

# INCREASING UNDERSTANDING OF ENHANCED INFLUENZA VACCINE PRODUCTS IN LONG-TERM CARE SETTINGS

## Benefits of Enhanced Influenza Vaccine Products

### Key Points

An age-related decline in immune function makes standard influenza vaccines less effective in older adults than in younger individuals.

Enhanced influenza vaccines may produce better outcomes for older adult populations. Products licensed for older adults include those with higher amounts of viral antigen, vaccines with adjuvants, and products that utilize new methods of vaccine production.



Achieving the maximum possible level of protection against influenza in long-term and post-acute care facilities begins with the vaccine and its effectiveness, safety, and cost-effectiveness in the primary group residing in nursing homes—older adults—and the staff who care for them. The rapid pace of influenza vaccine research and development has provided new options for clinicians and their patients, with important advantages for older adults.

## Advantages of Enhanced Influenza Vaccines

Enhanced influenza vaccines have been developed to overcome age-related decline in immunity, known as “immunosenescence.” Immunosenescence can cause older adults to have lower immune responses to antigens. As a result, the influenza vaccines that worked well in their younger years may no longer provide the same amount of disease protection in people 65 years of age or older.

► Studies show improved clinical outcomes when enhanced influenza vaccines are used in older adults, including:



Higher antibody levels and better protection against laboratory-confirmed influenza illness.<sup>1</sup>



Reduced respiratory-related hospital admissions.<sup>2</sup>



Fewer all-cause hospitalizations.<sup>3</sup>



Better protection against influenza-like illness.<sup>4</sup>



Significant relative reduced risk in pneumonia events, serious cardiorespiratory events, and all-cause hospitalizations.<sup>5</sup>

For example, a high-dose trivalent influenza vaccine improved disease burden in older adults and reduced costs in an analysis of data from a randomized head-to-head comparison with a standard-dose vaccine in adults aged 65 years or older. Compared with influenza vaccines used in younger people, enhanced influenza vaccine in older adults increases quality-adjusted life-years based on a lifetime horizon. Medical costs were lower, and when assessed from a societal point of view, costs were lower.<sup>6</sup>

Better clinical outcomes associated with the use of enhanced influenza vaccines in long-term and post-acute care residents can also result in cost savings for facilities. In one study, a 27:1 financial return on investment was demonstrated from the payer's perspective; for every dollar spent on enhanced influenza vaccines and their administration, \$27 in costs were averted.<sup>7</sup>

## Types of Enhanced Influenza Vaccines

Three types of enhanced influenza vaccines for use in older adults are marketed in the United States: **high-dose, recombinant, and adjuvanted** products. All contain the same 3 or 4 strains (trivalent or quadrivalent, respectively) found in other influenza vaccines for a given season. However, the enhanced influenza vaccines differ from those products—and from each other—in important ways<sup>8</sup>.

### High Dose

#### Key Features

- Contain 4 times the amount of antigen contained in standard-dose products.
- Now contain all 4 recommended strains for an influenza season.

### Recombinant

#### Key Features

- Contain 3 times the amount of antigen contained in standard-dose products.
- Contain all 4 recommended strains for an influenza season.
- Can be safely administered to people with egg allergies (no eggs used in the production process).

### Adjuvanted

#### Key Features

- Contain substances that increase the body's response to the antigens.
- Contain either 3 or 4 of the recommended strains for an influenza season.

## Resources

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6. Chit A, Becker DL, DiazGranados CA, et al. Cost-effectiveness of high-dose versus standard-dose inactivated influenza vaccine in adults aged 65 years and older: an economic evaluation of data from a randomised controlled trial. *Lancet Infect Dis*. 2015;15(12):1459–1466.
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8. Centers for Disease Control and Prevention. How influenza (flu) vaccines are made. December 12, 2019. Available at: <https://www.cdc.gov/flu/prevent/how-fluvaccine-made.htm>. Accessed May 18, 2020.