



## **Community Operations**



Antimicrobial Resistance &  
Infection Control Programme

# **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 4, 2021**



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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 was scheduled for the last Friday in September 2021, and was henceforth requested on the last Friday of each month. This report details quarterly findings from data return in Quarter 4, 2021 (Oct, Nov, Dec). Going forward, data will be examined and reported on a quarterly basis by the IPC/AMS team, National Community Healthcare: Quality and Patient Safety. CHO-level reports include breakdown and benchmarking nationally and within CHO 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.

Monthly HCAI/AMR/Antimicrobial Consumption minimum dataset	
1	Name of ward/unit
2	Month of data collection
3	Number of residents in the ward/unit on the date of data collection
4	Number of residents in the ward/unit today that are long-term residents ( $\geq 30$ days)
5	Number of residents who have urinary catheters today
6	Overall number of residents on antibiotics by mouth or by injection in the past 24 hours
7	Of the residents on antibiotics by mouth or injection, number of prophylactic antibiotics
8	Number of residents on antibiotics by creams/drops/ointment in the past 24 hours
9	Number of residents newly diagnosed with <i>Clostridioides difficile</i> infection in the 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 the reporting period
11	Number of outbreaks that occurred during the 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

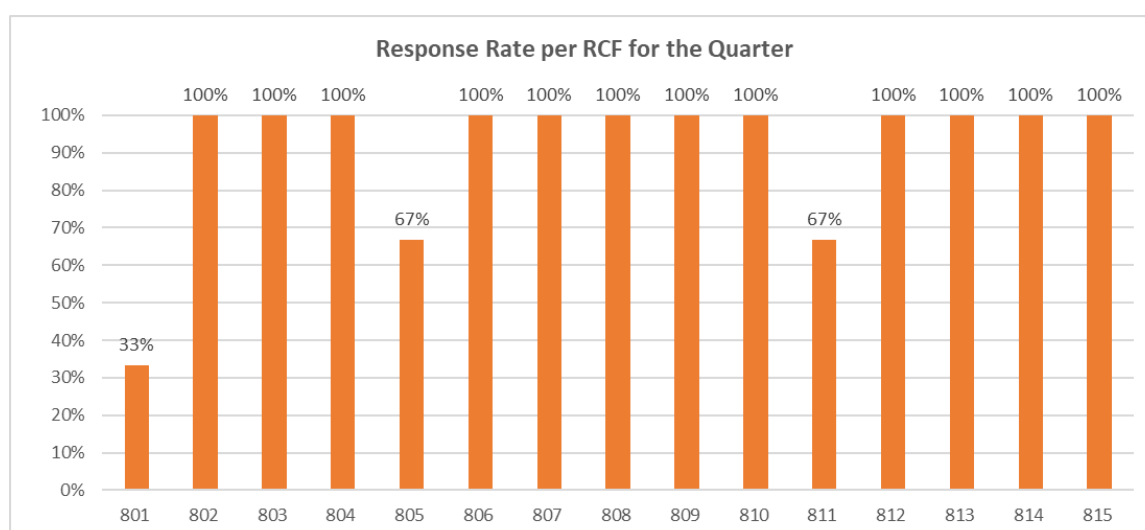
Table 1 shows the response rate of HSE RCF's for Older Persons across the nine CHO's for this reporting period.

**Table 1: Response rate of HSE RCFs for Older Persons**

		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6*	7	8	9	
Number of RCFs invited to participate this quarter		20	20	9	24	15	4*	7	15	5	119
Response Rate (%)	Oct 21	75%	80%	67%	100%	87%	100%	86%	100%	80%	86%
	Nov 21	95%	95%	100%	92%	73%	100%	100%	93%	80%	92%
	Dec 21	90%	85%	100%	92%	73%	100%	86%	80%	40%	85%

\*Note that an additional RCF in CHO6 was invited to return data from November onwards

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, and 33% if dataset returned for one of the three months.



**Figure 1: Response rate by individual facility within the CHO**

## Number and type of residents

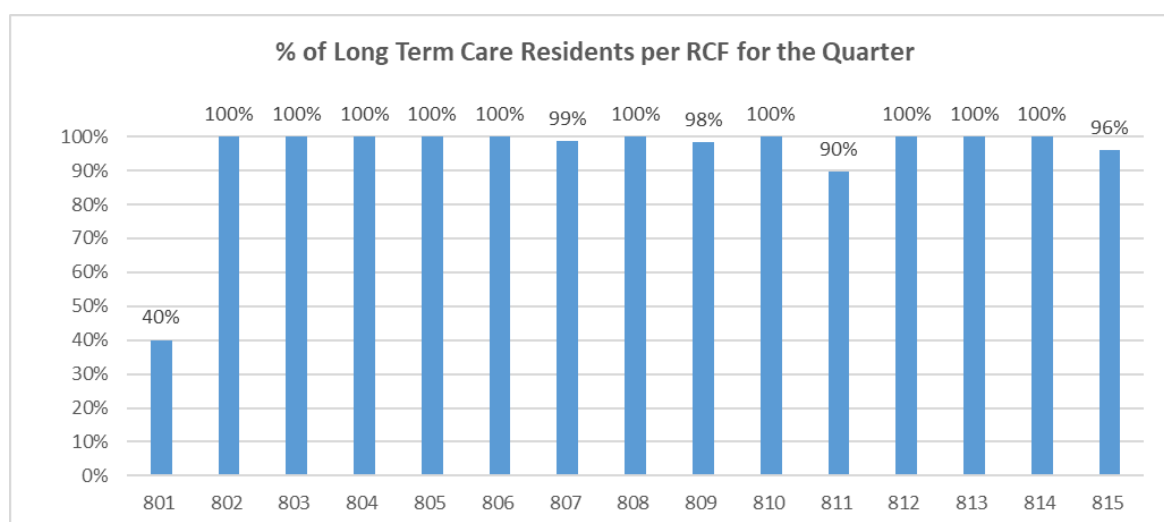
The number of residents for which the dataset was assessed per CHO is shown in Table 2. HSE RCFs for Older Persons may accommodate residents accessing long term/transition/short-term/step-down, rehabilitation care or other type of care such as respite, intellectual disability and palliative care. Resident's 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**

		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Total number of residents included in this quarter		1571	1536	986	2641	1620	600	1079	1478	435	11946
Average number of residents included/month		524	512	329	880	540	200	360	493	145	3982
Percentage of long term care residents in RCF*	Oct 21	73%	88%	85%	88%	78%	100%	99%	99%	98%	88%
	Nov 21	77%	82%	87%	90%	76%	96%	99%	99%	99%	88%
	Dec 21	76%	84%	87%	93%	78%	96%	100%	99%	96%	88%

\*Long-term care (LTC) defined as a resident in the RCF for  $\geq 30$  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**

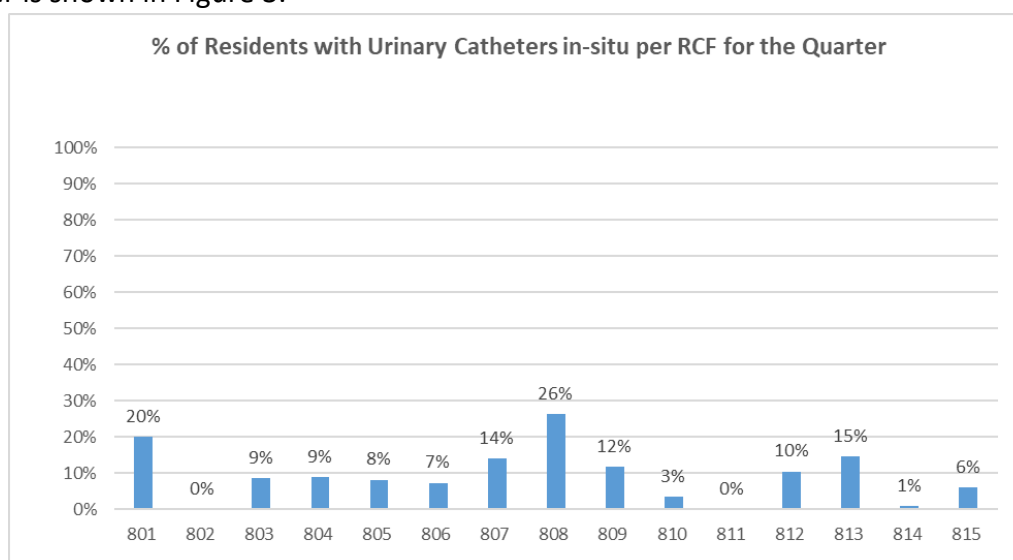
### Presence of urinary catheters

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**

		Community Healthcare Organisation (CHO)									National
		1	2	3	4	5	6	7	8	9	
Number of residents with urinary catheters in-situ	Oct 21	43	48	33	72	41	11	19	42	12	321
	Nov 21	56	61	38	77	42	12	22	44	12	364
	Dec 21	55	54	40	73	46	12	24	43	2	349
% of residents with urinary catheters in-situ		9.8%	10.6%	11.3%	8.4%	8.0%	5.8%	6.0%	8.7%	6.0%	8.7%

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**

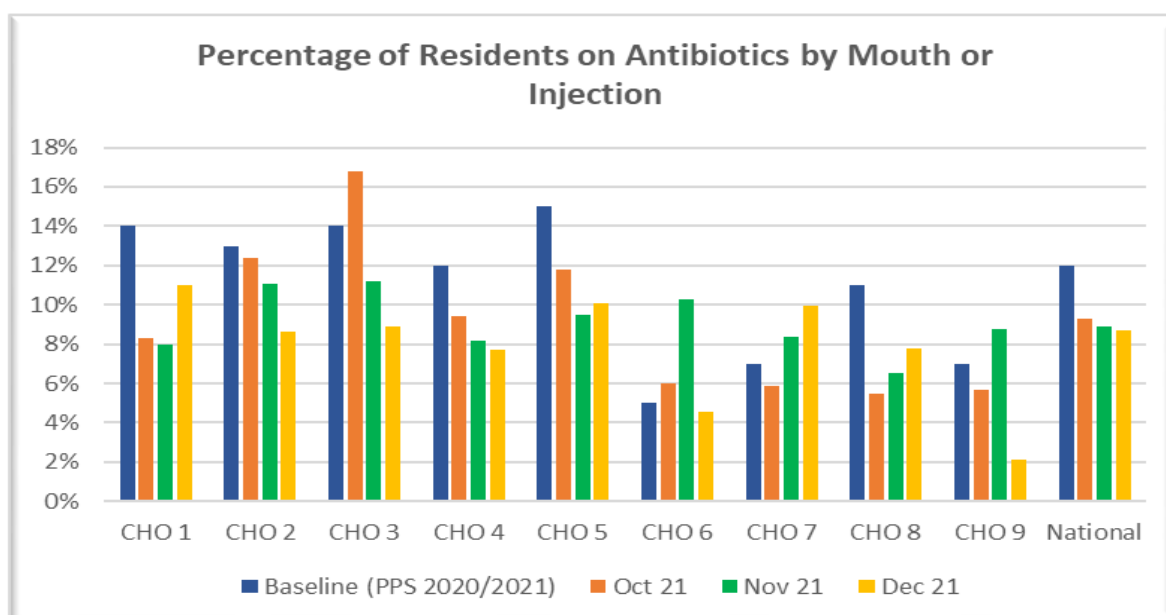
## Antimicrobial consumption

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

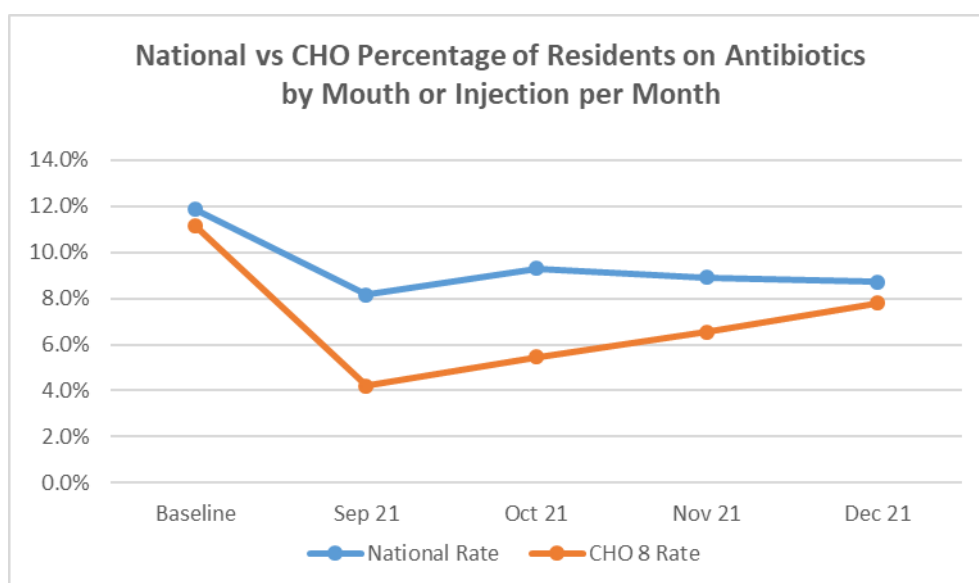
The percentage of residents on antibiotics (by mouth or injection) across the nine CHO's is shown in Figure 4. The data is presented compared to baseline data obtained from a point prevalence survey (PPS) of antimicrobial use in 100% of HSE Residential Care facilities for Older Persons collected by CHO 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**

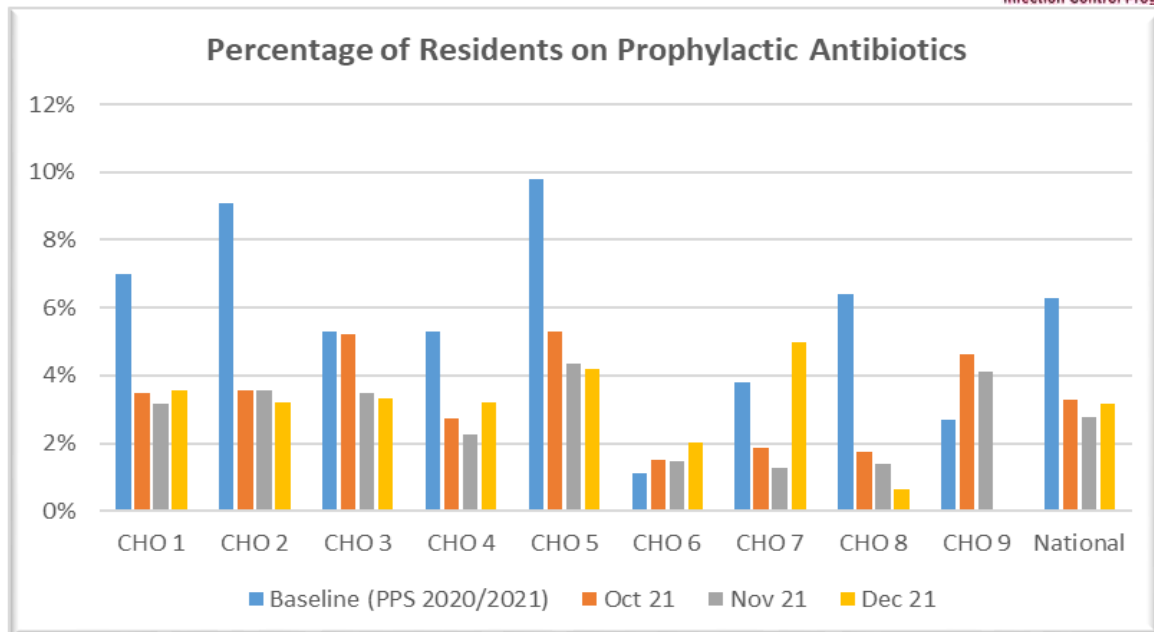
### Prevalence of prophylactic antibiotic use on the day of data collection

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.

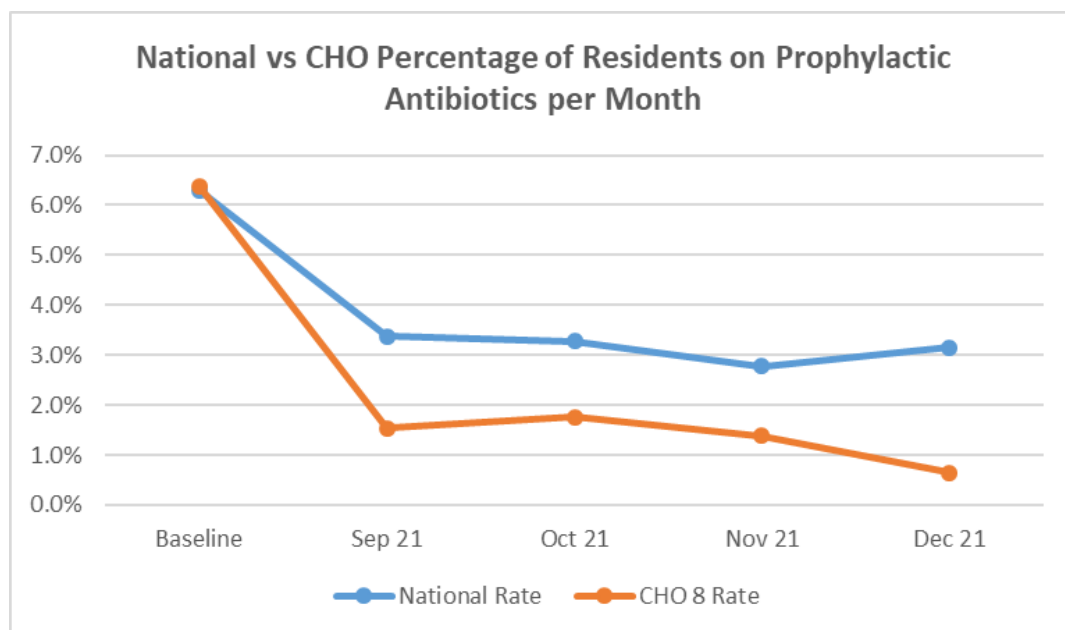
The use of antibiotics to prevent infection (prophylaxis) is not uncommon in long term care facilities across Europe. However, it is acknowledged that the evidence for this practice is limited, and due to the low-dose, prolonged exposure, the risk of antimicrobial-related harm and resistance is high.





**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 6.

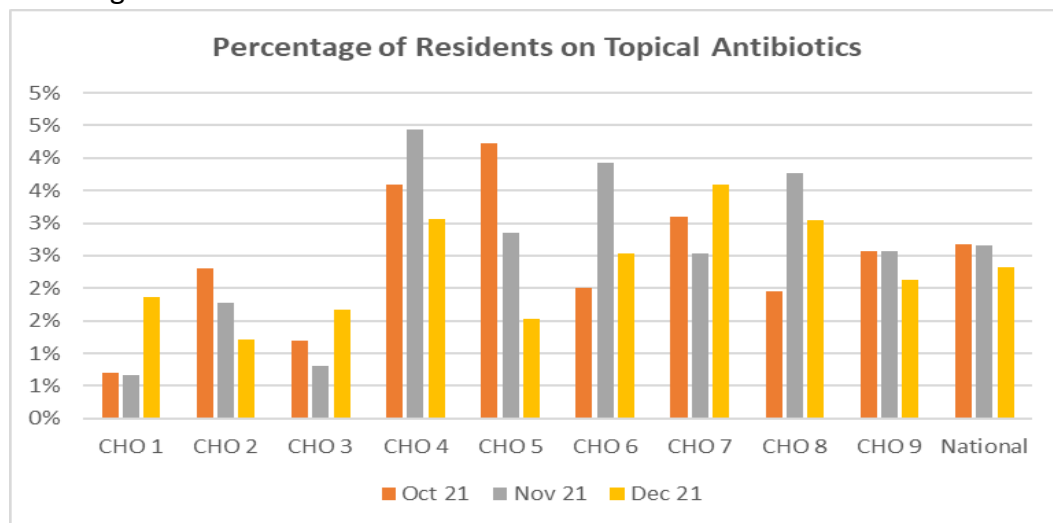


**Figure 7: Percentage of residents on prophylactic antibiotics by month nationally vs CHO**

### Prevalence of topical antibiotic use on the day of data collection

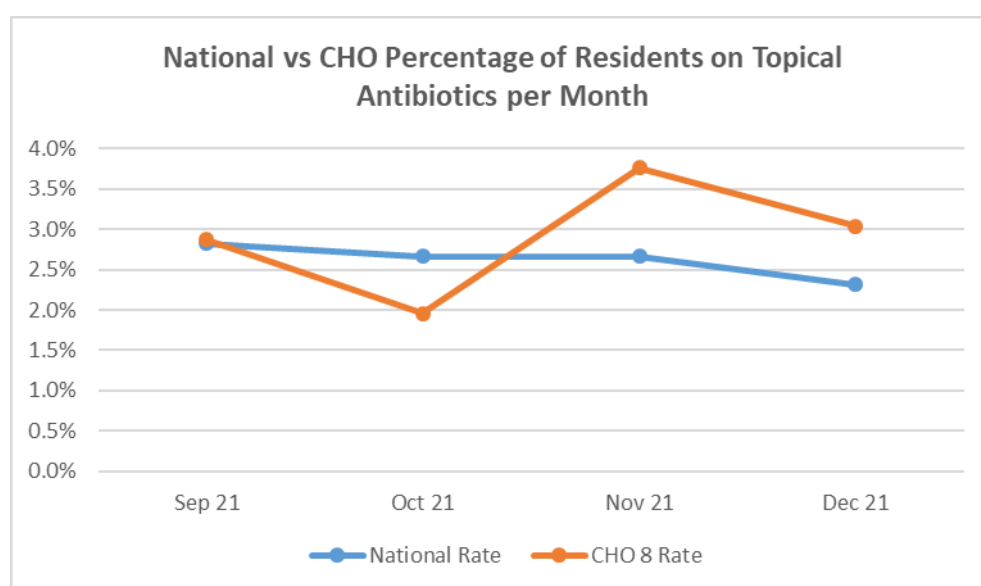
The prevalence of topical antibiotic use has not been assessed before in Irish Residential Care Facilities. Like systemic use of antibiotics, topical use frequently leads to the emergence of antibiotic resistance, particularly 'as required' or prolonged use.

As a benchmark, repeated Australian Aged Care National Antimicrobial Prescribing Surveys, last conducted in 2019, highlighted the high use of topical antibiotic agents as a concern, reporting 2.7% of residents receiving a topical antibiotic. If a topical antibiotic is required, duration should be as short as possible and no antibiotic should be prescribed or administered 'as required' (PRN). The percentage of residents on topical antibiotics per CHO is shown in Figure 8.



**Figure 8: Percentage of residents on topical antibiotics per CHO**

The percentage of residents on topical antibiotics in your CHO versus National is shown in Figure 9.

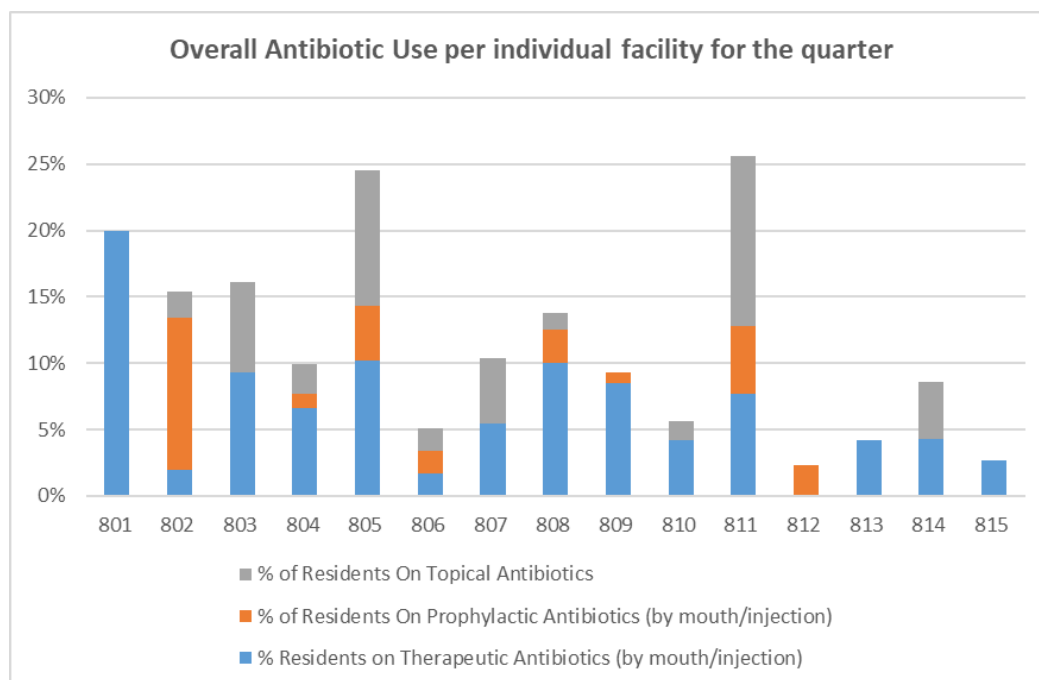


**Figure 9: Percentage of residents on topical antibiotics by month nationally vs CHO**

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 prophylactic antibiotics		% of residents on topical antibiotics
	Baseline	RCF This Quarter	Baseline	RCF This Quarter	
801	17%	20%	0%	0%	0%
802	25%	13%	20%	12%	2%
803	7%	9%	4%	0%	7%
804	13%	8%	6%	1%	2%
805	8%	14%	0%	4%	10%
806	11%	3%	8%	2%	2%
807	27%	5%	18%	0%	5%
808	19%	13%	15%	3%	1%
809	2%	9%	0%	1%	0%
810	9%	4%	5%	0%	1%
811	11%	13%	0%	5%	13%
812	4%	2%	4%	2%	0%
813	0%	4%	0%	0%	0%
814	15%	4%	5%	0%	4%
815	2%	3%	0%	0%	0%



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

## 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 – Quarter 4 2021.

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).

**Table 5: Prevalence of HCAI and outbreaks of infection**

	Community Healthcare Organisation (CHO)									National
	1	2	3	4	5	6	7	8	9	
Total number of data returns from facilities in the quarter	52	52	24	68	35	11	19	41	10	312
Total number of newly diagnosed C.Diff in the quarter	1	0	5	2	3	0	2	0	1	14
Number of Residents infected/colonised with CPE in the quarter	10	16	16	18	12	0	11	2	1	86
Number of Outbreaks reported in the quarter	4	5	2	11	7	3	4	4	0	40
% of Facilities with at least 1 Outbreak in the quarter	8%	10%	8%	16%	20%	27%	21%	10%	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	Number of CPE	Number of Outbreaks	Type of Outbreak (if applicable)
801	0	0	0	
802	0	0	1	COVID-19
803	0	0	1	COVID-19
804	0	0	0	
805	0	0	1	COVID-19
806	0	2	1	COVID-19
807	0	0	0	
808	0	0	0	
809	0	0	0	
810	0	0	0	
811	0	0	0	
812	0	0	0	
813	0	0	0	
814	0	0	0	
815	0	0	0	

## 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

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. Many thanks to Digital HSE for facilitating data collection.

## 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-UTIs) 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](http://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.
    - 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.
  - 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.
  - [Narrow-spectrum antibiotics \(Green\) are preferred to broad-spectrum antibiotics \(Red\), but often the preferred antibiotic is NO antibiotic.](#)
  - Duration of antibiotic therapy should be as short as possible to effectively treat the infection e.g. 3 days for an uncomplicated UTI in females, and 5 days for most LRTIs.
  - 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 deprescribing](#) at 3-6 months.

## Practice and Educational Resources available to support healthcare professionals in Residential Care Facilities in tackling the burden of HCAI & AMR

- [www.antibioticprescribing.ie](http://www.antibioticprescribing.ie) for up-to-date treatment guidelines for commonly encountered infections in community settings.
- [www.hpsc.ie](http://www.hpsc.ie) for guidelines in relation to infection prevention and control.
- [www.hseland.ie](http://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 Stewardship in Practice
  - 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
  - Infection prevention and control cleaning and decontamination of the healthcare environment and patient equipment
  - *Clostridioides difficile* infection, IPC and AMS principles, prevention and management.
  - Infection prevention and control management of blood and body fluid spills