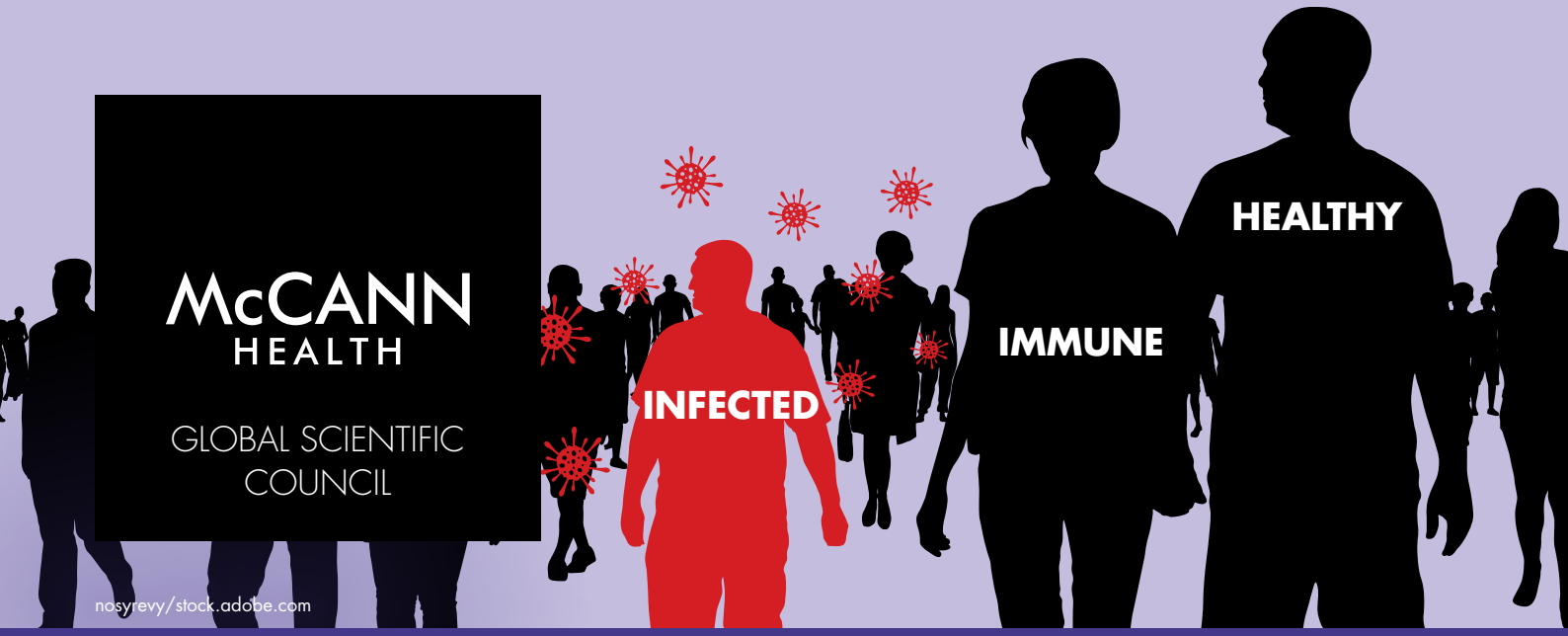

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A CONSISTENT THREAD IN AN EVER-EVOLVING PANDEMIC

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WHY DOES THE INFORMATION WE SEE ABOUT COVID-19 SEEM TO CHANGE EVERY DAY?

Each day it seems as though the information we hear and read about regarding this global pandemic changes – the number of people infected, the regions in which infection rates are rising, plateauing and resurging, even the potential for the virus itself to mutate. However, one thing that has not changed is the clinical characterization of patients infected with the virus. Our experience over the past 3 months tells us that the vast majority of patients have been asymptomatic, and that there has been remarkable consistency in people with severe disease who have had to be hospitalized.

WHAT DO WE KNOW ABOUT PEOPLE INFECTED WITH COVID-19 (SARS-COV-2)?

Despite what seems like daily information overload, limited data have been available to describe the characteristics of patients requiring hospitalization due to COVID-19 – until now. Clinical characteristics from hospitalized patients in California, New York, and China have recently been published, and consistently report that the majority are men in their early 60s who suffer from hypertension, diabetes or obesity.

In Northern California the median age of hospitalized patients was 61 years and 56% were male. The most common comorbidities were hypertension (43.5%) and diabetes (41.3%). Symptoms from which the patients most commonly suffered upon admission included shortness of breath (49.1%), fever (33.7%), and cough (31.8%). Signs of infection in the lungs, as seen on chest X-ray, were present in 83.6% of patients.

In New York City and the surrounding area, findings are similar with a median age of 62 years. Most of the hospitalized patients were male. As in California, the most common medical conditions from which the patients also suffered included hypertension and diabetes, as well as obesity. The most common presenting symptom was fever, and 75% had abnormalities on a chest X-ray.

Data from Wuhan, China are largely consistent with those from the US. Of 191 hospitalized patients in one report, the median age was 56 years (range 18–87) and the majority were male (62%). Comorbidities were present in nearly half the patients, with hypertension being the most common (30%), followed by diabetes (19%). The most common symptoms on admission were fever, cough, and shortness of breath, which lasted a median of 12 days, 19 days, and 13 days respectively. Seventy-five percent of the patients had abnormalities on chest X-ray.

	Northern California	NY, NY	NYC Area	Wuhan, China
Number of patients hospitalized	377	393	5700	191
Age, median	61	62.2	63	56
Male (%)	56.2	60.6	60.3	62
Comorbidities (%)				
Hypertension	43.5	50.1	56.6	30
Diabetes	41.3	25.2	33.8	19
Obesity		35.8	41.7	
Asthma or COPD	7.4	17.6	14.4	3
Symptoms on presentation (%)				
Fever	33.7	25.5	30.7	94
Shortness of breath	49.1			
Cough	31.8			79
Infiltrates on chest X-Ray	83.6	75.3		75
Current smoker (%)		5	15.6 (ever smoker)	6
Treated in ICU (%)	30	33	14.2	

WHAT WERE THE MOST COMMONLY USED MEDICATIONS PRIOR TO HOSPITALIZATIONS?

The most commonly taken medications across reports were angiotensin-converting enzyme inhibitors (ACEi) and angiotensin II receptor blockers (ARBs), blood pressure medications used for hypertension.

WHAT HAPPENED TO THE HOSPITALIZED PATIENTS IN THESE REGIONS?

Overall, up to about a third of hospitalized patients needed to be treated in the intensive care unit setting. In California, at the time of publication, 271 of the 377 patients were discharged and 50 died. In NY, 66% of the patients were discharged while 10% died. In the NYC area report, mortality was 0% (0/20) for male and female patients younger than 20 years. Mortality rates were higher for male compared with female patients at every 10-year age interval older than 20 years. In Wuhan, of the 191 hospitalized patients, 137 recovered and were discharged, while 54 died during hospitalization.

Of note, there has been a striking proportion of COVID deaths in the US from nursing homes and adult care facilities. As reported across 33 states, nearly 40% of all COVID deaths were from long term care facilities. These data highlight the ongoing importance of protecting the most vulnerable in our population.

DOES THIS MEAN THAT I AM AT HIGH RISK OF GETTING INFECTED OR HOSPITALIZED IF I HAVE ANY OF THESE CLINICAL CHARACTERISTICS?

While these early trends from the different locations reflect similar clinical characteristics of patients infected with COVID-19, there is not yet enough evidence to conclude that you are at higher risk of infection or hospitalization if you are of similar age, gender or have one or more of these comorbidities. Longer-term data are needed to help identify specific risk factors for poorer prognosis.

Governor Andrew Cuomo of NY recently reported that about 60–70% of recent hospitalizations was comprised of patients who had been isolated at home, which could mean that the greatest source of ongoing infection is family members who do go out and then expose those at home upon return. At this time physical distancing measures and mask-wearing, rapid testing, and quarantine of those who are infected, as well as their close contacts, are still the best measures to implement to control the spread of disease.

WHAT ARE SOME OF THE DIFFERENCES ABOUT WHICH WE SHOULD LEARN MORE?

Countries like Germany and South Korea have reported mortality rates lower than those reported in other parts of the world. Analysis of factors that may be contributing to those rates may be helpful to other regions as we continue to search for factors that may improve the rate of recovery from COVID-19.