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Improving UTI management in residential aged care facilities

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Disclosure of interest: Consultant Aged Care Quality and Safety Commission

Aged Care Quality and Safety Commission & Antimicrobial Stewardship

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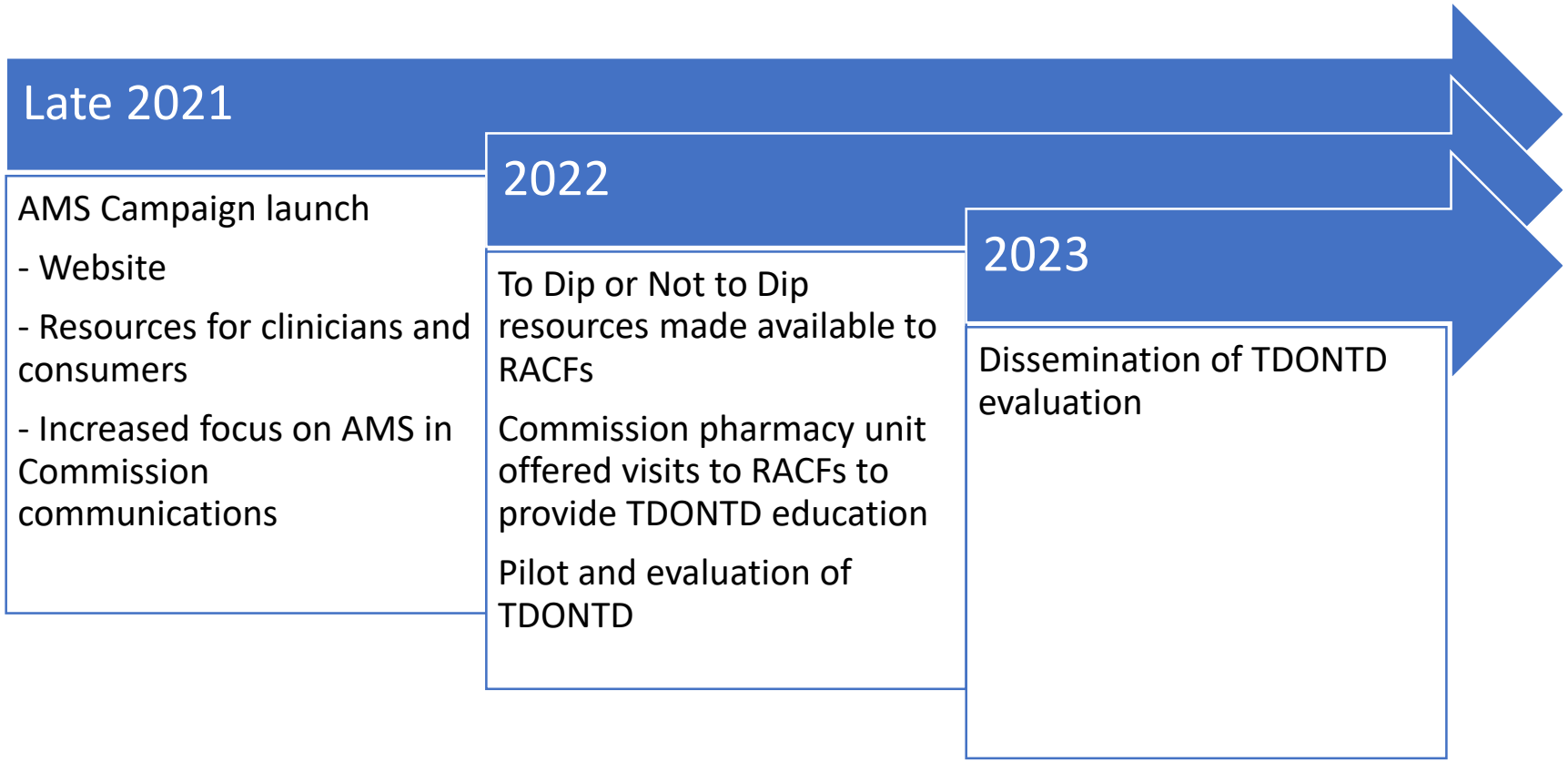

AMS in aged care – Call to action

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"Antimicrobial resistance poses a catastrophic threat. If we don't act now, any one of us could…die because of an ordinary infection that can't be treated by antibiotics."

Professor Dame Sally Davies, England's Chief Medical Officer, March 2013

MRSA is "highest in aged care homes…suggesting that these are important reservoirs…"

AURA 2021: Fourth report on Antimicrobial Use and Resistance in Human Health, ACSQHC

Number of people using aged care services by ACPR, 30 June 2022

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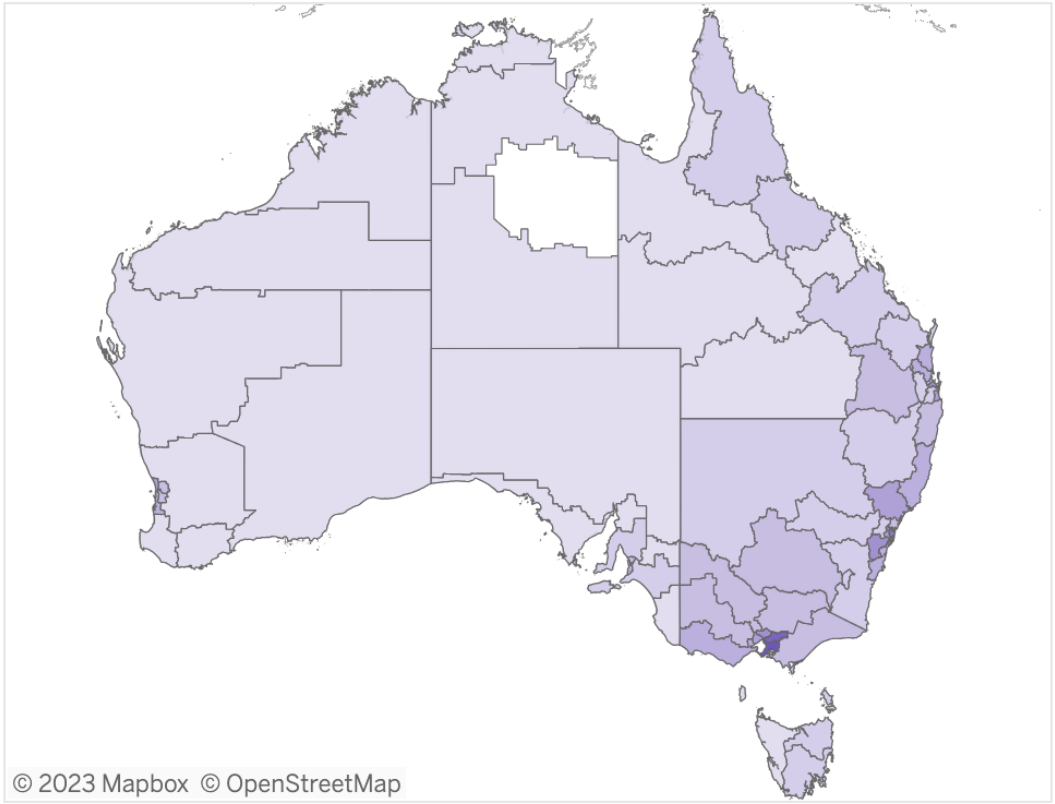


Number of people

45 — 11,258

Care type

- (•) Permanent residential care
- ( ) Respite residential care
- ( ) Home care
- ( ) Home support
- ( ) Transition care

State	Number of people
NSW	58,204
Vic	46,644
Qld	36,550
WA	16,587
SA	15,568
Tas	4,458
ACT	2,273
NT	466
Aust	**180,750**

AIHW. Gen-aged care data. https://www.gen-agedcaredata.gov.au/Topics/People-using-aged-care

National trends in Antibiotic Use in Australian Aged Care Facilities 2005-2016. Sluggett et al CID 2021:72; 2167-2175.

Study included 502,000 residents, 3,218 RACS, 424 million resident/days

Table 3. Crude and Adjusted Rates of Antibiotic Use, Stratified by Antibiotic Class

Antibiotic Use	All Residents (2005–2006 to 2015–2016)	2005–2006	2010–2011	2015–2016
Prevalence of overall antibiotic use				
Crude rate	86.1 (85.9–86.4)	63.8 (63.3–64.4)	67.9 (66.2–68.3)	70.3 (69.9–70.7)
Direct standardized rate	86.6 (86.3–86.8)	64.2 (63.6–64.7)	69.6 (69.2–70.1)	70.1 (69.7–70.5)
Prevalence of antibiotic use in women				
Crude rate	87.2 (86.9–87.5)	64.1 (63.5–64.8)	68.7 (68.1–69.2)	71.1 (70.7–71.6)
Direct standardized rate	87.5 (87.2–87.9)	64.5 (63.8–65.1)	68.6 (68.1–69.1)	70.8 (70.4–71.3)
Prevalence of antibiotic use in men				
Crude rate	84.1 (83.7–84.5)	63.2 (62.2–64.1)	66.1 (65.3–66.8)	68.6 (67.9–69.3)
Direct standardized rate	84.4 (84.0–84.8)	63.5 (62.5–64.4)	66.0 (65.3–66.8)	68.3 (67.6–69.0)
No. of antibiotic prescriptions dispensed per resident, median (IQR)	7 (3–16)	3 (2–6)	3 (2–7)	3 (2–7)

Aged Care NAPS 2020

Prescribing for UTI or UTI-related conditions

Figure 8: Most common indications for antimicrobial prescriptions, Aged Care NAPS contributors, 2017–2020

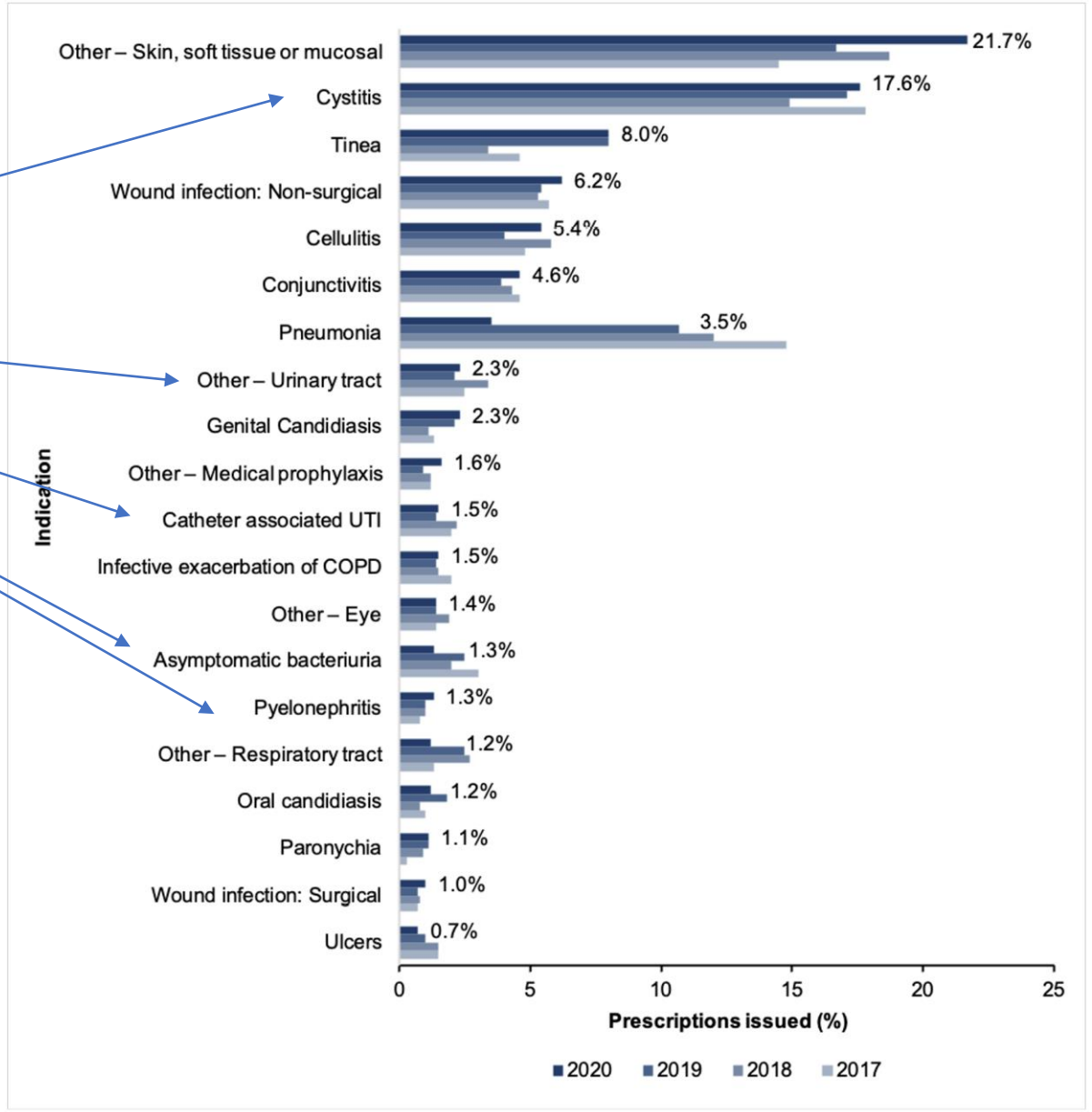
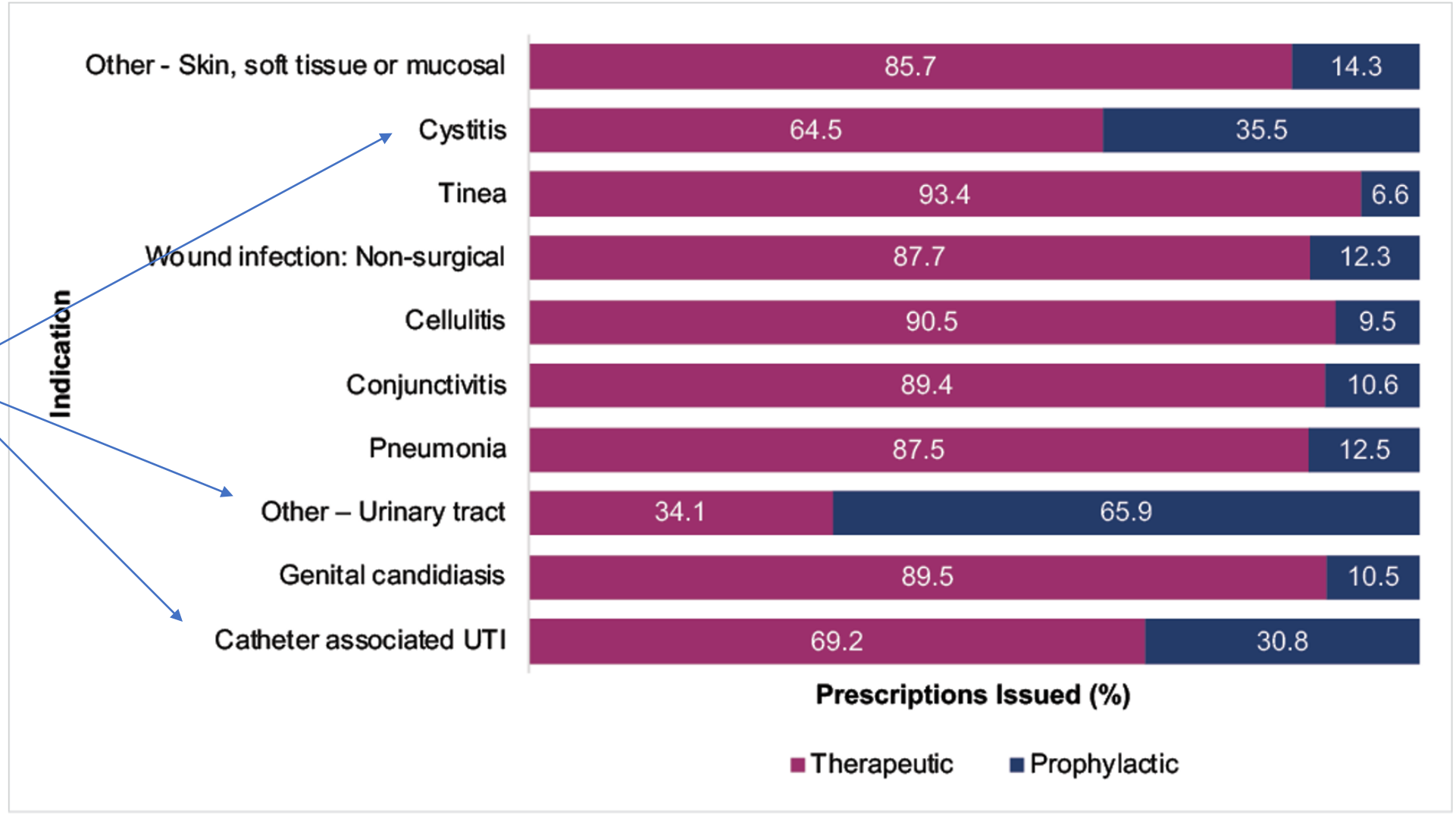


Figure 10: Comparison of therapeutic and prophylactic antimicrobial prescriptions for common indications, Aged Care NAPS contributors, 2020

High proportion of prophylaxis prescriptions



Source: Antimicrobial and infection form Section 2, Method 1 and 2 data

Results on England pilot, 2015

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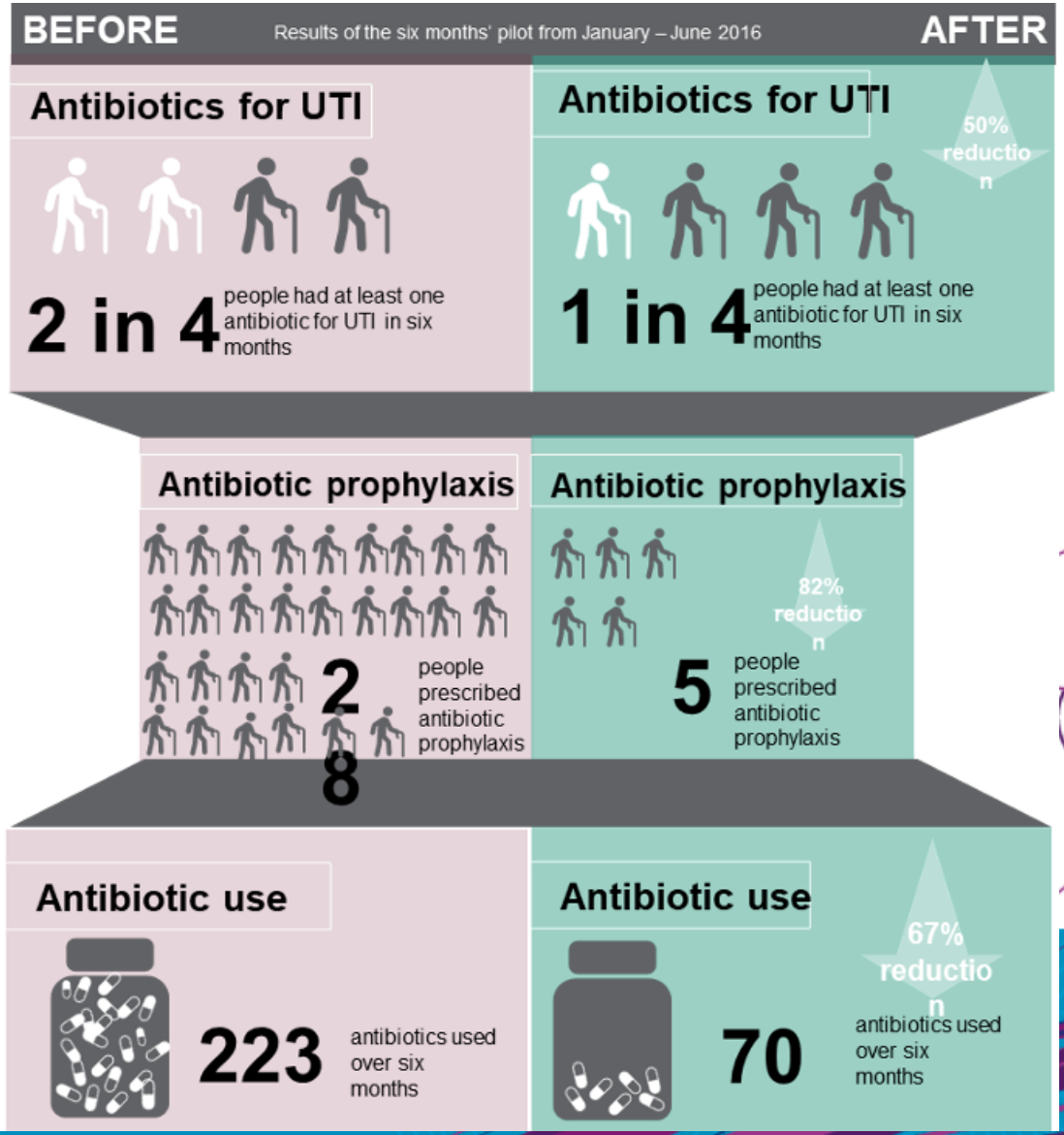
To Dip or Not to Dip

- A quality improvement activity for residential aged care

- Successful in England in reducing antibiotic prescribing



ACQSC's To Dip or Not to Dip

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- **Urine dipstick testing**
  - Is a low-value test
  - Commonly incorrectly used to confirm a diagnosis of UTI
  - Practice contributes to antibiotic misuse and overuse in aged care settings

- **To Dip or Not to Dip (TDONTD)**
  - England's resources were adapted for an Australian setting
  - Adapted resources launched by the Commission in October 2021
  - Resources available on Commission AMS webpages
  - ACQSC undertook an evaluation of TDONTD

https://www.agedcarequality.gov.au/antimicrobial-stewardship/clinician-resources

To Dip or Not to Dip Project

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Aim

To evaluate the acceptability and feasibility of TDONTD in an Australian setting, using pharmacists to deliver training.

Evaluation

- Pre and post
  - Interviews with nurse lead (champions) and pharmacist
  - Surveys of urine dipstick testing practice
  - Antibiotic prescribing audits

Pilot sites

The pilot was launched at 12 residential aged care services across Queensland and Victoria.

Queensland

October 2021 to July 2022

Services 40-183 beds (median 76 beds)

Victoria

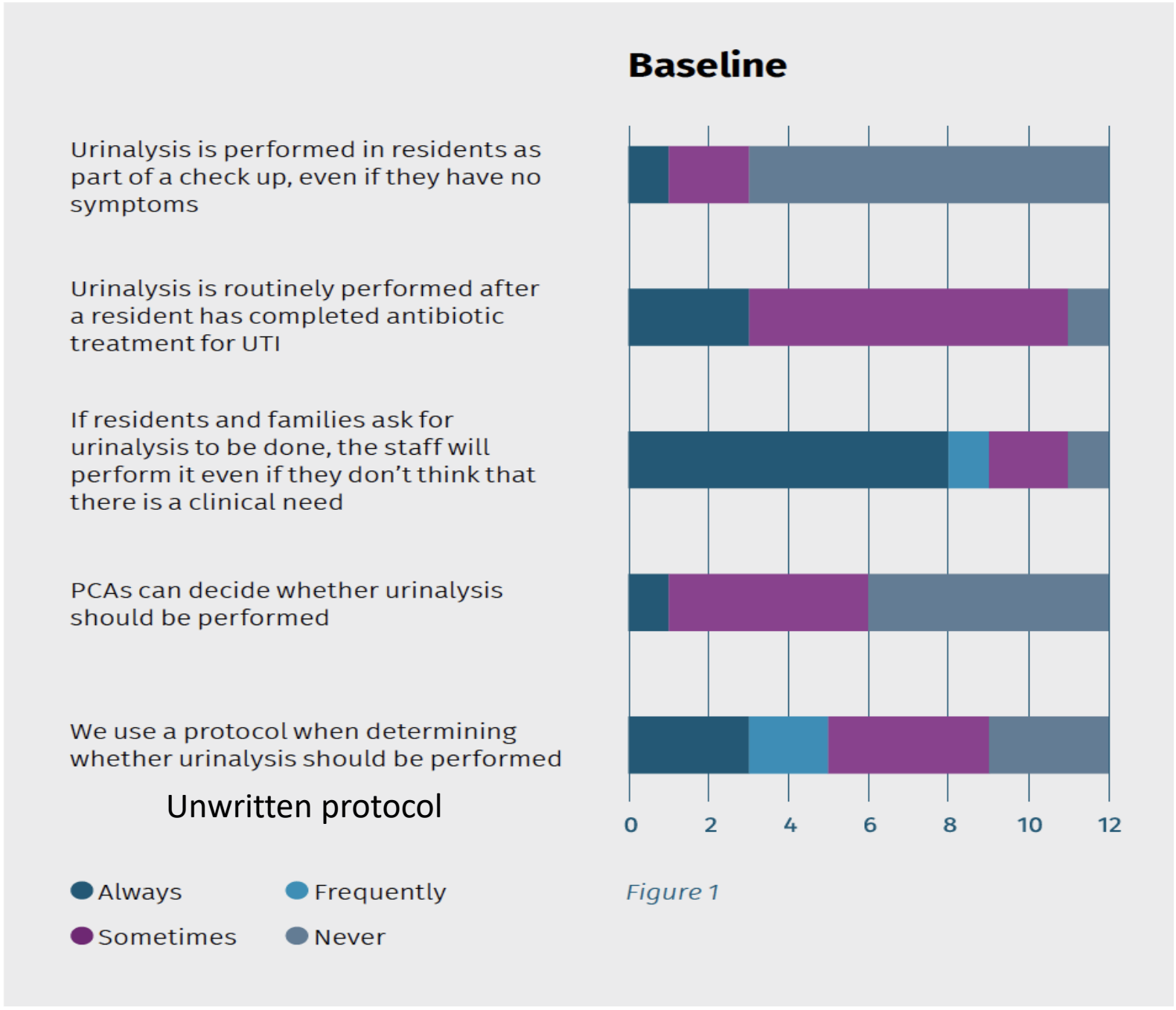

Figure 1

TDONTD Project Surveys of urine dipstick practice

TDONTD Project Interviews “Why we dip?”

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It’s very hard to get the RNs to not do the dipstick. It’s not written policy or process, but we just do it. (Nurse 1)

Often, it’s a case of nurses not wanting to miss something as they want to be thorough. There is this attitude of better to be safe than sorry. They don’t want to get things wrong. (Nurse 7)

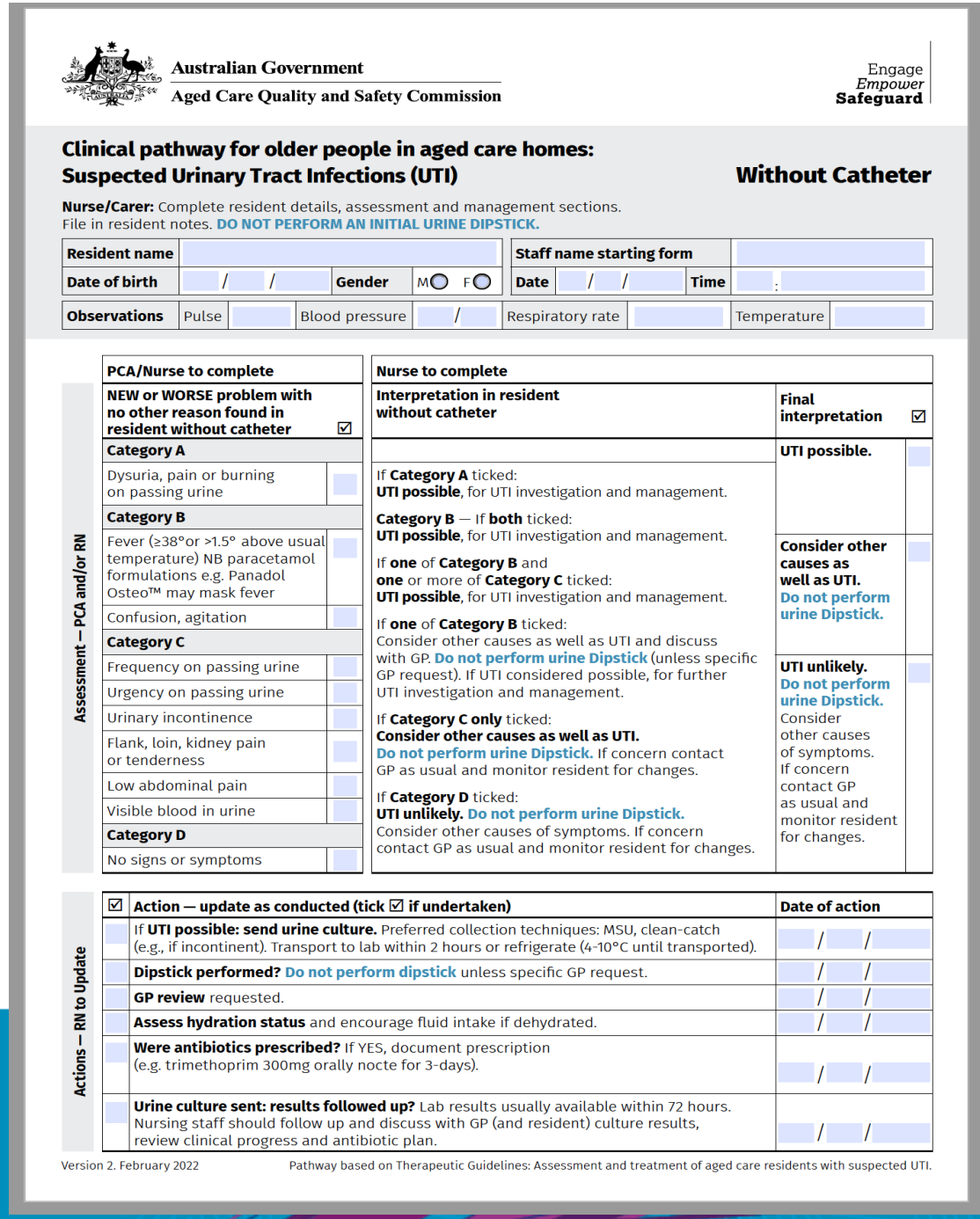
“Sometimes the family demands dipsticks and it’s easier just to do it to prevent escalation.” (Nurse 12)

“There was a resident with frequent falls… We did a dipstick which was positive, then MSU, so we diagnosed UTI.” (Nurse 1)

Delivery of TDONTD in the pilot

- **Facility nurse champions**
- **Supported by the pharmacist**
- **Given the resources, and explanation on the use of resources**

- **Key TDONTD components delivered**
  - Case-based education session by pharmacist
  - Use of the clinical pathway in everyday work
  - TDONTD audit pre and post
  - TDONTD staff training video (could be incorporated into case-based education session)



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Clinical pathway for older people in aged care homes:
Suspected Urinary Tract Infections (UTI) **Without Catheter**

Nurse/Carer: Complete resident details, assessment and management sections.
File in resident notes. **DO NOT PERFORM AN INITIAL URINE DIPSTICK.**

Resident name		**Staff name starting form**	
Date of birth / /	**Gender** M F	**Date** / /	**Time** :
Observations	Pulse	Blood pressure /	Respiratory rate	Temperature

Assessment — PCA and/or RN

PCA/Nurse to complete	
NEW or WORSE problem with no other reason found in resident without catheter ☑	
Category A	
Dysuria, pain or burning on passing urine	
Category B	
Fever (≥38°or >1.5° above usual temperature) NB paracetamol formulations e.g. Panadol Osteo™ may mask fever	
Confusion, agitation	
Category C	
Frequency on passing urine	
Urgency on passing urine	
Urinary incontinence	
Flank, loin, kidney pain or tenderness	
Low abdominal pain	
Visible blood in urine	
Category D	
No signs or symptoms	

Nurse to complete		
Interpretation in resident without catheter	**Final interpretation** ☑	
If **Category A** ticked: **UTI possible**, for UTI investigation and management. **Category B** — If **both** ticked: **UTI possible**, for UTI investigation and management. If **one** of **Category B** and **one** or more of **Category C** ticked: **UTI possible**, for UTI investigation and management. If **one** of **Category B** ticked: Consider other causes as well as UTI and discuss with GP. **Do not perform urine Dipstick** (unless specific GP request). If UTI considered possible, for further UTI investigation and management. If **Category C only** ticked: **Consider other causes as well as UTI.** **Do not perform urine Dipstick.** If concern contact GP as usual and monitor resident for changes. If **Category D** ticked: **UTI unlikely. Do not perform urine Dipstick.** Consider other causes of symptoms. If concern contact GP as usual and monitor resident for changes.	**UTI possible.**	
	Consider other causes as well as UTI. **Do not perform urine Dipstick.**	
	UTI unlikely. **Do not perform urine Dipstick.** Consider other causes of symptoms. If concern contact GP as usual and monitor resident for changes.	

Actions — RN to Update

☑	**Action — update as conducted (tick ☑ if undertaken)**	**Date of action**
	If **UTI possible: send urine culture.** Preferred collection techniques: MSU, clean-catch (e.g., if incontinent). Transport to lab within 2 hours or refrigerate (4-10°C until transported).	/ /
	Dipstick performed? **Do not perform dipstick** unless specific GP request.	/ /
	GP review requested.	/ /
	Assess hydration status and encourage fluid intake if dehydrated.	/ /
	Were antibiotics prescribed? If YES, document prescription (e.g. trimethoprim 300mg orally nocte for 3-days).	/ /
	Urine culture sent: results followed up? Lab results usually available within 72 hours. Nursing staff should follow up and discuss with GP (and resident) culture results, review clinical progress and antibiotic plan.	/ /

Version 2. February 2022 Pathway based on Therapeutic Guidelines: Assessment and treatment of aged care residents with suspected UTI.

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TDONTD Project Interviews “How TDONTD brought about change”

It has been my baby…labour intensive…There has been some resistance to change... You need to spend time explaining the benefits to them (to staff). (Nurse 12)

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 them knowledge to tell us what to look for. We look for signs and symptoms of UTI…This (also) makes you look for other causes for the underlying symptom. (Nurse 5)

If someone is "off" in the past it was always a UTI, but we now realise that this may not have always been correct…It has changed practice, our way of thinking and decision-making. (Nurse 6)

(TDONTD) made the principles easy to grasp...The fact that it was produced by government and based on research, evidence, has a very professional finish... (Pharmacist 3)

TDONTD Project Surveys of urine dipstick practice

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Reduced dipstick testing

Written protocol

Urinalysis is performed in residents as part of a check up, even if they have no symptoms

Urinalysis is routinely performed after a resident has completed antibiotic treatment for UTI

If residents and families ask for urinalysis to be done, the staff will perform it even if they don't think that there is a clinical need

PCAs can decide whether urinalysis should be performed

We use a protocol when determining whether urinalysis should be performed

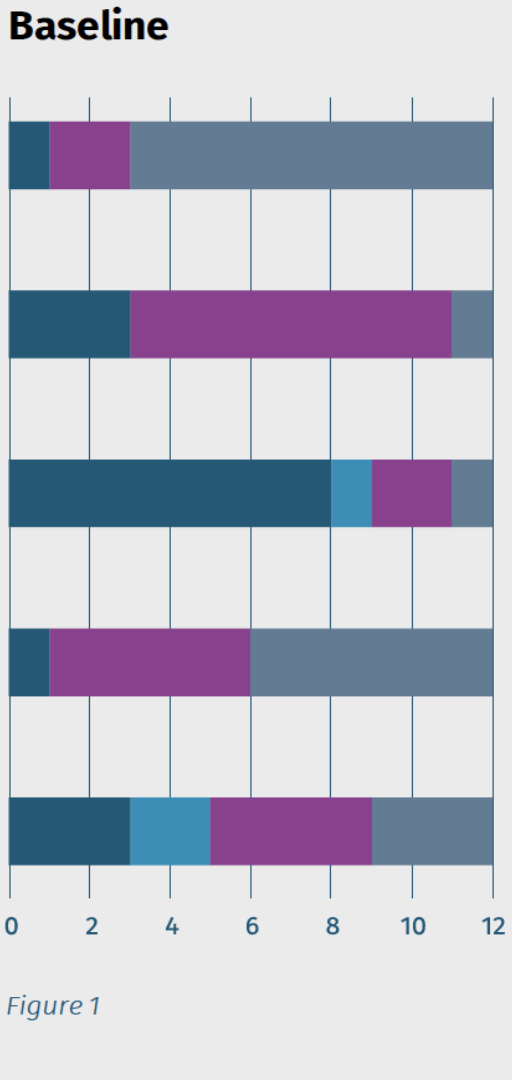

Figure 1

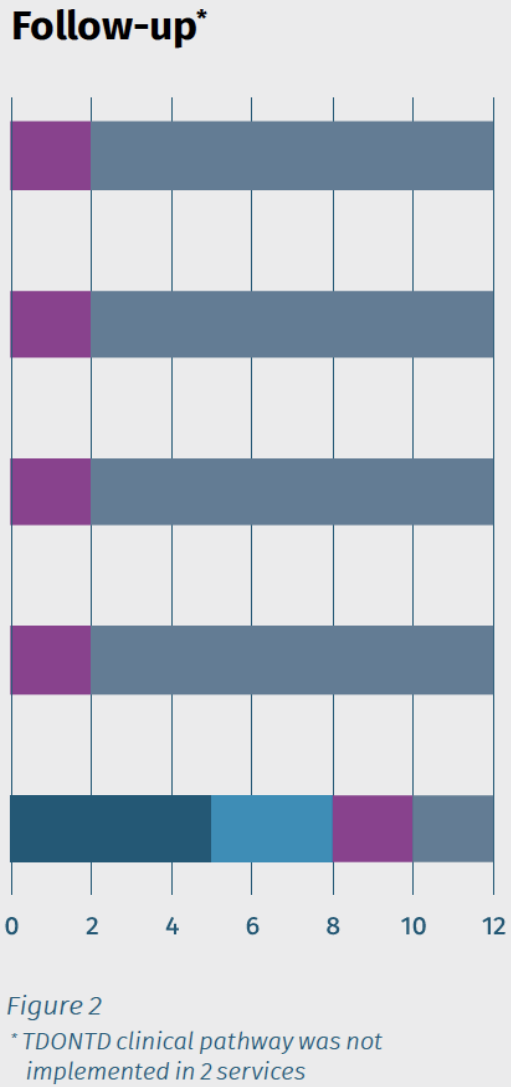

Figure 2

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

Always
Frequently
Sometimes
Never

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TDONTD Project Antibiotic Prescribing for UTI treatment

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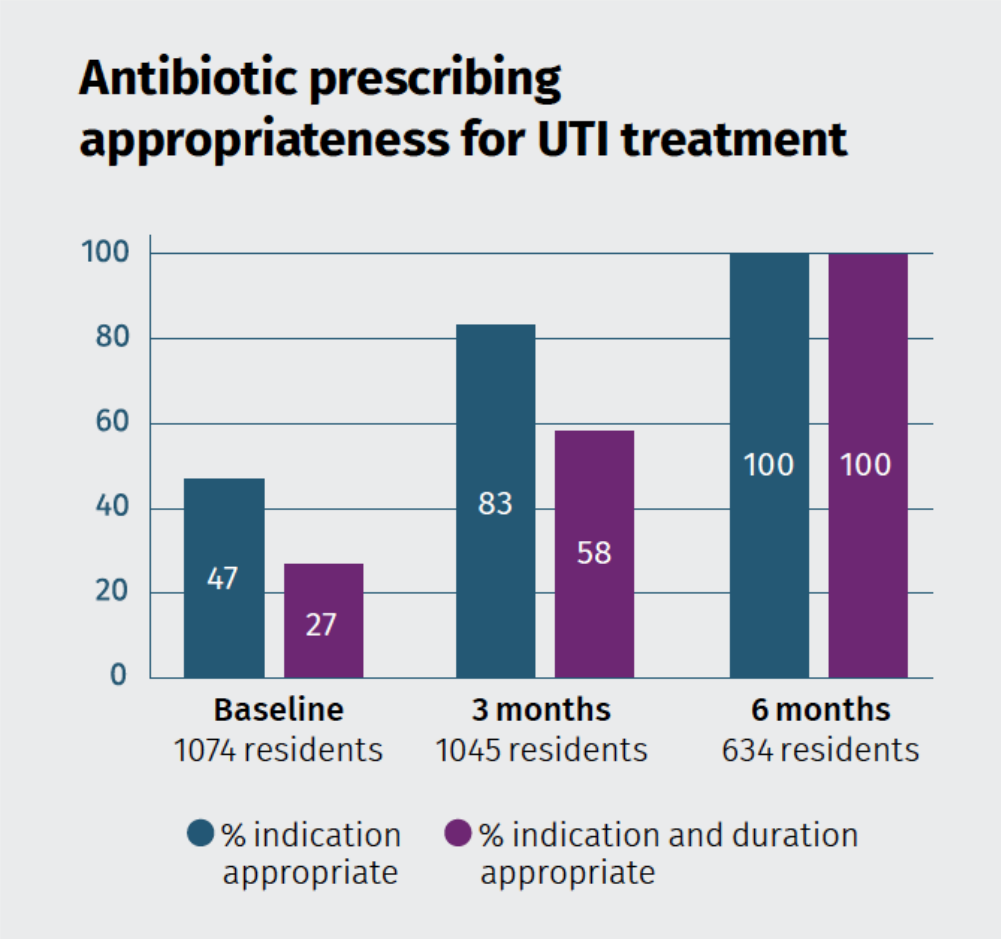

- Indications (reasons for prescription) marked as inappropriate:
  - *ASB*
  - *Charted prn*
  - *Urinary tract condition uncertain*
  - *No signs or symptoms at antibiotic start*
- Durations were marked as inappropriate:
  - *Cystitis >7 days,*
  - *Pyelonephritis >14 days*

TDONTD Project Antibiotic Prescribing for UTI prophylaxis

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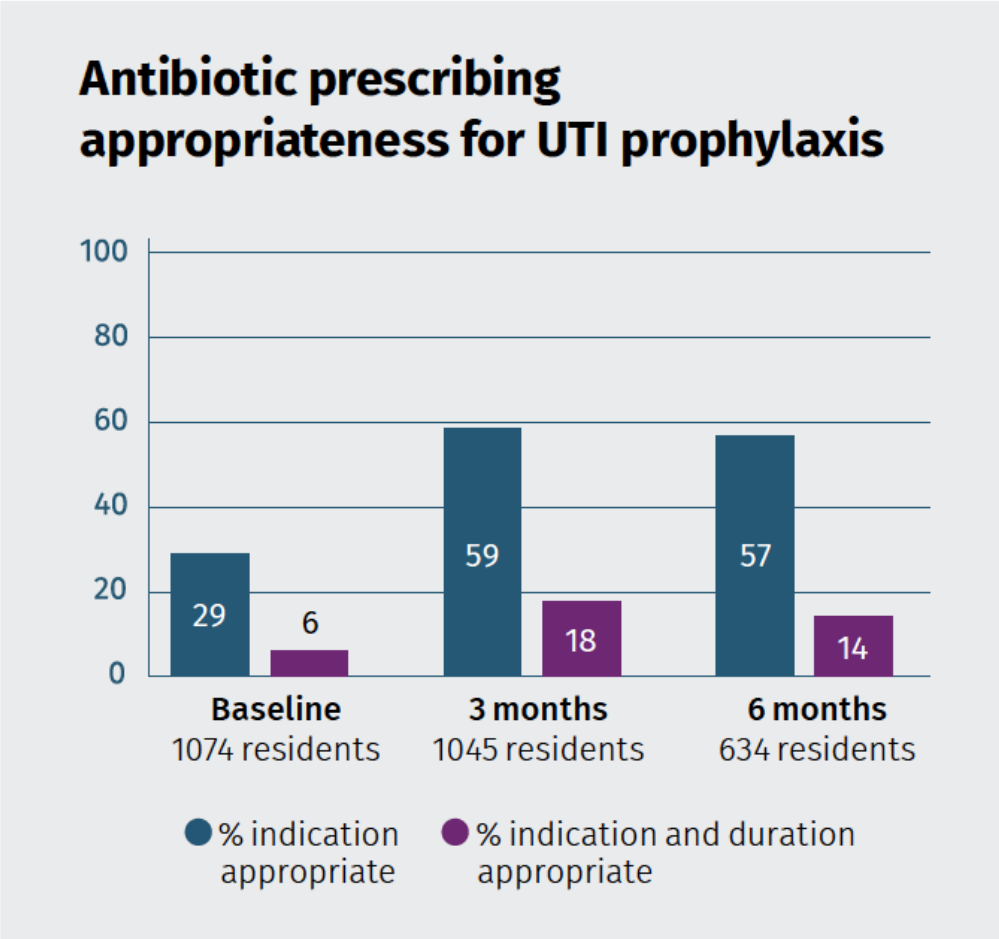

- Indications (reasons for prescription) were marked as inappropriate:
  - *ASB*
  - *Urinary tract condition uncertain or not documented*
- Durations were marked as inappropriate:
  - >180 days

2 in 3 prescriptions were >6 months
1 in 2 prescriptions were for >12 months

To Dip or Not to Dip in Australian RACFs

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To Dip or Not to Dip

- Can feasibly be implemented in Australian services
- Resources were sufficient for implementation, including tools to deliver education to nursing and care staff, and engagement with GPs and consumers

How change took place

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

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To Dip or Not to Dip refresh

- Upcoming release later in 2023 and early 2024
- Refresh of existing resources
- New resources
  - Implementation guide
  - Dashboard reporting tool for TDONTD audit
- ACQSC Training sessions for TDONTD implementors
  - Starting in early 2024, if interest
  - Facility nurses and pharmacists interested in implementing TDONTD
  - Sessions conducted virtually

AMS Self-Assessment tool for Residential Aged Care

- Upcoming release later in 2023
- To support AMS programs and continuous improvement activities in services
- To support clinical, Infection Prevention and Control Leads and committees with oversight of AMS in
  - Reviewing current program
  - Identify areas for action and/or improvement

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Thank you.

Interested in To Dip or Not to Dip or the Commission's AMS activities?

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