

# Emergency Medical Services Activation for Anaphylaxis During the COVID-19 Pandemic: A Retrospective Study from Israel

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## Background:

Emergency Medical Services (EMS) has shouldered one of healthcare's largest burdens during the Covid-19 pandemic. During the first Covid-19 waves in 2020 and 2021, most EMS services worldwide experienced a general decrease in activation. The Israeli EMS system specifically noted a decrease in cardiovascular, pneumonia, and traumatic injury dispatches but an increase in call activation for mental health/psychiatric emergencies during the pandemic versus prior years.

## Objective:

The objective of this study is to determine if there was a change in numbers of EMS calls for anaphylaxis and prehospital EpiPen use during the COVID-19 pandemic.

## Methods:

This retrospective comparative study assessed data regarding daily emergency calls within Israel for the code "anaphylaxis" between January 1, 2019 through December 31, 2019 (prepandemic period) versus January 1, 2020 through December 31, 2020 (pandemic period). Information that was analyzed

included age and use of an EpiPen. All data was obtained by the command-and-control database used by MDA.

## Results:

During the study period, there was a total of 4,089 emergency responses for anaphylaxis with a negligible difference in EMS call volume from 2019 to 2020. There was a significant increase in the frequency of calls requiring an EpiPen between 2019, 5.7%, and 2020, 7.5% ( $p = 0.02$ ). Contrastingly, there was relatively little difference in frequency of calls not requiring an EpiPen during 2019, 94.6%, and 2020, 90.9%. Age was not found to be a significant variable within this analysis ( $p=0.15$ ).

## Conclusion:

This study shows that unlike many other medical emergencies where there was a decrease in EMS response during COVID-19, the number of calls for anaphylaxis stayed the same. However, there was a statistically significant increase in EMS responses requiring EpiPen use during the pandemic.

Figure 1: Anaphylaxis Calls per Year

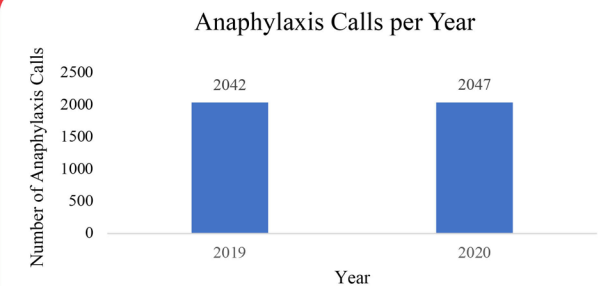


Figure 2: EpiPen Administration per Year

