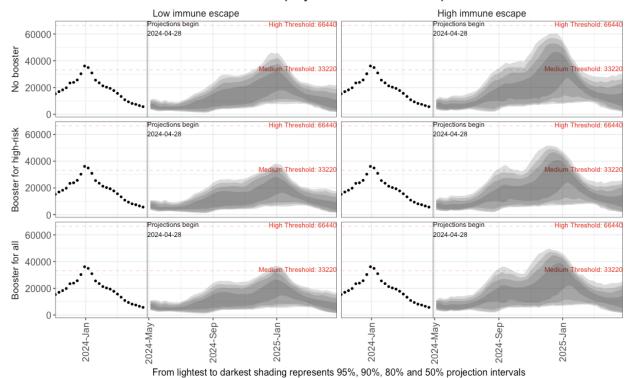
## Scenario Modeling Hub Round 18 Executive Summary

## **GENERAL DYNAMICS**

 COVID-19 Hospitalizations and deaths will begin to rise nationally in late summer 2024 and peak in mid-December 2024 through mid-January 2025. Peak hospitalizations will be similar to the 2023-24 season assuming the same vaccination recommendation (all eligible individuals) and high immune escape.

National ensemble projection intervals - Hospitalizations

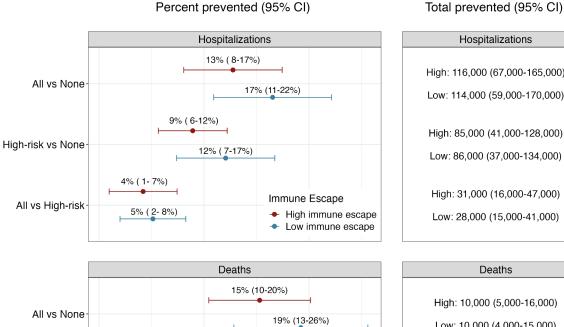


- Over the course of the projection period (April 28, 2024-April 26, 2025) we project 791,000 hospitalizations (95% PI 0.4-1.2 million) and 67,000 deaths (95% PI 21,000-121,000). This presumes high immune escape and vaccination recommended to all eligible individuals (conditions similar to the 2023-24 season). Our worst case (no vaccination, high immune escape) projects 926,000 hospitalizations and 84,000 deaths, while the best case (universal vaccination, low immune escape) projects 539,000 hospitalizations and 47,000 deaths.
- Without vaccination, 56% of hospitalizations and 72% of deaths are projected to be in those 65+. This is presuming high immune escape. It is expected most deaths and hospitalizations in younger age groups would be in high-risk individuals, however these numbers were not explicitly modeled.

## **VACCINE IMPACT**

Vaccination scenario comparison

Vaccination of high-risk individuals is projected to prevent over 85,000 hospitalizations and 8,000 deaths. Assuming high immune escape, hospitalizations are reduced by 85,000 [9%] (95% CI: 41,000-128,000) and deaths by 8,000 [12%] (95% CI: 4,000-13,000). The majority of this impact comes from reductions in hospitalizations and deaths in those 65+ (79,000 and 8,000).



Hospitalizations				
High: 116,000 (67,000-165,000)				
Low: 114,000 (59,000-170,000)				
High: 85,000 (41,000-128,000)				
Low: 86,000 (37,000-134,000)				
High: 31,000 (16,000-47,000)				
Low: 28,000 (15,000-41,000)				

	Deaths			
All vs None-		15% (10-20%)	_	
		19% (	13-26%)	
High-risk vs None-	<u> </u>	12% ( 8-16%)		
		15% (10-20%)	_	
All vs High-risk-	4% ( 0- 8%)			
	5% ( 1- 9%)	4		
	0%	10%	20%	

High: 10,000 (5,000-16,000) Low: 10,000 (4,000-15,000) High: 8,000 (4,000-13,000) Low: 8,000 (3,000-13,000) High: 2,000 (800-3,000) Low: 2,000 (800-3,000)

Deaths

Cumulative percent prevented by vaccination, April 28, 2024 to April 26, 2025

Cumulative difference between scenarios, April 28, 2024 to April 26, 2025

A recommendation for vaccination on all individuals leads to further reductions in hospitalizations and deaths, including in those 65 and older. Assuming high immune escape, a universal vaccine recommendation reduces hospitalizations by an additional 31,000 [4%] (95% CI 16,000-47,000) and deaths by an additional 2,000 [4%] (95% CI 800-3,000). This further reduction includes reductions in hospitalizations and deaths in those 65+ (12,000 and 2,000).