

The Impact of COVID-19 on the Frequency of Blood Draws by Family Physicians in Eastern Health

Objective

To determine the reduction in blood draws ordered by family physicians (FPs) during COVID-19, for how long the reduction was maintained, and the extent of reduction for individual FPs.

Practice Points

1. The state of emergency for COVID-19 started on 16 Mar 2020 necessitating restrictions on visits to FPs and dependence on communication with patients by phone or virtually.
2. The need for Personal Protective Equipment (PPE) slowed the rate at which patients could be processed for blood collection, resulting in a reduction of blood testing that was less urgent or less necessary. The Regional Health Authorities (RHAs) started an audit and feedback program to control blood draws during COVID-19 in July 2020.

Methods

1. Weekly quantity of blood draws ordered by FPs in Eastern Health (EH) from 6 Jan 2020 – 15 Mar 2020 (10 weeks) and from 16 Mar – 22 Jun 2020 (13 weeks) were obtained from EH. The weekly number during COVID-19 were compared to the weekly average over the 10 weeks pre-COVID-19.
2. The number of blood draws ordered by individual FPs on week 10 of the epidemic was compared to the average number they ordered during the 10 weeks pre epidemic.

Results

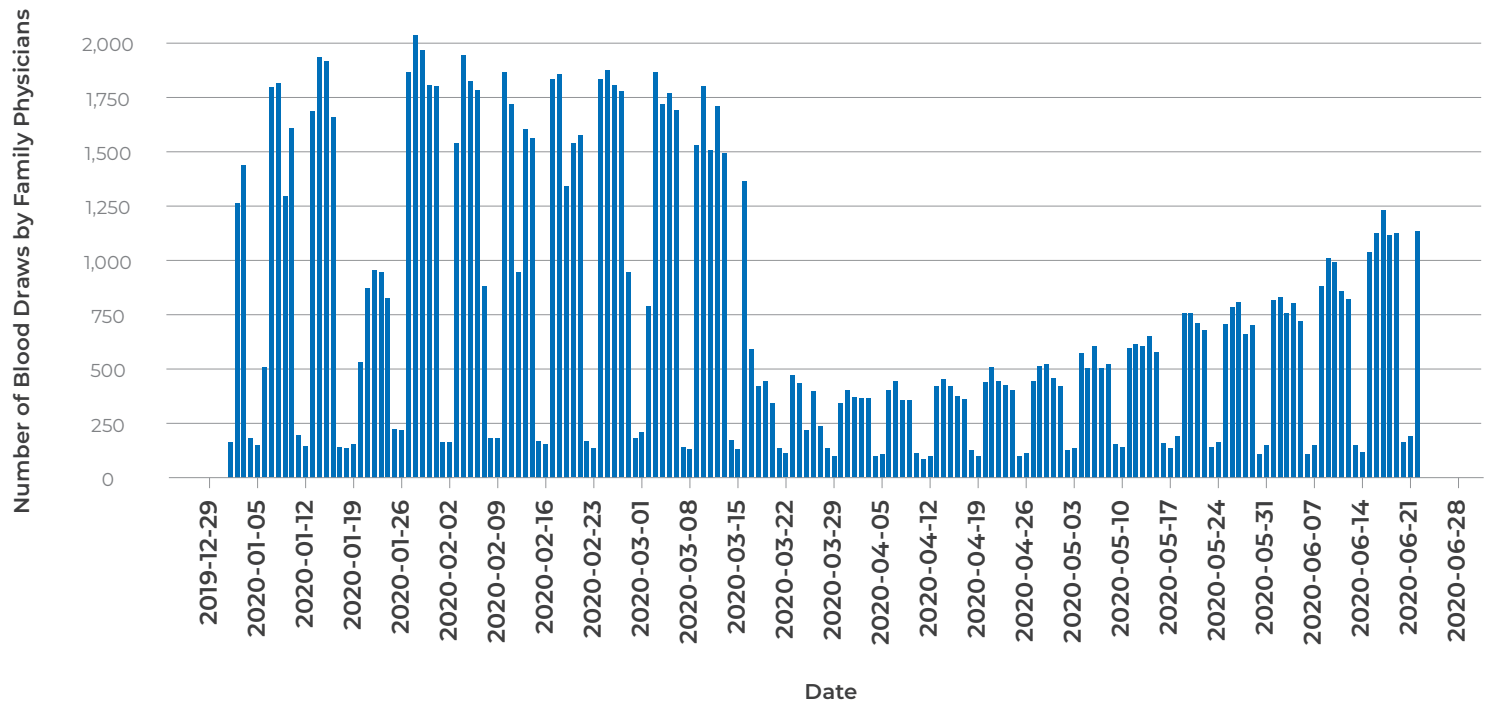


Figure 1. Number of Blood Draws Ordered Daily by FPs in EH From 1 Jan – 22 June 2020

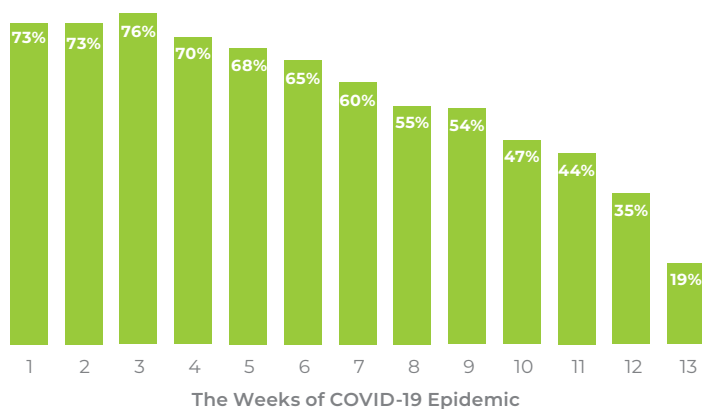
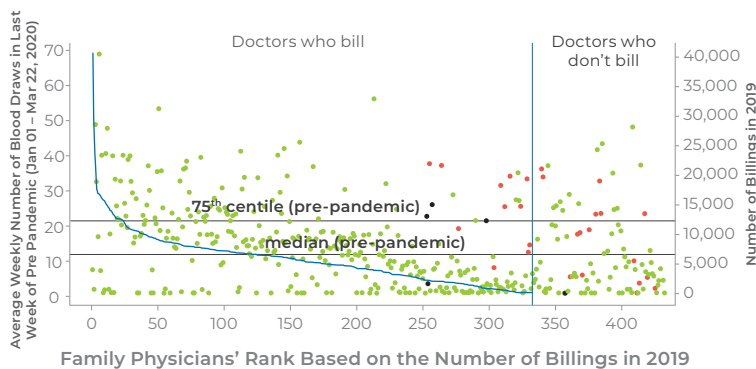


Figure 2. The Percent Reduction in Blood Draws for Each of the First 13 Weeks During COVID-19

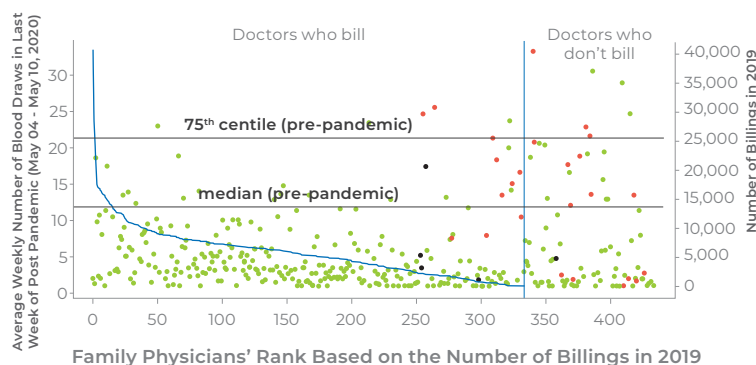
- At week 10 of the epidemic, the reduction in blood draws was 47% compared to the average of the 10 weeks pre-COVID-19.



The vertical line separates FPs who bill and those who do not bill. Green dots represent clinic FPs. Red dots represent FPs with an ER practice. Black dots represent unknown.

Figure 3. Average Weekly Number of Blood Draws by Individual FPs in the 10 Weeks Pre-COVID-19 (Y-axis) (Dot) and the Ranking of FPs Based on the Number of Billings Each Made in 2019 (Solid Line Curve)

- Although there is a positive relationship between the quantity of blood draws and the quantity of billings, there is wide variability in the number of blood draws when analyzed by groups defined by quintile of billings.



The vertical line separates FPs who bill from those who do not. Green dots represent clinic FPs. Red dots represent FPs with an ER practice. Black dots represent unknown. The horizontal lines represent the median and 75th centile of average weekly blood draws by FPs pre-COVID-19.

Figure 4. Number of Blood Draws Ordered During Week 10 of COVID-19 (Y-axis) (Dot) and the Ranking of FPs Based on the Number of Billings in 2019 (Solid Line Curve)

- There were only three FPs who billed and three who did not who ordered blood draws above the 75th centile of blood draws pre-COVID-19, in addition to five FPs with an ER practice.

Conclusions

- The reduction in blood draws ordered by FPs in EH was substantial during COVID-19. In the first 4 weeks, reduction was 73%. By week 10, it was 47% and by week 13 it was 19%.
- By week 10 of the epidemic very few FPs exceeded the 75th centile of ordering observed in the pre-COVID-19 era.
- Pre-COVID-19 variability in ordering blood draws was substantial, whether or not FPs billed, and whether or not the FP was a frequent biller.
- Adherence to Clinical Practice Guidelines outlined in page 54 would help lower the quantity of blood draws both during COVID-19 and after the epidemic is over.