



# Impact of the Pandemic on Time to Surgery: A National Database Report

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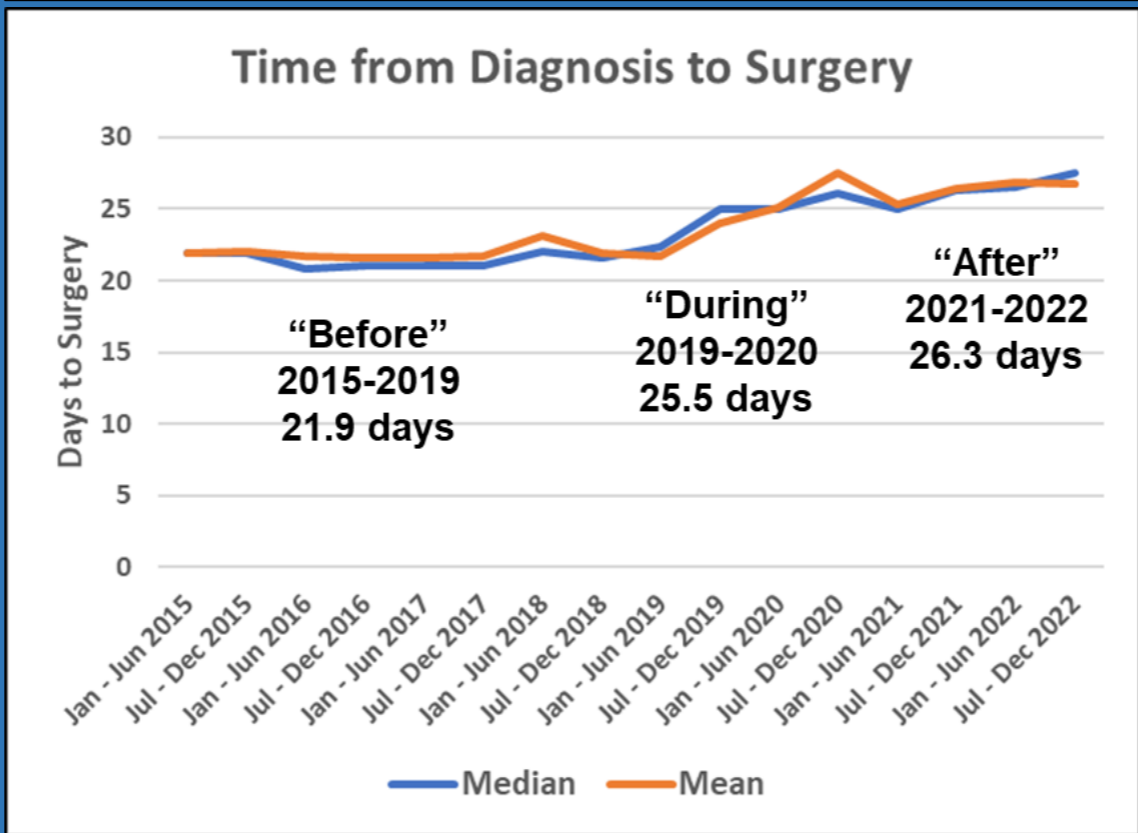
**INTRODUCTION:** Timeliness of care is a fundamental quality metric as described by the Institute of Medicine (1999, 2004). The time from breast cancer diagnosis to surgery includes multiple variables across many disciplines and prolonged time to surgery is particularly stressful to the patient. One unexpected variable was the recent pandemic which had an impact on timeliness to surgery. Using an established national database, we compared average time to surgery before, during and after the defined pandemic using a national database.

**METHODS:** The National Quality Measures for Breast Centers (NQMBC) is a web-based voluntary quality program initiated in 2005 that collects real time data from participating breast centers across the country. Once a center's data is entered, the program provides immediate comparisons with other centers' performance. One NQMBC measure assesses the average time in business days between core needle biopsy and initial breast cancer surgery, excluding the neoadjuvant patient. Minimal exclusions are allowed to have universally comparable data. Each breast center submission reviews a set of consecutive patients in a six-month period. We compared the average time to surgery (ATTS) for three time periods; 2015 through June 2019 ("before"), July 2019 through December 2020 ("during"), and January 2021 through December 2022 ("after").

**RESULTS:** From 2015-2022, 182 NQMBC certified breast centers from 41 States submitted 1,144 data entries that reviewed over 32,478 patients. The average time to surgery (ATTS) over the 8 years was 23.7 days with 25th and 75th percentile at 29.0 and 17.8 days respectively. The ATTS before, during and after the pandemic was 21.9, 25.5 and 26.3 days respectively. Examination of the "before" period revealed a mild but progressive increase in ATTS. The "during" period noted a 16% increase in ATTS. During the two years following the pandemic the ATTS remained 21% above baseline and slowly rose despite much of the country returning to routine care. There was no sign of return to pre-pandemic levels (Figure). Overall, we found increasing ATTS in all breast centers regardless of their initial performance. The greatest increases in ATTS were in the lowest performing centers (10th percentile), with over a week (6 working days) increase in ATTS. Before the pandemic, 90% of breast centers had ATTS less than 32 days, after the pandemic only 75% of centers performed at that level. Although some breast center characteristics have correlated with better or poorer ATTS performance, we have not seen much variation by center characteristics.

**CONCLUSIONS:** The average time between positive breast biopsy and initial breast cancer surgery was examined in over 30,000 patients before, during and after the pandemic (2015-2022). As expected, a rapid rise in timeliness was coincident with the pandemic. After the acute pandemic phase, timeliness has not returned to baseline and continues to average 5 working days longer than pre-pandemic levels. These delays occurred among all centers, with low performers showing longer delays. New timeliness quality metrics based on pre-pandemic studies may need to take these findings into account when measuring quality of care. Ongoing monitoring is indicated.

## Results from the NQMBC: The National Quality Measures for Breast Centers



### Why Measure Timeliness?

- Demonstrate how time to care may change over time
- Measure timeliness **without exclusions** for comparison
- Encourages **improvement by like-comparisons**
- Analyzes data **is before, during and after COVID.**
- Data covers 8 years **January 2015- December 2022**

### What is NQMBC?

- This is a **voluntary quality program**, with 43 measures
- Submissions requested **every six months (2x /year)**
- All submissions are **averages for the six-month period**
- Recognize variables and factors which influence timeliness
- Provides provocative **questions to improve care**

Days to Surgery Overall	2015-2022 (Overall)
Days to Surgery - Mean	23.7
Days to Surgery - Median	23.5
Days to Surgery - 25th Percentile	29.0
Days to Surgery - 75th Percentile	17.8
Geographic Region	
Midwest	19.3
Northeast	22.7
South	21.2
West	22.1
Population Served	
Metropolitan	26.9
Urban	22.7
Suburban	24.1
Rural	20.0
Center Management / Ownership	
Academic / University	25.5
For Profit Hospital System	24.1
For Profit Clinic	27.3
Non-Profit Hospital	22.5
Non-Profit Hospital System	23.4

## Breast Center Characteristics

Days to Surgery per Time Period	2015-2019 (Before)	2019-2020 (During)	2021-2022 (After)
Days to Surgery - Mean	21.9	25.5	26.3
Days to Surgery - Median	21.5	25.4	26.3
Geographic Region			
Midwest	19.8	22.7	25.6
Northeast	23.8	26.0	25.4
South	23.8	26.3	28.8
West	23.0	25.3	27.6
Population Served			
Metropolitan	25.9	29.5	28.7
Urban	21.5	23.0	27.1
Suburban	22.1	27.4	29.0
Rural	18.8	22.0	21.4
Center Management / Ownership			
Academic / University	25.0	28.6	25.5
For Profit Hospital System	21.8	26.5	35.1
For Profit Clinic	27.9	27.4	26.2
Non-Profit Hospital	21.8	22.8	25.0
Non-Profit Hospital System	21.9	25.1	27.1

