

Frequently Asked Questions about...

Urinary Tract Infection Surveillance

Q. What is surveillance?

A. Surveillance is a systematic and ongoing approach to monitoring illness, allowing you to track the health status of your residents and staff. Routine surveillance gives a picture of what health problems are occurring in your facility so you can track changes over time and quickly notice when a certain type of illness is increasing. It is recommended that you track priority illnesses and infections that are preventable, rather than trying to track all possible health conditions. Early identification of increases in the number or rate of urinary tract infections (UTIs) helps to ensure that infection control measures can be put in place to prevent the development of additional cases.

Q. How should I conduct surveillance for UTIs in my facility?

A. The easiest way to conduct surveillance within your facility is to maintain illness logs and collect data on any new UTIs identified, using a standardized form (such as the UTI event form). These quick reference logs are filled out by you and your staff every day there is illness among residents and reviewed on a weekly or monthly basis to identify any common trends. The log should include details about each case of illness, including the person's name, room location, date of onset, and symptoms. Smaller facilities may need only one log, while larger facilities may find it more beneficial to maintain separate logs for each building, wing, or floor.

Q. What else should be included on a surveillance log?

A. An important method of surveillance is to track your information by at least three types of factors: person, place, and time.

Person means factors the ill people have in common such as age, race/ethnicity, sex, and underlying medical conditions. Review the logs to determine what personal characteristics the people with UTIs have in common (for example, all might have a urinary catheter or a history of incontinence).

Place can be defined as a building, floor, wing, or any other type of 'place' definition that makes sense for your facility in tracking UTIs. This can help determine if the illness is occurring throughout the facility or confined to certain areas which need additional education and/or other infection prevention practices.

Time can be defined as week, month, quarter or any other measure of time. Review your logs to look at changes over time.

Q. What do I do with these logs?

A. By reviewing your surveillance logs each week, you will develop a sense of the usual UTI counts and rates that occur in your facility. Once you are familiar with your normal level of UTI activity, you will be in a better position to notice when increases occur. If you see increases in UTIs, look for factors that ill people have in common and for opportunities to prevent illness.

Q. Why do I need to calculate a rate instead of tracking the number of UTIs?

A. Comparing numbers or *counts* of illnesses in different areas does not give you an accurate picture of what is going on. For instance, in a given month, one area of the facility might have more UTIs just because more people live there. Calculating a *rate* is a way to account for differences in illness levels that may be due to differences in population size. Rates allow comparisons to be made between different groups or over time. A rate may be expressed as a percentage or as a relationship to units of population at risk during that time period, such as 100 or 1,000.

Q. How do I calculate a percentage of residents with a UTI (UTI rate)?

A. A percentage of residents with a UTI is a simple rate that is often easy for people to understand. To calculate this rate, divide the number of people in the surveillance area who met the criteria for a new UTI by the number of residents in the surveillance area for the same time period, and multiply by 100.

$$\text{UTI Rate: } \frac{\text{\# of new UTIs in the area in a time period}}{\text{\# residents in the area in a time period}} \times 100$$

Example: You want to track the UTI rate in your facility. You add up the total number of residents in the facility in June and in July. For June, there were 450 residents and for July, there were 500 residents.

After reviewing your logs, you count 5 residents who developed a new UTI in June, and 10 new UTIs in July.

$$\text{June UTI Rate: } \frac{5 \text{ new UTIs in June}}{450 \text{ residents in June}} \times 100 = 1.1\% \quad \text{July UTI Rate: } \frac{10 \text{ new UTIs in July}}{500 \text{ residents in July}} \times 100 = 2\%$$

Looking at the rate is more meaningful than the count because the number of residents was not the same in the two time periods being compared. One month might not be enough time to see a trend, so it is important to look back farther in time and continue to monitor it going forward to see if this finding is normal or could signify something unusual.

Q. What is a “urinary catheter day” and how do I measure it?

A. Each day a resident has a urinary catheter in place is a “urinary catheter day”. To be most accurate, the number of residents with a urinary catheter should be counted at the *same time* each day. The number of urinary catheter days is important when calculating a catheter-associated urinary tract infection (CAUTI) rate because the number of urinary catheter days defines the population that is “at risk” for developing a CAUTI.

Q. How do I calculate a CAUTI rate?

A. To calculate a CAUTI rate, divide the number of people in the surveillance area who met the criteria for a new CAUTI by the number of urinary catheter days in the surveillance area for the same time period, and multiply the result by 1,000.

$$\text{CAUTI Rate: } \frac{\text{\# of new CAUTIs in the area in a time period}}{\text{\# urinary catheter days in the area in a time period}} \times 1,000$$

Example: You recently implemented a quality improvement program and want to see if your CAUTI rate has changed. You add up the number of urinary catheter days for each day in June and each day in July. For June, there were 120 urinary catheter days and for July, there were 100 urinary catheter days.

After reviewing your logs, you count 3 residents who developed a new CAUTI in June, and 2 new CAUTIs in July.

$$\begin{array}{lclclcl} \text{June} & & & & \text{July} & & & & \\ \text{CAUTI Rate} & \frac{3 \text{ new CAUTIs}}{120 \text{ urinary catheter days}} & \times & 1,000 = & 25 & \text{CAUTI Rate} & \frac{2 \text{ new CAUTIs}}{100 \text{ urinary catheter days}} & \times & 1,000 = & 20 \end{array}$$

By comparing June’s CAUTI rate (25) to July’s rate (20), it looks like the rate is going down, but it may be too early to tell how well your program is working. It is important to continue to track the CAUTI rate over time.

Contact your local health department if you have additional questions about tracking infections or reporting outbreaks in your facility.