Encouraging bivalent booster uptake among older adults

The Issue

Older adults remain one of the population groups at increased risk of serious COVID-19 disease, including severe illness, hospitalization, and death. The Centers for Disease Control and Prevention (CDC) recommends that all eligible persons—especially adults 65 years of age and older—receive an updated bivalent COVID-19 mRNA vaccine to protect against serious COVID-19 disease. But as of May 2023, only 43% of older adults in the United States had received a bivalent booster dose.[1]

Sound Bites

- Older adults (65 years of age and older) are at highest risk of serious COVID-19 disease, including severe illness, hospitalization, and death. The risk continues to increase with advancing age.
- More than 75% of COVID-19 deaths occur in older adults. The number of deaths among older adults is more than 100 times higher than the number of deaths among people 18 to 29 years of age.[1]
- Staying up to date with COVID-19 vaccinations—which includes receiving an updated bivalent booster dose—is essential to protect older adults against serious disease.
- Some older adults feel as though they don't need a bivalent booster because they have enough protection from previous vaccine doses. Previous vaccine doses did not target the newer SARS-CoV-2 variants that are most likely to cause infection. Protection from all vaccine doses decreases over time.
- Some older adults feel as though they don't need a bivalent booster because they have enough protection from a prior SARS-CoV-2 infection. Prior infection is less than 50% effective against re-infection by the newer variants.[2] An updated booster increases that protection.

Questions for Exploring Patient Concerns

- What do you know about the risks that COVID-19 poses to older adults?
- What do you know about the updated bivalent COVID-19 booster?
- What would have to be true for you to think it was important to get an updated booster?
- What if I told you…? *(Provide information relevant to patient's concerns.)*

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What We Know

The World Health Organization (WHO) declared the COVID-19 outbreak a global pandemic on March 11, 2020. In the more than 3 years since then, there have been more than 103 million cases of COVID-19 in the United States, and more than 1.1 million Americans have died.[1]

But those statistics don't reveal the disproportionate toll the COVID-19 pandemic has taken on older adults. Although adults 65 years of age and older represent 16.5% of the U.S. population—and 13% of total COVID-19 cases in the United States—they account for more than 75% of deaths.[1] The number of deaths among older adults is more than 100 times higher than the number of deaths among people 18 to 29 years of age. Older adults remain one of the groups recognized by the CDC as being at increased risk of serious COVID-19 disease.[3] Factors that contribute to this increased risk include the aging immune system and a greater likelihood of underlying medical conditions.

Fortunately, older adults have largely embraced COVID-19 vaccination. Nearly 95% of adults 65 years of age and older had completed a primary series as of March 2023.[1] Uptake of initial recommended booster doses also was high.

Yet as of May 2023, only 43% of older adults had received a bivalent booster dose and could be considered up to date with COVID-19 vaccines.[1] The bivalent booster adds Omicron BA.4 and BA.5 spike protein components to the original vaccine composition; it helps to restore protection that has waned since previous vaccination by targeting SARS-CoV-2 variants that are more transmissible and immune-evading.

Reasons for not getting the bivalent booster vary. In a Kaiser Family Foundation (KFF) poll conducted in December 2022, slightly more than one third (36%) of vaccinated adults 65 years of age and older said they didn't think they needed the bivalent booster; another 36% said they didn't think the benefit of the bivalent booster was "worth it."[4] Approximately one fourth (23%) of older adults reported having not gotten the bivalent booster because they were too busy or had not had time to get it yet.

In a similar KFF poll conducted in January 2023, half of vaccinated adults 65 years of age and older said that they hadn't gotten the bivalent booster because they felt protected enough from their initial COVID-19 vaccine or a prior SARS-CoV-2 infection.[5] This may be overconfident thinking, for several reasons.

First, all of the vaccines used for the primary series targeted the original (ancestral) strain of SARS-CoV-2. The effectiveness of those vaccines against COVID-19–associated hospitalization has declined over time, due at least in part to both waning immunity and immune evasion (the Omicron variant and its sublineages have been the predominant strains in the United States since late 2021).[6,7] Data for immunocompetent adults 65 years of age and older who were hospitalized within the Investigating Respiratory Viruses in the Acutely Ill (IVY) Network in 18 states showed that a bivalent booster dose received after two or more monovalent mRNA doses provided strong protection against COVID-19–associated hospitalization during a period of Omicron BA.5 or BQ.1/BQ.1.1 predominance.[7] Specifically, older adults who had received the bivalent booster were 73% less likely to be hospitalized than those who had received only monovalent mRNA vaccines. The protection provided by the bivalent booster increased with time since the last monovalent dose: patients who had received a bivalent booster were 78% less likely to be hospitalized than those whose last monovalent dose was 6 to 11 months before onset of illness, and they were 83% less likely to be hospitalized than those whose last monovalent dose was 12 months or more before illness onset. Of note, 74% of patients in this cohort had multiple underlying conditions.

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Second, protection from past SARS-CoV-2 infection may not be as robust as people imagine. A recent systematic review and meta-analysis—encompassing 65 studies from 19 countries published up to September 30, 2022—showed that protection from past infection and any symptomatic disease was substantially lower for the Omicron BA.1 variant than for previous strains of SARS-CoV-2.[2] Pooled effectiveness was 45.3% against Omicron reinfection and 44.0% against symptomatic illness caused by that variant. Protection against Omicron reinfection declined rapidly, falling to 36.1% by 10 months. Fortunately, protection against severe disease remained high (88.9%). But as the authors stated, protection from past infection (in comparison with that conferred by vaccination) "must be weighed against the risks of severe morbidity and mortality associated with the initial infection." Importantly, the study did not stratify data by age.

Given what is known and not yet known about enduring immunity against SARS-CoV-2 infection, the CDC recommends that all eligible persons—especially adults 65 years of age and older—receive a bivalent booster dose to maximize protection against COVID-19 hospitalization. However, this message may not be getting through to health care providers. In a series of interviews conducted during November and December 2022, only 41.1% of adults who said they were open to booster vaccination and 28.7% of adults who were unsure about booster vaccination had received a provider recommendation for a booster dose.[8] (This means that 58.9% and 71.3%, respectively, did ***not*** receive a provider recommendation.) The CDC recognizes a health care provider's strong recommendation as one of the most important factors in patients' decision to accept vaccination.

One of the things that remains unknown is the longevity of the bivalent booster. Preliminary CDC estimates from national pharmacy testing data showed that a bivalent booster dose provided added protection against symptomatic infection with SARS-CoV-2 Omicron XBB sublineages for at least the first 3 months after vaccination in persons who had previously received two or more monovalent mRNA doses.[9]

Not all older adults need encouragement regarding booster vaccination. In the January 2023 KFF poll, more than half (54%) of adults who had received the bivalent booster said they were waiting for the CDC to issue new guidelines so they could be eligible for another booster.[5] The U.S. Food and Drug Administration authorized an additional round of bivalent booster shots for adults 65 years of age and older in April 2023.[10] The second bivalent booster should be administered at least 4 months after the initial bivalent booster.

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