

COVID-19 and primary care in Italy: one year later

Silvia Bressy^{A,*}  MD and Enrico Maria Zingarelli^B MD

For full list of author affiliations and declarations see end of paper

*Correspondence to:

Silvia Bressy
Department of Primary Care, ASLTO5,
Via Dante 7, 10022 Carmagnola, Italy
Email: silviabressy@gmail.com

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Italy has been one of the first countries in Europe to be particularly affected by the coronavirus disease 2019 (COVID-19) pandemic,¹ with 210 717 cases² in the first wave (24 February–3 May) and 1 822 841 in the second wave (14 September–31 December).

In the Piedmont region where we work, the first outbreak caused 27 179 cases,³ whereas in the second wave, the number of cases increased by eight-fold.⁴

In May 2020, we wrote the first report about COVID-19 primary care management in Italy describing the experience in our family practice³ that assists 7500 patients in the outskirts of Turin, in an urban–rural mixed setting.

The data were reported by local laboratories processing PCR tests and we have compared the hospitalisation rate, death rate and number of patients treated at home in the two outbreaks. No lateral flow tests were used during these periods.

We counted 952 total COVID-19 cases (28 in the first wave and 824 in the second wave): 102 (11%) were hospitalised, 803 (84%) were treated at home, and 47 died (5%), most of whom (43%) were living in retirement homes where the death rate was very high, almost throughout the entire country.⁵

Comparing data, in the first wave, 21 out of 128 patients (17%) were admitted to hospital, 95 (74%) were treated at home and 12 died (9%), whereas in the second wave, 81 of 824 cases were hospitalised (10%), 708 received home treatments (86%) and 35 died (4%). Therefore, upon comparison of data, the hospitalisation rate fell from 17 to 10%, a higher number of patients were treated at home (86% compared to 74%), and the mortality rate more than halved (from 9 to 4%). All data are shown in Figs 1, 2.

From the results, the second wave seemed even more widespread than the previous wave. During this second wave, more tests were conducted and this was able to detect more positive cases, and these tests could be performed for people with flu-like symptoms or who were contacts of people with such symptoms. The increase in the number of cases caused more pressure on intensive care units, however, in our experience, the hospitalisation rate decreased from 17 to 10%, more patients were able to be treated at home (86% instead of 74%), and the mortality rate dropped from 9 to 4%. These results could be related to earlier diagnoses of COVID-19, the improved treatments available so that people could recover at home, and probably to the immunity developed as a result of the first wave. Most of the COVID-19 battle has been fought in the primary care setting⁶ and family physicians have played a critical role in the coordination of patient care.⁷

The vaccination programme started at the end of the second wave (27 December 2020), so the results described above cannot be linked to this programme.

During the COVID-19 pandemic, we used telemedicine⁸ to monitor patients' vital parameters (temperature, blood pressure, heart rate, respiratory rate and oxygen saturation) twice a day, 7 days a week. We provided them with all the devices they needed for symptom monitoring, even during the first wave when there was a national shortage of medical devices.⁹ We also assisted with quarantine regulations and contact tracing with the Department of Hygiene and Prevention,¹⁰ which caused a dramatic increase in the number of telephone consultations that we conducted.⁷

Keeping in constant contact with patients was fundamental, as the period from day 5 to day 10 from symptom onset is the most critical and respiratory impairment can develop, particularly in elderly patients with preexisting chronic conditions.⁹ Moreover, unlike

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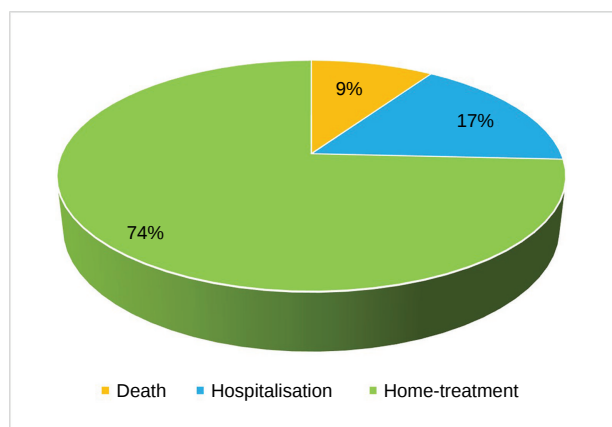


Fig. 1. Percentage of COVID-19 patients who were hospitalised, treated at home treated or died during the first wave.

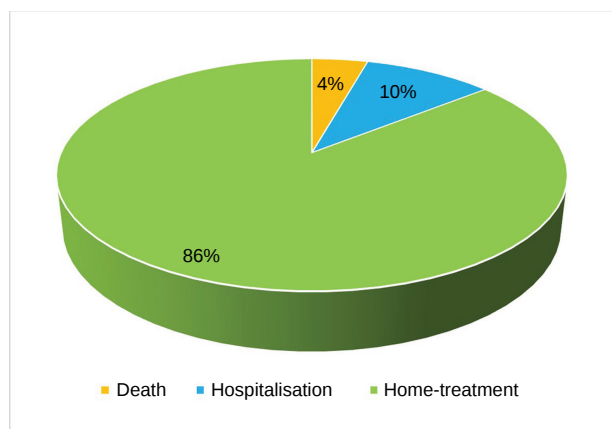


Fig. 2. Percentage of COVID-19 patients who were hospitalised, treated at home or died during the second wave.

other forms of Acute Respiratory Distress Syndrome (ARDS), COVID-19 patients do not exhibit increased lung stiffness or dramatic dyspnea, but hypoxemia can occur suddenly.¹¹

Since the second wave, we have been supported by a team of physicians dedicated to serious cases of COVID-19 (USCA team) and we have had a larger availability of oxygen support. In fact, most patients can be managed with simple interventions such as nasal cannula oxygen or oxygen concentrators, which does not rely on a continuous supply chain or frequent replacement.¹² Other therapies include steroids, antibiotics for secondary pneumonia, bronchodilators, prophylaxis against venous thromboembolism¹³ and, lately, monoclonal antibodies; awake proning is another simple but beneficial intervention that can be applied.¹² Moreover, thanks to the cooperation between family doctors and the local hospital, we were able to perform urgent X-rays in the hospital, if required, and blood tests, which were carried out by a team of trained nurses who would go to patients' homes (home care assistance). This allowed patients in need to be hospitalised only

when necessary and with less severe symptoms, and therefore a higher chance of survival.

Furthermore, not being alone in the fight against COVID-19 has allowed us to take care of patients who have other diseases (eg diabetes, heart failure, kidney failure, cancer), which previously had been reduced. We have seen a general worsening of conditions of people with chronic diseases because they had postponed their follow-up visits due to the COVID-19 pandemic.¹³

Nevertheless, even if this system of primary care management has worked during the previous waves of the COVID-19 pandemic, there is still room for improvement and lessons learnt need to be extended to other parts of the country. In fact, the Italian health system is very fragmented in terms of geographical disparities.¹⁴ For example, we could not perform arterial blood gas tests for patients without increasing the burden on the hospital, but we are aware that elsewhere, this was possible in specialist USCA departments; this solution should be adopted in throughout the whole country in the event of future waves and pandemics.

The improved treatments at home and the collaboration with the hospital have led to good results. Despite the scrutiny by the Italian press about the health system, the primary health service is strong; this is supported by the encouraging results found and the many lives that have been saved. The possibility of treating severe COVID-19 cases at home with medicine, oxygen support and telemedicine monitoring has been the foundation for good pandemic management. The focus on treating COVID-19 patients entirely from hospital has not been successful and coordination between primary care and hospital is essential.^{6,7,12}

As a result, countries where the community health service is weak or people have no free and easy access to it, have shown even poorer outcomes (eg India, South America, Africa).¹⁵ Therefore, the role of primary health care in responding to the COVID-19 pandemic is crucial worldwide, and the need to strengthen it is an urgent necessity that cannot wait anymore.^{12,16–20}

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Author affiliations

^ADepartment of Primary Care, ASLTO5, Via Dante 7, I0022 Carmagnola, Italy.

^BDepartment of Plastic and Reconstructive Surgery, SS. Antonio e Biagio e Cesare Arrigo Hospital, Alessandria, Italy.