

# Using Tableau software for visualization and analysis of our breast cancer population and comparison with rural cancer center in Maine

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## Abstract

**Objectives:** One of the limitations in developing quality improvement projects in cancer programs is the inability to analyze trends and patterns of care within a local cancer population. Tableau is an interactive visualization software program that allows analysis of large data sets that can be used to analyze trends and quality metrics. We used this software to compare our breast cancer population treatment timelines and outcomes to that of the NCDB.

### Methods:

We analyzed our breast cancer patient population between years 2016 and 2018. We created a total of 11 dashboards summarizing various aspects of our breast cancer population including demographics, treatment patterns and time intervals between critical segments of care. Each dashboard was created to be searchable by year and stage and was used to compare to results of the NCDB when available.

**Results:** A total of 978 patients were analyzed between year 2016 and 2018, dashboards created included, staging, histology, age distribution, first line treatment inclusive of all treatments, first line specific treatment regimen, surgery type, neoadjuvant treatment type, adjuvant hormonal therapy, oncotype Dx testing and associated patterns of treatment, time interval from biopsy to surgery, and from abnormal imaging to biopsy, location of biopsy and surgical procedure.

## Dashboards created

- Staging
- Histology
- Age Distribution
- First line treatment inclusive of all treatments
- First line specific treatment regimen
- Surgery type
- Neoadjuvant treatment type, adjuvant hormonal therapy
- Oncotype Dx testing and associated patterns of treatment
- Time interval from biopsy to surgery
- Time from abnormal imaging to biopsy
- Facility of biopsy and surgical procedure

Below are 2 examples of Dashboards created using Tableau software

## First line treatment: inclusive

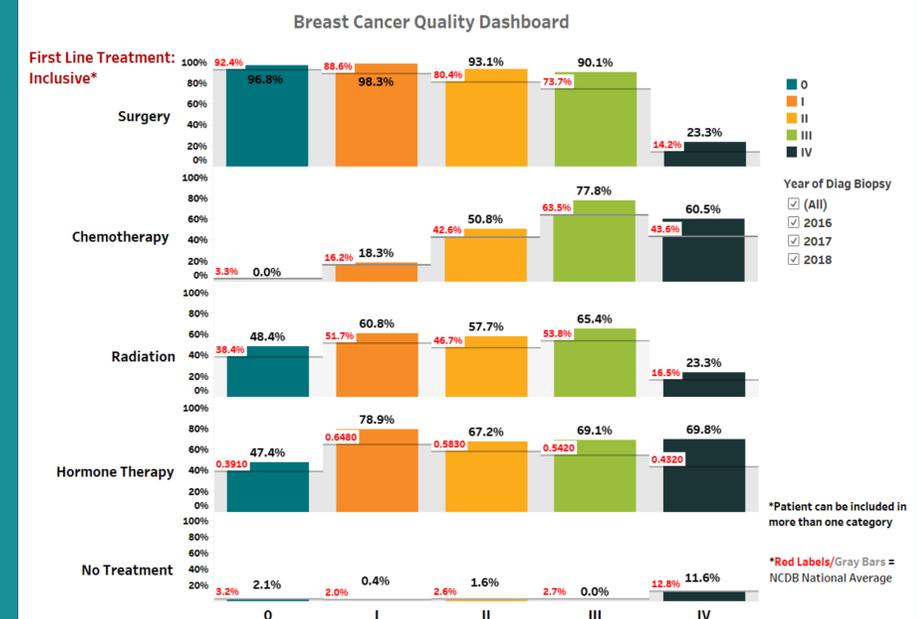
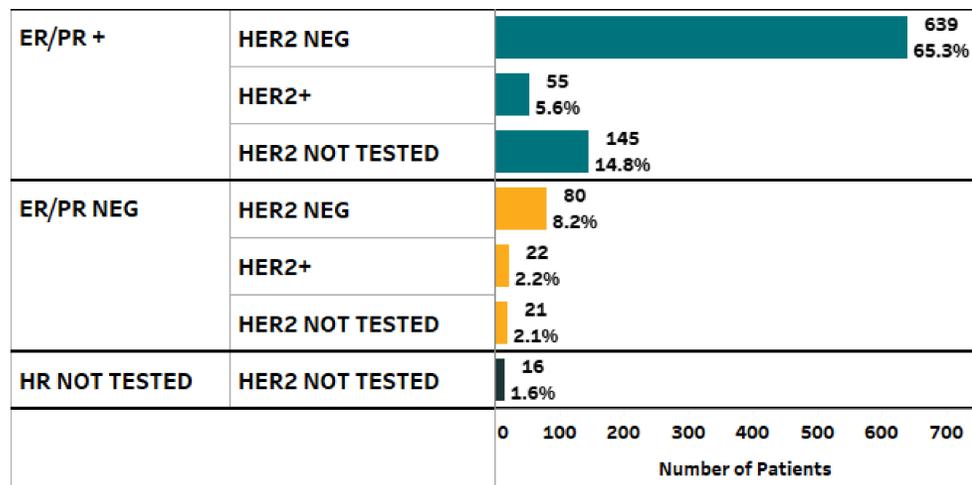


Figure 2: Treatment modalities can be filtered by year

## Display of Hormone Receptor Status

### Hormone Receptor Status



### Year of Diag Biopsy

- (All)
- 2016
- 2017
- 2018

### Stage At Diagnosis

- (All)
- 0
- I
- II
- III
- IV

Figure 1: Hormone receptor status can be filtered by stage and by year

## Conclusions

Tableau software is a tool that allows interactive visualization of data giving providers insight into trends or patterns of care for a large volume rural cancer center that can be used for quality initiatives.