



# Nursing Center Infection Tracking Log USER GUIDE

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**BROWN**  
School of Public Health

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## Introduction

This Infection Control Log was developed by the Brown University Center for Long-Term Care Quality & Innovation as part of a Centers for Disease Control and Prevention (CDC) contract to improve antibiotic stewardship in skilled nursing centers (Contract # 200-2016-91773 001). It captures the clinical data skilled nursing center staff already document for infections, often using paper-based logs. It enables you to:

- 1) **Link data** for infectious episodes,
- 2) **Generate performance reports** for your Infection Prevention & Control Program (IPCP) and Quality Assurance and Performance Improvement (QAPI) programs, and
- 3) **Visualize infections** on your floor plan.

While developed to help nursing centers incorporate CDC's *Core Elements of Antibiotic Stewardship in Nursing Homes* into their antibiotic stewardship programs, the Infection Tracking Log includes all of the data you document for infections, including respiratory infections like COVID-19, and **may be of particular use as you increase your focus on infection prevention during the coronavirus pandemic.**

This guide explains how to implement the Infection Control Log. The goal is to help you to standardize documentation after your staff become aware of or are suspicious of a resident's change in condition. This includes the report of that initial change to a clinical provider, the follow-up communication with that provider after antibiotic prescribing, and infection surveillance that is part of your IPCP and QAPI activities with your medical director, consultant pharmacist, infection preventionist, and other clinical participants.

What is the Infection Control Log? It is a Microsoft Excel® spreadsheet with two areas:

- A sheet where nurses or infection preventionists enter data for each change in condition.
- A map graphically representing your facility, which must be customized to match your facility floor plan as part of a one-time set up (**familiarity with Excel® required**).

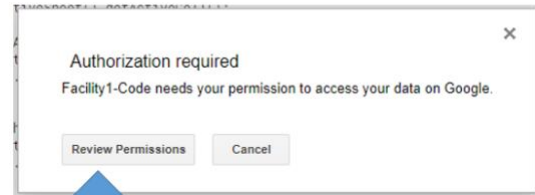
The guide provides step-by-step instructions. Note that you need someone who is knowledgeable about Excel® to build the floor plan. This is a one-time setup. After that initial setup, a nurse or infection preventionist can use the file to track infections on an ongoing basis.

# How to Build the Infection Control Log

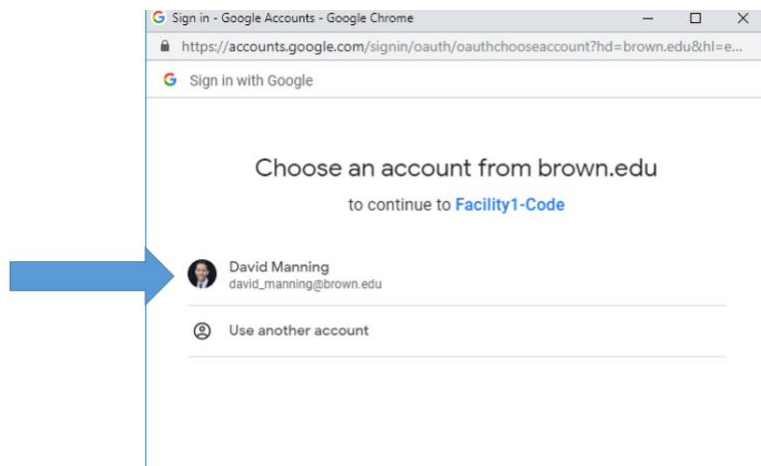
## Authorization for Excel® Users

Excel® Users need to provide authorization to access the full functionality of the log by following these steps explained below.

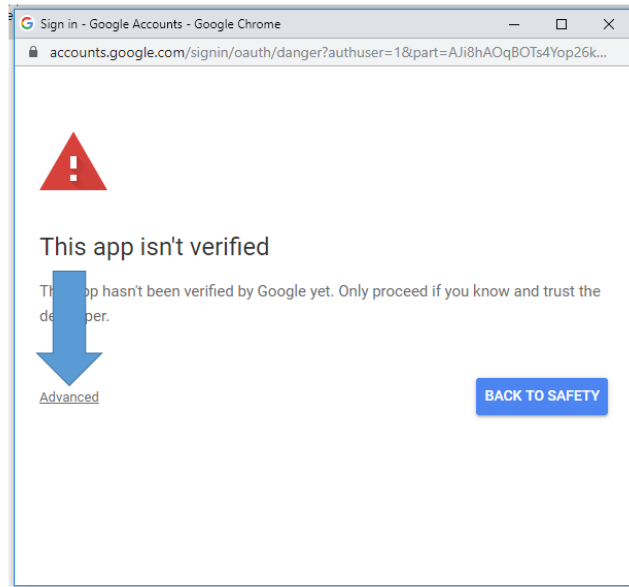
- Click Review Permissions



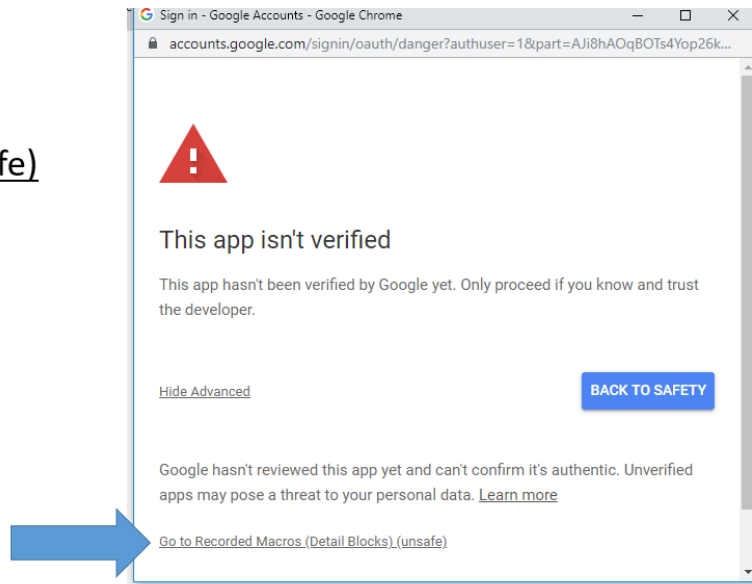
- Select your account



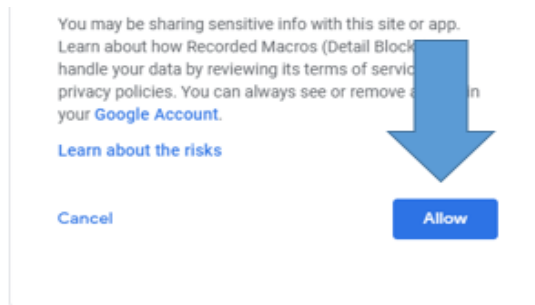
- Click Advanced



- Click Go to [name] (unsafe)



- Click Allow



## Adapting the Infection Tracking Log for Your Site

### Using the Excel® Template

To use the Excel® template, you'll need to update and adapt your floor plan. Start by opening the template with Microsoft Excel:

1. Open the **Infection Control Log** file.
2. When you open the spreadsheet, it will ask you about Macros. Select **Enable Macros**.
3. Save the file to your computer.

The **training videos** available online will walk you through the process of updating your Infection Tracking Log. **Note: Once the initial floorplan is built, do not add or delete rows or columns to the Excel® file.**

### Updating by Staff and Prescribers

By entering a list of active staff and prescribers into the Infection Tracking Log, you'll be able to provide staff- and prescriber-level feedback at any given point.

Collect the list of current staff members (those who might be expected to complete a CIC) and active prescribers in your building. Exclude prescribers that operate from an external source (hospitals, community clinics, etc. and that don't prescribe for a resident in your facility. These will be accounted for as "other" in the Infection Tracking Log.

### Initial Adaptation of the Digital Floor Plan (Site Map)

The digital floor plan in the Infection Tracking Log will auto-populate given the infection data that you input. You will need to build out your floor plan and ensure that the room numbers are correct. **IMPORTANT NOTE:** Many cells contain Excel® formulas that automatically populate reports, links to other data, and the Digital Floor Plan. Do NOT change these formulas. Familiarity with Excel® would be required.

## Overview of the Infection Tracking Log

First, get oriented. Note the information in the first rows are areas where you can zoom to or print specific types of reports generated from the data you will enter.

Next are column headers for the Infection Tracking Log, and rows for entry of new episodes of care where infection is suspected (and antibiotics prescribed). The only area you need to input data is in the log itself. All other areas (tables, reports, and map) are populated by the spreadsheet automatically.

The template you opened makes some assumptions about characteristics about your facility that need to be corrected, like having a staff nurse with the name of “Staff 1.” When you look at the template, you’ll notice several tabs at the bottom, and if you are the person who will modify the look on the data entry splash page, like the list of room numbers, and prescriber and nurse names, you’ll be adding those to the respective tab.

**See ABS LOG Demonstration**

**See Build Guide Video: ABS LOG Floor Plan Build**

<b>Floor Plan Building Blocks</b>					
1. Starting in the upper left corner of your facility floor plan, copy and paste building blocks to the left to create an approximation of your floor plan including all resident rooms.					
2. Fill in all facility space that is not a resident room (hallways, common areas, supply rooms) with light grey.					
General Facility Space					
3. Fill in all areas not a part of your facility with dark grey.					
Not Part of Facility Space					
Each room number needs 3 digits (###) followed by - 1 or -2 to account for double occupancy	<b>Single Room</b>				
	Room ###-1	Room ###-2			
	<b>Horizontal Hallway with Rooms</b>				
	Room ###-1	Room ###-2	Room ###-1	Room ###-2	
	Room ###-1	Room ###-2	Room ###-1	Room ###-2	
<b>Example:</b>					
<b>First Floor (C Hall)</b>					
002-1	002-2	004-1	004-2	006-1	006-2
001-1	001-2	003-1	003-2	005-1	005-2
<b>Second Floor (A Hall &amp; B Hall)</b>					
224-1	224-2	226-1	226-2	228-1	228-2
223-1	223-2	225-1	225-2	227-1	227-2

# Infection Control Log Detailed Description

The Infection Control Log automatically generates printable statistics and charts that can be used for targeted analysis and identification of opportunities for improvement at the facility, prescriber, and staff levels. The document has four main components, including (1) the manual-input infection log area and automatically generates (2) facility floor plan trend mapping, (3) infection log reports, and (4) a variety of charts.

## Manually-Input Information Infection Tracking Log

Print All		Print Reports:		Log Data	Log Report Site & Prescriber	Log Report: CIC Staff	Map 1	Map 2	Root Cause	Infection	CIC	LOT/CDIF/MRSA	All Prescribers	Carbap	Folate	Gliben	Gil	Lofant	Lee	Tracy	Other														
Infection Control Surveillance Log		Facility	Facility		+ with		August	Year	2019	Avg. Daily Census		Resident Days per Month		Treatment		Prescribers		Therapy																	
The prescription was Reviewed (ATE selection & therapy)	Was the original therapy Endored?	Resident Name/Room	Date of Current Admission or Readmission	Date of Onset	Signs & Symptoms	CIC initially complete of the order? (E/F/G)	Who initiated the order? (Staff)	Was a CIC Form Completed? (Yellow)	Location of Infection	Meets Medicare's Criteria	Lab Identifies a C. difficile Infection (CDI)	MRSA Infection	Admitted with Infection	Honor Acquired (Resident)	Temp	X-Ray Taken	Culture Taken	Foley	Trach	Causative Organism (if not "none found")	Class	Medication	Treatment	Follow-up De-prescription	Diagnosis	Was this antibiotic prescribed at the facility?	Who prescribed this antibiotic?	Start Date	Stop Date	Length of Therapy (days)	Reported or infectious reported	Control Technique Utilized			
																																	Clinical Information		

The Infection Control Log is comprised of seven sections about each antibiotic prescribed. It includes a combination of user-entered information and drop-down menus for each reported prescription. The log is designed so that each antibiotic prescription is in its own row and every cell of that row (from column Y to column AG) must have user input for the prescription data to be considered complete. The log automatically color-codes so that individual cells have a red background if the information it contains is contradictory or missing. From this information, the surveillance log document will automatically populate with color- and symbol-specific information reflecting the resident’s infections in the facility floor plan and generate a variety of reports and charts, described below.

## Special Scenarios

### When Questions Are Not Applicable

If a column of the log is not applicable for a particular infection, type or select “not applicable” (N/A) from the drop-down menu.

### Multiple Prescriptions With Only One Change in Condition

If there are multiple prescriptions included for a single resident change in condition, fill out all log information for the first prescription and select “Multi-Rx” when available for all other prescriptions associated with that change in condition, with one row per prescription. For location of infection (Column M) choose “Multi-Rx” to avoid an incorrect count of infection frequencies.



## Color Coded Cells in the Infection Log

There is one row of the infection log for every antibiotic in your facility.

- **Red** indicates missing or contradicting information
- **Pink** indicates a Change in Condition tool was not completed prior to a prescription. **Please ignore the pink color coding, as the referenced tool (Change in Condition) is not being disseminated at this time.**

## Infection Tracking Log Sections

### Consultant Pharmacist/Medical Director Review (Columns B-D)

Information regarding the review of each medication during QAPI by both the Consultant Pharmacist and the Medical Director. Column B is a Y/N question if the medication was reviewed. Column C-D is whether the Consultant Pharmacist and Medical Director, respectively, endorse the original prescription as prescribed.

### Resident (Columns E-I)

Includes information pertaining to resident and infection identification, including resident name, room and bed number, date of current admission or readmission, date of onset, and signs and symptoms of infection.

### Staff (Columns J-L)

**Please disregard these columns, as the referenced tool (Change in Condition) is not being disseminated at this time.** The Infection Tracking Log was developed as part of a three tool bundle, but stands alone for use in infection surveillance and during the COVID-19 response.

### Clinical Information (Columns M-W)

Includes information pertaining to the infection itself, identifying the location of the infection, whether the infection met McGeer's criteria, if the infection was diagnosed as *C. difficile* or MRSA, if the resident was admitted with the infection or if it was healthcare-acquired, and if the resident had an abnormal temperature, x-ray imaging, bacterial or viral culture submitted, an indwelling Foley catheter, or tracheostomy, and if a causative organism of the infection was identified. This section primarily uses drop-down menus from which appropriate answers to each column question may be selected.

### Treatment (Columns Y-AC)

Includes information about the prescription, identifying the class of medication, the medication itself, dosing (treatment), actions taken for follow-up and de-escalation, and the final diagnosis associated with the prescription. The medication class must first be selected before a medication can be chosen.

**Prescriber (Columns AD-AE)**

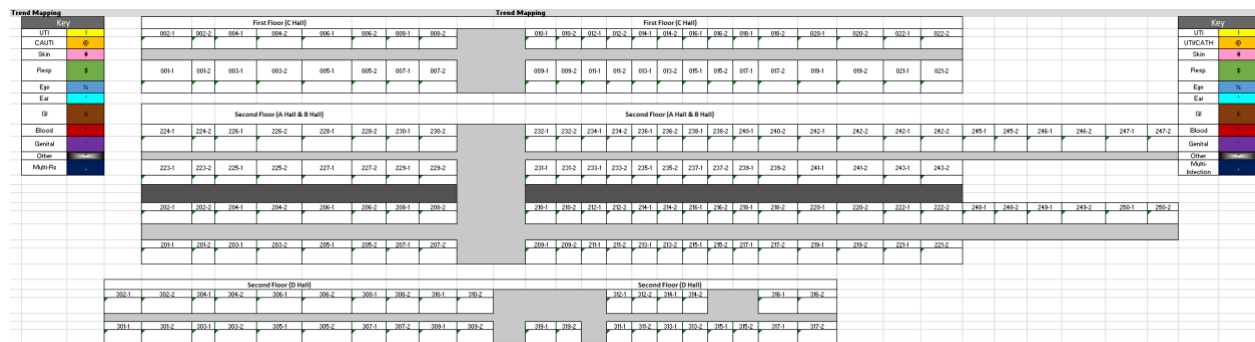
Identifies if the antibiotic was initially prescribed at this facility and who prescribed the antibiotic.

**Therapy (Columns AF-AJ)**

Includes information about the length of therapy, inputting the start date, stop date, and length of therapy in days for the prescription. Also includes whether reportable infections were reported and if any control techniques were utilized.

**Automatically-Generated Facility Floor Plan Trend Mapping**

On the basis of the room number and location of infection for each prescription in the infection tracking log, the facility floor plan will automatically add color by resident room number and location on the floorplan. The color and symbol that appear are assigned to each type of infection. The key to the left and right of the floor plan identifies which infection locations, such as skin, respiratory, or UTI, correspond to what symbol and color.



Key	
UTI	!
CAUTI	@
Skin	#
Resp	§
Eye	%
Ear	^
GI	&
Blood	*
Genital	^
Other	~
Multi-Fix	.

### Infection Tracking Log Reports

Facility-Level Infection information included in the Infection Log

Infection Log Reports												
Location	Admitted With	Nosocomial	Total	McGeer's Met	McGeer's Not Met	% Rate of McGeer's	CIC Completed (Nosocomial)	CIC Not Completed (Nosocomial)	% Rate of CIC (Nosocomial)	Average Length of Therapy (days)	Infection Rate (%)	Rate per 1,000 Resident Days (%)
UTI	0	0	0	0	0		0	0				
Cath/UTI	0	0	0	0	0		0	0				
Skin	0	0	0	0	0		0	0				
Respiratory	0	0	0	0	0		0	0				
Eye	0	0	0	0	0		0	0				
Ear	0	0	0	0	0		0	0				
GI	0	0	0	0	0		0	0				
Blood	0	0	0	0	0		0	0				
Genital	0	0	0	0	0		0	0				
Other	0	0	0	0	0		0	0				
Infection	Admitted With	Nosocomial	Total								Infection Rate (%)	Rate per 1,000 Resident
CDI	0	0	0									
MRSA	0	0	0									

Prescriber-Level Infection information included in the Infection Log

Prescriber	McGeer's Met	McGeer's Not Met	Prescriber % Rate of McGeer's	Continued	Discontinued	Changed	Narrowed	Shortened	Total Number of De-escalations	Prescriber Average Length of Therapy (days)	Prescriber Average Length of Therapy, McGeer's Met (days)	Prescriber Average Length of Therapy, McGeer's Not Met (days)
Dr1	0	0		0	0	0	0	0	0			
Dr2	0	0		0	0	0	0	0	0			
Dr3	0	0		0	0	0	0	0	0			
Dr4	0	0		0	0	0	0	0	0			
Dr5	0	0		0	0	0	0	0	0			
Dr6	0	0		0	0	0	0	0	0			
Dr7	0	0		0	0	0	0	0	0			
Dr8	0	0		0	0	0	0	0	0			
Facility Total	0	0		0	0	0	0	0	0			
Facility Average				0.00	0.00	0.00	0.00	0.00	0.00			

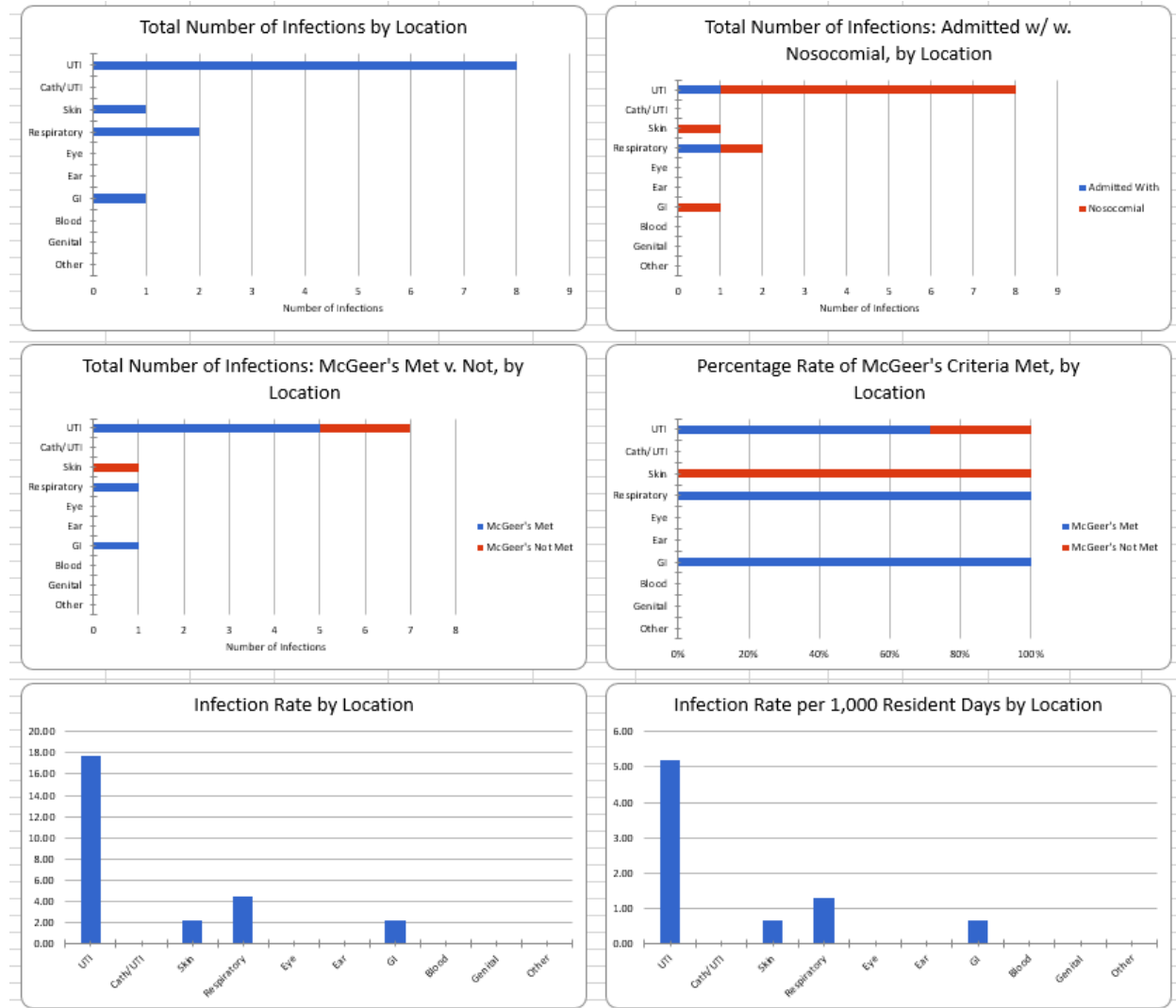
-Rate (%) calculated by # of each infection per month divided by average resident census of month x 100 =rate (%)  
 -Rate per 1,000 Resident Days (%) calculated by # of each infections per month divided by total resident days in month with the product multiplied by 1,000 = rate(%)  
 -Outbreaks are triggered when 2 or more infections are identified and the infections are clustered in one neighborhood/hallway/unit

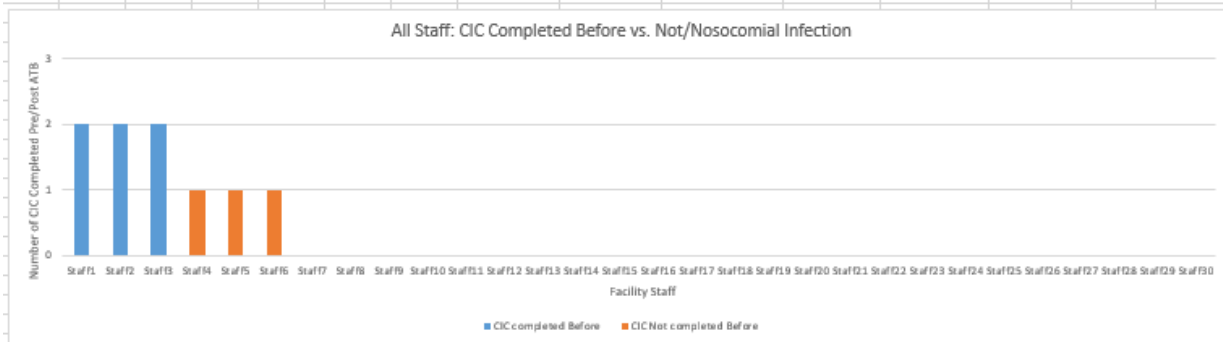
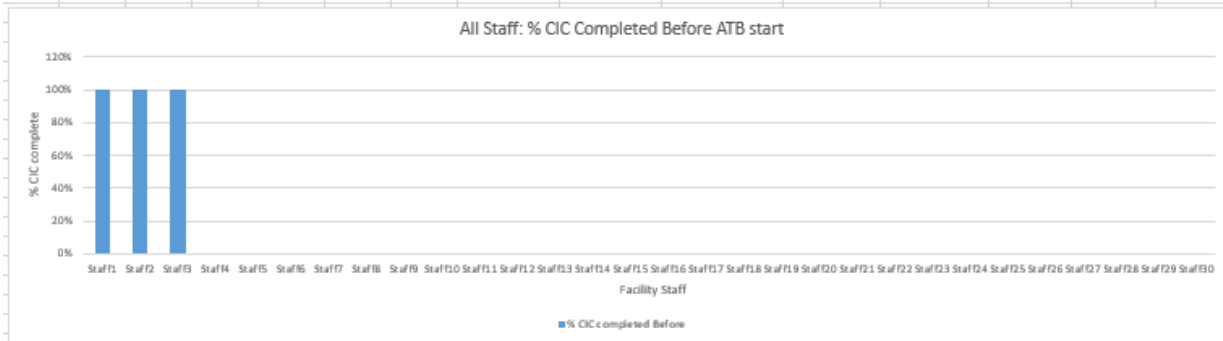
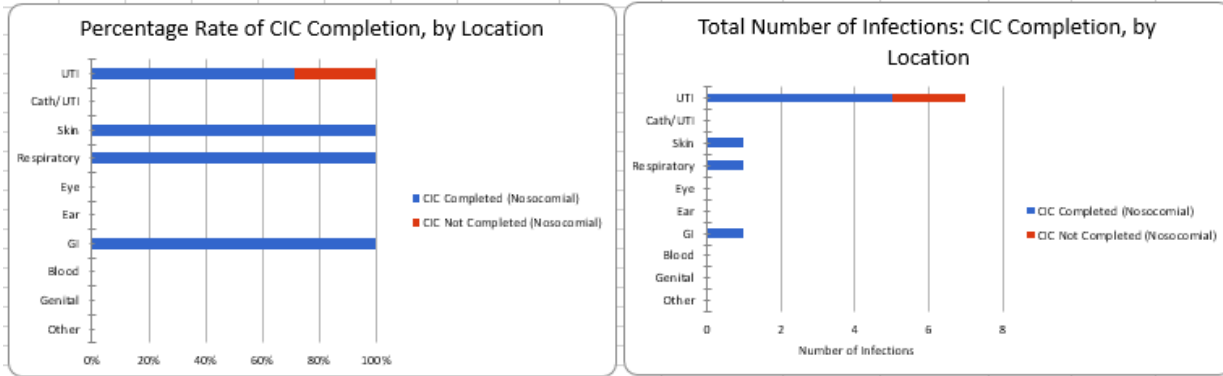
### Consultant Pharmacist and Medical Director-Level

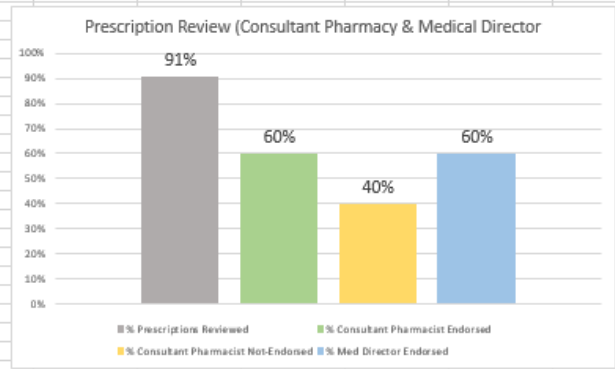
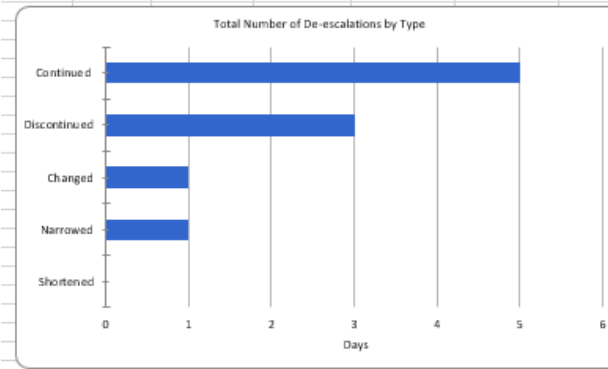
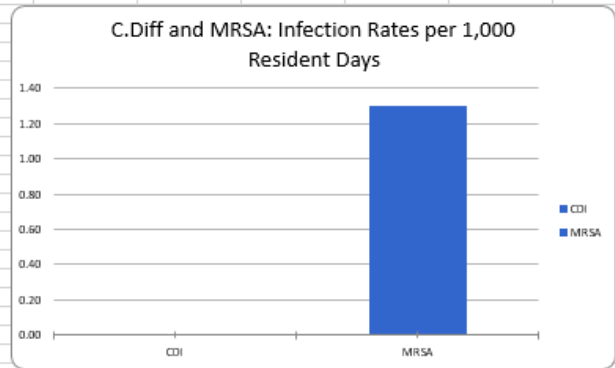
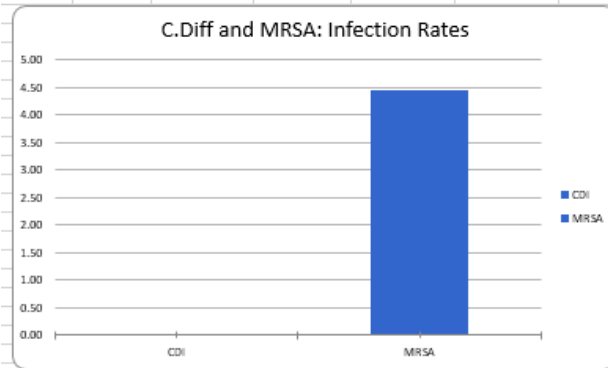
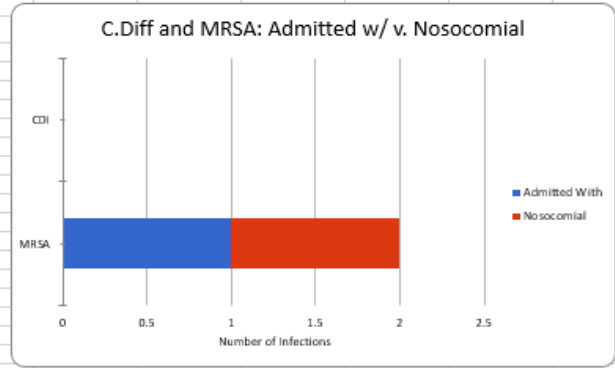
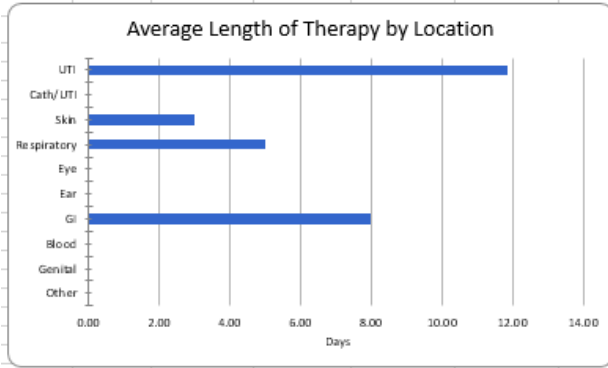
Pharmacy/Prescription Review	% Prescriptions Reviewed	% Consultant Pharmacist Endorsed	% Consultant Pharmacist Not Endorsed	% Med Director Endorsed						

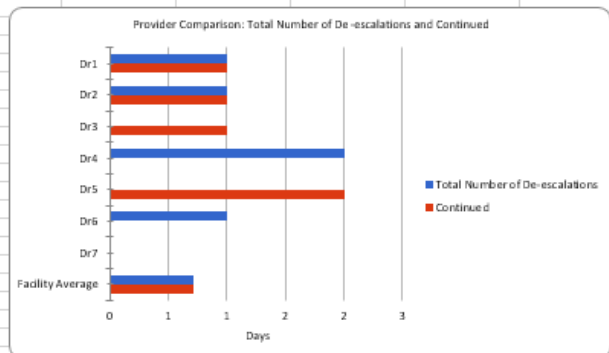
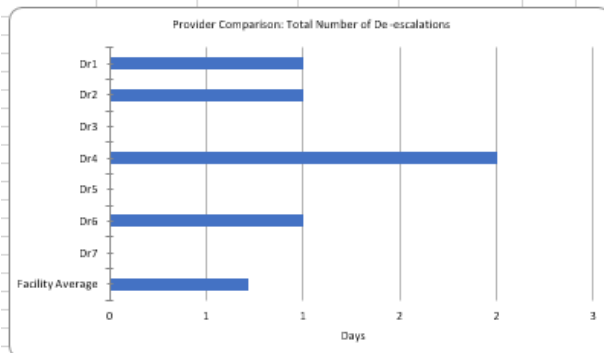
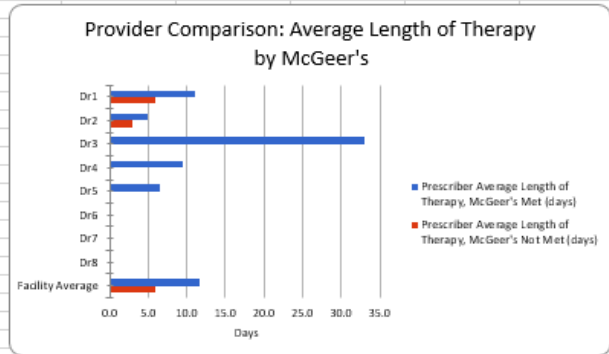
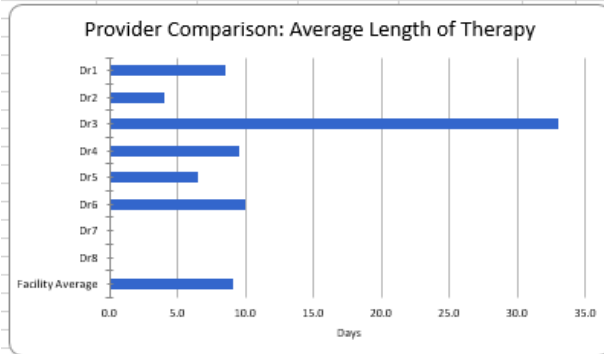
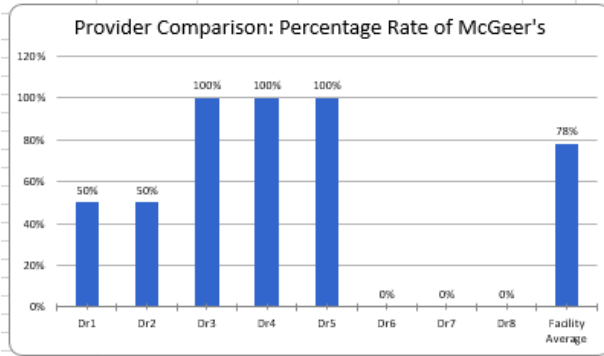
**Charts**

Facility-Level charts and graphs presenting information included in the Infection Log

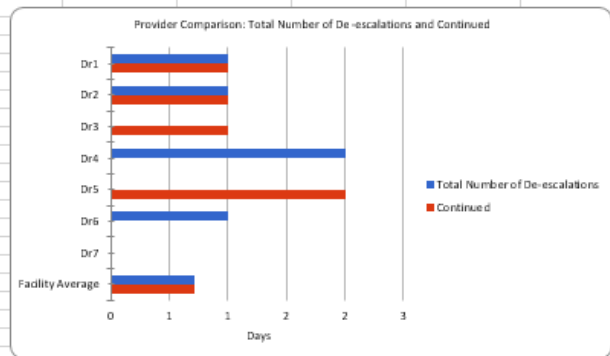
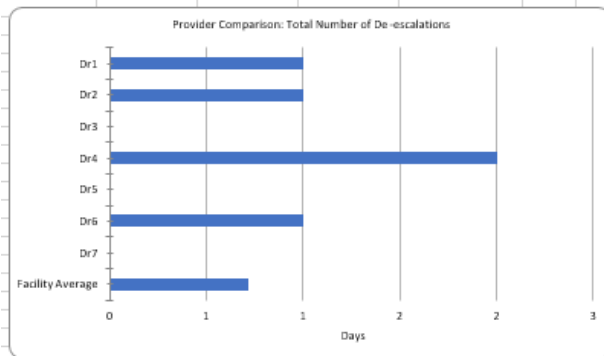
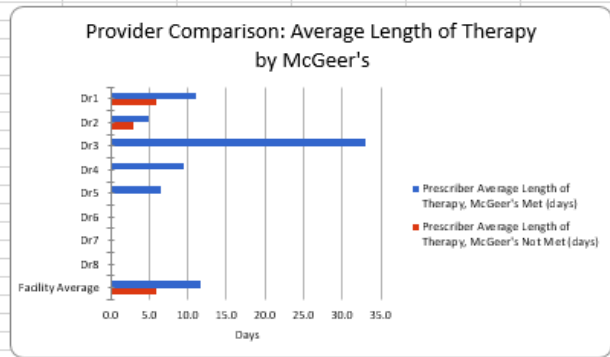
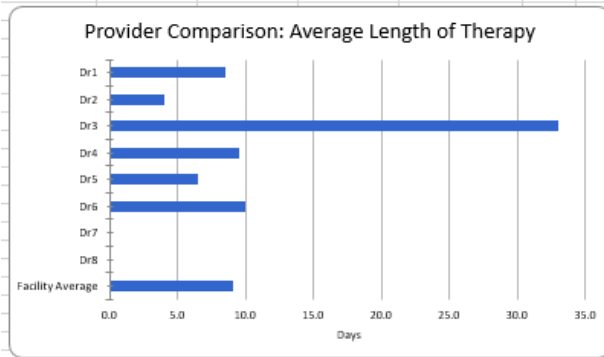
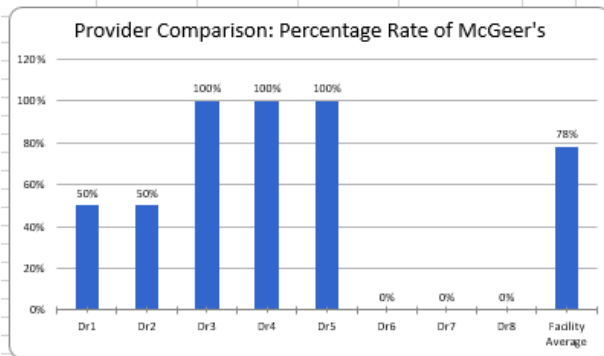




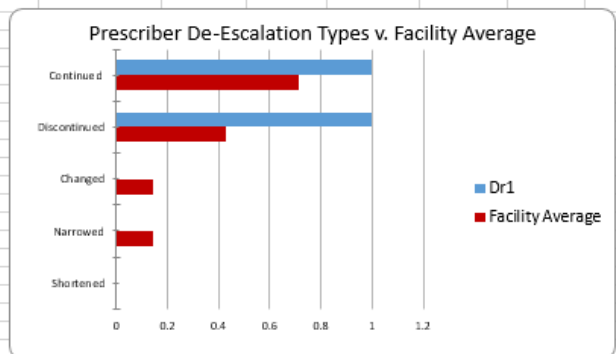
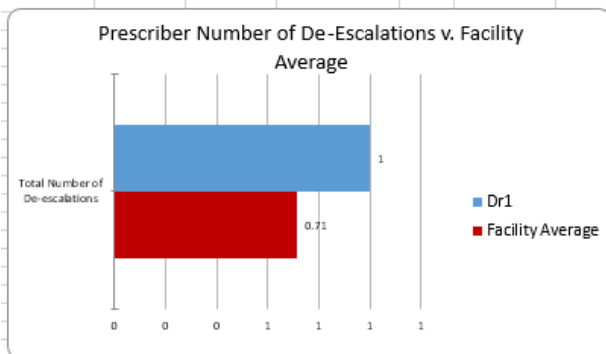
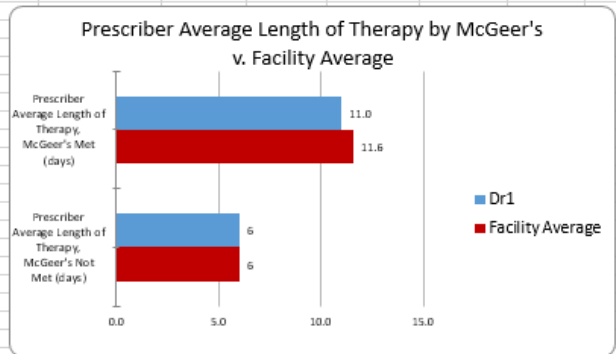
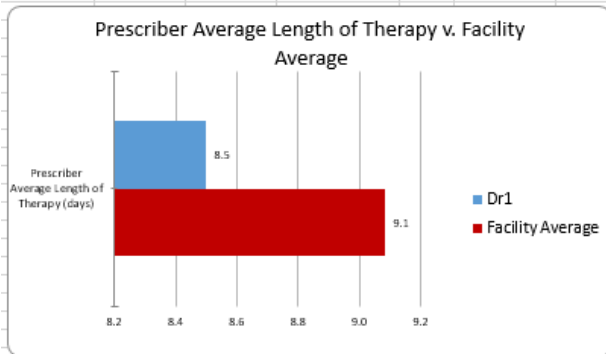
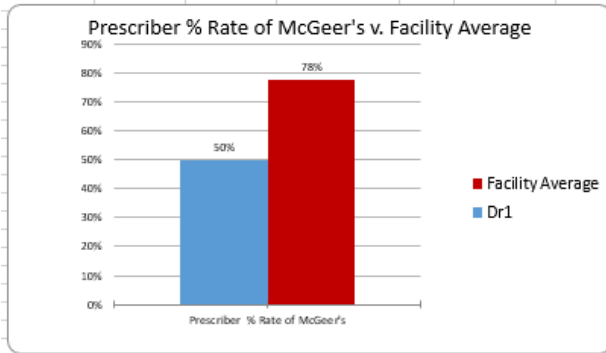




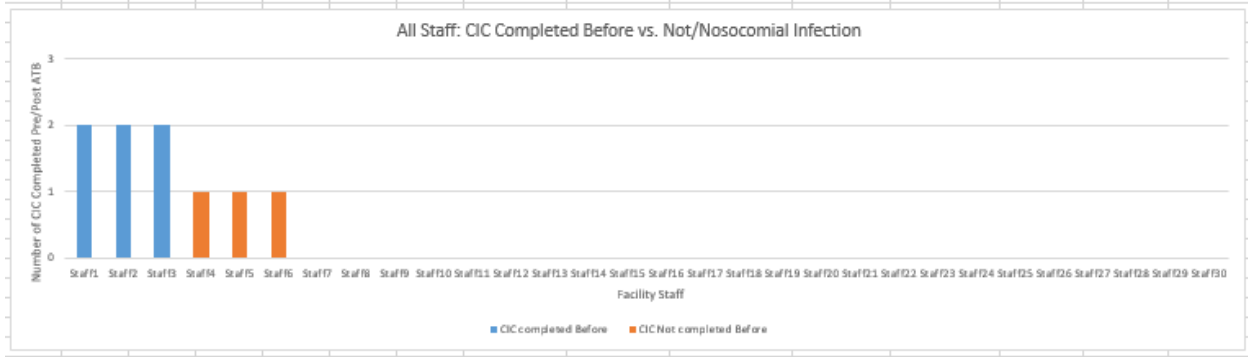
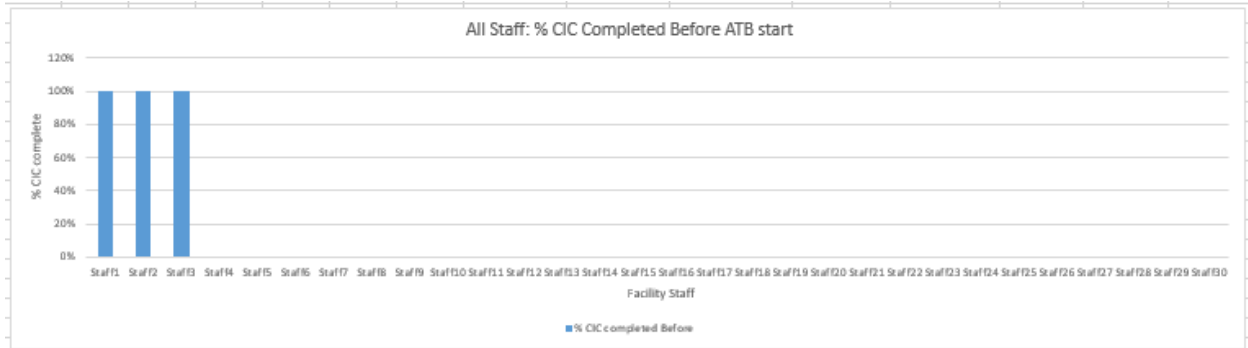
Prescriber-Level







*Nurse-Level*





## Adding Your Staff Members

At the bottom of the Excel® document, you will notice tabs that are for several sheets or pages of the log .You will note one sheet for each month and a blank master template. Included among these tabs at the very bottom of the document is a one labeled “list data.” By clicking this tab, you will see a sheet where the data that generate the options for the drop-down menus of the infection log are generated. You can easily add more staff members, either under “Staff” (Column K) for new nurses or “Prescriber” (Column L) for new prescribers, by typing in the name of the staff member at the bottom of the list in that column.

I	J	K	L	M
	Facilities	Staff	Prescriber	
	Fac1	Staff1	Dr1	
	Fac2	Staff2	Dr2	
	Fac3	Staff3	Dr3	
	Fac4	Staff4	Dr4	
	Fac5	Staff5	Dr5	
	Fac6	Staff6	Dr6	
	Fac7	Staff7	Dr7	
	Fac8	Staff8	Dr8	
	Fac9	Staff9		
	Fac10	Staff10		
	Fac11	Staff11		
	Fac12	Staff12		
	Fac13	Staff13		
	Fac14	Staff14		
	Fac15	Staff15		
	Fac16	Staff16		
	Fac17	Staff17		
	Fac18	Staff18		
	Fac19	Staff19		
	Fac20	Staff20		
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		Staff40		