

No indication of COVID-19 spread from pro football events with limited attendance

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Large gatherings have the potential to become "superspreader" events of COVID-19 infections, but a recent analysis indicates that National Football League (NFL) and National Collegiate Athletic Association (NCAA) games held with limited in-person attendance have not caused an increase in COVID-19 cases in the counties where they were held. The analysis, which was conducted by researchers at Massachusetts General Hospital (MGH), Harvard Medical School, Georgia Tech and Boston Medical Center, is published in *JAMA Network Open*.

"There was a lot of speculation in the media and on social platforms regarding whether in-person attendance at NFL and NCAA regular season football games resulted in local COVID-19 spread. We thought it was important to assess whether these games with attendance caused an increase in cases," says first author Asmae Toumi, BS, a researcher at the MGH Institute for Technological Assessment.

"Before conducting the study, our conjecture was that football games would cause an explosion in the number of cases; however, it turns out that this

is not the case and the games did not lead to a major increase in the number of cases," says senior author Turgay Ayer, Ph.D., MSc, an associate professor at Georgia Tech and senior author of the study.

For the study, investigators matched every county hosting [game\(s\)](#) with in-person attendance in 2020 and 2021 with a county with no in-person attendance and an identical game schedule for up to 14 days. The matched counties also had similar population sizes, COVID-19-related restrictions in place, and COVID-19 trends.

The analysis included 796 NFL and NCAA games played, with 528 games having in-person attendance. The matching algorithm returned 361 matched sets. The effect of in-person attendance at NFL and NCAA games on community COVID-19 spread was not significant as it did not surpass 5 new daily cases of COVID-19 per 100,000 residents on average. This study did not find a consistent increase in the daily COVID-19 cases per 100,000 residents in the counties where NFL and NCAA games were held with limited in-person attendance. These findings suggests that NFL and NCAA football games hosted with limited in-person attendance were not associated with substantial risk or increased local COVID-19 cases.

The investigators suspect that limited in-person attendance, strict mask use, and open air helped to prevent the spread of COVID-19 during NFL and NCAA events. "Our study's conclusions can inform fan attendance policies for the 2021 football season. In-person attendance can be safe as long as social distancing is maintained. Though we have COVID-19 vaccines in 2021, we need to remind ourselves that not everyone is vaccinated, and vaccines are not 100% effective. With variants of concern like delta, large gatherings can still result in COVID-19 transmission if people do not wear masks," says co-author Jagpreet Chhatwal, Ph.D., associate director at the MGH Institute for

Technology Assessment and an assistant professor at Harvard Medical School.

More information: Asmae Toumi et al, Association of Limited In-Person Attendance in US National Football League and National Collegiate Athletic Association Games With County-Level COVID-19 Cases, *JAMA Network Open* (2021).
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