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## Coronataxi Brings Outpatient Care to COVID-19 Patients



### *To the Editor:*

Our first patient treated in Heidelberg showed us how fast a formerly stable patient can rapidly deteriorate and need critical care. If deterioration happens in home quarantine, it can be fatal. This was an eye-opener about the need to monitor patients in home quarantine and identify patients at risk; thus, the coronataxi was born. To our knowledge, this approach is unique to Germany.

Under the guidance of the University Hospital Heidelberg and in cooperation with the regional health authorities, we built up a combination of a corona call center and the coronataxis, both staffed by medical students under the supervision of a physician. Patients who have had positive test results are called by the call center, and medical history, medication, and the current symptoms are assessed in a structured survey. In accordance with the results of the survey, a physician who is experienced in the care of coronavirus disease 2019 patients selects patients at risk of deterioration. These patients are visited by the coronataxis.

Each coronataxi is staffed with a driver as well as a nurse or a trained medical student. They obtain a focused standardized medical history; record oxygen saturation, pulse, and temperature; and obtain a blood sample. After these visits are completed, coronataxi medical staff report to the supervising physician, with special emphasis on patients with more severe illness. The physician then decides on the basis of the clinical presentation and the laboratory results whether these patients should be followed by the call center, should receive a follow-up visit by the coronataxi

the next day, or should be admitted directly to the hospital. Since the start of the coronataxi service in March, we have visited approximately 400 patients at home, with 20 visits per day on average.

Our team visited a young woman who was so weak because of constant vomiting that we admitted her directly to the hospital. On the way to the hospital, she developed confusion because of severe dehydration. In contrast, an elderly woman with coronavirus disease 2019 and preexisting diabetes who was living with her son in quarantine was managed at home, although at the initial visit she presented with hypoglycemia. We also observed several older patients with obvious respiratory insufficiency who urgently needed inpatient care. These patients were discharged from critical care after recovery.

These cases show that patients of any age who have SARS-CoV-2 are likely to benefit from being closely followed with home visits. Furthermore, following coronavirus disease 2019 patients in a home setting as long as possible is important for their well-being and for conserving valuable hospital resources.

Our coronataxi service offers accessible contact with the health care system for patients in home quarantine, its objective being to avoid fatal outcomes. In addition, patients report that they are pleased by the support given by the corona team and are less anxious during their illness.

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## 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.<sup>1</sup> 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.<sup>2</sup>

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  $\chi^2$  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.

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