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Chinese Health Care Workers and COVID-19: For Whom the Bell Tolls

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No man is an island, entire of itself; every man is a piece of the continent, a part of the main. If a clod be washed away by the sea, Europe is the less, as well as if a promontory were, as well as if a manor of thy friend's or of thine own were: any man's death diminishes me, because I am involved in mankind, and therefore never send to know for whom the bells tolls; it tolls for thee.

Devotions Upon Emergent Occasions, John Donne, 1624 (1)

In mid-December 2019, Chinese physicians working in Wuhan, a port city of 11 million people in the central province of Hubei, reported several cases of an undisclosed pneumonia. Using a surveillance mechanism that was established following the 2003 severe acute respiratory syndrome (SARS) outbreak, the initial 4 reported cases of “pneumonia of unknown etiology” were linked to the Huanan Seafood Wholesale Market, which consequently was shut down on January 1st, 2020. Based on the results of deep sequencing and investigations by five independent laboratories, Chinese officials reported on January 7th, 2020 that the causative agent of the mystery pneumonia was a novel coronavirus (nCoV). Sequence analysis revealed that the 2019-nCoV possesses a typical genome structure of coronavirus belonging to the cluster of betacoronaviruses that includes Bat-SARS-like (SL)-ZC45, Bat-SL ZXC21, SARS-CoV and MERS-CoV. Based on the genomic content of Covid viruses, 2019-nCov appears to be more closely related to bat-SL-CoV ZC45 and bat-SL-CoV ZXC2, and more distantly related to SARS-CoV (2). On January 11th 2020, China reported the first death from nCoV in a 61-year-old man who purchased goods from the Huanan Seafood Wholesale Market. In the weeks that followed, the coronavirus outbreak spread across China, slithering into neighboring countries and continents. By January 13, the World Health Organization reported a case of 2019-nCoV in a woman in Thailand, who had arrived from Wuhan. Thus began what we now recognize as the coronavirus disease 2019 (COVID-19) pandemic.

How the 2019-nCoV spread from a seafood market to become a worldwide pandemic that collapsed economies worldwide within a matter of months will continue to be the grist for the medical, economic and political mills, now and for the foreseeable future. Certainly, there is plenty of blame to go around, beginning with the early handling of the outbreak by Chinese officials, as well as the agonizingly slow roll out of nCoV testing in the United States.

Notwithstanding the reflexive finger pointing and blame gaming, there is an inspiring backstory of human sacrifice, heroism and courage on the part of the health care workers in China, who were grappling with treating patients with SARS flu-like symptoms, but without any specific knowledge about the virulence or pathogenicity of the disease they were treating. Moreover, the frontline Chinese health care workers provided care without proper personal protective equipment (PPE) to shield them from harm. In a sobering article in the Los Angeles Times entitled “Doctors and nurses fighting coronavirus in China die of both infection and fatigue,”⁽³⁾ Alice Su reports that there were “18 reported deaths of medical workers involved in the COVID-19 response as of Monday (February 24th), including nurses and doctors who died not because of infection but because of cardiac arrest or other ailments due to overwork and fatigue. One victim was hit by a car while taking temperatures on a highway.” The article also mentions Dr. Peng Yinhua (age 29), who postponed his planned wedding on February 1, so that he could continue to provide care to COVID-19 patients. Dr. Yinhua promised his pregnant fiancée that they would have a ceremony after the outbreak had passed: he died of COVID-19 on February 21st.

In his epic work “Devotions Upon Emergent Occasions”, John Donne argues that that the death of any individual is something others can learn from, should they understand it properly (1)(4). Fully understanding the COVID-19 attributable deaths of healthcare workers in China, and for that matter, the COVID-19 attributable deaths of healthcare workers all around the world

will take some time to process, insofar as many of these deaths were preventable. As noted, there is plenty of blame to go around. The unbelievable courage of the men and women who provided care to COVID-19 patients, knowing that they might die from the same mysterious illness that was killing their patients, is an example of what is truly remarkable and best about humanity. Their lesson of sacrifice and selfless caring is one that can never be washed away, nor ever diminished. Not ever. To this end, we dedicate this issue of *JACC: Basic to Translational Science* to the Chinese healthcare workers who died from COVID-19, as well as all of the other health care workers around the world who are caring for COVID-19 patients. A partial list of the names of the frontline Chinese physicians and nurses who died of COVID-19 (online search date 3/20/20) follows at the end of this Editors Page.

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4. Jungman R. Mining for Augustinian Gold in John Donne's "Meditation 17" Oxford University Press, 2007.

In Memoriam

- Dr. Wenliang Li, 35 years old, ophthalmologist, the Central Hospital of Wuhan.
- Dr. Zhongming Mei, 57 years old, ophthalmologist, the Central Hospital of Wuhan.
- Dr. Heping Zhu, ophthalmologist, the Central Hospital of Wuhan.
- Dr. Xueqing Jiang, 56 years old, thyroid and breast surgeon, the Central Hospital of Wuhan.
- Dr. Zhengbin Lin, 62 years old, Kidney transplant surgeon, Tongji hospital of Huahong university of science and technology.
- Dr. Yinhua Peng, 29 years old, pulmonary physicians, the first people's hospital of jiangxia district, Wuhan, Hubei province.
- Dr. Sisi Xia, 29 years old, gastroenterologist, Xiehe jiangbei hospital, Wuhan, Hubei province.
- Dr. Wenjun Huang, 42 years old, pulmonary physicians, Xiaogan Central Hospital, Hubei province.
- Dr. Zhiming Liu, 51 years old, dean of Wuchang hospital, Wuhan, Hubei province.
- Dr. Hui Xu, 51 years old, vice dean of Nanjing Hospital of Chinese Medicine, Nanjing, Jiangsu province.
- Dr. Junxiao, 50 years old, General surgeon, Red Cross Hospital of Wuhan, Wuhan, Hubei province.
- Dr. Yanghong Mao, 52 years old, vice dean of Xianyang central health center, Nanping, Fujian.
- Dr. Jijun Jiang, 52 years old, Infectious physicians, Taizhou people's hospital, Taizhou, Jiangsu province.
- Dr. Jinbo Jiang, 58 years old, disease control center of Dayu, Ganzhou, Jiangxi province.
- Nurse. Fan Yang, 55 years old, Wuchang hospital community health service center, Wuhan, Hubei province.
- Dr. Debu Wu, 69 years old, Ezhou hospital of traditional Chinese medicine, Ezhou, Hubei province.
- Dr. Yingjie Song, 28 years old, Maji health center, Donghu, Hunan province.
- Dr. Tucheng Wang, 37 years old, Changge, Henan province.
- Dr. Zhengrong Zhu, 48 years old, Nanyang community health service center, Nantong, Jiangsu province.
- Dr. Xiansheng Du, 55 years old, Yangjiang hospital of li autonomous county, Qiongzong, Hainan province.
- Dr. Wuche Liang, 62 years old, Hubei hospital of integrated traditional Chinese and western medicine.
- Dr. Yunhua Song, 46 years old, Baoshan, Yunnan province.
- Dr. Yangyang Yuan, 36 years old, Baofeng hospital of traditional Chinese medicine, Henan province.
- Dr. Jinxing Yuan, 32 years old, Jinlingfeng town health center, Hezhou, Guangxi province.