the Residential Care Facilities section of www.antibioticprescribing.ie
- Print, laminate and become familiar with



https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/prescribing-ltcf/decision-aid-for-management-of-suspected-uti-in-older-persons-over-65yrs-in-residential-care.pdf

Decision aid for the management of suspected UTI in older persons in residential care

Decision aid for management of suspected urinary tract infection (UTI) in older persons (aged 65 years and over) in residential care

This decision-aid is designed for staff in residential care settings to help evaluate residents with suspected UTI or collect information for discussion with medical staff.

UTI suspected: Urinary signs and symptoms, abnormal temperature, non-specific signs and symptoms.

Consider other causes of urinary signs and symptoms such as Genitourinary Syndrome of Menopause (vulvovaginal atrophy), urethritis, sexually transmitted infections, and prostatitis.

Do not perform urine dipsticks: Bacteria can live in the urinary tract without causing an infection. Approximately half of persons aged 65years and older who have no symptoms will have a positive dipstick urinalysis and urine culture, without an actual UTI. This "asymptomatic bacteriuria" is not harmful, antibiotics are not beneficial and can cause harm.

Decision aid for the management of suspected UTI in older persons in residential care (cont'd)

Does the resident have an indwelling urinary catheter?

No

Does the resident meet the following criteria?

- □ New onset dysuria alone **OR**

2 or more of:

- □ Fever (Temperature >37.9°C, or 1.5°C above patient's baseline) **OR** shaking chills, twice in the last 12 hours *
- □ New urinary frequency
- □ New urinary urgency
- □ New onset urinary incontinence
- □ New suprapubic/flank pain or tenderness
- □ Visible haematuria
- □ New onset or worsening delirium/ debility (confusion/ agitation/ functional deterioration) *

*Non-verbal residents may not reach the threshold of 2 criteria, clinical judgement is advised. *If fever/chills and/or delirium/ debility only: Consider other causes before treating for UTI (See Box 1 below)*

Check vitals and consider other local/national resources for sepsis and/or delirium management.

Yes

Does the resident meet the following criteria?

1 or more of:

- □ New suprapubic/flank pain
- □ Fever (Temperature 37.9°C, or 1.5°C above patient's baseline) **OR** shaking chills, twice in the last 12 hours *
- □ New onset or worsening delirium/ debility (confusion/ agitation/ functional deterioration) *
- □ Visible haematuria

** If fever/chills and/or delirium/debility only: consider other causes before treating for UTI (See Box 1 below).*

Check vitals and consider other local/national resources for sepsis and/or delirium management.

Check for catheter blockage AND consider catheter removal or replacement

Decision aid for the management of suspected UTI in older persons in residential care (cont'd)

UTI UNLIKELY

- Consider other causes of symptoms (*Box 1*).
- Ensure adequate hydration.
- Continue to monitor resident for 72hrs. Re-evaluate if worsening symptoms.

UTI LIKELY

1. Send urine culture if feasible, before antibiotics are given.
2. **a)** If mild symptoms, consider back-up antibiotics in women without catheter and with low risk of complications.
   OR
   b) Offer immediate antibiotics using local/ national antibiotic prescribing guidelines. If urinary catheter in place for over 14 days, the catheter should be replaced (or ideally removed) as soon as possible but do not delay antibiotics.
3. Review antibiotic choice when culture result available, and in accordance with treatment response
4. Ensure adequate hydration.

UTI UNLIKELY

- Consider other causes of symptoms (*Box 1*).
- Ensure adequate hydration.
- Continue to monitor resident for 72hrs. Re-evaluate if worsening symptoms.

If worsening signs or symptoms consider: admission or start/change antibiotic

BOX 1: CHECK for other causes of fever and/or delirium if relevant (PINCH ME)

Are there any symptoms suggestive of non-urinary infection such as?
Respiratory - shortness of breath, cough or sputum production, new pleuritic chest pain
Gastrointestinal - nausea/vomiting, new abdominal pain, new onset diarrhoea
Skin/soft tissue - new redness, warmth, swelling, purulent drainage

☐ **P: Pain**	☐ **M: Medication** (e.g. hypnotics, opioids)
☐ **IN: INfection**	
☐ **C: Constipation**	
☐ **H: Hydration/ Nutrition**	☐ **E: Environment change**

If yes, manage according to local/national guidelines

Antibiotic prescribing guidance: www.antibioticprescribing.ie

Antibiotic Prescribing

Urinary Conditions - Antibiotic Prescribing

- Position Statements Dipstick Urinalysis for UTIs in Adults
- Acute Pyelonephritis / Upper Urinary Tract Infection (UTI)
- Uncomplicated UTI in Adult Non-Pregnant Female
- Uncomplicated UTI in Adult Male i.e. no fever or flank pain
- Urinary Tract Infections (UTI) in Residential Care Facilities/Nursing Homes
- Catheter-Associated Urinary Tract Infections (CA-UTI)
- Recurrent UTI in Adult, Non-Pregnant Females
- UTI in Children
- Lower UTI in Pregnancy
- Deprescribing UTI prophylaxis
- Asymptomatic Bacteriuria in Pregnancy

UNCOMPLICATED UTI IN ADULT NON-PREGNANT FEMALES EMPIRIC TREATMENT TABLE

(i.e.no fever / flank pain)

Drug	Dose	Duration	Notes
1st Choice Options			
Nitrofurantoin **Immediate Release** Capsules	50 mg every 6 hours	3 days*	*If history of recurrent infection or inadequate treatment response, consider extending treatment to 5 days. Nitrofurantoin is NOT a suitable antibiotic choice for Upper UTI. Nitrofurantoin is contraindicated in patients with eGFR < 30 mL/min/1.73 m^2. Immediate/ Prolonged Release should be stated on the prescription (see note below on formulation difference).
OR			
Nitrofurantoin **Prolonged Release** Capsules	100 mg every 12 hours	3 days*	
Alternative 1st Choice Options (if nitrofurantoin unsuitable)			
Cefalexin	500 mg every 12 hours	3 days	Cephalosporins should not be used in severe penicillin allergy
OR			
Trimethoprim	200 mg every 12 hours	3 days	Use only when risk of resistance is low i.e. where previous culture suggests susceptibility (and trimethoprim was not used) or in younger patients without a significant antibiotic exposure history. Risk of

Urine cultures in suspected UTI in RCFs

- Send urine to the lab for culture and sensitivity testing in residents with signs/symptoms of a UTI.
- Urine culture results can help guide antibiotic choice.
- Ideally, take urine sample prior to starting antibiotics.
- For moderate or more severe UTI, antibiotics should be commenced while awaiting the urine culture result.
- Be mindful that a positive culture result in a person with no symptoms = asymptomatic bacteriuria.
- Regardless of urine culture result, if there are no clinical signs & symptoms of UTI present on assessment, antibiotics are not indicated.

Hydration and other preventative measures

- Preventing dehydration and recognising the signs of dehydration are key interventions to reduce the risk of UTI. In residents who are not fluid restricted, increasing their fluid intake can reduce the risk of UTIs.

- Wipe from front to back after defecation.

- Vulval care:
  - Avoid potential irritants such as soaps, perfumes, talcs, cleansing wipes, disinfectants etc.
  - Do not wash too often (once a day is usually sufficient).
  - Use an emollient-based product or plain warm water to wash.
  - Consider a barrier cream or ointment in incontinence.

- Avoid constipation

Urine colour chart

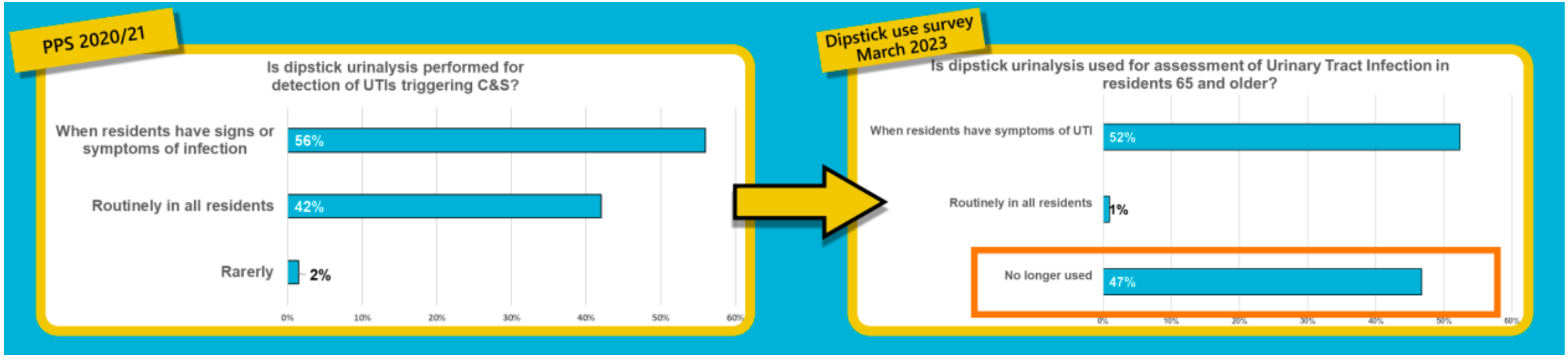
SKIP THE DIP

Quality Improvement Initiative

SKIP THE DIP: QI to date

- **Monthly monitoring of antibiotic use** in all HSE OP RCFs: addition of reporting on antibiotics for UTI (March 2023)
- **Survey of dipstick urinalysis practice** in all HSE OP RCFs (March 2023)
- **Focus groups with nursing staff** to identify barriers and facilitators to the QI (Feb – June 2023)
- **Development of Skip the Dip resources** by the Community Antimicrobial Pharmacists Group: staff handbook, resident leaflet, poster and campaign material and NMBI-accredited workshop (August 2023)
- **GP education** by AMRIC GP advisors and ICGP Lead for Infection Prevention and Control

Dipstick urinalysis practice: survey and focus groups



Themes arising from focus groups

Barriers to Change

- Nursing documentation
- Concerns of families / residents requesting urine dipstick tests
- Ingrained practice

Facilitators to Change

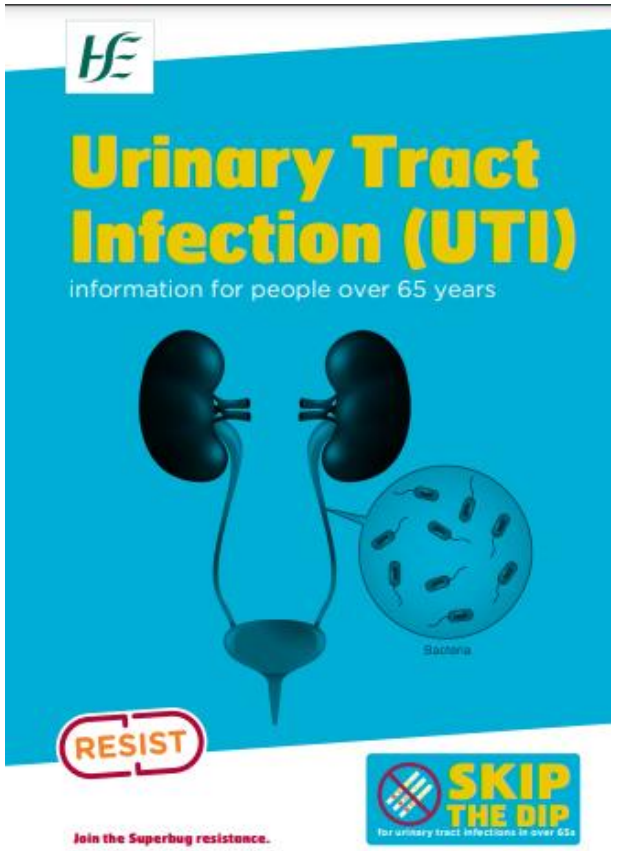
- Education
- Consistent and strong messaging
- Posters
- Leaflets
- Antimicrobial pharmacists
- IPC Link Practitioners
- Managers
- Monthly reporting of antibiotic use

SKIP THE DIP Resources

HSE Community Antimicrobial Pharmacists deliver workshops in HSE Older Persons RCFs

Poster

RCF staff handbook



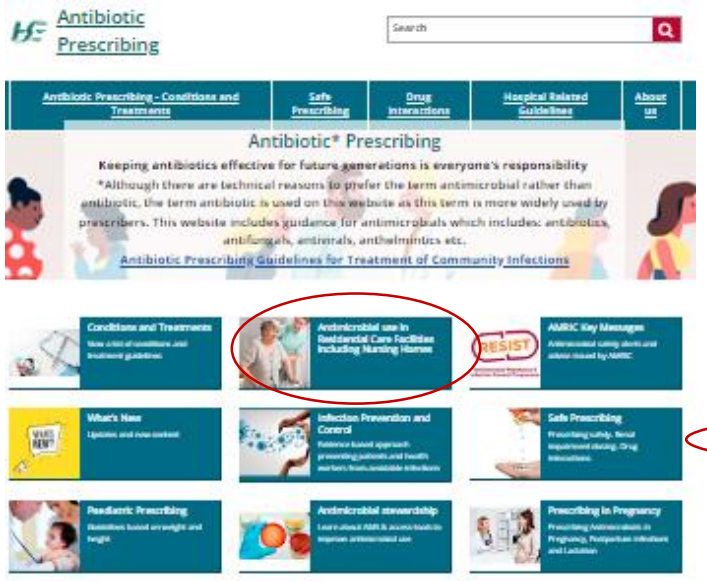
Resident / patient leaflet

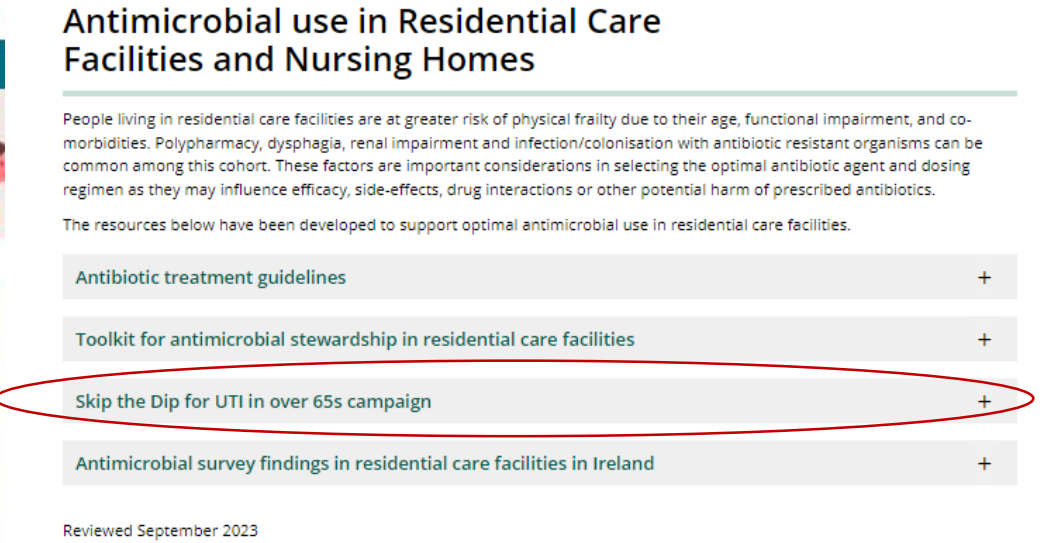
Where to find information on the Skip the Dip campaign

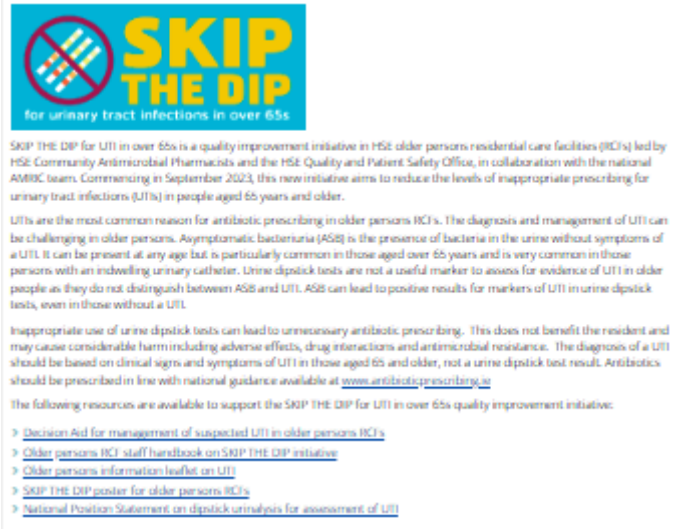
Go to www.antibioticprescribing.ie

Click on the Antimicrobial use in Residential Care Facilities and Nursing Homes section

Click in the Skip the Dip section







Webinar recording will be available on the Skip the Dip section of the website

SKIP THE DIP: QI next steps

- **HSE Community Antimicrobial Pharmacists will deliver workshops to** staff in HSE Older People in Residential Care Facilities (NMBI accredited, 1 CEU)
- **SKIP THE DIP materials distributed to HSE OPS RCFs**: posters, staff handbooks and resident UTI leaflets
- RCF Nurse managers and IPC link practitioners to **identify and support local champions** to sustain initiative at each facility.
- **Antibiotic use for UTI trends will continue to be monitored monthly at the HSE OP RCFs**
- A **repeat survey of dipstick urinalysis practice** will be conducted in 2024
- **GP education** by AMRIC GP advisors and ICGP Lead for Infection Prevention and Control
- **Evaluate this QI to consider wider implementation beyond HSE OP RCFs**

Skip the Dip for UTI in over 65s is relevant for all healthcare settings

Doctor perspective

- Was ingrained in my practice to use dipstick urinalysis
- Evidence now shows dipstick urinalysis no longer of benefit in the assessment of evidence of UTI
- Cultural change
- Behavioural change

Nurse manager perspective

- Ingrained culture of use of dipstick for suspected UTI will take time to change
- Focus on training in particular on-site training is very important
- Positioning of the decision aid to maximise visibility and awareness
- Use of safety huddle/pause to promote evidence based practice and support staff in the change of practice
- Consider removing urinalysis machines from units
- Use of monthly audits to monitor antibiotic usage

Case Study 1

Case Study

A Focus on Urinary Tract Infections

Meet Elizabeth

- Elizabeth is a 70 year old female resident in your facility.
- During handover, the night staff report that Elizabeth's urine has been dark and cloudy, they have done a dipstick which is positive for leukocytes and nitrites.
- They ask you to contact the prescriber for an antibiotic.

Do you have all of the information you need?

Case Study 1 - Elizabeth

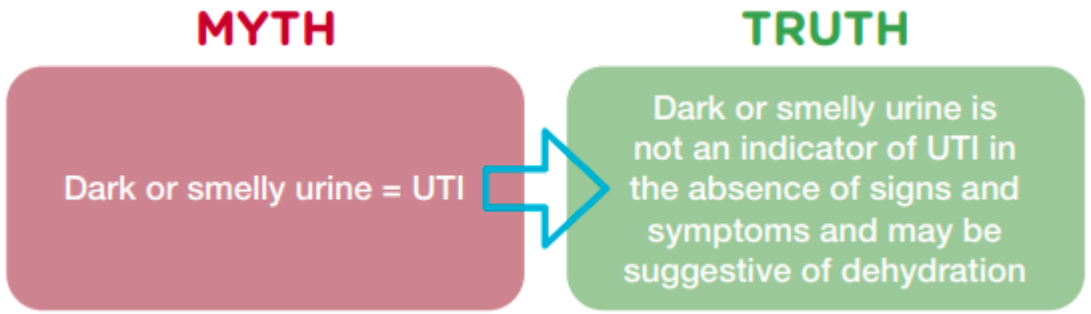
A Focus on Urinary Tract Infections

Or do you need to **ask the right questions** and assess Elizabeth?

Use the Decision Aid

Box A: Signs and Symptoms of UTI

- ☐ Acute dysuria
- ☐ New/worsening frequency
- ☐ New/worsening urgency
- ☐ New onset incontinence
- ☐ Fever
- ☐ Suprapubic or costovertebral angle pain or tenderness
- ☐ Haematuria



You establish that Elizabeth is currently afebrile and well, with no other urinary or systemic symptoms.

Approach for Elizabeth:

Watch and wait:

- Potential asymptomatic bacteriuria.
- Ensure adequate hydration and monitor closely
- **Urine dipstick test not recommended.**
- **Antibiotic not recommended at this point.**

Case Study 2

Case Study 2

A Focus on Urinary Tract Infections

Meet Agnes

- Agnes is a 82 year old female resident in your facility.
- Today you notice that she is ‘just not herself’ and is not eating and drinking very well
- She is a bit more confused than usual
- A urine culture from last week shows significant growth of *E.coli* bacteria

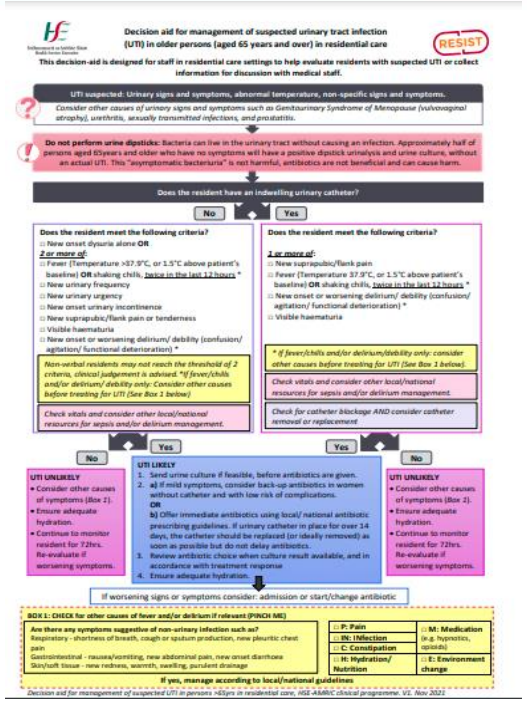
What do you need to consider?

Case Study 2 - Agnes

A Focus on Urinary Tract Infections

You establish that Agnes:

- Does not have a urinary catheter
- Denies dysuria (pain on urination), continence problems or any changes to urinary frequency
- Sleeps well and uses toilet once at night (no change)
- She is afebrile
- No suprapubic or flank pain
- Her last bowel movement was 4 days ago



Consider what could be causing confusion - think 'PINCH ME'

BOX 1: CHECK for other causes of fever and/or delirium if relevant (PINCH ME)

Are there any symptoms suggestive of non-urinary infection such as?
Respiratory - shortness of breath, cough or sputum production, new pleuritic chest pain
Gastrointestinal - nausea/vomiting, new abdominal pain, new onset diarrhoea
Skin/soft tissue - new redness, warmth, swelling, purulent drainage

□ P: Pain	□ M: Medication (e.g. hypnotics, opioids)
□ IN: INfection	
□ C: Constipation	
□ H: Hydration/ Nutrition	□ E: Environment change

Case Study 2 - Agnes

A Focus on Urinary Tract Infections

What do we think about Agnes' signs and symptoms?

- In this case it is possible that Agnes is constipated and this has put her off her food and drink – leading to worsening confusion.
- Her diet and laxative intake should be reviewed.
- Agnes should continue to be closely monitored.
- Ensure adequate hydration.

Learning points:

1. Altered mental status or behavioural changes in the absence of signs and symptoms of a UTI, should not be readily attributed to a UTI.
2. A positive urine culture result in the absence of signs & symptoms of a UTI is not an indication for antibiotic treatment.

Case Study 3

Case Study 3

A Focus on Urinary Tract Infections

Meet John

- John is a 79 year old male resident in your facility.
- John had a stroke a few years ago and has difficulties communicating.
- He also has an indwelling urinary catheter due to chronic urinary retention.
- John has refused his dinner and seems to be sleeping more than usual
- He has a temperature of 38.1°C
- He does not have a cough or increased oxygen requirements & his skin is intact.
- He appears to have some suprapubic tenderness

What are your next steps when caring for John?

Case Study 3 - John

A Focus on Urinary Tract Infections

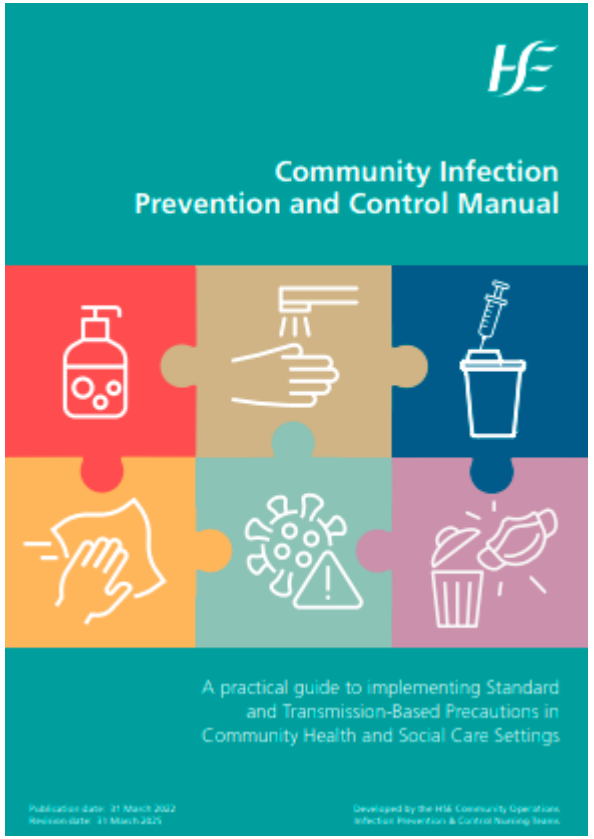
- Reasonable to suspect a urinary tract infection & to discuss this with the doctor/prescriber using the decision aid
- No urine dipstick test indicated as this will be positive for any resident with urinary catheter in situ.

Should we get a sample of John's urine?

- Yes, no other signs suggest another source of infection.
- Urine sample should be obtained and sent to the lab for culture and sensitivity (C&S).
- Refer to Community Infection Control Manual for guidance for urinary catheter sampling

Outcome:

Prescriber reviews recent urine culture results - no resistance noted & commences empiric antibiotic



https://www.lenus.ie/bitstream/handle/10147/631787/HSE-Community%20Infection%20Control%20Manual%20March%202022_%20ELECTRONIC%20VERSION.pdf?sequence=1&isAllowed=y

Case Study 3 - John

Antibiotic Treatment for Catheter-Associated UTI

LOWER CA-UTI (NOT SYSTEMICALLY UNWELL) EMPIRIC TREATMENT TABLE			
Drug	**Dose**	**Duration**	**Notes**
1st Choice Options			
Nitrofurantoin **Immediate release** Capsules	50 mg every 6 hours	7 days	Nitrofurantoin is NOT a suitable antibiotic choice in Upper CA-UTI or if patient systemically unwell. Nitrofurantoin poorly penetrates the prostate. Consider prostatitis as a diagnosis in males if symptoms persist. Contraindicated in patients with eGFR <30 mL/min/1.73 m^2 Immediate/ prolonged release should be stated on the prescription (see note below on formulation difference)
OR			
Nitrofurantoin **Prolonged release** Capsules	100 mg every 12 hours	7 days	
2nd Choice Options (Only use when nitrofurantoin is unsuitable)			
Cefalexin	500 mg every 12 hours	7 days	Cephalosporins should not be used in severe penicillin allergy.
OR			
Trimethoprim	200 mg every 12 hours	7 days	Use only when risk of resistance is low i.e. where previous culture suggests susceptibility (but trimethoprim was not used) or in younger patients without a significant antibiotic exposure history. Risk of resistance is more

UPPER CA-UTI (SYSTEMICALLY UNWELL) EMPIRIC TREATMENT TABLE			
Drug	**Dose**	**Duration***	**Notes**
1st Choice Option			
Cefalexin	500 mg every 8 hours (can increase to 1 g every 6 hours in severe infection)	7-10 days	Cephalosporins should not be used in severe penicillin allergy.
2nd Choice Option			
Co-Amoxiclav	625 mg every 8 hours	7-10 days	Avoid in penicillin allergy. Use only when risk of resistance is low i.e. where previous culture suggests susceptibility (but co-amoxiclav was not used) or in younger patients without a significant antibiotic exposure history. Risk of resistance is more likely in older people in residential facilities.
Penicillin Allergy			
Trimethoprim	200 mg every 12 hours	14 days	Use only when risk of resistance is low i.e. where previous culture suggests susceptibility (but trimethoprim was not used) or in younger patients without a significant antibiotic exposure history. Risk of resistance is more likely in older people in residential facilities.
Ciprofloxacin	500 mg every 12 hours	7 days	Reserve for severe penicillin allergy or where other antibiotics not suitable. Avoid ciprofloxacin in pregnancy. Multiple adverse effects associated with fluroroquinolones

*10 to 14 days treatment may be necessary if there is a delayed response to treatment and the organism is susceptible.

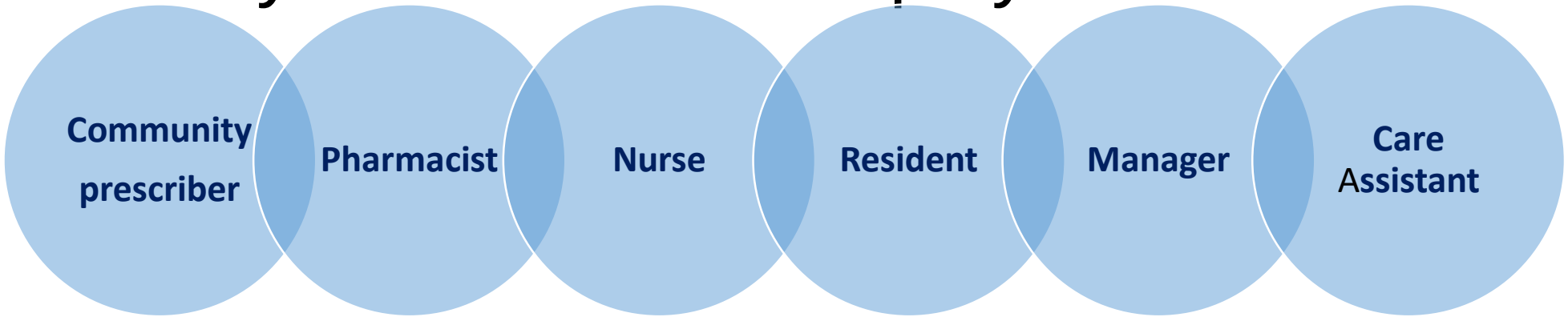
Reference: www.antibioticprescribing.ie October 2023

Take home messages

- Antibiotic use may be safely reduced in the elderly by changing the way UTIs are diagnosed.
- This may reduce antibiotic-related harm and antibiotic resistance.
- Dipstick urinalysis is not an accurate tool to support diagnosis of a UTI in those aged over 65 years and is no longer recommended.
- If you are concerned that a resident may have a UTI, use the **Decision Aid** to help to assess if he/she has signs or symptoms of a UTI.
- Treating a resident for asymptomatic bacteriuria can lead to harmful side effects.
- Adequate hydration is important to prevent UTI
- Treat the person, not the laboratory results!

The Antimicrobial Stewardship Community in Residential Care Facilities

Everyone has a role to play



benefitted from that Since then there have been some important developments around managing urinary tract infections (UTIs). In the past antimicrobial stewardship would have been left to the doctors and prescribers, but now I feel that nursing and health care assistant staff have the authority to take action. We have changed our practice in relation to using dip sticks and have reduced antibiotic use. Our health care assistants are now very much aware that our residents may need to take on more fluids. We are managing our antimicrobial stewardship on the floor, putting our learning into action. We can see first-hand the

Quote from an IPC Link Practitioner, RESIST newsletter

Acknowledgements

Community Antimicrobial Pharmacists: Aisling Clancy, Mary Regan, Shirley Armitage, Patricia Sheehan, Callum Ryan, Catherine Mannion, Olivia Gallagher, Roisin Foran, Margaret Donnelly, Nora Dwyer, Sarah Fagan (RIP)

Aileen O'Brien, Head of IPC/AMS, HSE Community Healthcare, QPS

Karen Hanna, Assistant Staff Officer, QPS

Eimhin Cullen, Data Manager, QPS

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Audrey Lambourn (ex) AMRIC Communications Manager

The UK NHS 'To Dip or Not to Dip' campaign and Nottingham University Hospitals NHS Trust.