

Impact of COVID-19 on Breast Surgery

Authors: Laura Christopher MD, John Nguyen DO, Jacqueline Brice MPA, CTR, Tara Hall MSN, RN, Patricia A. Atchley BA, CTR, and Kerry-Ann McDonald MD

Boca Raton Regional Hospital
Florida Atlantic University

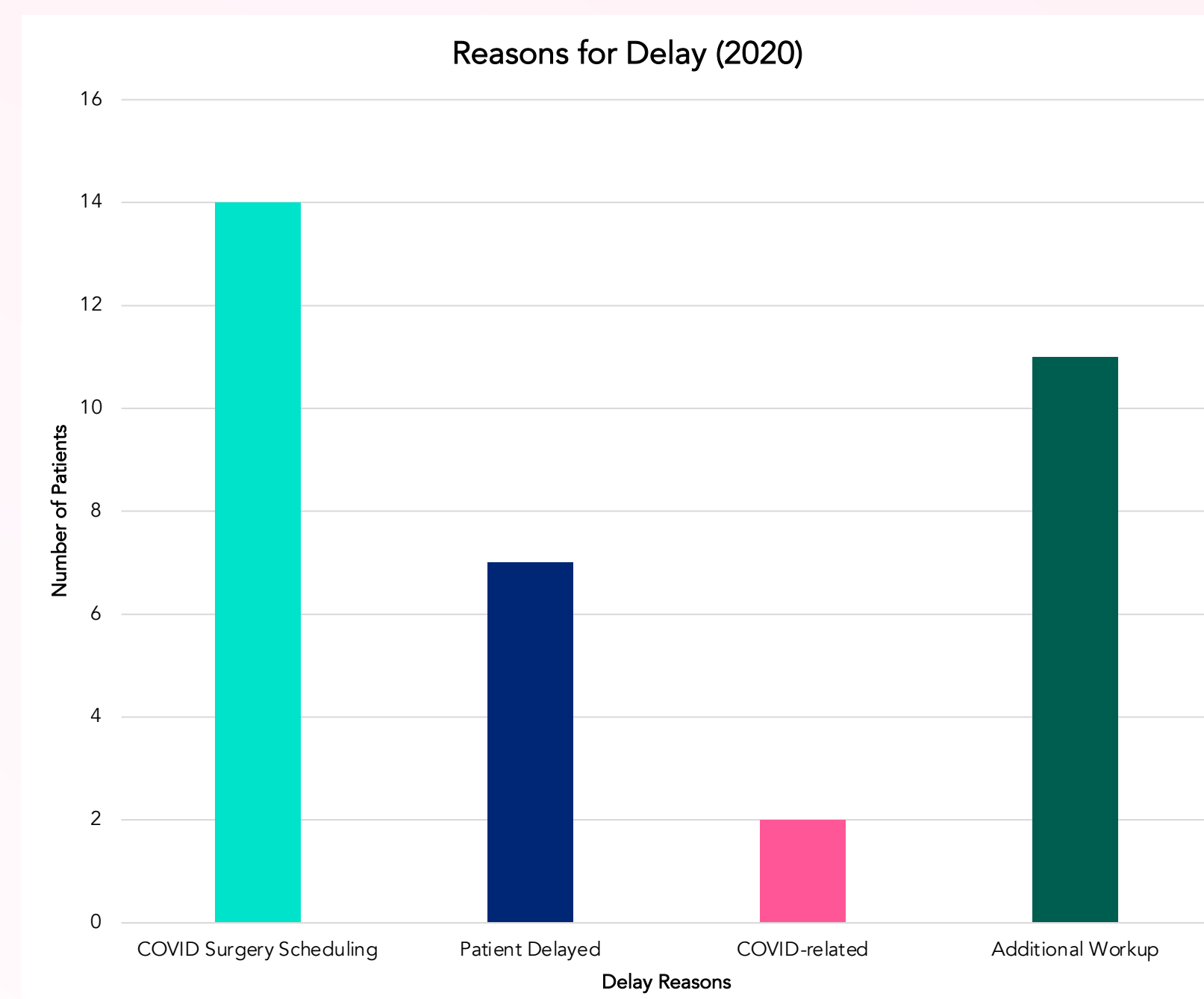
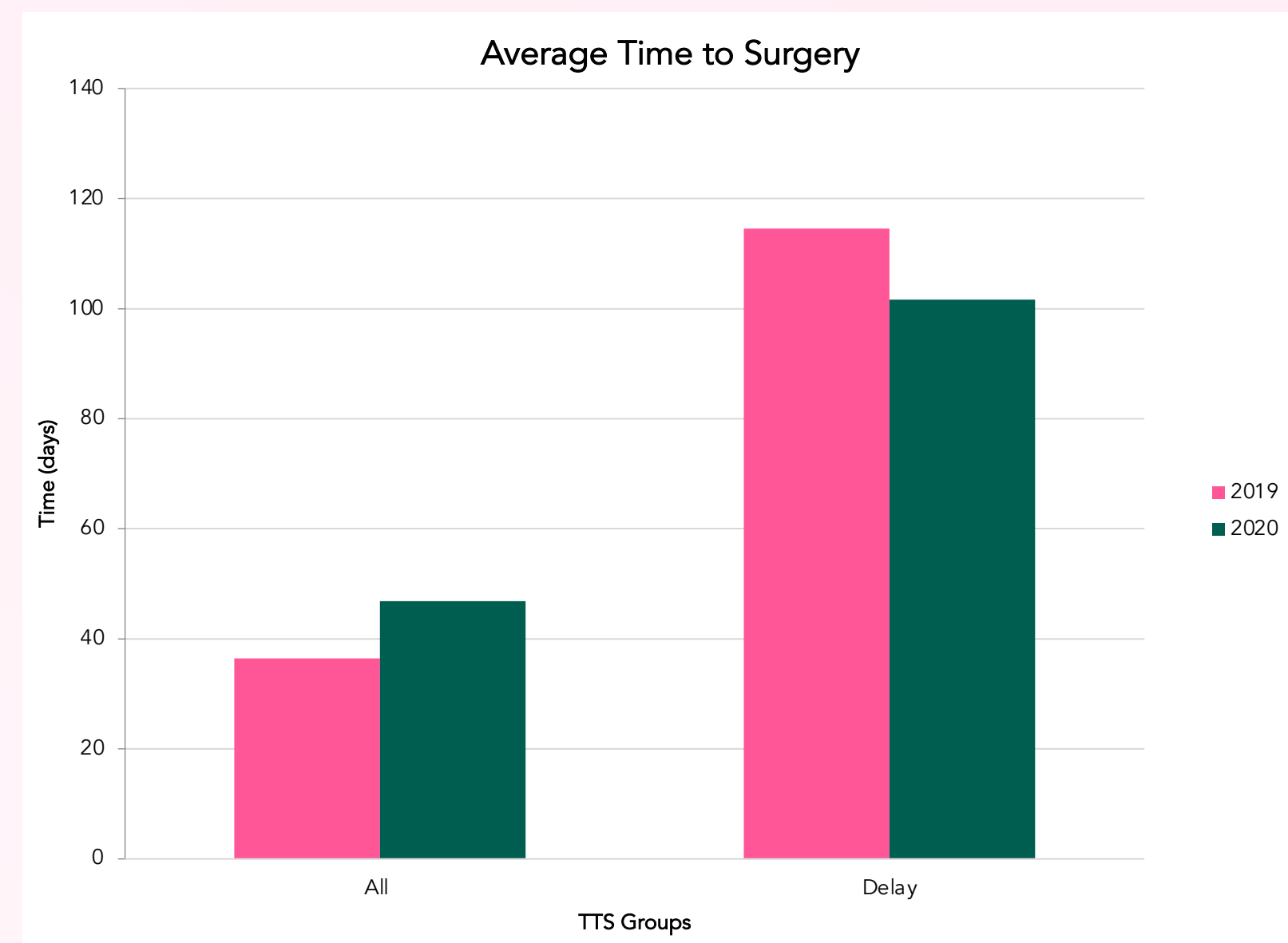
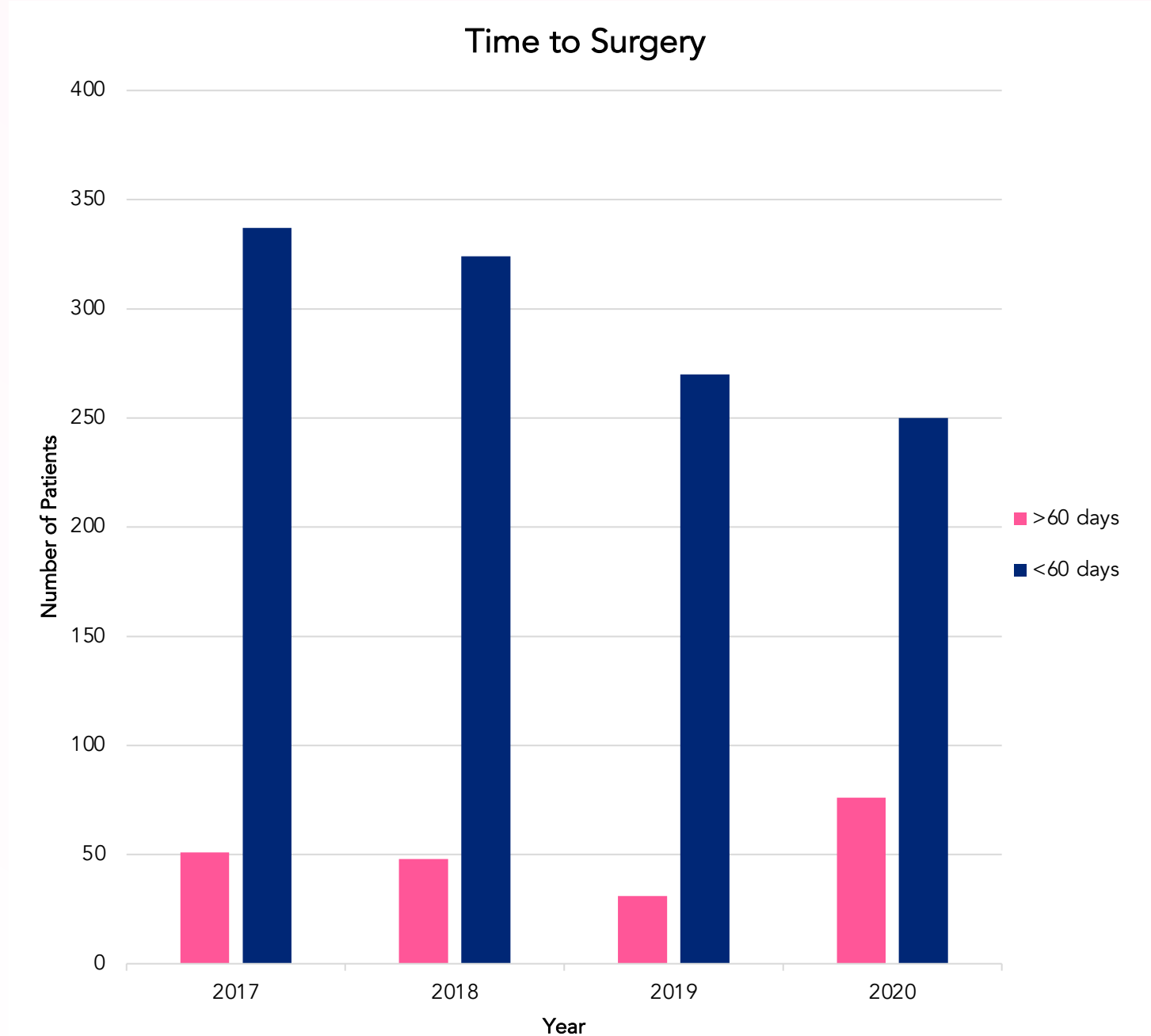
Charles E. Schmidt College of Medicine

Introduction

The Coronavirus Disease 2019 (COVID-19) pandemic both directly and indirectly threatened the health of thousands of cancer patients by disrupting their treatment schedules. Many hospitals during the pandemic were forced to delay elective surgeries to conserve resources and to limit the spread of the virus. It is estimated that nearly 38% of cancer surgeries had to be cancelled across the world during the 12-week peak of the pandemic. Patients frequently express concerns of even small delays in the treatment of breast cancer. Even pre-pandemic, time from breast cancer diagnosis to treatment initiation had increased by approximately 10 days in the last decade. Delays in breast cancer treatment have been linked with increased mortality, such that each 60-day delay in surgery has been associated with a 26% increased risk of death.

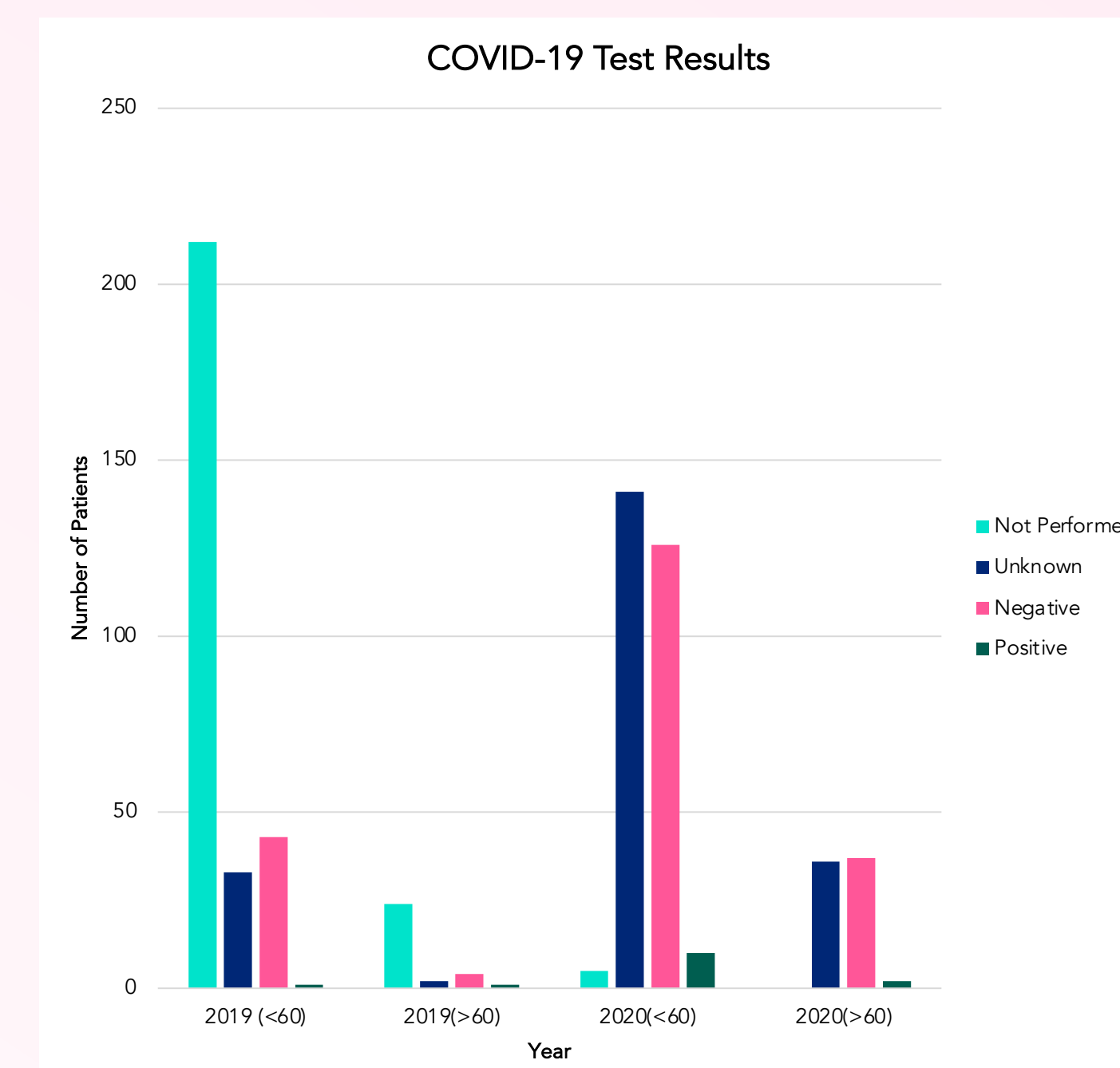
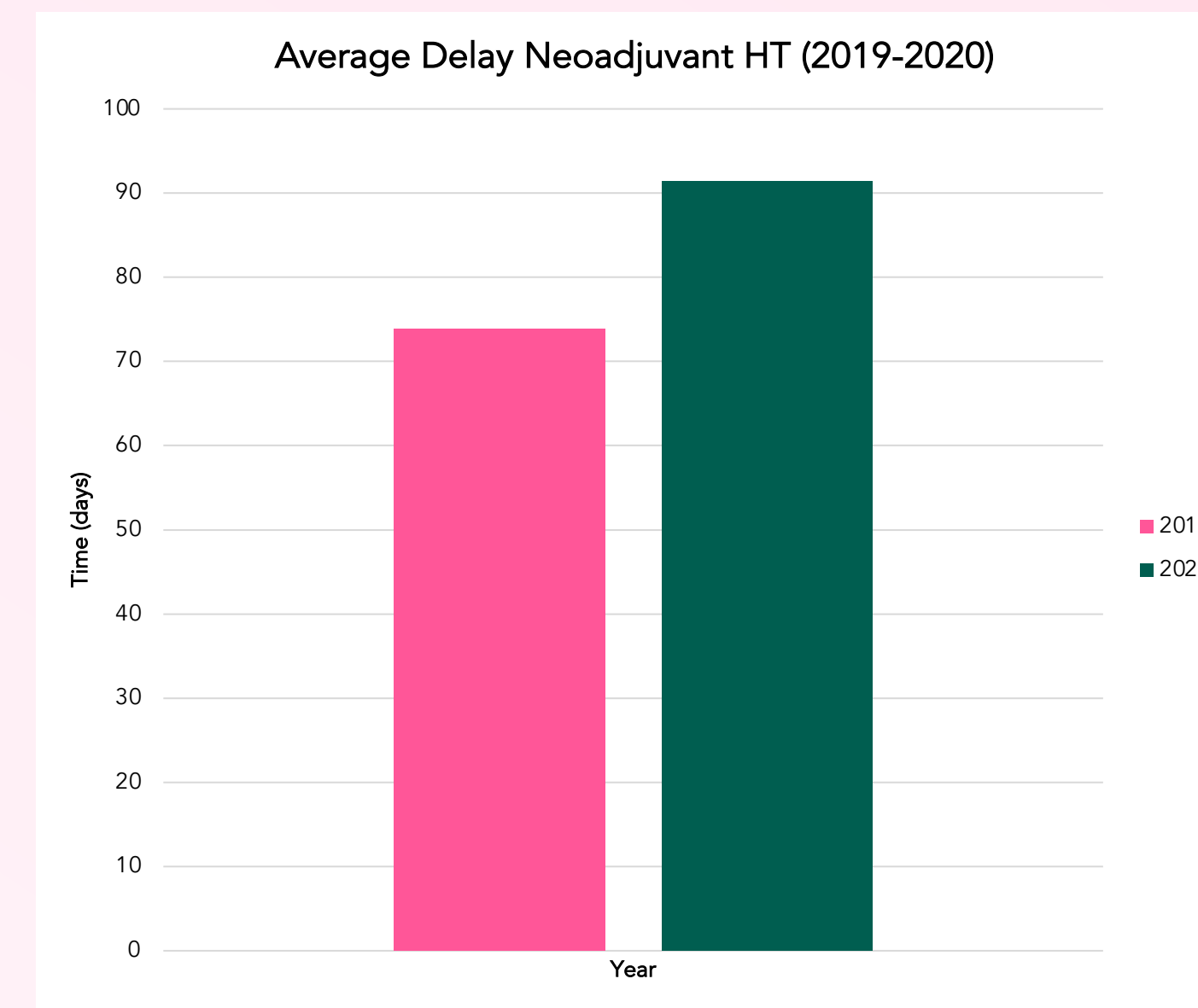
Methodology

A retrospective review was performed of patients who were diagnosed and treated for breast cancer between January 1, 2017 and December 31, 2020. These patients were further evaluated from January 1, 2019 to December 31, 2020 (pre- and peri-pandemic) at a single institution. Timing to surgery (TTS) was calculated as the time interval between the initial clinical diagnosis and the surgical intervention of breast cancer patients. TTS was divided into two groups, less than 60 days, and greater than 60 days (delayed).



Results

A total of 678 patients were included in the study; 321 breast oncologic surgical interventions performed in 2019 and 357 performed in 2020. The average TTS in 2019 was 36.4 days, while the average TTS in 2020 was 46.9 days. There was a total of 106 (15.6%) patients who experienced delayed TTS during the time period analyzed. In the delayed group, the average TTS was 114.5 days in 2019 and 101.6 days in 2020. Of the peri-pandemic patients who were delayed, only 3 tested positive for COVID-19. Neoadjuvant endocrine therapy was initiated in 8/31 (25.8%) patients in 2019 and in 34/75 (45.3%) patients in 2020 who had greater than 60-day TTS. Of the patients in 2020 who had delayed TTS, and tested negative for COVID-19, 6/37 (16.2%) experienced clinical to pathologic upstaging.



2019/2020 Neoadjuvant HT in Delayed TTS - Upstaging

	Patient	Clinical Stage	Pathologic Stage	Upstage
2019	1	T1s N0 M0	T1a N0(i+) M0	0 to IA
	2	T1s N0 M0	T1a N0 M0	0 to IA
2020	1	T1c N0 M0	T2 N0 M0	IA to IIA
	2	T1c N0 M0	T2 NX M0	IA to IIA
	3	T1c N0 M0	T2(m) N1a(sn) M0	IA to IIB
	4	T1c N0 M0	T1c N1a M0	IA to IIA
	5	T1b N0 M0	T1c(m) N1m(sn) M0	IA to IB

2020 Delayed TTS - Cause for Upstaging?

	Patient	Clinical Stage	Pathologic Stage	Upstage
COVID Negative	1	T1c N0 M0	T2 NX M0	IA to IIA
	2	T1c N0 M0	T2 N1a M0	IA to IIB
	3	T1c N0 M0	T1c N1a M0	IA to IIA
	4	T2 N0 M0	T2 N1 M0	IIA to IIB
	5	TX N0 M0	T1c N2a M0	0 to IIIA
COVID Positive/Not Tested/Unknown	6	T1s N0 M0	T1a NX M0	0 to IA
	7	T1b N0 M0	T1c N1m(sn) M0	IA to IB
	8	T1c N0 M0	T2 N0 M0	IA to IIA
	9	T1s N0 M0	T1a N0(sn) M0	0 to IA

Conclusion

Although the pandemic altered medical care in general, the number of breast oncologic surgical interventions did not vary significantly pre- versus peri-pandemic at this institution. The average TTS was longer during the pandemic, 46.9 days compared to 36.4 days; however, the majority of cases were less than 60-days to surgical intervention. COVID-19 infection positivity did not seem to contribute to delay in surgical intervention; however, 16.2% of patients who had greater than 60 days to surgical intervention did experience pathologic upstaging. Additionally, a shift in initial therapy toward the use of preoperative hormone therapy was identified during the peri-pandemic period.

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