



Community Operations

Monthly monitoring of a Healthcare-Associated Infection/Antimicrobial Resistance (HCAI/AMR) and Antimicrobial Consumption minimum dataset

HSE Older Persons Residential Care Facilities

CHO 8 Report Quarter 2, 2023





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Introduction

In August 2021, a process was established and introduced, by Infection Prevention & Control/Antimicrobial Stewardship Teams (IPC/AMS) teams in Community Healthcare Organisations (CHOs), in HSE Residential Care Facilities (RCFs) for Older Persons to facilitate monthly monitoring of a minimum dataset for Healthcare-Associated Infection/Antimicrobial Resistance (HCAI/AMR) and Antimicrobial Consumption.

Monitoring of nationally standardised measurements is designed to provide an ongoing level of assurance to management in relation to the quality and safety of services, in particular the burden of healthcare associated infection (HCAI) and antimicrobial resistance (AMR) in RCFs and the effectiveness of infection prevention and control (IPC) and antimicrobial stewardship (AMS) measures.

The dataset was developed by the National Antimicrobial Resistance and Infection Control (AMRIC) Team together with stakeholder engagement and a successful pilot in Community Healthcare West (CHO 2). The first data collection in RCFs commenced in September 2021, and monthly thereafter. This CHO-level report details findings from data return in Quarter 2, 2023 (April, May and June). CHO-level reports include breakdown and benchmarking nationally and within CHO's to facilitate individual facilities receiving this report each quarter, via CHO IPC/AMS teams.

The dataset collected is listed below:

Questions 1-8 are designed to capture point prevalence data on a single day each month, and questions 9-12 capture prevalence data over the reporting month. Note that the dataset collected was updated in March 2023 to include question 8 which captures antibiotic usage in relation to UTIs. The question relating to topical antibiotic usage was removed.

Monthly HCAI/AMR/Antimicrobial Consumption minimum dataset	
1	Month of data collection
2	Name of Residential Care Facility
3	Number of residents in the facility
4	Number of residents in the facility that are long-term residents
5	Number of residents who have urinary catheters
6	Have any residents received antibiotics (by mouth or injection) in the past 24 hours?
7	Total number of residents on antibiotics by mouth or injection in the past 24 hours and, of these: The number of residents on antibiotics for treatment of infection The number of residents on antibiotics for prophylaxis of infection
8	Focusing on urinary tract infections, of all the residents on antibiotics by mouth or injection in the past 24 hours:

	The number of residents on antibiotics for treatment of UTI The number of residents on antibiotics for prophylaxis of UTI
9	Number of residents newly diagnosed with <i>Clostridioides difficile</i> (C. diff) infection in this reporting period
10	Number of residents colonised or infected with Carbapenemase-Producing Enterobacterales (CPE) who were resident for any period of a day or more during this reporting period
11	Number of outbreaks that occurred during this reporting period
12	Type of outbreak (if applicable):

FINDINGS

This report sets out the findings identified in relation to the data submission response rate from RCFs and findings in relation to dataset parameters at both CHO and National level. Data in respect of individual facilities is presented using a 'facility code' therefore the names of individual RCFs are not included in this report. Each participating facility in your CHO has been assigned an anonymised 'facility' code. A list of RCF names and their corresponding 'facility code' number has been provided to the designated person on the IPC/AMS team and each RCF manager has been informed of their individual facility code which remains unchanged once assigned.

Response rate

Table 1 shows the response rate of HSE RCF's for Older Persons across the nine CHO's for this reporting period.

Table 1: Response rate of HSE RCFs for Older Persons for Q2 2023

Response Rate:		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Number of RCFs invited to participate this quarter		19	20	9	24	15	4	7	15	5	118
Response Rate (%)	Apr 23	95%	95%	100%	100%	93%	75%	100%	93%	100%	96%
	May 23	79%	80%	100%	100%	87%	75%	100%	93%	100%	90%
	Jun 23	79%	80%	78%	100%	93%	100%	100%	93%	100%	90%

Figure 1 shows the response rate for each individual facility within your CHO. Each quarterly report covers a three month period, therefore a facility would overall achieve 100% response rate if the dataset has been returned for three consecutive months, 67% if dataset returned for two of the three months, 33% if dataset returned for one of the three months and 0% if no dataset returned for the three months in the quarter.

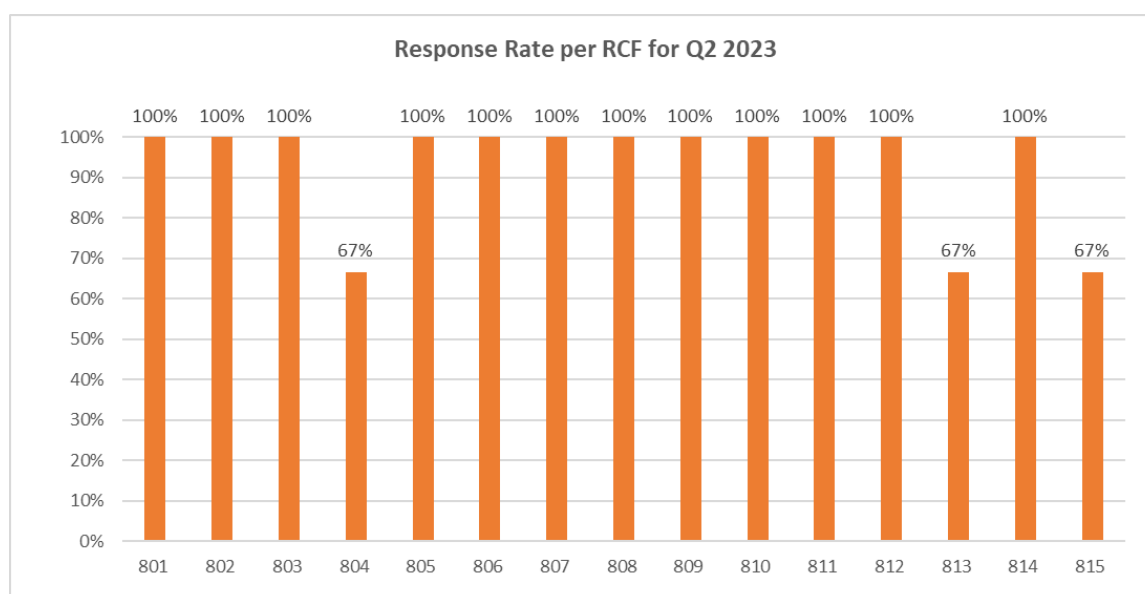


Figure 1: Response rate by individual facility within the CHO

Number and type of residents

The number of residents for which the dataset was assessed per CHO is shown in Table 2. HSE RCFs for Older Persons may accommodate residents accessing long term/transition/short-term/step-down, rehabilitation care or other types of care such as respite, intellectual disability and palliative care. Resident's length of stay in an RCF may influence HCAI/AMR and antimicrobial consumption rates. For that reason, the proportion of long-term care (LTC) residents in each CHO relevant to the reporting period is included in Table 2.

Table 2: Number and type of residents included for Q2 2023

Number and type of residents included:		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Total number of residents included in this quarter		1551	1538	1128	2872	1766	577	1197	1535	721	12885
Average number of residents included/month		517	513	376	957	589	192	399	512	240	4295
Percentage of long term care residents in RCF*	Apr 23	72%	80%	80%	92%	69%	94%	100%	97%	98%	85%
	May 23	70%	76%	82%	91%	75%	94%	99%	96%	98%	86%
	Jun 23	74%	81%	75%	90%	76%	93%	99%	96%	98%	86%

*Long-term care (LTC) defined as a resident in the RCF for ≥30 days

The proportion of LTC residents for individual facilities within your CHO for the quarter is shown in Figure 2.

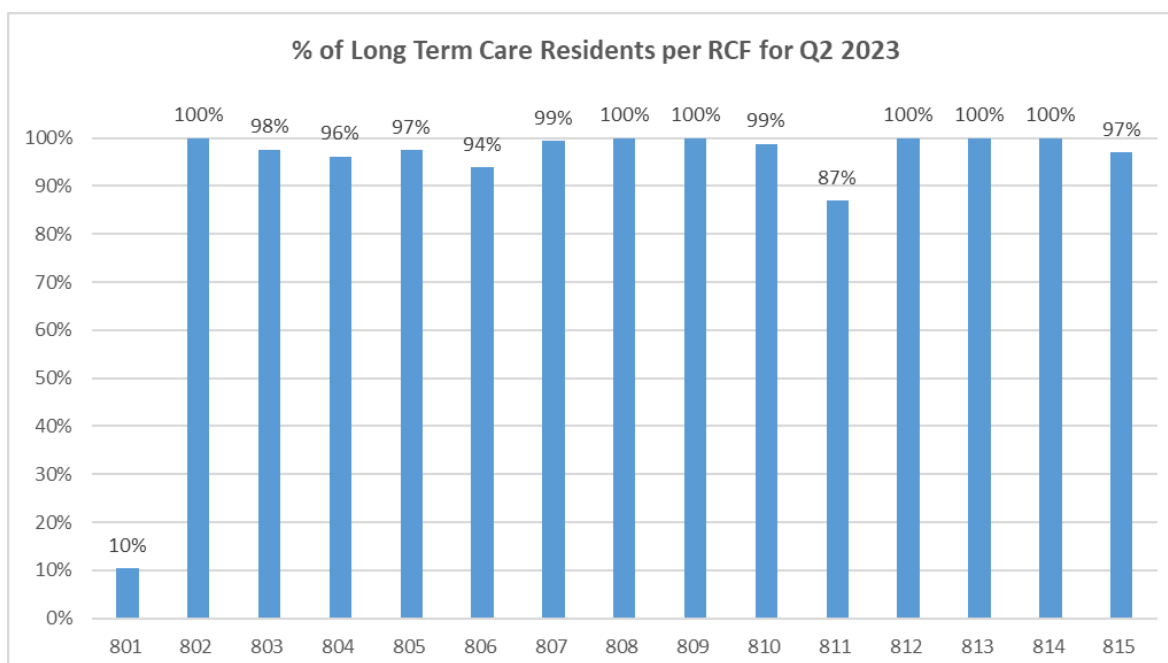


Figure 2: Proportion of Long-Term Care (LTC) residents included per individual RCF

Presence of urinary catheters

The presence of a urinary catheter and the length of time it remains in situ are contributory factors to the development of a catheter-associated urinary tract infection (CA-UTI). The risk of acquiring a CA-UTI reportedly increases by 5% each day the catheter remains in situ. The decision to catheterise a resident and the type of catheter to use should be based on comprehensive risk assessment and evaluation of the needs of the resident including the expected duration of catheterisation. The most important measure to prevent CA-UTIs is to limit the use of urinary catheters to carefully selected residents and leave them in place only as long as indications for catheterisation persist. Urinary catheters should only be used when necessary and should be removed as soon as possible to avoid potential complications. Table 3 provides information on the total number of residents with indwelling urinary catheters across the nine CHO's for this reporting period, and the proportion of residents who had a urinary catheter in-situ. As a benchmark for typical prevalence of urinary catheters in RCFs, the European HALT study 2013 reported a median prevalence of 6.3% of residents.

Table 3: Presence of urinary catheters for Q2 2023

Presence of urinary catheters:		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Number of residents with urinary catheters in-situ	Apr 23	59	48	51	73	50	8	24	53	16	382
	May 23	39	42	49	74	52	10	20	45	19	350
	Jun 23	37	45	32	73	54	14	22	47	20	344
% of residents with urinary catheters in-situ		8.7%	8.8%	11.7%	7.7%	8.8%	5.5%	5.5%	9.4%	7.6%	8.4%

The percentage of residents with urinary catheters in situ in each RCF in your CHO for the quarter is shown in Figure 3.

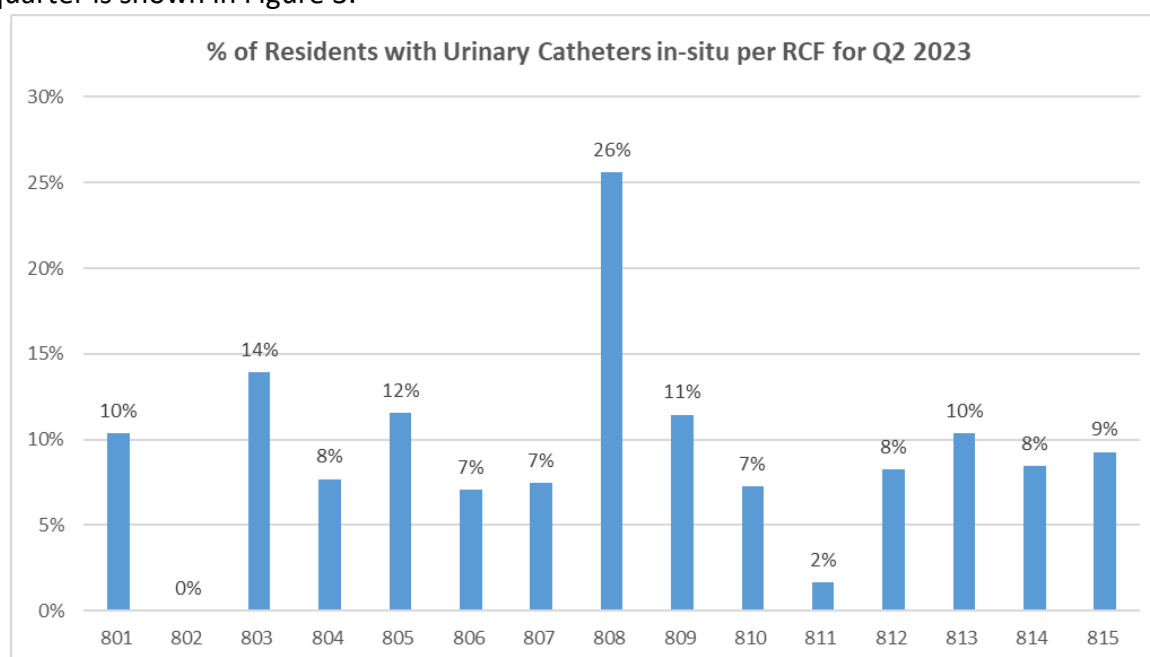


Figure 3: Proportion of residents with urinary catheters in-situ per individual RCF within the CHO
CHO Level Report of HCAI/AMR/Antimicrobial consumption minimum dataset in HSE Older Persons RCFs

Antimicrobial consumption

Residents of facilities with high antimicrobial use have an increased risk of antimicrobial-related harm and antimicrobial resistant infections. This includes people who are not receiving antimicrobial therapy, because resistant organisms can be easily transmitted from one resident to another.

Prevalence of residents on antibiotic therapy on the day of data collection

The percentage of residents on antibiotics (by mouth or injection) across the nine CHO's is shown in Figure 4. The data is presented compared to baseline data obtained from a point prevalence survey (PPS) of antimicrobial use in 100% of HSE Residential Care facilities for Older Persons collected by CHO antimicrobial pharmacists (Quarter 4 2020 for CHO's 1,3,4,5 & 8, Quarters 2/3 2021 for CHO's 2,6,7 & 9). This study found a prevalence rate of 12% of residents on antibiotic therapy on the day of survey.

As an international benchmark for typical prevalence of antibiotic prescribing in RCFs, the European HALT study 2016 reported an average prevalence of 4.9% of residents. In a UK HALT-style PPS of LTCF conducted in November/ December 2017, the mean percentage of residents in LTCFs on antibiotics on the day of survey was as follows: 6.3% England, 7.6% Northern Ireland, 8.6% Wales and 9.6% Scotland.

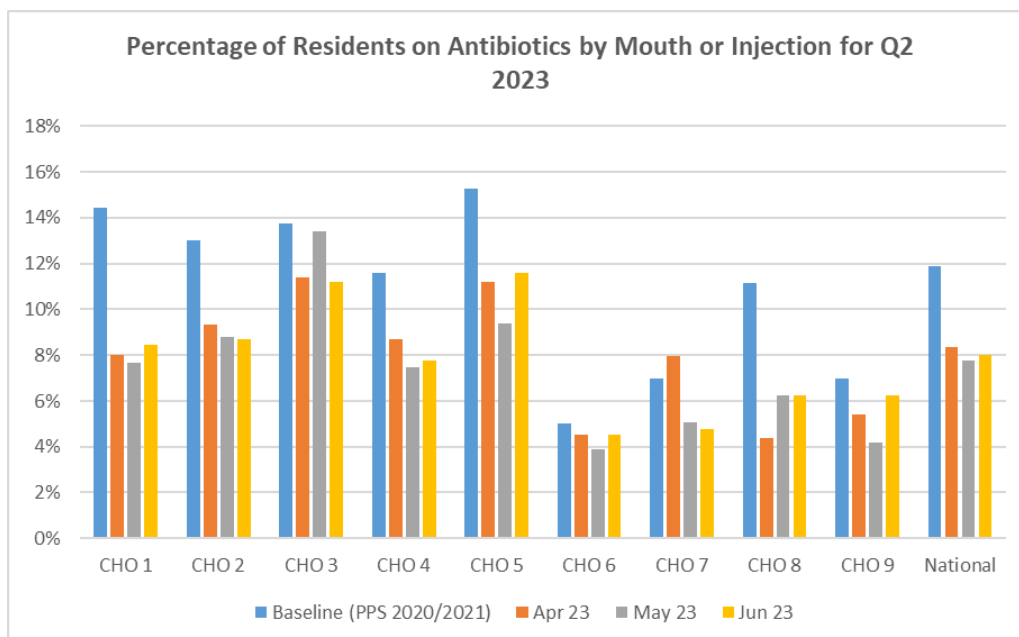


Figure 4: Percentage of residents on antibiotics (by mouth or injection) per CHO

The percentage of residents on antibiotics (by mouth or injection) in your CHO versus National is shown in Figure 5.

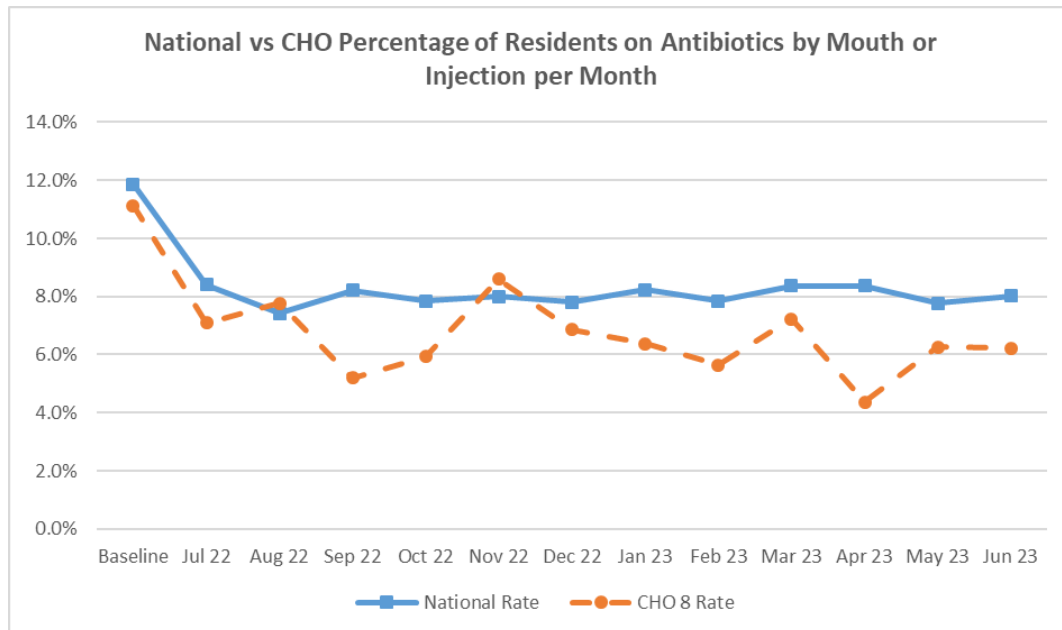


Figure 5: Percentage of residents on antibiotics by mouth or injection by month nationally vs CHO

Prevalence of prophylactic antibiotic use on the day of data collection

The percentage of residents on prophylactic antibiotics across all nine CHO's is shown in Figure 6. The data is presented compared to baseline data obtained from the point prevalence survey (PPS) of antimicrobial use in HSE Residential Care facilities for Older Persons conducted in 2020/2021. This study found that 6.3% of residents were prescribed prophylactic antibiotics.

As an international benchmark for typical prevalence of prophylactic antibiotic prescribing in RCFs, the European HALT study 2016 reported an average prevalence of 1.5% of residents.

The use of antibiotics to prevent infection (prophylaxis) is not uncommon in long term care facilities across Europe. However, it is acknowledged that the evidence for this practice is limited, and due to the low-dose, prolonged exposure, the risk of antimicrobial-related harm and resistance is high.

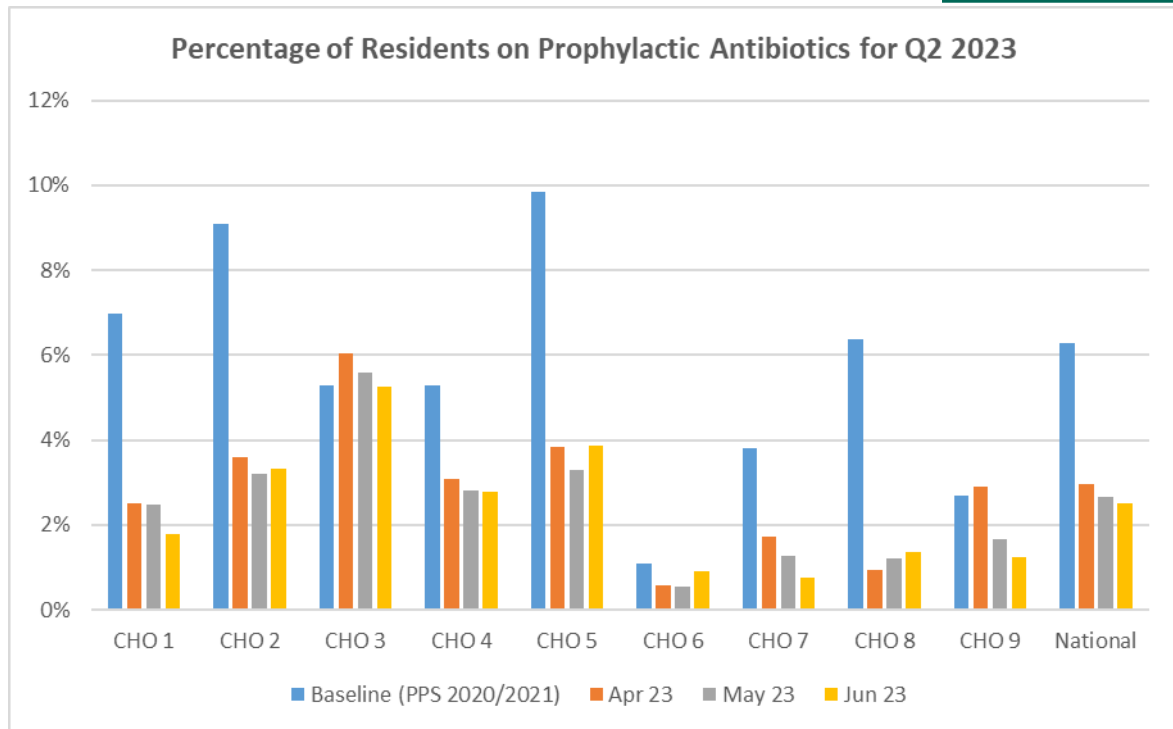


Figure 6: Percentage of residents on prophylactic antibiotics by month per CHO

The percentage of residents on prophylactic antibiotics (by mouth or injection) in your CHO versus National is shown in Figure 7.

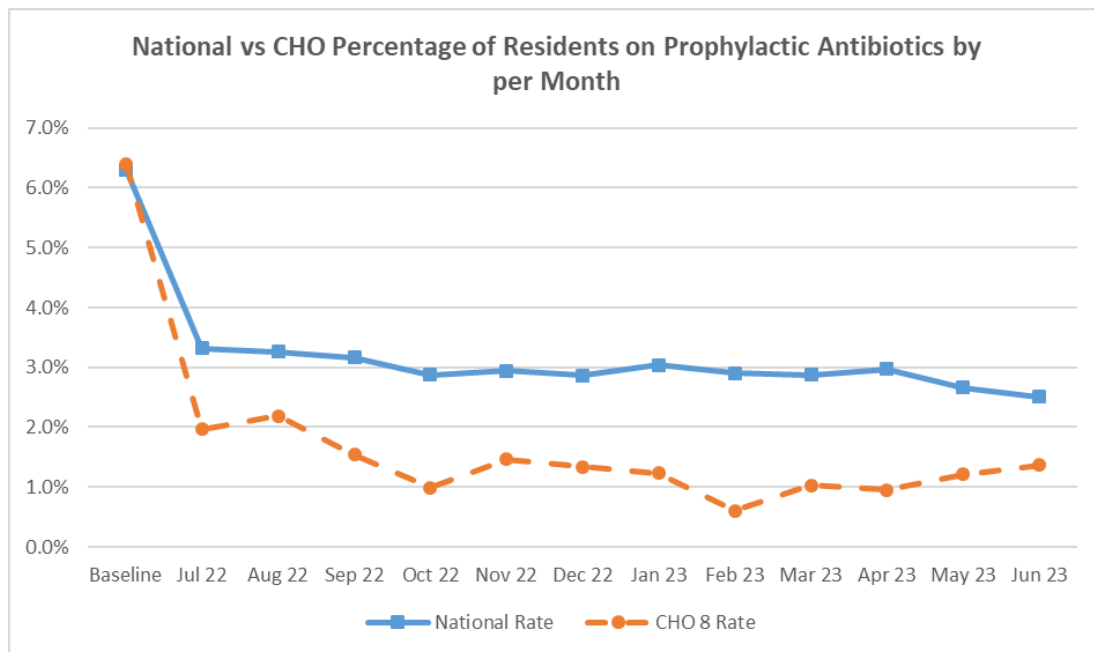


Figure 7: Percentage of residents on prophylactic antibiotics by month nationally vs CHO

Prevalence of antibiotic use for treatment of UTI on the day of data collection

The percentage of residents on antibiotics for treatment of infection and for treatment of urinary tract infection (UTI) in each facility is shown in Figure 8. The PPS of antimicrobial use in HSE Residential Care facilities for Older Persons conducted in 2020/2021 found that 2.6% of residents nationally were on antibiotics for treatment of UTI, and that UTI was the most common indication for antibiotics. The use of dipstick urinalysis for assessment of evidence of UTI is not recommended in people aged 65 years and over as it is not a reliable marker of UTI in older people, and may lead to unnecessary antibiotic use.

The 'SKIP THE DIP for UTI in over 65s' quality improvement initiative in HSE older persons RCFs aims to reduce unnecessary antibiotic use for suspected UTI. This initiative aims to promote best practice in the management of suspected UTI, recommending basing diagnosis on assessment of clinical signs and symptoms, without dipstick urinalysis. This initiative will be promoted across HSE Older Persons RCFs in Q3-4, 2023.

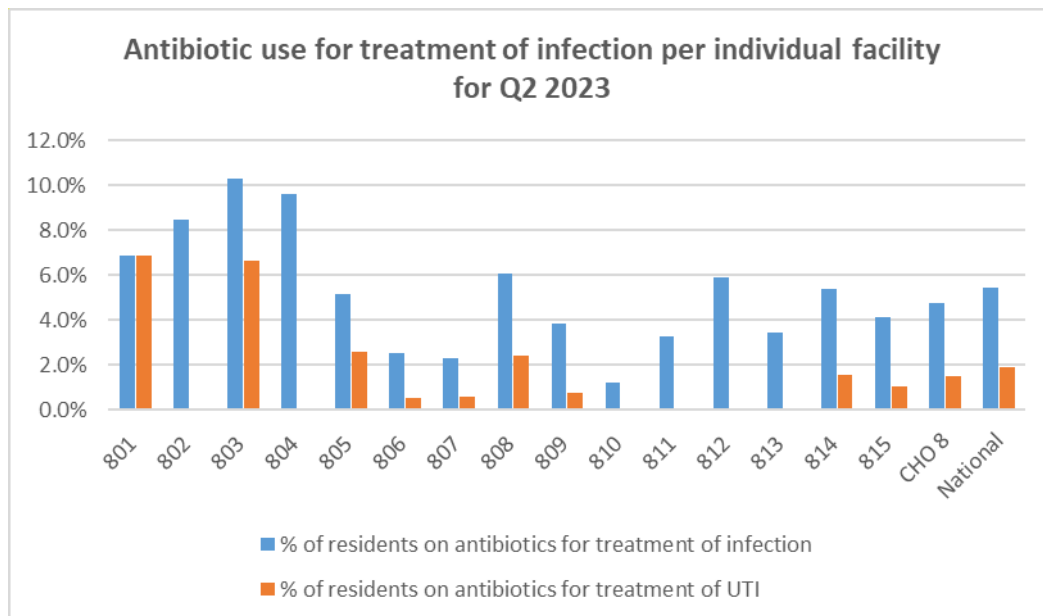


Figure 8: Antibiotic use for treatment of infection and UTI per individual facility within the CHO

Prevalence of UTI antibiotic prophylaxis on the day of data collection

The percentage of residents on antibiotics for prophylaxis of infection and prophylaxis of UTI in each facility is shown in Figure 9. Antibiotic prophylaxis for UTI is the most common reason for prophylactic antibiotic use in older persons RCFs (78% in national PPS 2020/21). Antibiotic prophylaxis for UTI beyond 6 months is generally not recommended as risks of adverse effects and antimicrobial resistance outweigh benefits with prolonged antibiotic prophylaxis. A key national recommendation for antimicrobial stewardship in older persons RCFs is to review UTI antibiotic prophylaxis within 6 months with a view to de-prescribing. This presents a significant opportunity for reducing unnecessary antibiotic use in older persons RCFs.

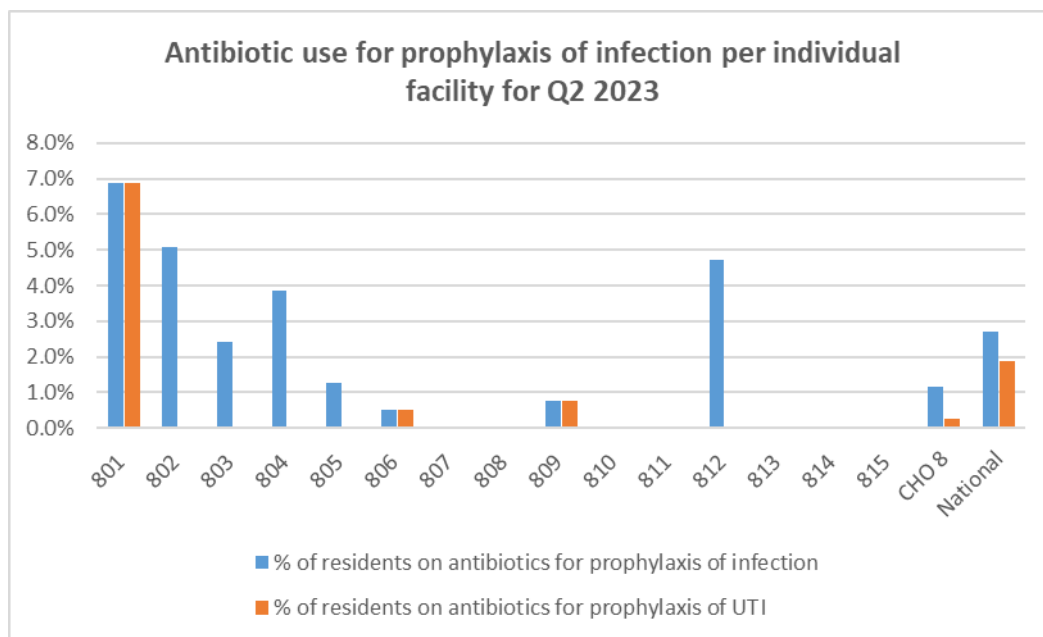


Figure 9: Antibiotic use for prophylaxis of infection and UTI per individual facility within the CHO



A breakdown of findings in relation to each type of antibiotic use in individual facilities within your CHO is shown in Table 4 and cumulative antibiotic usage trends are displayed in Figure 10.

Table 4: Breakdown of Individual facility-level cumulative quarterly data on antibiotic use within HSE CHO Older Persons RCF's:

Facility Code	% of residents on antibiotics by mouth or injection		% of residents on antibiotics for prophylaxis of infection		% of residents on antibiotics for treatment of UTI	% of residents on antibiotics for prophylaxis of UTI
	Baseline	RCF This Quarter	Baseline	RCF This Quarter	RCF This Quarter	RCF This Quarter
801	16.7%	10.3%	0.0%	6.9%	6.9%	6.9%
802	25.0%	11.9%	20.0%	5.1%	0.0%	0.0%
803	7.2%	12.7%	4.3%	2.4%	6.7%	0.0%
804	12.5%	9.6%	6.3%	3.8%	0.0%	0.0%
805	8.0%	5.1%	0.0%	1.3%	2.6%	0.0%
806	11.3%	3.0%	8.1%	0.5%	0.5%	0.5%
807	26.7%	2.3%	18.3%	0.0%	0.6%	0.0%
808	19.2%	6.1%	15.4%	0.0%	2.4%	0.0%
809	2.3%	4.6%	0.0%	0.8%	0.8%	0.8%
810	8.8%	1.2%	5.3%	0.0%	0.0%	0.0%
811	10.5%	3.3%	0.0%	0.0%	0.0%	0.0%
812	4.0%	10.6%	4.0%	4.7%	0.0%	0.0%
813	0.0%	3.4%	0.0%	0.0%	0.0%	0.0%
814	15.4%	5.4%	5.1%	0.0%	1.5%	0.0%
815	2.2%	4.1%	0.0%	0.0%	1.0%	0.0%
CHO 8	11.1%	5.6%	6.4%	1.2%	1.5%	0.3%
National	11.9%	8.1%	6.3%	2.7%	1.9%	1.9%

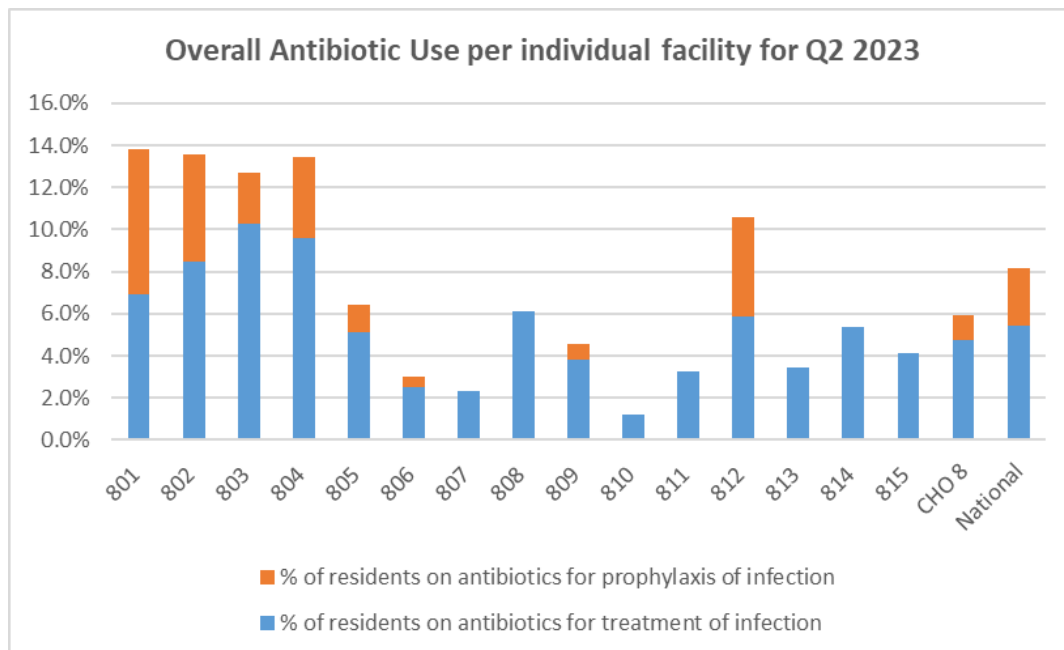


Figure 10: Cumulative antibiotic use per individual facility within the CHO

**Note that some residents may be on both antibiotics for treatment and prophylaxis of infection. As a result the stacked percentage in Figure 10 may not match the percentage of residents on antibiotics by mouth or injection in Table 4.*

Healthcare-associated infection (HCAI)

Findings in relation to the prevalence of HCAI and outbreaks of infection are shown in Table 5. The dataset included newly diagnosed cases of *Clostridioides difficile* infection (*C.diff*), the number of residents colonised or infected with Carbapenemase-Producing Enterobacterales (CPE) and the number of and percentage of outbreaks of infection reported during the reporting period.

Standard precautions should be implemented at all times for all residents and transmission based precautions should be implemented when indicated. Device-specific and condition-specific IPC guidelines should be implemented to prevent and control HCAI and outbreaks.

Residents should be protected against vaccine-preventable disease (e.g. Influenza, COVID-19 and pneumococcal infection).

Table 5: Prevalence of HCAI and outbreaks of infection for Q2 2023

		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Total number of newly diagnosed C.Diff cases	Apr 23	1	0	0	0	0	0	0	0	1	2
	May 23	0	1	0	1	2	0	0	0	0	4
	Jun 23	0	1	0	1	0	0	0	0	0	2
Number of residents infected/colonised with CPE	Apr 23	1	8	4	2	5	0	5	1	1	27
	May 23	1	5	2	2	4	0	5	1	0	20
	Jun 23	1	5	0	2	4	1	5	1	1	20
Number of outbreaks of infection reported	Apr 23	2	3	3	5	3	2	3	4	0	25
	May 23	2	6	0	6	3	0	1	7	0	25
	Jun 23	3	4	0	6	2	1	1	0	0	17
% of Facilities with at least 1 outbreak of infection	Apr 23	11%	16%	22%	21%	21%	67%	14%	29%	0%	19%
	May 23	13%	31%	0%	17%	23%	0%	14%	50%	0%	21%
	Jun 23	20%	19%	0%	17%	14%	25%	14%	0%	0%	13%

A breakdown of findings in relation to HCAI and outbreaks of infection for each individual facility within your CHO is shown in Table 6.

Table 6: Breakdown of individual RCF-level cumulative quarterly data on HCAI within CHO:

Facility Code	Number of new C.Diff cases	Number of CPE*			Number of outbreaks of infection	Type of outbreak (if applicable)
		Apr 23	May 23	Jun 23		
801	0	0	0	0	1	COVID-19 (1)
802	0	0	0	0	2	COVID-19 (2)
803	0	0	0	0	1	COVID-19 (1)
804	0	0	0	0	0	
805	0	0	0	0	0	
806	0	0	0	0	2	COVID-19 (2)
807	0	0	0	0	0	
808	0	0	0	0	1	COVID-19 (1)
809	0	0	0	0	1	COVID-19 (1)
810	0	0	0	0	2	COVID-19 (2)
811	0	0	0	0	0	
812	0	1	1	1	0	
813	0	0	0	0	0	
814	0	0	0	0	0	
815	0	0	0	0	1	COVID-19 (1)

***Note that the number of residents infected/colonised with CPE includes new and/or previously reported cases**



Summary

The aim of this report is to present findings in relation to monitoring of a nationally standardised minimum data set in relation to healthcare-associated infection, antimicrobial resistance and antimicrobial consumption in HSE RCFs for Older Persons across CHOs in the HSE.

The information provided is intended to be utilised locally within residential care facilities, by CHO IPC/AMS teams and CHO IPC/AMS committees, and at National level to inform service planning, service support and quality improvement.

Acknowledgements

The minimum dataset is gathered and reported each month by the staff of HSE RCFs for Older Persons. This report could not have been produced without the ongoing dedication and commitment to the delivery of quality care of staff and managers in HSE Older Persons RCFs. Many thanks to the staff in RCFs who participate in monthly data collection and reporting of this dataset and the CHO IPC/AMS teams for their work in supporting and facilitating data collection, reporting and interpretation of findings.

Good practice points for tackling HCAI/AMR IN RCFs

- **Reduce the spread of infection and disease:**
 - Implement standard precautions for all residents at all times and transmission-based precautions when indicated.
 - Reduce the risk of a catheter-associated urinary tract infection (CA-UTI) by only inserting urinary catheters when clinically indicated and removing them when they are no longer required. Implement best practice guidelines in relation to preventing urinary tract infection.
 - Ensure strategies are in place to protect residents against vaccine-preventable disease (e.g. Influenza, COVID-19, pneumococcal infection)
 - Implement device specific or condition specific IPC guidelines to prevent and control healthcare associated infection.
- **Optimise use of antibiotics:**
 - www.antibioticprescribing.ie is the reference source for best-practice guidelines for antibiotic use in residential care facilities, including a dedicated section for 'Antimicrobial Use in Long-Term Care Facilities'. This section has a helpful toolkit for antimicrobial stewardship containing a number of supports including:
 - A decision aid to help assess which residents would likely benefit from antibiotic treatment when a UTI is suspected - available [HERE](#)
 - Position statements for the use of dipstick urinalysis for assessing evidence of urinary tract infection (UTI) in adults. The use of dipstick urinalysis to assess for evidence of UTI in persons aged 65 years and older is not a useful guide to management and is not recommended - available [HERE](#)
 - A 'Dipstick urinalysis for Older Persons in RCFs' webinar recording – available [HERE](#)
 - [Good Practice Points for commonly used antibiotics](#)
 - Antibiotic therapy (by mouth, injection or topical) should not be started unless there is clear evidence of infection and the indication should be clearly documented.
 - For empiric treatment of infection, if an antibiotic is indicated, a Green (preferred) antibiotic should be chosen and Red (reserve) antibiotics should be avoided where possible.
 - Duration of antibiotic therapy should be as short as possible to effectively treat the infection e.g. 5 days for Respiratory Tract Infections and 3 days for an uncomplicated Urinary Tract Infection in females without catheters.
 - All antibiotic prescriptions should have a stop date or review date, including prophylactic antibiotics. Antibiotics prescribed for [prophylaxis of UTI should be reviewed with a view to de-prescribing](#) at 3-6 months.

Practice and Educational Resources

- www.antibioticprescribing.ie for up-to-date treatment guidelines for commonly encountered infections and antimicrobial use audit tools and resources for community settings including RCFs.
 - NEW: Clostridioides difficile infection treatment guidelines - <https://www.hse.ie/eng/services/list/2/gp/antibiotic-prescribing/clostridium-difficile/clostridium-difficile.html>
- A summary of AMS resources for older persons RCFs available [here](#).
- www.hpsc.ie for guidelines in relation to infection prevention and control.
- www.hseland.ie for the National Immunisation Office learning programme about Pneumococcal Polysaccharide Vaccine (PPV23)
- www.hseland.ie for the HSE AMRIC Infection Prevention and Control and Antimicrobial Resistance Learning Programme which includes the following educational modules:
 - Introduction to Infection Prevention and Control and Antimicrobial Resistance
 - Antimicrobial Resistance and Multi Drug Resistant Organisms
 - Antimicrobial Stewardship in Practice
 - Aseptic Technique
 - Prevention and management of Urinary Tract Infection
 - Basics of Infection Prevention and Control
 - Standard and Transmission-Based Precautions
 - Hand Hygiene
 - Personal Protective Equipment (PPE)
 - Respiratory hygiene and cough etiquette
 - Aseptic technique
 - Prevention of peripheral and central venous catheter related infections
 - Cleaning and disinfecting the healthcare environment and patient equipment
 - Clostridioides difficile infection
 - Management of Blood & Body fluid spills
 - Prevention of Peripheral and Central Venous Catheter-Related Infections
 - Healthcare-Associated Infections (HCAI): An Overview for Managers
 - Outbreak – Prevention and Management