THE UNITED STATES, with roughly 5% of the world's population, has long held the dubious distinction of incarcerating 25% of the world's prisoners. Now the United States has added another troublesome statistic: 25% of the world's Covid-19 infections. In a recent joint publication (Journal of the American Medical Association, Saloner et al., 324:602-3 (2020)) legal and medical experts from UCLA Law School and Johns Hopkins Medical School have delineated the intersection of these crises. Collating data from the federal Bureau of Prisons and all 50 state Departments of Correction between March 31 to June 6, 2020, they report that Covid-19 cases increased 8.3% per day among prisoners and only 3.4%/day in the community. By June 6, 42,107 cases and 510 deaths from coronavirus had occurred among 1,285,285 prisoners, a rate of 3251/100,000, 5.5 times the rate in the general population (587/100,000). The crude virus death rate for the U.S. population was 29/100,000 while the crude death rate for prisoners was 39/100,000. However, 81% of deaths occur in those aged 65+, and there are many fewer prisoners of that age (3% vs 16%). When adjusted for age and gender, the death rate among prisoners was almost 3 times (2.95) higher than that in the community.

MASSACHUSETTS DATA through early August, 2020, are similarly analyzed (see Table, over). The MA prisoner case rate of 5957/100,000 (418 cases/7017 prisoners) is 3.5 times greater than the community rate of 1697/100,000. Notably, 11% of the community is aged 70+ and accounts for 21% of cases, while only 3.5% of prisoners are aged 70+. Because the age distribution of prisoner cases has not been reported, the table estimates the age-adjusted predicted number of prisoner cases based on the community age distribution. This estimation yields an expected 145 age-adjusted cases among prisoners. The actual number of reported prisoner cases is 418, 2.88 times greater.

CORONAVIRUS DEATHS are heavily skewed towards the elderly. Those aged 70+ account for 84% (7293/8638) of all deaths in the community. The Table shows that when adjusted for age, the number of prisoners expected to have died is estimated at 2.8 deaths. By contrast, actual observed deaths have totaled 8, a rate of observed prisoner deaths 2.9 times the expected age-adjusted rate.

IN SUMMARY, as of early August, 2020, the Covid-19 case rate and mortality rate for prisoners both are approximately 3 times the rate seen in the MA community. This is not surprising because it has been widely predicted that prison crowding and conditions as well as years of limited health care render prisoners especially vulnerable. There is no ability to social distance and limited access to cleaning and hygienic measures. Although MA prisons have imposed far more Draconian quarantining measures than those acceptable in the community, these have typically merely clustered and crowded large numbers of prisoners into isolated blocks, readily spreading infection.

ELDERLY PRISONER DEATHS from Covid-19 would appear to be especially concerning. The community death rate for those aged 80+ is 35% (5416/15411). With prisoner death rates approximately 3 times higher, this suggests that up to 100% of prisoners aged 80+ are likely to die if infected. Similarly, more than 50% of prisoners aged 70-79 would be predicted to die (3 times the community death rate of 19%). It seems necessary to consider urgently releasing most of these elderly prisoners rather than insisting on a hazardous game of Russian roulette with their lives. It is well documented that elderly prisoners age out of criminal behavior and represent minimal risks to public safety and re-offense.

		Massachusetts Population					
Age (years)	Number of Prisoners	Number <sup>C</sup>	Covid-19 Cases	Age-specific Covid-19 Case Rate	Predicted <sup>a</sup> Prison Cases		
0-19	 17	1,601,119	7,157	447	0.08		
20-29	1,426	1,035,056	17,420	1683	24.00		
30-39	2,208	907,243	18,036	1988	43.90		
40-49	1,758	851,984	16,750	1966	34.56		
50-59	1,287	970,981	18,604	1916	24.66		
60-69	639	827,710	14,965	1808	11.55		
70-79	243	480,019	9,850	2052	4.99		
<b>80+</b>	24	291,433	15,411	5288	1.27		
Total	7,602	6,965,545	118,193	1697	145.01		
Expected P		145					
Actual Obs		418					
% Increase		288%					

## Excess Covid-19 Deaths Among Massachusetts State Prisoners

		Massachusetts Population					
Age (years)	Number of Prisoners	Number <sup>C</sup>	Covid-19 Deaths	Age-specific Covid-19 Mortality	Predicted Prison Deaths		
0-19 20-29 30-39 40-49 50-59 60-69 70-79 80+	17 1,426 2,208 1,758 1,287 639 243 24	1,601,119 1,035,056 907,243 851,984 970,981 827,710 480,019 291,433	0 17 35 91 314 888 1,877	0 1.64 3.86 10.68 32.34 107.28 391.03 1858.40	0 0.02 0.08 0.19 0.42 0.69 0.95 0.45		
Total	7,602	6,965,545	8,638	124.01	2.80		
Expected P	2.8						
Actual Obs	8 286% ========						

<sup>&</sup>lt;sup>a</sup>Predicted based on age-specific case rate or mortality of the overall MA population as of August 2, 2020

bMA-DOC Research & Planning Division, January 1, 2020 data (pre-Covid)

C<sub>MA</sub> Dept of Public Health, COVID-19 Dashboard, August 2, 2020

drate/100,000

eCalculated as (age-specific Covid-19 case rate or mortality of MA population on 8/2/2020) x (number of MA state prisoners on 1/1/2020). Actual number of prisoners remaining in custody on 8/5/2020 = 7017, but age distribution not available (estimates of predicted may be correspondingly slightly too high).

fCPCS v Chief Justice of SJC, SJC-12926, as of 8/5/2020