



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

University Hospital of Heidelberg
Heidelberg, Germany

Hans-Georg Kräusslich, Prof
Department of Virology
University Hospital of Heidelberg
Heidelberg, Germany

Uta Merle, Prof
Department of Internal Medicine IV
University Hospital of Heidelberg
Heidelberg, Germany

<https://doi.org/10.1016/j.annemergmed.2020.06.001>

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see www.icmje.org). The authors have stated that no such relationships exist.

Emergency Medical Services Calls During Italy's COVID-19 Lockdown



To the Editor:

In the United Kingdom, there was no significant reduction in ambulance calls for heart attack and stroke during the coronavirus disease 2019 (COVID-19) lockdown period, indicating that people were not reluctant to call for such serious conditions.¹ To determine how Italian citizens behaved, we analyzed calls to the emergency medical services (EMS) call center in the 1,200,000-inhabitant Italian Region Friuli Venezia Giulia from January 2018 to May 2020, with a focus on periods March to May which, in 2020, corresponded to Italy's COVID-19 lockdown area. Despite the activation of national and regional dedicated toll-free numbers, through which contacting a person manning the telephone could be difficult, regional EMS call center numbers (112 or 118) could be used for advice on COVID-19.²

From March to May, the overall number of calls to EMS call centers was smaller in 2020 (N=19,176) than in 2018 (N=28,186) and 2019 (N=28,630), with analogous distribution of priority codes. In examining the 17 macro groups of call causes of the regional dispatching system (trauma, cardiac, respiratory, neurologic, psychiatric, oncologic, toxicologic, metabolic, gastroenterologic, urologic, eye, ear/nose/throat, dermatologic, obstetric/gynecologic, infectious, other, and undefined), in March to

May 2020 there was a decrease in the proportion of calls for trauma (17.7% versus 21.8% in 2018 and 22.5% in 2019) and neurologic causes (15.6% versus 19.0% and 19.4%) and an increase in calls for cardiac (16.7% versus 14.6% and 13.9%), infectious (1.1% versus 0.13% and 0.11%), and respiratory causes (17.0% versus 13.7% and 12.9%; $P<.001$ for the χ^2 test). The same trend was observed when analyses were restricted to calls followed by EMS vehicle responses.

The **Figure** shows the time series of daily EMS calls with vehicle response for those macro groups. In interrupted time series analyses (ARIMA models through SAS PROC AUTOREG) (version 9.4; SAS Institute, Inc., Cary, NC) choosing as the break-point date February 24, 2020 (ie, the Monday after the first Italian autochthonous COVID-19 case was detected), a significant change in trend slope of daily calls was observed for trauma (pre-COVID-19 start 0.0112, $P<.001$; post -0.8779 , $P<.001$), neurologic (pre-COVID-19 start 0.0042, $P=.03$; post -0.5159 , $P=.004$), and infectious causes (pre-COVID-19 start -0.0001 , $P=.77$; post 0.0895, $P<.001$). No significant change in slope was observed for cardiac (pre-COVID-19 start -0.0002 , $P=.84$; post -0.0893 , $P=.45$) and respiratory causes (pre-COVID-19 start -0.0018 , $P=.64$; post -0.0204 , $P=.94$).

In the Region Friuli Venezia Giulia, COVID-19 determined a reduction of EMS calls. The decrease did not regard all health conditions. Calls for trauma strongly decreased. This was expected because lockdown minimized opportunities to have unintentional injuries. The increase of calls for infectious diseases was also expected because the population called 118 for COVID-19-related emergencies. The number of calls for cardiac causes was unchanged, indicating that citizens kept referring to EMS for serious cardiac events. Further research is needed to assess whether EMS response was modified by COVID-19. The decrease in calls for neurologic causes should also be further investigated.

Francesca Valent, MD, MSPH

Sabrina Licata, MD

Institute of Hygiene and Clinical Epidemiology

University Hospital of Udine

Udine, Italy

<https://doi.org/10.1016/j.annemergmed.2020.06.036>

Funding and support: By *Annals* policy, all authors are required to disclose any and all commercial, financial, and other relationships in any way related to the subject of this article as per ICMJE conflict of interest guidelines (see

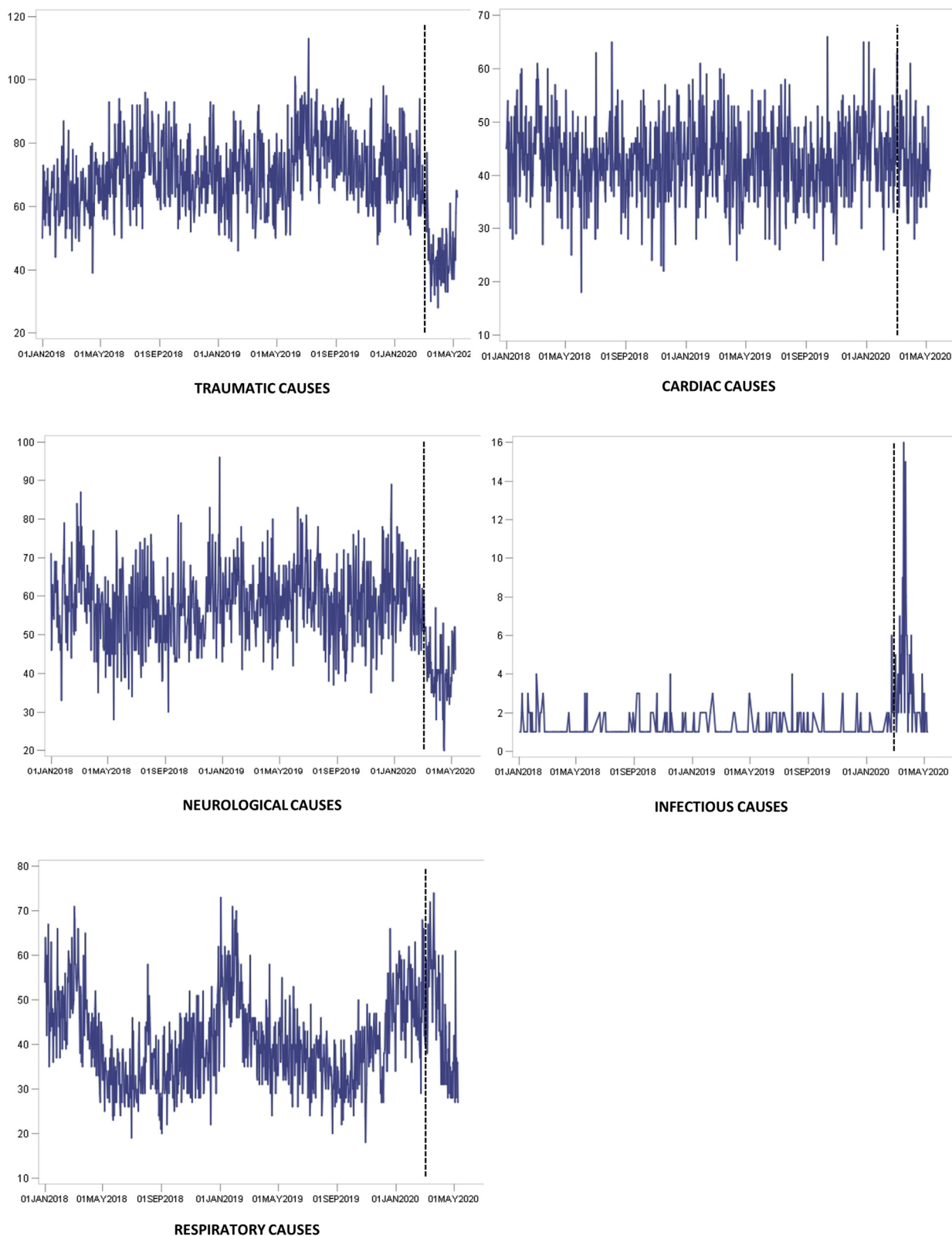


Figure. Time trend of daily EMS calls for macro categories of causes, Region Friuli Venezia Giulia, Italy, January 1, 2108, to May 31, 2020. The dashed line is the beginning of the COVID-19 outbreak in Italy.

www.icmje.org). The authors have stated that no such relationships exist. This work was partly funded by the Italian Ministry of Health (Ministero della Salute) and cofunded by the participating Regions Lazio, Friuli Venezia Giulia, Piemonte, Emilia-Romagna, Lombardia, and Calabria through the Programma di rete Ricerca Finalizzata Bando 2016 NET-2016-02364191.

1. Holmes JL, Brake S, Docherty M, et al. Emergency ambulance services for heart attack and stroke during UK's COVID-19 lockdown. *Lancet*. 2020;395:e93-e94.
2. Ministero della Salute. Covid-19: numeri verdi regionali. Available at: <http://www.salute.gov.it/portale/nuovocoronavirus/dettaglioContenutiNuovoCoronavirus.jsp?area=nuovoCoronavirus&id=5364&lingua=italiano&menu=vuoto>. Accessed June 17, 2020.

Emergency Medicine Resident Perception of Abuse by Consultants: Results of a National Survey



To the Editor:

Researchers examining the issue of abuse of physicians have largely focused on acts perpetrated by patients, and there is a paucity of data regarding abusive behavior by consultants toward emergency physicians.¹⁻⁴ Recently, we conducted an investigation to evaluate the prevalence of consultant abuse as perceived by emergency medicine residents.

This was a cross-sectional study in which 24 US-based emergency medicine program directors were requested to provide a representative sample resident list, and study authors contacted potential participants by e-mail. Respondents provided answers to closed-ended questions regarding their training level, setting, and perceptions of consultant abuse on [SurveyMonkey.com](https://www.surveymonkey.com). Categorical data were analyzed by χ^2 ; continuous data were analyzed by *t* tests.

There were 17 participating programs; 147 of 165 residents (89%) responded. Approximately one third (36%) of participants were women, 80% were white, 31% were postgraduate year 1 residents, and 62% were university based. Nearly all programs (99%) allow postgraduate year 1 residents to call consultants, and they most often speak to other residents (67%) or attending physician consultants (31%). Residents reported that consultants “sometimes” (44%) or “frequently” (26%) exhibited behavior that could be considered abusive, most frequently as “excessive pushback on seeing or admitting patients” (71%). Most residents (90%) were aware of instances in which abusive consultant behavior “negatively impacted patient care.” Fifty-one percent were less likely to

call an abusive consultant, and nearly half (49%) were unaware whether their program has a process to address the issue. The majority of residents (61%) rated their institution’s response to abuse as neutral to very ineffective. Eighty-three percent reported that such abuse causes “some” to “very significant” burnout or work dissatisfaction. There were no significant differences with respect to abuse experiences and the following variables: sex ($P=.26$), race ($P=.89$), or emergency department practice setting ($P=.60$). There was a significant difference between training years and experiences of abuse ($P=.04$), with the highest proportion observed in postgraduate year 2 (86%). Attending physician consultants were more likely to perpetrate abuse versus resident consultants (83% versus 63%; $P=.03$).

Two previous studies evaluated the problem of abuse or harassment experienced by emergency medicine residents. In 1995, McNamara et al¹ reported the findings of the Society for Academic Emergency Medicine In-Service Survey Task Force, given anonymously at the end of the national in-service examination¹; 1,774 (80%) of 2,229 residents replied, and 98% reported at least 1 occurrence of abuse or harassment. The most common source was patients; however, other health care professionals were frequent perpetrators of verbal abuse. Unfortunately, the authors noted that only 3.2% of victims filed formal complaints. Subsequently, in 2010, Li et al³ conducted a follow-up study with similar survey questions. They found that within a sample of 196 emergency medicine residents, a majority (91%) reported experiences of abuse, including verbal abuse (86%), verbal threats (65%), physical threats (50%), physical attacks (26%), sexual harassment (23%), and racial harassment (26%).

Our study provides evidence that the prevalence of perceived abuse experienced by emergency medicine residents remains strikingly high. We believe that our study is novel in its focus on consultants as the perpetrators and the perceived negative effect such behavior has on patient care, as well as resident wellness.

Mark Huber, MD

Jessica Lopez, DO

Department of Emergency Medicine

*CHRISTUS Health/Texas A&M Health Science Center
Corpus Christi, TX*

Anne Messman, MD

Department of Emergency Medicine

*Wayne State University School of Medicine
Detroit, MI*