# Demo Exercise Results: Statistics Calculator

## Question 1 Output:

The first question asks you to compare two rates, so the appropriate option to compare two incidence density rates is selected. The output is shown below.

**National Healthcare Safety Network**
**CAUTI rate comparison**
As of: February 24, 2014 at 11:35 AM

|  | 2012 Q1 | 2012Q2 |
|---|---|---|
| Numerator | 3 | 1 |
| Denominator | 677 | 720 |
| Incidence Density Rate | 4.431 | 1.389 |
| IDR p-value | 0.3449 | |

## Question 1 Answer:

- Did the 71ICU's CAUTI rate change significantly between the first and second quarters of 2012?

  **No. The CAUTI rate for the 71ICU decreased from 4.431 to 1.389 CAUTIs per 1,000 urinary catheter days. Using the "Compare Two Incidence Density Rates" option in the Statistics Calculator to compare the two rates, a p-value of 0.3449 is returned. Since the p-value is greater than 0.05, the conclusion is that the decrease in rates between Q1 and Q2 is not statistically significant.**

  **With that being said, it is important to remember that statistical significance and practical significance are two separate issues. Even though the decrease in rates might not achieve statistical significance, it is important to look at the numbers behind the statistical test. The number of observed CAUTI infections did decrease, despite an increase in urinary catheter days.**

## Question 2 Output:

**National Healthcare Safety Network**
**CAUTI device-utilization comparison**
As of: February 24, 2014 at 11:39 AM

|  | 2012 Q1 | 2012 Q2 |
|---|---|---|
| Numerator | 677 | 720 |
| Denominator | 1363 | 1531 |
| Proportion | 49.670% | 47.028% |
| Proportion p-value | 0.4022 | |

Note: The device utilization ratios are shown as a percent. Divide these by 100 to get the utilization ratios.

## Question 2 Answer:

- Did the 71ICU's urinary catheter utilization ratio change significantly between the first and second quarters of 2012?

  **No.  The urinary catheter utilization ratio decreased from 0.497 to 0.470 from the first quarter to the second quarter.  Using the "Compare Two Proportions" option in the Statistics Calculator, a p-value of 0.4022 is calculated.  Since the p-value is greater than 0.05, the conclusion is that the decrease in urinary catheter utilization ratio between Q1 and Q2 is *not* statistically significant.**