Reports of Suspected Adverse Reaction to COVID-19 Vaccines (01 March to 20 June 2021)

Contents

About the report

- A summary is presented below of all received suspected adverse reaction reports following COVID-19 vaccination from 01 March 2021, the date when the first vaccine became available, up to 20 June 2021.
- Four (4) vaccines under Emergency Use Authorization (EUA) are currently being used in the vaccination program: CoronaVac, COVID-19 Vaccine AstraZeneca, Sputnik V, and Comirnaty.
- Data are based on VigiFlow, the national database of adverse reactions in the Philippines. It includes reports from various epidemiology surveillance units (ESUs) of the Department of Health (DOH), hospitals, patients/consumers, and EUA holders.
- Symptoms or diseases that occur after vaccination are reported if there is a *suspicion* of a possible link. However, it cannot be assumed that there is a causal relationship between the suspected adverse reaction and the vaccine.
- This report contains all suspected adverse reactions regardless of any possible causal relationship.
- Additional information may become available in individual case reports at any time, which may change the assessment and figures, presented.
- Adverse reaction reports are necessary for the safety assessment of the vaccines, making sure that the benefits always outweigh the risks.
- Reports are constantly reviewed and monitored for the possible emergence/identification of unknown adverse reactions also known as signal. If a signal is identified, investigations, regulatory actions, and timely communication is performed by the FDA.
- A weekly report is published to summarize reported adverse reactions to the COVID-19 vaccines.

Summary

This report is based on an assessment of adverse reaction reports received by 20 June 2021. As per benefit-risk assessment, these reports do not provide a basis for revising the current recommendations regarding the use of COVID-19 vaccines.

A report of adverse reaction does not necessarily mean that the vaccine caused the reactions, a mere suspicion may also be reported. Undiagnosed illness, underlying comorbidities, and pre-existing medical conditions unrelated to vaccination can be factors in reporting adverse reactions. The relative numbers should not be used to compare the safety of different vaccines.

Like any other vaccines, COVID-19 vaccines may cause adverse reactions in some people. Most of the reported reactions are generally in line with what is described in the product information and labels. Such reports are minor adverse reactions which include body pain, chills, fatigue, fever, headache, nausea, and pain in the injection site. These usually appear on the first or second day of vaccination and may last for 2-3 days. Most people tolerate these adverse reactions while others experience greater discomfort.

Serious adverse reactions have also been reported. The FDA together with other public health partners are continuously monitoring the adverse experience as more people are being vaccinated with COVID-19 vaccines. Such monitoring will provide reassurance that the vaccines are safe and effective for use.

Considering the post-authorization experience on the use of COVID-19 vaccine AstraZeneca of other countries, information on the very rare and serious adverse events of thrombosis and thrombocytopenia and in some cases accompanied by bleeding has been revised under the special warning and precautions for use.

On 18 June 2021, the European Medicines Agency (EMA) published a new safety update (with continuing assessment) on the use of Comirnaty, COVID-19 Vaccine Moderna, Janssen COVID-19 Vaccine, and COVID-19 Vaccine AstraZeneca. This is regarding a small number of cases of myocarditis and pericarditis after Comirnaty vaccination in Israel. The cases were mostly male individuals below 30 years old, symptoms starting few days after second dose of vaccination. Most of the cases were mild and resolved within a few days. To date, there were no reports of myocarditis and pericarditis from local data.

Four (4) vaccines are currently used in the immunization program. These include CoronaVac, COVID-19 Vaccine AstraZeneca, Sputnik V, and Comirnaty. COVID-19 Vaccine AstraZeneca and Comirnaty are supplied under COVAX facility.

COVID-19 vaccines with Emergency Use Authorization in the Philippines

At present, the FDA granted eight (8) COVID-19 vaccines under emergency use authorization:

- Pfizer-BioNTech COVID-19 Vaccine (Comirnaty)
- ChAdOx1-S [recombinant] (COVID-19 Vaccine AstraZeneca)
- SARS-CoV-2 Vaccine (Vero Cell), Inactivated (CoronaVac)
- Gam-COVID-Vac (Sputnik V)
- Ad26.COV2-S [recombinant] (Janssen COVID-19 Vaccine)
- Whole Virion Inactivated Corona Virus (Covaxin)
- COVID-19 mRNA Vaccine [nucleoside modified] (COVID-19 Vaccine Moderna)
- COVID-19 Vaccine (Vero Cell), Inactivated BIBP

Various vaccine platforms have been approved for use in the Philippines. Comirnaty and COVID-19 Vaccine Moderna are mRNA vaccines; COVID-19 Vaccine AstraZeneca and Janssen COVID-19 Vaccine are non-replicating viral vector vaccines while Sputnik V uses the same technology having two (2) different (dose) components of viral vectors; and CoronaVac, Covaxin, and COVID-19 Vaccine (Vero Cell), Inactivated BIBP are inactivated vaccines. All are administered in two doses within an interval of a few weeks except for Janssen COVID-19 Vaccine which is administered as a single-dose.

Statistics regarding reports of suspected adverse reactions

As of 20 June 2021, more than 6.2 million individuals have received their first dose of COVID-19 vaccines (either CoronaVac, COVID-19 vaccine AstraZeneca, Sputnik V, or Comirnaty). Out of these individuals, over 2.1 million have completed their vaccine doses. A total of 44,908 suspected adverse reaction reports were received, evaluated, and analyzed by the FDA. To disaggregate, 16,966 have been reported for CoronaVac, 26,872 have been reported for COVID-19 Vaccine AstraZeneca, 531 have been reported for Sputnik V, and 539 have been reported for Comirnaty.

Demographics

The figures below provide a descriptive overview of the population who have experienced adverse reactions to COVID-19 vaccines. Figure 1. and Figure 2. shows the distribution of reports by gender and age.

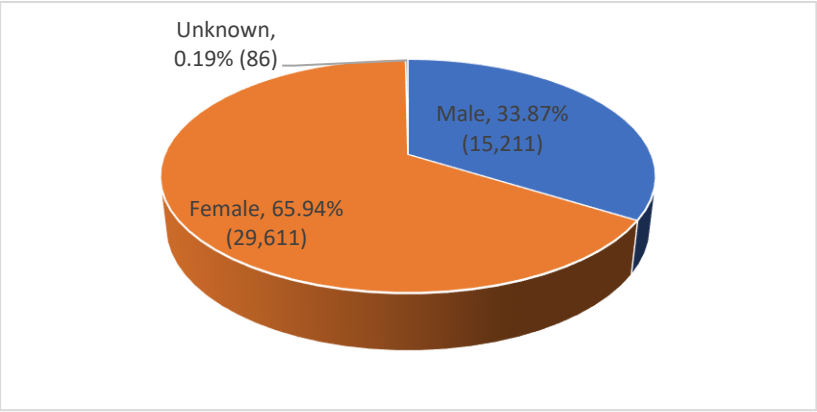

Figure 1. Report distribution by gender

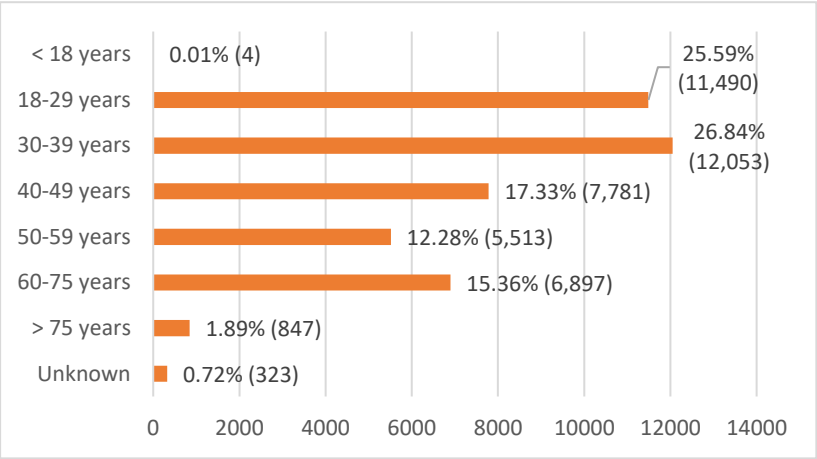

Figure 2. Report distribution by age

The early phase of the vaccination program is intended for the frontline health workers, thus, the high number in the female and younger population might be associated with the data that our health system is dominated by female (75%) and young adults under the age of 35 (65%).[1] An increasing number of reports from the age group 40 years and above have been observed in the past few weeks of the vaccination program. This may be attributed to the coverage of priority groups of senior citizens and individuals with comorbidities.

Relative to the inclusion of the frontline personnel in the priority groups, the observed increasing number of reports in the male population may be attributed to the vaccine coverage and statistics that more males are employed than females (6 in every 10).[2]

[1] *Human Resource for Health in the Time of the COVID-19 Pandemic: Does the Philippines Have Enough?* https://www.drdf.org.ph/sites/default/files/pdf/COVID-19-Research-Brief-08.pdf
[2] Employment situation in July 2018, *Philippine Statistics Authority, https://psa.gov.ph/statistics/survey/labor-and-employment/labor-force-survey/title/Employment%20Situation%20in%20July%202018*

Distribution of reports of adverse reactions for each vaccine

Data shown below are cumulative reports from the start of the vaccination program on 01 March 2021 up until 20 June 2021.

Table 1. Distribution of reports of adverse reactions for each vaccine

Vaccine	Number vaccinated with first dose[b]	Number vaccinated with second dose[b]	Total number of reports[a]	Reports of non-serious events	Reports of serious events
CoronaVac	3,732,850	1,628,390	16,966	16,542	424
AstraZeneca	2,137,328	427,926	26,872	26,425	447
Sputnik V	61,860	14,756	531	528	3
Comirnaty	321,362	82,870	539	517	22
TOTAL	**6,253,400**	**2,153,942**	**44,908**	**44,012**	**896**

Data source: [a]VigiFlow, [b]NVOC daily report as 6PM, 20 June 2021
Notes: Additional information may become available in individual cases which may change the figures presented
[c]Data concerning various vaccines are not directly comparable. COVID-19 vaccines profile varies, they have not been used for equal periods of time and they have been administered to number of people with different profiles including various age and sex.

Reports of suspected serious adverse reaction

Adverse reactions experienced after vaccination are considered serious when it resulted to any of the following criteria:

- In-patient hospitalization/prolongation of existing hospitalization
- Significant disability/incapacity
- Life-threatening (e.g. anaphylaxis) and death
- Birth defect or congenital malformations
- Considered to be medically important event

Hypersensitivity including severe allergic reactions
Severe allergic reactions have been reported on the use of COVID-19 vaccines including CoronaVac and AstraZeneca. It occurs only in a few vaccinated individuals. It usually happens in people with a history of severe vaccine reactions. Severe allergic reactions (anaphylaxis) generally occur soon after vaccination and are usually managed with Epinephrine in combination with other medicines. Thus, vaccinees are observed for at least 15 minutes after receiving their vaccine. Epinephrine is readily available in all vaccination sites in case of anaphylaxis.

The proportion of reported side effects of severe allergic reactions to COVID-19 vaccine proved to be statistically rare as the number of vaccinated populations increases.

Increased blood pressure
Blood pressure increased has been continuously reported as one of the top adverse reactions to all vaccine platforms. Monitoring blood pressure has been part of the screening processes for COVID-19 vaccination program in the country. The program recommends monitoring blood pressure only in vaccine recipients with a history of hypertension, symptomatic hypertension, and based on the clinical judgement of the physician on the vaccination site. This is in relation to the recommendations of the Philippine Heart Association and Philippine Society of Hypertension on elevated blood pressure readings during COVID-19 vaccination.

According to Sison, Divinagracia & Nailes (2019), the latest data on prevalence of hypertension is 28%; 9% of which are unaware that they have hypertension. The BP control rate of 20% may be attributed to the increasing reports of blood pressure increased. Anxiety during vaccination may also cause elevation in blood pressure levels.[3]

[3] *Immunization stress-related response (ISRR) - A synopsis*
https://www.who.int/immunization/sage/meetings/2019/april/2_A_synopsis_of_ISRR_Draft_SAGE.PDF?ua=1

Reports involving death
As of 20 June 2021, 293 fatal events were received. Reports of fatal events does not necessarily mean that the vaccine caused the events. Underlying conditions or pre-existing medical conditions causing fatal events are usually coincidental on the use of the vaccine. It is expected that reports of fatal events will rise as the vaccination program covers more people including those with undiagnosed illness, underlying comorbidities, and pre-existing medical conditions.

The vaccinees reported to have fatal events were aged 20 years and above. The mean age of the fatal cases was 64 years. 70.99% (208) of the fatal cases were from age group 60 years and above, 22.18% (65) from age group of 40-59 years, 6.14% (18) from age group 20-39 years, and 0.68% (2) was not identified to what age group they are classified.

Most of these events occurred in persons with multiple existing comorbidities. These include cardiovascular diseases, ischemic heart diseases, cerebrovascular diseases, cancer, diabetes, and infections including pneumonia. There was one case report of vehicular accident. There were cases of confirmed COVID-19 infections leading to severe cases with fatal outcomes. An independent committee assessed 119 of these case reports as coincidental events or not related to the vaccine, 10 cases were indeterminate, and six (6) were unclassifiable. Other cases are still under investigation and are continuously being reviewed.

Confirmed COVID-19 infections
There were 443 confirmed reports of COVID-19 infections. Most of the reported infections were asymptomatic cases. There were 22 severe cases which resulted to a fatal outcome. Upon assessment, these cases were not related to the use of the vaccine, but these were actual COVID-19 natural infections.

The vaccines currently being used in the COVID-19 vaccination program are non-replicating viral vector, inactivated, and mRNA vaccines. It does not contain any live virus and does not cause COVID-19 infection in vaccine recipients.

Number of suspected adverse reactions per category

A total of 44,908 case reports containing 101,279 suspected adverse reactions were received from the start of the vaccination program. More than one suspected adverse reaction may be reported in a single case. Suspected adverse reactions were coded using the Medical Dictionary for Regulatory Activities (MedDRA) terminology to allow international comparison of reports.
The data presented below are categorized by System Organ Class (SOC), the highest in the hierarchy of MedDRA. They are grouped by manifestation site (e.g. gastrointestinal, cardiac) and etiology (e.g. infections, examinations).

Reactions to inactivated vaccine

- CoronaVac

Classification	Number of suspected reactions
General symptoms & reactions in the administration site *E.g. Pain and reaction in the injection site, chills, discomfort*	6,302
Cardiac symptoms *E.g. Palpitations, bradycardia*	561
Ear symptoms *E.g. Ear swelling, vertigo*	24

Endocrine symptoms *E.g. Adrenal insufficiency, goiter*	3
Examinations *E.g. Increased blood pressure, increased heart rate*	7,216
Eye symptoms *E.g. Eye itchiness, blurred vision*	159
Gastrointestinal symptoms *E.g. Abdominal pain, diarrhea, nausea, vomiting*	1,751
Hepatobiliary symptoms *E.g. Jaundice*	1
Immune system symptoms *E.g. Allergic reactions*	117
Infections *E.g. Cold symptoms*	808
Metabolism and nutrition-related symptoms *E.g. Decreased appetite*	133
Musculoskeletal symptoms *E.g. Back pain, joint pain, pain in extremities*	1,090
Neurological symptoms *E.g. Dizziness, headache, syncope*	4,533
Pregnancy, puerperium, and perinatal conditions *E.g. Abortion*	2
Procedural symptoms *E.g. Procedural hypertension, vaccination adverse reaction*	34
Psychiatric symptoms *E.g. Feeling anxious*	65
Renal and urinary symptoms *E.g. Urine coloring yellow, urine frequency*	18
Reproductive symptoms *E.g. Vaginal bleeding, vaginal spotting*	14
Respiratory symptoms *E.g. Cough, nasal congestion, throat irritation*	1,796
Skin symptoms *E.g. Cold sweat, rash, redness*	2,525
Social circumstances *E.g. Hearing disability, walking disability*	2
Symptoms in blood and lymphatic system *E.g. Pain in the lymph nodes*	26
Vascular symptoms *E.g. Flushes, low blood pressure*	279

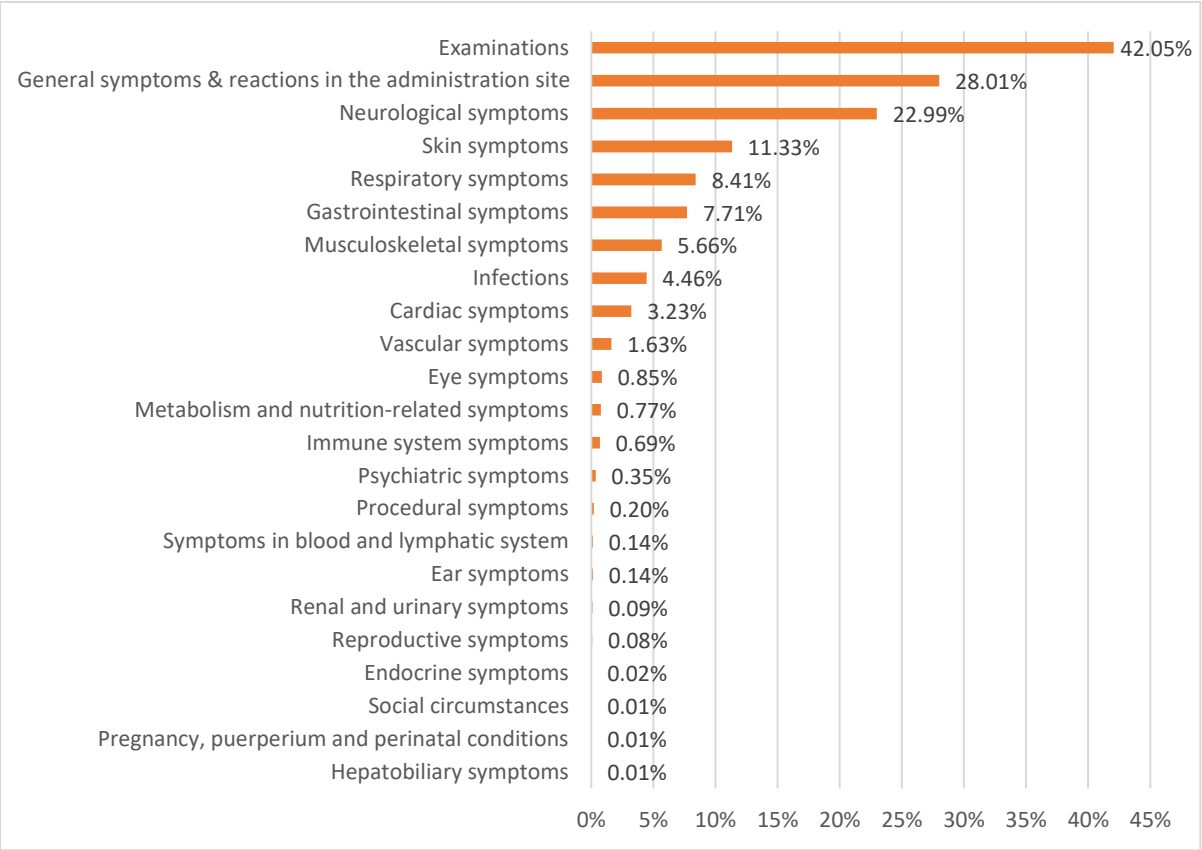

Figure 3. Suspected adverse reaction distribution by SOC for inactivated vaccine

As shown in Figure 3, the SOC containing the greatest number of reports were examinations (7,135), followed by general symptoms and reactions in the administration site (4,752), neurological symptoms (3,901), skin symptoms (1,922), respiratory symptoms (1,426), gastrointestinal symptoms (1,308), musculoskeletal symptoms (960), infections (756) cardiac symptoms (548), and vascular symptoms (277).

The top reported events are:

- blood pressure increased (41.65%)
- headache (13.62%)
- vaccination/injection site pain (12.34%)
- pyrexia (7.87%)
- dizziness (7.55%)
- rash (7.20%)
- malaise (5.12%)
- pruritus (4.65%)
- cough (3.87%)
- nausea (3.45%)

Reactions to non-replicating viral vector vaccines

- COVID-19 vaccine AstraZeneca
- Sputnik V

Classification	Number of suspected reactions
General symptoms & reactions in the administration site *E.g. Pain and reaction in the injection site, chills, discomfort*	36,683
Cardiac symptoms *E.g. Palpitations, bradycardia*	571
Ear symptoms *E.g. Ear swelling, vertigo*	34
Endocrine symptoms *E.g. Adrenal insufficiency, goiter*	2
Examinations *E.g. Increased blood pressure, increased heart rate*	4,634
Eye symptoms *E.g. Eye itchiness, blurred vision*	341
Gastrointestinal symptoms *E.g. Abdominal pain, diarrhea, nausea, vomiting*	3,590
Hepatobiliary symptoms *E.g. Jaundice*	2
Immune system symptoms *E.g. Allergic reactions*	202
Infections *E.g. Cold symptoms*	1,000
Metabolism and nutrition-related symptoms *E.g. Decreased appetite*	524
Musculoskeletal symptoms *E.g. Back pain, joint pain, pain in extremities*	7,799
Neurological symptoms *E.g. Dizziness, headache, syncope*	12,900
Pregnancy, puerperium, and perinatal conditions *E.g. Abortion*	1
Procedural symptoms *E.g. Procedural hypertension, vaccination adverse reaction*	33
Psychiatric symptoms *E.g. Feeling anxious*	53
Renal and urinary symptoms *E.g. Urine coloring yellow, urine frequency*	14
Reproductive symptoms *E.g. Vaginal bleeding, vaginal spotting*	22
Respiratory symptoms *E.g. Cough, nasal congestion, throat irritation*	1,792
Skin symptoms *E.g. Cold sweat, rash, redness*	2,407
Symptoms in blood and lymphatic system *E.g. Pain in the lymph nodes*	40
Vascular symptoms *E.g. Flushes, low blood pressure*	270

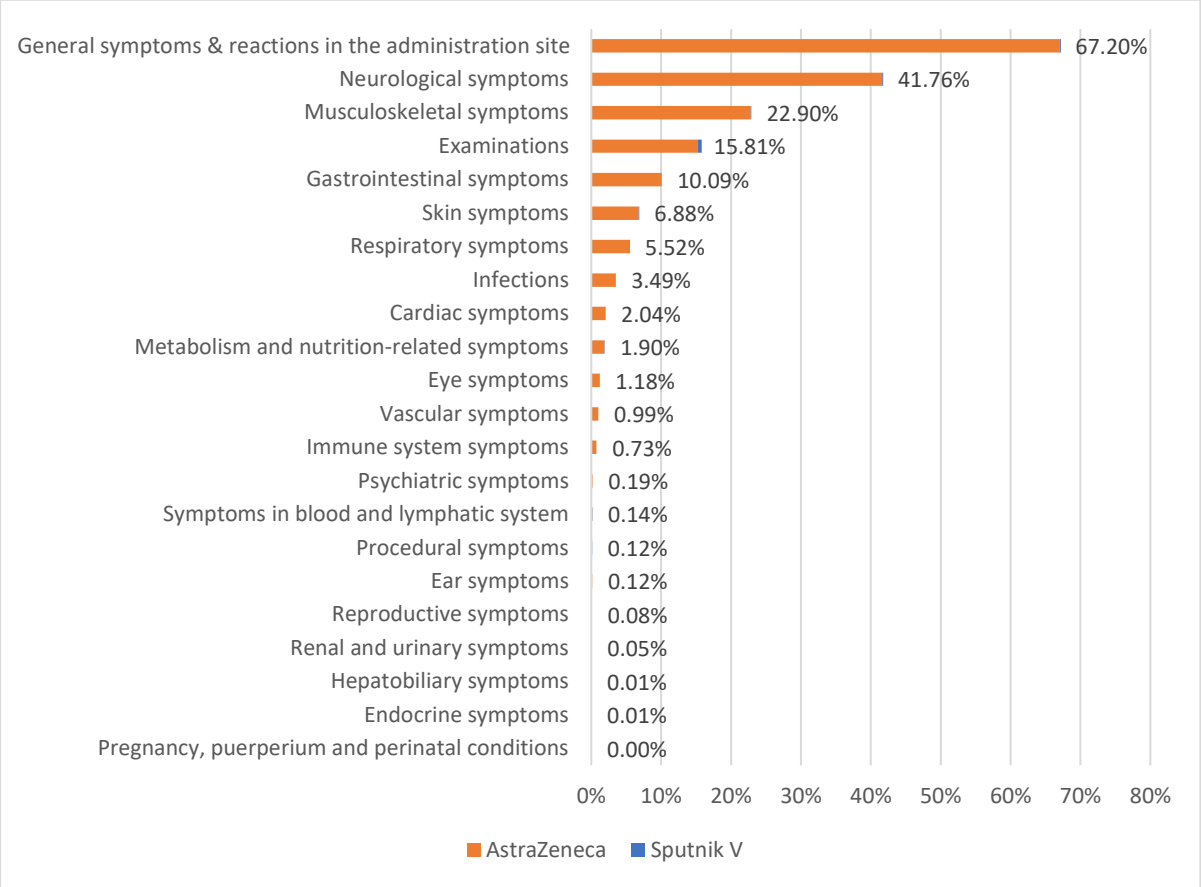

Figure 4. Suspected adverse reaction distribution by SOC for viral vector vaccines

As shown in Figure 4, the SOC containing the greatest number of reports were general symptoms and reactions in the administration site (18,414), followed by neurological symptoms (11,442), musculoskeletal symptoms (6,275), examinations (4,608), gastrointestinal symptoms (2,767), skin symptoms (1,883), respiratory symptoms (1,513), infections (954), and cardiac symptoms (558), and metabolism and nutrition-related symptom (520).

The top reported events for AstraZenca COVID-19 vaccine are:

- pyrexia (41.34%)
- headache (36.34%)
- vaccination/injection site pain (25.26%)
- malaise (24.17%)
- myalgia (17.90%)
- chills (17.71%)
- blood pressure increased (15.33%)
- fatigue (13.28%)
- arthralgia (8.69%)
- dizziness (6.40%)

The top reported events for Sputnik V are:

- blood pressure increased (74.20%)
- heart rate increased (6.40)
- pyrexia (4.52%)

- headache (4.14%)
- rash (3.95%)
- dizziness (3.20%)
- vaccination/injection site pain (2.82%)
- dyspnoea (2.26%)
- pruritus (1.88%)
- cough (1.51%)

Reactions to mRNA vaccine

- Comirnaty

Classification	Number of suspected reactions
General symptoms & reactions in the administration site *E.g. Pain and reaction in the injection site, chills, discomfort*	238
Cardiac symptoms *E.g. Palpitations, bradycardia*	23
Ear symptoms *E.g. Ear swelling, vertigo*	1
Examinations *E.g. Increased blood pressure, increased heart rate*	292
Eye symptoms *E.g. Eye itchiness, blurred vision*	6
Gastrointestinal symptoms *E.g. Abdominal pain, diarrhea, nausea, vomiting*	44
Infections *E.g. Cold symptoms*	15
Metabolism and nutrition-related symptoms *E.g. Decreased appetite*	7
Musculoskeletal symptoms *E.g. Back pain, joint pain, pain in extremities*	44
Neurological symptoms *E.g. Dizziness, headache, syncope*	120
Procedural symptoms *E.g. Procedural hypertension, vaccination adverse reaction*	1
Psychiatric symptoms *E.g. Feeling anxious*	1
Reproductive symptoms *E.g. Vaginal bleeding, vaginal spotting*	1
Respiratory symptoms *E.g. Cough, nasal congestion, throat irritation*	38
Skin symptoms *E.g. Cold sweat, rash, redness*	38
Symptoms in blood and lymphatic system *E.g. Pain in the lymph nodes*	3
Vascular symptoms *E.g. Flushes, low blood pressure*	15

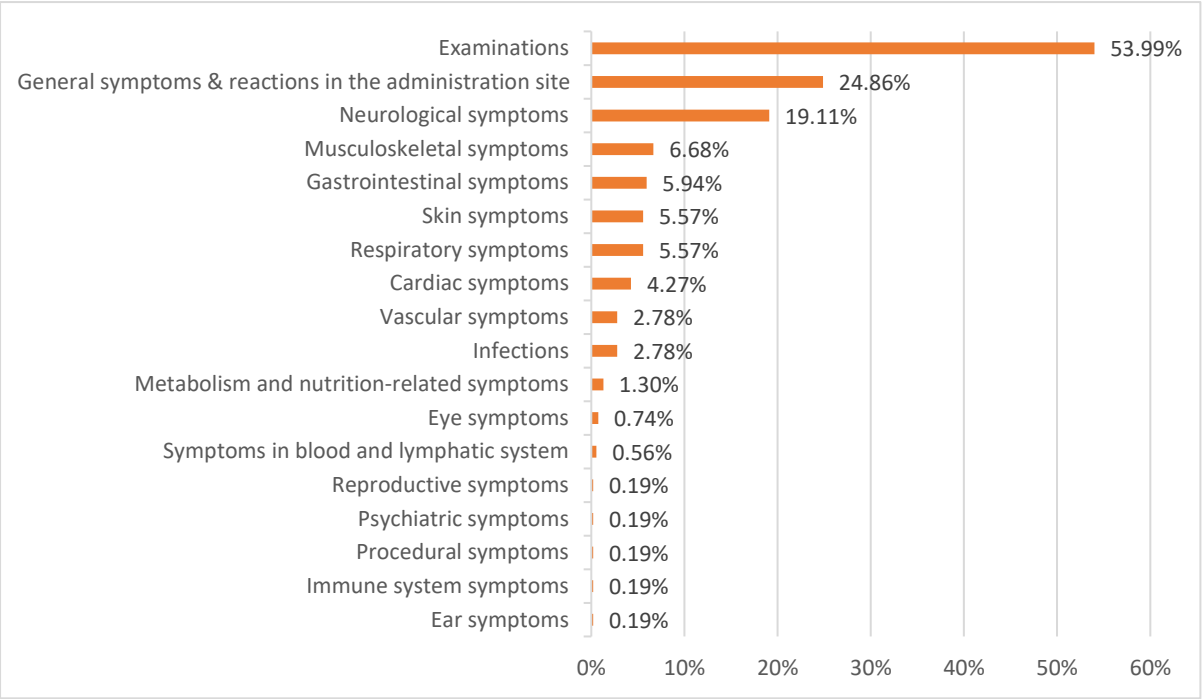

Figure 5. Suspected adverse reaction distribution by SOC for mRNA vaccine

As shown in Figure 5, the SOC containing the greatest number of reports were examinations (291), followed by general symptoms and reactions in the administration site (134), neurological symptoms (103), musculoskeletal symptoms (36), gastrointestinal symptoms (32), respiratory symptoms (30) and skin symptoms (30), cardiac symptoms (23), and infections (15) and vascular symptoms (15).

The top reported events are:

- blood pressure increased (51.02%)
- pyrexia (12.99%)
- headache (11.69%)
- vaccination/injection site pain (9.09%)
- dizziness (6.31%)
- malaise (5.01%)
- pain (3.90%)
- chills (3.71%)
- dyspnoea (3.34%)
- arthralgia (2.78%) and rash (2.78%)

Outcome of suspected adverse reactions

The outcome of cases of suspected adverse reactions to COVID-19 vaccines is shown in Figure 6. Overall, most of the reported cases have *recovered/resolved (81.67%)*, although there were few cases who have *recovered but with sequalae (0.02%)*. A little over 10% of cases are *recovering/resolving* while less than 1% have *not recovered/not resolved* at the time of reporting. A proportion of 0.65% were reported with fatal outcomes as discussed in the section Reports involving death.

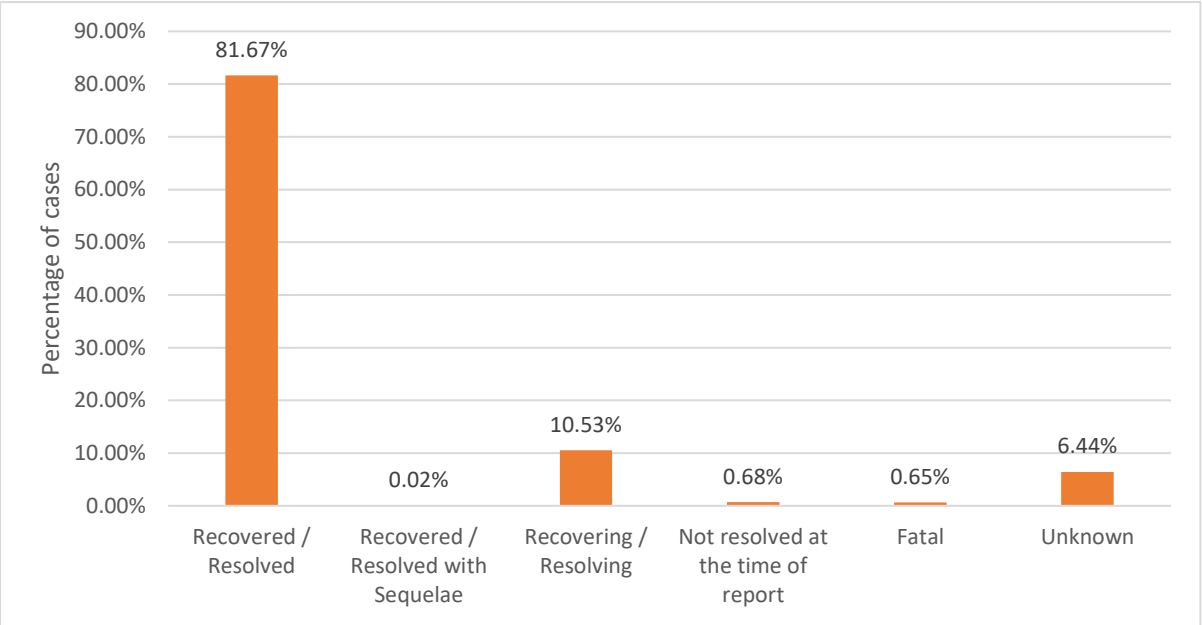

Figure 6. Case outcome

Reporting of suspected adverse reactions following vaccination

Individuals who have received their COVID-19 vaccination shots can report any suspected adverse reaction to any of the following:

- Immunization site where you were vaccinated
- Directly to the vaccine manufacturer or emergency use authorization holder
    - Sinovac – CoronaVac
    - AstraZeneca – COVID-19 Vaccine AstraZeneca
    - Gamaleya – Sputnik V
    - Pfizer – Comirnaty
- FDA online reporting system

Kindly **report only to one** of the above to avoid duplication of reports.