Articles about COVID-19 for June 1st to June 5th

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Name of Article + Link	Journal, Date	Category of Study	Question it asks	Results in Brief	Implications + Limitations	Initials
COVID-19 is Out of Proportion in African Americans. This will come as no surprise...	*The American Journal of Medicine*, 20 May 2020	Epidemiology; University of Alabama	Description of how African American populations are being affected by COVID-19; what we can do about it	**African American cases of COVID-19 by state:** Alabama: -37.5% of laboratory-confirmed cases -47.4% of COVID-related deaths -only make up 28.6% of Alabama's population Louisiana: - 56.25% of deaths although only 32.7% of population Michigan: -33% of COVID-19 cases -40% of COVID-related deaths -only 14.1% of the population	We already knew that African Americans have higher rates of morbidity and mortality, yet we did not use to information to focus our prevention and testing efforts. By doing this, we could have reduced cases in high-risk populations as well as cut down on hospital admissions. We could have anticipated that COVID-19 would affect low-income African American communities harder than others. We can address health disparities with COVID-19 before it's too late: • Appropriate and culturally sensitive messaging (No	LP

					one-size-fits-all communication) • Ensure equitable testing (testing sites have not been as accessible as they could be, lack of physician referrals) • Ensure that therapeutic and vaccine trials are representative (distrust of healthcare system by minorities) • Ensure follow-up and access to appropriate care (rural areas, low-income) • Commit to ensuring that COVID-19 does not make health disparities worse	
[Anakinra for severe forms of COVID-19: a cohort study](#)	*The Lancet, Rheumatology*, May 29, 2020	Clinical, Therapeutics	Does anakinra slow disease progression in COVID-19, for hospitalized patients?	• 52 prospective patients treated with same 10 day course of anakinra	• Anakinra appears to be safe, and in this small study shows some effectiveness in	MG

				• 44 historical control patients selected • All patients from same center in Paris, > 18 yo, with evidence of severe bilateral pneumonia, lab confirmed SARS-CoV-2, and hypoxia. • Main outcome – a composite of ICU admission or death. • Intention to treat analysis • 13 (25%) patients in anakinra group were admitted to ICU vs. 32 (73%) in historical group. HR 0·22 [95% CI 0·11–0·41; p<0·0001) • Multivariate analysis of anakinra treatment HR 0·22 [95% CI 0·10–0·49]; p=0·0002 • Increased ALT in 7 anakinra patients (13%) vs 4 (9%) historical patients	speeding recovery of hospitalized patients with severe COVID-19. • Study size and design are limited. • Groups fairly well matched, but the historical group was more obese, overall.	

Predicting infectious SARS-CoV-2 from diagnostic samples	*Clinical Infectious Disease,* 22 May 2020	Basic Science	How long after onset of symptoms are COVID-19 patients infectious?	Ninety RT-PCR samples positive for SARS-CoV-2 used in clinical diagnostic testing in Canada (median age 45 (30-59); 49% men) were used to attempt to culture SARS-CoV-2 *in vitro.* Of those tested, 26 (28.9%) grew virus. Both symptom onset to time of test (STT) (3 [2-4] vs. 7 [4-11], p<0.001) and cycle threshold (Ct) (17 [16-18] vs 27 [22-33], p<0.001) were found to be predictive of infectivity of patient samples. No cultures grew in patients with STT > 8 days. Also showed for every unit increase in Ct, likelihood of positive culture decreased by 32%. For every day increase in STT, likelihood of positive culture decreased by 37%. Both Ct and STT showed good predictive value using ROC curves (Ct: AOC = 0.91 (0.85-0.97), specificity = 97%, w/ Ct<24 as positive; STT: AOPC = 0.81 (0.73-0.90), specificity = 96%, w/ STT<8 days as positive)	Implications: Based on viral culture as a measure of infectivity, STT and Ct in RT-PCR tests may be predictors of infectivity. These could inform isolation policy, as well as change some practices requiring 2 negative PCR tests before returning to work etc. IN other words, positive PCR tests does not necessarily mean a patient is infectious. Limitations: Study size was still small (n = 90). STT was self-reported and may be subject to recall bias; however, this was likely the same between the positive/negative groups. Also, cells were cultured in chimpanzee cells (Vero cell line), not human, so the results may not be generalizable to infectiousness in humans.	CS

| Description of COVID-19 in HIV-infected individuals: a single-centre, prospective cohort | *The Lancet,* 28 May 2020 | Clinical | How does COVID-19 present in HIV-infected individuals? | For 51 HIV-infected individuals in Spain diagnosed with COVID-19, the mean age was 53.3 years, 16% were women, 84% were men and 55% required hospital admission. 63% had a least one comorbidity vs 38% without COVID-19. 73% had received tenofovir before COVID-19 diagnosis vs 38% without. SARS-CoV-2 RT-PCR remained positive after a median of 40 days from symptom onset in 32%, 4/6 of whom had severe disease or low nadir CD4 cell counts. The rate of infection in HIV-infected individuals was 1.2-1.8% was like the general population's: 0.96%. | The mean age was significantly lower than the general population 35.6 vs 59.7 years and most cases occurred at ages 50-59 (versus a more uniform distribution in the general population). Clinical, analytical and radiological presentation of COVID-19 in HIV-infected individuals vs those in the general population. Despite low mortality rate, 25% has severe disease and 12% were admitted to the ICU, compared to 17-21% and 3-5% in the general population.

Previous studies suggest that immunosuppression and low CD4 cell counts might protect HIV-infected individuals from developing the cytokine storm observed in patients with COVID-19. We did not find an association between nadir CD4 cell counts | TP |

					and COVID-19 diagnosis in people with HIV after adjusting for baseline characteristics.	
Remdesivir for 5 or 10 Days in Patients with Severe Covid-19	*NEJM May 27,2020*	Therapeutics	Is there any difference in efficacy between 5-day remdesivir and 10-day remdesivir treatment?	In total, 200 patients were included in the 5-day group and 197 patients in the 10-day group. The median duration of treatment was 5 days (interquartile range, 5 to 5) in the 5-day group and 9 days (interquartile range, 5 to 10) in the 10-day group. After adjustment for baseline clinical status, patients in the 10-day group had a distribution in clinical status at day 14 that was similar to that among patients in the 5-day group (P=0.14). The most common adverse events were nausea (9% of patients), worsening respiratory failure (8%), elevated alanine amino-transferase level (7%), and constipation (7%)	Limitations: The result of similar efficacy in 5-day treatment and 10-day treatment cannot be extrapolated to critically ill patients receiving mechanical ventilation, because few of the patients in the trial were receiving mechanical ventilation before beginning treatment with remdesivir. The interpretation of the results is limited by the lack of a randomized placebo control group and the open-label design. Implication: For people with COVID-19 who don't require mechanical ventilation, there is no significant difference in efficacy between a 5-day course and a 10-day course of IV remdesivir treatment.	FM

[Premorbid IL-6 levels may predict mortality from COVID-19](#)	Preprint, May 29th	Basic Science & Racial Disparities	Do IL-6 levels prior to infection predict mortality, given that this cytokine directly facilitates viral cell entry and replication?	There was a highly significant correlation (r = 0.9883; p = 0.00025) between age-stratified mortality rates and IL-6 levels from similar healthy individuals. Levels of IL-6 were proportionately higher in males, the elderly, individuals of black ethnicity and obese individuals, with similar findings in relation to COVID-19 mortality in these groups.	<u>Implications</u>: IL-6 levels prior to infection may predict mortality: This provides a rationale for prophylactic and therapeutic measures directed at lowering IL-6, including Vitamin D prescription. <u>Limitations</u>: premorbid data on IL-6 levels derived from different populations as those with mortality data. Only age-stratified data statistically significant, because sex, ethnicity, and obesity could not be assessed for statistical significance.	CR
[Assessing Differential Impacts of COVID-19 on Black Communities](#)	Annals of Epidem-iology, May 14th	Racial Disparities (from table of suggested articles)	Do social conditions, structural racism, and other factors elevate risk for COVID-19 diagnoses and deaths in black communities?	In general: Nearly twenty-two percent of US counties are disproportionately black and they accounted for 52% of COVID-19 diagnoses and 58% of COVID-19 deaths nationally. In more detail:	<u>Implications</u>: Health disparities which elevate risk for COVID-19 diagnoses and deaths in black communities arise from a complex interplay of underlying social, environmental, economic, and structural inequities. Ex: Higher county-level unemployment was	CR

| | | | | Nearly ninety-seven percent of disproportionately black counties (656/677) reported a case and 49% (330/677) reported a death versus 81% (1987/2,465) and 28% (684/ 2465), respectively, for all other counties. Counties with higher proportions of black people have higher prevalence of comorbidities and greater air pollution. Counties with higher proportions of black residents had more COVID-19 diagnoses (RR 1.24, 95% CI 1.17-1.33) and deaths (RR 1.18, 95% CI 1.00-1.40), after adjusting for county-level characteristics such as age, poverty, comorbidities, and epidemic duration. COVID-19 deaths were higher in disproportionally black rural and small metro counties. The PAF of COVID-19 diagnosis due to lack of health insurance was 3.3% for counties with <13% black residents and 4.2% for counties with >13% black residents. | associated with fewer COVID-19 diagnoses. Employment presumably increases the likelihood of exposure to COVID-19, and this might differentially impact black Americans because only one in five black Americans has an occupation that permits working from home.

"We will continue to fail to address longstanding inequities until we commit to eliminating structural racism and the systemic roots that maintain and even reinforce these injustices"

Limitations: challenges in individual reporting of race in existing surveillance systems, structural confounding where there are more black people in urban centers and urban centers have been more likely to be affected to date in the first wave of COVID-19. | |

[Understanding COVID-19 Risks and Vulnerabilities among Black Communities in America: The Lethal Force of Syndemics](#)	Annals of Epidemiology, May 14	Public Health/Epidemiology	What accounts for the racial disparities observed in morbidity and mortality from COVID-19?	This article applies syndemic theory as an explanation for racial differences in outcome during the current COVID-19 pandemic. Syndemic theory incorhistorical and current social context to help explain biomedical observations of health disparities.

"The racial health inequities that we are seeing have not emerged randomly nor passively; rather, they are actively produced through anti-Black racism institutionalized within the American political system." | This article is a call for greater scientific recognition of structural racism and more active solutions. | MG |
| Awareness, Attitudes, and Actions Related to COVID-19 Among Adults With Chronic Conditions at the Onset of the U.S. Outbreak A Cross-sectional Survey | Ann Intern Med. 2020 Apr 9 | Racial Disparities | What kind of COVID-19 awareness, knowledge, attitudes, and related behaviors do U.S. adults who are more vulnerable to complications of infection because of age and | A survey of more than 600 socioeconomically diverse adults who are considered "high risk" for COVID from the Greater Chicago area showed that many participants(20% and above) do not possess the basic medical knowledge to identify symptoms and prevent infections. Participants who are black, below poverty level, and | Implications: Perception of personal risk during COVID and the ability to prevent infection seem to be limited for those who live below poverty level and who have low health literacy. This is a concerning demographic and socioeconomic pattern.

Limitations: | EX |

			comorbid conditions have?	have low health literacy tend to be less worried about COVID and less prepared to face the disease.	The sample population are middle-aged or older adults who have chronic health conditions, thus the result lacks generalizability when considering younger or healthy adults.	
[What's Behind the COVID-19 Racial Disparity?](#)	*The Atlantic*, 27 May 2020	Racial Disparities/Public Health	Characterization of COVID-19 outcomes related to disparities	According to a study at Yale University, black Americans' COVID-19 mortality is 3.57 times higher than white Americans. *NEJM* article on COVID-19 death gap in the US suggested that the highlighting of racial disparities further encourages racist beliefs without the explanation of these disparities. • Assumption that blacks are biologically more susceptible to infection • Assumption that higher rates of infection are due to misbehavior of the group • Perpetuate the false impression	Collecting data needs to be precise. There are options for patients to self-report race, but not socioeconomic status. Most states still aren't collecting relevant data such as socioeconomic status. Finding the underlying factors that cause these disparities is where the solution lies. Examples of other countries are provided that have disparities in their number with no real cause. • Denmark, no issues after thawing economy • Other countries have seen spike in cases once doing so	LP

				that certain social problems are primarily racial	The main point is that more work is to be done to find out the actual causes of these disparities that do have solutions.	
Hospitalization Rates and Characteristics of Patients Hospitalized with Laboratory-Confirmed Coronavirus Disease 2019	CDC, April 17th	Public Health (from table of suggested articles)	Goal: COVID-NET was implemented to produce robust, weekly, age-stratified COVID-19–associated hospitalization rates.	Among patients with race/ethnicity data (580), 261 (45.0%) were non-Hispanic white (white), 192 (33.1%) were non-Hispanic black (black), 47 (8.1%) were Hispanic, 32 (5.5%) were Asian, two (0.3%) were American Indian/Alaskan Native, and 46 (7.9%) were of other or unknown race. Rates varied widely by COVID-NET surveillance site. During the first month of surveillance, COVID-NET hospitalization rates ranged from 0.1 per 100,000 population in persons aged 5–17 years to 17.2 per 100,000 population in adults aged ≥85 years. In the COVID-NET catchment population, approximately 49% of residents are male and 51% of residents are	Implications: Hospitalization rates increase with age and are highest among older adults; the majority of hospitalized patients have underlying conditions. Black populations might be disproportionately affected by COVID-19. Limitations: First, hospitalization rates by age and COVID-NET site are preliminary and might change as additional cases are identified from this surveillance period. Second, whereas minimum case data to produce weekly age-stratified hospitalization rates are usually available within 7 days of case identification, availability of detailed clinical data are delayed because of the need for	CR

				female, whereas 54% of COVID-19-associated hospitalizations occurred in males and 46% occurred in females. Nearly 90% of persons hospitalized have one or more underlying medical conditions.	medical chart abstractions. Third, testing capabilities vary based on hospital.	

Stop Blaming Black People for Dying of the Coronavirus: New data from 29 states confirm the extent of the racial disparities.	*The Atlantic,* 14 April 2020	Opinion (from table)	Characterization of rhetoric aiming to blame the Black population for being disproportionately affected by COVID-19	This article highlights the rhetoric that has been used to blame Black communities for their greater infection and death rates. Rather than ask, how has systemic racism created conditions where the Black population is disproportionately affected by COVID-19, many are using these data to blame black people for these disparities. Additionally, it has been used to blame them for their increased rates of other chronic diseases relative to the white population.	<u>Implications:</u> Dipropionate infection and mortality rates from COVID-19 in the Black community is evidence of systemic racism in the US, and is NOT evidence that Black populations are taking COVID-19 less seriously, or are to blame for these differences in infection/mortality rates.	CS

Hospitalization and Mortality among Black Patients and White Patients with Covid-19	*NEJM,* 27 May 2020	Public Health	What are the racial and ethnic differences in outcomes from Covid-19?	This retrospective cohort study investigated health outcomes (hospitalization and in-hospital death) for patients that had laboratory confirmed SARS-CoV-2 infection in the Ochsner Health System in Louisiana from March 1 – April 11. Data extraction included age, sex, patient-reported race and ethnicity, insurance plan, chronic conditions, BMI, some and some outpatient medications. The primary outcomes of hospitalization and in-hospital death were assessed with unadjusted and multivariable logistic regression. Outcomes were assessed with 3 different models: 1) race only, 2) race, age and sex, 3) race, age, sex, Charlson Comorbidity Index score, residence in low-income area, obesity, and insurance plan. Of the 3481 patients included in the study 60% were female, 70.4% were	Implications: More information is required to understand how racial and ethnic differences are affecting health outcomes in regards to Covid-19. This study acknowledges that the differences in racial outcomes is multifactorial as job exposure and underlying medical conditions are playing a role in the different outcomes. The difference in clinical appearance (elevated inflammatory markers, more severe laboratory findings) could be due to Black patients not seeking care in the early stages of disease (as suggested by the authors). Further studies are required to investigate the immune response across racial and ethnic groups, which would affect clinical course and management. Limitations: A limitation highlighted by these authors is the fact that	MCG

| | | | | Black non-Hispanic and 29.6% white non-Hispanic. Black patients were found to have a higher prevalence of obesity, diabetes, hypertension, and chronic kidney disease compared to the white non-Hispanic patients.

39.7% of the total patients were hospitalized and 76.9% of those hospitalized were black. Multivariable analysis suggested that black race, increasing age, higher score of Charlson Comorbidity Index, public insurance, obesity, and residence in a low-income area increased the odds of hospital admission. Of the 326 patients who died from Covid-19, 70.6% of them were black, with only 31% of the Ochsner Health population identifying as black.

However black race was not independently associated with higher in-hospital mortality than white race after adjustment for differences | this study was performed at one integrated-delivery health system in Louisiana, and while it was a large center the generalizability of the study may be decreased. Additionally, not all of the patients received the same laboratory studies, especially as the clinical management guidelines were rapidly changing. The data was extrapolated from electronic medical records therefore accuracy/completeness relied on how the ehr was completed. | |

				in sociodemographic and clinical characteristics on admission.		

Variation in COVID-19 Hospitalizations and Deaths Across New York City Boroughs	*JAMA,* 29 April 2020	Public Health	What are the incidences of hospitalization and death from COVID-19 in the Boroughs of NYC?	The 2018 American Community Survey was used for the population characteristics of the 5 boroughs. The NYC Dept of Health and Mental Hygiene provided the number of Covid-19 tests, patients hospitalized with Covid-19 and deaths due to Covid-19 by borough with the last update on April 25, 2020. Total population of NYC was 8,398,748. The proportion of older adults (>65 y/o) was the lowest in the Bronx and the highest in Manhattan. The Proportion of black or African American persons was highest in the Bronx (38.3%) and the lowest in State Island (11.5%). For testing in the boroughs, there was variation in the number of Covid-19 tests performed per 100,000 population (4599 in Bronx, 2970 in Brooklyn, 2844 in Manhattan, 3800 in Queens, 5603 in Staten Island). The Bronx had the	Implications: The variation among the boroughs is concerning as the Bronx has the highest proportion of racial/ethnic minorities and the most persons living in poverty with low levels of education. The borough with the lowest number of hospitalizations and deaths was Manhattan which is the wealthiest and mostly white, even though Manhattan had the highest population density. These findings suggest that comorbid illnesses, occupational exposures, socioeconomic determinants, and race-based structural inequities are contributing to these different outcomes. Additional studies are required to examine whether the burden of Covid-19 is being experienced by lower income and minority communities in other regions of the US.	MCG

				highest number of hospitalizations per 100,000 with 634. The number of deaths per 100,000 population was highest in the Bronx with 224 and lowest in Manhattan with 122.	Limitations: There was limited follow up in this study. Additional demographic characteristics of those patients who died was not available by borough.	