

## Impact of COVID-19 on Hospital Waste

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**Abstract :** Introduction: The COVID-19 pandemic has brought unprecedented changes to how hospitals function on a daily basis. Increased personal protective equipment (PPE) usage and measures to pre-package, separate, and decontaminate have the potential to increase the waste load. However, limiting non-essential surgeries drastically reduces operating room (OR) waste, and restricting visitation policies to contain outbreaks may help conserve resources. The impact of these policy changes with increased disposable PPE usage on hospital production of waste is unknown. Methods: Waste produced in pounds (lbs) was measured for January through June during both 2019 and 2020 through Stericycle in Cooper University Hospital in Camden, NJ. This timeframe was selected since the pandemic began in January 2020 in the US. The total waste produced during this time was 328,623 lbs in 2019 and 306,454 lbs in 2020. Using Poisson counts ( $\alpha=.05$ ), less waste was produced in 2020 ( $p < 0.001$ ). The amount of sharps and regulated medical waste (grossly bloody items) were both significantly decreased as well ( $p < 0.0001$ ,  $p=0.0002$ ), and these account for 10-15% of the total waste produced. Discussion: Despite the increased usage of disposable PPE, overall hospital waste was decreased during the pandemic as compared to prior. As surgeries are estimated to be responsible for up to one-half of waste produced by hospitals, it is possible that constraint on elective procedures contributed to the decreased waste in all three categories; estimates of a 35% decrease in surgical volume would be expected to impact waste production. The effects of the pandemic on waste production should continue to be monitored to understand the environmental impact as health systems resume backlogged surgeries at a higher volume.

**Keywords :** COVID-19, hospital, surgery, waste

**Conference Title :** ICSHH 2021 : International Conference on Sustainability in Hospitals and Healthcare

**Conference Location :** San Francisco, United States

**Conference Dates :** June 07-08, 2021