



What we have found so far: Thanks to your participation in Panther we now know that 18% of you have had antibodies at least one point during the first wave (April July 2020).

In a very large study they found that means a 90% reduction in risk of reinfection [[READ HERE](#)] and any reinfections are asymptomatic.

- 28% of those among you who had to self-isolate because of Covid symp
- toms during the first wave actually had antibodies.
- 39% of those having symptoms compatible with Covid (using the criteria used by the Zoe Covid app) had antibodies.
- 85% of those who had antibodies had “neutralizing antibodies” the kind that render the virus no longer infectious or pathogenic (25% of more neutralization of SARS-CoV-2 at a serum concentration of 1:300).

We found strong differences in terms of ethnicity. Those of you reporting Afro-Caribbean, mixed Black or Black African origin were over twice as likely to have antibodies even after adjusting for type of hospital role, age, sex, etc. We think this may be because there may be some genetic factors that predispose to a better antibody response against the SARS-CoV-2 in some ethnic groups. Those of you working in the ICU were 55% less likely to have antibodies than the rest of hospital roles.

How about transmission at home? 132 of you brought one or more family members or housemates who live with you, in total 177 cohabitees donated us a blood samples. Overall 7.2% of them had antibodies by late August, early September. This was 2.5% among those who lived with a healthcare worker who had been seropositive during the first wave. This value was 16%

among those living with a seropositive member of Panther. This corresponds to an odds ratio of 6.86 and is highly statistically significant ($p < 0.006$).

But what does it mean? We know that back in May seropositivity in the general population was ~5% and we know that antibodies are less detectable after several weeks (although that does not mean no immune memory, simply lower antibody titres). If we assume that between the first wave and early September the proportion in the general population with detectable anti SARS-CoV went from 5% to 2.5%, that means that although only 16% of cohabittees who were positive in early September this may have been as high as 32% back in May/June of 2020. That would mean that 68% of those living with a seropositive healthcare worker did NOT develop antibodies to SARS-CoV-2 most likely because they did not catch the virus.

Future plans: to continue to track antibodies through the second wave, to test for any reinfections and to measure antibody responses to vaccination!

