

**FLUZONE HIGH-DOSE- influenza a virus a/michigan/45/2015 x-275 (h1n1) antigen (formaldehyde inactivated), influenza a virus a/singapore/inflimh-16-0019/2016 ivr-186 (h3n2) antigen (formaldehyde inactivated), and influenza b virus b/maryland/15/2016 bx-69a (a b/colorado/6/2017-like virus) antigen (formaldehyde inactivated) injection, suspension**  
**FLUZONE HIGH-DOSE- influenza a virus a/michigan/45/2015 x-275 (h1n1) antigen (formaldehyde inactivated), influenza a virus a/singapore/inflimh-16-0019/2016 ivr-186 (h3n2) antigen (formaldehyde inactivated), and influenza b virus b/maryland/15/2016 bx-69a (a b/colorado/6/2017-like virus) antigen (formaldehyde inactivated) injection, suspension**  
**Sanofi Pasteur Inc.**

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#### **HIGHLIGHTS OF PRESCRIBING INFORMATION**

These highlights do not include all the information needed to use Fluzone<sup>®</sup> High-Dose safely and effectively. See full prescribing information for Fluzone High-Dose.

**Fluzone High-Dose (Influenza Vaccine)  
Suspension for Intramuscular Injection  
2019-2020 Formula  
Initial U.S. Approval: 2009**

#### **INDICATIONS AND USAGE**

**Fluzone High-Dose** is a vaccine indicated for active immunization for the prevention of influenza disease caused by influenza A subtype viruses and type B virus contained in the vaccine. (1)

**Fluzone High-Dose** is approved for use in persons 65 years of age and older. (1)

#### **DOSAGE AND ADMINISTRATION**

- **For intramuscular use only**

A single 0.5 mL dose for intramuscular injection in adults 65 years of age and older. (2.1)

#### **DOSAGE FORMS AND STRENGTHS**

Suspension for injection in prefilled syringe (gray plunger rod), 0.5 mL. (3)

#### **CONTRAINDICATIONS**

Severe allergic reaction to any component of the vaccine, including egg protein, or after previous dose of any influenza vaccine. (4)

#### **WARNINGS AND PRECAUTIONS**

- If Guillain-Barré syndrome (GBS) has occurred within 6 weeks following previous influenza vaccination, the decision to give Fluzone High-Dose should be based on careful consideration of the potential benefits and risks. (5.1)

#### **ADVERSE REACTIONS**

- In adults ≥65 years of age, the most common injection-site reaction was pain (>30%); the most common solicited systemic adverse events were myalgia, malaise, and headache (>10%). (6.1)

**To report SUSPECTED ADVERSE REACTIONS, contact Sanofi Pasteur Inc., Discovery Drive, Swiftwater, PA 18370 at 1-800-822-2463 (1-800-VACCINE) or VAERS at 1-800-822-7967 or [www.vaers.hhs.gov](http://www.vaers.hhs.gov).**

**See 17 for PATIENT COUNSELING INFORMATION and FDA-approved patient labeling.**

**Revised: 4/2023**

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\* Sections or subsections omitted from the full prescribing information are not listed.

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## **FULL PRESCRIBING INFORMATION**

### **1 INDICATIONS AND USAGE**

Fluzone<sup>®</sup> High-Dose is a vaccine indicated for active immunization for the prevention of influenza disease caused by influenza A subtype viruses and type B virus contained in the vaccine.

Fluzone High-Dose is approved for use in persons 65 years of age and older.

### **2 DOSAGE AND ADMINISTRATION**

- **For intramuscular use only**

## **2.1 Dose and Schedule**

Fluzone High-Dose should be administered as a single 0.5 mL injection by the intramuscular route in adults 65 years of age and older.

## **2.2 Administration**

Inspect Fluzone High-Dose visually for particulate matter and/or discoloration prior to administration. If either of these conditions exist, the vaccine should not be administered.

Before administering a dose of vaccine, shake the prefilled syringe.

The preferred site for intramuscular injection is the deltoid muscle. The vaccine should not be injected into the gluteal area or areas where there may be a major nerve trunk.

Do not administer this product intravenously or subcutaneously.

Fluzone High-Dose should not be combined through reconstitution or mixed with any other vaccine.

## **3 DOSAGE FORMS AND STRENGTHS**

Fluzone High-Dose is a suspension for injection.

Fluzone High-Dose is supplied in prefilled syringes (gray syringe plunger rod), 0.5 mL, for adults 65 years of age and older.

## **4 CONTRAINDICATIONS**

A severe allergic reaction (e.g., anaphylaxis) to any component of the vaccine [see *Description (11)*], including egg protein, or to a previous dose of any influenza vaccine is a contraindication to administration of Fluzone High-Dose.

## **5 WARNINGS AND PRECAUTIONS**

### **5.1 Guillain-Barré Syndrome**

If Guillain-Barré syndrome (GBS) has occurred within 6 weeks following previous influenza vaccination, the decision to give Fluzone High-Dose should be based on careful consideration of the potential benefits and risks. The 1976 swine influenza vaccine was associated with an elevated risk of GBS. Evidence for a causal relation of GBS with other influenza vaccines is inconclusive; if an excess risk exists, it is probably slightly more than 1 additional case per 1 million persons vaccinated. (See references 1 and 2.)

### **5.2 Preventing and Managing Allergic Reactions**

Appropriate medical treatment and supervision must be available to manage possible anaphylactic reactions following administration of the vaccine.

### **5.3 Altered Immunocompetence**

If Fluzone High-Dose is administered to immunocompromised persons, including those receiving immunosuppressive therapy, the expected immune response may not be obtained.

## 5.4 Limitations of Vaccine Effectiveness

Vaccination with Fluzone High-Dose may not protect all recipients.

## 6 ADVERSE REACTIONS

### 6.1 Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse event rates observed in the clinical trial(s) of a vaccine cannot be directly compared to rates in the clinical trial(s) of another vaccine and may not reflect the rates observed in practice.

Two clinical studies have evaluated the safety of Fluzone High-Dose.

Study 1 (NCT00391053, see <http://clinicaltrials.gov>) was a multi-center, double-blind pre-licensure trial conducted in the US. In this study, adults 65 years of age and older were randomized to receive either Fluzone High-Dose or Fluzone (2006-2007 formulation). The study compared the safety and immunogenicity of Fluzone High-Dose to those of Fluzone. The safety analysis set included 2573 Fluzone High-Dose recipients and 1260 Fluzone recipients.

Table 1 summarizes solicited injection-site reactions and systemic adverse events reported within 7 days post-vaccination via diary cards. Onset was usually within the first 3 days after vaccination and a majority of the reactions resolved within 3 days. Solicited injection-site reactions and systemic adverse events were more frequent after vaccination with Fluzone High-Dose compared to Fluzone.

**Table 1: Study 1\*: Frequency of Solicited Injection-Site Reactions and Systemic Adverse Events Within 7 Days After Vaccination with Fluzone High-Dose or Fluzone, Adults 65 Years of Age and Older**

	Fluzone High-Dose (N <sup>†</sup> =2569-2572) Percentage			Fluzone (N <sup>†</sup> =1258-1260) Percentage		
	Any	Moderate <sup>‡</sup>	Severe <sup>§</sup>	Any	Moderate <sup>‡</sup>	Severe <sup>§</sup>
<b>Injection-Site Pain</b>	35.6	3.7	0.3	24.3	1.7	0.2
<b>Injection-Site Erythema</b>	14.9	1.9	1.8	10.8	0.8	0.6
<b>Injection-Site Swelling</b>	8.9	1.6	1.5	5.8	1.3	0.6
<b>Myalgia</b>	21.4	4.2	1.6	18.3	3.2	0.2
<b>Malaise</b>	18.0	4.7	1.6	14.0	3.7	0.6
<b>Headache</b>	16.8	3.1	1.1	14.4	2.5	0.3
<b>Fever<sup>¶</sup> (≥99.5°F)</b>	3.6	1.1	0.0	2.3	0.2	0.1

\* NCT00391053

† N is the number of vaccinated participants with available data for the events listed

‡ Moderate - Injection-site pain: sufficiently discomforting to interfere with normal behavior or

- activities; Injection-site erythema and Injection-site swelling:  $\geq 2.5$  cm to  $< 5$  cm; Fever:  $> 100.4^{\circ}\text{F}$  to  $\leq 102.2^{\circ}\text{F}$ ; Myalgia, Malaise, and Headache: interferes with daily activities
- § Severe - Injection-site pain: incapacitating, unable to perform usual activities; Injection-site erythema and Injection-site swelling:  $\geq 5$  cm; Fever:  $> 102.2^{\circ}\text{F}$ ; Myalgia, Malaise, and Headache: prevents daily activities
- ¶ Fever - The percentage of temperature measurements that were taken by oral route or not recorded were 97.9% and 2.1%, respectively, for Fluzone High-Dose; and 98.6% and 1.4%, respectively, for Fluzone

Within 6 months post-vaccination, 156 (6.1%) Fluzone High-Dose recipients and 93 (7.4%) Fluzone recipients experienced a serious adverse event (SAE). No deaths were reported within 28 days post-vaccination. A total of 23 deaths were reported during Days 29 – 180 post-vaccination: 16 (0.6%) among Fluzone High-Dose recipients and 7 (0.6%) among Fluzone recipients. The majority of these participants had a medical history of cardiac, hepatic, neoplastic, renal, and/or respiratory diseases. These data do not provide evidence for a causal relationship between deaths and vaccination with Fluzone High-Dose.

Study 2 (NCT01427309, see <http://clinicaltrials.gov>) was a multi-center, double-blind post-licensure efficacy trial conducted in the US and Canada over two influenza seasons. In this study, adults 65 years of age and older were randomized to receive either Fluzone High-Dose or Fluzone (2011-2012 and 2012-2013 formulations). The study compared the efficacy and safety of Fluzone High-Dose to those of Fluzone. The safety analysis set included 15,992 Fluzone High-Dose recipients and 15,991 Fluzone recipients.

Within the study surveillance period (approximately 6 to 8 months post-vaccination), 1323 (8.3%) Fluzone High-Dose recipients and 1442 (9.0%) Fluzone recipients experienced an SAE. Within 30 days post-vaccination, 204 (1.3%) Fluzone High-Dose recipients and 200 (1.3%) Fluzone recipients experienced an SAE. The majority of these participants had one or more chronic comorbid illnesses. A total of 167 deaths were reported within 6 to 8 months post-vaccination: 83 (0.5%) among Fluzone High-Dose recipients and 84 (0.5%) among Fluzone recipients. A total of 6 deaths were reported within 30 days post-vaccination: 6 (0.04%) among Fluzone High-Dose recipients and 0 (0%) among Fluzone recipients. These data do not provide evidence for a causal relationship between deaths and vaccination with Fluzone High-Dose.

## 6.2 Post-Marketing Experience

The following events have been spontaneously reported during the post-approval use of Fluzone or Fluzone High-Dose. Because these events are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to vaccine exposure. Adverse events were included based on one or more of the following factors: severity, frequency of reporting, or strength of evidence for a causal relationship to Fluzone or Fluzone High-Dose.

Events Reported During Post-Approval Use of Fluzone or Fluzone High-Dose.

- *Blood and Lymphatic System Disorders*: Thrombocytopenia, lymphadenopathy
- *Immune System Disorders*: Anaphylaxis, other allergic/hypersensitivity reactions (including urticaria, angioedema)
- *Eye Disorders*: Ocular hyperemia
- *Nervous System Disorders*: Guillain-Barré syndrome (GBS), convulsions, febrile convulsions, myelitis (including encephalomyelitis and transverse myelitis), facial palsy

(Bell's palsy), optic neuritis/neuropathy, brachial neuritis, syncope (shortly after vaccination), dizziness, paresthesia

- *Vascular Disorders*: Vasculitis, vasodilatation/flushing
- *Respiratory, Thoracic and Mediastinal Disorders*: Dyspnea, pharyngitis, rhinitis, cough, wheezing, throat tightness
- *Skin and Subcutaneous Tissue Disorders*: Stevens-Johnson syndrome
- *General Disorders and Administration Site Conditions*: Pruritus, asthenia/fatigue, pain in extremities, chest pain, chills
- *Gastrointestinal Disorders*: Vomiting, nausea, diarrhea
- *Musculoskeletal and Connective Tissue Disorders*: Arthralgia

## **7 DRUG INTERACTIONS**

Data evaluating the concomitant administration of Fluzone High-Dose with other vaccines are not available.

## **8 USE IN SPECIFIC POPULATIONS**

### **8.1 Pregnancy**

Fluzone High-Dose is not approved for use in persons <65 years of age. There are limited human data and no animal data available to establish whether there is a vaccine-associated risk with use of Fluzone High-Dose in pregnancy.

### **8.2 Lactation**

Fluzone High-Dose is not approved for use in persons <65 years of age. No human or animal data are available to assess the effects of Fluzone High-Dose on the breastfed infant or on milk production/excretion.

### **8.4 Pediatric Use**

Safety and effectiveness of Fluzone High-Dose in persons <65 years of age have not been established.

### **8.5 Geriatric Use**

Safety, immunogenicity, and efficacy of Fluzone High-Dose have been evaluated in adults 65 years of age and older. [See *Adverse Reactions (6.1)* and *Clinical Studies (14)*]

## **11 DESCRIPTION**

Fluzone High-Dose (Influenza Vaccine) for intramuscular injection is an inactivated influenza vaccine, prepared from influenza viruses propagated in embryonated chicken eggs. The virus-containing allantoic fluid is harvested and inactivated with formaldehyde. Influenza virus is concentrated and purified in a linear sucrose density gradient solution using a continuous flow centrifuge. The virus is then chemically disrupted using a non-ionic surfactant, octylphenol ethoxylate (Triton<sup>®</sup> X-100), producing a "split virus". The split virus is further purified and then suspended in sodium phosphate-buffered isotonic sodium chloride solution. The Fluzone High-Dose process uses an additional

concentration factor after the ultrafiltration step in order to obtain a higher hemagglutinin (HA) antigen concentration.

Fluzone High-Dose suspension for injection is clear and slightly opalescent in color.

Neither antibiotics nor preservative are used in the manufacture of Fluzone High-Dose.

The Fluzone High-Dose prefilled syringe presentation is not made with natural rubber latex.

Fluzone High-Dose is standardized according to United States Public Health Service requirements and is formulated to contain HA of each of the following three influenza strains recommended for the 2019-2020 influenza season: A/Brisbane/02/2018 IVR-190 (H1N1), A/Kansas/14/2017 X-327 (H3N2), and B/Maryland/15/2016 BX-69A (a B/Colorado/6/2017-like virus, B Victoria lineage). The amounts of HA and other ingredients per dose of vaccine are listed in Table 2.

**Table 2: Fluzone High-Dose Ingredients**

Ingredient	Quantity (per dose)
	Fluzone High-Dose 0.5 mL Dose
<b>Active Substance: Split influenza virus, inactivated strains*:</b>	180 mcg HA total
A (H1N1)	60 mcg HA
A (H3N2)	60 mcg HA
B	60 mcg HA
<b>Other:</b>	
Sodium phosphate-buffered isotonic sodium chloride solution	QS <sup>†</sup> to appropriate volume
Formaldehyde	≤100 mcg
Octylphenol ethoxylate	≤250 mcg
Gelatin	None
<b>Preservative</b>	None

\* per United States Public Health Service (USPHS) requirement

† Quantity Sufficient

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Influenza illness and its complications follow infection with influenza viruses. Global surveillance of influenza identifies yearly antigenic variants. For example, since 1977, antigenic variants of influenza A (H1N1 and H3N2) viruses and influenza B viruses have been in global circulation. Specific levels of hemagglutination inhibition (HI) antibody titer post-vaccination with inactivated influenza virus vaccines have not been correlated with protection from influenza virus infection. In some human studies, antibody titers  $\geq 1:40$  have been associated with protection from influenza illness in up to 50% of participants. (See references 3 and 4.)

Antibodies against one influenza virus type or subtype confer limited or no protection against another. Furthermore, antibodies to one antigenic variant of influenza virus might not protect against a new antigenic variant of the same type or subtype. Frequent development of antigenic variants through antigenic drift is the virologic basis for seasonal epidemics and the reason for the usual change of one or more new strains in each year's influenza vaccine. Therefore, influenza vaccines are standardized to contain the hemagglutinins of influenza virus strains representing the influenza viruses likely to be circulating in the US during the influenza season.

Annual vaccination with the current vaccine is recommended because immunity during the year after vaccination declines and because circulating strains of influenza virus change from year to year.

## **13 NON-CLINICAL TOXICOLOGY**

### **13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility**

Fluzone High-Dose has not been evaluated for carcinogenic or mutagenic potential or for impairment of fertility.

## **14 CLINICAL STUDIES**

### **14.1 Immunogenicity of Fluzone High-Dose in Adults 65 Years of Age and Older**

Study 1 (NCT00391053) was a multi-center, double-blind pre-licensure trial conducted in the US in which adults 65 years of age and older were randomized to receive either Fluzone High-Dose or Fluzone (2006-2007 formulation). The study compared the safety and immunogenicity of Fluzone High-Dose to those of Fluzone. For immunogenicity analyses, 2576 participants were randomized to Fluzone High-Dose and 1275 participants were randomized to Fluzone. Females accounted for 51.3% of participants in the Fluzone High-Dose group and 54.7% of participants in the Fluzone group. In both groups, the mean age was 72.9 years (ranged from 65 through 97 years in the Fluzone High-Dose group and 65 through 94 years in the Fluzone group); 35% of participants in the Fluzone High-Dose group and 36% of participants in the Fluzone group were 75 years of age or older. Most participants in the Fluzone High-Dose and Fluzone groups, respectively, were White (91.7% and 92.9%), followed by Hispanic (4.8% and 3.7%), and Black (2.7% and 2.7%).

The primary endpoints of the study were HI GMTs and seroconversion rates 28 days after vaccination. Pre-specified statistical superiority criteria required that the lower limit (LL) of the 2-sided 95% CI of the GMT ratio (Fluzone High-Dose/Fluzone) be greater than 1.50 for at least two of the strains, and if one strain failed, non-inferiority of that strain must be demonstrated ( $LL > 0.67$ ), and that the lower limit of the 2-sided 95% CI of the seroconversion rate difference (Fluzone High-Dose minus Fluzone) be greater than 10% for at least two of the strains, and if one strain failed, non-inferiority of that strain must be demonstrated ( $LL > -10\%$ ). As shown in Table 3, statistically superior HI GMTs and seroconversion rates after vaccination with Fluzone High-Dose compared to Fluzone were demonstrated for influenza A subtypes, A (H1N1) and A (H3N2), but not for influenza type B. For strain B, non-inferiority of Fluzone High-Dose compared to Fluzone



was demonstrated for both the HI GMTs and seroconversion rates.

**Table 3: Study 1\*: Post-Vaccination HI Antibody GMTs and Seroconversion Rates and Analyses of Superiority of Fluzone High-Dose Relative to Fluzone, Adults 65 Years of Age and Older**

Influenza Strain	GMT		GMT Ratio	Seroconversion % <sup>†</sup>		Difference	Met Both Pre-defined Superiority Criteria <sup>‡</sup>
	Fluzone High-Dose N <sup>§</sup> =2542-2544	Fluzone N <sup>§</sup> =1252	Fluzone High-Dose over Fluzone (95% CI)	Fluzone High-Dose N <sup>§</sup> =2529-2531	Fluzone N <sup>§</sup> =1248-1249	Fluzone High-Dose minus Fluzone (95% CI)	
<b>A (H1N1)</b>	115.8	67.3	1.7 (1.6; 1.8)	48.6	23.1	25.4 (22.4; 28.5)	Yes
<b>A (H3N2)</b>	608.9	332.5	1.8 (1.7; 2.0)	69.1	50.7	18.4 (15.1; 21.7)	Yes
<b>B</b>	69.1	52.3	1.3 (1.2; 1.4)	41.8	29.9	11.8 (8.6; 15.0)	No

\* NCT00391053

<sup>†</sup> Seroconversion: Paired samples with pre-vaccination HI titer <1:10 and post-vaccination (day 28) titer ≥1:40 or a minimum 4-fold increase for participants with pre-vaccination titer ≥1:10

<sup>‡</sup> Predefined superiority criterion for seroconversion: the lower limit of the two-sided 95% CI of the difference of the seroconversion rates (Fluzone High-Dose minus Fluzone) is >10%. Predefined superiority criterion for the GMT ratio: the lower limit of the 95% CI of the GMT ratio (Fluzone High-Dose divided by Fluzone) is >1.5

<sup>§</sup> N is the number of vaccinated participants with available data for the immunologic endpoint listed

## 14.2 Efficacy of Fluzone High-Dose in Adults 65 Years of Age and Older

Study 2 (NCT01427309) was a multi-center, double-blind post-licensure efficacy trial conducted in the US and Canada in which adults 65 years of age and older were randomized (1:1) to receive either Fluzone High-Dose or Fluzone. The study was conducted over two influenza seasons (2011-2012 and 2012-2013); 53% of participants enrolled in the first year of the study were re-enrolled and re-randomized in the second year. The per-protocol analysis set for efficacy assessments included 15,892 Fluzone High-Dose recipients and 15,911 Fluzone recipients. The majority (67%) of participants in the per-protocol analysis set for efficacy had one or more high-risk chronic comorbid conditions.

In the per-protocol analysis set, females accounted for 57.2% of participants in the Fluzone High-Dose group and 56.1% of participants in the Fluzone group. In both groups, the median age was 72.2 years (range 65 through 100 years). Overall, most participants in the study were White (95%); approximately 4% of study participants were Black, and approximately 6% reported Hispanic ethnicity.

The primary endpoint of the study was the occurrence of laboratory-confirmed influenza

(as determined by culture or polymerase chain reaction) caused by any influenza viral type/subtype in association with influenza-like illness (ILI), defined as the occurrence of at least one of the following respiratory symptoms: sore throat, cough, sputum production, wheezing, or difficulty breathing; concurrent with at least one of the following systemic signs or symptoms: temperature >99.0°F, chills, tiredness, headaches or myalgia. Participants were monitored for the occurrence of a respiratory illness by both active and passive surveillance, starting 2 weeks post-vaccination for approximately 7 months. After an episode of respiratory illness, nasopharyngeal swab samples were collected for analysis; attack rates and vaccine efficacy were calculated (see Table 4).

**Table 4: Study 2\*: Relative Efficacy Against Laboratory-Confirmed Influenza† Regardless of Similarity to the Vaccine Components, Associated with Influenza-Like Illness‡, Adults 65 Years of Age and Older**

	<b>Fluzone High-Dose</b> <b>N<sup>§</sup>=15,892</b> <b>n<sup>¶</sup> (%)</b>	<b>Fluzone</b> <b>N<sup>§</sup>=15,911</b> <b>n<sup>¶</sup> (%)</b>	<b>Relative Efficacy</b> <b>% (95% CI)</b>
<b>Any type/subtype<sup>#</sup></b>	227 (1.43)	300 (1.89)	24.2 (9.7; 36.5) <sup>p</sup>
<b>Influenza A</b>	190 (1.20)	249 (1.56)	23.6 (7.4; 37.1)
<b>A (H1N1)</b>	8 (0.05)	9 (0.06)	11.0 (-159.9; 70.1)
<b>A (H3N2)</b>	171 (1.08)	222 (1.40)	22.9 (5.4; 37.2)
<b>Influenza B<sup>β</sup></b>	37 (0.23)	51 (0.32)	27.4 (-13.1; 53.8)

\* NCT01427309

† Laboratory-confirmed: culture- or polymerase-chain-reaction-confirmed

‡ Occurrence of at least one of the following respiratory symptoms: sore throat, cough, sputum production, wheezing, or difficulty breathing; concurrent with at least one of the following systemic signs or symptoms: temperature >99.0°F, chills, tiredness, headaches or myalgia

§ N is the number of vaccinated participants in the per-protocol analysis set for efficacy assessments

¶ n is the number of participants with protocol-defined influenza-like illness with laboratory confirmation

# Primary endpoint

p The pre-specified statistical superiority criterion for the primary endpoint (lower limit of the 2-sided 95% CI of the vaccine efficacy of Fluzone High-Dose relative to Fluzone > 9.1%) was met.

β In the first year of the study the influenza B component of the vaccine and the majority of influenza B cases were of the Victoria lineage; in the second year the influenza B component of the vaccine and the majority of influenza B cases were of the Yamagata lineage

A secondary endpoint of the study was the occurrence of culture-confirmed influenza caused by viral types/subtypes antigenically similar to those contained in the respective annual vaccine formulations in association with a modified CDC-defined ILI, defined as the occurrence of a temperature >99.0°F (>37.2°C) with cough or sore throat. The efficacy of Fluzone High-Dose relative to Fluzone for this endpoint was 51.1% (95% CI:

16.8; 72.0).

## 15 REFERENCES

- 1 Lasky T, Terracciano GJ, Magder L, et al. The Guillain-Barré syndrome and the 1992-1993 and 1993-1994 influenza vaccines. *N Engl J Med* 1998;339:1797-802.
- 2 Baxter, R, et al. Lack of Association of Guillain-Barré Syndrome with Vaccinations. *Clin Infect Dis* 2013;57(2):197-204.
- 3 Hannoun C, Megas F, Piercy J. Immunogenicity and protective efficacy of influenza vaccination. *Virus Res* 2004;103:133-138.
- 4 Hobson D, Curry RL, Beare AS, Ward-Gardner A. The role of serum haemagglutination-inhibiting antibody in protection against challenge infection with influenza A2 and B viruses. *J Hyg Camb* 1972;70:767-777.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

### 16.1 How Supplied

Single-dose, prefilled syringe, without needle, 0.5 mL (NDC 49281-405-88) (not made with natural rubber latex). Supplied as package of 10 (NDC 49281-405-65).

### 16.2 Storage and Handling

Store Fluzone High-Dose refrigerated at 2° to 8°C (35° to 46°F). DO NOT FREEZE. Discard if vaccine has been frozen.

Do not use after the expiration date shown on the label.

## 17 PATIENT COUNSELING INFORMATION

See FDA-approved patient labeling (Patient Information).

- Inform the patient or caregiver that Fluzone High-Dose contains killed viruses and cannot cause influenza.
- Among persons aged 65 years and older, Fluzone High-Dose stimulates the immune system to produce antibodies that help protect against influenza.
- Among persons aged 65 years and older, Fluzone High-Dose offers better protection against influenza as compared to Fluzone.
- Annual influenza vaccination is recommended.
- Instruct vaccine recipients and caregivers to report adverse reactions to their healthcare provider and/or to Vaccine Adverse Event Reporting System (VAERS).

Fluzone is a registered trademark of Sanofi Pasteur Inc.

Manufactured by:

**Sanofi Pasteur Inc.**

Swiftwater PA 18370 USA

7439

**Patient Information Sheet**  
**Fluzone® High-Dose**

## **Influenza Vaccine**

Please read this information sheet before getting Fluzone High-Dose vaccine. This summary is not intended to take the place of talking with your healthcare provider. If you have questions or would like more information, please talk with your healthcare provider.

### **What is Fluzone High-Dose vaccine?**

Fluzone High-Dose is a vaccine that helps protect against influenza illness (flu).

Fluzone High-Dose vaccine is for people 65 years of age and older.

Vaccination with Fluzone High-Dose vaccine may not protect all people who receive the vaccine.

### **Who should not get Fluzone High-Dose vaccine?**

You should not get Fluzone High-Dose vaccine if you:

- ever had a severe allergic reaction to eggs or egg products.
- ever had a severe allergic reaction after getting any flu vaccine.
- are younger than 65 years of age.

Tell your healthcare provider if you have or have had:

- Guillain-Barré syndrome (severe muscle weakness) after getting a flu vaccine.
- problems with your immune system as the immune response may be diminished.

### **How is Fluzone High-Dose vaccine given?**

Fluzone High-Dose vaccine is a shot given into the muscle of the arm.

### **What are the possible side effects of Fluzone High-Dose vaccine?**

The most common side effects of Fluzone High-Dose vaccine are:

- pain, redness, and swelling where you got the shot
- muscle ache
- tiredness
- headache

These are not all of the possible side effects of Fluzone High-Dose vaccine. You can ask your healthcare provider for a list of other side effects that is available to healthcare professionals.

Call your healthcare provider for advice about any side effects that concern you. You may report side effects to the Vaccine Adverse Event Reporting System (VAERS) at 1-800-822-7967 or <http://vaers.hhs.gov>.

### **Why should I get Fluzone High-Dose vaccine instead of Fluzone vaccine?**

An efficacy study in adults 65 years of age and older has demonstrated that Fluzone High-Dose vaccine offers better protection against influenza than Fluzone vaccine.

### **What are the ingredients in Fluzone High-Dose vaccine?**

Fluzone High-Dose vaccine contains 3 killed flu virus strains.

Inactive ingredients include formaldehyde and octylphenol ethoxylate.

Manufactured by: Sanofi Pasteur Inc.

Swiftwater, PA 18370 USA

## PRINCIPAL DISPLAY PANEL - 0.5 mL Syringe Label

NDC 49281-405-88

0.5 mL Dose

IM only

Influenza Vaccine

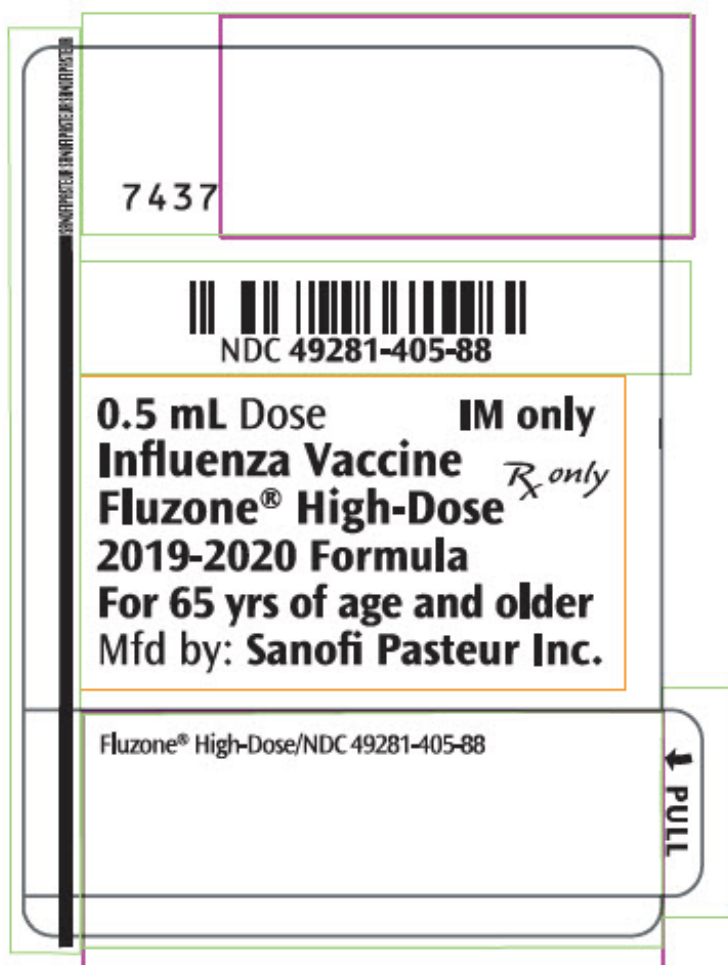
Rx only

Fluzone® High-Dose

2019-2020 Formula

For 65 yrs of age and older

Mfd by: Sanofi Pasteur Inc.



## PRINCIPAL DISPLAY PANEL - 0.5 mL Carton Label

NDC 49281-405-65

2019-2020 Formula

10 Prefilled Syringes

0.5 mL each

Influenza Vaccine

Fluzone® High-Dose

For 65 yrs of age and older

For intramuscular injection only

Sanofi Pasteur



**Influenza Vaccine  
Fluzone® High-Dose**  
For 65 years of age and older  
For intramuscular injection only

**DO NOT FREEZE.** Store at 2° to 8°C (35° to 46°F).  
**SHAKE WELL.**

FOR INTRAMUSCULAR INJECTION.

See full prescribing information for additional details.

Prepared from influenza viruses propagated in embryonated chicken eggs and inactivated with formaldehyde. A nonionic surfactant (Triton® X-100\*) is added during manufacture. This vaccine has been standardized according to USPHS requirements for the 2019-2020 influenza season and is formulated to contain 180 micrograms (mcg) hemagglutinin (HA) per 0.5 mL dose, in the recommended ratio of 60 mcg HA each, representative of the following prototype strains: A/Brisbane/02/2018 IVR-190 (H1N1), A/Kansas/14/2017 X-327 (H3N2) and B/Maryland/15/2016 BX-69A (a B/Colorado/6/2017-like virus, B Victoria lineage).

Contains no preservative.

Not made with natural rubber latex.

\*Triton® X-100—Registered trademark of Union Carbide, Co., USA.

GTIN: 00349281405655

7438



US Govt License #1725  
Manufactured by:  
**Sanofi Pasteur Inc.**  
Swiftwater PA 18370 USA

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Area reserved for serialization.

Lot  
Expiry  
Datamatrix Code  
SN

NDC 49281-405-65

2019–2020 Formula

**10 Prefilled Syringes**  
**0.5 mL each**



**Influenza Vaccine  
Fluzone® High-Dose**  
For 65 years of age and older  
For intramuscular injection only

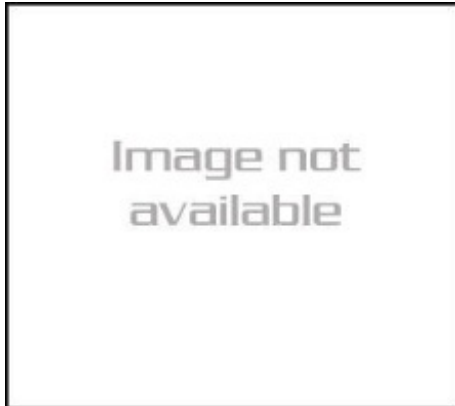
*R<sub>x</sub> only*

**SANOFI PASTEUR**



## PRINCIPAL DISPLAY PANEL - 49281-403-65

Image not available



### FLUZONE HIGH-DOSE

influenza a virus a/michigan/45/2015 x-275 (h1n1) antigen (formaldehyde inactivated), influenza a virus a/singapore/infimh-16-0019/2016 ivr-186 (h3n2) antigen (formaldehyde inactivated), and influenza b virus b/maryland/15/2016 bx-69a (a b/colorado/6/2017-like virus) antigen (formaldehyde inactivated) injection, suspension

#### Product Information

<b>Product Type</b>	VACCINE	<b>Item Code (Source)</b>	NDC:49281-405
<b>Route of Administration</b>	INTRAMUSCULAR		

#### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>INFLUENZA A VIRUS A/BRISBANE/02/2018 IVR-190 (H1N1) ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: XW4JB03TI5) (INFLUENZA A VIRUS A/BRISBANE/02/2018 IVR-190 (H1N1) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:92XE6GHC89)	INFLUENZA A VIRUS A/BRISBANE/02/2018 IVR-190 (H1N1) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL
<b>INFLUENZA A VIRUS A/KANSAS/14/2017 X-327 (H3N2) ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: 3NZW5ND3D6) (INFLUENZA A VIRUS A/KANSAS/14/2017 X-327 (H3N2) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:K329YCD1N9)	INFLUENZA A VIRUS A/KANSAS/14/2017 X-327 (H3N2) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL
<b>INFLUENZA B VIRUS B/MARYLAND/15/2016 BX-69A ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: M691J375MM) (INFLUENZA B VIRUS B/MARYLAND/15/2016 BX-69A HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:U2L42S6PLV)	INFLUENZA B VIRUS B/MARYLAND/15/2016 BX-69A HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL

#### Inactive Ingredients

Ingredient Name	Strength
<b>OCTOXYNOL-9</b> (UNII: 7JPC6Y25QS)	
<b>FORMALDEHYDE</b> (UNII: 1HG84L3525)	



## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:49281-405-65	10 in 1 PACKAGE		
1	NDC:49281-405-88	0.5 mL in 1 SYRINGE, GLASS; Type 3: Prefilled Biologic Delivery Device/System (syringe, patch, etc.)		

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
BLA	BLA103914	07/01/2019	

## FLUZONE HIGH-DOSE

influenza a virus a/michigan/45/2015 x-275 (h1n1) antigen (formaldehyde inactivated), influenza a virus a/singapore/infimh-16-0019/2016 ivr-186 (h3n2) antigen (formaldehyde inactivated), and influenza b virus b/maryland/15/2016 bx-69a (a b/colorado/6/2017-like virus) antigen (formaldehyde inactivated) injection, suspension

### Product Information

Product Type	VACCINE	Item Code (Source)	NDC:49281-403
Route of Administration	INTRAMUSCULAR		

### Active Ingredient/Active Moiety

Ingredient Name	Basis of Strength	Strength
<b>INFLUENZA A VIRUS A/MICHIGAN/45/2015 X-275 (H1N1) ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: 8KSK0802BP) (INFLUENZA A VIRUS A/MICHIGAN/45/2015 X-275 (H1N1) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:116749898H)	INFLUENZA A VIRUS A/MICHIGAN/45/2015 X-275 (H1N1) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL
<b>INFLUENZA A VIRUS A/SINGAPORE/INFIMH-16-0019/2016 IVR-186 (H3N2) ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: KMO6TK08J4) (INFLUENZA A VIRUS A/Singapore/INFIMH-16-0019/2016 IVR-186 (H3N2) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:W929Z18NV6)	INFLUENZA A VIRUS A/Singapore/INFIMH-16-0019/2016 IVR-186 (H3N2) HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL
<b>INFLUENZA B VIRUS B/Maryland/15/2016 BX-69A ANTIGEN (FORMALDEHYDE INACTIVATED)</b> (UNII: M691J375MM) (INFLUENZA B VIRUS B/Maryland/15/2016 BX-69A HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED) - UNII:U2L42S6PLV)	INFLUENZA B VIRUS B/Maryland/15/2016 BX-69A HEMAGGLUTININ ANTIGEN (FORMALDEHYDE INACTIVATED)	60 ug in 0.5 mL

### Inactive Ingredients

Ingredient Name	Strength
<b>GELATIN, UNSPECIFIED</b> (UNII: 2G86QN327L)	
<b>OCTOXYNOL-9</b> (UNII: 7JPC6Y25QS)	
<b>FORMALDEHYDE</b> (UNII: 1HG84L3525)	

## Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:49281-403-65	10 in 1 PACKAGE		
1	NDC:49281-403-88	0.5 mL in 1 SYRINGE, GLASS; Type 3: Prefilled Biologic Delivery Device/System (syringe, patch, etc.)		

## Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
BLA	BLA103914	06/29/2018	

**Labeler** - Sanofi Pasteur Inc. (086723285)

## Establishment

Name	Address	ID/FEI	Business Operations
Sanofi Pasteur Inc.		086723285	MANUFACTURE

Revised: 4/2023

Sanofi Pasteur Inc.