Translational Perioperative and Pain Medicine

ISSN: 2330-4871

Review Article | Open Access Volume 7 | Issue 3

Potential Options in Dealing with the Crisis of COVID-19 Pandemic for Medical Resources

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The World Health Organization announced that COVID-19 is a pandemic on March 11, 2020, affecting people across the world. The medical system is overwhelmed due to the increasing number of patients and a shortage of medical providers. Significant shortage of medical wards and isolations rooms is becoming a pressing reality. It takes a significant amount of time and resources to build new facilities or hospitals to fulfil such urgent needs. Medical professionals have a high risk of becoming infected from the community and from hospitals [1]. Medical professionals as frontline soldiers are not easily replaced. What options are there to quickly increase the number of beds available for COVID-19 quarantine and treatment, and to rapidly increase the number of medical professionals available to help with treatment?

The rapid opening of facilities to quarantine affected individuals and the mobilization of additional trained medical professionals to closely observe and treat these individuals may prove beneficial in reducing family and community spread of the virus, as well as possibly preventing many cases with mild to moderate symptoms from advancing to severe symptoms of acute respiratory distress syndrome and pneumonia. One problem with self-quarantine is that without expert medical supervision, a patient may progress from mild to moderate symptoms to severe symptoms before aggressive medical treatment can be started. It is possible that trained medical professionals may be able to reduce severity of symptoms with the appropriate supporting therapy to avoid severe complications. The benefit of this would be to reduce the need for ventilators as much as possible, especially when ventilator availability is currently one of the huge concerns for the health care system.

Closed Hospitals

The closure of Hahnemann University Hospital at the end of 2019 [2], a major hospital in Philadelphia, has generated a profound impact on patient care, especially care of the most vulnerable population, in such a huge city. The remaining hospitals in Philadelphia are already operating at greater than high capacity. Unfortunately, hospital closure is not a rare phenomenon across the US, where there were 126 hospitals, mostly in rural underserved areas, closed across the nation, including 6 already in 2020 [3]. We should consider the potential for these closed hospitals to be converted to quarantine or isolation facilities to manage the increasing number of COVID-19 patients.

Closed and Abandoned Shopping Malls

There are many closed and abandoned shopping malls across the nation. Some of them have closed recently and are still in reasonably good condition. Such facilities have both location and capacity advantages. These malls are generally located away from highly populated cities, but are convenient to access through highways with ample space and parking spots. Instead of building new quarantine facilities, the potential to quickly convert these closed shopping malls to quarantine or isolation facilities exists.

Military and National Guard Mobilization

In extreme conditions military and state national guards can be mobilized to construct hospital tents such as those used in combat zones to provide space for quarantined COVID-19 patients. These can be set up reasonably quickly in areas where there are too many patients to be housed using other facilities.

Redirecting Medical Services

In China, it was reported that more than 3000 medical professionals had COVID-19 at the epicenter in Hubei province [4]. Over 40,000 medical providers have mobilized across the country to assist in Hubei [4]. This is challenging or difficult in many countries and regions including the US due to strict individual state license laws and individual hospital regulations regarding the granting of clinical privileges to physicians and medical staff. Government and medical societies as well as hospital administrations should evaluate possible urgent approval mechanisms for medical providers to practice in other states and in hospitals where they may be desperately needed. Due to the nature of the disease, some sub-specialties and departments have been hit harder than others. As reported recently, two emergency med-

icine physicians are in critical condition in two different states [5]. During the outbreak, many clinics have closed, and elective surgeries have been put on hold. Physicians and medical providers in these subspecialties without emergent patient care are currently on standby. With forward thinking hospital administrators and medical societies these providers could be mobilized to support currently overwhelmed sub-specialties and facilities by granting urgent emergency privilege approval and insurance coverage.

Easing Restrictions on Foreign Physicians and Medical Staff

This is an international disease with hot spots occurring in different places at different times. All nations should be willing to accept help from other nations where the crisis may have abated. These physicians and medical staff have experience that could prove invaluable to medical systems that are currently entering a crisis mode. The government and medical societies need to reduce the potential barriers to foreign physicians and medical staff entering this country to assist in treating fellow humans affected by this worldwide pandemic. For these physicians who are currently in training in the US as visiting scholars, a special approval should be considered to allow them to assist under the direct supervision of a licensed physician in the US.

Can Medical and Nursing Students be Mobilized to Battle the Pandemic?

In an extreme scenario, senior medical and nursing students could be mobilized to this pandemic battlefield if all other measures are exhausted and there are still medical provider shortages. Due to their relative lack of clinical experience, these young medical providers should be limited to treating only mild and moderate cases. The exposure to severe cases, especially with intubation, should be limited to only the most experienced and senior level medical professionals available. Let's all hope that such a disaster situation will not occur. However, early evaluation should be considered as a potential back up plan.

The Retired Medical Professionals

This is a less desirable option since they are generally older, and therefore more vulnerable to the disease. If these physicians and medical personnel were to be mobilized, additional precautions must be in place to protect them. They would optimally be utilized for more supervisory and consulting roles, with limited direct patient contact. Although many of these retired professionals may not have an active license and proper insurance coverage, these issues can be addressed by government and medical society intervention.

While these suggestions are potential extreme measures, leaders and policy makers should consider then as early as possible if the event current resources become exhausted. There are shortages of masks and other personal protection equipment caused by the rapid rise of this pandemic. While masks for use by the general population is desirable, the first priority must be for the medical professionals who are in direct contact with patients affected with COVID-19. We as a nation cannot afford to lose any medical personnel to this disease.

Conflict of Interests

None.

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Additional publication details

Journal short name: Transl Perioper & Pain Med

Received Date: March 31, 2020

Accepted Date: April 02, 2020

Published Date: April 04, 2020

Citation: Grothusen J, Liu R. Potential Options in Dealing with the Crisis of COVID-19 Pandemic for Medical Resources. Transl Perioper & Pain Med 2020; 7(3):253-254