

Clinical Study Results

This summary reports the results of only one study. Researchers must look at the results of many types of studies to understand if a study vaccine works, how it works, and if it is safe to prescribe to study participants. The results of this study might be different than the results of other studies that the researchers review.

Sponsor: Pfizer, Inc.

Medicine(s) Studied: Respiratory Syncytial Virus (RSV) (Vaccine, Compound Number: PF-06928316)

Protocol Number: C3671002

Dates of Study: 05 June 2018 to 20 August 2020

Title of this Study: A Study to Evaluate the Safety and Immunogenicity of an Adjuvanted RSV Vaccine in Healthy Older Adults

[Final Report: A Phase 1/2, Placebo-Controlled, Randomized, Observer-Blind, Dose-Finding, First-in-Human Study to Describe the Safety, Tolerability, and Immunogenicity of an Adjuvanted Respiratory Syncytial Virus (RSV) Vaccine in Healthy Older Adults]

Date(s) of this Report: 09 Aug 2021

— Thank You —

If you participated in this study, Pfizer, the Sponsor, would like to thank you for your participation.

This summary will describe the study results. If you have any questions about the study or the results, please contact the doctor or staff at your study site.

Why was this study done?

What is respiratory syncytial virus (RSV)?

Respiratory syncytial virus (RSV) is a virus that can cause an infection with symptoms that are similar to a bad cold, such as cough, fever, sore throat, and runny nose. This infection can be serious in older adults and in those with underlying medical conditions. People with serious RSV infection may have trouble breathing and may need to be hospitalized.

What is the RSV vaccine (RSVpreF)?

This study is about a vaccine called the respiratory syncytial virus vaccine, or “RSVpreF.” A vaccine is used to help prevent infection by helping the body to fight off germs. RSVpreF may be able to help prevent infections caused by RSV.

RSVpreF contains proteins found in the virus that may stimulate the body’s response to make antibodies (known as the “immune response”), which may protect against RSV disease. There is no live virus in RSVpreF.

In older adults, immune responses decrease with age, so vaccines may require additional ingredients (known as “adjuvants”), which may improve the immune response against infection.

RSVpreF used in this study contains either:

- RSVpreF on its own,
- or RSVpreF with aluminum hydroxide,
- or RSVpreF with aluminum hydroxide and CpG adjuvant

Vaccines containing aluminum hydroxide have been used safely in vaccines for more than 70 years. Vaccines containing CpG have been given in research studies of other vaccines, and CpG is included in a vaccine approved for use in the United States to protect against hepatitis B (a liver virus infection).

RSVpreF is an investigational vaccine, which means that it has not been approved for general use and it is not yet known if it will protect against disease caused by RSV. This study is the first time that RSVpreF with CpG adjuvant has been tested in people.

What was the purpose of this study?

The main purpose of this study was to learn about the safety of RSVpreF in healthy older adults.

Researchers wanted to know:

- How many of the study participants:
 - Had redness, swelling, or pain at the injection site within 14 days of their first RSVpreF vaccination?
 - Had nausea, vomiting, headache, muscle pain, joint pain, diarrhea, tiredness, or fever within 14 days after their first RSVpreF vaccination?
 - Had medical problems within 1 month after their first RSVpreF vaccination?
 - Had serious medical problems or medical problems that required treatment from a doctor within 1 year after their first RSVpreF vaccination?

What happened during the study?

How was the study done?

Researchers studied RSVpreF in healthy older adults to find out if participants had any health problems when given RSVpreF. This study was organized into 2 different cohorts, Cohort 1 and Cohort 2. Cohort is just another word for a group of people in a clinical study.

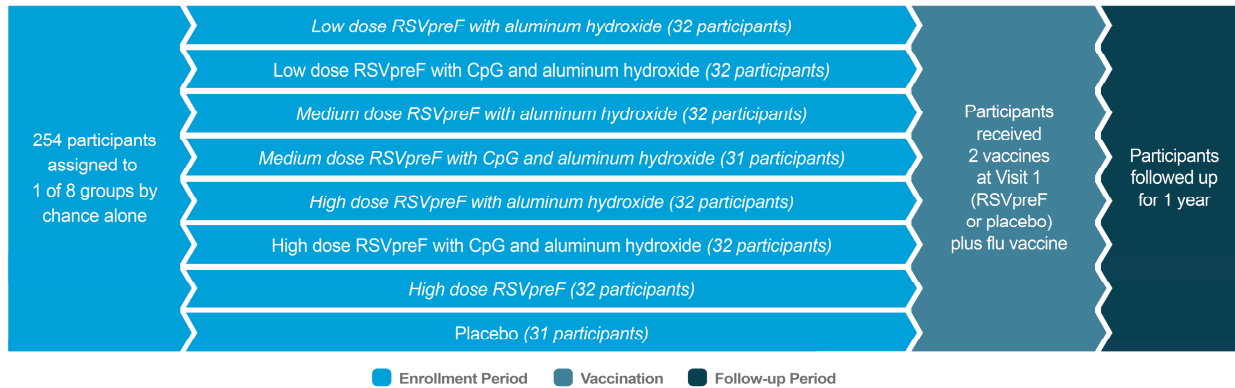
Participants in Cohort 1 also received a flu vaccine at the same time as RSVpreF. These participants were assigned to 1 of 8 treatment groups by chance alone:

- Group 1: Low dose (60 micrograms (μg)) RSVpreF with aluminum hydroxide (32 participants)
- Group 2: Low dose (60 μg) RSVpreF with CpG and aluminum hydroxide (32 participants)
- Group 3: Medium dose (120 μg) RSVpreF with aluminum hydroxide (32 participants)
- Group 4: Medium dose (120 μg) RSVpreF with CpG and aluminum hydroxide (31 participants)
- Group 5: High dose (240 μg) RSVpreF with aluminum hydroxide (32 participants)
- Group 6: High dose (240 μg) RSVpreF with CpG and aluminum hydroxide (32 participants)
- Group 7: High dose (240 μg) RSVpreF with no aluminum hydroxide or CpG and aluminum hydroxide (32 participants)
- Group 8: Placebo (An injection that does not have any vaccine in it, but it looks just like RSVpreF) (31 participants)

The first 4 participants were watched by study staff for at least 4 hours after their vaccination to monitor for any medical problems, and vaccination for the rest of the participants could begin no sooner than 2 days later. Vaccination was also limited to no more than 6 participants per day for the first week of the study, and participants were followed up for 1 year after their first vaccination.

The figures below show what happened during the study.

Cohort 1

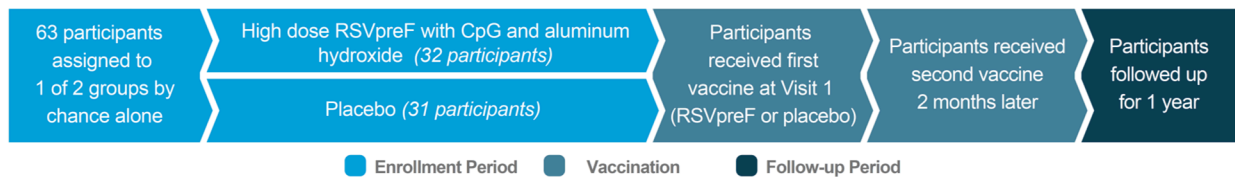


Participants in Cohort 2 did not receive a flu vaccine during this study. These participants were assigned to 1 of 2 treatment groups by chance alone. At Visit 1, the participants received either:

- Group 1: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide (32 participants)
- Group 2: Placebo (31 participants)

The participants then received a second dose of either RSVpreF or placebo 2 months later.

Cohort 2



The researchers and participants from Cohort 1 and Cohort 2 did not know which vaccine they received. This is known as a “double-blind” study.

Participants were expected to participate in 6 study visits over the course of 1 year. At the visits, blood samples were collected, vaccines were given, and participants were checked for any medical problems.

Where did this study take place?

The Sponsor ran this study at 12 locations in Australia.

When did this study take place?

It began 05 June 2018 and ended 20 August 2020.

Who participated in this study?

Participants were checked (screened) by the study doctors to make sure they were a good fit for the study.

This study included participants who:

- Were 65 to 85 years old
- Were males, or females not of childbearing potential (able to have children)
- Were considered to be healthy or with stable chronic disease by the study doctors
- Did not have a disease or take medicine that would be associated with a weakened immune system
- Had never received any vaccine for RSV
- Had not received a flu vaccine within the past 6 months (Cohort 1 only)
- Had never had a severe medical problem or allergic reaction to any of the vaccine ingredients
- Were informed of the risks and benefits of this study and agreed to participate

254 participants joined Cohort 1. Of these, 250 (98%) participants were vaccinated and 247 (97%) participants completed the study. Two participants (1%) from Cohort 1 left the study early by their own choice, and 1 participant (less than 1%) passed away for a reason that was not related to study vaccination.

63 participants joined Cohort 2 and received the first vaccination. 57 (91%) participants received the second vaccination. 56 participants were withdrawn from Cohort 2 when the Sponsor decided to end the study early. Additionally,:

- 4 (6%) participants left the study early due to a medical problem
- 1 (2%) participant left the study early by their own choice

- 1 (2%) participant left the study early because they no longer met the study requirements
- 1 (2%) participant left the study early due to study doctor decision

In the overall group of participants:

- A total of 145 women were vaccinated
- A total of 168 men were vaccinated
- All participants were between the ages of 65 and 85 years at the start of the study

How long did the study last?

Participants were in the study for about 1 year. The entire study took almost 2 years to complete.

Cohort 1 was completed as planned. Cohort 2 ended early, 6 months after each participant had received their second vaccination. The Sponsor decided to end the study early because immune responses were not found to be different in the participants who received RSVpreF with CpG, compared to other RSVpreF formulations. This decision was not made due to any safety concerns. When the study ended in August 2020, the Sponsor began reviewing the information collected. The Sponsor then created a report of the results. This is a summary of that report.

What were the results of the study?

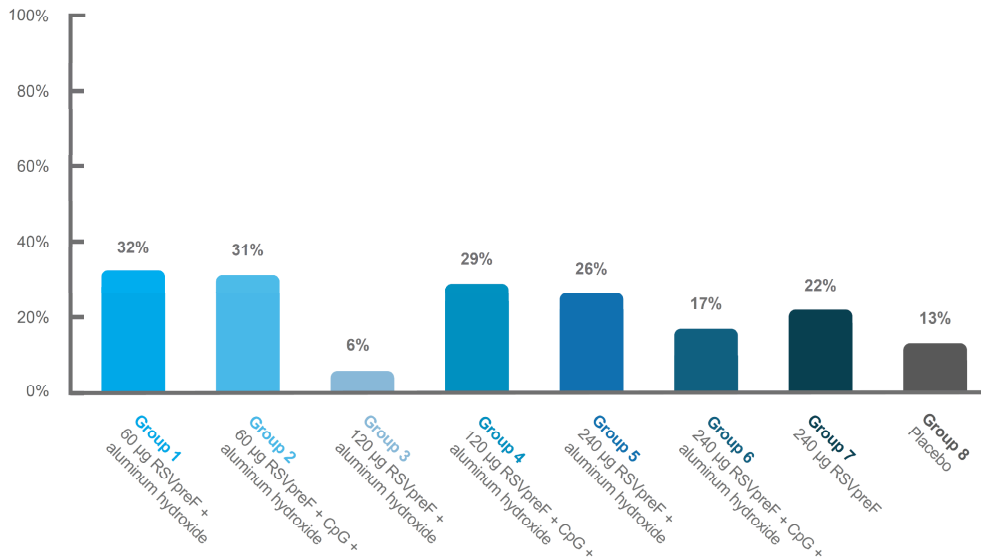
Did participants have immune responses?

All the RSVpreF formulations used in this study produced strong immune responses. The RSVpreF formulations containing CpG did not produce stronger immune responses than the other formulations, and participants who received a second dose of RSVpreF with CpG did not have stronger immune responses than the other participants.

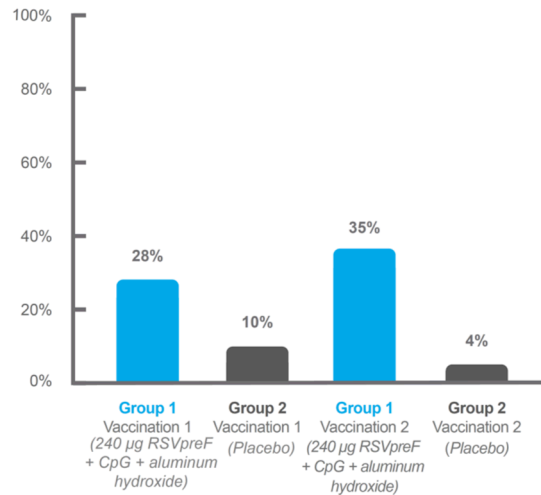
How many participants had redness, swelling, or pain at the injection site within 14 days of their first RSVpreF vaccination?

The graphs below show the percentage of participants in each vaccine group with redness, swelling, or pain at the injection site within 14 days after their first vaccination. In Cohort 1, participants who received RSVpreF had higher rates of redness, swelling, or pain at the injection site than participants who received placebo, but these were mostly mild. In Cohort 2, these injection site effects were also mostly mild, and there was no increase in redness, swelling, or pain at the injection site after the second injection, compared to the first injection.

Percent of Participants With Redness, Swelling, or Pain at the Injection Site Within 14 Days of First Vaccination: Cohort 1



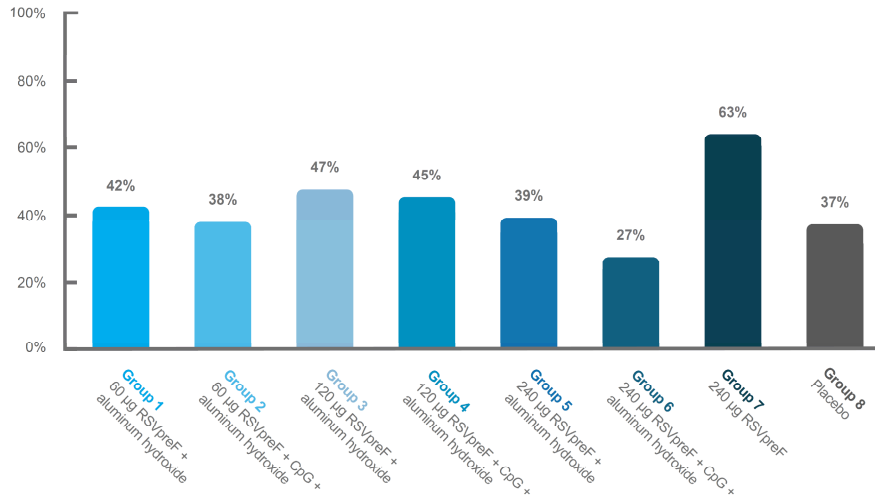
Percent of Participants With Redness, Swelling, or Pain at the Injection Site Within 14 Days of Vaccination: Cohort 2



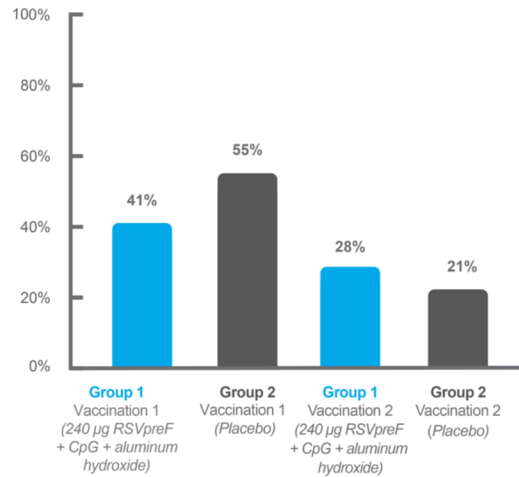
How many participants had nausea, vomiting, headache, muscle pain, joint pain, diarrhea, tiredness, or fever within 14 days after their first vaccination?

The graph below shows the percentage of participants with nausea, vomiting, headache, muscle pain, joint pain, diarrhea, tiredness, or fever within 14 days after their first vaccination. Most participants reported these effects were mild or moderate. Participants in Cohort 1 received a flu vaccine at the same time that they received RSVpreF, but participants in Cohort 2 did not.

Percent of Participants With Nausea, Vomiting, Headache, Muscle pain, Joint pain, Diarrhea, Tiredness, or Fever Within 14 days Of First Vaccination: Cohort 1



Percent of Participants With Nausea, Vomiting, Headache, Muscle Pain, Joint Pain, Diarrhea, Tiredness, or Fever Within 14 Days of Vaccination: Cohort 2



This does not mean that everyone in this study had these results. These are just some of the main findings of this study. Other studies may have different results.

The researchers also examined what medical problems the participants experienced during the study. This information is provided in the next section.

What medical problems did participants have during the study?

The researchers recorded any medical problems the participants had during the study. Participants could have had medical problems for reasons not related to the study (for example, caused by an underlying disease or by chance). Or, medical problems could also have been caused by a study vaccine or by another medicine the participant was taking. Sometimes the cause of a medical problem is unknown. By comparing medical problems across vaccine groups in many studies, doctors try to understand what effects a study vaccine might have on a participant.

How many participants had medical problems within 1 month after their first dose of RSVpreF?

In Cohort 1, the following percentage of participants had medical problems within 1 month after their first dose of RSVpreF:

- Group 1: Low dose (60 µg) RSVpreF with aluminum hydroxide: 22%
- Group 2: Low dose (60 µg) RSVpreF with CpG and aluminum hydroxide: 22%
- Group 3: Medium dose (120 µg) RSVpreF with aluminum hydroxide: 34%
- Group 4: Medium dose (120 µg) RSVpreF with CpG and aluminum hydroxide: 29%
- Group 5: High dose (240 µg) RSVpreF with aluminum hydroxide: 26%
- Group 6: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 23%
- Group 7: High dose (240 µg) RSVpreF with no aluminum hydroxide or CpG and aluminum hydroxide: 22%
- Group 8: Placebo: 17%

In Cohort 2, the following percentage of participants had medical problems within 1 month after their first dose of RSVpreF:

- Group 1: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 28%
- Group 2: Placebo: 26%

No participants left the study within 1 month after vaccination in Cohort 1 because of a medical problem. The most common medical problems in Cohort 1 – those reported by at least 2 participants – are described below in Table 1. Two of the medical problems that happened in participants from Cohort 1 – dry skin and reaction at injection site– were considered to be related to the vaccine by the study doctor.

The most common medical problem in Cohort 2 was limb injury, which was not considered related to the vaccine by the study doctor. Limb injury happened in 2 out of 29 participants dosed (7%) in Group 1 and 0 participants in Group 2. No table is included for Cohort 2, as limb injury was the only medical problem that happened in 2 or more participants.

Below are instructions on how to read Table 1.

Instructions for Understanding Table 1.

- The **1st** column of the table lists medical problems that were commonly reported during the study. All medical problems reported by 2 or more participants are listed.
- The **2nd through 9th** columns tell how many of the participants in each group reported each medical problem. Next to this number is the percentage of the participants in each group who reported the medical problem.
- Example: Using these instructions, in Table 1 you can see that 1 out of the 32 (3%) participants dosed in Group 1 reported dizziness, and 1 out of the 30 (3%) participants dosed in Group 6 reported dizziness. No participants in the other groups reported dizziness.

Table 1. Commonly reported medical problems within 1 month after first vaccination: Cohort 1

Medical Problem	Group 1 32 Dosed	Group 2 32 Dosed	Group 3 32 Dosed	Group 4 31 Dosed	Group 5 31 Dosed	Group 6 30 Dosed	Group 7 32 Dosed	Group 8 30 Dosed
Dizziness	0 out of 32 dosed (3%)	1 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	1 out of 30 dosed (3%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Diarrhea	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	2 out of 32 dosed (6%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Rectal polyp	0 out of 32 dosed (0%)	1 out of 32 dosed (3%)	0 out of 32 dosed (0%)	1 out of 31 dosed (3%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Lung infection	1 out of 32 dosed (3%)	1 out of 32 dosed (3%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Common cold	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	1 out of 31 dosed (3%)	0 out of 30 dosed (0%)	1 out of 32 dosed (3%)	0 out of 30 dosed (0%)
Infection of nose and throat	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	1 out of 31 dosed (3%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	1 out of 30 dosed (3%)

Table 1. Commonly reported medical problems within 1 month after first vaccination: Cohort 1

Medical Problem	Group 1 32 Dosed	Group 2 32 Dosed	Group 3 32 Dosed	Group 4 31 Dosed	Group 5 31 Dosed	Group 6 30 Dosed	Group 7 32 Dosed	Group 8 30 Dosed
Swelling of tissues in the sinuses	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	2 out of 31 dosed (7%)	0 out of 30 dosed (0%)	1 out of 32 dosed (3%)	0 out of 30 dosed (0%)
Nose and throat infection caused by a virus	0 out of 32 dosed (0%)	1 out of 32 dosed (3%)	2 out of 32 dosed (6%)	1 out of 31 dosed (3%)	0 out of 31 dosed (0%)	1 out of 30 dosed (3%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Arthritis	0 out of 32 dosed (0%)	1 out of 32 dosed (3%)	1 out of 32 dosed (3%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Headache	0 out of 32 dosed (0%)	1 out of 32 dosed (3%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	1 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Painful urination	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	1 out of 31 dosed (3%)	0 out of 31 dosed (0%)	1 out of 30 dosed (3%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)
Rough, scaly spot on skin	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	1 out of 31 dosed (3%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	1 out of 30 dosed (3%)
Dry skin	1 out of 32 dosed (3%)	1 out of 32 dosed (3%)	0 out of 32 dosed (0%)	0 out of 31 dosed (0%)	0 out of 31 dosed (0%)	0 out of 30 dosed (0%)	0 out of 32 dosed (0%)	0 out of 30 dosed (0%)

Table 1. Commonly reported medical problems within 1 month after first vaccination: Cohort 1

Medical Problem	Group 1 32 Dosed	Group 2 32 Dosed	Group 3 32 Dosed	Group 4 31 Dosed	Group 5 31 Dosed	Group 6 30 Dosed	Group 7 32 Dosed	Group 8 30 Dosed
Infection of the nose, throat, and upper airways	3 out of 32 dosed (9%)	0 out of 32 dosed (0%)	1 out of 32 dosed (3%)	0 out of 31 dosed (0%)	1 out of 31 dosed (3%)	0 out of 30 dosed (0%)	1 out of 32 dosed (0%)	0 out of 30 dosed (0%)

Did participants have any serious medical problems?

A medical problem is considered “serious” when it is life-threatening, needs hospital care, or causes lasting problems.

How many participants had serious medical problems within 1 year after their first RSVpreF vaccination?

In Cohort 1, the following percentage of participants had serious medical problems within 1 year after their first vaccination. None of these medical problems were considered by the study doctors to be related to the study vaccines.

- Group 1: Low dose (60 µg) RSVpreF with aluminum hydroxide: 6%
- Group 2: Low dose (60 µg) RSVpreF with CpG and aluminum hydroxide: 13%
- Group 3: Medium dose (120 µg) RSVpreF with aluminum hydroxide: 13%
- Group 4: Medium dose (120 µg) RSVpreF with CpG and aluminum hydroxide: 13%
- Group 5: High dose (240 µg) RSVpreF with aluminum hydroxide: 16%
- Group 6: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 13%
- Group 7: High dose (240 µg) RSVpreF with no aluminum hydroxide or CpG and aluminum hydroxide: 13%

- Group 8: Placebo: 10%

In Cohort 2, the following percentage of participants had serious medical problems within 6 months after their second vaccination. None of these serious medical problems were considered by the study doctors to be related to the study vaccines.

- Group 1: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 19%
- Group 2: Placebo: 16%

How many participants had medical problems that required treatment from a doctor within 1 year after their first RSVpreF vaccination?

In Cohort 1, the following percentage of participants had medical problems that required treatment from a doctor within 1 year after their first vaccination. None of these medical problems were considered by the study doctors to be related to the study vaccines.

- Group 1: Low dose (60 µg) RSVpreF with aluminum hydroxide: 47%
- Group 2: Low dose (60 µg) RSVpreF with CpG and aluminum hydroxide: 59%
- Group 3: Medium dose (120 µg) RSVpreF with aluminum hydroxide: 47%
- Group 4: Medium dose (120 µg) RSVpreF with CpG and aluminum hydroxide: 52%
- Group 5: High dose (240 µg) RSVpreF with aluminum hydroxide: 55%
- Group 6: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 60%
- Group 7: High dose (240 µg) RSVpreF with no aluminum hydroxide or CpG and aluminum hydroxide: 50%
- Group 8: Placebo: 50%

In Cohort 2, the following percentage of participants had medical problems that required treatment from a doctor within 6 months after their second vaccination. None

of these medical problems were considered by the study doctors to be related to the study vaccines.

- Group 1: High dose (240 µg) RSVpreF with CpG and aluminum hydroxide: 53%
- Group 2: Placebo: 39%

Two participants died during this study for reasons that were unrelated to the study vaccines.

Where can I learn more about this study?

If you have questions about the results of your study, please speak with the doctor or staff at your study site.

The full scientific report of this study is available online at:

www.clinicaltrials.gov

Use the study identifier **NCT03572062**

Please remember that researchers look at the results of many studies to find out which medicines can work and are safe for study participants.

**Again, if you participated in this study,
thank you for volunteering.
We do research to try to find the
best ways to help study participants, and you
helped us to do that!**