# Integration of palliative care into COVID-19 pandemic planning

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## ABSTRACT

The COVID-19 pandemic is expected to surpass the healthcare system's capacity to provide intensive care to all patients who deteriorate as a result of the disease. This poses a unique challenge to healthcare teams of rationing care during pandemic when resources are scarce. Healthcare providers will need to acquire new skills in care decision making and effective symptom control for patients who do not receive life-saving measures. In this review, we describe some of the important palliative care considerations that need to be incorporated into COVID-19 pandemic planning. The main aspects to be considered include decision algorithms for rationing care, training on effective symptoms management, alternative delivery methods of palliative care services such as telemedicine and finally death and bereavement support for surviving family members who are likely to be isolated from their loved one at the moment of death.

## INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic has thus far caused over a hundred thousand deaths globally, mostly in the USA and Europe.[1] While most patients with COVID-19 are either asymptomatic or have mild symptoms, 5% require hospitalisation and 1%–2% need intensive care unit (ICU) admission and ventilator support.[2] Mortality is highest in older adults and patients with chronic medical conditions and malignancies.[3–5] By 1 May 2020 in the USA, COVID-19 has been reported in all 50 states, caused over 1.1 million infections and resulted in over 60 000 deaths.[1] Some states bear a higher burden of the disease and its mortality than others do, but as community transmission continues, the impact on states is expected to increase. With the rapidly increasing community transmission in the USA and globally, it is expected that the disease will soon outpace the capacity of the healthcare system, specifically ICU beds and ventilators.[6 7] Healthcare providers are already faced with difficult ethical decisions of prioritising ICU care and ventilator support for patients who have a higher chance of survival. Integration of palliative care into pandemic planning is crucial in order to equip healthcare providers with the resources needed to prepare for these unforeseen circumstances.

## RATIONING CARE WHEN RESOURCES ARE LIMITED

Considering the limited number of ventilators and ICU resources available, the healthcare system will not be able to provide adequate support for all those who experience respiratory failure. Emergency physicians, hospitalists and intensivist will soon be faced with the difficult decision of prioritising ICU care and ventilator support for patients who have a higher likelihood of benefiting from these interventions.

While it is evident that mortality increases with age and with the number of organs involved, there is currently limited data on mortality scores and indexes that can assist physicians in making those decisions. This will lead to a great deal of uncertainty in making such decisions, especially in a healthcare system that has thus far emphasised patient autonomy, curative treatment intent and technological advances to prolong life. The dilemma imposed by COVID-19 will create a paradigm shift in the way healthcare providers handle prioritisation of care, and there is a need for locally applicable guidelines to support them in recommending foregoing ICU care when appropriate. Many European societies have issued criteria to assist healthcare providers in making treatment limitation decisions, equating them to wartime triage and catastrophic medicine principles.[7–9] These recommendations are based on the ethical principle of utilitarianism-maximising benefit for

the largest number. A recently proposed multiprinciple allocation framework for rationing care during the COVID-19 pandemic in the USA takes into account several factors including likelihood of survival to hospital discharge and likelihood of long-term survival, while prioritising individuals who play an essential role in saving lives such as healthcare workers.[10] Healthcare systems can use these principles to develop and continuously update their own local guidelines.[11]

## WITHHOLDING NON-BENEFICIAL TREATMENT

Reports from Wuhan and Washington State showed mortality rates of up to 86% among patients with COVID-19 who required intubation and mechanical ventilation.[12 13] Given this high mortality rate, many elderly and patients with advanced chronic diseases may choose to forgo intubation and mechanical ventilation. Most physicians receive little to no training on withholding non-beneficial treatment and conducting end-of-life care discussion. In situations when these invasive interventions are likely to cause more harm and discomfort than provide benefit, the ethical principle of non-maleficence can be applied. A recently proposed framework outlines the process for informed assent, which can assist healthcare providers in reaching these difficult decisions, especially in patients who place a higher emphasis on quality of life over longevity.[14]

Goals of care discussion should ideally occur before the patient succumbs to a severe illness in order to lift the burden of decision making from next-of-kin in countries like the USA or the healthcare team in countries like the UK. In a recent article, Curtis *et al*[14] emphasised the immediate need for clinicians to begin having goals of care and do not resuscitate (DNR) discussions with patients in the community and nursing home settings, especially those who are older or with advanced chronic diseases.

## SYMPTOM CONTROL AND PALLIATIVE INTERVENTIONS

In order to be comfortable with implementing such guidelines, physicians will need to receive training on how to effectively control symptoms such as dyspnoea, pain and delirium in patients who are not candidates for ICU care in order to maintain comfort at end of life. Immediate training on symptom control is essential as lack of comfort can cause distress to patients and caregivers and to the healthcare team leading to burnout and compassion fatigue.[15 16] In addition, inadequate symptom control may lead to interventions that can increase the risk of disease transmission to healthcare workers such as non-invasive mechanical ventilation for dyspnoea and placement of physical restrains for agitated delirium. Table 1 highlights some potential recommendations on how to palliate symptoms and implement palliative care interventions, especially in DNR patients.[17 18] It is important to note that while intensive care approach and palliative care approach to patients with COVID-19 have several differences, many of these patients will end up dying in the ICU, and it is important to integrate both approaches in such

**Table 1** Suggested palliative care approach for patients with COVID-19 and comparison with other approaches

| | Palliative care approach for patients with advanced disease | Intensive care approach for patients with COVID-19 | Palliative care approach for patients with COVID-19 |
|---|---|---|---|
| Assessment of symptoms | ► Face to face during interdisciplinary team rounds. | ► Brief bedside assessment. | ► Video conferencing to minimise exposure and conserve PPE. |
| Dyspnoea | ► Oxygen not usually given.<br>► Opioids.<br>► Steroids.<br>► Nebulisers.<br>► Palliative sedation in refractor cases. | ► Intubation and sedation.<br>► Steroids recommended only for patients with ARDS.<br>► Nebulisers not recommended. | ► Oxygen by nasal cannula.<br>► Opioids.<br>► Possible role for steroids.<br>► Palliative sedation in refractory cases. |
| Delirium | ► Minimise psychoactive drugs.<br>► Palliative sedation in refractory cases. | ► Sedation while on mechanical ventilation. | ► Psychoactive medications such as haloperidol.<br>► Palliative sedation in refractory cases. |
| Goals of care and DNR | ► Discuss with patients and family members in clinics or during hospitalisation. | ► Usually not discussed and emergency physicians assume every incoming patient is full code. | ► Discuss goals of care and DNR orders with all elderly patients, nursing home residents and patients with advanced disease.<br>► Consider having DNR bracelets. |
| Family support/ family meetings | ► Usually during clinic visit or hospitalisation. | ► No visitation.<br>► Family isolated or quarantined. | ► Video visits and conferences. |
| End-of-life care. | ► Hospice mainly at home.<br>► Combination of family members and visiting nurses. | ► Patient dies in the hospital, mainly ICU.<br>► Family unable to be at the bedside. | ► Consider inpatient hospice.<br>► Equip hospices with easy to instal temporary negative pressure rooms.[41]<br>► Train hospice personnel on telemedicine and telecounselling. |
| Bereavement | ► Provided to close family members for up to 1 year from patients death. | ► Not routinely done. | ► Telecounseling and bereavement support by trained personnel.<br>► Virtual support groups. |

ARDS, acute respiratory distress syndrome; DNR, do not resuscitate; ICU, intensive care unit; PPE, personal protective equipment.

patients. An example of that is compassionate extubation of patients that requires critical care expertise in order to minimise aerosol generation during tube withdrawal and palliative care expertise in order to minimise respiratory distress. Steroids can be helpful in palliating dyspnoea in patients with advanced cancer,[19 20] and they have recently been recommended for patients with COVID-19 and acute respiratory distress syndrome and on mechanical ventilation.[21]

Another important aspect to incorporate into palliative care planning is support for healthcare providers dealing with daily losses, including their own.[22] Reports from Italy and China showed that over 4800 healthcare workers had been infected (9% of total cases), with 24 doctors dead, and 3300 healthcare workers infected, with 23 doctors dead, respectively.[23–26] In the first few 2 months of the spread in the USA, over 9000 infections have been reported in healthcare workers including 27 deaths.[27] Caring for own colleagues and witnessing their death can further add to the distress faced by healthcare teams and increase the risk for burnout.

## PALLIATIVE CARE DELIVERY METHODS

Pandemics pose a unique challenge to palliative care services as they result in a surge of patients who need palliative and hospice care during their end of life, which can surpass the capacity of palliative care teams.[28] Palliative care programmes will need to be prepared to be able to handle this surge while maintaining the health and well-being of their staff. This underscores the importance of palliative care providers taking the lead in training primary teams on effective symptoms control and communication strategies. Another challenge posed by this pandemic is the isolation and social distancing procedures that can negatively impact the effective provision of holistic interdisciplinary palliative care.[29] This is especially challenging during the current COVID-19 pandemic where healthcare facilitates are trying to conserve personal protective equipment and are therefore limiting the number of staff who can enter patient's room. There is emerging evidence on the utility of telemedicine in the provision of palliative care; however, adequate preparation and technical expertise are needed to effectively implement this in the acute care setting.[30–36] Palliative care and hospice teams will need to be proactive in identifying, implementing and training on the most suitable remote platform to deliver services to patients and families.

## DEATH AND BEREAVEMENT SUPPORT

Several issues can arise during the death and bereavement process in those affected by COVID-19. Dying alone in an ICU setting is difficult on patients and their loved ones. Surviving family members who were not allowed to be with their loved ones during this critical time are at high risk for complicated grief. After death, the body will need to be handled in a special way to prevent spread of infection. Disposition of the dead body through burial or cremation, and other religious rituals such as washing the body before burial, will need to be done in a sanitary way to avoid further transmission.[37] All of these requirements will further complicate the grief process for surviving family members who are likely to be quarantined themselves. Interventions to deliver bereavement counselling should incorporate online and virtual reality based methods. During these times of social isolation, virtual support groups may assist grieving family members in sharing experiences and finding hope.[38–40]

## FUTURE DIRECTIONS

All of these challenges taken together underscore the importance of generating evidence-based medicine on the implementation of palliative care during pandemics. It is crucial that we learn from the COVID-19 pandemic, and there is an urgent need to document outcomes. There is also a need for innovative point-of-care training methods for healthcare providers who are already overwhelmed by the demands of patient surge. Such training should balance attending to the well-being of providers while educating them on palliative care principles. Such training should balance attending to the well-being of providers while educating them on palliative care interventions.

## CONCLUSIONS

The COVID-19 pandemic is expected to surpass the capacity of the healthcare system and will create a need for integration of palliative care into pandemic planning. First, there is an immediate need for healthcare provider education on palliative care principles and how to triage patients when resources are scare. Second, there is a need for alternative methods for provision of palliative care such as telemedicine, telecounselling and online bereavement support groups. Finally, we need to learn from this experience and document outcomes in order to assist the healthcare system with preparedness for future pandemics.

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## REFERENCES

1 University JH. Coronavirus resource center, 2020. Available: https://coronavirus.jhu.edu/map.html [Accessed 19 Mar 2020].
2 Mizumoto K, Kagaya K, Zarebski A, *et al*. Estimating the asymptomatic proportion of coronavirus disease 2019 (COVID-19) cases on board the diamond Princess cruise SHIP, Yokohama, Japan, 2020. *Euro Surveill* 2020;25.
3 Wu C, Chen X, Cai Y, *et al*. Risk factors associated with acute respiratory distress syndrome and death in patients with coronavirus disease 2019 pneumonia in Wuhan, China. *JAMA Intern Med* 2020. doi:10.1001/jamainternmed.2020.0994. [Epub ahead of print: 13 Mar 2020].
4 Yu J, Ouyang W, Chua MLK, *et al*. SARS-CoV-2 transmission in patients with cancer at a tertiary care hospital in Wuhan, China. *JAMA Oncol* 2020.
5 Wang D, Hu B, Hu C, *et al*. Clinical characteristics of 138 hospitalized patients with 2019 novel coronavirus-infected pneumonia in Wuhan, China. *JAMA* 2020. doi:10.1001/jama.2020.1585. [Epub ahead of print: 07 Feb 2020].
6 Grasselli G, Pesenti A, Cecconi M. Critical care utilization for the COVID-19 outbreak in Lombardy, Italy: early experience and forecast during an emergency response. *JAMA* 2020. doi:10.1001/jama.2020.4031. [Epub ahead of print: 13 Mar 2020].
7 Rosenbaum L. Facing Covid-19 in Italy — Ethics, Logistics, and Therapeutics on the Epidemic's Front Line. *N Engl J Med*
8 Borasio GD, Gamondi C, Obrist M, *et al*. COVID-19: decision making and palliative care. *Swiss Med Wkly* 2020;150:w20233.
9 SIAARTI. Raccomandazioni di etica clinica per l'ammissione a trattamenti intensivi e per la loro sospensione, 2020. Available: http://www.siaarti.it/SiteAssets/News/COVID19%20-%20documenti%20SIAARTI/SIAARTI%20-%20Covid19%20-%20Raccomandazioni%20di%20etica%20clinica.pdf
10 Maves RC, Downar J, Dichter JR, *et al*. Triage of scarce critical care resources in COVID-19 an implementation guide for regional allocation: an expert panel report of the task force for mass critical care and the American College of chest physicians. *Chest* 2020. doi:10.1016/j.chest.2020.03.063. [Epub ahead of print: 11 Apr 2020].
11 Uo P. Allocation of scare critical care resources during a public health emergency, 2020. Available: https://ccm.pitt.edu/sites/default/files/UnivPittsburgh_ModelHospitalResourcePolicy_2020_04_15.pdf
12 Yang X, Yu Y, Xu J, *et al*. Clinical course and outcomes of critically ill patients with SARS-CoV-2 pneumonia in Wuhan, China: a single-centered, retrospective, observational study. *Lancet Respir Med* 2020;8:475–81.
13 Bhatraju PK, Ghassemieh BJ, Nichols M, *et al*. Covid-19 in Critically Ill Patients in the Seattle Region - Case Series. *N Engl J Med* 2020;382:2012–22.
14 Curtis JR, Kross EK, Stapleton RD. The importance of addressing advance care planning and decisions about do-not-resuscitate orders during novel coronavirus 2019 (COVID-19). *JAMA* 2020.
15 Portoghese I, Galletta M, Larkin P, *et al*. Compassion fatigue, watching patients suffering and emotional display rules among hospice professionals: a daily diary study. *BMC Palliat Care* 2020;19:23.
16 Najjar N, Davis LW, Beck-Coon K, *et al*. Compassion fatigue: a review of the research to date and relevance to cancer-care providers. *J Health Psychol* 2009;14:267–77.
17 Hendin A, La Rivière CG, Williscroft DM, *et al*. End-Of-Life care in the emergency department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19). *CJEM* 2020:1–4.
18 Kunz R, Minder M. COVID-19 pandemic: palliative care for elderly and frail patients at home and in residential and nursing homes. *Swiss Med Wkly* 2020;150:w20235.
19 Elsayem A, Bruera E. High-Dose corticosteroids for the management of dyspnea in patients with tumor obstruction of the upper airway. *Support Care Cancer* 2007;15:1437–9.
20 Hui D, Kilgore K, Frisbee-Hume S, *et al*. Dexamethasone for dyspnea in cancer patients: a pilot double-blind, randomized, controlled trial. *J Pain Symptom Manage* 2016;52:e11:8–16.
21 Alhazzani W, Møller MH, Arabi YM, *et al*. Surviving sepsis campaign: guidelines on the management of critically ill adults with coronavirus disease 2019 (COVID-19). *Intensive Care Med* 2020;46:854–87.
22 Wallace CL, Wladkowski SP, Gibson A, *et al*. Grief during the COVID-19 pandemic: considerations for palliative care providers. *J Pain Symptom Manage* 2020. doi:10.1016/j.jpainsymman.2020.04.012. [Epub ahead of print: 13 Apr 2020].
23 Schwartz J, King C-C, Yen M-Y. Protecting health care workers during the COVID-19 coronavirus outbreak -Lessons from Taiwan's SARS response. *Clin Infect Dis* 2020. doi:10.1093/cid/ciaa255. [Epub ahead of print: 12 Mar 2020].
24 Ng K, Poon BH, Kiat Puar TH, *et al*. COVID-19 and the risk to health care workers: a case report. *Ann Intern Med* 2020. doi:10.7326/L20-0175. [Epub ahead of print: 16 Mar 2020].
25 Paterlini M. On the front lines of coronavirus: the Italian response to covid-19. *BMJ* 2020;368:m1065.
26 Anelli F, Leoni G, Monaco R, *et al*. Italian doctors call for protecting healthcare workers and boosting community surveillance during covid-19 outbreak. *BMJ* 2020;368:m1254.
27 CDC COVID-19 Response Team. Characteristics of Health Care Personnel with COVID-19 - United States, February 12-April 9, 2020. *MMWR Morb Mortal Wkly Rep* 2020;69:477–81.
28 Powell VD, Silveira MJ. What should palliative care's response be to the COVID-19 pandemic? *J Pain Symptom Manage* 2020. doi:10.1016/j.jpainsymman.2020.03.013. [Epub ahead of print: 27 Mar 2020].
29 Downar J, Seccareccia D. Palliating a pandemic: "all patients must be cared for". *J Pain Symptom Manage* 2010;39:291–5.
30 Calton B, Abedini N, Fratkin M. Telemedicine in the time of coronavirus. *J Pain Symptom Manage* 2020.
31 Funderskov KF, Boe Danbjørg D, Jess M, *et al*. Telemedicine in specialised palliative care: healthcare professionals' and their perspectives on video consultations-A qualitative study. *J Clin Nurs* 2019;28:3966–76.
32 Hancock S, Preston N, Jones H, *et al*. Telehealth in palliative care is being described but not evaluated: a systematic review. *BMC Palliat Care* 2019;18:114.
33 Jess M, Timm H, Dieperink KB. Video consultations in palliative care: a systematic integrative review. *Palliat Med* 2019;33:942–58.
34 Nemecek R, Huber P, Schur S, *et al*. Telemedically augmented palliative care : Empowerment for patients with advanced cancer and their family caregivers. *Wien Klin Wochenschr* 2019;131:620–6.
35 Tasneem S, Kim A, Bagheri A, *et al*. Telemedicine video visits for patients receiving palliative care: a qualitative study. *Am J Hosp Palliat Care* 2019;36:789–94.
36 Vranas KC, Slatore CG, Kerlin MP. Telemedicine coverage of intensive care units: a narrative review. *Ann Am Thorac Soc* 2018;15:1256–64.

37 European Centre For Disease P. Considerations related to the safe handling of bodies of deceased persons with suspected or confirmed COVID-19, 2020. Available: https://www.ecdc.europa.eu/sites/default/files/documents/COVID-19-safe-handling-of-bodies-or-persons-dying-from-COVID19.pdf
38 Amstadter AB, Broman-Fulks J, Zinzow H, *et al*. Internet-Based interventions for traumatic stress-related mental health problems: a review and suggestion for future research. *Clin Psychol Rev* 2009;29:410–20.
39 Wagner B, Knaevelsrud C, Maercker A. Internet-Based cognitive-behavioral therapy for complicated grief: a randomized controlled trial. *Death Stud* 2006;30:429–53.
40 Swartwood RM, Veach PM, Kuhne J, *et al*. Surviving grief: an analysis of the exchange of hope in online grief communities. *Omega* 2011;63:161–81.
41 Minnesota Department of Health. *Airborne infectious disease management methods for temporary negative pressure isolation*, 2020.