To Dip or Not to Dip

Implementation Guide for Nurse and Pharmacist Champions

Version 1.0 April 2024.

Australian Government
Aged Care Quality and Safety Commission

Better use of antibiotics

Acknowledgments

We thank service managers, nurses and pharmacists who have implementers To Dip or Not to Dip in Australian residential aged care homes for sharing their experiences which have contributed to this guide.

To Dip or Not to Dip resources were adapted from an NHS improvement project led by Elizabeth Beech MBE, Mandy Slatter (NHS England Southwest Region) and Dr Annie Joseph (Health Education, East Midlands and Nottingham University Hospitals NHS Trust).

The clinical pathway has been adapted from Therapeutic Guidelines: Antibiotics "Management algorithm for residents with suspected UTI in RACF".

More information

> Information on To Dip or Not to Dip resources is available at www.agedcarequality.gov.au/providers/clinical-governance/medication-management

> For further enquiries, contact the Commission at pharmacyunit@agedcarequality.gov.au

Contents

Letter of introduction to To Dip or Not to Dip

Thank you for your interest in implementing To Dip or Not to Dip (TDONTD) in your residential aged care home (RACH). TDONTD is a quality improvement Antimicrobial Stewardship (AMS) intervention for Australian residential aged care. TDONTD supports homes undertaking continuous improvement in AMS. It is an evidence-based way to support best care for residents – reducing low-value urine dipstick testing through changing policy and practice improves urinary tract infection (UTI) management, antibiotic prescribing and contributes towards efforts to address antimicrobial resistance.

TDONTD was first used successfully in UK's aged care homes in 2015. The Aged Care Quality and Safety Commission (Commission) has adapted UK's resources for an Australian setting. The elements of TDONTD are:

1. case-based education
2. TDONTD clinical pathway
3. TDONTD audit before and after implementation
4. 16-minute training video for staff caring for residents.

The Commission launched TDONTD resources in late 2021, with resources located on the Antimicrobial Stewardship page on our website and freely available for use by homes. There has been good uptake of TDONTD by Australian RACHs. The Commission undertook a project to evaluate TDONTD. Nurse champions and QUM pharmacists said that TDONTD was feasible and acceptable for Australian homes to implement. The evaluation results are available here. TDONTD improved appropriateness of antibiotic prescribing for UTI and reduced the detection of asymptomatic bacteriuria (ASB) which can cause misdiagnosis of ASB as UTI. Nurse champions said that this was achieved by:

- Changed clinical processes around urine dipstick testing
- Changed behaviours around UTI assessment
- Increased awareness of inappropriate antibiotic use for ASB
- Increased confidence of staff around not using urine dipstick tests to diagnose UTIs
- Review and updating of policies and processes that drive low-value dipstick testing

We encourage you to look at the TDONTD quality improvement intervention as an innovative, evidence-based way to support staff in delivering best care for residents.

Yours Sincerely,

Dr Melanie Wroth, MBBS FRACP
Geriatrician, Chief Clinical Advisor,
Aged Care Quality and Safety Commission

Dr Lyn-li Lim, MBBS, FRACP, MPH
To Dip or Not to Dip project lead,
Infectious Diseases physician, Consultant,
Aged Care Quality and Safety Commission

Date of finalisation

Glossary

AMR	Antimicrobial resistance
ASB	Asymptomatic bacteriuria
GP	General practitioner
PCA	Personal care assistants
PDCA	Cycle of Plan, Do, Check, Act
QI	Quality improvement
RACH	Residential aged care home
SMART	A goal that is specific, measurable, achievable, relevant and time-based
TDONTD	To Dip or Not to Dip
UTI	Urinary tract infection

Section 1: Introduction to TDONTD

Urinary tract infection (UTI) is a common reason for antibiotic prescribing in older people living in Australian residential aged care homes. Urine dipstick testing is frequently performed to diagnose UTI even in people without specific urinary symptoms or signs of infection. This can result in people with asymptomatic bacteriuria (ASB) being misdiagnosed with UTI.

To Dip or Not to Dip (TDONTD) is a quality improvement (QI) intervention successfully implemented in UK and Australian aged care homes to improve UTI assessment and antibiotic prescribing appropriateness.

It was first developed for use in UK's aged care homes in 2015 and has been shown to be safe and effective in reducing antibiotic prescriptions for UTI. Hospital admissions for residents with UTI or dehydration were also reduced.

In October 2021, the Aged Care Quality and Safety Commission (the Commission) launched TDONTD, with resources adapted to an Australian setting. The Commission undertook an evaluation of TDONTD in twelve Australian RACHs examining the acceptability and feasibility of TDONTD implementation and useability of resources.

TDONTD is built on behaviour change theory and focuses on changing dipstick testing practice in facilities. Behaviour change is achieved through education of nursing and personal carer staff and use of a clinical pathway to detect UTI. Case based education and the clinical pathway are TDONTD resources that have been created, tested and updated by the Commission in early 2024. These resources, and other AMS resources, are available here.

TDONTD is an AMS quality improvement activity that is considered part of a RACH program of continuous improvement and a Quality Use of Medicines (QUM) activity.

TDONTD has been successfully delivered by RACH nurse champions and QUM pharmacists. The Commission offers pharmacists for on- site delivery of case-based education and is also available for implementation tutorials and advice. The Commission can be contacted by emailing pharmacyunit@agedcarequality.gov.au

This implementation guide has been drawn from the experiences of homes and champions who have implemented TDONTD, along with feedback from aged care nurses and personal care assistants who have used TDONTD resources. This guide aims to assist users to optimise success when implementing TDONTD. Section 2 takes you through the key resources and how they should be used. Section 3 takes you through the resources in the facility that can be gathered to support the champion in delivering a quality improvement intervention. Section 4 takes you through how to measure the impact of TDONTD.

> *"We now have a different approach. (TDONTD) helps to reinforce, to develop skills, to assess residents instead of just dipping all the time. The clinical pathway helps this the most... the program gives... knowledge to tell us what to look for... This (also) makes you look for other causes for the underlying symptoms."* *(Nurse Champion)*

To Dip or Not to Dip in Australian residential aged care homes: Key outcomes

Better use of antibiotics

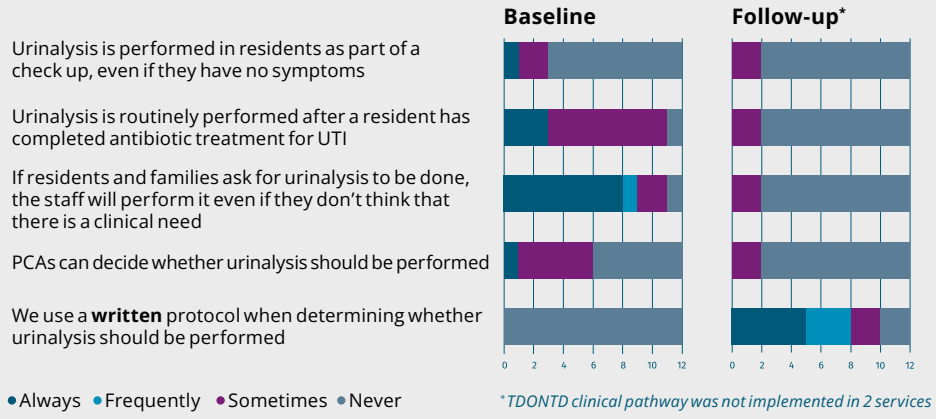
- **12 services**
  - 8 Queensland
  - 4 Victoria
- **1,074 residents**
- **Project from Nov 2021 – Jul 2023**

"Before we always had to do dipstick testing after residents completed antibiotic courses for UTI. Now we have been told it is OK not to do it.

It has changed our staff thought processes. Instead of dipstick and antibiotics, we are doing more promoting hygiene, toileting regularly, changing pads regularly, encouraging fluids." *(Nurse)*

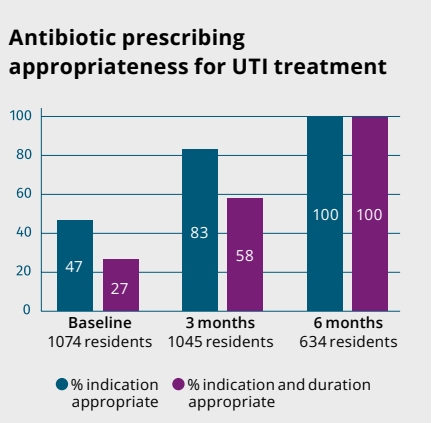
Findings

Survey of dipstick practice at baseline and 3 to 6 months

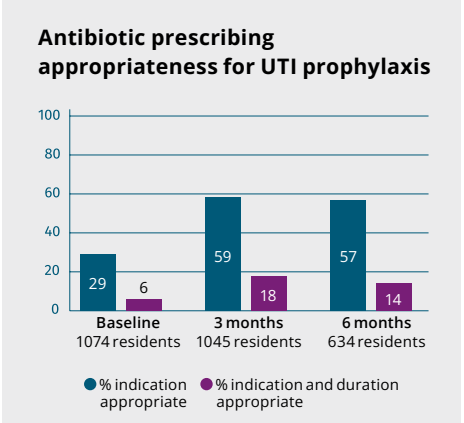


**TDONTD clinical pathway was not implemented in 2 services*

Antibiotic audits



Prescribing for these indications was considered inappropriate: Asymptomatic Bacteriuria (ASB), charted prn, urinary tract indication uncertain and no signs or symptoms at antibiotic commencement. Accepted prescribing durations for cystitis were up to 7 days, for pyelonephritis up to 14 days.



Prescribing for ASB or where indication was unknown or not documented was considered inappropriate. Prescribing durations over 180 days were considered inappropriate.

Implementation of a quality improvement activity to reduce low value urine dipstick testing in residential aged care by:

- case-based education to nurses and personal carers
- use of a clinical pathway to identify suspected UTI

Section 2: Implementing TDONTD

2.1 TDONTD resources

Table 1 is a list of TDONTD resources, and who in your RACH should be familiar with each resource. Key resources that have been shown to increase success when implemented are case-based education, the 16-minute training video, the clinical pathway and antibiotic audits. To maximise impact, all resources are delivered where possible. To support sustainability, resources such as education and training should be repeated (e.g. annually).

Table 1. To Dip or Not to Dip resources

The Resource	Who should be familiar with the resource	What it offers
To Dip or Not to Dip Implementation Guide	Implementers Leadership group	Information and advice on ways to optimise the success of TDONTD in your home.
Survey: Take the dipstick test	Implementers Leadership group Nurses	For implementers and leadership group to identify targets for change in urine dipstick testing in their home. For nurses to complete as a reflective tool on their own practice. A tool to measure change when undertaken at baseline and repeated post-implementation.
Case-based education	Implementers	Powerpoint tool to deliver 45 to 60-minute staff education sessions to nurses and PCAs. Case studies generate discussion; they provide education about ASB, signs and symptoms of UTI, clinical assessment of a resident with suspected UTI, and applying a clinical pathway to guide assessment and management (without performing urine dipstick as an initial test). Local case scenarios and data can be added by champions to enhance impact.
Case-based education facilitator guide	Implementers	Provides direction on delivery of the session, and tips on increasing participant engagement and maximising opportunities to challenge long-held beliefs about dipstick testing practice. Training on how to use the clinical pathway.
16-minute training video	Implementers Nurses PCAs Any other group involved in clinical care delivery	For staff viewing before or after TDONTD case-based education to reinforce key messages. Training on how to use the clinical pathway for new staff induction training.

The Resource	Who should be familiar with the resource	What it offers
Flyer	Implementers Nurses PCAs Any other group involved in clinical care delivery	An explanation of how antibiotic use and clinical care can be improved by not relying on dipstick testing to diagnose UTI.
Clinical pathway	Implementers Nurses PCAs GPs	Clear and easy to use UTI assessment tool. Encourages behaviour change by adopting the clinical pathway over dipstick testing. A communication tool to convey relevant assessment findings when speaking to the GP.
User guide to the clinical pathway	Implementers Leadership group Nurses	Information on dipstick testing, collecting urine for culture, antibiotic treatments and other treatments. Practical approaches to assessment and management of residents with cognitive impairment and/or chronic urinary incontinence.
Posters on hydration and TDONTD	Implementers	Promotes best practice around (not) using dipstick tests to diagnose UTIs and hydration (to prevent and treat UTIs).
TDONTD antibiotic audit tool	Implementers	A way to measure antibiotic use for UTI in residents over a specific surveillance period (e.g. period prevalence), spot audit (1-day point prevalence), or specific number of prescriptions. Data generates assessments of prescription appropriateness. Results reported to medication governance committee, or similar, and shared with staff, GPs and consumers.
TDONTD audit: How to perform, analyse and use the audit results	Implementers Those responsible for AMS governance	TDONTD audit data can be used to generate reports on: • Appropriateness of prescribing for UTI treatment (indication, duration) • Appropriateness of prescribing for UTI prophylaxis (indication, duration) • Compliance with process measures e.g. urine cultures sent, prescriptions outside guideline durations reviewed in a timely fashion Audit data can be used to compare results and changes over time.
Consumer brochure "Do you need antibiotics?" for residents, families and their representatives.	Implementers Nurses GPs	Translations in 10 languages. Supports shared-decision making conversations between nursing staff/ GPs and consumers around infections, antibiotics, including conditions when antibiotics may not be needed such as ASB.

2.2 TDONTD improves resident care

Implementers and those in leadership roles supporting TDONTD should be familiar with the purpose and potential uses of the resources (Table 1). Implementers are TDONTD champions who are committed to using antimicrobials in a safe way. They are prepared to engage with and persuade key influencers of clinical practice in the facility and to encourage behaviour change.

TDONTD key concepts and key points

The threat of AMR and its impact on residents

There are higher rates of AMR in Australian RACHs than in the community or hospitals:

- *Staphylococcus aureus* methicillin-resistance – aged care 26% hospitals 22
- *Escherichia coli* cefazolin-resistance – aged care 35% hospitals 20%

Potential impact on residents:

- Reduces the number of antimicrobials available to treat infection
- Increases treatment times and cost
- Increases risk of hospitalisation for conditions usually managed in the community
- Poorer clinical outcomes

Antimicrobial use in Australian RACHs

Antimicrobials are commonly prescribed, and antibiotic use in Australian RACHs has been steadily increasing.

At any point in time, 10% of aged care residents are on an antimicrobial; 70% of residents are prescribed at least one antimicrobial course a year (two times higher than in the community); and 20% of prescriptions are for prophylaxis (prevention).

There is also wide variation in antibiotic prescribing. For example, prescribing of antibiotics is not linked to prevalence of the types of health conditions that would be expected to predispose residents to infections (chronic airways disease, diabetes, chronic infectious conditions, and catheter care or wound care).

Overprescribing for UTIs in Australian RACHs

UTI is the most common condition for systemic antibiotic use. In Australian RACHs antibiotic prescribing for ASB (a condition that does not warrant antibiotics) is the fourth most common reason for antimicrobial prophylaxis and the ninth most common reason for antimicrobial treatment.

> *"Being a senior nurse on the floor, (since TDOND) we've started talking about all the infections in the doctors' rounds…as we were getting a lot of broad-spectrum antibiotics – not just for UTI. (After staring to do this) the doctors started to be a bit more selective… This has resulted in reduction in number of antibiotics (prescribed)"* (Nurse Champion)

To Dip or Not to Dip – A Quality Improvement intervention

Improves antibiotic prescribing for UTI by providing education about ASB and how urine dipstick testing contributes to overuse of antibiotics. TDONTD has been tested and proven to be effective.

TDONTD is an intervention built on behaviour change theory. It acknowledges that dipstick testing is a long-standing and widely accepted practice for diagnosing UTIs. It recognises that reducing reliance on dipstick testing requires education. Importantly, it also recognises that education is not enough. Bringing about behaviour change requires challenging existing beliefs. Providing a valid rationale for doing so will reassure health professionals and consumers that the change required is effective and safe.
When TDONTD was first introduced by the NHS as a pilot project in 2015 in 23 aged care homes it resulted in:

- Reducing by half the number of residents who were prescribed or taking at least one antibiotic in a six month period
- A 70% reduction in overall antibiotic use over the same period
- No preventable admissions for sepsis, including urosepsis

In an Australian project in 12 RACHs in 2021-2022, evaluation showed:

- it was feasible for implementation in Australian RACHs
- resources were recognised as coming from a credible source and of high quality
- changes to urine dipstick testing policy, practice and behaviour
- a reduction of approximately 50% in antibiotic prescribing for UTI in six months (3% versus 1.6%)
- a four-fold increase in antibiotic prescribing appropriateness for UTI treatment in six months (27% versus 100%)
- a two-fold increase in antibiotic prescribing appropriateness for UTI prophylaxis in six months (6% versus 14%)
- no preventable hospital admissions for sepsis, including urosepsis.

Urine dipstick testing

Overdiagnosis of UTI which is actually ASB

Routine dipstick testing in asymptomatic residents is unwarranted. ASB is more common as we get older and 50% of residents will have ASB, jumping to 100% if they have a long-term catheter.

Positive routine dipstick testing after completing antibiotics for UTI in resident who has recovered, only indicates they have ASB.

Over-reliance on dipstick testing to diagnose UTI

Results of multiple studies show that over reliance on dipstick testing is an ongoing issue in hospitals, primary care and in aged care settings.

Health professionals will adhere to the maxim "this is what we have always done". Without creating behaviour change and challenging that approach, it may be that dipstick testing will be carried out for reasons not supported by the current guidelines.

Unintended harms associated with dipstick testing

Common issues can lead to misdiagnosis of UTI. Such issues include “smelly urine” or “cloudy urine” - often managed as UTI but might be due to another reason e.g.dehydration; episodes of behavioural change or fall(s) - sometimes managed as UTI when the underlying real cause is missed e.g medications.

Unintended harms of misdiagnosis of UTI from dipstick testing include:

- Being labelled as having UTI or recurrent UTI
- Being prescribed antibiotics for UTI prophylaxis for recurrent episodes of ASB
- Exposure to unnecessary antibiotics
- Financial cost of prescription
- Side-effects from antibiotics
- *C. difficile* infection
- Risk of colonisation and subsequent infection with a multidrug-resistant organism (MRO)
- Additional contact precautions required for managing MRO, increasing resident social isolation
- Increased risks of MRO outbreaks
- Financial impact of outbreaks

Section 3: Using a Quality Improvement approach

3.1 Quality improvement implementation

AMS as an area for change can be identified by undertaking an AMS program gap analysis (use the Commission's AMS Self-Assessment Tool).

Quality Improvement (QI) in healthcare involves regularly reviewing and refining processes to improve patient or resident care and health outcomes.

Prescribing for UTI as an area for change can be identified from antibiotic or UTI audit or surveillance data.

We present practical tips for planning (Table 2) and implementing (Table 3) TDONTD as a quality improvement intervention to address issues with antibiotic use for UTIs.

3.2 Local adaptation of TDONTD resources

The Commission is supportive of providers using and adapting TDONTD. It is the Commission's position that even minor changes to content or format of the clinical pathway may inadvertently create unintended errors in interpretation. For this reason, we do not endorse any changes to the clinical pathways, and ask that you not use our endorsement in any adapted pathway.

Figure 1. Model for Improvement: Plan-Do-Study-Act (PDCA) Cycles

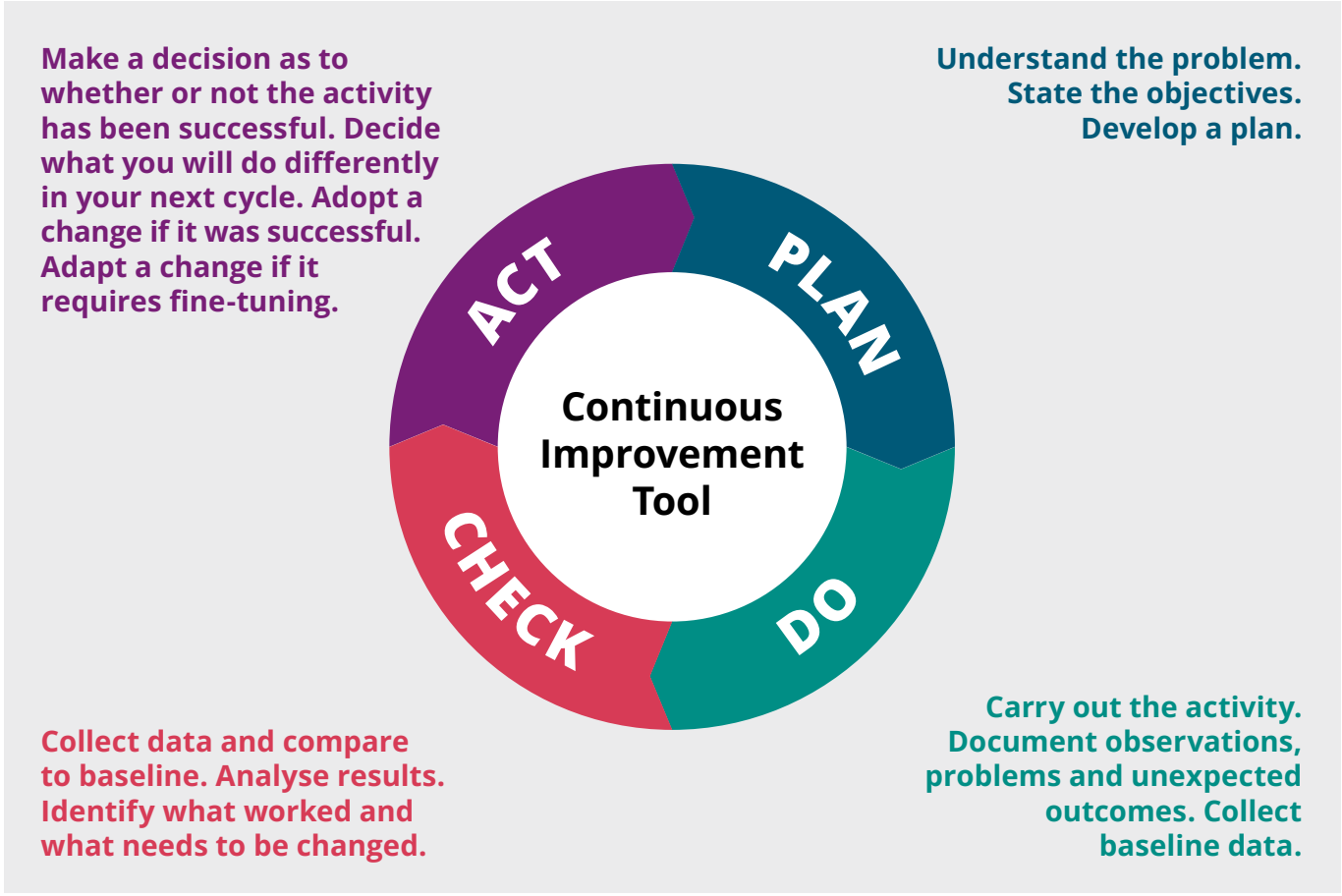


Table 2. Practical tips when planning TDONTD

Implementation Tip	Reason
Use a team approach when planning and delivering TDONTD	Don't give one person the responsibility to do it all, make spreading change a team effort. Don't rely on vigilance and hard work for success. Establish the project team and lead(s). A multidisciplinary team works well to understand the issue and deliver change.
Plan the approach by understanding the problem	Ask the question: When do we do dipstick testing? Can we change when and why we do it? This allows an understanding of the local drivers of poor urine dipstick testing practice, and how these can be addressed. Table 4 is a case study example of a driver diagram in a home. Undertake a review of the home's policies, processes and procedures (including unwritten but widely practiced procedures), and also by completing the Survey: Take the dipstick test. Interview key stakeholders on who might be most affected by the project and discuss concerns they may have.
A project team should have unity on common goals	Goals are a way of ensuring the team agrees on the definition of success.
Define the project objective	Create an effective goal by ensuring that it is SMART (specific, measurable, achievable, realistic, time-specific). The objective of TDONTD is to improve assessment of residents with suspected UTI. This is by reducing urine dipstick testing to diagnose UTI.
Encourage and value creativity and ideas from team members	Seeking and understanding different opinions is a good way to determine what and who are the likely enablers or barriers to project success.
Identify who is likely to be most affected by the project	The project team should seek to • Understand concerns that need to be addressed before starting the project, or different parts of the project • Identify actions that can be taken to reduce these concerns • Identify stakeholders (those most likely impacted by the project e.g. nurses, PCAs, lifestyle officers, or those who would want to know about the project e.g. GPs, consumers and families) and determine how should they be involved in the project
Using the PDCA (Plan- Do-Check-Act) approach (Figure 1)	The PDCA cycle guides testing a change — by planning it, trying it, observing the results, and acting on what is learned. This is a widely used scientific method for action-oriented learning, and is recommended by the Institute for Healthcare Improvement (Figure 1). To start, plan the test or observation, including a plan for collecting data, noting that this may be the first of further tests in the project. State the objective of the test. Make predictions about what will happen and why. Develop a plan to test the change (Who? What? When? Where? What data need to be collected?)

Table 3. Practical tips when implementing TDONTD

Implementation Tip	Reason
Use the PDCA model to study how the project is going, and what can be done to improve the delivery and uptake of the intervention (Figure 1)	Document your results and next steps. A template is provided in Appendix 1. Change often requires modification and fine- tuning before it is successful. Celebrate wins, big and small. Make each change simple, focussed and easy to follow.
Baseline and follow-up measurement	To show whether the project has been successful, change needs to be measured. The way to measure change relates to the goal/s established in the planning phase. Some ways to measure change may be to: • Measure clinical impact on staff through surveys • Measure knowledge and beliefs around dipstick practice by asking staff to complete the Dipstick practice survey at baseline and follow-up • Measure change to antibiotic prescribing for UTI by using the home's UTI and antibiotic surveillance and antibiotic data at baseline and follow-up • Measure change to antibiotic appropriateness for UTI and process compliance (e.g. sending and following up urine culture) by using TDONTD audit at baseline and follow-up
PDCA cycles	The Institute for Health Improvement has resources packed with tips to support teams undertaking quality improvement projects in healthcare. Start with small local tests and plan for several cycles. For example a test could be offering education to all nursing staff and then seeing what effect this has on urine disptick testing behaviour. You may find this only partially efective, so the next test may be to also include PCAs in education. Look at your findings frequently so you can decide what is working well and what could be changed. Don't expect huge improvements quickly. If something hasn't worked, spend the time to consider why it didn't work and whether it could be adapted.
Introduce small changes in a stepwise fashion as this reduces risk to the project.	There is less resistance to change. This allows you to test changes. Small incremental changes are more attainable.
Share your results with stakeholders	Share outcomes honestly and document the results so others can learn from them for future projects.
Plan for sustainability	Don't rely on vigilance and hard work alone. Plan for regular staff refreshers about the project to maintain the changes.

Table 4: Drivers of urine dipstick practice in a home

Project objective	Primary drivers	Secondary drivers	Change idea
Improve UTI management by reducing reliance on urine dipstick testing to diagnose UTI	Consumer factors	Cognition (e.g. dementia)	Behavioural assessments
		Family expectations for antibiotics	Shared decision making with GP, nurse, resident and family discussion
		Family expectations for dipstick test to be performed	Commission consumer resources on ASB
		Lack of consumer information on why urine dipstick tests should not be performed	TDONTD consumer borchure "Do I need antibiotics?", TDONTD flyer, TDONTD posters
		Lack of consumer information on ASB	Commission consumer resource “Do you need antibiotics?”
	Staff factors	Staff do not recognise that dipstick testing is a low-value test	TDONTD education and training tools
		Staff lack confidence on how to assess for suspected UTI without urine dipstick testing	TDONTD education and training tools TDONTD Clinical Pathway to assess for suspected UTI
		GPs request urine dipstick testing	GPs have resources on To Dip or Not to Dip including TDONTD User Guide to Clinical Pathway
		GPs pre-emptively prescribe antibiotics and do not request urine culture as they are concerned about delays to antibiotic administration	GPs and nursing staff have agreed processes for timely and appropriate care for ordering collection of urine cultures and antibiotic administration
		Staff turnover	TDONTD training on induction for nurses and PCAs. Use of a 16-minute training video
	Home factors	Resident admission protocols require urine dipstick to be performed.	Review process and forms. Where required and if appropriate, discuss with head office to request review and change
		Policy states urine dipstick performed for residents after completing antibiotic treatment.	Review your home's policy. Where required and if appropriate, discuss with head office to request policy review and change

Section 4: TDONTD antibiotic audit tool

4.1 What the tool does

The TDONTD audit tool supports reporting of antibiotic use to governance committees and the sharing of results with clinicians and consumers. Audit data helps identify residents needing prescription reviews, audits the reliability and quality of clinical documentation, appropriateness of prescribing and frequency of urine cultures.

The tool generates reports on UTI antibiotic prescribing appropriateness in RACHs.

For more information refer to the resource "TDONTD audit: How to perform, analyse and use the audit results".

4.2. The audit tool

The tool is available in 2 formats

- Word/paper based: for auditing when data cannot be directly entered into a computer (complete 1 per resident)
- Excel: for auditing when data can be directly entered into a computer; includes data collation and analysis functionalities. (complete 1 per audit period).

The TDONTD audit tool has been designed so:

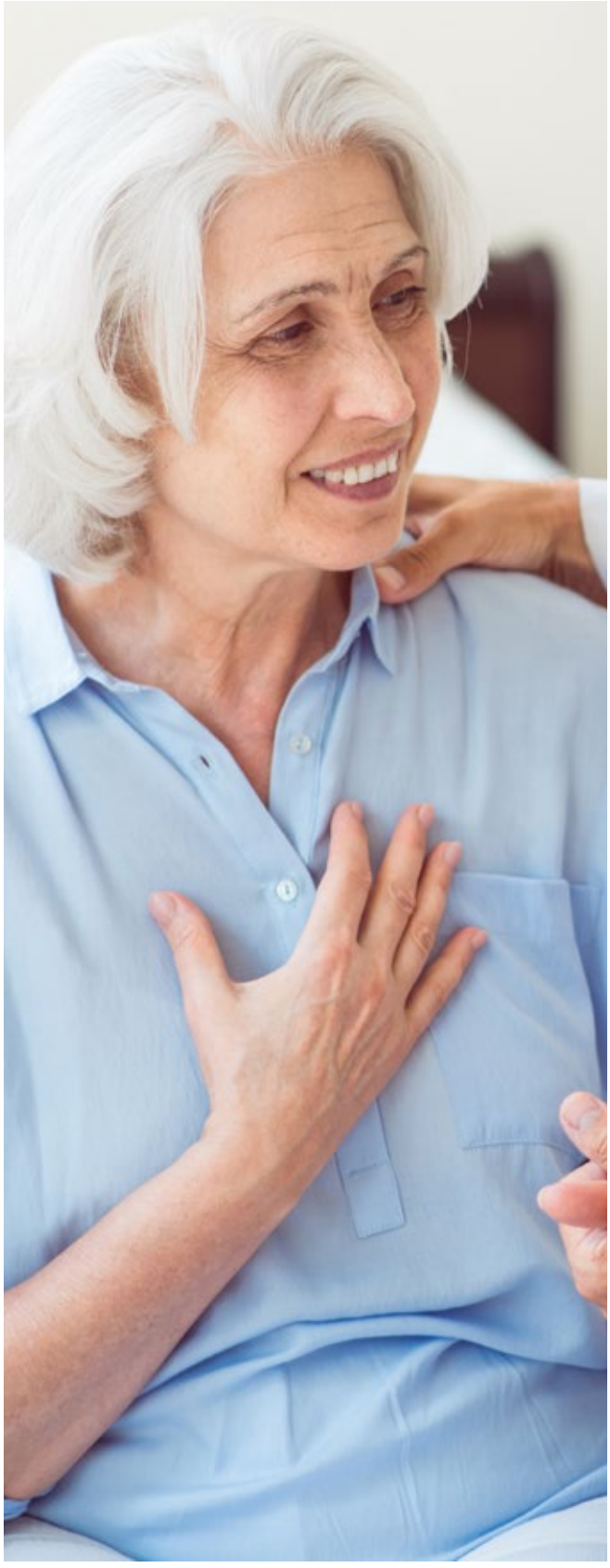
- the data is collected by nurses and/or pharmacists
- anyone with access to medication prescribing and administration records, clinical notes and pathology reports are required to complete the audit
- instructions are readily accessible at the back of the paper-based tool
- data can be collected onto an Excel spreadsheet for analysis or on a paper-based tool first then information transferred to Excel
- some medication software vendors have built a reporting system where some of the data fields (e.g. indication, start date, stop/review date) are required which can make completing the audit more efficient
- A user with basic Excel skills can use the tool to create reports

4.3. Data reporting

Data captured in the TDONTD audit tool can be transformed to generate useful reports. More detail is provided in "TDONTD audit: How to perform, analyse and use the audit results"

Section 5: Summary

AMR is a global health threat driven by antibiotic overuse and misuse. Rates are higher in Australian residential aged care homes than community or hospital settings. Use of the urine dipstick test can identify ASB which is often inappropriately treated with antibiotics.



To Dip or Not to Dip is a quality improvement intervention for Australian aged care homes to educate aged care staff on ASB and the impact of dipstick testing on antibiotic overuse. It supports AMS in a home and contributes to continuous improvement.
It has effectively brought about improvements in antibiotic prescribing. In a recent evaluation, it was shown to be feasible to implement in Australian facilities, and its resources described as credible, useful and fit-for-purpose.

Implementing To Dip or Not to Dip with a quality improvement approach increases its success. Key components include case-based education, the training video, the clinical pathway and audits, with other resources used as needed. To ensure sustainability, education and training should be repeated, and policies, processes and protocols reviewed to reflect changing practice. The antibiotic audit tool supports audit and sharing of information to drive improvement. The tool has step-by-step instructions on how to generate reports for information sharing and tabling at committees.

Appendix 1. To Dip or Not to Dip Implementation Plan

Goal: What are we trying to accomplish?				
Measures: How will we track achievement of our goal?				
Ideas: What can we 'test' to achieve this goal? **(Tests can be activities put in place to change behaviour – education, removing dipstick tests from clinical areas and sharing results of audits are all examples of 'tests')**	**Plan** How and who? 	**Do** Did we do it? 	**Check** What happened? 	**Act** What is our next step? 
PDCA cycle 1.				
PDCA cycle 2.				
PDCA cycle 3.				

Section 6: References

References used in Section 1

Aged Care Quality and Safety Commission. Top Dip or Not to Dip project. https://www.agedcarequality.gov.au/resources/dip-or-not-dip-project

Aged Care Quality and Safety Commission. AMS clinician resources. https://www.agedcarequality.gov.au/antimicrobial-stewardship/clinician-resources. Accessed 1 June 2023.

References used in Section 2

Aged Care Quality and Safety Commission. AMS clinician resources. https://www.agedcarequality.gov.au/antimicrobial-stewardship/clinician-resources. Accessed 1 June 2023.

World Health Organization. Antimicrobial Resistance. https:/www.who.int/news-room/fact-sheets/detail/antimicrobial-resistance#. Accessed 1 June 2023.

Australian Commission on Safety and Quality in Health Care. AURA 2021: Fourth Australian report in antimicrobial use and resistance in human health. https://www.safetyandquality.gov.au/our-work/antimicrobial-resistance/antimicrobial-use-and-resistance-australia-surveillance-system/aura-2021. 1 June 2023.

Sluggett J, Moldovan M, Lang C, et al. Contribution of facility level factors to variation in antibiotic use in long-term care facilities: A national cohort study. J Antimicrob Chemother 2021;76(5):1339–48.

Australian Commission on Safety and Quality in Health Care. Antimicrobial prescribing and infections in Australian residential aged care facilities: Results of the 2019 aged care national antimicrobial prescribing survey report. . https://www.safetyandquality.gov.au/publications-and-resources/resource-library/2019-aged-care-national-antimicrobial-prescribing-survey-report-ac-naps Accessed 1 June 2023.

Government UK. UK 5-year action plan for antimicrobial resistance 2019 to 2024. https://www.gov.uk/government/publications/uk-5-year-action-plan-for-antimicrobial-resistance-2019-to-2024. Accessed 15 February 2023.

PrescQIPP. Antimicrobial Stewardship. https://www.prescqipp.info/our-resources/webkits/antimicrobial-stewardship/. Accessed 15 February 2023.

Aged Care Quality and Safety Commission. Top Dip or Not to Dip project. https://www.agedcarequality.gov.au/resources/dip-or-not-dip-project

Lim LL, Bennett N. Improving management of urinary tract infections in residential aged care facilities. Aust J Gen Pract. 2022 Aug;51(8):551-557. doi: 10.31128/AJGP-05-22-6413. PMID: 35908747. https://www1.racgp.org.au/ajgp/2022/august/utis-in-residential-aged-care-facilities

Lim LL, Goyal N. Hospital clinical practice around urinalysis is an important opportunity for antimicrobial stewardship improvement activities. Infect Dis Health. 2021 Nov;26(4):243-248. doi: 10.1016/j.idh.2021.05.001. Epub 2021 Jun 7. PMID: 34112628. https://www.idhjournal.com.au/article/S2468-0451(21)00026-2/fulltext

Kousgaard M, Olesen J, Arnold S. Implementing an intervention to reduce use of antibiotics for suspected urinary tract infection in nursing homes - a qualitative study of barriers and enablers based on Normalization Process Theory. BMC Geriatr. 2022 Mar 31;22(1):265.

Morgan DJ, Pineles L, Owczarzak J, Magder L, Scherer L, Brown JP, Pfeiffer C, Terndrup C, Leykum L, Feldstein D, Foy A, Stevens D, Koch C, Masnick M, Weisenberg S, Korenstein D. Accuracy of Practitioner Estimates of Probability of Diagnosis Before and After Testing. JAMA Intern Med. 2021 Jun 1;181(6):747-755. https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2778364

References used in Section 3

Jones B, Vaux E, Olsson-Brown A. How to get started in quality improvement. BMJ. 2019 Jan 17;364:k5408.

BMJ Quality Improvement series https://www.bmj.com/quality-improvement

Institute for Healthcare Improvement tools (free to sign-up) https://www.ihi.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx

Institute for Healthcare Improvement. "Seven spreadly sins". https://www.ihi.org/resources/Pages/Tools/IHISevenSpreadlySins.aspx

References used in Section 4

Expert Group for Antibiotics. Urinary tract infection. In: Therapeutic Guidelines. Melbourne, Vic: Therapeutic Guidelines Limited, 2019.

The Aged Care Quality and Safety Commission acknowledges the traditional owners of country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to elders both past and present.

Version 1.0 April 2024.

Phone
1800 951 822

Web
agedcarequality.gov.au

Write
Aged Care Quality and Safety Commission
GPO Box 9819, in your capital city