

South Dakota Healthcare-Associated Infections and Antimicrobial Resistance Program introduce a Pilot Project Targeting and Investigating Antibiotic Exposure

This project aligns with new CMS
requirements to implement a Antimicrobial
Stewardship Program in Long-Term Care



This project supports the SD Dept. of Health Strategic Plan
Goal 1 to improve the Quality, Accessibility, and Effective Use
of Healthcare <http://doh.sd.gov/strategicplan/>


HAI / AR Team

Questions about how to participate in the program, the HAI/AR program, or other HAI/AR questions, please contact

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Technical questions please contact Eric.Grimm@state.sd.us



**Measuring Exposure to Antibiotics
in Long Term Care Facility Residents
– Pilot Project Targeting and
Investigating Antibiotic Exposure**

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Career Epidemiology Field Officer



Background

- **Antibiotic use is the**
 - **Biggest driving force of antibiotic-resistance**
 - **Very common among LTCF residents**
- **Antibiotics are often prescribed**
 - **That creates antibiotic-resistant strains**
- **Strains can spread easily**
 - **Often as a result of poor hand hygiene**

Background

- **Reducing exposure to antibiotics has lots of benefits**
- **But first, you have to measure consumption to find out whether you reduced exposure or not**
- **We are proposing a very simple and the least labor-intensive approach**



SD DOH Approach

- We are proposing to measure overall exposure to antibiotics in a LTC facility
- Without taking into account underlying medical conditions of residents:
 - Primary and secondary indications for prescribing
 - Age
 - Sex
 - Other patient characteristics



SD DOH Approach

- **Instead, the project will measure total consumption rates for each facility**
- **For each antibiotic**
- **Consumption rates will be calculated for each medication and a participating facility**

Benefits for Participating Facility

- **Short-term benefits for a participating facility:**
 - **Close collaboration with DOH**
 - **Updated guidelines for improved care**
 - **Improved collaboration with Physicians**
 - **Alignment with CMS requirements**

Benefits for Participating Facility

- Long-term benefits for a participating facility:
 - Decreased cost of care
 - Improved care
 - Fewer antibiotic-associated adverse effects among residents
 - Fewer MDROs in a facility

All we Need to Know from the LTC Facility...

- **The name of a participating facility**
- **The log to be kept on antibiotics received from the pharmacy**
- **The name of a pharmacy that supplies facility**

All we Need to Know from LTC Facility...

- **Number of antibiotics prescribed and used**
 - In specific time period (1 month)
- **Number of residents in a facility**
 - In specific time period (1 month)
- **Number of days each residents lived in a facility**
 - In specific time period (1 month)

- **This task will be accomplished through the table that LTC staff has to fill out on a monthly basis and send to SD DOH:**

Table To be Filled Out by LTC Facility on a Monthly Basis

Name of the antibiotic	Number of regimens received	Days of therapy
Penicillin		
Gentamicin		
Erythromycin		

Little pieces of instructions on what to report and how

- You will receive a link from SD DOH in the beginning of each month
- You should click the link and start a survey on a monthly basis
 - The link will be active for 2 weeks
 - You can make changes in your report during those 2 weeks
- Data should be reported in the first week of each calendar month
- AND
- Describe findings of a previous calendar month



Little pieces of instructions on what to report and how

- You should only report facts about LTC facility residents that stayed overnight in your facility during reporting period
- Resident-days is calculated using a simple formula:
 - Sum of residents*Sum of days they stayed in your facility
 - In a single month (reporting period)

Resident-days

- It means number of residents multiplied by the number of days they stayed in LTC facility
- Example:
- You have **3** residents in your facility in December.
 - **1** resident stayed for **5** days
 - **1** resident for **7** days
 - **1** resident for **2** days
- Number of Residents = **3**
- Number of resident days = **5+7+2 = 14**

Little pieces of instructions on what to report and how

- **Do not report topical antibiotics, antiviral and antifungal medications**
- **Report antibiotics received through IM, IV, and Per oral routes**
- **The list of antibiotics will be provided**
 - **The list is arranged in alphabetical order using generic names only**
- **You should only insert the numbers next to the antibiotic name**

South Dakota Electronic Disease Surveillance System

Long term care facility form

[+ Expand Details](#)

Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility

Reporting form to be submitted by participating facility

- Report and Date of Reporting: No data for this month. Please use the + button to enter your data <input type="button" value="+"/>	<input type="text" value="11/23/2016"/>	Add New
Nov-2016 Report and Date of Reporting: 11/16/2016 <input type="button" value="+"/>	<input type="text" value="11/07/2016"/>	

* Indicates required field

South Dakota Electronic Disease Surveillance System

Long term care facility form

[+ Expand Details](#)

Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility: x

Reporting form to be submitted by participating facility

- Report and Date of Reporting: **No data for this month. Please use the + button to enter your data** + [Add New](#)

Nov-2016 Report and Date of Reporting: +

* Indicates required field

+ Expand Details

Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility

Reporting form to be submitted by participating facility

Form generation date	01/10/2017	Add New
* Date of reporting		
* Report covers calendar month of		
* Report covers year of		
Number of long term care facility residents		
Resident-days		
Number of C. difficile positive case counts in a facility during reporting period		
AMOXICILLIN: Number of regimens		
AMOXICILLIN/CLAVULANATE: Number of regimens		
AMPICILLIN: Number of regimens		
AZITHROMYC: Number of regimens		
AZTREONAM: Number of regimens		
CEFACTOR: Number of regimens		
CEFADROXIL: Number of regimens		
CEFAZOLIN: Number of regimens		
CEFDINIR: Number of regimens		
CEFEPIME: Number of regimens		
CEFIXIME: Number of regimens		

South Dakota Electronic Disease Surveillance System

Long term care facility form - Avera Eureka - LTC Fac [Jump To...]

measuring antibiotic consumption among long term care (LTC) facility residents

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CEFAZOLIN: Number of regimens		
CEFDINIR: Number of regimens		
CEFEPIME: Number of regimens		
CEFIXIME: Number of regimens		

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Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility

Reporting form to be submitted by participating facility

Form generation date 01/10/2017 Add New

* Date of reporting
* Report covers calendar month of
* Report covers year of

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+ Expand Details

Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility

Reporting form to be submitted by participating facility

Form generation date	01/10/2017	Add New
* Date of reporting		
* Report covers calendar month of		
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Number of long term care facility residents		
Resident-days		
Number of C. difficile positive case counts in a facility during reporting period		
AMOXICILLIN: Number of regimens		
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+ Expand Details

Measuring antibiotic consumption among long term care (LTC) facility residents

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Reporting form to be submitted by participating facility

Form generation date	01/10/2017	Add New
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CEFACTOR: Number of regimens		
CEFADROXIL: Number of regimens		
CEFAZOLIN: Number of regimens		
CEFDINIR: Number of regimens		
CEFEPIME: Number of regimens		
CEFIXIME: Number of regimens		

***C. difficile* case counts**

- You should only report case counts of *C. difficile* in you facility
 - In a reporting period (1 month)
 - No deduplication required
 - No special testing
- Only the number of patients diagnosed with *C. difficile* diarrhea
- *C. difficile* should be diagnosed during the stay at LTC facility
 - Specimen collection date should be during the LTC stay

+ Expand Details

Measuring antibiotic consumption among long term care (LTC) facility residents

* Name of reporting facility

Reporting form to be submitted by participating facility

Form generation date	01/10/2017	Add New
* Date of reporting	MM/DD/YYYY	
* Report covers calendar month of		
* Report covers year of		
Number of long term care facility residents		
Resident-days		
Number of C. difficile positive case counts in a facility during reporting period		
AMOXICILLIN: Number of regimens	44	
* Days of therapy		
AMOXICILLIN/CLAVULANATE: Number of regimens		
AMPICILLIN: Number of regimens		
AZITHROMYC: Number of regimens		
AZTREONAM: Number of regimens		
CEFACTOR: Number of regimens		
CEFADROXIL: Number of regimens		
CEFAZOLIN: Number of regimens		
CEFDINIR: Number of regimens		
CEFFPIME: Number of regimens		

- **If you want to report an antibiotic consumption not provided in the list, please choose option:**
- **“If other, please specify_____”**
- **Which is at the bottom of a list...**
- **Type the name of an antibiotic that you are reporting**

Long term care facility form - Avera Eureka - LTC Fac [Jump To...] Save Save & Stay Cancel

POLYMYXIN: Number of regimens i	<input type="text"/>	+ Expand Details
RIFABUTIN: Number of regimens i	<input type="text"/>	
RIFAMPIN: Number of regimens i	<input type="text"/>	
RIFAPENTIN: Number of regimens i	<input type="text"/>	
RIFAXIMIN: Number of regimens i	<input type="text"/>	
SULFADIAZINE: Number of regimens i	<input type="text"/>	
SULFAMETHOXAZOLE: Number of regimens i	<input type="text"/>	
TETRACYCLINE: Number of regimens i	<input type="text"/>	
TIGECYCLIN: Number of regimens i	<input type="text"/>	
TOBRAMYCIN: Number of regimens i	<input type="text"/>	
TRIMETHOPRIM-SULFAMETHOXAZOLE: Number of regimens i	<input type="text"/>	
MINOCYCLIN: Number of regimens i	<input type="text"/>	
If other specify	<input type="text"/>	
Comments	<input type="text"/>	

* Indicates required field

Save Cancel Help

Browser address bar: <https://maven.sd.gov/maven/editQuestionPackage.d> Long term care facility form

File Edit View Favorites Tools Help

South Dakota Electronic Disease Surveillance System Search Nato Tarkh

Long term care facility form - Avera Eureka - LTC Fac

[Jump To...] Save Save & Stay Cancel

POLYMYXIN: Number of regimens i	<input type="text"/>	+ Expand Details
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SULFAMETHOXAZOLE: Number of regimens i	<input type="text"/>	
TETRACYCLINE: Number of regimens i	<input type="text"/>	
TIGECYCLIN: Number of regimens i	<input type="text"/>	
TOBRAMYCIN: Number of regimens i	<input type="text"/>	
TRIMETHOPRIM-SULFAMETHOXAZOLE: Number of regimens i	<input type="text"/>	
VANCOMYCIN: Number of regimens i	<input type="text"/>	
If other specify	<input type="text"/>	

Comments

* Indicates required field

Save Cancel Help

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“Comments” section

- **“Comments” section is a box at the bottom of a page**
- **If you want to tell us something about your report, please report through “Comments”**
- **You can type as many words as you want**
- **No limitations**

SD DOH Responsibilities

- Will calculate measures of antibiotic consumption and provide feedback to participating facilities
- The data will allow you to compare your rates with the rates of other facilities in a state
- We will help you define a baseline and monitor success towards reducing antibiotic consumption

Scoring System

	Higher than state mean in number of regimens per 1,000 residents	Higher than state mean in number of days of therapy per 1,000 days of therapy for all antibiotics	Higher than state mean in any antibiotic group by mechanism of activity	Score	
Facility X	1	1	1	3	This facility has a problem (either outbreak, or misuse/overuse of antibiotics)
Facility Y	1	0	0	1	
Facility Z	1	1	0	2	

Thank you

Please consider reviewing the CDC Core Elements of Stewardship in Long-Term Care

<https://www.cdc.gov/longtermcare/prevention/antibiotic-stewardship.html>

AND the Nursing Home Antibiotic Stewardship Guide

<https://www.ahrq.gov/nhguide/index.html>

Nurses

complete the brief 10-module antibiotic stewardship training course and obtain up to 2 hours of CE credit and learn what stewardship really means in your facility

<https://nursinghomeinfections.unc.edu/nurses/>