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A timetable for overcoming COVID-19

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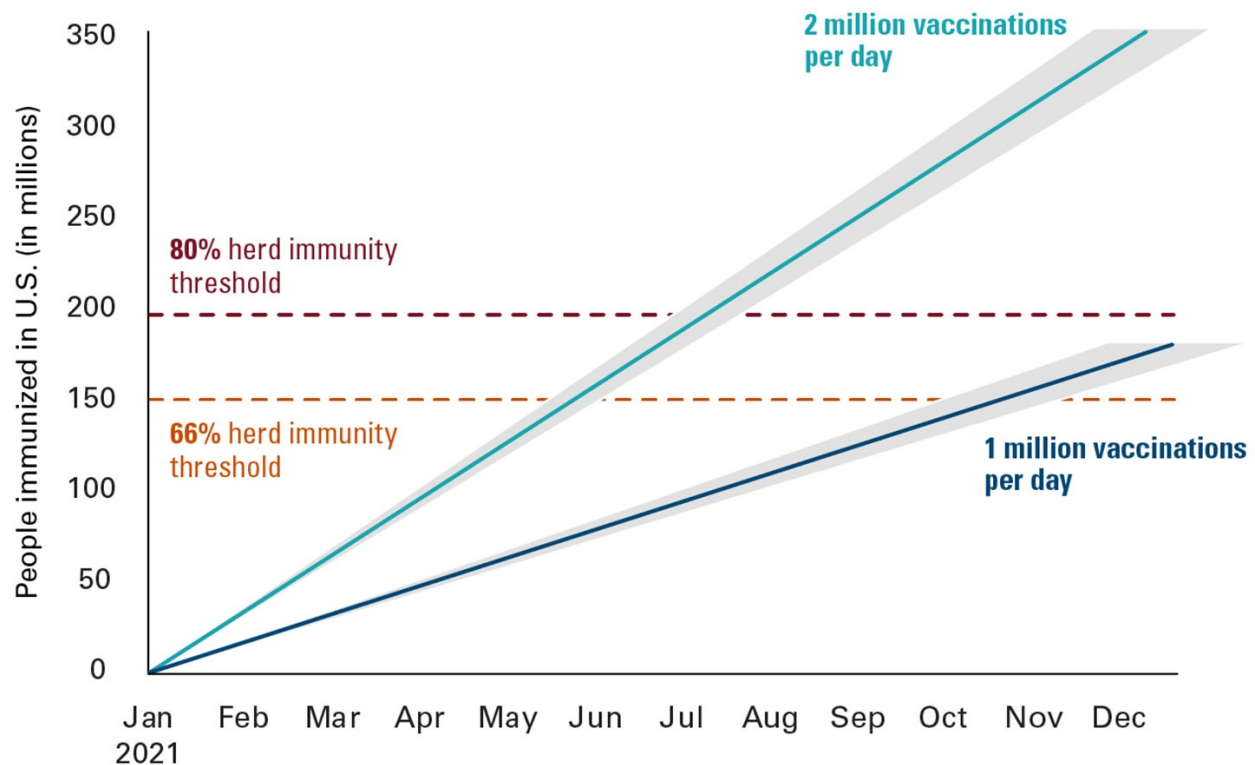
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The end of 2020 brought a surge of hope about humanity's ability to assert control over the COVID-19 pandemic. The first vaccines to emerge from clinical trials proved more effective than even the most optimistic assessments, raising the confidence of public health experts and investors alike, [as I wrote late last year](#).

Now, even as infections and hospitalizations remain elevated and new disease variants appear to spread more quickly, we remain confident that the developed world will begin to show meaningful progress against the pandemic in the months ahead.

The essential variable? Vaccine distribution. Despite a slow start, the pace of vaccinations in the United States now exceeds one million per day.¹ We're early in the rollout, and we believe that initial distribution bottlenecks—attributable in no small part to stockpiling scarce supply to ensure second doses—are surmountable. A change in strategy that prioritizes first doses and increased vaccine production should ensure that the pace of vaccinations accelerates.

The path to herd immunity depends on the pace of vaccinations



Notes: This analysis, as of January 25, 2021, discounts people who achieve immunity through infection. The gray buffers around the vaccination trend lines reflect the impossibility of precisely predicting when herd immunity may be achieved.

Source: Vanguard.

As a result, our analysis suggests, the United States can approach herd immunity in the second half of the year, consistent with our view in our [Vanguard economic and market outlook for 2021](#). As our forecast further notes, the timing of when herd immunity is achieved relates directly to our outlook for the global economy. The path of economic recovery hinges critically on health outcomes; we expect to see business and social activity normalize as we approach herd immunity.

The more quickly this occurs, the more quickly we're likely to see unemployment rates trend downward, inflation move toward central bank targets, and output reach pre-pandemic levels.

Our analysis makes several assumptions, and we acknowledge that COVID-19 continues to present many unknowns. Our analysis assumes herd immunity thresholds—the percentage of a population that needs to be immune for herd immunity to kick in—of 66% and 80%. The 66% is a widely discussed COVID-19 threshold. If new strains in the United Kingdom, South Africa, and elsewhere prove more infectious, a more conservative threshold such as 80% may be more appropriate.

Finally, our analysis assumes that the vaccines now in use will prove effective against COVID-19 mutations. We know that the virus has mutated several times since its inception, yet vaccines based on its initial genetic sequencing have still proved remarkably effective.

The pandemic has upended the lives of nearly everyone. Despite some challenges still ahead, it's gratifying to see increasingly clearly that a positive end is in sight.

I'd like to thank Vanguard economist Max Wieland for his invaluable contributions to this commentary.

1 Source: Bloomberg COVID-19 Vaccine Tracker, showing an average of 1.25 million vaccinations per day over the week ended January 25, 2021.

Note:

- All investing is subject to risk, including the possible loss of the money you invest.