The Vaccine Adverse Event Reporting System (VAERS) Results

Data current as of 03/17/2023

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1197826-1	6-17 years	Chest pain developed 3 days following vaccine administration. Presented to ED the morning of 4/11/2021, and was found to have diffuse ST elevation on ECG, and troponin level of 0.52. Received dose of aspirin, and then was transferred to Hospital for treatment and monitoring of pericarditis the afternoon of 4/11. Echo at Hospital with good LV function. Repeat EKG demonstrated ST elevation again, and he was started on ibuprofen 600 mg every 6 hours. Chest pain recurred in the evening of 4/11, but resolved some time after administration of ibuprofen. Troponin level upon arrival to Hospital were 3.92 at 17:11 on 4/11, then rose 8.68 at 23:42 on 4/11 at the time of his worsening chest pain. Chest pain still resolved by morning of 4/12, and troponin level downtrended to 5.87 at 6:22 on 4/12. Diagnosis consistent with myopericarditis.
MYOCARDITIS	1225732-1	6-17 years	On 4/16/21, the day after receipt of the second SARS-CoV-2 vaccine the patient developed new headache, fever, malaise, and myalagias. on 4/17/21 the patient then developed chest pain which worsened over time and lead to diagnosis of myocarditis with decreased left ventricle function of 44-47% and with troponin I of 1.58 ng/mL.
MYOCARDITIS	1231560-1	6-17 years	On 4/17/21 (ie within 48 hours of receiving COVID 19 Pfizer Shot #2 (4/15/21), my daughter began experiencing chest pain in the PM (PM of 4/17). It was initially mild so we did a watch and wait overnight but when it did not go away by morning of 4/18/21 we went to Urgent Care . Upon presentation at urgent care, she had an irregular EKG, we were advised to immediately do to a Hospital ER , upon arrival she presented with same EKG findings from urgent care, BW was run and her troponin level was a 7, this hospital recommended (after consultation with their cardiologist) that based on her age and urgency of the heart condition, we should be transported to a pediatric hospital with cardiology expertise. She was transported by ambulance to another Hospital, Cardiology Unit. . After a scary 24 hour overnight stay at the hospital she was released on 4/19/21.
MYOCARDITIS	1238456-1	6-17 years	Presented with chest pain, found to have diffuse ST elevation, elevated troponin/CRP/pro-BNP and echo concerning for low normal left ventricular systolic function. Ultimately diagnosed with myopericarditis.
MYOCARDITIS	1256179-1	6-17 years	Myopericarditis 48 hours after 2nd dose of Pfizer vaccine with chest pain, shortness of breath, and nausea.
MYOCARDITIS	1257935-1	6-17 years	myocarditis. Positive troponin, downtrended. Neg EKG , echo.
MYOCARDITIS	1262194-1	6-17 years	Patient received vaccination on 4/22 and started developing chest pain on 4/24. patient presented to the Emergency Department on 4/25 and was evaluated and found to have a troponin of 1500 and was diagnosed with myocarditis. The source is unknown at this point but may be related to the vaccine.
MYOCARDITIS	1277983-1	6-17 years	myocarditis
MYOCARDITIS	1281795-1	6-17 years	acute myocarditis; acute onset chest pain; admitted to the pediatric intensive care unit; about to receive IVIG. Chest pain started 5/1/20 about 2 days after her 2nd Pfizer COVID-19 vaccination
MYOCARDITIS	1282128-1	6-17 years	Myopericarditis secondary to Pfizer vaccine
MYOCARDITIS	1282202-1	6-17 years	Received dose #1 on 4/8/21 and dose #2 on 4/30/21. On 5/1 evening developed chest pain and tightness. He told his family about the chest pain the following day, on 5/2, which prompted his Mom to take him to an ED. In ED on 5/2 and found to have ST elevation, elevated troponins and elevated inflammatory markers. ECHO with mildly decreased systolic function. Picture consistent with perimyocarditis. Admitted to Hospital 5/3 AM. Currently clinically stable but admitted for close monitoring.
MYOCARDITIS	1282512-1	6-17 years	Patient with initial low grade fever which resolved but then developed 3 days after shot developed acute myopericarditis with elevated troponins requiring intensive care unit and therapy.
MYOCARDITIS	1283185-1	6-17 years	Previously healthy 16 year old young man presenting with chest pain admitted for myopericarditis. He was in his usual state of good health until 2 days ago when he experienced fever, chills and myalgias after receiving his 2nd dose of COVID pfizer vaccine. He improved until 5/2 when he developed a crushing, non-radiating, substernal chest pain which was waxing and waning in nature without specific alleviating factors. He had shortness of breath, but no palpitation, dizziness, or changes in pain on exertion vs rest. Family activated EMS who gave 325 mg of aspirin en route to the ED. In the ED, he was afebrile and hemodynamically stable. He was mildly diaphoretic, but otherwise, unremarkable on physical exam. STAT EKG showed ST elevations in V5 and V6 and ST depressions in V1 and V2 as well as PR depressions, which persisted on repeated EKG. Given concern for myopericarditis, they ordered labs including CBC, CMP, troponin and inflammatory markers which were only remarkable for troponin of 1.94 and CRP 3.5. Chest x-ray was normal. Cardiology was consulted and they recommended transthoracic echo which is pending. Cards also recommended starting Ibuprofen 600 mg q8 hrs and admission to cards for further management.
MYOCARDITIS	1284476-1	6-17 years	16 year old male who got first Pfizer Covid vaccine 4/30, then by the next morning experienced non-bilious emesis for a few hours, as well as fever, chills, body aches, and HA. The body aches and HA continued through today when he began experiencing chest pain while lying down. Chest pain improved on sitting up, standing, sitting forward. No shortness of breath.
MYOCARDITIS	1286225-1	6-17 years	The patient developed acute perimyocarditis 2 days following Covid-19 vaccination. Ultimately this was mild, with recovery with NSAIDs alone.
MYOCARDITIS	1289987-1	6-17 years	The day following the vaccine c/o tactile fever, headache, stomach ache and fatigue (on 5/2). On 5/4 developed chest pain and shortness or breath. Reported to the ER with concerning EKG and troponin levels and therefore transferred where he has been admitted for myocarditis.

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MYOCARDITIS	1295509-1	6-17 years	My 16-year-old daughter, very healthy without any health conditions, got her first dose of the Pfizer vaccine on Saturday evening, April 10th, at around 5pm. On Wednesday, she started complaining of shortness of breath, chest pains, which she described as a feeling of someone stubbing her heart. By Thursday, she began blacking out repeatedly throughout the day, each blackout lasting about a minute. These progressed and whenever she blacked out, she would not remember what happened. At first, she and I brushed it off as maybe lack of calcium since she rarely drinks milk. But as they intensified, I began to become more concerned. I told her I cannot leave her by herself in the house as I prepared to go pick up her young siblings from school then schedule an appointment with her doctor. On our way back home, she blacked out again, however, it was for more than a minute. Straight away, I drove to the ER close by. The doctor came back to inform me that her heartbeat was irregular and concerning based on her age. In that same moment, she began complaining of excessive pain like someone punching her heart out, and then she passed out again. Still with my two other children, the whole ordeal began to frighten them and illicit some heavy tears. Being that this ER was general admission, the doctors insisted they call in the paramedics to transport her to another ER for children. However, after being transported to the other ER, her condition began to intensify rather quickly and the pediatric doctor at the second ER informed us we would have to be transferred to Childrens intensive care unit where the cardiologists could check her heart, find the ultimate cause, and monitor her closely. In that moment, as a mother, I was speechless and extremely terrified. Seeing my daughter being transferred from ER to ER, made it even tougher on me so much that I could no longer hold myself together. Here she was in terrible pain and being moved around with no clear diagnosis and treatment. From there on, we spent a couple days in the Cardiac ICU waiting and praying with friends for answers and the best treatment she could get to ease the pain. By about the third day of being in the ICU, the cardiologists informed me, she had Acute Myocarditis. This was so shocking in a sense that both sides of the family have no history of heart issues. Secondly, she is a very healthy child.
MYOCARDITIS	1296139-1	6-17 years	myopericarditis, received toradol, cardiac cath negative, admitted to hospital
MYOCARDITIS	1299961-1	6-17 years	Patient is a previously healthy 16 year-old M presenting with acute onset chest pain, shortness of breath, nausea, vomiting, malaise, fever and myalgia to ED on 5/6/2021 at 20:44. He started experiencing symptoms on 5/6/2021 morning a t06:07 AM. He received his second dose of Pfizer COVID-19 vaccine on 5/4/2021 10:: AM. In the ED, CBC, CMP and UA was within normal limits. EKG at 20:46 and again at 21:14 showed ST segment elevation in inferolateral leads with possible myocardial injury, ischemia or pericarditis. Troponin 0 hour was 835 and at 2 hours 1674. Patient was admitted to the PICU for further evaluation and management. Echo on 5/6/2021 showed normal LV systolic function with SF 31% . Cardiac MRI on 5/7 showed contrast enhancement of inferolateral wall consistent with myo-pericarditis with small pericardial effusion. Troponins were trended every 12 hours and plateaued in the 1800's on 5/8/2021. Patient was diagnosed with acute myo-pericarditis. Respiratory viral PCR and COVID-19 PCR on 05/06/2021 were negative. Thyroid studies were normal. ANA titer is pending. Viral serology for HbsAg was negative and HIV was non-reactive. Results for additional viral serologies for Coxsackie viruses, EBV, CMV and HHV6 are awaited. Patient was treated with NSAIDs and Colchicine. IVIG was not given based on clinical judgement. Pediatric Cardiology was involved in patient's care and clinical decision making. Patient remained hemodynamically stable on room air throughout his PICU course. He was discharged on 5/9/2021 with Pediatric Cardiology outpatient follow up in 2-3 weeks. He will continue Ibuprofen 600 mg every hours and Famotidine 20 mg 2 times daily until his follow up.
MYOCARDITIS	1301093-1	6-17 years	Myopericarditis with chest pain. currently improving
MYOCARDITIS	1303394-1	6-17 years	Chest pain with myocarditis
MYOCARDITIS	1303530-1	6-17 years	"Patient received his 2nd Pfizer COVID vaccine on Tuesday 4/27/2021; he had low grade fever (100.3 deg F) on Wed 4/28/2021. On Thursday 4/29/2021, he developed ""heartburn"", and on Friday 4/30/2021 he developed chest pain that radiated to his jaw and left arm. He presented to Hospital on late 4/30/2021 or early 5/1/2021 for evaluation; initial labs showed a CRP of 1.23, POC troponin of 6.56 ng/mL (03:18 on 5/1) and lab level of 17.6 ng/mL (03:05 on 5/1) that increased to 24 ng/mL later in the morning on 5/1. COVID-19 PCR was negative. He was transferred to another Hospital mid-day on 5/1/2021 due to concerns for myocarditis/myopericarditis. He was started on NSAIDs. His troponin level improved, had decreased to 9.69 ng/mL on 5/2/2021; at that point as his chest pain had improved and labs were improving, parents requested that he be discharged from the hospital. He had 2 echocardiograms at PCH which reportedly showed normal biventricular systolic function. He had an echo at the hospital on 5/2/2021 which showed normal biventricular systolic function, no pericardial effusion, and normal valves. As an outpatient, he had repeat troponin-I levels: 2.49 ng/mL on 5/3; 0.31 ng/mL on 5/5; the troponin level was reportedly normal on 5/10/2021 per his primary cardiologist"
MYOCARDITIS	1306598-1	6-17 years	Pt came to ER with nausea, vomiting, difficulty breathing. Pt was coughing up blood O2 sat 90 room air initially then down to low 80's. Put on high flow 10 L nasal cannula. Diagnosis hypoxia, dyspnea at rest, pericarditis, elevated troponin 35. Transferred to second hospital. Update from them : likely myopericarditis with cardiogenic shock, respiratory failure, diffuse ST elevation on EKG, on Inotropes
MYOCARDITIS	1310120-1	6-17 years	The patient developed severe chest pain on the 4th day after the vaccine, he presented to the local emergency room and had the abnormal tests as described below. His symptoms improved rapidly but due to active myocarditis was given recommendations for limited activity to reduce risk of fatal arrhythmia
MYOCARDITIS	1313852-1	6-17 years	presented to ER for chest pain on 5/11 and 5/12, diagnosed with myopericarditis with elevated troponin level, abnormal ECG; hospitalized and treated with anti-inflammatory (Ibuprofen)
MYOCARDITIS	1314732-1	6-17 years	Diagnosed with myocarditis on day of admission, found to have elevated troponin levels, currently hospitalized for observation and potential supportive care, however patient with no cardiac compromise and stable. Patient with chest pain that has resolved.
MYOCARDITIS	1315653-1	6-17 years	Myocarditis. Patient initially presented with chest pain 12 hours after vaccination. No other risk factors. Patient required to be in Pediatric ICU for treatment and cardiac monitoring.
MYOCARDITIS	1317129-1	6-17 years	HI, couple days after my son (17 years old) got the 2nd shot he was heaving a pressure in his chest and left arm so we rushed him to the hospital. When we got to the hospital with his level of 26 (normal 1) and blood test show also lever inflammation they hospitalized him right away. He was there 3 days and just got released. now he need to be under care with medication and visit to a heart cardiology doctor every few days for tests. he cannot do any activity (per to the doctor including computer games that can raise his heart rate)
MYOCARDITIS	1320682-1	6-17 years	chest pain, palpitations admitted for myocarditis now with troponin of 17 today 5/15

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MYOCARDITIS	1323004-1	6-17 years	17 y.o. male with non contributory PMHx presents with chest pain. Patient began not feeling well on Monday May 3rd with muscle aches, sore throat, dry cough, and headache. Received COVID vaccine on Apr 30. He woke up Friday May 7 he developed a fever to 102F. Went to urgent care yesterday was diagnosed with strep based on suspicion (negative rapid, culture pending) and started on amoxicillin. Rapid covid was negative at that time as well. Now presents for chest pain. He has woken up that last two mornings with chest pain (worse when laying flat), pain is substernal, sharp/throbbing, radiates to the left arm. Belching a lot. Palpitations and one episode of emesis prior to arrival. Suspected symptoms were from gas so took charcoal tablets prior to arrival without relief of symptoms. Has been taking ibuprofen for discomfort (400 mg every 4-6 hours for > 7 days). No shortness of breath. No abdominal pain. No diarrhea. No hematuria or dysuria. No family history of sudden cardiac death or significant for CAD. No known tick bite. Of note, received Pfizer dose 2 3d prior to symptoms starting. Presented to ED earlier tonight where exam was notable for: Low-grade temp, mildly hypertensive with otherwise stable vitals, appears uncomfortable, belching, neck is supple without meningismus, bilateral tonsils 1+ with exudate, oropharynx is erythematous, uvula midline, no trismus, no swelling, lungs clear, regular rhythm mild bradycardia, no murmurs rubs or gallops, abdomen is soft and nondistended with mild tenderness in epigastrium and right upper quadrant they did ECG, bedside Echo, Strep PCR, zofran, maalox, pepcid, IVF, tylenol, and labs which were notable for elevated troponin -> 13.58 d/w YSC Ped ED and tx Assessment: Patient is a 17 y.o. male previously healthy who presents with 1 week of malaise, and 3 days of intermittent substernal chest pain (now resolved), found to have elevated troponin and ST segment elevations in I and lateral leads c/f myopericarditis. Etiology is unclear at this time, likely viral vs post-vaccine. Exam notable for exudative pharyngitis, however Strep and CMV neg. EBV serology with positive EBNA only. Labs otherwise notable for elevated CRP 180, ESR 38, some transaminitis, ferritin/D-dimer wnl. COVID RNA neg, spike Ab positive c/w recent COVID vaccination. Normal function on ECHO. CRP continues to downtrend. Troponin has started downtrending again and pt remains asymptomatic. Plan Plan: #Myopericarditis - Repeat echo today - q8 troponin, AM CBC, CRP, ferritin - Motrin 400mg prn - steroid taper per Rheumatology recs 30mg PO BID for 7 days 30mg PO qday for 7 days 15mg PO qday for 7 days 7.5mg PO qday for 7 days 2.5mg PO qday for 7 days Off - f/u ID and rheum labs - continuous telemetry: patient at high risk of arrhythmia #FEN/GI - Regular diet - strict I/O - Pepcid 20mg BID #dispo - steroid taper sent for delivery to bedside - upon d/c start ASA - f/u cardiology - If echo today reassuring and troponin continuing to downtrend will plan for discharge this afternoon
MYOCARDITIS	1326721-1	6-17 years	5/14/21 - day 1 after vaccine dose #2 - had fevers, body aches, chills, fatigue. 5/15/21 - day 2 after vaccine dose #2 - began to have chest pain that started out at 5/10 and then became constant and persistent sharp, 10/10 chest pain that was worse with lying back and improved with sitting up and leaning forward. Pt went to Urgent Care, had ECG done and demonstrated ST wave changes where he was brought to ED and ECG confirmed ST/T wave changes and Troponin T was elevated to 1.62 - thus with these findings and the chest pain that was consistent with pericarditis - diagnosis of myopericarditis was made.
MYOCARDITIS	1327432-1	6-17 years	17 y.o. male who presents with chest pain, elevated troponins and diffuse ST elevations concerning for pericarditis vs myocarditis admitted for cardiac monitoring and evaluation. Pt states he has had 1 day of sudden onset L shoulder pain and chest pain. Endorses dyspnea due to pain with deep breaths, denies tachypnea, nausea/vomiting, diaphoresis. Endorses mild chills and aches after COVID vaccine 3 days prior to onset of symptoms, denies any fever, URI symptoms, diarrhea, rash, known COVID contacts. Pain continued to worsen and spread across his chest, causing presentation to ED this afternoon. No history of PE, DVT, long travel, recent surgery, malignancy, alcohol or cocaine use. Significant cardiac history in family: dad with CAD w/LAD blockage, both parents with hypertension. At ED, labs notable for elevated troponin 0.456, repeat 0.67 and diffuse ST elevations on EKG concerning for pericarditis. COVID neg, CXR unremarkable, blood cx drawn, no abx started. Patient was given toradol for pain with minimal improvement. Peds cardiology was consulted and patient was transferred to different ED for further care. At different ED, repeat EKG showed similar diffuse ST elevations in I, II, aVL. Repeat troponins uptrending (4.91), proBNP 562, ESR 43, CRP 18. Mildly tachycardic but otherwise hemodynamically stable. Given tylenol for pain. Cardiology recommended admission for trending troponins, echo and cardiac monitoring. CV: Troponins were trended every 12 hours with a max of 4.91. His last troponin checked on the morning of discharge was 0.41. He had an echo that showed normal cardiac function, an MRI that indicated normal ventricular size and function, with minimal or healing and inflammation or mild myocarditis. During his admission, he had continuous cardiorespiratory monitoring, that did not show any arrhythmias. Resp: On 2L NC for comfort, no respiratory distress or hypoxia. FENGI: Regular diet Neuro: Ibuprofen scheduled and tylenol PRN for pain. He was initially started on ibuprofen 800 mg every 8 hours, but was starting to have pain prior to being due for medicine every 8 hours so his regimen was changed to 600 mg every 6 hours which controlled his pain adequately. ID: Myocarditis panel sent with some results still pending. Thus far, he is CMV negative, EBV IgG was positive but not IgM. RVP was negative. This all occurred in the setting receiving the Covid vaccine 3 days prior to presentation, which has been reported as a rare reaction to the Covid vaccine. At the time of discharge, labs pending results include mycoplasma pneumonia, coxsackie, parvovirus, enterovirus. Etiology of myocarditis remains unclear at this time, could be related to infectious etiology not yet clear to us, vs related to his COVID vaccine prior to admission.
MYOCARDITIS	1328253-1	6-17 years	Developed chest pain and diagnosed with myopericarditis based on EKG and elevated troponins. admitted for monitoring
MYOCARDITIS	1330562-1	6-17 years	Left sided chest pain few days after second shot. Noted troponin to be elevated. Troponin: 1.27 -> 1.62 -> 1.74 -> 1.62->1.05 -> 1.06 -> 0.99. Normal ECHO. Normal EKG. Dx with myocarditis. Patient's pains symptoms resolved in 1-2 days; observed in hospital until troponin trended down.
MYOCARDITIS	1331020-1	6-17 years	Patient developed severe chest pain and was found to have myopericarditis. This occurred 3 days after receiving his 2nd Pfizer covid vaccine. Prior to this event, he was in his usual state of health and denied any viral prodrome or illness. In the hospital, he received NSAIDs and supportive care with significantly clinical improvement. He was discharged with cardiology follow up.
MYOCARDITIS	1334563-1	6-17 years	Recevied vaccine on 5/14 around 6 pm. Started noticing chest pain, chills and fatigue on 5/15 around 6 pm. Evaluated by ED on 5/17 subsuquently admitted to PICU with intermittent chest pain and elevated troponin in the setting of recent Covid vaccination as well as a history of WPW status post ablation with recent onset of intermittent tachycardia. EKG demonstrates nonspecific ST segment changes and has elevated troponin which likey points to myocarditis as a diagnosis. Continues with elevated troponin level, no medication intervention at this time, no longer having chest pain
MYOCARDITIS	1334612-1	6-17 years	Chest pain, fever, headache and fatigue starting morning after vaccination. Progression of chest pain prompting evaluation in the emergency room where he was found to have a Troponin of 23,000 (nl less then 50). D'Dimer mildly elevated. ST changes on EKG. CTA negative. LFT mildly elevated. Sent to hospital where admitted to cardiology service pm 5/19 and given a diagnosis of myocarditis. Still under care at this time of report.

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MYOCARDITIS	1336040-1	6-17 years	About 18 hours after the vaccine was given, the patient developed chest pain. The chest pain progress over about 24 hours to 9/10. He presented to the ER where he was found to have elevated troponin (up to 15) and ST changes on EKG. Echo was normal x2. He was treated for myopericarditis with NSAIDs and colchicine. He quickly improved. No clear etiology of his myopericarditis was identified, raising suspicion that it may have been an adverse reaction to the vaccine.
MYOCARDITIS	1337056-1	6-17 years	Patient is a 16yo girl admitted on 5/19 with sepsis secondary to myocarditis and pneumonia, s/p IVIG, after presenting with fever, myalgia, sore throat, hypotension, elevated troponin, elevated CRP, and leukocytosis with left shift. Sore throat has been present for about a week and fevers began on 5/17 with a Tmax of 103. On 5/18, she began developing shortness of breath and upon evaluation by the PCP on 5/19, she was admitted. During initial workup on 5/19 upon admission, hospitalist was high concerned as she developed hypotension of 91/48 on 5/20 at 08:35am. CT of chest on 5/20 showed patchy consolidation of the posterior lower lobes bilaterally. At that point, I was contacted and recommended broadening regimen to clindamycin , ceftriaxone, and azithromycin. Upon transfer to Hospital, further serologies were collected which showed leukocytosis with left shift, highly elevated CRP, elevated troponin, elevated IL-6, elevated ferritin, negative Covid abs test, negative RVP, and negative Covid PCR. IVIG (2grams/kg) started on 5/20 at 22:57. Cardio and ID on board and all regular myocarditis infectious workup has been collected. ID consulted for workup and management. Of note, patient received the Covid vaccine on 5/1/21
MYOCARDITIS	1338627-1	6-17 years	Chest pains, difficulty breathing, outcome: diagnosed with myopericarditis and costochondritis as well as inflammation in joints. Was in the hospital for 7 days and was on IV, morphine and then switched to hydro-morph for severe pain. Was given ketorlax via Iv for inflammation as well and steroids. Has been put on steroids for 1 month, Colchicine for 3 months, naproxen for inflammation.
MYOCARDITIS	1340501-1	6-17 years	have ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis; have ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis; have ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis; 36 hours of left chest pain radiates to left arm; have ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis; 36 hours of left chest pain radiates to left arm; This is a spontaneous report from a contactable Physician. A 16-year-old male patient received bnt162b2 (BNT162B2), dose 2 intramuscular, administered in arm left on 12May2021 10:15 (Batch/Lot Number: EW0167) as single dose at the age of 16-year-old for COVID-19 immunisation, administered ad hospital. Medical history included acne with no medications. The patient's concomitant medications were not reported. patient received bnt162b2 (BNT162B2), dose 1 intramuscular, administered in arm left on 21Apr202110:15 (Batch/Lot Number: ER8735) as single dose at the age of 16-year-old for COVID-19 immunisation. No past drug history. The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. No other medications the patient received within 2 weeks of vaccination. Prior to vaccination, the patient was not diagnosed with COVID-19. The patient experienced ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis, 36 hours of left chest pain radiates to left arm on 13May2021. The course of events was as follows: Previously healthy 16 year old male complaining of 36 hours of left chest pain radiates to left arm. Had Pfizer vaccine dose #2 about one day prior to chest pain onset. Found to have ST elevated with elevated troponins in the 1000s, concerning myocardial infarction vs myopericarditis. Admitted to the Pediatric ICU for further management on 15May2021 7:00AM. The patient was hospitalized for the events, considered life threatening. Since the vaccination, the patient has been tested for COVID-19: Sars-cov-2 test: negative on 15May2021 Nasal Swab. Therapeutic measures were taken as a result of events, treatment in process. The outcome of events was unknown.; Sender's Comments: Based on the current available information and the plausible drug-event temporal association, a possible contributory role of the suspect product BNT162B2 to the development of reported events cannot be excluded. The case will be reassessed if additional information becomes available. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate.
MYOCARDITIS	1341017-1	6-17 years	COVID-19, mRNA, LNP-S, PF (PFIZER-BIONTECH) 5/19/2021 (17 Y) , 4/28/2021 (17 Y) Severe chest pain, Requiring hospitalization for pain management and MI/Myocarditis therapy.
MYOCARDITIS	1342268-1	6-17 years	Patient complained of chest pain 3 days after his second Pfizer COVID vaccine and was diagnosed with Myocarditis.
MYOCARDITIS	1343066-1	6-17 years	myopericarditis
MYOCARDITIS	1343445-1	6-17 years	Woke up on 5/7 with pleuritic chest pain, and admitted to the PICU on the same day. Found to have myopericarditis confirmed by MRI, now with residual low-normal EF of 56%. Discharged from hospital on 5/11.
MYOCARDITIS	1343709-1	6-17 years	Vaccine administered at outside facility. Patient is a 16 yo girl, admitted on 4/19 with myocarditis, s/p IVIG (4/19) after presenting with progressive new onset chest pain. She was in usual state of health up until 2 days ago when she started developing body aches, and chest pain. Patient received her 2nd Pfizer COVID vaccine last week (4/15). No known history of COVID infection. Parents brought her to the ED yesterday after she complained of dizziness, SOB, chest pain, and had a near syncopal event. EKG showed non-specific ST abnormalities with labs showing elevated troponin, mildly elevated CRP, normal CXR, negative COVID PCR. Denies fever, GI symptoms, GU symptoms, headache, rash. Once transferred to our PICU, she was worked up for myocarditis vs MIS-C. Troponin has been trended q6 and is trending up (now 11). Of note, there have been no fevers. Patient is a 16 yo girl, s/p admission (4/19-4/23/21) with myocarditis, s/p IVIG (4/19), has now been readmitted on 5/10 with myocarditis after presenting with headache and neck pain for 2 days. Following discharge from the PICU on 4/23, patient states that symptoms have lingered (low grade fevers, feeling tired, on and off chest pain). After developing a progressive headache and neck pain, she came back to the ER for re-evaluation. Upon readmission, her troponin was elevated (2.06 on 5/10). Her CBC and CMP were reassuring. Blood culture collected on 5/11 and urine culture collected on 5/10. ID consulted for workup.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1343775-1	6-17 years	Vaccine administered at outside facility. Pt. is a 16 yo male with no significant PMH admitted on 4/26 with myocarditis, elevated troponin, and abnormal EKG. Pt. states that he was feeling his usual self until the day that he received his 2nd dose of the COVID vaccine on 4/24. On 4/24, he started to have a headache and subjective fevers. On 4/26, he reports having substernal chest pain at rest, non-radiating, associated with shortness of breath. Patient took tylenol with minimal relief. Patient denies cough, congestion, abdominal pain, nausea, vomiting, diarrhea, rash. No sick contacts. Since admission, troponin has been rising (up to 16), BNP normal, CRP to 87, ESR normal, CBC and electrolytes unremarkable. Clinical course and findings consistent with myocarditis. ID consulted for infectious workup and management. In my prelim recs upon admission, I recommended a dose of IVIG and holding off on steroids and antibiotics.
MYOCARDITIS	1343848-1	6-17 years	17-year-old male with no medical history, no allergies and no surgeries presented to the ER on 5/22 at 11 PM with concern for chest pain. The patient received his 2nd COVID-19 Pfizer vaccine on Thursday, 05/20/2021 in his left arm. The patient developed a temperature of a 102.5¦ with aches, chill, and pain overnight. The symptoms subsequently dissipated. Around noon on 5/22 he began to experience an achiness and pressure beneath the sternum and it has been constant since. The pain does not radiate into the back. No associated ripping or tearing sensation. No shortness of breath or difficulty breathing. In ED, EKG showed normal intervals, no ST changes and no STEMI. The patient underwent a CT angio of the chest and abdomen and did not show any dissection of the aorta. The left and right proximal coronaries are visible, however their path could not be seen on the studies performed. No pneumomediastinum both pneumothorax was observed. He had an elevated troponin of 3.1 and it increased to 7.3 prior to transfer to the ICU. VS were stable with HR 80 - 90 and normal BP. Repeat ECG was normal but his troponin increased x 2 with maximum of 16. His CRP was mildly elevated and BPN upper limits of normal. Echo was normal. Cardiologist consulted and pt diagnosed with myocarditis. As of 5/24/21, patient remains hospitalized as troponin was 13.1 at 9:00 am.
MYOCARDITIS	1343854-1	6-17 years	Myocarditis
MYOCARDITIS	1344312-1	6-17 years	Patient developed maculopapular uticarial rash day of vaccine that started on his lower extremities and progressed over a few days to include part of his trunk and his proximal upper extremities. Parents gave benadryl at home. It began to self resolve 5 days after vaccine, with complete resolution on day 6 after vaccine. Additionally, on day 5 following vaccine, the patient had one, isolated, episode of chest pain and SOB that lasted 2-3 minutes. Patient believed he was having a panic attack. Patient's mother took BP during event which was 190/95. Patient subsequently brought to ED where all his vitals were diffusely within normal limits including BP. No persistent chest pain and physical exam unremarkable. Troponin was obtained in ED and found to be elevated at 1951. Patient was admitted, troponins were trended, and patient remained in stable condition without further adverse events, and was subsequently discharge home with diagnosis of suspected myocarditis.
MYOCARDITIS	1346428-1	6-17 years	Patient began to have chest pain 12-24 hours after administration of vaccine. Chest pain worsened over 48 hours. Pain described as constant pressing sternal chest pain. He also had associated fatigue. Initial work up consistent with peri/ myocarditis. Chest pain has no longer been persistent during admission. No chest pain at rest any longer. Patient describing some ?throbbing? heart pressure with walking.
MYOCARDITIS	1347131-1	6-17 years	Myocarditis
MYOCARDITIS	1347513-1	6-17 years	Patient developed chest pain and difficulty breathing when lying down; symptoms started at 7pm on 5/21/2021. Seen in the emergency room at Hospital for chest pain, found to have elevated troponin level of 11.6 ng/mL (normal <0.05). CT chest negative for pulmonary embolism. Patient transferred to Medical Center. Initial high sensitivity Troponin-T level 1224 ng/L (normal <15), BNP 805 pg/mL (nl <300). EKG with diffuse ST segment changes. Echocardiogram (5/23 AM) with normal systolic and diastolic function, LVEF 58%; no pericardial effusion, no pathologic valve regurgitation. Patient admitted to telemetry monitoring bed (no arrhythmias noted during hospitalization). Patient treated initially with Ibuprofen 400 mg PO q6 hours and famotidine 20 mg PO q12 hours for presumed myopericarditis. Workup sent for viral causes of myocarditis: Respiratory viral panel negative. Infectious Myocarditis workup sent: CMV, Cocksakievirus A and B antibody, CMV IgG/IgM, Echovirus antibody, Infectious Mononucleosis Screen, Lyme C6 AB IgG/IgM, Mycoplasma IgG/IgM, Parvo IgG/IgM, Varicella IgG/IgM. Follow-up echocardiogram on 5/23 (PM) and 5/24 (AM) demonstrated no change in LV systolic or diastolic function. Cardiac enzymes, including high-sensitivity troponin T, CK and CKMB, were trended. Cardiac MRI was performed - preliminary results show evidence of myocarditis Lab Trends (earliest to most recent, as of 1 pm on 5/25/2021): High sensitivity Troponin T: 1224, 732, 664, 1058, 1332, 1141 CKMB: 65.6, 41.6, 19.3, 11.4, 6.3, 3.2 Pro-NT-BNP: 803,493, 392, 293 CRP: 58.2, 32.8, 28.6, 14.9. At the time of sumission of this report, the patient remains in the hospital. Further results will be communicated to VAERS.
MYOCARDITIS	1347516-1	6-17 years	Myocarditis. Patient presented with chest pain and was found to have a troponin of 9.75. Pain resolved and troponin down-trended after treatment with IVIG and Solu-medrol. Patient's brother has history of MIS-C after Covid. Patient had documented Covid in 10/2020.
MYOCARDITIS	1351950-1	6-17 years	chest pain, nausea, sweating w/ alternate chills, and headaches onset at approximately 10-11 a.m. Sunday, 5/23/21. Because he was reporting for work to a camp, he reported to the camp nurse. After conferring with parents, he reported to Hospital for testing. EKG there was normal; minimal labwork performed - Troponin test requested by parent came back at 0.03. Advil taken earlier had resolved pain at that time, but pain was persistent the following day. Parent retrieved patient, and he reported to his pediatrician at the PCP Clinic and more labwork was performed at approximately 10 a.m. Troponin level had increased to 14, with other inflammatory markers elevated and abnormal EKG result. Pediatrician consulted with pediatric cardiologists, and parents were advised to proceed to the ER. Mother arrived with Hospital at approximately 5:30 p.m. Troponin results from 6:45 elevated to 16. Ped. Cardiologist performed echo-cardiogram, which showed no abnormal heart functioning. Ped. Cardiolgist diagnosed myocarditis and prescribed 15-hour IVIg infusion. As of Wednesday, 5/26, at noon, troponin level had decreased to 10.8 and other inflammatory markers were improving. Patient is currently still hospitalized in the ICU Step Down Unit at Hospital.
MYOCARDITIS	1354101-1	6-17 years	Patient hospitalized for overdose. Patient found to have potential myocarditis. Patient overdosed on antihistamines loratadine and doxylamine. Found to have rhabdomyolysis. CK levels have been trending downward. Patient found to have elevated troponin and ECHO showed decreased EF raising concern for myocarditis. Also with EKG changes. Patient is asymptomatic without chest pain or palpitations. Cannot differentiate cause of myocarditis, can be due to over dose and related to rhabdomyolysis or other causes.
MYOCARDITIS	1354648-1	6-17 years	myocarditis with elevated troponins, findings on cardiac MRI. No treatment required, self-resolved. Admitted for close monitoring

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1357792-1	6-17 years	Received 2nd Pfizer COVID vaccine 5/9. On the evening of 5/10 he awoke with severe 7/10 CP located centrally and radiating down both arms. Not a distinct pain such as sharp, stabbing, burning, throbbing but located in center of chest and was really uncomfortable. No other associated CV symptoms (palpitations, SOB, syncope). Pain slightly worse supine. Pain self-resolved but recurred on 5/12. he had no symptoms of COVID disease.
MYOCARDITIS	1357884-1	6-17 years	Myocarditis. Chest pain started 2 days after the 2nd shot. Elevated troponin and went upto 20. Near syncope and tiredness.
MYOCARDITIS	1358844-1	6-17 years	Abdominal pain, chest pain and myopericarditis
MYOCARDITIS	1359871-1	6-17 years	On 5/23 two days after vaccine he was irritable, tired, fatigued, not sleeping well. He could not complete his track meet . He had abdominal pain, felt bloated, and he felt this nausea & discomfort. He thought he might be constipated, so he took MiraLAX and then he had diarrhea all day yesterday. on 5/26 he had a temperature of 99.2, he had acute chest pain retrosternal and feeling of compression on the chest, head fullness as if he is going to explode. He had nausea, insomnia. Ibuprofen was given to him by his mother and this helped a lot But he woke up on morning of 5/27 , but the chest pain returned with increased pressure, very nauseous, agitated, unable to be comfortable. No fever,, the pain was a sharp pressure. He had no syncope or chest shortness of breath He was seen at Hospital ER where a chest x-ray was normal. Echocardiogram was done, ,noted to have EKG changes. Troponin was elevated. He had a cardiac catheterization done emergently at hospital through the right radial artery and was noted to have normal coronaries. He also had a chest x-ray done which was negative for pulmonary lesions, and his abdominal pain he says was relieved after the MiraLAX and the diarrhea. His twin sister who received the vaccine 15 minutes after him is completely asymptomatic.
MYOCARDITIS	1360627-1	6-17 years	Myocarditis; This is a spontaneous report from a contactable pharmacist. A 15-year-old male patient received the first dose of BNT162B2 (PFIZER COVID-19 VACCINE, lot number: EW1077), at the age of 15 years old, intramuscularly on 17May2021 at single dose for covid-19 immunisation. The patient medical history was reported as none. The patient had no known allergies. The patient was not diagnosed with covid-19 prior to vaccination. The patient did not receive any other vaccines within 4 weeks prior to vaccination. The patient experienced myocarditis on 21May2021. The event resulted in hospitalization for 2 days. The patient was currently still in hospital. The patient had been tested for covid-19 since the vaccination. The patient underwent lab tests and procedures, which included covid-19 test: negative on 22May2021 by nasal swab. Therapeutic measures were taken as a result of myocarditis and included treatment with analgesic. The outcome of event was not recovered. No follow-up attempts are possible. No further information is expected.; Sender's Comments: As an individual case report there is not enough evidence to establish a causal relationship with the suspect vaccine. Currently there is no clear biological plausibility between the vaccine use and the even onset. More information such as complete medical history and concomitant medications are needed for fully medical assessment. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate.
MYOCARDITIS	1360764-1	6-17 years	I saw and evaluated the patient. I agree with the findings and the plan of care as documented in the Fellow note. Of note patient is a 17yo male with no significant past medical history who received the second dose of his Pfizer COVID19 vaccine on 5/25/21. This morning he woke up with chest pressure and eventually was seen at an outside hospital ED. EKG was concerning for possible myocarditis and he was transferred further work-up of myocarditis. On arrival, echocardiogram was performed demonstrating grossly normal LV function with some suggestion of apex hypokinesis. EKG was repeated and showed ST elevation in lead I and V1. Troponin was elevated at 1.11. On exam, no murmurs rubs or gallops. No known family history cardiomyopathy. I personally reviewed the echocardiogram. Overall, patient is a 17yo male with what appears to be myocarditis that is temporally associated with the second dose of the MRNA Pfizer COVID19 vaccine. We have seen several of these patients with similar presentations over the past few weeks and most seem to respond well to treatment with IVIG and steroids. We will confer with our Rheumatology and ID colleagues. Plan will be to obtain cardiac MRI in the next 24 hrs. Ibuprofen PRN for pain. Will trend troponin and EKG.
MYOCARDITIS	1360831-1	6-17 years	Myocarditis
MYOCARDITIS	1360956-1	6-17 years	"Patient received 1st dose Pfizer COVID vaccine at a store/pharmacy on 5/25/21. Presented to ED with chest pain on 5/28. Diagnosed with myocarditis and admitted to the hospital. ED attending note: Patient presents with acute onset of chest discomfort in the sternal area 2 days after the first dose of Covid vaccine. Patient's not had any fevers. No respiratory symptoms. No difficulty with respirations or any pleuritic chest pain. Denies any cough. No chest wall trauma. No back pain. No palpitations or syncope. No orthostasis. No peripheral edema. On physical exam he was mildly tachycardic in the 80s to low 90s with no murmur and no gallop. No JVD. Clear lungs. No rub. Bedside ultrasound performed by HCP had bilateral lung sliding and normal gross function based on 2 views. No pericardial effusion. EKG had ST changes. Chest x-ray was obtained without any effusions or pulmonary infiltrates. Normal cardiac silhouette. Troponin sent elevated. Cardiology consulted for possible postvaccination myocarditis. Child remained stable. Resting heart rates in the 70s and low 80s. Cardiology came to see the patient. Plan to admit to cardiology service. Presumed diagnosis of myocarditis. Cardiology admitting note: Pt. is an otherwise healthy 14yM who presents with acute onset atraumatic chest pain i/s/o recent covid vaccine, found to have mildly elevated inflammatory markers and troponin with borderline ST changes on EKG most consistent with mild peri/myocarditis at this time given overall well appearance on exam without hemodynamic or respiratory compromise and grossly normal function on POCUS, though plan for formal echo in AM. EKG w/ non-specific ST-T wave changes in precordial leads, no evidence of strain or block. Admitted to the cardiology service for serial troponins, ECHO, and close monitoring. HPI per cardiology consult note: ""Patient is a healthy 14 year old with a history of alopecia who presented to the ED with mild chest pain 4 days following his first Covid vaccine (Pfizer). He had no symptoms in the days immediately following vaccine, and played basketball the day following with no symptoms, but after waking up today began having dull mid sternal chest pain. It was a 4/10, worse with lying down, non pleuritic, not sharp, and not radiating pain and not associated with any other symptoms including SOB, numbness, GI pain, cough, or anything else. Has not taken any meds for the pain. Has not exercised today. Felt ""warm"" this AM, but didn't check temperature and felt better throughout the day. No palpitations, dizziness. Denies ever having chest pain before and no recent illnesses or sick contacts. No notable fhx of cardiac disease. In the ED, troponin mildly elevated to 0.12 ng/mL and CRP 5 with low ESR and BNP. Bedside point-of-care US reportedly showed no clear effusion with grossly normal function. HR mainly in 70s in ED and normotensive. EKG with borderline nonspecific ST elevation in V3-V6."""

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1361628-1	6-17 years	Chest pain with elevated troponin consistent with myocarditis.
MYOCARDITIS	1361977-1	6-17 years	myocaritis - chest pain with elevated troponin reequiring hospital admission. symptoms started 3 days after vaccination which was his second dose of the Pfizer vaccine. First dose was on 5/1/21.
MYOCARDITIS	1362568-1	6-17 years	myocarditis
MYOCARDITIS	1362637-1	6-17 years	Patient received first COVID-19 vaccine as noted above on 5/7/21 at University Health without significant side effects. He received his second vaccine dose as noted above on 5/28/21 at University Health. Two days later (5/30/21) he noted persistent, crushing substernal chest pain. He was brought to the emergency department where he was given the diagnosis of myopericarditis and admitted to the hospital for pain control and monitoring.
MYOCARDITIS	1364803-1	6-17 years	Myocarditis
MYOCARDITIS	1365543-1	6-17 years	myopericariditis
MYOCARDITIS	1367905-1	6-17 years	Patient received the Pfizer COVID-19 vaccine 3 days prior to admission, and felt weak with complaints of headache the following day, and the symptoms have since resolved. Mother mentioned that he has been complaining of intermittent midsternal chest pain that worsened after eating since the day prior to admission. She had been giving him peptobismol, thinking it was gas related pain. However, due to him persistently complaining of the pain after eating, she brought him to. She denied any fever, shortness of breath, weakness/fatigue. Of note, mother had COVID in march 2020 and she believed he might have been sick around that time as well. Patient is still in the hospital and continues to receive pain medication and treatment for myocarditis (NSAIDS and opioids)
MYOCARDITIS	1368721-1	6-17 years	Myocarditis: Patient reports developing intermittent non-radiating substernal chest pain (5/30/21 at 7am) one day following his second Pfizer vaccine. He had also been experiencing cough for the last few weeks starting in early May about a week after his first Pfizer vaccine . He states having an intermittent non-productive cough since receiving his first COVID vaccine in early May. Symptoms are worsened by walking or exertion. No leg swelling. Patient presented to the ER where troponin was elevated to 9000 and EKG was consistent with myocarditis . Patient admitted for NSAID treatment, cardiology evaluation and observation. Troponins quickly down-trended and patient clinically stable. Anticipate discharge home in next 24-48 hours.
MYOCARDITIS	1368850-1	6-17 years	Acute myocarditis presenting with chest pain and elevated troponin I. Admitted toi the PICU at Hospital on 6/2/21 (previously had been in the ER on 6/1/21 at the start of chest pain).
MYOCARDITIS	1370567-1	6-17 years	myocarditis; chest pain; shortness of breath; This is a spontaneous report from a contactable physician. This physician reported similar events for two patients. This is the first of two reports. A 16-year-old male patient received second dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE), via an unspecified route of administration on 06May2021 (Batch/Lot number was not reported) (at the age of 16-year-old) as single dose for COVID-19 immunisation. Medical history was none. Prior to vaccination the patient was not diagnosed with COVID-19. The patient's concomitant medications were not reported. The patient previously took ceftriaxone and received first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE) for COVID-19 immunisation. On 08May2021, the patient experienced myocarditis, chest pain and shortness of breath. The patient was hospitalized for 4 days due to the events. The patient underwent lab tests and procedures which included COVID-19 test (nasal swab): negative on 09May2021. Therapeutic measures were taken as a result of the events and included treatment with ibuprofen. The patient outcome of the events was recovering. Information on lot/batch number has been requested.; Sender's Comments: Based on temporal association a contributory role of BNT162B2 to the reported myocarditis, chest pain and shortness of breath cannot be totally excluded. Additional information is needed to better assess the report. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate.,Linked Report(s) : US-PFIZER INC-2021565275 same reporter/AEs/vaccine, different patient.
MYOCARDITIS	1370571-1	6-17 years	myocarditis; myocarditis; chest pain; shortness of breath; This is a spontaneous report from a contactable physician. This physician reported similar events for two patients. This is the second of two reports. A 17-year-old male patient received bnt162b2 (PFIZER-BIONTECH COVID-19 VACCINE), via an unspecified route of administration on 01May2021 (Batch/Lot number was not reported) as 2nd dose, single dose (at the age of 17-years-old) for COVID-19 immunization. Medical history included myocarditis from 2019 to an unknown date. The patient's concomitant medications were not reported. The patient previously received bnt162b2 (PFIZER-BIONTECH COVID-19 VACCINE), via an unspecified route of administration on an unspecified date (Batch/Lot number was not reported) as 1st dose, single dose for COVID-19 immunization. Patient admitted to hospital with chest pain and shortness of breath, diagnosed with myocarditis on 05May2021. The patient was hospitalized for 6 days. Treatment received for the adverse events include metoprolol, amiodarone, ketorolac, IVIG. The patient underwent lab tests and procedures which included sars-cov-2 test: negative on 05May2021. The outcome of the events was recovering. The events were considered as serious (hospitalization). The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. Prior to vaccination, the patient was not diagnosed with COVID-19. Since the vaccination, the patient has been tested for COVID-19. Information on the lot/ batch number has been requested.; Sender's Comments: Myocarditis is not uncommon disease in young population. This 17-year-old male patient had medical history of myocarditis from 2019. Based on information available, the reported recurrence of myocarditis with symptoms of chest pain and shortness of breath was not considered as causally related to the bnt162b2 (PFIZER-BIONTECH COVID-19 VACCINE). The case will be reassessed should additional information become available. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics committees and Investigators, as appropriate.,Linked Report(s) : PFIZER INC-2021565225 same reporter/AEs/vaccine, different patient.
MYOCARDITIS	1371348-1	6-17 years	Myocarditis (with chest pain, shortness of breath, dizziness) starting after first dose, worsening after second

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1371640-1	6-17 years	17-year-old male with past medical history of vitiligo presenting with chest pain in the setting of acute myocarditis. Patient refers history of pressure-like chest pain which started suddenly on the morning of presentation, retrosternal, nonradiating, 4/10, with no exacerbating factors, relieved with a p.o. dose of metamizole, which prompted a visit to Hospital. He developed a dry cough in route to the hospital. At the hospital, CBC, BMP, and CRP were done and unremarkable. U tox, SARS-CoV-2 PCR, and rapid strep were done and unremarkable. Total CK (317), CPK-MB (13), troponin I (3.34), and myoglobin (168) were done and elevated. Repeat troponin I 2 hours later was higher at 4.85. EKG revealed sinus bradycardia and sinus arrhythmia. Chest x-ray was done and unremarkable.
MYOCARDITIS	1371704-1	6-17 years	16-year-old male with no significant past medical history, now presenting with chest pain. Patient had 2 episodes of left-sided mid-chest pain. The initial episode was at ~ 3 am on 5/18 when the pain woke him up from sleep, lasted for ~ 20 minutes and he was able to fall back to sleep, he did not mention it to his parents at that time. Then it recurred at 2.30 pm - pressure-like pain in the same area, which radiated to his left shoulder. There were no significant worsening or alleviating factors. No change in pain quality or intensity with position. No shortness of breath, near-syncope or syncope, no palpitations. Upon his second pain episode, he called his parents on video chat and they instructed him to take 81 mg of aspirin and the pain subsided after 30 minutes. His parents promptly took him to the urgent care where he was found to have ST elevation and elevated troponin. He was transferred to CICU for further management. Admitted for myopericarditis with ST elevation and elevated troponin. On motrin q8h ATC, 12 lead EKG and troponin levels q6h. Underwent cardiac MRI on 5/20 which confirmed the diagnosis.
MYOCARDITIS	1371767-1	6-17 years	Patient began with substernal chest pain 8 out of 10. Patient was taken to emergency room. At the outside hospital patient was given Motrin with improvement of pain. Patient's troponin at outside was 34.5. CK-MB was 41.6. CK was 523. CBC was unremarkable. Sed rate was 15. CRP 1.46. Patient had chest x-ray that showed no acute process. EKG at outside hospital shows sinus rhythm with occasional PVC. Mild diffuse settle ST elevation and no PR depression. Upon arrival to the floor patient had no significant pain. On telemetry patient was found to have an episode of nonsustained ventricular tachycardia. Patient denies recent cough, congestion or fevers. Patient does have 2 parents and a dog at home. Of note patient got first dose of pfizer Sars-Covid-19 vaccine on April 14. Second dose of Pfizer vaccine was given on May 14. Initial troponin i-STAT presentation was 11.03. Patient also experiencing nausea and vomiting on 5/20.
MYOCARDITIS	1371815-1	6-17 years	15 year old male with a passed medical history significant for Marfan syndrome, aortic root dilation, and ADHS transferred to our facility for further evaluation and management of chest pain with elevated troponin. Father reports patient recieved the first dose of the COVID-19 Pfizer vaccine on 5/21/2021. On 5/22 patient developed a mild headache as per father that self resolved with rest. On 5/23 as per patient he was feeling back to baseline with some mild body aches. On the night of 5/23 patient felt some mild chest pain prior to going to bed that had self resolved. This morning patient refused to eat breakfast, and complained of stomach pain. Patient took Tylenol, however began to complain of severe chest pain and asked father to take him to the hospital. Patient was taken to his Doctor where his labs were significant for a WBC of 6.6, creatinine of 0.62, normal LFTs, troponin of 7.26, CPK of 312, D-dimer less than 0.19. EKG at Doctor was significant for normal sinus rhythm with an ST elevation, and chest x-ray was negative for cardiopulmonary disease. Patient had an episode of emesis at Doctor. A troponin was repeated prior to transferring to our facility and it had increased to 11.8. Father/patient denies chills, fever, diarrhea, sore throat, nasal congestion, and cough. ID consulted for further recommendations on management of myocarditis in the setting of recent Pfizer COVID-19 vaccination. Troponin repeated upon arrival to our facility, and has improved with no interventions. Interval History 5/27/21 No acute events overnight. Denies chest pain, SOB, cough, or palpitations. Cardiac MRI yesterday describing inflammation related to possible myocarditis, along with stable findings of MVP and aortic root dilation. Troponin this morning dowtrending to 0.28. No fever. He received a Mg Sulfate bolus yesterday due to low Mag on BMP
MYOCARDITIS	1376330-1	6-17 years	8 hours post vaccination, developed subjective fever, chills, headache, malaise 6/2: Around 32 hours post vaccination, developed acute chest pain, shortness of breath, difficulty breathing when laying flat. Required ibuprofen. 6/3: felt better, required ibuprofen. Presented to ED on 6/4 with continued symptoms (chest pain, shortness of breath), noted to have elevated troponins. Transferred to Hospital on 6/4 to ICU for monitoring. To the floor on 6/5. Clinically doing well just on NSAIDs with slowly decreasing troponins. Dx: probable acute myocarditis per cardiology based on clinical symptoms and troponin leak
MYOCARDITIS	1376399-1	6-17 years	Patient with myocarditis requiring inpatient admission
MYOCARDITIS	1376872-1	6-17 years	Patient had initial fatigue/ somnolence in AM day after vaccine, in PM developing fever, HA, sore throat, myalgias stomach ache and chest pain. Chest pain every 20-30 minutes, worse when supine, pain with breathing when laying down that resolved when sitting up, presented to ED for workup. Found to be tachycardia to 100s, hemodynamically stable otherwise. Pro-BNP 193, CRP 1.57, Total bilirubin 1.1, d-dimer 274, troponin initially normal then elevated to peak 3.45, CK normal, ESR normal, CBC normal, BMP normal. Chest x-ray normal. ECG normal sinus rhythm, diffuse ST changes and J-point elevation in inferolateral leads. Echo obtained read as normal, with EF 60% without pericardial effusion. Working Diagnosis pericarditis/myocarditis. Cardiology and infectious disease consulted, and started on ibuprofen, tylenol, IVIG, methylprednisolone. Labs for COVID antibodies, lyme, echovirus, HSV 6, EBV, CMV, Parvovirus B19, coxsackie, adenovirus pending. Cardiac MRI planned to be completed.
MYOCARDITIS	1376873-1	6-17 years	Myocarditis as evidence by elevated troponins. Normal EKG and Echo. Treated with NSAIDS and troponins downtrended.
MYOCARDITIS	1376934-1	6-17 years	acute myopericarditis with severe chest pain, diffuse st elevations, significantly elevated troponin levels indicating significant heart muscle injusry, and reduced ejection fraction of the heart to 42% as well as severe chest pain. Required treatment with high dose steroids and milrinone. patient currently admitted to the pediatric ICU for care. Condition currently improving ejection fraction increasing towards baseline, however overall prognosis unknown at this time.
MYOCARDITIS	1377873-1	6-17 years	After patient's second dose of Pfizer vaccine, he developed chest pain, consistent with myocarditis. Got his second vaccine on 6/2 and then developed symptoms on 6/3 and 6/4 which prompted ER visit on 6/5. He has been on Ibuprofen ATC.
MYOCARDITIS	1378459-1	6-17 years	Myocarditis and pericarditis
MYOCARDITIS	1378464-1	6-17 years	Admitted to the hospital because of chest pain and persistent sinus tachycardia and diagnosed with mild Myocarditis. Visit ER earlier that morning because of severe chest pain.
MYOCARDITIS	1378544-1	6-17 years	myocarditis with ekg changes and severe chest pain requiring pediatric ICU stay. Treated with scheduled Motrin and cardiology follow up

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1378760-1	6-17 years	Myocarditis
MYOCARDITIS	1379312-1	6-17 years	Chest pain, was found to have perimyocarditis based on EKG and troponin and was transferred to Hospital for higher level of care on 6/7/21.
MYOCARDITIS	1379324-1	6-17 years	Chest Pain due to Myocarditis
MYOCARDITIS	1381158-1	6-17 years	Heart chest pain; Diagnosed within 4 days with Myocarditis Hospitalized; This is a spontaneous report received from a non-contactable consumer (patient). A 17-year-old male patient received 1st dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, Solution for injection, LOT/Batch number and expiration date unknown) via an unspecified route of administration at arm right on 02May2021 at 12:00 AM at age of 17-year-old at single dose for COVID-19 immunization. Medical history included known allergies to Sulfa. Patient also had known allergies to amoxicillin. Other medical history was none. Patient didn't receive any other vaccines within 4 weeks prior to the COVID vaccine. Patient didn't receive any other medications within 2 weeks of vaccination. Concomitant medication was none. Patient experienced heart chest pain on 06May2021 at 07:00 AM, and was diagnosed within 4 days with Myocarditis and hospitalized. The events resulted in emergency room/department or urgent care visit and hospitalization. Patient was hospitalized for 6 days. Patient performed echocardiogram and MRI, both with unknown results. Patient received antibiotics and steroids as treatment for the events. Outcome of the events was recovering. Prior to vaccination, the patient wasn't diagnosed with COVID-19. Since the vaccination, the patient hasn't been tested for COVID-19. No follow up attempts are possible. Information about lot/batch number cannot be obtained.
MYOCARDITIS	1381754-1	6-17 years	Patient developed sudden onset of chest pain which was diagnosed as myocarditis. Feeling a little bad on 6/2/2021 with some mild chest pain on that date. Took ibuprofen. Woke up suddenly on 6/3/2021 with severe chest pain. Called pediatrician and was going to wait for them to open; however, it was so severe that they took him to the Emergency Department.
MYOCARDITIS	1381819-1	6-17 years	myocarditis based on chest pain and elevated troponin. also with chills, frontal headache, nausea and vomiting
MYOCARDITIS	1382106-1	6-17 years	Myopericarditis with troponin leak and chest pain
MYOCARDITIS	1382295-1	6-17 years	Likely myocarditis s/p 2nd dose of Pfizer COVID vaccine. From hospital note: Pt was in his usual state of health when he received the second dose of Pfizer mRNA Covid vaccine on 6/3. On 6/6, he developed substernal nonradiating chest pain, as well as low-grade temperature to 99.6. Pain persisted, so he presented to the emergency department on 6/6. He did not have respiratory symptoms, nausea, vomiting, diarrhea, conjunctival injection, new rashes. In the emergency department he was afebrile with normal vital signs. Laboratory evaluation in the ED demonstrated WBC 7.45 (N 64, L 19), Hb 14.5, PLT 191, ESR 10, CRP 0.69, AST 46, ALT 14. BNP 23. He was noted to have a troponin leak (troponin T 0.55). Covid PCR and antibody testing were negative. An EKG demonstrated early repolarization but was otherwise normal. An echo demonstrated mildly dilated LV with good systolic function. Pt was admitted to the cardiology service for further evaluation and management of myocarditis. Following admission he remained afebrile with stable vital signs, but continued to have troponin leak. He was initiated on methylprednisolone 30 mg IV every 12 hours, and IVIG 2g/kg x1. Pt is a 15 year old with what appears to be myocarditis after the SARS_CoV2, with significant troponin elevation, coming down, chest pain, improved with IVIG and steroids, and ibuprofen prn. Plan for cMRI to look for late gadolinium enhancement to guide course of therapy.
MYOCARDITIS	1382338-1	6-17 years	Patient admitted with a diagnosis of myocarditis and encephalitis, currently still hospitalized at the time of this report. From EHR note: Patient is an otherwise healthy 12yM with recent Lyme disease (erythema migrans) transferred to hospital for hyponatremia, encephalitis, myocarditis. Initially intubated due to aspiration risk, now s/p extubation and stable on RA. Broad workup so far including consultations from neurology, cardiology, immunology, and infectious disease with unclear etiology, s/p MRI and LP with c/f covid-vaccine related myocarditis/encephalitis vs lyme carditis/meningoencephalitis vs less likely MISC vs other. Infectious testing so far negative, patient otherwise has returned to baseline behavior without any current symptoms. He is transferred to general for further workup and evaluation and close monitoring. Diagnosed with Lyme 19 days prior to admission, treated with amoxicillin; p/w headache, fever and vomiting so concern for encephalitis as above vs inflammatory process post-COVID or vaccine. Less likely meningitis given reassuring initial CSF studies. Negative COVID antibody. Resolving hyponatremia, thought to be likely SIADH. Given presentation and maternal history of albinism with immunodeficiency, broad workup sent. Also with c/f possible inflammatory response/MISC-C vs vaccine myocarditis.
MYOCARDITIS	1382367-1	6-17 years	Patient admitted with myocarditis s/p dose #2 of the Pfizer COVID-19 vaccine. At the time of the report, she is still hospitalized. From EHR note: Patient was in her usual state of health when she received her second dose of the Pfizer mRNA Covid vaccine on 6/3. She experienced mild myalgias in the day following the vaccine. However, on 6/5 she developed new severe substernal chest pain, dizziness, and dyspnea. Pain radiated to her throat. Given severity of pain, she presented to the emergency department. In the ED she was afebrile, tachycardic, and initially hypertensive. Labs demonstrated WBC 10.9 (N 49, L 27), Hb 11.7, PLT 315. ESR 25, CRP 7.61. Troponin T was mildly elevated at 0.08, consistent with mild cardiac inflammation. SARS-CoV-2 PCR and antibody testing were negative. An EKG was normal. However, an echo demonstrated low-normal LVEF (55%). Otherwise, patient denies nausea, vomiting, diarrhea, cough, runny nose, conjunctivitis, new rashes, arthralgias. Patient was admitted to the cardiology service for further monitoring. Following admission, she was started on ibuprofen. She notes that her substernal chest pain has improved somewhat since admission. Differential for patient's presentation includes infectious, post-infectious, and non-infectious causes of myocarditis. Although post-vaccination mild myocarditis seems likely, we agree with the infectious workup already undertaken, and recommend additional EBV and CMV PCR testing.
MYOCARDITIS	1382368-1	6-17 years	12-year-old male with hx of asthma presented with 7 hours of chest pain 3 days after 2nd dose of Pfizer Covid-19 mRNA vaccine now admitted for monitoring in the setting of myocarditis. # Myocarditis Admit troponin elevated to 7354 and EKG with evidence of early repolarization. ECHO performed 6/7 was normal. Cardiac MRI 6/7 was consistent with pericarditis. Patient was admitted for observation and close monitoring. EKG and troponin were trended every 8 hours and were overall down trending by the day of discharge. Chest pain was managed with ibuprofen every 6 hours. ID was following patient throughout admission and recommended COVID Ab that resulted negative and Anti SARS COv 2 Ab; Lyme Ab; CMV, EBV, Adeno PCR/Antibody; which were all pending at the time of discharge. The patient remained afebrile and hemodynamically stable throughout admission with appropriate cardiology follow-up. Adverse vaccine event was appropriately reported to the CDC via the VAERS passive reporting system

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1382373-1	6-17 years	Chest pain, SOB 3 days after vaccine. Myopericarditis with elevated troponin, abnormal ECG. Recovered without intervention
MYOCARDITIS	1382491-1	6-17 years	"In first two days following second dose of Pfizer vaccine, patient had ""normal"" side effects of fatigue, low grade fever, chills, etc. On evening of day 3 patient developed headache, nausea, and severe chest pain. Emergency Room visit showed normal EKG an X-Ray but bloodowork showed troponin levels of 18,300 at 10:30 pm and 19,905 overnight. Patient was diagnosed with myocarditis and admitted to pediatric ICU at Hospital."
MYOCARDITIS	1382634-1	6-17 years	Patient received her second Pfizer vaccine on Friday (6/4). She developed CP and SOB on Saturday (6/5) evening which resolved after sleeping. She then developed return of her chest pain and shortness of breath this morning (6/7) which prompted her to present to ED. She was found to have elevated troponins and was diagnosed with myocarditis. Treatment was supportive with NSAIDs/Tylenol for chest pain PRN and encouraged PO hydration. Troponins and EKGs trended every 8 hours to ensure troponins were down-trending and EKGs remained normal. No sign of CHF or pulmonary edema.
MYOCARDITIS	1383096-1	6-17 years	6/6-fever (102 temporal) and headache, these resolved, followed later by chest pain, went to medical center and evaluated, negative troponins. 6/7-chest pain began again, returned to medical center, found to have elevated troponin of 3.19. 6/8 at 1am-Transferred to another medical center PICU where he had sensation of numbness in left arm, a squeezing sensation of left arm, and severe chest pain. EKG showing ST elevation and troponin of 3.75. Given dose of 30mg Toradol and pain resolved. Started on Motrin q6h, trending troponins. In the morning pain much improved, but still with pain on deep inspiration relieved with leaning forward. Repeat EKG shows diffuse ST elevation, consistent with presumptive diagnosis of myopericarditis. Repeat troponin at 9am of 9.3, BNP of 197. Echo done wnl. Scheduled for cardiac MRI with contrast per cardiology recommendation to r/o myocardial edema. Viral panel sent to r/o viral etiology despite no prior symptoms.
MYOCARDITIS	1383397-1	6-17 years	Myopericarditis with elevated troponin chest pain and ST elevation on EKG
MYOCARDITIS	1383777-1	6-17 years	Patient having pain 7am 6/8 upon awakening. Sharp, heavy 10/10 left sided chest pain radiated to L arm. Shortness of breath. pain worse with inspiration, no positional changes. Similar to previous myocarditis episode in 2019 (thought to be 2/2 virus as had fevers, fully resolved). No recent URI, last sick 1 year ago, no covid per knowledge. Had COVID vaccine week prior without side effects. Presented to hospital. Initial troponin 0.819> 4.43. CK-MB 42.8, CK 471. BMP, CBC, CRP within normal limits. ECG non ischemic however mild j-point elevation in anterior leads consistent with myocarditis. POCT echo normal. Patient admitted for IVIG, steroids, viral panel and monitoring.
MYOCARDITIS	1383808-1	6-17 years	Myocarditis per patient's mother

Symptoms	VAERS ID	Age	Adverse Event Description
			"he has developed myocarditis; Chest was hurting; Chest pain; Tachycardia; Hypertension; his temperature was 99.7; Tight chest; shortness of breath; This is a spontaneous report from a contactable consumer (patient's mother). A 15-years-old male patient received bnt162b2, dose 1 via an unspecified route of administration, administered in Arm Left on 13May2021 16:00 (Batch/Lot number was not reported) as SINGLE DOSE for covid-19 immunisation at the age of 15 years old. Medical history included Autism and ADHD. Concomitant medication(s) included guanfacine. The patient experienced he has developed myocarditis, inflammation of the muscle in his heart that was caused by covid vaccine, chest was hurting; chest pain, tachycardia, hypertension on an unknown date, shortness of breath, tight chest on 15May2021. Clinical course details was reported as: She thinks he has developed myocarditis. Experienced shortness of breath, went to the Emergency Department. She wishes for him to receive second dose. ""They did a bunch of tests"". Saturday he had to rush in to the hospital because his chest was hurting, he has chest pain on Saturday that's why he went to the emergency room. The doctor said, he had inflammation of the muscle in his heart that was caused by COVID vaccine, she wants to submit that to Pfizer."" Reporter stated, ""No, not exactly, he got the COVID vaccine on May 13th. He started developing shortness of breath and tight chest on Saturday night which is May 15th, I woke him up because all night long he was complaining, I take him to the emergency room at the morning like 4:30 am, 4:30 in the morning of May 16th. The doctor told me that, he said that he didn't believe that it was a side effect of a vaccine because it was not, it didn't developed like within 1 or 4 hours to the vaccine like now when I've seen on the news that the inflammation that is happening to some kind on the heart, he matches all the symptoms of that. So I need to know what do I need to make and what do we do for the second dose?"" Lab test: They did when he was in the hospital, When he was in the hospital 2 days after they did a bunch of lab test."" Treatment: They did give him some medication in the hospital. The notes from the hospital they gave, they says he has tachycardia, hypertension, shortness of breath, chest pain. They gave him Ativan. Caller states she is calling about the Pfizer COVID19 vaccine and states she is thinking her son had the side effect that is being reported of myocarditis and took the 1st dose of the vaccine on 13May2021 and on 15May2021, at night he complained of shortness of breath, and a very heavy chest and moaned all night long; states at 4:00am she and her husband got up and took the patient's blood pressure and oxygen level and pulse and his blood pressure was elevated at 151/108, oxygen levels were ok at 96-97 and his pulse was 128, and his temperature was 99.7 she thinks. States they took him to the emergency room at that time because they did not know if something was going on with his blood pressure elevated. Caller states she has not reported this information to the patient's HCP and is calling to ask if she should wait or have to wait on the patient's 2nd dose of the Pfizer COVID19 vaccine. Caller states she did previously file this report but was not given a report reference number and had to call back to ask for her questions. States the patient's 2nd dose of the Pfizer COVID19 vaccine is scheduled for 04Jun2021. States given that they did not expect the patient to have any side effects and they do not want to be in this situation and are planning on traveling the day the patient is scheduled for his 2nd dose of the Pfizer COVID19 vaccine would they have to wait for his 2nd dose; states she wants to do things the proper way. States given that they did not expect the patient to have any side effects and they do not want to be in this situation and are planning on traveling the day the patient is scheduled for his 2nd dose of the Pfizer COVID19 vaccine would they have to wait for his 2nd dose; states she wants to do things the proper way. Pfizer is aware of the observations of myocarditis that occurred predominantly in a population of young men who received the Pfizer-BioNTech COVID-19 vaccine. Adverse events are regularly and thoroughly reviewed and we have not observed a higher rate of myocarditis than what would be expected in the general population. A causal link to the vaccine has not been established. There is no evidence at this time to conclude that myocarditis is a risk associated with the use of Pfizer/BioNTech COVID-19 vaccine. More than 260 million doses of the Pfizer-BioNTech COVID-19 vaccine have been administered globally. Serious adverse events unrelated to, but close in timing to vaccination, are expected to occur at a similar rate in vaccinated individuals as they would in the overall population. [for non-HCPs]: we refer you to your healthcare provider to discuss this topic. Your healthcare provider knows your medical history, can discuss the risks and benefits of the vaccine, and can provide vaccination recommendations to you. Pfizer is aware of the reports of myocarditis in recipients of the Pfizer-BioNTech COVID-19 vaccine. More than 260 million people globally have now been vaccinated with the Pfizer/BioNTech COVID-19 vaccine and we have not observed a higher rate of myocarditis than what would be expected in the general population. A causal link to the vaccine has not been established. Serious adverse events unrelated to but close in timing to vaccination will likely occur at a similar rate in vaccinated individuals as they would in the overall population. With a vast number of people vaccinated to date, the benefit risk profile of our vaccine remains positive. If asked on the specific casesMore specific information on the specific cases or demographics are not currently available to Pfizer Medical Information. The outcome of the events was unknown. No follow attempts are needed; information about lot/batch number cannot be obtained."
MYOCARDITIS	1384596-1	**6-17 years**	

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1384620-1	6-17 years	chest pain; body aches; dizziness; SOB; near syncopal event; an EKG showed non-specific ST abnormalities with labs showing elevated troponin,; mildly elevated CRP; Upon readmission, her troponin was elevated (2.06 on 5/10); myocarditis; This is a spontaneous report from a contactable nurse. A 16-year-old female patient (pregnant: No) received second dose of bnt162b2 (Pfizer-BioNTech COVID-19 Vaccine), at the age of 16-year-old, via an unspecified route of administration on 15Apr2021 as single dose for covid-19 immunisation. The patient medical history and concomitant medications were not reported. It was unknown if the patient received any other vaccines within 4 weeks prior to the COVID vaccine, unknown if any other medications the patient received within 2 weeks of vaccination. Known Allergies: NSAIDs. On 19Apr2021, the patient experienced myocarditis, chest pain, body aches, dizziness, SOB, near syncopal event, an EKG showed non-specific ST abnormalities with labs showing elevated troponin, mildly elevated CRP, with outcome of recovering. Upon readmission, her troponin was elevated (2.06 on 5/10) on 19Apr2021 with outcome of recovering. Seriousness criteria-Caused/prolonged hospitalization. The patient was hospitalized for myocarditis from 19Apr2021 to 23Apr2021. The patient was hospitalized for other events for 6 days. The adverse event result in Doctor or other healthcare professional office/clinic visit. Emergency room/department or urgent care. Clinical course as follows: patient is a 16 yo girl, s/p admission (19Apr-23Apr2021) with myocarditis, s/p IVIG (19April) after presenting with progressive new onset chest pain. She was in usual state of health up until 2 days ago when she started developing body aches, and chest pain. Patient received her 2nd Pfizer COVID vaccine last week (15April). No known history of COVID infection. Parents brought her to the ED yesterday after she complained of dizziness, SOB, chest pain, and had a near syncopal event. An EKG showed non-specific ST abnormalities with labs showing elevated troponin, mildly elevated CRP, normal CXR, negative COVID PCR. Denies fever, GI symptoms, GU symptoms, headache, rash. Once transferred to our PICU, she was worked up for myocarditis vs MIS-C. Troponin has been trended q6 and is trending up (now 11). Of note, there have been no fevers. Upon readmission, her troponin was elevated (2.06 on 10May). It was unknown prior to vaccination the patient diagnosed with COVID-19. Since the vaccination, the patient tested for COVID-19. covid test type post vaccination: Blood test. covid test name post vaccination: SARS COV2 ANTIBODIES QUALITATIVE on 19Apr2021, covid test result: Positive. covid test type post vaccination: Nasal Swab, covid test name post vaccination: Respiratory Virus Panel by PCR on 19Apr2021, covid test result: Negative. Information on the Lot/batch number has been requested.; Sender's Comments: The reported myocarditis with chest pain, body aches, dizziness, SOB, near syncopal event and the abnormal lab data were possibly related to the bnt162b2 (Pfizer-BioNTech COVID-19 Vaccine), considering temporal relationship and the inflammation features. The case will be reassessed should additional information become available. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics committees and Investigators, as appropriate.
MYOCARDITIS	1384622-1	6-17 years	myocarditis; elevated troponin/troponin has been rising (up to 16); substernal chest pain at rest; shortness of breath; CRP to 87; abnormal EKG; headache; fevers; This is a follow up-spontaneous report from a contactable HCP (Nurse). A 16-years-old male patient received bnt162b2 (BNT162B2), dose 2 via an unspecified route of administration on 24Apr2021 (Batch/Lot number was not reported) as 2ND DOSE, SINGLE for covid-19 immunization, at the age at vaccination of 16 years old. The patient medical history was not reported. NKA (No known allergies). Historical vaccine included first dose of BNT162B2 for covid-19 immunization. Concomitant medication included tretinoin (RETIN-A) 0.025 % cream taken for an unspecified indication, start and stop date were not reported. The patient experienced myocarditis, elevated troponin/troponin has been rising (up to 16), headache, fevers, substernal chest pain at rest, shortness of breath, crp to 87, abnormal EKG, all on 26Apr2021 with outcome of recovered on Apr2021. Reported as Patient with no significant PMH admitted on 4/26 with myocarditis, elevated troponin, and abnormal EKG. He states that he was feeling his usual self until the day that he received his 2nd dose of the COVID vaccine on 4/24. On 4/24, he started to have a headache and subjective fevers. On 4/26, he reported having substernal chest pain at rest, non-radiating, associated with shortness of breath. Patient took tylenol with minimal relief. Patient denies cough, congestion, abdominal pain, nausea, vomiting, diarrhea, rash. No sick contacts. Since admission, troponin has been rising (up to 16), BNP normal, CRP to 87, ESR normal, CBC and electrolytes unremarkable. Clinical course and findings consistent with myocarditis. ID consulted for infectious workup and management. In my prelim recs upon admission, I recommended a dose of IVIG and holding off on steroids and antibiotics.The patient underwent lab tests which included electrolytes: unremarkable on 26Apr2021, BNP: normal on 26Apr2021, c-reactive protein: to 87 on 26Apr2021, electrocardiogram: abnormal on 26Apr2021, CBC: unremarkable on 26Apr2021, ESR: normal on 26Apr2021, sars-cov-2 antibody test: positive on 29Apr2021 (Blood test), Symptomatic COVID-19 (Standard NAA): negative on 26Apr2021 (Nasal Swab), troponin: has been rising (up to 16) on 26Apr2021, troponin: elevated on 26Apr2021. The events resulted in: Doctor or other healthcare professional office/clinic visit, Emergency room/department or urgent care, Hospitalization. The patient was hospitalized for events for 4 days. Treatment received for events. Patient had no covid prior vaccination. Prior to vaccination, the patient was not diagnosed with COVID-19. Information about batch/Lot number has been requested.; Sender's Comments: The causal association cannot be excluded between the reported events and BNT162B2 use. The impact of this report on the benefit-risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for AE. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to regulatory authorities, ethics committees and investigators, as appropriate.
MYOCARDITIS	1385386-1	6-17 years	Chest Pain, Troponin Elevation, Myocarditis Also developed fever, muscle aches, joint pain, generalized fatigue Hospitalized, Treated with NSAIDS and supportive care, Telemetry, Troponin monitored q12 Echo with normal systolic function Cardiology and ID consultation Cardiac MRI pending at time of submission (6/9/2021). He is hospitalized at time of report, recommended complete activity restriction upon discharge, he will continue to follow with pediatric cardiology.
MYOCARDITIS	1385925-1	6-17 years	Chest pain, found to have elevated troponins, BNP, and CK diagnosed with myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1386034-1	6-17 years	Patient presents to the ED with myocarditis s/p dose #2 of Pfizer COVID-19 vaccine. From note: Patient is 13 yo M who was in his usual state of health prior to getting his Pzifer COVID-19 vaccine #2 on Saturday morning (6/5). Saturday night he began to feel fatigued with fevers as high as 102.8 F. These symptoms continued through the night and into Sunday morning when he had episodes of NBNB emesis. Sunday night he was actually feeling somewhat better and was able to sleep through the night. He stayed home from school on Monday due to fatigue. At 3 am this morning (6/8), he woke up with aching parasternal non-radiating chest pain that he describes as an 8/10 and worse while lying down. Denies SOB and heart palpitations. His parents took him to a hospital where he was found to have an elevated troponin (reported 5.84 - unknown scale) and Hct 28.8. There was also question of an abnormal EKG (?p wave inversion). He got a bedside echo which showed no pericardial effusion. Additional labs included: WBC nml, plt nml, MBCK 16. In the ED, his vital signs have been stable. EKG was normal sinus. Trop elevated to 0.43 and echo was normal. Reassuringly his echo was normal, he has had no arrhythmias (after nearly 24hrs of continuous monitoring), his chest pain has largely resolved and his troponin has remained stable.
MYOCARDITIS	1386073-1	6-17 years	"June 4: Vaccine received June 6 (AM): felt arm pain and mild chest pain not affected by breathing or moving. Continues on and off, but was relieved by ibuprofen. June 7: 1PM- chest pain became persistent, not relieved by ibuprofen. Describes as ""squeezing"" with palpitations. Accompanied by feeling clammy, weak, pale, subjective fever. Brought to ED and transferred to ICU 6/7 at 18:44 for labs and imaging consistent with myopericarditis. Started treatment on scheduled Ibuprofen (600 mg q8 hours). Chest pain improving, but serial troponin continued to rise. 6/9: NSAID changed to Toradol for continued chest pain with colchicine"
MYOCARDITIS	1386123-1	6-17 years	15 yo M with chest pain, fever found to have likely myocarditis secondary to likely COVID vaccine (Pfizer) with elevated troponin at OSH of 660 ng/L. Repeat here noted to be 58,513 mg/L but patient otherwise stable, not complaining of chest pain after Toradol and eating more currently.
MYOCARDITIS	1386153-1	6-17 years	Patient developed fever the day following vaccine, then developed some neck stiffness, then severe chest pain two days after vaccine and was found to have myopericarditis and currently hospitalized.
MYOCARDITIS	1387944-1	6-17 years	Myocarditis
MYOCARDITIS	1387977-1	6-17 years	Note- This patient did not receive the vaccine at our facility so I do not have further details on the vaccine. 13 y/o female with hx of juvenille arthritis, migraines and anxiety, here for left sided CP, palpitations, fast HR, SOB since 6/8 receiving the 2nd Covid vaccine on 6/6/21. Pt states she is also having some nausea and fatigue. Pt has not taken any medications at home for pain. Pt currently taking methotrexate but no steriods. No family hx of blood clots or blood disorders. Differential Diagnosis: Electrolyte abnormality, dehydration, arrythmia, COVID vaccine reaction, myocarditis r/t COVID vaccine. EKG NSR. negative troponin.
MYOCARDITIS	1388056-1	6-17 years	Chest pain for 2 days with EKG changes, elevated troponin and CRP consistent with myocarditis
MYOCARDITIS	1388214-1	6-17 years	Myocarditis s/p 2nd COVID shot. Presented with chest pain, elevated troponin with ST elevations in multiple leads. Normal Echocardiogram. Treated with Methylprednisolone and Toradol. Downtrending troponin with clinical improvement at time of report. Currently still hospitalized in PICU during the time report was made.
MYOCARDITIS	1388899-1	6-17 years	Myocarditis with chest pain and ST segment elevation. Elevated troponin. Runs of ventricular tachycardia. Hospitalization to pediatric cardiac intensive care unit. Presented to ED 6/9 and currently in the intensive care unit.
MYOCARDITIS	1388946-1	6-17 years	Presented with chest pain and diagnosed with my and pericarditis as evidenced by elevated troponin, , elevated BNP and diffuse ST changes on EKG
MYOCARDITIS	1389073-1	6-17 years	On 6/6 at 4pm, pt received 2nd dose of Pfizer COVID vaccine. He felt fine that night, but the next day (Monday) woke up with a headache, which was resolved by ibuprofen 200mg. 5 hrs later, headache returned. In total, he took 3 doses of ibuprofen 200 mg that day. On Tuesday, he went on a field trip for school, during which he walked for a total of 40 min. He also went to football practice, where he did weight training and conditioning for 1 hr. He experienced no chest trauma during practice. He tolerated exercise with no dyspnea on exertion and felt perfectly normal, but when he returned home, his mom felt that he appeared unwell and his face and eyes looked swollen. At 9 pm, headache recurred but responded to ibuprofen 200 mg. This morning (Wednesday), he woke up in the early morning complaining of difficulty breathing and orthopnea. Dyspnea was improved by propping head up on more pillows. He also had headache again and received another ibuprofen 200 mg before going to the ED. Denies fever, malaise, muscle aches, chest pain, syncope, dyspnea on exertion, palpitations, URI symptoms, sore throat, cough, diarrhea, abdominal pain, vision changes, dizziness currently or since receiving the vaccine. He still endorses orthopnea but it has been improving. No recent illnesses, sick contacts, new environmental exposures, or travel recently. Admitted to Cardiac Step down with concern for troponin leak, peak at 29. Cardiac MRI confirmation of myocarditis
MYOCARDITIS	1389816-1	6-17 years	Myocarditis
MYOCARDITIS	1391879-1	6-17 years	Presented on 5/15 with chest pain and diffuse ST segment elevation consistent with perimyocarditis. He received his second COVID vaccine (5/11) 4 days ago- reports 3 days ago feeling sinus inflammation, throat felt swollen, and laid in bed all day, 2 days ago- he reports just having sinus inflammation sensation, 5/10- he reports feeling like every muscle including his neck hurt. No headache, vision changes, weakness, tingling. No cardiac history, leg swelling, rash, rhinorrhea, or recent illness.
MYOCARDITIS	1392109-1	6-17 years	Myocarditis (CP, elevated troponin, cardiac dysfunction). Steroid burst with normalization of function and improvement in troponins
MYOCARDITIS	1392607-1	6-17 years	Fever, Chest pain, presented to the ER and now admitted to the cardiac stepdown unit with myocarditis
MYOCARDITIS	1392879-1	6-17 years	June 8th- received vaccine. Fatigue, arm soreness. June 9th- headache, decreased appetite June 10th- pain of both upper arms, substernal chest pain. One episode of emesis. Was admitted to our hospital for presumed COVID-19 vaccine related myocarditis.
MYOCARDITIS	1394171-1	6-17 years	Chest pain
MYOCARDITIS	1394232-1	6-17 years	Myocarditis (chest pain, elevated cardiac enzymes) 4 days after vaccine
MYOCARDITIS	1394691-1	6-17 years	Patient presented the emergency department with chest pain radiating to left arm on 6/12. Studies indicate myocarditis. Patient will be transferred to specialty hospital for cardiology.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1394808-1	6-17 years	Myocarditis requiring hospitalization
MYOCARDITIS	1394849-1	6-17 years	Per patient report upon presentation to hospital: Received vaccine 6/9 during the day, in the evening developed typical symptoms (headache, vomiting, warm to the touch) and has chest pain that seemed to resolve with ibuprofen. On 6/12 at 0400 patient woke up with severe chest pain (localized to the middle of the chest), no tachycardia or shortness of breath. Pain does not change when moving arms/neck. No recent fevers, URI symptoms, known sick contacts. On presentation 6/12 troponin was elevated to 9.69, repeat on 6/13 decreased 6.03. Diagnosed with myocarditis, initial ECG was abnormal, repeat ECG has not shown any ischemic changes. Patient will have repeat EKG, ECHO, troponin, and likely discharge from hospital
MYOCARDITIS	1395019-1	6-17 years	4 days after administration of Pfizer COVID19 vaccination patient developed shortness of breath and pleuritic chest pain on 6/12/21 evening. Patient came to Emergency Room overnight on 6/13 and was identified to have elevated troponins indicative of myocarditis.
MYOCARDITIS	1395246-1	6-17 years	This is a 15 year old male without PMHx who presents with chest pain for one day after having Pfizer COVID vaccine 2-3 days prior. As per father patient had first dose without any sx except mild soreness on the site of injection. On 6/9/21 he received the second shot of Pfizer vaccine. That day he only fell mild pain on site of infection only. Next day he suffered from chills, HA, and fever. He took Tylenol for it. The day prior admission he had a mild headache and pain on the middle of the chest, dull, not radiating, and on/off. There was one episode of emesis after dinner and after taking TUMS he went to sleep. The parents check on him through the night and upon waking up he complaint still with chest pain, now increased and radiating to left side of the chest. The parents decided to bring him to ED for evaluation where he was found to have elevated troponins and he was admitted for myocarditis likely secondary to the Pfizer vaccine. His troponins were monitored q8hrs and he was started on Toradol q6hrs. See EKG and Echo results below. Due to increasing troponins 6/13, he was given IVIG with resulting improvement. At this time, we are still monitoring his troponin inpatient with plan for potential cardiac MRI. He will be discharged home on Ibuprofen 600mg TID and follow up with cardiology with exercise restriction likely for a few months, tbd by outpatient cardiology follow up.
MYOCARDITIS	1395260-1	6-17 years	Has signs of myocarditis with pain near her heart and a pressure in her chest with breathing that feels a bit labored with deep breaths, but she isn't experiencing difficulty breathing. She complained of the symptoms on Thursday morning and then we saw on the news that night that this was a newly discovered side effect for younger patients receiving the vaccine. She has not met with the doctor yet because she didn't want to miss final tests at school and the offices were closed for the weekend. However, we have been monitoring her closely and had hoped it would disappear by now, but we will be seeking treatment tomorrow since it has not gotten worse, but it also hasn't improved after 4 days of rest.
MYOCARDITIS	1395672-1	6-17 years	This patient received their second Pfizer COVID-19 vaccine on 6/4/2021. The patient began experiencing arm pain which migrated to his chest on 6/6/2021. The pain resolved but returned with increased severity on 6/7/2021, prompting medical evaluation. The pain was described as a pressure sensation in the center of the chest and in bilateral arms. Upon initial evaluation, he was found to have an abnormal EKG with ST segment changes. Troponin was significantly elevated. He was transferred to the hospital. A transthoracic echo was obtained and was normal. He was hospitalized on the pediatric cardiology service, admitted on 6/8/2021. Troponin trended down during his stay. He was started on lisinopril. He was discharged home on 6/9/2021 with plan for outpatient pediatric cardiology follow up. Given the proximity of his second Pfizer COVID-19 vaccine to onset of his symptoms, and given similar reported events, the chief concern is whether his episode of myocarditis is related to administration of the Pfizer COVID-19 vaccine. I was on call as attending physician when this patient was admitted. Physician cared for this patient as the pediatric cardiology inpatient attending during his hospital course.
MYOCARDITIS	1395815-1	6-17 years	Pfizer-BioNTech COVID-19 Vaccine EUA: Myocarditis Per COVID-19 Vaccination Card patient received Pfizer vaccine dose #1 on 5/19/21, and Pfizer dose #2 on 6/9/21. Patient presented to Hospital on 6/11/2021 and was transferred. On the evening of 6/9 patient began to experience mild chest pain with headache. On 6/10 the pain increased to an intesity of 8/10, and on 6/11 the pain became unbearable. Pain is described as sharp, squeezing, and constant.
MYOCARDITIS	1395818-1	6-17 years	Myocarditis, Chest pain, ST elevation and mildly depressed EF on echo. Troponin peaked, has leveled at 1000 3 days after presentation, drawing infection labs and administering IVIG.
MYOCARDITIS	1395988-1	6-17 years	"He had the second shot, had very mild headache, and then woke up approx 48 hours after 2nd dose, complaining that his "" chest hurt"", I asked him to explain the "" hurt"", he said his chest felt tight, heavy pressure, like weight on his chest, uncomfortable. He said it went away after a few days... I didn't realize the inflammation of the heart was a side affect, until I recently heard that was coming up, so I put 2 and 2 together, and thought I had better report."
MYOCARDITIS	1396094-1	6-17 years	Approximately 6-7 days after the first dose of COVID vaccine (Pfizer) patient had low grade fever (100.8) malaise, and not feeling well. Progressed to chest pain and slight SOB. Continued low grade fever controlled with Tylenol and Motrin. Was seen in urgent care and tested for COVID. COVID PCR negative. EKG done (abnormal). Suggested covid 19 pneumonia and follow up with PCP. Was seen in ER that evening for increasing chest pain, SOB. Chest xray done. EKG not done. No labs sent. COVID PCR done. Negative. Improved at home with rest, Tylenol, Motrin. Sunday afternoon, was taken to ER for chest pain, increased SOB, and not feeling well. BP elevated, CXR done, EKG done, and bloodwork done. Troponin negative, D Dimer negative, labs WNL. No acute MI. Suggested pericarditis based on EKG results. Follow up suggested with cardiologist. Echo and EKG done on Tuesday May 4. Improving pericarditis/myocarditis. Final EKG done on Friday 5/7.
MYOCARDITIS	1396461-1	6-17 years	acute chest pain myopericarditis
MYOCARDITIS	1396550-1	6-17 years	Acute Myocarditis with chest pain and elevated troponin (peak level 27) occurring 3 days after 2nd Pfizer covid shot. Treatment with Ketorolac and morphine, clinically improving at the time of report. Echo reassuring with good function and no effusion, ECG initially with RBBB repeat ECG with early depolarization, no arrhythmias
MYOCARDITIS	1396604-1	6-17 years	chest pain, labs suggestive of myocarditis
MYOCARDITIS	1397025-1	6-17 years	Patient developed chest pain with elevated troponin levels 2 days after receipt of dose #2 of the Pfizer SARS-CoV2 vaccine. He was admitted to the hospital with the diagnosis of myocarditis.
MYOCARDITIS	1397074-1	6-17 years	Chest pain for 2 days with elevated troponin levels. Admitted to pediatric cardiology service. Cardiac MRI showed findings consistent with myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1398787-1	6-17 years	History of prior COVID19 infection in March 2021, mild symptoms. Vaccine #1 on 5/14/21, Vaccine #2 on 6/11/21. Acute onset chest pain/pressure on 6/13/21 in the early morning. Chest pain slowly improved throughout the day. Treated with NSAIDs and colchicine due to concern for myopericarditis.
MYOCARDITIS	1399080-1	6-17 years	myopericarditis
MYOCARDITIS	1399471-1	6-17 years	12 y/o male who received second dose of Pfizer mRNA COVID-19 vaccine (lot number EW0187) on 06/07/2021. Developed chest pain the morning of 6/10 /21 at 0430 and was admitted on 6/10 to Intensive Care Unit for monitoring. Lab and imaging studies were consistent with acute myocarditis. Troponin peaked at 3.32 on admission and was down to 1.33 by the time of discharge on the following day on 6/11/21. No interventions except NSAIDs (ibuprofen) were administered during the admission and he did well. He will follow up with Cardiology as an outpatient.
MYOCARDITIS	1399950-1	6-17 years	Patient received the vaccine on 6/11/2021. On 6/12/2021 he developed pleuritic chest pain. The pain worsened and he presented to the ED on 6/14/2021. He was found to have myocarditis and quickly improved--chest pain resolved on 6/15. Treated with a 5 day course of prednisone. Improvement started before treatment with prednisone.
MYOCARDITIS	1400077-1	6-17 years	fever, chest pain, elevated troponin, and EKG changes consistent with myocarditis.
MYOCARDITIS	1400174-1	6-17 years	Patient developed chest pain and found to have myocarditis with elevated troponins. Chest pain responding to Ibuprofen monotherapy.
MYOCARDITIS	1400188-1	6-17 years	Myocarditis
MYOCARDITIS	1400232-1	6-17 years	Chest pain two days after receiving vaccine. Labs obtained were troponin elevated to 21.8 BNP 230, diagnosis of myocarditis. Troponin levels are down trending. Echocardiogram obtained and plan for cardiac MRI. EKG obtained overall unremarkable.
MYOCARDITIS	1400260-1	6-17 years	16 yo male with h/o CML in remission without known cardiac dysfunction (no history of cardiotoxic chemotherapy) who had his second Pfizer COVID vaccine on 6/12 afternoon and then presented to the ER with fever, headache, and hypotension requiring multiple fluid boluses and admission. No complaint of chest pain on admission, but does complain of 6/10 chest pressure in the left chest 6/14, leaning forward, with mild difficulty breathing. No palpitations, skipped beats, racing beats, dizziness or syncope. Troponin was checked 6/14 at 1020 which was elevated to 0.35. Repeat one at 1600 peaked at 1.35. Then 6/15 at 0350 it came down to 0.5. Antibiotics stopped after one dose 6/13, he received acetaminophen and ibuprofen for symptomatic management.
MYOCARDITIS	1400385-1	6-17 years	16 year old male with no PMH who presented with chest pain. Initially on 6/10-6/11 had expected myalgias and headaches post vaccination similar to dose #1, but later 6/11 developed chest pain that made it impossible for him to sleep. It was waxing and waning but continued through 6/12 which after discussion with PMD ultimately led to referral into our facility for further evaluation. Received a dose of ibuprofen with marked symptomatic relief. No further medications given during his time, his chest pain had resolved after that ibuprofen dose and was at clinical baseline until discharge on 6/15. Prolonged hospital course was to arrange for cardiac MRI to be done for comparison. Otherwise had serial labs (documented below) which had trended in the right direction.
MYOCARDITIS	1400623-1	6-17 years	Presented to urgent care on 5/28 with complaints of sore throat, Headache, body aches and fever for 103, slight cough, denies chest pain or SOB. Had a neg rapid strep. Diagnosed with viral illness 5/30 presented to the ED with chest pain, cough, wheezing and SOB. Also had diarrhea and low abdominal pain. Was hypotensive and bradycardia. Received 2 bolus of Lactated Ringers . EKG with ST segment elevation. Concern for MISC. Transferred to hospital. 5/30 at the hospital he had another bolus of fluid, continued bradycardia admitted to the ICU for potential for hypotension during IVIG for suspected MISC, worsening ST elevation on EKG. TTE unremarkable. Started on IVIG, anakinra, lovenox and solumedrol. Monitored on telemetry. EKGs consistent with myopericarditis. discharged home on prednisone on 6/4 with a long taper, has follow up with rheumatology and cardiology. Stool enterovirus positive culture positive. He had previously been diagnosed with COVID-19 in November 2020
MYOCARDITIS	1400629-1	6-17 years	Acute myocarditis on 6/12/2021 --- chest pain, dysphagia, transient chills
MYOCARDITIS	1402129-1	6-17 years	Myocarditis/elevated troponin
MYOCARDITIS	1402390-1	6-17 years	"Patient is a 17 year old male presenting with post-vaccine myocarditis. He had his second dose of his Pfizer COVID vaccine 3 days ago (6/11/2021) and that evening felt some mild burning central chest pain. States that the pain has been intermittent since then, non-pleuritic, non-exertional, but last night he had a severe episode that woke him from sleep, so his mother called the pediatrician who recommended he come to the ED. ED Course: Vitals - T: 36.7 ¦C, P: 79, R: 20, BP: 119/73, O2 SAT: 98% RA EKG - NSR 74, no acute abnormalities CXR - no acute process Trop - 32 Echo - normal PICU Course Cards: Troponin downtrending from 32.7 => 25.3 => 22 => 23.1 at time of discharge. Has been without chest pain during admission. Cardiac MRI demonstrating ""Subepicardial delayed gadolinium enhancement in the mid inferolateral wall consistent with suspected diagnosis of acute myocarditis. Normal biventricular size and function with no hypertrophy. Normal valve function and structure."" He will follow up with cardiology on 7/12 with repeat troponin on 6/18. EKG and ECHO unremarkable. ID: CBC, CRP unremarkable. Enterovirus PCR and RPP Negative. COVID-19 PCR Negative. COVID-19 IgG negative. Afebrile though out admission."
MYOCARDITIS	1402451-1	6-17 years	Had chest pains on 06/05 he was admitted into the hospital on 06/06. His heart enzymes were elevated and was diagnosed with myocarditis which was directly linked to the vaccine. He was given IVIG treatment to bring down his enzyme levels.
MYOCARDITIS	1402642-1	6-17 years	myocarditis
MYOCARDITIS	1402955-1	6-17 years	Symptoms: 2 days post second dose of Pfizer Vaccine Chest pain, nausea, tachycardia, and myocardial inflammation with elevated troponin and inflammatory markers Treatment: Started ibuprofen 600mg Q6H and Colchicine loading dose followed by 0.6mg QD

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1403291-1	6-17 years	16yo previously healthy male presenting with chest pain. He received second dose of Pfizer Covid vaccine on Wednesday at 3p. That evening, he developed fevers, chills and had trouble sleeping. On Thursday, he began feeling heart palpitations and again slept. Overnight, he developed midline chest pain, and decided to present to the emergency room. His EKG showed elevated ST segments. Labs were remarkable for elevated troponin, leukocytosis, and elevated CRP; echo showed normal function but subtle hypokinesis of the apex. He was given morphine, Tylenol, Ketorolac, 1L NS, and possibly aspirin before being transferred to the ED. In our ED, he had a reassuring exam, was no longer reporting chest pain. He had labs drawn which showed a white count to 15.3, normal H/H, Plt 152, ESR 12, CRP 10, and Trop T 1.14. Aside from the above symptoms, he has been in his usual well state without viral symptoms, nausea, vomiting, diarrhea, rash, joint pain, or other symptoms. He has no past medical or surgical history. Immunizations are up to date. His social history is benign. Patient was admitted to the cardiology floor for continued monitoring of his troponin levels and EKG. An echocardiogram was performed which showed mild LV systolic dysfunction. He was then treated with IVIG 2g/kg and started on methylprednisolone IV q12h. He remained asymptomatic with no chest pain throughout his admission. He was transitioned over to PO steroids on 6/13 which he tolerated well. On day of discharge, his troponin levels were trending down. Cardiac MRI showed an area of late gadolinium enhancement in the LV, with no abnormal function. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake including tolerance of PO steroid. Prescriptions sent to preferred pharmacy. Follow up with cardiology to be arranged. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement with plan. Reasons for new, changed, and discontinued medications: - Prednisone - Famotidine Patient was admitted for management of myocarditis thought to be due to his SARS-CoV2 vaccination. He received IVIG and steroids. He had multiple EKGs, echocardiogram, and a cardiac MRI. He showed improvement during his hospitalization. He will be followed closely by Cardiology who will advise return to exercise and repeat imaging needs. **Please note that we do not have access to the vaccination records (lot, etc)**
MYOCARDITIS	1403346-1	6-17 years	Patient is a healthy 15 year old male presenting with chest pain in the setting of recent SARS-CoV2 vaccination. He was in his usual state of health until he received the second dose of the Pfizer/BNT SARS-CoV2 vaccination on Thursday 6/10. Shortly after and into the following day, he developed fatigue, chills, and a headache, which resolved within 24 hours. However, early this morning at around 2am, he awoke with sharp central chest pain associated with some shortness of breath, radiating to his left, prompting him to present to the ED. Initially presented to Hospital ED. Vitals stable. Labs notable for troponin 0.07 and d-dimer 1.48. EKG with sinus rhythm, ST elevation in inferior leads. Given ibuprofen 600mg and contacted Cardiology, who recommended transfer to another ED for echocardiogram and further evaluation. Here in the ED, vital stable, exam non-focal. Labs notable for troponin 0.13 and CRP 3.0; CBC, chem 10, LFTs, BNP, all within normal limits. CXR normal. Echo done which showed normal function (prelim read). Seen by ID who recommended standard workup for vaccine-induced myocarditis. He was admitted to the floor in stable condition. Hospital Course: Due to rising troponin during hospital day 1 (peak 0.23), patient was treated with IVIG 2 g/kg (6/14) and methylprednisone 30 mg BID (6/14 - 6/15). On 6/15 a cardiac MRI was obtained that showed a small area of late gadolinium enhancement of the LV with normal function. Troponin was trended every 12 hours and had decreased to 0.11 on 6/15 AM. He was transitioned to oral prednisone 30 mg BID to complete a total steroid course of 5 days (6/14 - 6/18). During admission he was found to be EBV PCR positive with all other viral testing including EBV serologies pending. It is still thought this is likely due to post-vaccine inflammation and not viral myocarditis but serologies should be followed up as outpatient. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake. Prescriptions sent to preferred pharmacy. Follow up with cardiology. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement with plan. Reasons for new, changed, and discontinued medications: Prednisone for myocarditis Famotidine for stomach protection while on prednisone Discharged home with follow up tests scheduled for 6/17/21.
MYOCARDITIS	1403584-1	6-17 years	Myocarditis Developed fevers, chest pain and hematuria. Fatigue started the next day, night sweets the night after x 2 days, fever on 6/14, chest pain on 6/15. Troponin elevated, Echo with poor ventricular function, UA with hematuria. Improving on NSAIDs
MYOCARDITIS	1403634-1	6-17 years	Patient developed chest tightness and pain after exercising for the first time in a while on 6/7/2021. This worsened over the next several days and he presented to the hospital with these symptoms on 6/13/2021. Lab work revealed elevated troponins, EKG showed elevated ST segment elevation and he was diagnosed with an acute perimyocarditis.
MYOCARDITIS	1403731-1	6-17 years	The patient with a past medical history of Hypertension presented 3 days after receiving the 2nd dose of Pfizer vaccine with chest pain. The patient initially received pain medication for symptom relief. An echocardiogram showed a low normal ejection fraction. Cardiac MRI showed evidence of myocarditis. COVID antibodies were positive. RVP and Lyme panel for myocarditis negative. The patient received a total of 2g/Kg of IVIG over 2 days then was discharged on colchicine, ibuprofen, Aldactone, and lisinopril. In follow up appointment patient endorsed having gotten back to baseline activity and function
MYOCARDITIS	1404785-1	6-17 years	"Patient received 2nd dose of Pfizer vaccine on 6/10/2021. Initially had typical symptoms of fatigue and arm pain. On 6/13/2021, woke up with central chest pain and ""fluttering"" of his heart. Mother read the Agency website concerning possible myocarditis after Covid vaccinations so then took him to the ED. The chest pain lasted about an hour (resolved in triage in the ED). There he had a normal ECG and chest x-ray. He was referred to see me in clinic on 6/15/2021. He had a normal echocardiogram. Due to the parental concern for possible myocarditis, I recommended a troponin which would show if his chest pain were possibly related to that. It returned mildly elevated at 0.21 ng/mL, prompting me to enter this as a possible mild case of myocarditis after vaccination."
MYOCARDITIS	1406661-1	6-17 years	Fever, chills, headache, chest pain starting the day after vaccine administration
MYOCARDITIS	1406788-1	6-17 years	myopericarditis
MYOCARDITIS	1407658-1	6-17 years	myocarditis with fever, tachycardia, pleuritic chest pain, elevated troponin, accelerated junctional rhythm, normal echo, tachycardia. MRI and two day hospitalization and follow-up with pediatric cardiologist.
MYOCARDITIS	1407939-1	6-17 years	Patient developed febrile illness the next day following the day of receiving dose#2 of the vaccine. On the following day, he developed chest pain and shortness of breath so he was transferred to emergency room and admitted. He was diagnosed with mycarditis based in clinical symptoms and very elevated troponin

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1407948-1	6-17 years	presented to the hospital 6/14/2021 with chest pain and troponin leak (peak of 14.9 after 2nd Pfizer vaccination (6/11/2021) with ST elevation on EKG and ventricular ectopy with non-sustained ventricular tachycardia, PVCs. treated for suspected myocarditis. remains hospitalized
MYOCARDITIS	1407965-1	6-17 years	Myocarditis with elevated troponins
MYOCARDITIS	1407972-1	6-17 years	fever, chills, palpitations, orthopnea. elevated troponin I and BNP presented to hospital 6/14/2021 after 2nd pfizer covid vaccine on 6/11/2021. treated for suspected myocarditis. discharged from the hospital on 6/16/2021 with decreasing troponin I, resolved symptoms, no ECG or echo changes
MYOCARDITIS	1407988-1	6-17 years	Patient was hospitalized on 6/11/2021 after presenting to the ER with a history of chest pain x 48 hours. Labs showed an elevated troponin and an EKG was consistent with pericarditis/ myopericarditis. On further questioning patient had received the second dose of his COVID-19 Pfizer vaccine 2 days prior to the onset of chest pain. In the ER he was given a dose of ketorolac which relieved his chest pain. An echo as done which showed normal left ventricular systolic function and no pericardial effusion. He was admitted for further monitoring of his heart rhythm and to trend his troponin. He remained in the hospital for ~ 48 hours and was discharged on 6/13. His troponin was at its peak at his initial presentation and was 7,077. It initially decreased in the first 3 hours, but had small increases in the first 24 hours of admission. However, it had decreased to a low of 1575 at the time of discharge. His CRP initially was 4.4 (normal < 1 mg/dL) and decreased to 1.5 at discharge. ESR was mildly elevated at 23 and decreased to 18 at discharge. Chest pain had completely resolved within 12 hours of admission. He was maintained on ibuprofen 600 mg three times daily.
MYOCARDITIS	1407993-1	6-17 years	6/15/2021 started with chest pain after second Pfizer COVID vaccine (given 6/12/2021), elevated troponin. resolution of symptoms. treated for suspected myocarditis. received toradol at outside hospital and then motrin q6h. No ECG changes, normal echo
MYOCARDITIS	1408000-1	6-17 years	Myocarditis
MYOCARDITIS	1409661-1	6-17 years	"myocarditis; pericarditis; SOB; Chest pain; troponins as high as 25; BNP of 150s; This is a spontaneous report from a contactable pharmacist. A 14-year-old male patient received bnt162b2 (BNT162B2), dose 1 intramuscular on 26May2021 (Lot Number: EW0197) at the age of 14-year-old as 1st dose, single dose for covid-19 immunisation. Medical history included Autism, asthma and COVID-19 which was diagnosed prior to vaccination. The patient's concomitant medications were not reported. The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. The patient experienced pericarditis/myocarditis with ""SOB"" and Chest pain and troponins as high as 25 and BNP of 150s. All the events occurred on 27May2021 with outcome of not recovered. The patient underwent lab tests and procedures which included COVID-19 IgM (Nasal Swab): negative on 29May2021, COVID-19 IgG (Blood test) positive on 29May2021. The patient received NSAIDS and Opioids as treatment.; Sender's Comments: Based on the available information and known product profile, the causal relationship between the reported events and the use of BNT162B2 cannot be fully excluded. There is limited information available, which precludes a more meaningful assessment. The case will be assessed further upon receipt of additional information. The impact of this report on the benefit/risk profile of the Pfizer drug is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate"
MYOCARDITIS	1409940-1	6-17 years	Diagnosis: Acute myopericarditis. Presentation: Pt had typical post-vaccine side effects on 6/7/21 including fever and malaise. Also had intermittent mild substernal chest pain starting 6/7/21. Malaise and fever resolved by 6/8/21 but intermittent chest pain continued to occur. Vomited x1 on 6/9/21 in early morning hours, which was followed by severe constant substernal chest pain, pain worse when lying down. Presented to medical care on 6/9/21, seen first via phone visit, then pediatric office visit, then sent to ED and admitted to hospital. Treatment: Naproxen 250 mg PO BID starting on 6/9/21, continues on this treatment as of 6/17/21. Outcome: Symptoms resolved on 6/9/21 after naproxen started, discharged home on 6/10/21. Doing well in outpatient without any complications.
MYOCARDITIS	1409946-1	6-17 years	Chest pain with myocarditis (EKG with ST changes, troponin leak) with preserved systolic function
MYOCARDITIS	1410144-1	6-17 years	Myocarditis - symptoms appeared 2 days following the vaccine. Hospitalized with elevated troponin. Started on oral steroids with improvement in labs and symptoms after 24 hrs.
MYOCARDITIS	1410227-1	6-17 years	Chest pain for 2 weeks with fatigue, found to have Perimyocarditis, admitted to the Pediatric ICU. Seen by pediatric cardiology, Started on ibuprofen, IV Immunoglobulin, IV steroids. Troponin continuing to rise. Serial EKGs with ST Elevations(v2-v6) and PR depressions (lead I), which normalized then developed lateral T wave inversions (v3-v6) Admitted on 6/16 Patient is still admitted at time of filing.
MYOCARDITIS	1410403-1	6-17 years	Chest Pain, shortness of breath. Myopericarditis. Transfer to hospital
MYOCARDITIS	1410466-1	6-17 years	Patient experienced chest pain unrelated to activity and pericarditis and myocarditis approximately 48 hours post vaccination
MYOCARDITIS	1410473-1	6-17 years	soreness, fatigue, malaise, myalgias, and nausea- followed by chest pain
MYOCARDITIS	1410832-1	6-17 years	Patient received second COVID vaccine on 6/4. Chest pain developed on 6/6. He presented to hospital where EKG showed ST segment changes and troponin was elevated. he was transferred to our facility. In our emergency department his EKG was abnormal. His troponin was elevated, along with CRP, AST, and ALT. An echocardiogram on 6/7 showed moderately depressed LV systolic function (EF = 34%). He was admitted to the pediatric cardiology service. His picture was felt to be consistent with myopericarditis. During admission, he was treated with NSAIDs and lisinopril was initiated. Repeated echo on 6/9 showed normal LV systolic function. he was discharged home on 6/9 on ibuprofen and lisinopril with plan for pediatric cardiology follow up in 4-6 weeks. Given proximity of patient's onset of symptoms to the second Pfizer vaccine, and given similar cases reported in the literature, the chief concern is whether this patient's symptoms were related to the second Pfizer COVID vaccine. Please note, I did not care for this patient, but am reporting this case on behalf of the attending physician who cared for this patient while he was hospitalized.
MYOCARDITIS	1411034-1	6-17 years	myocarditis. transferred to hospital
MYOCARDITIS	1412622-1	6-17 years	chest pain/myocarditis with elevated troponins.
MYOCARDITIS	1412623-1	6-17 years	chest pain/myocarditis with elevated troponins

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1412971-1	6-17 years	Patient is currently in Pediatric ICU with diagnosed of Myopericarditis today 06/19/2021 Day #2 of hospitalization
MYOCARDITIS	1412996-1	6-17 years	Starting from the night of the second day (i.e., June 10th), the patient feels chest pain. The pain also extends to neck and left shoulder. Deep breath aggravates the pain. The patient could not fall asleep. He had a light fever at the night of vaccination day but the fever was gone before the chest pain. Single lead ECG with Watch has been measured and sent to a friend of the parents' who is a physian, and no abnormal sign was shown from ECG. 400 mg Advil (ibuprofen) was given in the coming morning around 7 AM and the patient was able to fall asleep and symptons were gradually relieved. Another two doses of 200 mg Advil were given with six hours apart on the same day. The pain was gone by the following morning (i.e., June 11th) and no ibuprofen has been given afterwards. We suspect that this is related to myocarditis or pericarditis. This was the second dose of Pfizer COVID-19 vaccine. There was no symptons for adverse effect after the first dose.
MYOCARDITIS	1413331-1	6-17 years	The day after receiving the second dose of the Pfizer mRNA SARS-CoV-2 vaccine the patient had a transient tactile fever and headache. He felt well on 6/17 and went swimming which brought on transient chills and then proceeded to develop midline chest pain. The chest pain worsened, leading to hospitalization on 6/18 with confirmation of myocarditis on cardiac MRI and with elevated troponin.
MYOCARDITIS	1413400-1	6-17 years	chest pain, palpitations, and headache starting at 9am on 6/18 after receiving 2nd dose of pfizer vaccine on 6/13; noted to have a fever on arrival to ED, admitted to hospital and was noted to have sinus tachycardia without arrhythmia; underwent several tests including CT angio, echocardiogram; no clear identified etiology but per discussion with cardiology, suspected transient myopericardial or pleural inflammation from vaccine, improved with motrin
MYOCARDITIS	1413432-1	6-17 years	chest pain, started 1 day after the vaccine and persisted for 3 days until presentation in the ED. chest pain was substernal, constant and non-radiating. No associated SOB
MYOCARDITIS	1413465-1	6-17 years	15 yo male with myocarditis following 2nd dose of pfizer COVID-19 vaccine. He reports that he received the Pfizer COVID-19 vaccine on 6/16/21. In the 1-2 days following the vaccine he experienced fatigue, body aches, and fever to Tmax 101F. Family treated this with anti-pyretics. On 6/18 he started having a pain in his left chest. He was again febrile at that time. On the day of admission his chest pain was worse and he was experiencing pain all over his body. He was noted to be tachycardic in the ED. His initial labs showed a modestly elevated BNP to 593 with a markedly elevated troponin to 1233. CRP was mildly elevated at 3.8. Electrolytes were unremarkable as were LFTs. CBC w/ diff showed an absolute lymphopenia with ALC of 1000 but was otherwise unremarkable. D-Dimer was normal. He was admitted initially to hospital medicine and then was transferred to the ICU due to concern for risk of developing a cardiac arrhythmia. An echocardiogram done showed trace mitral regurgitation but was otherwise normal with normal LV function. CXR was fairly unremarkable. Coags are normal. Repeat electrolytes showed a slight bump in his creatinine. LFTs largely unchaged and procalcitonin of 0.16. He does have a past medical history of PCR proven COVID-19 disease in December 2020.
MYOCARDITIS	1413565-1	6-17 years	Shortness of breath on the day of the shot. Then symptoms went away. About a week after she had chest pains for 1 day. On Sunday, June 13, she had chest pains and she couldn't eat or sleep. Symptoms continued for 2 days. Took her to the doctor who ordered blood tests, EKG and x-rays.
MYOCARDITIS	1413831-1	6-17 years	Troponin on admission was found to be elevated at 4.07. CRP was also elevated on admission at 4.06. Patient was admitted for telemetry monitoring and cardiac evaluation. The echocardiogram showed normal heart function and no pericardial effusion. Given the clinical description of his chest pain, the likely diagnosis was myopericarditis. Patient was initially prescribed scheduled nonsteroidal anti-inflammatories but this was subsequently discontinued as patient was chest pain-free. Patient was started on colchicine. Serial EKGs were obtained which showed subtle changes but no pathologic findings. A repeat echocardiogram prior to discharge showed was normal.
MYOCARDITIS	1413834-1	6-17 years	13 y/o F with hx of exercise-induced asthma BIB mom for dizziness and chest pain s/p Pfizer COVID-19 vaccine received yesterday. Pt endorses nausea, HA, chest pain and SOB. No fever. Chest pain currently. Pt took albuterol 1.5 hours PTA. Pt usually only needs albuterol with physical activity. NO PMH/PSH. Vaccines UTD. NKDA. Differential Diagnosis: vaccine reaction, myocarditis, pericarditis, costochondritis. After assessment and treatment, pt is well appearing, explained to mom on reassessment symptoms have resolved, no chest pain currently. Explained symptoms likely secondary to vaccine reaction, explained normal heart enzymes and normal EKG, strict return precautions given including chest pain and fever.
MYOCARDITIS	1414548-1	6-17 years	Myocarditis
MYOCARDITIS	1414580-1	6-17 years	13 yo previously healthy x ADD, takes Trileptal, Welbutrin, Concerta and Latuda, received second Pfizer Covid vaccine 2 days ago. This morning, began with atraumatic mid-sternal chest pain. Pain is constant, not affected by position - ie no change with sitting/supine/standing. + fever to 100.5 tonight. + emesis x 1. Also had jaw pain that resolved after motrin. No cough, rash, diarrhea. CHEST PAIN - MYOCARDITIS secondary to rare complication of Covid Vaccine vs MIS-C Transport PICU nurse - spoke with Peds ED physician - they recommend IV and labs to evaluate for possible MIS-C.
MYOCARDITIS	1414729-1	6-17 years	13-year-old otherwise healthy female presents to ED by ambulance for chest pain. Patient received her second dose of the Pfizer vaccine on 6/18. The following day, patient had generalized fatigue, sore arm, and one episode of nonbloody nonbilious emesis. Yesterday, patient began to have intermittent midsternal chest pain which radiates to the back. Patient reports symptoms worsen with movement, walking, and deep inspiration. She denies any shortness of breath, or palpitations. She denies any headache, lightheadedness, fevers, chills, diarrhea, abdominal pain, or dysuria. No cardiac family history per mom. Patient did not have any symptoms after her first Pfizer vaccine. Differential Diagnosis: Chest pain, costochondritis, myocarditis secondary to vaccine.
MYOCARDITIS	1415191-1	6-17 years	Patient is a 14 year old male without significant past medical history presenting with chest pain and elevated troponin consistent with myocarditis after second COVID vaccine administration. His troponin level peaked at 4.0 mg/mL. Chest pain resolved prior to discharge. ECG and Echocardiogram results below, both overall unremarkable.
MYOCARDITIS	1415281-1	6-17 years	chest pain 2/2 myocarditis
MYOCARDITIS	1415290-1	6-17 years	Fever and chills onset 12 hours after shot. Then chest pain radiating to axilla worsening with exertion with associated orthopnea onset 6/18, aprx two days after shot. Admitted on 6/20/21 with elevated troponin to 16, with suspected covid vaccine related myocarditis. He is getting IVIG and ketorolac. Pt is stable now without any EKG interval changes, EKG sinus tachy with left axis deviation.
MYOCARDITIS	1415409-1	6-17 years	Myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1415476-1	6-17 years	Chest pain, elevated Troponin I
MYOCARDITIS	1416452-1	6-17 years	Myocarditis diagnosis
MYOCARDITIS	1416898-1	6-17 years	Patient is a 14 y.o. male with no significant PMHx who presented on 6/7 with substernal chest pain, SOB, and diaphoresis. Chest pain while he was in class and progressively worsened, was substernal and was not affected by position. Rated pain as 7/10. He also had associated diaphoresis and SOB. He reported to his school nurse who sent him to the ED. Denies palpitations, no syncope or LOC. No trauma to his chest. No palpitations. No family history of cardiac disease. Denies fever. He plays basketball, football and bassbal but reports he had not participated in any sports after he got the second dose of the vaccine. No similar history of chest pain in the past. No history of syncope. Of note, he received the second dose of the Pfizer COVID vaccine on 6/4. He had received the first dose 3 weeks earlier. In the ED he was noted to be afebrile, PR of 64, RR of 18 and BP of 117/71. His SpO2 was 98% on room air. His Troponin T was 0.04 and BNP was <50. CRP was 10.3, Ferritin, 64 and had a reassuring CBC. Chest XR with no evidence of a cardiopulmonary process. His EKG showed borderline ST elevation in lead II. Pedi ID consulted for acute myocarditis in the setting of completed Pfizer-BioNTech COVID-19 vaccine. Echo on 6/8 showed normal cardiac anatomy and normal biventricular function. Repeat EKG on 6/8 was normal. Troponin T on 6/8 increased to 0.16. His CRP today is down to 7.3. His COVID-19 nasopharyngeal PCR is negative but SARS-CoV-2 nucleocapsid antibody and SARS-CoV-2 spike protein antibody were both positive. No known history of COVID-19 infection in patient or family members. RVP is negative. CMV serology is negative but other infectious diseases work up are pending. UA without pyuria. He has received IVIG and now on steroid.
MYOCARDITIS	1417159-1	6-17 years	15 yo male with history of asthma who presented to the ED on 6/5 with pleuritic chest pain and shortness of breath and admitted for further evaluation and management for suspected COVID vaccine associated myocarditis. Elevated troponin levels peaked 9.12 on 06/06/21, but on discharge decreased to 0.51. Pleuritic pain was also improved on 6/8. Echo demonstrated mild tricuspid valve insufficiency and trivial pulmonary valve insufficiency, but otherwise normal function. EKG on 06/06 with nonspecific T-wave abnormality, likely related to myocarditis. Follow EKG was stabel from 6/6. Cardiac MRI was read preliminarily and had evidence of edema, but good LV function and an LVEF of 61%.
MYOCARDITIS	1417176-1	6-17 years	16 yr old male with hx of familia hyperlipidemia and Lp(A) with onset of chest pain 2 days after Pfizer vaccine. Had headache, fever, chills after vaccine. Short admission, responded well to NSAIDS and discharged for follow up with cardiology with a mild case of myocarditis. Serum IgG for COVID19 also negative.
MYOCARDITIS	1417660-1	6-17 years	Presented with chest pain, elevated troponin, and diffuse ST segment elevation. Found to have myocarditis with decreased LV function. Now status post IVIG and is receiving steroids.
MYOCARDITIS	1417798-1	6-17 years	Perimyocarditis- chest pain, worse lying, better sitting, worse with deep inspiration. Troponin elevation to 13.2. diffuse ST elevation in ECG. Normal BNP, ECHO. no arrhythmias. Admitted overnight and discharged the next day.
MYOCARDITIS	1417945-1	6-17 years	"12 year old healthy male who presents with chest pain 2 days after receiving second dose of COVID-19 vaccine (pfizer) on 6/14. Yesterday with tactile fever and headache, resolved with tylenol. This morning woke up with substernal chest pain, described as ""heaviness on chest,"" worse with deep breaths. No SOB or difficulty breathing. Pain does not radiate. No diaphoresis. No nausea/vomiting. No lightheadedness. No fevers/chills, cough, rhinorrhea, conjunctival injection or sore throat. No rash. Normal PO. Normal UOP. Last stool yesterday, normal. No sick contacts. No recent travel. No family hx of cardiac disease, sudden death, or coagulopathy."
MYOCARDITIS	1417959-1	6-17 years	"Patient is a 15 y.o. male presenting for 5 days of symptoms following his second dose of Pfizer SARS CoV 2 vaccine culminating in an urticarial rash which prompted him to present to emergency department. Patient received the second dose of the Pfizer vaccine on June 8 (first dose was administered on may 17 without symptoms). The next day (June 9) he complained of nausea and subjective fever. On June 10 he complained of chest ""weakness"" and shortness of breath intermittently. He had also mild light headedness but no syncope or palpitations. All those symptoms resolved by June 11. However, he had a diffuse rash on extremities, pruritic, and non-exudative."
MYOCARDITIS	1419212-1	6-17 years	chest pain. myocarditis. elevated troponin
MYOCARDITIS	1420167-1	6-17 years	Started with chest pain and nausea 6/16/21 morning. Transported to Emergency Department due to recent news of possible vaccine side effects. Troponins found 11.47. Transported to Pediatric ICU for monitoring. Stable and resolved chest pain. Was monitored with peak troponin 44.96 on 2nd day of admission. Found to have myopericarditis, ECHO initially 56% ejection fraction on 6/16->55% on 67->62% on 6/22. Troponins downtrended after intravenous immune globulin given twice. Troponin 0.54 6/22 (repeat one pending) prior to discharge.
MYOCARDITIS	1420689-1	6-17 years	Chest pain with elevated troponin. Patient treated with corticosteroids and IVIG.
MYOCARDITIS	1421070-1	6-17 years	post-covid myocarditis with troponin leak
MYOCARDITIS	1421124-1	6-17 years	days of left arm and 1 day of acute left side chest pain following 2nd administration of COVID-19 vaccine. Patient reports that 3 days ago, he received the 2nd COVID-19 vaccination (Pfizer) in his left anterior deltoid area. Following this he developed diffuse body aches and headaches. On day prior to admission, patient developed fever at home with T-max 101.8¦ F. after going to sleep, he was awoken with nausea. Patient experienced episodes of vomiting, which he reported mostly consist of water, and also reported left arm and left chest pain at this time. He reports the pain felt like pressure and was a severity of 9/10. Patient also experienced numbness and tingling in his left hand. He attempted to take Tums and Motrin at home with mild relief of symptoms. Mother then brought patient in to Emergency Room. Patient denies syncope, no palpitations, pain does not worsen with deep breathing, pain unchanged by position.. emergency department course: Presented with temperature 99.7¦ F, heart rate 92, blood pressure 138/90, saturating 98% on room air. Laboratory work revealed elevated troponin, elevated CK-MB, and elevated creatine kinase. Chest x-ray was performed which was normal. EKG revealed normal sinus rhythm. Patient was transferred to our emergency room and subsequently admitted to the floor. Hospital Course: He was evaluated in Hospital Emergency Room and admitted to the floor for more close monitoring. His repeat labs showed elevated troponin and an echocardiogram was unremarkable. In view of the elevated troponin was case was discussed with the cardiologist who recommended a cardiac MRI which was performed which did reveal myocarditis, pericarditis. In view of this ICU service is consulted for admission closer monitoring further evaluation management.
MYOCARDITIS	1421413-1	6-17 years	chest pain, myocarditis with elevated troponin

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1423147-1	6-17 years	Dyspnea Myocarditis, transferred to hospital for further management
MYOCARDITIS	1423649-1	6-17 years	began 6/13 with chest pain and SOB, mild dizziness and sob. Sx persisted -went to urgent care- EKG showed ST segment changes - sent to ED for eval . In ED vital stable, labs showed elevated troponin of 81 Echo in ED normal ventricular function- CXR nl - admitted sx myopericarditis
MYOCARDITIS	1424231-1	6-17 years	Patient presented ~2 weeks after 2nd pfizer vaccine with chest pain and tachycardia diagnosed with myopericarditis course complicated by pericardial effusion and hypotension which improved prior to discharge.
MYOCARDITIS	1424326-1	6-17 years	6/23 ED visit 14-year-old male who presents to the emergency department 6 days status post Covid vaccine #2 who has had persistent fever, up to 105 ¦F, with some vomiting and nonspecific rash to his arms today. Work-up initially showed a questionable pulmonary nodule versus infiltrate which CAT scan later shows as a likely hamartoma, likely incidental to his fever. Work-up showed slight leukopenia, neutrophilia and mild elevation of his cardiac enzyme. I discussed the case with both my attending physician, our hospitalist pediatrician Doctor T., and the recommendation was to get advice from hospitalist. I discussed the case with Doctor A. hospitalist on-call, gave him all of the pertinent information including all vitals, lab assessment, EKG, chest x-ray and CT scan findings. His impression is that this is likely post vaccine myocarditis. Because the patient has no cardiomegaly, pericardial effusion, normal EKG and feels essentially asymptomatic at this time the patient and his family was given the option of close follow-up tomorrow for repeat troponin and NSAIDs versus transfer to hospital. Risk/benefits/alternatives were discussed with the patient family and ultimately they would like to treat as an outpatient and come back tomorrow for repeat troponin testing. 6/24 14-year-old male with no chronic illnesses presenting to the emergency department with a worsening rash to the palms of his hands and soles times this morning. Per mother, patient was seen in the emergency department yesterday for generalized body aches, intermittent fever as high as 105 ¦F, vomiting and localized rash to bilateral forearms. Patient was diagnosed with fever and myocarditis. Mother states symptoms started after receiving a second dose of COVID - 19 vaccine approximately 1 week ago. No diarrhea or shortness of breath.
MYOCARDITIS	1425921-1	6-17 years	Patient was diagnosed with myocarditis on 6/24/2021 after 4 days of fever, malaise, fatigue, and an episode of chest discomfort. His evaluation revealed elevated inflammatory markers, CRP and ESR, and elevated troponin levels. His EKG and echocardiogram were normal. He has been started on colchicine.
MYOCARDITIS	1426119-1	6-17 years	myocarditis requiring hospitalization and IVIG treatment otitis externa
MYOCARDITIS	1426909-1	6-17 years	Chest pain with elevated troponin; Chest pain with elevated troponin; Suspect myocarditis; This is a spontaneous report from a contactable physician. A 15-year-old male patient received BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, solution for injection; Batch/Lot Number: EW0178) via an unspecified route of administration, on 06Jun2021 (at the age of 15 years old) as dose 2, single for COVID-19 immunisation. The patient's medical history and concomitant medications were not reported. Prior to vaccination, the patient was not diagnosed with COVID-19 and has not been tested for COVID-19 since the vaccination. The facility where the most recent COVID-19 vaccine was administered was at the Pharmacy or drug store. The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. Any other medications that the patient received within 2 weeks of vaccination was not reported. Historical vaccine included the first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE; lot number: EW0176) on 16May2021. On 08Jun2021, it was reported that the patient experienced chest pain with elevated troponin which was treated with IVIG and ketorolac. Suspect myocarditis was also reported. The outcome of the event was unknown. Follow-up attempts are possible. Further information is expected.; Sender's Comments: As an individual case report there is not enough evidence to establish a causal relationship with the suspect vaccine. Currently there is no clear biological plausibility between the vaccine use and the events chest pain with elevated troponin, Suspect myocarditis onset. More information such as complete medical history and concomitant medications are needed for fully medical assessment. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate.
MYOCARDITIS	1426976-1	6-17 years	Patient is a previously healthy fully-vaccinated 12 yo presenting with fever and chest pain. He had fevers to 101-102 6/17-6/19 that were responsive to antipyretics, then the chest pain started 6/20 and has been constant 5/10 pain since. It is burning and located substernal/between the scapula. Activity/breathing doesn't worsen the pain, but it is worst at night. He also reports a mild headache today that has since resolved. He went to his PCP today and had an EKG concerning for diffuse precordial ST elevations, so he was referred to the ED with concern for myo/pericarditis. Of note, Patient received a second dose of the Pfizer COVID vaccine on 6/11. He also travels every week and has removed ticks from himself that were unattached. No known bites and no rashes. He has not had any n/v/d, no abdominal pain, no cough/congestion/rhinorrhea, no syncope, no palpitations. In the ED, he was well-appearing but tachycardic to the 120s with otherwise normal vitals. He developed fever to Tmax 38.3 that improved with Motrin. On exam he had rash concerning for erythema migrans with multiple satellite lesions. He an EKG with ST elevations in the inferolateral leads. POC US did not show any pericardial effusion. Cardiology was consulted (see consult note) and recommended troponin, which was 1.08, and CRP, which was 7.52. CXR showed clear lungs and normal cardiac contours. Hospital Course: Patient was admitted for further workup and management of his perimyocarditis. Given his erythema migrans rash and positive history of recent multiple tick exposure, we were concerned about Lyme disease (Lyme antibody pending) and sent testing for co-infection (Anaplasma, Ehrlichiosis) with smear negative for Babesia. We treated him empirically with doxycycline (given antibiotic allergies) and his rash improved. We also considered myocarditis following COVID vaccination. He had serial EKG's done which showed low-normal function, with EF=55.2%. He had serial troponins sent and they were downtrending at the time of discharge. He had chest pain that improved with PRN ibuprofen. He did not require steroids or IVIG. Cardiac MRI was completed prior to discharge and showed normal function and an area of subepicardial LV myocardial late gadolinium enhancement. consistent with myocarditis. At the time of discharge, he had no chest pain, was eating and drinking normally, and family was in agreement with plan for close Cardiology and Infectious Disease follow-up.
MYOCARDITIS	1427859-1	6-17 years	myocarditis requiring care in pediatric ICU

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1428020-1	6-17 years	He received his 2nd dose of COVID vaccine (Pfizer) on 6/19. He developed a fever on 6/20 which lasted for a day. He then felt better on 6/21. Then, on 6/22 at 1am, he woke from sleep due to chest pain. It was sharp and did not radiate anywhere, and not reproducible. He took 400 mg ibuprofen which improved his pain somewhat. Denies any other fever, rhinorrhea, cough, SOB, difficulty breathing, n/v/d, dysuria or difficulty with urination. Admitted 6/22 due to elevated troponin and abnormal EKG. Troponin leak and MRI with findings consistent with myocarditis. Had NSVT x 4 beats on 6/22. He was treated with 5 days of Motrin 600 mg ATC.
MYOCARDITIS	1429398-1	6-17 years	had his second shot on 21Apr2021 and was in the hospital for chest pains/pressure on April 23-25, diagnosed with Myocarditis,; Myocarditis; had his second shot on 21Apr2021 and was in the hospital for chest pains/pressure on April 23-25, diagnosed with Myocarditis,; This is a spontaneous report from a contactable consumer (patient). A 17-years-old male patient received second dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, formulation: Solution for injection, lot number: EW0162), via an unspecified route of administration in left arm on 21Apr2021 (at the age of 17-year-old) and as single dose for COVID-19 immunisation. Medical history reported as none, patient had no known allergies. Concomitant medication included escitalopram, dose: 10 mg taken for an unspecified indication, start and stop date were not reported. Historical vaccine included first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, formulation: Solution for injection, lot number: ER8732), via an unspecified route of administration in Arm Left on 31Mar2021. Patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. Reported that patient received Escitalopram 10 mg within 2 weeks of vaccination. Patient was not diagnosed with COVID-19 prior to vaccination and patient did not test for COVID-19 since the vaccination. It was reported that patient had his second shot on 21Apr 2021 and was in the hospital for chest pains/pressure on April 23-25, diagnosed with Myocarditis. The patient was hospitalized for the events for 2 days on 23Apr2021 to 25Apr2021. On 24Apr2021, the patient underwent lab tests and procedures which included blood test for covid test and result with negative. Patient received treatment for events with 10+ ekg's or so, ibuprofen. The outcome of the events was recovered on an unspecified date in 2021.
MYOCARDITIS	1429425-1	6-17 years	After seeing reports of pericarditis/myocarditis, we contacted pediatrician and were advised that it sounded like a textbook reaction; After seeing reports of pericarditis/myocarditis, we contacted pediatrician and were advised that it sounded like a textbook reaction; Patient started complaining of chest pain on 4th day following 2nd vaccination. Pain made worse by certain movements. (like leaning forward to pick something up.) It didn't bother him enough to seek; This is a spontaneous report from a contactable consumer (patient). A 13-year-old male patient received second dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE), solution for injection: Lot/Batch number: EW0178,) via an unspecified route of administration on 03Jun2021 at 03:30 pm (age at vaccination: 13 years) on the right arm as single dose for COVID-19 immunisation at Pharmacy or Drug Store. Medical history and concomitant medications were not reported. The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. Prior to vaccination, the patient was diagnosed with COVID-19. Since the vaccination, the patient had not been tested for COVID-19. The patient previously received first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE), solution for injection: Lot/Batch number: EW0185) via an unspecified route of administration on 13May2021 at 12:00 pm on the right arm as single dose for COVID-19 immunisation. On 4th day following the 2nd vaccination on 07Jun2021, the patient started complaining of chest pain. The patient stated that the Pain was made worse by certain movements (like leaning forward to pick something up). The patient stated that the chest pain didn't bother him enough to seek medical care and gradually resolved without treatment by 8th day. After seeing reports of pericarditis/myocarditis, the patient contacted pediatrician and was advised that it sounded like a textbook reaction and that we should report it here. The patient stated that he will have a checkup next week. Device Date was reported as 11Jun2021. The case was considered as serious (medically significant). The patient did not receive any treatment for the events. The outcome of the events was resolved Follow up needed, further information has been requested.
MYOCARDITIS	1429596-1	6-17 years	Myocarditis temporally related to second Pfizer vaccine.
MYOCARDITIS	1429984-1	6-17 years	Myocarditis
MYOCARDITIS	1430027-1	6-17 years	Developed chills, nausea, headache, vomiting on 6/24/21-6/25/21, then developed palpitations 6/26/21 prompting evaluation in emergency department and hospitalization for myocarditis
MYOCARDITIS	1430244-1	6-17 years	Two days after second dose of Pfizer vaccine, started with pressure-like chest pain that woke him up from sleep. Made better when sat up worse when lying down. Some relief with motrin.
MYOCARDITIS	1430395-1	6-17 years	Patient received second dose of covid vaccine on 6/22/21, then developed SOB and CP on 6/25/21. He was seen in the outpatient clinic and had an EKG which did not show significant ST elevation or LVH. His troponin could not be drawn at that time d/t difficult access- he had labs done on 6/27/21 which were signficant for troponin of 2.1ng./mL. He had a repeat EKG on 6/27/21 which did show subtle ST elevation in the inferior leads. He was diagnosed with myocarditis- Cardiology was consulted. He is being admitted to the hospital for observation overnight- will get an echocardiogram and serial troponins- results not yet known at the time of this report. He is currently en route to the hospital.
MYOCARDITIS	1430540-1	6-17 years	Perimyocarditis with significant troponin elevation
MYOCARDITIS	1430541-1	6-17 years	Myocarditis with significant troponin leak
MYOCARDITIS	1430545-1	6-17 years	myocarditis
MYOCARDITIS	1430595-1	6-17 years	chest pain 24 hours after vaccination with evidence of myocarditis by elevated troponins. Admitted for observation. echocardiogram was within normal limits. Tropinin downtrended over 24 hours and she was discharged home with outpatient cardiology follow-up to include a cardiac MRI and outpatient cardiology visit.
MYOCARDITIS	1430985-1	6-17 years	Patient developed chest pain 3 days after her 2nd covid vaccine and was found to have elevated troponin consistent with myocarditis. She had sub sternal chest pain that lasted for about 5-7 days after her vaccine. She had normal vital signs and exam on the day she was seen in clinic and through out her course.
MYOCARDITIS	1431066-1	6-17 years	Patient with 1 day of chest pain, leading to ER visit that same day and admission to hospital with concern for myocarditis. Currently admitted to hospital awaiting further workup.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1431116-1	6-17 years	15 year old male here with grandmother due to concerns regarding chest pain and shortness of breath. Received the 2nd dose of Pfizer vaccine 4 days ago. That evening had body aches, chills, fever and shortness of breath. The other symptoms resolved the next day, but continues with shortness of breath, worsening over time. This morning, associated with some mid sternal chest pain. Was able to rake grass outside yesterday, but reports made SOB worse. History of asthma, reports symptoms not typical of usual exacerbation, has trialed Albuterol without relief. Denies dizziness, palpitations. 15 year old male with post vaccine associated myocarditis. Troponin I 0.426 ng/mL (<0.300) H* 06/28/2021 01:24
MYOCARDITIS	1431226-1	6-17 years	Myocarditis. patient reports shortness of breath and fatigue 24 hours post vaccine. Admitted to the hospital 17 days post vaccine with elevated troponin, chest pain, and shortness of breath.
MYOCARDITIS	1431463-1	6-17 years	Difficulty breathing, chest pressure and chest pain, suspected myocarditis
MYOCARDITIS	1431511-1	6-17 years	14 yo male presented with a 3 day history of chest pain after COVID-19 vaccine, found to have elevated Troponin level. Dx most likely myocarditis in the setting of recent COVID-19 vaccine. Patient was started on Ibuprofen 600 mg q6 hr scheduled. Troponin trended q6 hours with subsequent downtrending of Troponins. (Highest troponin 5.03; most recent troponin 0.87 prior to discharge)
MYOCARDITIS	1433132-1	6-17 years	Myocarditis diagnosed after presenting with chest pain and elevated and rising troponin levels. Chest pain developed on 6/27 and troponin elevated noted on 6/27. Admitted to the hospital for trending troponin levels which initially were rising over 6/27 and then started to decrease on 6/28. ECG and Echo were normal on 6/27. Cardiac MRI showed evidence of myocarditis. Patient had no arrhythmia during time in hospital. Discharged home on 6/28 on Naprosyn bid with exercise restriction. Will follow up in cardiology clinic in 2 weeks.
MYOCARDITIS	1433368-1	6-17 years	myopericarditis, chest pain, myalgias, chills
MYOCARDITIS	1433418-1	6-17 years	perimyocarditis
MYOCARDITIS	1433435-1	6-17 years	myopericarditis
MYOCARDITIS	1433761-1	6-17 years	"Patient experienced chills, fatigue, headache on 6/10/21. On 6/11/21 she experienced shortness of breath, chest pain, and ""feeling like she was going to die"". Symptoms resolved by the following day. Suspect myocarditis."
MYOCARDITIS	1434274-1	6-17 years	Post COVID-19 immunization myocarditis
MYOCARDITIS	1437062-1	6-17 years	Myocarditis diagnosed on 6/17. Patient then also diagnosed with a pulmonary embolism on 6/30.
MYOCARDITIS	1438281-1	6-17 years	On 06/02/2021, (23 days after vaccine) the patient and his identical twin brother were at dinner when patient had shortness of breath and chest pain. They brought the patient to Medical Center where a CT of the chest was performed to rule out a pulmonary embolus. No pulmonary embolus was identified and patient was transferred the patient via ambulance to Hospital to the intensive care unit. He was noted to have an elevated troponin, an elevated BNP and a left ventricular ejection fraction of 35%. He underwent a cardiac MRI on 06/04/2021 documenting delayed enhancement in the inferior and inferolateral walls of the left ventricle consistent with myocarditis. The patient's chest pain was quite severe and was only relieved once he was in the intensive care unit at Hospital. He did well for 2-3 days and did not require inotropes but his troponin vacillated and his ejection fraction remain low. He was given IVIG non 06/05/2021 after his echo showed an ejection fraction between 37 in 45%. He subsequently developed headache emesis and neck pain. On hospital day 5, the father was quite concerned for his son and thought ?he was going to die?. The father shared pictures of the edematous, pale son that he took with his phone. He improved over the next 1-2 days and was discharged from the hospital with an ejection fraction on 06/07/21 of 62%.
MYOCARDITIS	1439791-1	6-17 years	Myocarditis. 1d after vaccine with fever, tachycardia, chest pain. Abnormal ekg, elevated troponin. Admitted
MYOCARDITIS	1439886-1	6-17 years	Elevation of the ST in the EKG; pericarditis; Myocarditis; Chest tightening and chest pain; Chest tightening and chest pain; Ever harder for him to laid down so he is no comfortable in sitting up he woke up with a chest pain lying down; This is a spontaneous report from a contactable consumer or other non hcp. A 17-year-old male patient received second dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, Formulation: Solution for Injection, Lot Number: EW0173 and Expiration date was not reported), via intramuscular, administered in Deltoid Right on 04Jun2021 15:00 (Age at vaccination was 17-year-old) as dose 2 single for covid-19 immunization. The patient medical history was not reported. Concomitant medication included no, Vitamins (It is the gummy bear vitamins multivitamins for kids). The patient did not receive any other vaccines within four weeks prior to the vaccination. Historical vaccine included first dose of BNT162B2 for covid-19 immunization. On 06Jun2021the second day they have to go, he woke up with chest tightening and chest pain, and know it was ever harder for him to laid down, so he was not comfortable in sitting up and he woke up with a chest pain lying down. so they had gone to the emergency room and there were some test that they run and one of which the ultrasound of the heart and the EKG in which they saw that that there was elevation of the ST in the EKG and then he was given some medicine she thought it was Ibuprofen or something and then they said that it was fine or it was like pericarditis or myocarditis something like that so when they were advised in the discharged notes that for like more than was whole night they were discharge at the ER on Monday 07Jun2021 around 4 am. The discharge note it says that if you still feel the chest pain or anything or he feel like get sore and feel not much better than they had to go back then and advised to be seen by the primary care doctor or pediatrician which they did on 3 days after on the 09Jun2021, that was the Wednesday seen by his primary doctor so all the paper work was sent and they were advised to be seen still waiting to be seen our current pediatric current in neurology. They do not really know if from the plan of the ER if they know what was going on with his heart hopefully it get resolved or something but then they still do not know firstly was on the ER do not know and there was no medication only in the discharge note if he feel pain or something give him like the Ibuprofen (treatment), Morphine other stuff but a since the time that we were out of the ER, did not give him that because he did not feel the way he did when we went to the ER. The patient underwent lab tests and procedures which included electrocardiogram: elevation of the st on 06Jun2021, ultrasound chest: unknown results on 06Jun2021. Therapeutic measures were taken because of chest tightening and chest pain. The outcome of the events was unknown. Information on lot/batch number was available. Additional information has been requested.
MYOCARDITIS	1440531-1	6-17 years	Chest pain, vomiting after 4 days after vaccine with resultant labs consistent with myocarditis (elevated troponin, ESR, and CRP). Being followed by cardiology.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1440660-1	6-17 years	Miocarditis/Pericarditis, He stayed at the Cardiad ICU at Hospital for 3 days.
MYOCARDITIS	1440887-1	6-17 years	Patient is 17yo previously healthy male that presented to the ED due to a 3-day hx of chest pain in the setting of acutemyopericarditis secondary to the second dose of Pfizer COVID vaccine. On Friday, patient was vaccinated with the second dose of Pfizer COVID vaccine. On Saturday night, he started presenting with headaches, myalgia, a temperature of 100.0F, and chest pain. Such pain is sharp, mid-sternal, non-radiating, a 7/10 at it's worse, and worsened by lying down. For the chest pain he has been taken Tylenol 500mg and Ibuprofen 400mg as needed, with minimal improvement. The next day, his headache, myalgia, and high temperature resolved but he persisted with the chest pain. Today, he took Tylenol 500mg at 7:20am with minimal improvement. Due to persistent chest pain, he presented to our ED. Overall, he denies any UR sxs, trauma, SOB, emesis, diarrhea, abdominal pain, sick contacts at home, and known COVID-19 exposure. Denied any family history for sudden cardiac death, congenital heart disease, or arrhythmia. Currently not taking any medications. No known allergies. VUTD. In the ED, CXR normal. Troponins elevated to 2.8. EKG with sinus rhythm, ST elevation with normally inflected T wave, and normal axis, intervals, and voltages. COVID ID now negative. He was given one dose of Ibuprofen at 11:30am with chest pain improvement to 2/10. In CICU, the patient arrived at RA, hemodynamically stable, with good pulses, cap refill less than 2 secs, and chest pain 2/10. During his hospital course, troponin uptrended to a maximum of 5.09. Repeat level in the afternoon with consistent downtrend at 2.86. EKG with ST elevations consistent with pericarditis but hemodynamically stable, with good pulses, cap refill less than 2 secs, and no chest pain. Echo with no structural abnormalities, no significant valvar dysfunction, and normal LV systolic function. CXR on 06/14 normal and in no respiratory distress. Pain management controlled with ibuprofen 600mg q8hrs and Tylenol PRN. Currently with no chest pain. Mycoplasma IgM and IgM and RPP pending and will be followed as an outpatient. Physical exam unremarkable. Will follow up with Dr. on 06/25/2021. Advised patient and family to refrain from strenous exercise for 2 weeks and no sports for 3-6 months.
MYOCARDITIS	1441095-1	6-17 years	Mom called PCP office 6/30/21 about 4:00 and reported Cainan had a headache and mild chest pain. She brought him into the ED that evening. Mom called 7/1/2021 in the morning and informed us that he had been admitted to BAH for heart swelling. myocarditis
MYOCARDITIS	1443239-1	6-17 years	myocarditis with troponin elevation and arrhythmias diagnosed 7/1/21 after episode of chest pain and nausea
MYOCARDITIS	1446169-1	6-17 years	post vaccination pericarditis and myocarditis from chest pain that developed within minutes of vaccination.
MYOCARDITIS	1446191-1	6-17 years	Myocarditis with symptom onset one day after receiving second dose of COVID Pfizer vaccine
MYOCARDITIS	1446337-1	6-17 years	Pt has developed severe myocarditis and heart failure requiring ECMO. Reported by parents to have gotten the pfizer COVID vaccine ~2 weeks prior. Card not available at the time of this filling but will ask them to get it if possible, given critical illness. We are looking into other etiologies of myocarditis as well. Has only received 1 dose of the vaccine and 2 weeks following seems to be a bit out of the range of usual but no other reported illness
MYOCARDITIS	1446370-1	6-17 years	Received at ER at 2 am on June 6, 2021, then transferred to another ER at 9 am on June 6, 2021. Released from hospital at 4 pm that day with diagnosis of myocarditis.
MYOCARDITIS	1446606-1	6-17 years	Chest pain, elevated troponin levels, acute myopericarditis
MYOCARDITIS	1446657-1	6-17 years	Myocarditis with elevated troponins. Treated with IVIG.
MYOCARDITIS	1446724-1	6-17 years	Chest pressure and lightheadedness
MYOCARDITIS	1446877-1	6-17 years	Patient started by having fever, chills and vomiting. The next day, he started having chest pain and shortness of breath. Mother took him to Urgent care and then was asked to go to the ER. He was admitted to the ICU for positive cardiac inflammatory markers and diagnosed with Myocarditis.
MYOCARDITIS	1447162-1	6-17 years	Chest pain, shortness of breath, severe myocarditis, rhabdomyolysis developed 2 days after his second shot.
MYOCARDITIS	1449513-1	6-17 years	myocarditis; fever; ache; lethargy; This is a spontaneous report from a contactable consumer (patient's grandfather). A 13-year-old male patient received bnt162b2 (BNT162B2), first single dose and second single dose, both via an unspecified route of administration on an unspecified date (Batch/Lot number was not reported) for covid-19 immunisation at age of 13-year-old. Medical history concomitant medications were none. Caller stated that he was inquiring for his 13 years old grandson who was very healthy, active, athletic, on no medications, and with no medical problems. He went on to report that when he received the first dose of the vaccine he had a very strong response to it that included; fever, ache, lethargy, and more. When he had the second dose he had a very similar reaction but worse. He stated that the doctors were thinking that his symptoms could be related to possible myocarditis. The caller explained he was encouraged to call by the pediatrician. The caller reported that his grandson just had his second dose of the Pfizer vaccine and with both doses he had, not a terrible one, but a reaction after both doses. His grandson was not on other medications or had any chronic conditions or acute conditions, he was healthy. Outcome of the events was unknown. Information about batch/ lot number has been requested.
MYOCARDITIS	1450054-1	6-17 years	Presented to Emergency Dept with acute chest pain, somewhat positional, on 03 July -- two days after reported receipt of 2nd dose Pfizer vaccine.
MYOCARDITIS	1450343-1	6-17 years	16 year old male with no past medical history, recently received 2nd pfizer vaccine on monday 6/28, here with chest pain since . EKG shows ST elevation: consistent with pericarditis. troponin 15.2. will admit to healthcare faciility.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1450537-1	6-17 years	Pt mother called and stated that pt is vomiting and has a fever of 101.9 pt mother state that pt received the second dose of COVID vaccine on 6/29/21 and now he is having these symptoms. Pt mother state that pt had these symptoms before with the first dose however they resolved on there own. Pt is now complaining of chest pain is unable to take a deep breath because it causes him pain. Patient Has not attempted treatment at home. CHIEF COMPLAINT: VOMITING (one episode of vomiting this morning) and FEVER (fever started on Wednesday) Assessment/Plan DIAGNOSIS at time of disposition: 1. Acute myocarditis, unspecified myocarditis type 2. Acute chest pain 3. COVID-19 virus not detected Patient presents with chest pain 2 days after 2nd COVID-19 vaccine. Labs were obtained and his troponin is elevated to 122 and his CRP is also elevated. I discussed case with ID, recommended admitting to Cardiology for workup for myocarditis. 14 y/o previously healthy male who presented to hospital after onset of chest pain, fever, chills, and vomiting this morning. Found to have elevated troponin and mild ST changes on EKG. Patient recently received 2nd Pfizer-BioNTech COVID vaccine on 6/29. Admitted for close monitoring and further work up of suspected myopericarditis following COVID vaccination.
MYOCARDITIS	1450925-1	6-17 years	Patient developed myocarditis with peak troponin of 6.4, normal echo. He required hospitalization for evaluation and management of pain.
MYOCARDITIS	1450942-1	6-17 years	Developed dizziness and fever the morning following vaccination followed by chest pain around 48 hours after vaccination. Presented to outside urgent care where pt noted to have elevated troponin >10, prompting transfer to ED. and admission for myocarditis. Symptoms improved over next several days and chest pain was well controlled with ibuprofen and tylenol.
MYOCARDITIS	1450953-1	6-17 years	Chest pain, Myocarditis
MYOCARDITIS	1454051-1	6-17 years	Patient developed chest pain and was found to have elevated troponin and ECG changes consistent with myocarditis. Was admitted and observed on telemetry and given scheduled NSAIDs and troponin trended. Symptoms resolved and troponin improved however remained elevated and patient was discharged with 1 week follow up and cardiac MRI ordered.
MYOCARDITIS	1454317-1	6-17 years	13 year old who received his second Pfizer COVID vaccine on July 3, 2021 (3 days ago). He describes a low grade fever on the day after the vaccine which did not initially concern him. He presented to the ER yesterday with complaints of midsternal chest pain and shortness of breath and a vague history of palpitations that started yesterday morning and continued to progress over the day. The chest pain did not vary with position and was not aggravated with respiratory effort. He had an elevated troponin and CRP and was admitted for management/observation. His chest pain has resolved since starting Ibuprofen (600 mg q 6 hours). Serial troponins peaked at 22.9, now trending downward. Notable changes on serial EKG's with resolving ST segment elevation and T wave inversion. The echocardiogram showed low normal LV function but was otherwise normal. PT presentation is consistent with the newly recognized post Covid vaccine myocarditis in adolescent males. Timing of the chest pain in relation to the vaccine, EKG and echo findings and elevated troponins all support the presumed diagnosis of myocarditis. He met the criteria for a cardiac MRI to be obtained prior to discharge- results pending.
MYOCARDITIS	1454840-1	6-17 years	Myocarditis requiring hospitalization and treatment with steroids and NSAIDS.
MYOCARDITIS	1456709-1	6-17 years	Myocarditis; Her son still has some inflammation; This is a spontaneous report from a contactable other hcp (Patients mother). A 14-years-old male patient received bnt162b2 (BNT162B2, Batch/Lot Number: EW0180 and Expiry Date: 19Jun2021), dose 2 via an unspecified route of administration, administered in Arm Left on 19Jun2021 as single dose for covid-19 immunisation. Patient previously received dose 1 of bnt162b2 (BNT162B2, Lot number: EW0178 and Expiration Date : Unknown to caller) via an unspecified route of administration on 29May2021 as single dose for covid-19 immunization. The patient's medical history was not reported. There were no concomitant medications. On 21Jun2021, The patient experienced myocarditis, About 2 days later, he was taken by ambulance to the ER, diagnosed with Myocarditis and admitted to the hospital, discharged on 23Jun2021. Caller states that she believes her son still has some inflammation, it is better but still ongoing, as he is still unable to exert himself at all. The claims are not in yet but it looks like they will be spending 5000 to 6000 dollar out of pocket. She is looking for some type of compensation for their expenses. Patient had no other vaccines on the same day as the suspect product. Myocarditis lead to Emergency Room. The outcome of the event myocarditis was recovering and inflammation was not recovered.; Sender's Comments: As per the information provided in the narrative, the causal association between the suspect drug and the event cannot be excluded. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate.
MYOCARDITIS	1457095-1	6-17 years	The differential diagnosis for this patient's chest pain includes PE, ACS, Dissection, Pericarditis, Pneumothorax, Pleurisy, Pneumonia and musculoskeletal strain. Given the above history, physical exam and ancillary tests, the patient's symptoms are most consistent with: Acute myopericarditis. Should be noted the patient is post 2nd COVID 19 vaccine by 3 days ago. Case reviewed with the pediatric emergency medicine physician at healthcare facility who will accept the patient in transfer. Because this is highly likely a post vaccination myopericarditis will hold on aspirin or other treatments at this time. Patient was given Motrin 400 mg p.o. in the ED for pain.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1457392-1	6-17 years	History of Present Illness 17-year-old male who denies any major medical problems presents to the ER concern for chest pain. The patient states that he stayed up all night and he woke up this morning around 12:30 p.m., around 1 hour prior to arrival and he was having a tightness in his chest. The tightness is constant, seems to go down his left arm. He has never had this happen before. He received his Pfizer vaccination for COVID-19 on Friday of last week and he feels like he has had some aches since that time. He has been taking Motrin for this and this morning he also took Motrin but there is no significant relief. He has no significant shortness of breath, no nausea vomiting, no diaphoresis. I spoke with him privately and he denies any history of cocaine abuse. Per his mother he has healthy, no major medical problems. He has not recently had any other concerns or recent review systems. No history of having blood clots or DVTs. Medical Decision Making: History examination as above. Patient presents our concern for tightness in his chest with some radiation to his left arm over the past 1 hour. His EKG does show J-point elevation but he has no risk factors, he is hemodynamically stable well-appearing on examination. He has no shortness of breath, nausea, diaphoresis. Differential includes myopericarditis, early repolarization. Feel that the likelihood of STEMI, ACS is low. Will obtain a troponin as a part of his workup, chest x-ray for evaluation of cardiac silhouette size, bedside ultrasound. I do not suspect that he has a PE. He has no tachycardia tachypnea hypoxia. No external findings of suggest a DVT on examination. I do not suspect that he has cardiac tamponade, CHF, pulmonary process such as pneumothorax, pneumonia based on his history. Do not suspect a GI etiology. Will monitor closely here in the ER and re-evaluate. Time 2:30 p.m.. The patient's troponin is elevated at 7. I consult with Cardiology and I spoke with Dr- we reviewed the patient's EKG, his presentation, his history. He feels this is secondary to myocarditis from likely the COVID-19 vaccination. I have added a viral PCR as well as a part of his workup. He does not recommend activation the cath lab, he does not feel this is a STEMI. I do agree based on the history and the patient's appears this time. He recommended a formal echocardiogram as well. -I spoke with the ultrasound technician at bedside and there is no evidence of wall motion abnormality. This is consistent with my examination. -given the patient's elevated troponin we do not have capabilities of caring for him here. Not have Pediatric Cardiology, we do not have a PICU if the patient's condition were to worsen. There for the patient requires transfer to tertiary center. -will consult with another hospital for transfer. Time 3:22 p.m.. I spoke with Dr, he accepts for transfer. No recommendations for medications at this time. The patient is chest pain-free, hemodynamically stable. Spoke with the ultrasound technician there is no evidence of cardiac wall abnormality, pending official interpretation with our cardiologist. -asked for emergent transfer because I do not want the pain to be waiting here in the ER with possible worsening condition, worsening troponin elevation without cardiology consultation at a pediatric specific hospital. I do not want him to have the chance of deteriorating at this facility and therefore I do feel that he warrants emergent transfer as opposed to routine where he could wait here in the ER for hours. I do feel that benefits outweigh the risk and I spoke with the patient and his family about this and they agree. Critical Care: 55 minutes. Emergent evaluation on presentation given his EKG showing STEMI per computer interpretation. Time spent for multiple re-evaluations, discussion with Cardiology and outside hospital consultants, time spent with documentation. Time spent with family. Complex medical decision making. Serious life threatening disease process. Potential for death and increased morbidity. Exclusive of procedure time.
MYOCARDITIS	1457457-1	6-17 years	Diarrhea, chest pain w/myocarditis
MYOCARDITIS	1458469-1	6-17 years	"Patient is a 17 year old male with only past medical history of anemia at 1 year of age (resolved with iron and vit C supplementation), who presented to an Hospital on 7/7/21 with 2 days of chest pain radiating to his L arm, generalized upper extremity weakness, SOB, vomiting, found to have an an elevated troponin level of 0.626 with ST segment elevation on EKG, echo reportedly normal. Patient reportedly tested positive for COVID-19 on 6/6 and subsequently went into quarantine, was re-tested on 6/21 and tested negative. He arrived on 6/28 and received his 1st dose of Pfizer COVID-19 vaccine on 07/03/21. Of note, he was told he might feel dizziness and arm achiness after the vaccine but denies he was informed about possible inflammation of or around the heart after the vaccine. On 7/5 he was awakened in the morning by chest pain 6/10 and shortness of breath that started in the right lower sternal border and progressively moved to the left lower sternal border and then to his L shoulder and arm which he describes as feeling like he had been ""punched"" or a constant achy feeling. He took Tylenol x1 on Monday with minimal improvement. He initially thought it was reflux pain and took tums but it did not improve. He had one hour of relief but then the pain returned. He reportedly felt dizzy Monday evening as well. The pain was absent on Tuesday, but he woke up this morning again with the same chest pain and shortness of breath, prompting him to seek medical attention. In the outside ED, he had one NBNB emesis that was not preceded by nausea. En route from Hospital to Hospital he complained of chest pain 7/10 for which he was placed on 2L O2 which reduced the pain to 4/10. During his admission his troponin levels initially up trended and peaked at 5.67 before beginning to downtrend. He was diagnosed with myopericarditis and started on ibuprofen three times a day around the clock. He was discharged home on 7/8 with specific return precautions, follow-up appointment with cardiology, and strict instructions to avoid exercising and strenuous exercising until cleared by cardiology."

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1459919-1	6-17 years	"15 yo M with no PMH p/w 1 day of chest pain and elevated troponin and lateral ST segment elevations. On Wednesday 6/30 he had his second dose of Pfizer COVID vaccine. There after he had headache, tactile fever, fatigue and myalgias which resolved by Friday 7/2. On Friday at midnight, he awoke with 7/10 sharp substernal chest pain, non radiating. No recent trauma to the chest. He took Tylenol at home which did not relieve the pain. No recent URI sx over the last month. The last time he remembers having URI sx was 1.5 years ago. He does endorse ""one or two sneezes"" over the past month, which he attributes to allergies. Today 7/3, he presented to urgent care center where he got an EKG, which was concerning for ST elevations. He was given ASA which did not relieve the pain. He was sent to hospital for further work up where he had a Troponin to 1.59, CRP to 36, AST to 79, ALT to 64, Alkphos to 74, BNP to 119, ESR to 10, and WBC to 13.4. EKG showed ST elevation in I, II, precordial leads V4 V5 V6. CXR wnl. He was given IV toradol at hospital, which alleviated his CP. He was transferred to ED for further evaluation. On arrival to the ED on 7/3, he was HDS afebrile, with BP 111/69, HR of 80, and satting 100% on RA. His CP had resolved to a level of 0/10. Additional labs were obtained including repeat CBC (with WBC 10K, Hgb of 14), normal ESR of 20, normal D-dimer of less than 0.27, BMP wnl, elevated LFTs with AST 103, ALT of 61, elevated LDH to 293, normal GGT and alk phos, normal BNP to 28, elevated CRP to 3, and an extremely elevated troponin of 3.15. NP swab for COID, Influenza A/B, and RSV were negative. CXR wnl but did note findings consistent with degenerative disc disease at one level in the mid-distal thoracic spine. Hospital Course: Patient was admitted to the cardiology floor for continued monitoring of his troponin levels and EKG. He was then treated with IVIG 2g/kg and started on methylprednisolone IV x 8 doses. His chest discomfort improved by day 2 of admission. An echocardiogram was performed which did not show any cardiac dysfunction. His troponin downtrended while on IV steroids, therefore he was transitioned over to PO steroids which he tolerated well. On day of discharge, his troponin levels were continuing to trend down, and EKG was WNL. Cardiac MRI was performed and showed late gadolinium enhancement in the left ventricle. He had occasional NSVTs/PVCs; he was started on Bisoprolol 2.5mg daily to prevent arrhythmias after discharge. He was discharged home with a Holter monitor to be worn for 4 days. Viral myocarditis studies were sent and all negative. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake. Prescriptions sent to preferred pharmacy. Follow up with cardiology in place. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement with plan. Patient will follow up in cardiology clinic next week with a repeat MRI 3-6 months. Of note, CXR from 7/3 with incidental findings suspicious for degenerative disc disease at one level in the mid-distal thoracic spine. This should be followed by his primary care physician as an out patient. Reasons for new, changed, and discontinued medications: - Bisoprolol 2.5mg daily (for prevention of NSVT) - Prednisone 30mg BID (myocarditis) - Famotidine 20mg daily (while on steroids) Reasons for new, changed, and discontinued equipment: NA Relevant Diagnostic Images/Studies: Cardiac MRI (7/7): ? Normal biventricular size and systolic function. ? No regional wall motion abnormalities. ? Suggestion of increased T2 signal intensity/edema. ? Positive myocardial late gadolinium enhancement without functional correlate. ? No significant valvular dysfunction. ? No coronary artery aneurysms. ? Small pericardial effusion. Echocardiogram (7/3): ? Normal valvular function. ? Normal left ventricular size and systolic function. ? Normal diastolic function indices. ? Reduced longitudinal strain with normal circumferential strain. ? Normal appearing proximal coronary arteries. ? Qualitatively normal right ventricular systolic function. ? No pericardial effusion present. ? A comprehensive anatomic survey was not performed at this time. Tests Pending Enterovirus PCR QuaL, Stool Miscellaneous Test Arup These tests will be followed after Discharge Vitals and Discharge Physical T: 36.5 ¦C HR: 64 (Monitored) RR: 20 BP: 131/59 SpO2: 98% HT: 168 cm WT: 76.4 kg BMI: 27.1 Discharge Physical Exam General: NAD, lying in bed, sleepy, but conversational HEENT: atraumatic, normocephalic, no icterus, no conjunctivitis; extraocular muscles intact; moist mucous membranes CV: RRR, S1/S2, no murmurs, gallops or rubs noted; dp pulses 2+; capillary refill <2 seconds. Resp: unlabored respirations; symmetric chest expansion; clear breath sounds bilaterally Abd: soft, nontender, nondistended; bowel sounds normal Ext: no clubbing, cyanosis, or edema; normal upper and lower extremities Neuro: no atrophy, normal tone; moves all extremities equally; no focal deficits Skin: no rash or erythema Diagnosis List 1. Myocarditis, 07/04/2021 2. COVID-19 mRNA vaccine adverse reaction, 07/04/2021"
MYOCARDITIS	1460158-1	6-17 years	COVID vaccine-associated myocarditis. 3 days after his second Pfizer COVID vaccine, pt presented for chest pain and pressure. Troponin was initially elevated to 4.2, EKG showed ST elevations in lateral leads. Over the course of his stay, troponin dropped, then rose to peak of 14, then dropped again. He was treated with Naproxen 500 mg BID and Pepcid 20 mg BID for gastroprotection. As chest pain resolved, troponins improved, and EKGs improved. Echo and Cardiac MRI were done.
MYOCARDITIS	1460359-1	6-17 years	Pt had general malaise and headache that same afternoon. The next day his symptoms progressed to dull, burning chest pain that radiated to the throat and ears along with numbness and tingling of the distal arms and hands. The chest pain was relieved by leaning forward. This continued off and on for two to three days while being monitored in the hospital. The diagnosis was myocarditis due to the vaccination.
MYOCARDITIS	1463557-1	6-17 years	Palpitations and chest pain Seen in ER on 7/8/21 and admitted overnight with rising troponin levels, improved by next day. Diagnosis of myocarditis related to COVID19 vaccine
MYOCARDITIS	1463696-1	6-17 years	PT had myocarditis as a result of the second dose of the vaccine. He spent 5 days at Hospital.
MYOCARDITIS	1463747-1	6-17 years	Chest pain, Myocarditis, seen in ED on 7/2/21 (2 days after vaccine) with diagnosis confirmed. no EKG changes, treated with toradol and ibuprofen 600mg TID x 5 days, symptoms resolved by 7/9/21
MYOCARDITIS	1464204-1	6-17 years	myocarditis
MYOCARDITIS	1464224-1	6-17 years	myopericarditis with SOB 2 days after vaccine. diffuse ST elevation EKG. troponins 8-20. echo with mild function decrease.
MYOCARDITIS	1464345-1	6-17 years	myocarditis with noted chest pain, diffuse ST elevation, and troponin >50. Received IVIG and IV steroids

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1464432-1	6-17 years	Patient admitted fur to chest pain and dyspnea and found to have myopericarditis after 2nd dose of COVID-19 Pzifer vaccine. Vaccine was administered at pharmacy. First dose received on 5/15/2021, second dose on 6/5/2021. Fatigue and chills started a few hours after second dose and then developed shortness of breath, nausea, emesis and 8/10 midsternal chest pain. Presented to an urgent care facility where CXR and EKG were obtained. EKG showed early repolarizations. Labs were obtained at a local ED and showed elevated troponins, initially 11k and then to 20k and peaked there. BNP was within normal limits. Subsequent EKG showed diffuse ST-segment elevations concerning for acute pericarditis. No prior infections or symptoms like this previously. He was given colchicine at outside facility prior to transfer. At hospital he was continued on ibuprofen and monitored with telemetry and had ECHO and cardiac MRI. Latter was consistent with myopericarditis. ECHO showed normal function. He received PPI while on NSAIDs. His symptoms resolved and he was discharged to home on 6/10/2021 with activity restrictions and plan to follow-up with peds cardiology. Of note, there was an error submitting the initial VAERS report for this patient during the admission, therefore, this delayed report is being submitted.
MYOCARDITIS	1464592-1	6-17 years	Myocarditis with elevated Troponin and Low-normal Ejection Fraction
MYOCARDITIS	1464677-1	6-17 years	"PT is a 17 y/o previously healthy boy who presents with 3 days of moderate-severe, substernal chest pain, dyspnea, and nausea 2 days after receiving the 2nd dose of the Pfizer COVID-19 vaccine. On Tuesday (7/6), PT received the second Pfizer COVID-19 vaccine. The following day (Wednesday 7/7) PT had ""flu-like symptoms"" with chills, subjective fever, and a sore arm that resolved by Thursday (7/8). He was back to his baseline state of health on Thursday (7/8) and felt fine that whole day. On Friday afternoon (7/9) when he was at work washing dishes where he had some physical exertion he began to notice at 16:30-17:00 that he developed substernal, sharp, 7/10 chest pain that did not radiate, improve/worsen with deep breaths, sitting up, laying down or with movement of his upper extremities. It worsened towards the end of the night and peaked at 8/10 by 22:00-23:00 that same evening. His sister picked him up from work per his regular routine and he went home and took a shower which improved the pain to a 5-6/10 when he went to sleep. He woke up at 3 AM on Saturday (7/10) AM and had one episode of NBNB emesis associated with the chest pain. When he woke up later that morning he felt improved until 10-12 AM he developed mild chest pain again which he took Tums for. He also tried Motrin which did not help his pain at all. On the morning of admission (7/11), he woke up at 6-7 AM with upper right back pain, dyspnea, and nausea along with the persistent chest pain which prompted him to present to MFSH. He does endorse mild sore throat but denies any fevers, recent sick contacts, known COVID-19 exposure or previous history of COVID-19. There is a family history of cardiac disease including a fatal MI in his father. His mother's family also has a history of heart disease and both sides have a history of high cholesterol. He did add Whey Protein recently to his diet to for muscle building, but he DENIES any drug, alcohol, tobacco, vaping, marijuana, THC use. He does not play any sports regularly. He also denies any recent bug/tick bites or rashes."
MYOCARDITIS	1466636-1	6-17 years	Chest pain-- suspected myocarditis
MYOCARDITIS	1467125-1	6-17 years	Patient presented to the ED with 10/10 chest pain. Two days prior, he'd gotten his second COVID-19 pfizer vaccine. He denied any fever, congestion, cough, vomiting, diarrhea, or other signs of infection recently; no sick contacts. On arrival to the ED, he had normal vital signs, but physical exam was notable for sternal/epigastric pain. Laboratory evaluation, including CBC, CMP, CRP, urinalysis, urine culture, high sensitivity troponins, and lipase were obtained and notable for HS troponin of 303 pg/mL with a 2 hour repeat of 291 pg/mL. CRP was 3.5 mg/dL. His EKG had diffuse ST elevations. CXR was obtained with no evidence of cardiac border or consolidation. RUQ ultrasound showed no evidence of cholecystitis or other abnormality. Patient was admitted for presumed COVID-19 vaccine-induced myopericarditis. Echocardiogram showed normal biventricular function and no pericardial infusion. He was treated with IV toradol, with resolution of chest pain. HS troponins reached the 400s, with downtrend to the 300s prior to discharge. He was discharged on PO ibuprofen with follow-up cardiac MRI and labs.
MYOCARDITIS	1471280-1	6-17 years	12 Y 4 M old male with a history of chest pain that started two days ago on Monday. On 7/11 night, he didn't feel well felt nauseous. He was able to sleep but had chest pain the following morning that improved after he vomited. The chest pain is midsternal and feels pressure-like. It lasted a few hours. He swam on 7/12 without problems (at a swim club) for an hour. He had his second dose of COVID-19 vaccine on Saturday 7/10/21. There has not been any fevers. Elevated troponin and CRP with recent COVID-19 vaccine, suspicious for post-vaccine myocarditis. He is hemodynamically stable with normal vitals and no evidence of ventricular ectopy or depressed left ventricular function. His troponin peaked at 11.05 and trended down, but his most recent value is slightly up at 8.2 from 7.6. Recommended continuing to trend the troponins for now (if they show a downward trend then twice daily is adequate, unless he develops chest pain). At this time, IVIG is held unless he becomes unstable or the troponins trend upward .
MYOCARDITIS	1478862-1	6-17 years	Myocarditis with onset 7/12, worse on 7/13 and admitted to hospital to Cardiology service. Had non-sustained ventricular tachycardia and was transferred to the cardiac ICU on 7/14 morning and placed on a lidocaine drip. He had no further arrhythmia, and lidocaine was stopped and transferred out of CICU on 7/15.
MYOCARDITIS	1479431-1	6-17 years	Headache, chest pains, difficulty breathing. Went to ER, had EKG, echocardiogram and blood work. Tested troponin levels bc of recent covid vaccine. Then diagnosed with mild myocarditis Bc troponin levels were elevated to 27. Admitted to hospital and testing enzyme levels until they start heading down. Given Motrin to help with inflammation and chest pain
MYOCARDITIS	1481347-1	6-17 years	Chest pain, received motrin, MRI with myocarditis, elevated troponin le els
MYOCARDITIS	1484667-1	6-17 years	Myocarditis starting 7/18/21. Treated with oral colchicine and IV ketorolac (NSAIDs). Today is day 2 of hospitalization and patient's troponins are improving.
MYOCARDITIS	1484829-1	6-17 years	Perimyocarditis requiring hospitalization. Treatment with colchicine and ibuprofen. Hemodynamically stable and discharged after a day of monitoring. Presented due to refractory chest pain originally.
MYOCARDITIS	1486983-1	6-17 years	Pfizer COVID-19 Vaccine EUA: Myopericarditis Patient reported receiving 2nd Pfizer COVID vaccine on 7/16/21. On 7/17/21 patient started experiencing chest pain and presented to the Medical Center on 7/19/2021. Patient was then transferred to another hospital.
MYOCARDITIS	1490272-1	6-17 years	Presented with pressure-like chest pain, elevated troponins and diffuse ST elevations on EKG consistent with perimyocarditis. Troponins continue to up-trend during first day of admission (highest ~15). Started on scheduled ibuprofen for pain and inflammation. Pain resolved by day 2 of admission and troponins were down-trending. Echo with normal biventricular function. Discharged home on ibuprofen PRN and cardiology follow-up.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1490330-1	6-17 years	Perimyocarditis (presented with cardiac chest pain 2 days after 1st vaccine dose). Patient had symptomatic COVID-19 infection in 9/2020. At risk for life threatening ventricular arrhytmias until myocarditis resolves.
MYOCARDITIS	1493763-1	6-17 years	Chest pain and palpitations, fatigue immediately post vaccine and chest pain starting 43 hours later. Admitted at 48 hours with troponin 20,000 and decreased biventricular function on echo (RVEF 37%) consistent with myocarditis. Symptomatic improvement post IVIG treatment. Hospital stay 4 days without arrhythmia or other events. Treated with IVIG alone.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1498001-1	6-17 years	"**Please note - we do not have access to the immunization registry and cannot provide lot numbers or exact dates** Admission Date/Time: 07/18/2021 18:23:00 Discharge Date/Time: 07/21/2021 12:53:15 Chief Complaint COVID vaccine myocarditis Patient Narrative ILLNESS SEVERITY: The patient is returning to baseline, requires assessment. PATIENT SUMMARY: Reason for Hospitalization: Chest pain Admission HPI: a 17 year old young man with a remote history of asthma (last used inhaler 5-6 years ago) who is presenting with 1 day chest pain in the setting of recent Pfizer Covid vaccination. He received his second Pfizer vaccine dose 3 days ago. The following day, he experienced low grade fever to 100.4 and mild headache. He felt fine yesterday, but this morning he woke up with dyspnea and feeling like he ""couldn't get air in all the way"". He denied feeling chest pressure but endorsed mid sternal chest pain without radiation. The pain was not exacerbated by exercise and was not positional. He presented to an urgent care facility this morning, where they did an EKG that showed ST segment elevations diffusely. He was then transferred to Hospital. he was overall well appearing with slight tachypnea but otherwise normal vital signs. He initially was not endorsing chest pain. They drew a troponin that was elevated to 1515 ng/L with an upper limit of normal 54 (likely 1.5 on our scale). BNP, electrolytes, CBC were all within normal limits. Initial EKG did not have any ST segment elevation. They did a chest XR which did not show any signs of pulmonary edema or cardiomegaly. He later developed chest pain so an EKG was repeated which showed recurrence of the ST elevations diffusely; most prominently in V1-2. Repeat troponin was 2000. He was given a single dose of aspirin 81mg and transferred for further care. In the ED, he was well appearing and no longer endorsing chest pain. He was monitored on continuous telemetry with no abnormalities. His troponin here was 0.27 ng/mL, CRP was elevated to 2.6, he had a mild transaminitis of 41/37 and mildly elevated LDH to 236. Covid antibodies were positive. CBC, ferritin, d-dimer, ESR were all within normal limits, rapid Covid/flu/RSV negative. Repeat EKG was similar to the second EKG with very minimal ST-segment elevations. He denies any URI symptoms, rashes, N/V/D, and joint pain. He's had good PO intake until today. He is an athlete (currently playing baseball) and has never experienced chest pain with exercise. Surgical hx: T&A Family history: Negative for any cardiac pathology or autoimmune disease Allergies: rash with penicillin Social: here with grandma who is legal guardian Hospital Course: admitted to the cardiology floor for continued monitoring of his troponin levels and EKG. The morning after his admission, his troponin was uptrending slightly to 0.37 and echocardiogram showed mildly depressed systolic function and longitudinal strain, so the decision was made to treat. Cardiac MRI performed prior to treatment showed good systolic function but mild LV late gadolinium enhancement and corresponding hypokinesis. He received one time IVIG 2g/kg and IV methylprednisolone 30mg BID for 2 doses. His chest pain came and went throughout his admission and was treated with ibuprofen and Tylenol as needed. He was transitioned over to PO steroids on 7/20 which he tolerated well. On day of discharge, his troponin levels were trending down. Pt was scheduled for outpatient follow up including ECHO at that time. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake. Chest pain was fully resolved. Prescriptions sent to preferred pharmacy. Follow up with cardiology in place. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement with plan. Reasons for new, changed, and discontinued medications: Prednisone for myocarditis to complete 5 day steroid course (last dose morning of 7/24) Famotidine (GI protection while taking prednisone) Reasons for new, changed, and discontinued equipment: NA Relevant Diagnostic Images/Studies: Echocardiogram 7/19: ? Technically difficult examination due to suboptimal echocardiographic windows. Unable to evaluate the atrial septum, systemic and pulmonary veins, pulmonary arteries, and aortic arch. Coronary artery dilation is not excluded. ? Normal valvular function. ? Normal left ventricular size and low-normal systolic function. Reduced longitudinal strain. ? Qualitatively normal right ventricular systolic function. ? No pericardial effusion. Cardiac MRI 7/19: ? Normal left ventricular size and global systolic function. ? Basal inferoseptal, inferior, and inferolateral left ventricular late gadolinium enhancement with corresponding mild hypokinesis. ? Normal right ventricular size and global systolic function. No right ventricular late gadolinium enhancement or regional wall motion abnormalities. ? No significant valvular dysfunction. ? No coronary artery aneurysms. ? No pericardial effusion. Admission EKG 7/18: ST segment changes, non-specific. Discharge EKG: minimal ST segment changes, improved from admission. Tests Pending Adenovirus PCR QuaNT, Stool Adenovirus PCR QuaNT, Urine CMV Antibody IgG CMV Antibody IgM EBV Antibody IgG EBV Antibody IgM EBV Antibody to EA-D, IgG EBV Antibody to NA, IgG Enterovirus PCR QuaL, Stool HSV I/II Combined Antibody IgG Lyme Antibody, Total Mayo Misc Test Miscellaneous Lab Test Miscellaneous Test Arup Miscellaneous Test Arup Miscellaneous Test Arup Parvovirus B-19 IgG Parvovirus B-19 IgM Parvovirus DNA PCR QuaNT, Blood Respiratory Virus PCR Panel - sendout Viral Culture, Non Respiratory These tests will be followed by the Primary Service at Discharge after Discharge Vitals and Discharge Physical T: 37.1 ¦C HR: 64 (Monitored) RR: 20 BP: 120/58 SpO2: 96% HT: 167 cm WT: 94.9 kg BMI: 34 Discharge Physical Exam Gen: Well-appearing, well-developed teenager sitting up in bed. Appropriately interactive./ HEENT: Normocephalic, atraumatic. Moist mucous membranes. EOMI, no conjunctivitis. Resp: Clear to auscultation bilaterally, no increased work of breathing. No wheezes CV: Normal rate, RR with no murmurs, rubs, or gallops. Capillary refill <2 sec. Distal pulses 2+. Abd: Soft, non-distended, non-tender. Normal bowel sounds Ext: Normal range of motion of all extremities, no peripheral edema Skin: Pink, warm, no bruising Neuro: Alert, responsive, developmentally appropriate, normal tone Diagnosis List 1. Chest pain, 07/18/2021 2. Shortness of breath, 07/18/2021 3. Myocarditis, 07/18/2021 Procedure History No Procedure History Social History Smoking Status No Smoking Status Documented Allergies penicillin Laboratory Results Returned 48 Hours Prior to Discharge Labs Last 48 Hours Event Name Event Result Date/Time WBC 7.88 K cells/uL 07/20/21 Hemoglobin 12.6 g/dL 07/20/21 Hematocrit 36.6 % Low 07/20/21 Platelet 298 K cells/uL 07/20/21 MPV 9.1 fL Low 07/20/21 RBC 4.17 M cells/uL Low 07/20/21 MCV 87.8 fL 07/20/21 MCH 30.2 pg 07/20/21 MCHC 34.4 g/dL 07/20/21 Red Cell Distribution Width CV 11.9 % 07/20/21 Nucleated Red Blood Cell % 0 /100 WBC 07/20/21 Nucleated Red Blood Cell Count 0 K cells/uL 07/20/21 Absolute Neutrophil Count 6.38 K cells/uL High 07/20/21 Absolute Lymphocyte Count 0.97 K cells/uL Low 07/20/21 Absolute Eosinophil Count 0.02 K cells/uL Low 07/20/21 Absolute Basophil Count 0.01 K cells/uL Low 07/20/21 Absolute Monocyte Count 0.45 K cells/uL 07/20/21 Absolute Immature Granulocyte Count 0.05 K cells/uL High 07/20/21 Neutrophil/Band 81 % High 07/20/21 Immature Granulocytes 0.6 % High 07/20/21 Lymphocyte 12.3 % Low 07/20/21 Monocyte 5.7 % Low 07/20/21 Eosinophil 0.3 % Low 07/20/21 Basophil 0.1 % Low 07/20/21 Sodium 137 mmol/L 07/19/21 Potassium 5.14 mmol/L High 07/19/21 Chloride 102 mmol/L 07/19/21 CO2 21 mmol/L Low 07/19/21 Anion Gap 14 mmol/L 07/19/21 Glucose Level 133 mg/dL 07/19/21 BUN 11 mg/dL 07/19/21 Creatinine 0.61 mg/dL 07/19/21 Calcium 9.3 mg/dL 07/19/21 Phosphorus 4.5 mg/dL 07/19/21 Magnesium 1.9 mg/dL 07/19/21 Troponin T 0.21 ng/mL Critical 07/21/21 Troponin T 0.22 ng/mL Critical 07/20/21 Troponin T 0.22 ng/mL Critical 07/20/21 C-Reactive Protein 0.77 mg/dL High 07/20/21 Mycoplasma pneumoniae, IgG 1.87 High 07/19/21 Mycoplasma pneumoniae, IgM 0.47 07/19/21 Microbiology Results (Last 30 Days) Micro Results: Updates since 06/21/2021 00:00. Collection date displayed. Cytomegalovirus PCR, blood, QuaNT: (Blood) 07/19/2021. Final Report: No CMV detected by PCR. This test does not detect latent CMV infections. A reference range for this test has not been established. Results should be interpreted in the context of other clinical and laboratory information. This test should not be used to diagnose latent or previous CMV infection. People with latent or previous CMV may not have detectable

Symptoms	VAERS ID	Age	Adverse Event Description
			CMV DNA by this test. The variability of this test should be considered when interpreting results. Changes of approximately three fold in the quantity of CMV DNA detected may be due to variation in the test rather than actual changes in the level of CMV DNA in the sample. Note: This test was developed and its performance characteristics determined by the Hospital. It has not been cleared or approved by the Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. Epstein-Barr Virus PCR, QuaNT: (Blood) 07/19/2021. Final Report: No EBV detected by PCR. This test does not detect latent EBV infections. A reference range for this test has not been established. Results should be interpreted in the context of other clinical and laboratory information. This test should not be used to diagnose latent or previous EBV infection. People with latent or previous EBV infection may not have detectable EBV DNA by this test. The variability of this test should be considered when interpreting results. Changes of approximately three fold in the quantity of EBV DNA detected may be due to variation in the test rather than actual changes in the level of EBV DNA in the sample. Note: This test was developed and its performance characteristics determined by the Hospital. It has not been cleared or approved by the Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary. Health Care Proxy: Under 18 years old MOLST: Under 18 years old Follow-Up and Patient Instructions Patient Instructions He was admitted for management of myocarditis thought to be due to his SARS-CoV2 vaccination. Myocarditis is inflammation of the heart muscle that can happen with many different types of infections and virusesHe received IVIG and steroids. He had multiple EKGs, echocardiograms, and a cardiac MRI which showed mild changes but overall good heart function. His chest pain and heart studies improved throughout his stay and he was safe for discharge home. He should refrain from strenuous exercise for the next couple of months and you should discuss when it is safe to return to exercise with your outpatient cardiologist. Medications: --- Prednisone 30mg twice per day for _ days (last day _) --- Famotidine 20mg twice per day for _ days (last day _) It is important to minimize activity that raises his heart rate for the next 3 months. This will be discussed in more detail at cardiology appointment. Until then, no strenuous exercise. Attending Attestation CARDIOLOGY INPATIENT ATTENDING DISCHARGE NOTE: I reviewed the history and hospital course, examined the patient on rounds, reviewed the testing, discussed the findings with the Cardiology Team, and participated directly in formulation of the assessment and plan for discharge. I have reviewed and agree with the documentation above with the following additions/revisions:17yo admitted with COVID vaccine associated myocarditis, with repolarization abnormalities on ECG, elevated troponin, and chest pain within days after receiving his 2nd dose. He remained hemodynamically stable with preserved ventricular systolic function. Echo did show abnormal strain, and MRI showed LGE with focal hypokinesis. Due to increasing troponin level, he was treated with IVIG and steroids with improvement in troponins. No significant arrhythmia. Plan for follow-up next week with MISC/vaccine myocarditis group, and to complete a 5-day course of steroids. Restricted from sports and intense activity for likely at least 3 months."
MYOCARDITIS	1498157-1	**6-17 years**	16 year old previously healthy male presented with chest pain consistent with cardiac chest pain that developed 24 hours after the initial vaccination. On presentation, EKG with findings consistent with myocarditis vs pericarditis. Troponin peak was approximately 5.2 on 7/22 and subsequently downtrended. Echocardiogram obtained which showed normal EF, no pericardial effusion, and no wall motion abnormalities. He was observed on cardiac telemetry with serial EKGs and troponins and was cleared for discharge by cardiology and infectious disease. Symptoms were treated conservatively--NSAIDs PRN. He is currently in the recovery phase from the myocarditis and will follow outpatient with cardiology.
MYOCARDITIS	1498596-1	**6-17 years**	Pt.initially had acute onset left arm pain with left sided chest pain worsened with deep breathing with nausea and vomiting. She gave herself her stress dose hydrocortisone, but when she did not improve she presented to the ED on 4/25/2021. EKG was performed and was normal. She was discharged with ad vice to rotate tylenol and ibuprofen and to stress dose her hydrocortisone. She, however, continued to be very symptomatic and developed tachycardia and symptoms of orthostasis. Large workup was done to assess the status of her endocrine diseases and to assess for onset of new autoimmune endocrine conditions. Laboratory evaluation was normal. troponin testing was not sent. She was referred to her primary pediatrician for further evaluation. Her pediatrician did a full evaluation and could find no cause for her symptoms. Arm pain gradually resolved but palpitations, mild sinus arrhythmia with tachycardia and symptoms of orthostasis continued. She tolerated wean of her hydrocortisone poorly and required large doses and slow weaning. Symptoms were still present and bothersome on 5/17/21 but had slightly improved, although she remained unable to attend full days of school (she is an excellent student). Case was discussed with infectious disease, who recommended delaying the second COVID vaccination, so this was done. Eventual working diagnosis was marked vasomotor instability of unclear origin, likely post inflammatory, concern for triggered by COVID vaccination. cardiology referral was placed. She was seen by cardiology 7/6/2021. EKG showed sinus arrhythmia and borderline right axis deviation, unchanged from ED presentation 4/25/2021. echocardiogram revealed only previous PDA closure. Cardiology placed event monitor and noted low suspicion for myocarditis, but consideration of cardiac MRI in future if no improvement.
MYOCARDITIS	1500847-1	**6-17 years**	Myocarditis. Patient presented with chest pain and SOB 5-6 days after receiving vaccine #1. Found to have myocarditis with depressed LV function
MYOCARDITIS	1501224-1	**6-17 years**	Received 1st dose of Pfizer Covid Vaccine and started becoming increasingly manic within about an hour. Complained of stomach discomfort. Became increasingly anxious and manic and was only able to sleep for two hours (received at 4pm, slept from 12am to 2am). Awake and manic the day following. Complained of stomach pain. Eating normally with no other symptoms. Started complaining of being cold and chills. Applied rotating heated blankets until he feel asleep about 10pm. Woke up at 2am. Manic and anxious. Stomach started swelling more and becoming rigid. Gave him Miralax. No change in swelling. Increased stomach pain. Gave him a suppository. Immediate small bowel movement. After two more hours and no change in swelling, gave a second suppository. Immediate small bowel movement. Stomach becoming distended and complaining of increased pain. Took him to the ER. Pain amplified on the way. Admitted to PICU after EKG in ER. Quickly declined and went into respiratory failure. Right lung had no air exchange and left lung collapsed. Myocarditis, pleural effusion, kidney damage and new onset Type I diabetes. Unexplained pneumonia. No growth from fluid in lung.
MYOCARDITIS	1502022-1	**6-17 years**	Myocarditis- on ibuprofen, 2 days post admission

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1502341-1	6-17 years	"Per MD Note: ""Acute throat and upper chest pain this AM. At approximatley 0300, he woke up with severe 10/10 chest pain. The pain is sharp and he points to the midline between his collarbones. He went to an ED and received a GI cocktail and famotidine, which did not provide much benefit. He had an elevated troponin to 2.13, EKG without evidence of pericarditis. He was given 0.5 mg Ativan and 15 mg IV Toradol. Workup notable for CXR (wnl), EKG (wnl), CRP (2.2), ESR (29), proBNP (62 wnl). Lipase (wnl), Lithium 0.8 (0.6-1.2 mmol/L). CMP 142/3.9/106/27. BUN 12, Cr 0.75. Dexi 120. Upon arrival to our ED, he reports 1/10 chest pain. He denies any SOB, difficulty breathing, palpations, abdominal pain, nausea, vomiting, or diarrhea. He received his second Pfizer COVID-19 vaccination on 7/19 and has had low grade fever (Tmax 100.5F), myalgias, tiredness, and headache since then. He reports that his chest feels slightly tight, but denies any SOB. Assessment: Patient is a 15 y.o. male presenting with acute onset of chest pain and elevated troponin. Workup has been extensive and including BNP, repeat troponin, EKG, CXR, and echocardiogram. He does not show evidence of severe myocarditis or pericarditis. Assessment by cardiology suggested that mild myocarditdis in the setting of recent COVID-19 vaccination and acute heart strain/troponin leak in the setting of acute pain"""
MYOCARDITIS	1502431-1	6-17 years	Approximately 24 hours after receiving his Covid he developed chest pain. This initially was intermittent and then became persistent and severe approximately 48 hours after receiving his vaccine. In the emergency department labs were drawn that showed an elevated troponin to 18 and EKG consistent with myocarditis. He was then admitted to the intermediate care unit
MYOCARDITIS	1505588-1	6-17 years	chest pain, shortness of breath, myocarditis
MYOCARDITIS	1510195-1	6-17 years	Chest pain, Troponin Elevated suggestive of myocarditis, hospitalized, ECHO Cardiography was done.
MYOCARDITIS	1511852-1	6-17 years	Tachycardia in the 170s, chest pressure, elevated troponin. Diagnosed with myocarditis.
MYOCARDITIS	1513156-1	6-17 years	Myocarditis Presented to ED with 2 days of chest pain, back pain, and nausea and vomiting 1 day after receiving Pfizer vaccine. Patient initially had back pain starting the night of 7/24, sudden onset. The next day she began to complain of stabbing chest pain that radiated into her left arm. Outside ED found elevated troponin of 2.93 and transferred to the hospital. Patient was COVID negative on admission and remained afebrile throughout her hospital stay. Patient was given IVIG on 7/27 which was well-tolerated, did not require steroid treatment. Cardiac markers downtrended over course of admission and was discharged 7/29 after normal Echo with Cardiology follow up.
MYOCARDITIS	1515399-1	6-17 years	Presented with left-sided chest pain 2 days after second dose of vaccine. Remained afebrile. Elevated troponin levels and EKG suggest myopericarditis. Echo showed normal ejection fraction. Received Toradol and aspirin at outside hospital, and then received ibuprofen at ED. He is now stable and under close cardiac monitoring.
MYOCARDITIS	1515531-1	6-17 years	Myocarditis
MYOCARDITIS	1518395-1	6-17 years	myocarditis, chest pain, elevated troponin
MYOCARDITIS	1519050-1	6-17 years	Peri/myocarditis - chest pain, pending treatment. At this point, just planning on NSAIDs
MYOCARDITIS	1523315-1	6-17 years	"The pt received dose 2 of the Pfizer Covid-19 vaccine on 7/26/21. The pt developed diffuse body aches the day after the vaccine which included chest pain. The second day after the vaccine his body aches were improving except for the chest pain which was progressively worsening which prompted presentation to medical care. Hospital course from discharge summary: Patient was admitted for management of myocarditis/pericarditis, presumed to be secondary to Covid immunization. On presentation, his troponin was 21.98 ng/mL with a low normal EF of 52% on formal echo at presentation on 7/29. Troponin peaked at 46.10 ng/mL on the evening of 7/29. Cardiology was consulted who provided recommendations throughout admission. He received 2 g/kg of IVIG, divided over 2 days 7/29?7/30. He was put on scheduled Toradol and received IV methylprednisolone while admitted. Echo normalized on 7/30. He was monitored on telemetry without any significant pain or abnormal rhythm changes in the 1-2 days prior to discharge. He was discharged home on oral steroids and scheduled ibuprofen until follow up with pediatric cardiology on 8/5. Patient and his mother received strict return precautions for return to care and were in agreement with the plan."""
MYOCARDITIS	1523369-1	6-17 years	Pfizer COVID 19 vaccine 2nd dose given on 07/03/21. On 07/06/21 patient complained of chest pain to his mother. The patient was taken to peditrician. Examination was normal. 07/13/21 patient's chest pain worsen. Patient's mother took patient to emergency room. Patient admitted on 07/13/21 to Hospital. Found to have myocarditis. Patient released from hospital on 07/17/21.
MYOCARDITIS	1525888-1	6-17 years	4 y/o M presents with chest pain starting last night around 2300. No fever, no cough, no vomiting, no diarrhea, no sore throat. Pt denies any trouble breathing or SOB. Pt denies any palpations. Pt reports his current chest pain is 1-2/10 but at its worse it is 8/10. Pt describes the pain as localized and burning. Pt reports that his chest pain is constant and is exacerbated with movement. Pt has not taken any medication for pain. Pt denies any dizziness or syncope. Mom reports pt received 2nd COVID-19 Pfizer vaccine in R arm yesterday at 0930. No sick contacts. No known COVID-19 exposures. No hx of asthma, no past surgery. No hx of asthma or sudden death in family. Mom has a hx of SVT and heart murmur. Differential Diagnosis: Chest pain tachycardia, arrhythmia, myocarditis, post vaccine reaction. Pt feeling much better, is now afebrile, currently has no chest pain, no signs of myocarditis, pt likely with post vaccine reaction. Will d/c home with close f/u with Primary. Return precautions discussed.
MYOCARDITIS	1526767-1	6-17 years	Myocarditis Patient is a 14 y.o. male with no past medical history who presented to the ED today due to acute chest pain. He received his second mRNA COVID vaccine on 7/28, that night he developed a fever and over the next two days had some muscle aches, fatigue and continued fevers. This morning he woke up with left sided chest pain, not reproducible and unaffected by his breathing. He denies any palpitations, shortness of breath or syncope. He was seen in urgent care which found ST elevation on EKG and sent him to HDVCH ED. EKG here confirmed ST elevation, troponin found to be elevated at 147. His chest pain improved with ibuprofen. He was admitted to cardiology service for continued monitoring. HOSPITAL COURSE: Patient is a 14 y.o. male with no past medical history who presented after 2nd mRNA COVID vaccine with chest pain, ST changes on EKG and elevated troponin. He was admitted to the cardiology service for ongoing evaluation of myocarditis. He was started on ibuprofen every 6 hours for inflammation with resolution of his pain. His ECHO demonstrated normal cardiac structure and function. EKG at time of discharge showed improvement in ST elevation. Serial troponin levels continue to be elevated, but not rapidly increasing (147, 229, 243, 267), he will get a repeat troponin tomorrow as outpatient. ID was consulted this admission and myocarditis labs are still pending. He will continue 600mg Motrin TID until troponin level improves. He will have scheduled follow up with Dr in 3 weeks.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1528828-1	6-17 years	Severe chest pain after vaccination, found to have diffuse ST segment changes and elevated troponin consistent with myopericarditis.
MYOCARDITIS	1528891-1	6-17 years	Myopericarditis confirmed by cardiac MRI and reduced ejection fraction to 50%. Patient presented to the hospital with chest pain and troponin's were elevated up to 17.94 ng/mL. Patient remained hemodynamically stable and chest pain resolved with 650 mg of acetaminophen. Patient was initiated on captopril 6.25 three times daily while hospitalized and transitioned to lisinopril 2.5 mg upon discharge.
MYOCARDITIS	1531787-1	6-17 years	17 year old previously healthy male admitted for presumed myocarditis. He reports that three days ago he started to feel ill with decreased appetite and fatigue. He came home from school Thursday and slept for the afternoon. Friday he continued to feel poorly. Yesterday afternoon he presented to the ED with symptoms of fever, fatigue and constipation. He was treated, discharged home, and his abdominal pain resolved. Later yesterday evening he presented to the ED with acute onset of chest pain and SOB, with chest pain with deep breaths. He was treated and evaluated with IV fluids, Ketoralac, lorazepam, nitroglycerin, and aspirin. Labs, and xray completed and significant for negative COVID 19, Troponin 0.42, with repeat at 0.51. Sed rate normal at 2, CRP elevated at 5.39, BNP normal at 110. EKG showed rate 69, regular intervals, NAD, Non specific ST abnormality, no STEMI. He was diagnosed with myocarditis and was transported by med flight to our ED this morning. Of note, he has received COVID Pfizer series (LOT unknown), vaccines in April 2021,and had COVID infection in Oct 2020. He took an antibiotic for a tick bite last year and had one tick crawling on him this spring. Otherwise, denies any known exposures to insect bites, no recent travel, no trauma.
MYOCARDITIS	1531953-1	6-17 years	13 year old previously healthy male who presented to ED for 1 day of chest pain. Per chart review patient started having pleuritic chest pain around 1600 today following a Pfizer COVID-19 (LOT Unknown) immunization 2 days ago. The pain felt like chest heaviness and burning but not sharp and hard to take deep breaths. ED exam was normal and pain resolved without intervention EKG performed and showed diffused ST elevation in anterior and lateral leads. CXR showed no evidence for acute cardiopulmonary disease. Troponin was elevated to 15.42 at 2200 Presentation is most consistent with myocarditis in association with recent second dose of COVID19 vaccine
MYOCARDITIS	1532007-1	6-17 years	16 year old male who presents with sudden onset chest pain. Patient states that he woke up with sudden chest pain at about 3:30 a.m. this morning and later fell asleep again as the pain was better. Around 9:30 AM he had worsening chest pain with some radiation to the left arm and his mother took him to the ED for further evaluation. He received his 2nd dose of the Pfizer COVID-19 vaccine on 7/6/2021 (first dose June 9th). In the subsequent days after receiving the vaccine he had a low-grade (less than 100¦ F) fever at home accompanied by some headache. Beginning on Wednesday July 7th he began to take 400 mg ibuprofen every 6 to 7 hours with his last dose being at 9 p.m. last night. Upon arrival to the ED did feel nauseous and continued to have chest pain however symptoms were relieved after receiving a dose of ibuprofen. He has never had symptoms like this before. He describes the chest pain as a constant dull pain that hurts slightly more with breathing. In the ED lab work revealed an elevated troponin of 3.8 with ST elevation on EKG. Admitted to the hospital Primary Discharge Diagnosis Acute Myocarditis /Pericarditis
MYOCARDITIS	1532067-1	6-17 years	Patient experienced fever, myalgias, anorexia/nausea/emesis 1d following COVID vaccine, 2d after had chest pain with emesis, presented to ED and was hospitalized with myocarditis. Treated with IVIG, ketorolac, acetaminophen as well as milrinone to support cardiac function. Currently hospitalized in PICU 4d following vaccine administration.
MYOCARDITIS	1533287-1	6-17 years	Myocarditis - chest pain with significantly elevated troponin.
MYOCARDITIS	1535158-1	6-17 years	Patient have chest and arm pain after 3 days of the second dose of P-fizer, and later on August 4 presents the same chest pain and arm, treated at home with ibuprofen, and then august 7, present a very intense chest pain and arm, patient admitted to the Emergency hospital, where after intensive tests and chest X-ray doctor find mild inflammation of heart, and elevate enzymes.
MYOCARDITIS	1535464-1	6-17 years	chest pain with EKG changes and elevated troponin consistent with myocarditis. Onset 3 days after vaccine.
MYOCARDITIS	1536284-1	6-17 years	Body-aches, low-grade fevers, chest pain 3 days after the second dose of Pfizer. Most consistent with Post-vaccine Myocarditis. Chest pain improved after hospital day 3.

Symptoms	VAERS ID	Age	Adverse Event Description
			Admission Date/Time: 07/19/2021 20:06:00 Discharge Date/Time: 07/23/2021 11:31:21 Chief Complaint chest pain Patient Narrative ILLNESS SEVERITY: The patient is stable, returning to baseline. PATIENT SUMMARY: Reason for Hospitalization: Chest discomfort, myocarditis. Admission HPI: a 13 year old boy with a history of hypertension and mild intermittent asthma who is presenting with several hours of shortness of breath and chest discomfort with deep breaths. 2 days ago prior to presentation, he developed a low grade fever that lasted for 1 day. He did not measure a temperature but took some Motrin. At the same time he was experiencing abdominal pain and diarrhea, the latter of which has persisted. He does not think the diarrhea has been bloody but is unable to describe the color or consistency. The day of presentation, he began experiencing mid-sternal chest discomfort that sometimes worsened with deep breaths, though not every deep breath. It was associated with a mild headache. He denies palpitations, light headedness, orthopnea, or syncope. No other symptoms of illness including cough, congestion, runny nose, itchy eyes, rash, wheezing, or emesis. No known sick contacts. Given the nature of his chest pain, he presented to the ED for further evaluation. Of note, he received his 2nd Pfizer Covid vaccine on July 7. He experienced some mild arm discomfort afterwards but no fevers/myalgias/chest pain in the following days. In the ED, he was well appearing with normal vital signs. He denied any active chest pain or shortness of breath, though continued to endorse mild abdominal discomfort. An EKG was performed which was notable for diffusely elevated ST segments, particularly in leads II and III. Labs are significant for elevated troponin to 0.13, d-dimer to 1.05, ESR of 76, CRP of 9.35, WBC 9, Hgb 11.9, and negative covid antibodies. CXR was benign. Decision was made to admit to Cardiology for close monitoring and further workup. PMH: significant for elevated blood pressures in the past, seen in Nephrology clinic in 2019 with unremarkable workup including renal ultrasound, blood and urine studies. Believed to be in large part attributed to anxiety, though does have a family history of ESRD. Surg: T&A at 4-5 years of age Allergies: NKA Meds: only PRN albuterol (last used 1 year ago) Fam history: + for ESRD, negative for cardiac or autoimmune diseases Social: everyone at home healthy, nobody has had COVID. Going into 8th grade, wants to learn about space Hospital Course: He was admitted to the cardiology floor for continued monitoring of his troponin levels and EKG. His chest pain resolved shortly after admission and he remained asymptomatic through admission. The morning after his admission, his troponin was stable at 0.12 and echocardiogram showed no abnormalities with normal function. Troponins were trended and remained stable. Inflammatory markers were trended and improved. Cardiac MRI performed prior to treatment showed a small area over the posterior LV free wall of late gadolinium enhancement. EKG showed stable ST elevation in inferior and lateral leads. Presentation was most consistent with viral myocarditis. Given increasing troponin, he was treated with IVIG (2g/kgx1) and steroids (5 day total). His inflammatory markers down trended and resolution of symptoms throughout admission (ESR falsely elevated after IVIG), and had improvement in his troponin after treatment with IVIG and steroids. EKG were stable during admission. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake. Chest pain was fully resolved. Follow up with cardiology in place. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement with plan. Given history of elevated blood pressures, also demonstrated during admission here, and evaluation by nephrology in past, he was set up with nephrology follow up as an outpatient. Reasons for new, changed, and discontinued medications: none Reasons for new, changed, and discontinued equipment: NA Relevant Diagnostic Images/Studies: CXR on 7/19 IMPRESSION: Normal chest examination. Diagnosis List 1. Shortness of breath, 07/20/2021 2. Myocarditis, 07/20/2021 Patient Instructions He was admitted for management of myocarditis thought to be due to a virus. He had multiple EKGs, echocardiograms, and a cardiac MRI which showed mild changes but overall good heart function. His chest pain and heart studies improved throughout his stay and he was safe for discharge home. He should take the following medications when going home: - Prednisolone 30 mg twice per day, with last dose on 7/26 in the morning - Famotidine 20mg twice per day, while taking steroids. It is important for him to minimize activity that raises his heart rate for the next 3 months. This will be discussed in more detail at his cardiology appointment. Until then, no strenuous exercise. 8/5/2021 clinic follow up: Cardiology Diagnostics EKG: WNL Echo: Normal function LV short-axis % area change 50.2 % -0.9 54.4 44.9 63.9 LV ejection fraction (area-length) 57.1 % -1.4 63.0 55.0 72.0 Labs noted in right hand column. CRP still elevated (higher than at discharge). Assessment/Plan Since his discharge, he has had headaches every almost every day. He thinks this is improving slowly but he has had about 2-3 headaches a day. He has had Tylenol and Motrin and this helps. He describes the pain as 4-5 /10 on the pain scale. He has not had any chest pain, no dizziness, no palpitations, no syncope. His mother says he is crankier than usual and she is concerned about his headache. The patient is 75% back to normal in terms of energy; 100% back to baseline in terms of appetite; 100% back to normal in terms of sleep; 100% back to baseline in terms of cognition and 50 % back to normal in terms of personality/mood. In summary, he is a 13 yo boy with a recent history of myocarditis. The etiology (viral vs late-post vaccine) is unclear. His LV function has always been WNL but he had an elevated troponin and evidence of myocarditis by Cardiac MRI with LGE. His BP had been noted to be somewhat high. This was checked today by auscultation and was 114/64 RA adult cuff.
MYOCARDITIS	1536512-1	**6-17 years**	
MYOCARDITIS	1539671-1	**6-17 years**	CHEST PAIN, ELEVATED TROPONIN WITH EKG CHANGES, SUSPECTED MYOCARDITIS
MYOCARDITIS	1540782-1	**6-17 years**	Myocarditis
MYOCARDITIS	1541096-1	**6-17 years**	Patient was admitted for myocarditis. He developed chest pain, fatigue and intermittent shortness of breath.
MYOCARDITIS	1545275-1	**6-17 years**	14y/o M received his 2nd dose of Pfizer COVID vaccine on 7/28 and started to complain of chest pain on 7/30. Pain worsened to 8/10 and he was seen in the ED that evening with an ECG suggestive of acute myopericarditis and positive troponin of 7.81. He was admitted for likely post-covid vaccine myopericarditis. His was initially treated with ibuprofen overnight with no complains of chest pain the following morning 7/31, and continued to be asymptomatic throughout the rest of his hospital course. Troponin on 7/31 AM was up to 15.81. An echo was completed and showed normal cardiac size and function without pericardial effusion. He was acutely treated with IVIG continuously for for 9 hours, and Ibuprofen q8 hour for a total of 4 days. Troponin was trended daily with gradual improvement to 1.36 on morning of discharge. A repeat echo was performed that was normal. Given that a repeat troponin level on 8/3 PM was 0.76, he was deemed to be stable for discharge by Pediatric Cardiology. He will need to be restricted from strenuous activities with no competitive sports or physical education for 3 months per cardiology. Pediatric Cardiology will continue to follow him as an outpatient, monitoring him 2-day post-discharge troponin level and will perform an exercise stress test in 3 months. Discharged on 7 more days of Motrin TID w meals
MYOCARDITIS	1549179-1	**6-17 years**	3 days after 2nd vaccine my son had stabbing chest pain. We was transported by ambulance from a local ER to hospital with high traponin levels. He was diagnosed with Myocarditis from the vaccine.
MYOCARDITIS	1549668-1	**6-17 years**	Myopericarditis chest pain, treated with Motrin

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1553824-1	6-17 years	"Patient presented common side effects the first 24 hours (headache, mild fever, tiredness, vomiting & nausea). On 8/2/21 around 2pm, patient began complaining that his ""heart hurt"". He laid down to rest, but his chest continued to hurt and the pain level increased. By 8:30 pm that same day, patient's heart hurt to the point of crying and he was taken to the emergency room. At Hospital, patient was diagnosed with Myocarditis as a result of the second dose of the Covid-19 vaccine."
MYOCARDITIS	1558319-1	6-17 years	Heart inflammation. Headache. Chest pain. Difficulty breathing.
MYOCARDITIS	1574469-1	6-17 years	Chest pain at night for four days, Denies SOB, worsening with exertion, association with food, recent injuries or falls, no hits to chest, similar in the past, recreational, drug use, or radiation of pain. Went out of state 2 weeks ago (08/01)
MYOCARDITIS	1578120-1	6-17 years	Myopericarditis - elevated troponins and CKMB, global ST segment changes on ECG
MYOCARDITIS	1578244-1	6-17 years	Fever with Tmax 101.6F starting approximately 6hours after vaccination. On 8/15/2021, developed chest pain. Presented to ED where found to have elevated troponin (17.8) and EKG with ST segment changes, consistent with myopericarditis. Normal cardiac function at this time. Treating with NSAIDs.
MYOCARDITIS	1578580-1	6-17 years	Chest pain 24hrs post COVID vaccine that progressed x 48hrs. He received his second dose of the Pfizer COVID-19 vaccine 3 days ago. Since the vaccine he has been having low grade tactile fevers and headache that mom has been treating with Tylenol as needed. His chest pain is central and does not radiate. He denies syncope, shortness of breath or dizziness, and lower extremity edema. He does feel like his heart is racing at times and occasionally skips a beat. The pain is worse with exercise and with lying flat, he prefers to lean forward. Admitted for acute myocarditis post Covid vaccine. Toradol q8hr. IVIG and 1 dose of solumedrol being given. Following serial troponins
MYOCARDITIS	1579210-1	6-17 years	myocarditis necessitating hospital admission
MYOCARDITIS	1582496-1	6-17 years	The patient was admitted to the Pediatric Intensive care Unit for acute vaccine related myocarditis. He began to have fever the evening after his vaccine with chest pain developing the following night. his chest pain progressed prompting evaluation in the ED where abnormal ECG prompted further workup. He was treated with Solumedrol, IVIG x 2, Pepcid, Tylenol, aspirin x 1, benadryl with a good response. He was monitored in the PICU for risk of arrythmia or shock but did not ever demonstrate either of these conditions. He improved and his labs and echo, ecg normalized. he was discharged home on prednisone and pepcid to follow up with cardiology the following week to discuss steroid taper pending further lab analysis.
MYOCARDITIS	1582882-1	6-17 years	Myocarditis hospitalization troponin elevated at 5200
MYOCARDITIS	1583018-1	6-17 years	16 Y 8 M male who presents with chest pain and found to have elevated Troponin I. Pt previously healthy male who received his second Pfizer COVID-19 vaccine dose on 8/6. He began having some intermittent chest pain/pressure yesterday, sometimes radiating to the back. The pain continued and progressed to include shortness of breath with exertion, particularly with stairs (after 2 steps). He was able to go to school but looked unwell so his mom brought him into the ED for evaluation. There he had an elevated troponin of 30 and EKG changes (diffuse ST elevation) consistent with pericarditis. During the time that he was waiting to be evaluated, his pain resolved. Pt with Pfizer COVID-19 vaccine induced myopericarditis. He was monitored for a few days in the ICU given risk for decompensation. Subsequently transferred to the floor given asymptomatic and troponin downtrending. Echo and EKG both unremarkable. Treated with ibuprofen and pepcid and plan to continue for 2 weeks. On discharge patient is hemodynamically stable, tolerating PO, saturating well on room air, without cardiopulmonary symptoms. Troponin down trended and is <1. Follow up with cardiology outpatient.
MYOCARDITIS	1587070-1	6-17 years	Severe chest pain 24 hour later admitted to ICU with myocarditis Given aspirin, monitored closely for 72 hours Cardiac MRI performed No other treatment
MYOCARDITIS	1591454-1	6-17 years	Pt presented to ER with abdominal pain, then was transferred to pediatric floor of another hospital in health system with Dx of Myocarditis 2/2 COVID vaccine: - Patient remains asymptomatic and stable, ECHO yesterday unremarkable. Pt had elevated troponins 300s, 400s, and 500s ng/L from 8/17 through 8/19 when discharged home.
MYOCARDITIS	1591511-1	6-17 years	Myocarditis
MYOCARDITIS	1592526-1	6-17 years	Pt admitted to medical facility 8-17-21 with fever, HTN, local shot site reaction, chest pain, and vomiting; elevated liver enymes, troponins, and D-dimer. Dx: covid vax related myocarditis in obese, anxious teen with liver disease. Treated with steroids, IVIG, clonidine, zofran, and benadryl. Four normal EKGs, Echo with ejection fraction 64%, BP stablized, patient improved, discharged home 8-20-21.
MYOCARDITIS	1602677-1	6-17 years	Tested positive for Covid 19 (8/17/2021) the day before receiving the second dose of the Pfizer vaccine (8/18/2021). He presented to the ED on 8/21/2021 with positional chest pain (worse while supine and better while sitting). No fever, chills, muscle aches, body aches, runny nose, trouble breathing. ECG was consistent with pericarditis with normal sinus rhythm, troponin was 9.5, and CRP was 5.22. Bedside echo showed no pericardial effusion and normal chest x ray. Pt was transferred to Hospital for further management of myopericarditis.
MYOCARDITIS	1602732-1	6-17 years	Chest pain 2 days after second dose followed by vomiting
MYOCARDITIS	1624040-1	6-17 years	chest pain, myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1628585-1	6-17 years	HISTORY OF PRESENT ILLNESS: Patient is a 16-year 4-month-old previously well male admitted to the ICU from the emergency room at Hospital where he presented with a 1 day history of chest pain. 3 days prior to admission Patient had his second Pfizer Covid vaccine. The evening of receiving the vaccine he started to have elevated temperature for 2 days to as high as 103. He did not take any medication and it has self resolved. 2 days prior to admission he had occipital headache. He also had decreased p.o. intake of fluids and food. He started to have sternal chest pain that felt pressure like starting 11 AM yesterday morning. This abated but came back in the middle of the afternoon. He had some nausea and retching that self resolved. He was able to eat dinner last night but had recurrence of chest pain about 9:00 that he described as a 7.5 to 8.5/10 on a pain scale. With this he was brought in for evaluation. On EKG he has no evidence of ST elevation and troponin is markedly elevated at nearly 28,000. Cardiology was contacted and recommended admission echocardiogram this morning as well as initiation of aspirin. ASSESSMENT: Patient is a 16-year 4-month-old male with chest pain associated with myocarditis of at this point undetermined etiology but suspect post Covid vaccination Discharge Summary HPI: Patient is a 16-year 4-month-old male admitted early on 8/20/2021 with chest pain, elevated troponin and abnormal EKG 3 days following second Pfizer Covid vaccine. Physical Exam today: He is alert active conversational no acute distress. GCS 15. No neurologic deficit. Heart has a regular rate and rhythm with normal S1 and S2. Lungs are completely clear with equal breath sounds bilaterally symmetrical. Abdomen is soft flat benign exam with no hepatosplenomegaly. Peripheral pulses +2/4 with capillary refill of 2 seconds Hospital Course by Systems: CNS: He had occipital headache the day prior to admission. He has had no significant headaches since. He had very limited chest pain the first day of admission but has had no subsequent chest pain. CV: The a.m. after admission he had an echocardiogram that was normal. Troponins have been followed serially starting at 28,000 (normal reference range <76) decreasing 4 hours later without therapy to 23,000. Echocardiogram showed normal function and no pericardial effusions. Initial EKG showed ST elevation. After consult with cardiology he was given IVIG 2 g/kg. The a.m. after infusion his troponin increased to 25,000. Repeat echo was again normal with vigorous function. Troponin this morning is down to 14,000. CRP started at 10 and is down to 3.5. BNP and ferritins have been normal. He is discharged today with follow-up troponin, BNP, CRP and ferritin to be obtained on an outpatient basis tomorrow. He will see Dr. on Tuesday with echocardiogram. Our office will arrange for cardiac MRI and cardiac Covid team Hospital to see him this week. Limited physical activity with no strenuous activity this week. No caffeine. He will continue with ibuprofen 400 mg 3 times daily and 3 baby aspirin (243 mg) daily. Pulm: From a respiratory standpoint he has had excellent saturations on room air with no need for supplementation FEN/GI: He has been eating well throughout Renal: Urine output has been satisfactory though incompletely collected Hematologic: No acute issues Endocrine: free T4 normal at 1.12 and TSH slightly elevated at 5.67 ID: Respiratory PCR including Covid was negative at the time of admission. Monospot negative. Covid IgG was positive as expected following first Covid vaccine on 7/23/2021. It is felt felt that his myocarditis is related to Covid vaccine. PS: I reviewed all of the above issues with father. Questions were answered including mother's over the phone. If he has any recurrent chest pain he is to return. Medications: Current Facility-Administered Medications Medication ? aspirin chewable tablet 243 mg ? ibuprofen (MOTRIN) tablet 400 mg ? lidocaine cream 4 % dressing kit ? ondansetron (ZOFRAN) injection 8 mg Current Outpatient Medications Medication Sig ? aspirin 81 MG chewable tablet Chew 3 tablets (243 mg total) by mouth daily. ? ibuprofen 400 MG tablet Take 1 tablet (400 mg total) by mouth 3 (three) times daily for 10 days. Assessment: Patient is a 16-year 4-month-old male with myocarditis secondary to Covid vaccine
MYOCARDITIS	1629854-1	6-17 years	Myocarditis. Troponin levels have been ranging from 7-13. Started with minor chests pain. Then he had very bad jaw pain and chest pain started again.
MYOCARDITIS	1632935-1	6-17 years	Patient developed myocarditis with acute chest pain and peak troponin of 11. He required 2 nights of hospitalization. He symptomatically improved within 48 hours with troponin trending down to 6. He had normal echo.
MYOCARDITIS	1636617-1	6-17 years	Pt is a previously healthy 12 Y 4 M male who received his second COVID Pfizer vaccine on 8/19/21 presenting with acute onset chest pain on the morning of 8/21. He describes it as sharp, worse with inspiration, and on the left side of chest, 10/10 at worse and now at 0/10. Initial troponin was 1.99 with a normal EKG/Echo. He was admitted to local HCF and was treated with acetaminophen, ibuprofen, and toradol; but around 1700-1800, his chest pain got worse. Repeat troponin was significantly increased to 19.5. Regional cardiology recommended he be transferred to a facility with specialty. Pt was transferred to another HCF on 8/22 Suspect myopericarditis 2/2 covid vaccine, less likely myocarditis 2/2 viral illness as no sign/sx of infection. Also endorsed passive SI to multiple team members, to be assessed by psychology. Neuro: - pain: ibuprofen 600mg TID with meals, pepcid 20mg PO qHS while on ibuprofen. - discharge with total 2 week course ibuprofen and pepcid CV: - Chest pain resolves with doses of ibuprofen. - Echo and EKG normal on 8/21/21. - Troponin peaked at 23.67, downtrended and was 0.91 at discharge.
MYOCARDITIS	1641175-1	6-17 years	Presented to the ED due to midsternal dull ache in his chest. Two days prior, he had received his second Covid-19 vaccine dose. EKG was done which showed sinus tachycardia without ST elevation. Troponin was found to be elevated. Was given motrin, which improved chest pain. Consulted cardiology who recommended admission to hospital. Believed to be myocarditis secondary to covid vaccine. Upon admission, began trending troponin and obtained echo. Echo was read as normal. Troponin began doubling with each check, prompting a consult to cardiology. Cardiology recommended moving to once daily troponin checks, repeat EKG, and beginning aspirin. Repeat EKG was significant for ST elevation. GI was consulted for stress ulcer prophylaxis due to aspirin and recommended beginning protonix, and discontinuing prevacid. Another repeat EKG was ordered which was significant for ST elevation similar to last EKG. When troponin began downtrending, patient was assessed for discharge and discharged yesterday 8/26/2021.
MYOCARDITIS	1642262-1	6-17 years	13 year old identical twin boy who started having chest pain approximately 24 hours after 2nd dose of vaccine. Chest pain was persistent and he then developed shortness of breath so was brought to ED. Found to have troponin very elevated and EKG with some ST segment elevation and was admitted for acute myocarditis.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1647188-1	6-17 years	myocarditis; This is a spontaneous report from a contactable physician (pediatrician). A 15-year-old male patient received first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE; Lot number was not reported) via an unspecified route of administration on 18May2021 (at 14 years) as single dose for covid-19 immunisation. The patient medical history and concomitant medications were not reported. The pediatrician reported that the patient had a mild case of myocarditis on an unspecified date in 2021, was not hospitalized for it; event lasted 2 days and patient recovered fine from it on an unknown date in 2021. Patient mother was concerned about him getting second dose, but wanted him to for school. Physician wanted to know if there were additional recommendations for getting the second dose. In addition to myocarditis, patient was also greater than 42 days past the date of the first dose. The lot number for BNT162B2 was not provided and will be requested during follow up.; Sender's Comments: Based on the information provided, known drug safety profile and plausible temporal association, the causality between BNT162B2 and myocarditis cannot be completely excluded. The impact of this report on the benefit-risk profile of the Pfizer product and on the conduct of the study is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to regulatory authorities, ethics committees. and investigators, as appropriate.
MYOCARDITIS	1655732-1	6-17 years	complained of CP and SOB. Went to Hospital and had mild elevation in troponin. Had echo that was normal. Cardiac MRI suggestive of myopericarditis.
MYOCARDITIS	1655967-1	6-17 years	Patient developed chest pain approximately 3 days after second Pfizer COVID vaccine. Patient went to the ER and was admitted with acute myocarditis and elevated troponins.
MYOCARDITIS	1656299-1	6-17 years	Patient is a 16 y.o. male with no significant PMH who presents to the ER for chest pain, vomiting, and cough. He reports that he received his 2nd Pfizer COVID vaccine on 8/26. That same day he developed headache and fatigue, which he attributed to the vaccine. He started having some mild chest pain on 8/27 that progressively worsened over the weekend. He woke up 8/29 at 4:45 AM with severe, crushing chest pain. He said the pain was worse with laying flat and was better with sitting up and leaning forward. He reports an intermittent cough over the last few days but no shortness of breath. He says he had two episodes of vomiting on the way to ER, but denies any nausea/vomiting previous to that. He denies any fever, URI symptoms, joint pain, rash, or diarrhea. At ER, EKG showed diffuse ST elevations. BMP showed Na 137, K 3.1, Cl 102, bicarb 26, BUN 8, Cr 0.8. Troponin elevated to 24.76. CBC WNL. He was given ASA and sent to. Upon arrival, he was afebrile, BP WNL, HR 70-90s, sating 100% on RA. EKG showed diffuse ST elevations. WBC 10, hbg 14.7, Plts 164. ESR 6. CRP 34. Ferritin 86. AST/ALT 141/23. Alk Phos 324. BUN/Cr 7/0.7. LDH 324. High sensitivity troponin 24,486.48. D dimer 0.23. Stat Echo was preformed bedside and showed normal function, though no 3D was obtained. He was admitted to the Intermediate CVICU service for myocarditis management.
MYOCARDITIS	1656602-1	6-17 years	Pt recieved vaccine on 8/18/21 then on 08/20/21 had chest pain we then went to the ER. his Troponin levels kept climbing he was then admitted to hospital his chest pain was severe his troponins kept climbing he was not responding to typical treatment for pericarditis and started to have some ventricular beats that sent him to ICU he then was diagnosed with MYOPERICARDITIS and recieved Immunoglobulin.l He was in Hospital for 5 days. He has to wear a heart monitor for 1 month and can not have activity for 3 months. his troponins are still not at normal level as of 8/20/21 but he does not have chest pain. He just was able to return to school on 8/30/21 with no activity. he is on Motrin 600mg tid. when he walks his heart rate is still elevated in the 110-120's just brisk walking. but he is not in pain.
MYOCARDITIS	1662418-1	6-17 years	Chest pain that started the day after the injection. Went to the ER and was diagnosed with Myocarditis. Still having chest pain.
MYOCARDITIS	1666503-1	6-17 years	Myocarditis, pericarditis with low normal LV ejection fraction (54%), one 4 beat run of ventricular tachycardia, chest pain. Also increased troponin levels starting 8/30/2021 in ER, continued to be elevated in hospital, started improving prior to discharge (9/1/2021). Chest pain only on 8/30/2021.
MYOCARDITIS	1666526-1	6-17 years	Patient is a 14 year old male with a history of myocarditis in 2020 who presents as a transfer from medical center due to chest pain in setting of elevated troponin levels. He was in his normal state of health until two days prior to presentation when he began to have mid-sternal chest pain he described as aching. Pain waxes and wanes but never completely goes away. He has no increased work of breathing or desaturations but does state it feels like he has to take more effort to breathe. No reported improvement when leaning forward. Of note, he received his 2nd dose of Pfizer COVID-19 vaccination the day prior to chest pain beginning. He otherwise has had no fevers, no recent URI, GI illness or UTI. He has no dizziness, lightheadedness. Denies syncope or palpitations. He has a history of perimyocarditis of unclear etiology from 2020.
MYOCARDITIS	1666620-1	6-17 years	Chest pain and shortness of breath. This started on the evening of the second dose. Onset a few hours after dose given 8/21/2021. Never hypoxic. Remained outpatient. Saw PCP on 8/24/2021. Referral to cardiologist scheduled for 8/27/2021. Symptoms improving. Advised to refrain from strenuous exercise for 12 weeks. Diagnosed with post-vaccine myocarditis.
MYOCARDITIS	1666630-1	6-17 years	Patient reported chest pain, nausea, left arm numbness, headache, jaw pain, and shortness of breath, 3 days after 2nd dose of Pfizer vaccination. Vaccinated on 8/30, symptoms developed on 9/2.
MYOCARDITIS	1670689-1	6-17 years	Patient was vaccinated on a Monday evening. He had systemic reactogenicity the next day with diffuse myalgia and headache that occurred that evening. The next day headache was worse and that evening/morning he developed chest pain, dyspnea. Was seen at an OSH - had elevated troponin and CRP ECG, ECHO, and cMRI c/w myocarditis without pericardial effusion. Treatment with NSAID's alone at time of submission
MYOCARDITIS	1670898-1	6-17 years	Diagnosis: Myocarditi HPI on 8/25: 15-year-old male here with mother, little brother and little sister. Mother called this morning stating the patient start having chest pain last night. We called and added him into clinic today. Patient states that last night he was awakened from sleep with substernal chest pain. This has continued today. He states that he had the second Pfizer vaccine on 8/23. He is feeling some mild shortness of breath like he went out and exercised. He has had only one other vaccine outside of the Pfizer vaccine that was an influenza vaccine last year. Mother does not feel that he has had any fevers or body aches sweats etc. No sick contacts in the family.
MYOCARDITIS	1671168-1	6-17 years	Chest pain and palpitations for 12 hours leading to admission to hospital. Post-vaccine myocarditis diagnosed. Treated for several days with motrin and steroids, and IVIG.
MYOCARDITIS	1674937-1	6-17 years	Myocarditis necessitating admission to Pediatric ICU for monitoring. Elevated troponin and BNP with abnormal EKG.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1675151-1	6-17 years	Woke up 8/29 with 104 fever, chills, and could not move. Woke up and went to school 8/30 with severe headaches. Woke up and went to school 8/31 and had severe chest pains starting at 8am and lasted till about 3pm. Woke up that night at 10:30 and the chest pains came back. Went to the ER at 10:45. ER took EKG and said everything was fine. Got Tylenol and went home at 2am. The next day 9/1 I woke up and had chest pains worst than the night before. Went to ER at 1:45pm. Got a room at 10pm. Took another EKG and blood tests. EKG came back abnormal and my troponin levels came back as 38. Was admitted into PICU at midnight. Had heart damage and was diagnosed with myocarditis. Also a valve in my heart was leaking blood backwards. I have more cardiologist appointments set and will need another echo 9/7 and an MRI of my heart at an unknown date.
MYOCARDITIS	1676639-1	6-17 years	Myocarditis
MYOCARDITIS	1678321-1	6-17 years	Patient developed fever, chest pain w/i 2 days of vaccine. He was admitted on 9/5/2021 to and diagnosed with myocarditis.
MYOCARDITIS	1678874-1	6-17 years	Received second Pfizer Covid 19 vaccine on 9/1/21. Spiked a fever to 103.7 on 9/2. On 9/4 began experiencing mid-sternal chest pain described as aching and intermittent. On 9/5 chest pain worsened and patient became diaphoretic. He was taken to an ED where his troponin was found to be elevated. He was given aspirin, toradol and decadron, then transferred to different hospital. 9/6: chest pain still present but improved.
MYOCARDITIS	1683062-1	6-17 years	Developed mild chest pain which progressed into severe chest pain overnight. Presented to the ED and was found to have elevated troponin and CRP , diagnosed with myocarditis. Started on ibuprofen which he continues on. Symptoms have mostly improved except with exertion but has reported palpitations.
MYOCARDITIS	1683345-1	6-17 years	09/04/21 9:00am fever aches headache 09/05/21 dull headache and fatigue most of day 09/06/21 5:00 am chest pains few hours while laying 09/07/21 3:30 am chest pain radiating to both arms while laying 09/07/21 8am called physician 10am ER 09/07/21 6pm transferred to hospital - myocarditis: high cardiac markers 09/07-08/21 Echo, enormal
MYOCARDITIS	1685283-1	6-17 years	12 y/o patient was in another country for 3 months and reported receiving his second dose of the Pfizer vaccine on 8/31/2021. Patient returned home on 9/2/21, and awoke on 9/3/21 with complaints of acute midsternal chest pain - woke him from sleep, 10/10 and constant, not burning but was pleuritic. Did not improve with positioning or drinking water. Associated with nausea and palpitations and globus sensation. Denies associated dizziness, HA, syncope, cough or SOB/DOE. Unknown exactly where in the country patient received vaccine and what the lot numbers were. Dx with suspected Acute myopericarditis.
MYOCARDITIS	1689285-1	6-17 years	Myocarditis with troponin elevation
MYOCARDITIS	1692192-1	6-17 years	Inflammation around the heart .; This is a spontaneous report from Non-contactable consumer female (patient). A 17-year-old female patient (not pregnant at the time of vacciantion) received first dose of BNT162B2 (PFIZER-BIONTECH COVID-19 VACCINE, Formulation: Solution for injection, Batch/Lot number: Unknown), via an unspecified route of administration in left arm on 05Aug2021 (at the age of 17 years old) as single for covid-19 immunisation. The patient medical history and concomitant medications were not reported. The patient did not receive any other vaccines within 4 weeks prior to the COVID vaccine. Prior to vaccination, the patient was not diagnosed with COVID-19. Since the vaccination, the patient hasn't been tested for COVID-19. On 26Aug2021 patient experienced inflammation around the heart. Therapeutic measures were taken as a result of inflammation around the heart with Computed tomography (ct), x-ray, electrocardiogram (ecg). The reported event led to patient's prolonged hospitalization on an unspecified date. The reporter considered events as serious. The outcome of event was not recovered. No follow-up attempts are possible; information about lot/batch number cannot be obtained. No further information is expected.
MYOCARDITIS	1693073-1	6-17 years	The day following the second COVID vaccine administration, patient reported chest pain. He went to his pediatrician, where troponin was noted to be elevated (reported to be 0.84 on 9/6) and was referred to ED. Troponin was confirmed to be elevated (0.710 on 9/6) and patient was admitted to pediatric cardiology service for suspected vaccine related myocarditis. Troponin on 9/7 was 0.301. Echocardiogram was normal. Was treated symptomatically with ibuprofen and tylenol, and discharged on 9/7. He will get cardiac MRI in the next few weeks.
MYOCARDITIS	1693635-1	6-17 years	Acute myocarditis. Patient initially developed headache, chest pain, nausea and vomiting. All other symptoms resolved, but chest pain continued, so he presented to the ED 2 days after receiving the vaccine (Wed, 9/8). He was found to have elevated troponins at that time and was hospitalized for further observation and management. His chest pain resolved by Friday, 9/10. His troponins fluctuated between 4.14-9.94. He was discharged in good condition with downtrending troponins on Saturday, 9/11.
MYOCARDITIS	1694434-1	6-17 years	Patient received 1st COVID-19 vaccine on 6/24/21 and 2nd COVID-19 vaccine on 7/15/21. Both at same pharmacy. He had a well child check in July which showed elevated LFTS on baseline labs (AST was 148, ALT is 161). He was seen by hepatology who obtained a liver ultrasound which demonstrated Echogenic liver, most commonly seen with fatty infiltration. He then presented to our hospital on 9/8/21 with 2 days of chest pain, feeling like pressure, was intermittent, and sometimes sharp. Labs demonstrated significantly elevated AST/ALT, CK, troponin, NT pro BNP, fibrinogen, d-dimer, and CRP. EKG showed ST segment elevation. ECHO showed normal heart structure with EF of 49%. A gated CT angiogram showed normal coronaries. A cardiac MRI showed diffuse inflammation. He was admitted due to concerns for myocarditis and started on ibuprofen on 9/9/21. EKG obtained later in the day on 9/9 was normal. The patient received 70 g (1 g/kg) IVIG on 9/10/21 PM. Hepatology, rheumatology, genetics, and infectious diseases were consulted and recommended a variety of tests. An ECHO on 9/13 demonstrated an EF improved to 52%. The patient remains admitted.
MYOCARDITIS	1694646-1	6-17 years	Presented with acute chest pain and diagnosed with COVID-19 Vaccine adjacent myocarditis. Elevated high sensitivity troponin to 447. Normal EKG. Treated with around the clock motrin. Symptoms resolved ~ 1 day after admission. The symptoms started 3 days after administration of the vaccine.
MYOCARDITIS	1694813-1	6-17 years	Vaccine administered on 9/8. Developed chest pain and shortness of breath on 9/9 and self resolved. Developed chest pain and burning on 9/10. Symptom duration unknown. Patient without fever, cough, congestion, or other infectious symptoms prior to vaccination and after vaccination. On 9/12 symptoms returned and patient's father took him to the emergency department.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1696197-1	6-17 years	Patient presented with myopericarditis on 8/16 to Medical Center, Emergency Department and was subsequently admitted for hospital admission from 8/16 to 8/17. Patient received 2nd dose of Pfizer COVID19 vaccine on 8/13. On 8/13 at night, the patient complained of subjective fever when going to sleep. On 8/14, in the morning, the patient complained of pain in the arm. On 8/15, in the morning, the patient began complaining of mild chest pain that was worse when laying down. On 8/15 at night and the following morning on 8/16, the patient complained of worsening chest pain that was aching, intermittent, without radiation on a scale of 8/10. Echo-cardiogram, EKG, and troponins were ordered. CMP, CBC, CRP, BNP, EKG, CXR reportedly unremarkable with troponin 1741 and received ibuprofen with relief of symptoms. Patient was admitted to Pediatric Floor and continued management. His troponin was 1741 on presentation and rose to 7,312 on 8/16. His echo and EKG were WNL, showing only early repolarization. Per cardiology EKG and Echo overall reassuring. Patient was treated with ibuprofen for symptomatic relief. Troponins downtrended before discharge. Follow up with PCP and Cardiology in one week from discharge.
MYOCARDITIS	1699872-1	6-17 years	Chest pain with evidence of myopericarditis
MYOCARDITIS	1700362-1	6-17 years	"Received second Pfizer Covid vaccine on 9/5/21. On 9/8 in the morning patient experienced shortness of breath and chest pain described as his heart ""feeling heavy."" Was taken to the ED and transferred to pediatric cardiac ICU with concerns for myocarditis. Troponin peaked at 0.12. On 9/9 ECHO was done which showed normal function. ECHO was limited due to patient being uncooperative. Troponin 0.10. Due to troponin trending down and improvement in chest pain, patient was discharged with instruction to follow up with cardiology in one week."
MYOCARDITIS	1704850-1	6-17 years	presented with two days of worsening chest pain and chest pressure diagnosed with myocarditis with elevated troponin levels, esr and crp normal required hospitalization overnight for monitoring normal EKGs and Echo treated with ibuprofen with improvement in chest pain
MYOCARDITIS	1708522-1	6-17 years	developed low grade fever and myalgia after the vaccine and then presented on the 3-4th day post vaccine with chest pain radiating to left arm worsening with laying flat.EKG was normal troponin was elevated. PVCs were noted on telemetry.Normal function on echocardiogram with trace pericardial effusion.cardiac MRI showed delayed enhancement of the subepicardial area and signs of myocarditis of LV.pain decreased and troponing initiallytrended up then started to drop on 9/17/21 and pt was discharged on steroids and aspirin.SARS AB positive- resp panel was negative.
MYOCARDITIS	1710210-1	6-17 years	My son has myopericarditis. With troponin levels of 147, this indicates heart muscle damage. My son is a runner, hiker, skiing athelete. This is so out of the blue.
MYOCARDITIS	1713965-1	6-17 years	dx = myocarditis Briefly, pt is an active male who is currently playing football and began complaining of chest pain around 1 prior to admission ago, shortly after COVID-19 vaccine on 8/31. Several episodes of vomiting and diarrhea the last 3 days. Initially grandmother (guardian) thought chest pain was related to football injury; however, following increased complaints of chest pain, accompanied by shortness of breath and fatigue, pt was taken to the ED at hospital. Troponin in the ED was 16 and ST segment elevation consistent with myocarditis. Pt was admitted to the floor. Follow-up troponin this afternoon was increased to 63. Additionally, telemetry while on the floor was reviewed and 2 6-beat runs of ventricular tachycardia were noted. For these reasons, the patient was transferred to the CICU for further monitoring and management. Viral panel resulted as rhinovirus positive, but asymptomatic. He was in the cardiac ICU for 3 days. Had 2 runs of VT treated with metoprolol. Received IVIG and was placed on NC to maintain saturations above 90%. He was febrile after transfer to the floor but cultures were negative. Troponins downtrended. CRP initially uptrended. Cardiac MRI showed fibrosis. Cardiology determined they were less confident in COVID vaccine as the cause for his myocarditis given this, fever, and uptrending CRP. Rheumatology and ID were consulted, work up for MISC was negative (had covid in Feb). Troponin, BNP, CRP all continued to downtrend until he was deemed safe for discharge on 9/17. Enalapril and spirinolactone were started without complications and given resolving AKI. A TTE was obtained day prior to discharge, and was read as normal.
MYOCARDITIS	1716104-1	6-17 years	Woke up with severe chest pains, pale , blue lips, nausea, clammy. Brought him to Medical Center emergency room. Bloodwork, chest xray and EKG done. Bloodwork showed high lveles of troponin. Transported via ambulance to a d Medical Center pediatric intensive care unit. During stay at hospiatl he had telemetry monitoring, ekg, and regular bloodwork to check troponin levels. Diagnosed with Myopericarditis
MYOCARDITIS	1719016-1	6-17 years	Patient developed chest pain and difficulty breathing 2 days after COVID Pfizer vaccine #2 administered. Diagnosed with myopericarditis in the setting of acute inflammatory reaction to mRNA vaccine.
MYOCARDITIS	1719038-1	6-17 years	Pt is a 15-year-old male with past medical history of anxiety who was admitted to our cardiology floor for pericarditis in the setting of recent COVID-19 vaccination. Per mother he received his second dose of the Pfizer COVID-19 vaccine on Thursday. Initially following the vaccine, he had no reaction and was asymptomatic. However on Saturday he began with palpitations and mild chest pain. On Sunday he continued with palpitations and also states that he felt a warm flushed type sensation on occasion. Today (Monday), troponin was relatively asymptomatic, however given his symptoms over the weekend he was seen by his pediatrician who then referred his family to the emergency room. Of note, patient has been without fevers, fever vomiting, diarrhea, or rashes. Mother denies that patient has any other cardiac history. He has never had an echocardiogram or EKG done previously. There is no significant cardiac family history. No history of cardiac medications, only home meds include duloxetine 30mg BID and Buspirone 10mg BID. No congenital heart disease, no heart surgery done in infancy or childhood in the family, no history of pacemakers, no history of arrhythmia, and no history of sudden or on known cause of death, namely before the age of 50. In the ED, vital signs were normal. There troponin was done which resulted at 615 ng/L and a proBNP was done which was 120 pg/mL. CRP was also done which was 22.5 mg/L. EKG was done which demonstrated normal sinus rhythm with mild left axis deviation (likely lead placement related), and no significant ST segment or PR segment changes. Respiratory pathogen panel (PCR) was completed at their ER and was negative including COVID-19. Chest x-ray was obtained which demonstrated normal heart size and mild infiltrate and/or subsegmental atelectatic changes in the right lower lobe. No medication aside from Motrin was given. Dr. was called from the ED and decision was made to transfer patient to our facility for further management in the setting of vaccine related myopericarditis.
MYOCARDITIS	1723336-1	6-17 years	mild myopericarditis based on EKG, MRI, and troponin findings starting about 2-1/2 days after his 2nd dose of vaccine presented to an ER due to chest pain, which started the workup

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1724292-1	6-17 years	Pt came to ED evening of 9/17 with chest pain. EKG and troponin consistent with myocarditis/pericarditis - most likely related to recent covid vaccine. He had normal CXR. He had normal ECHO. Initial troponin was trending up so decision made to keep him in hospital until it started to trend down. In the afternoon troponin started to drop so he was sent home. Consultation with cardio DR - He recommends the following: 1. Motrin - 600 mg Q8 x 10 days 2. Colchicine - 0.6 Mg daily x 4 weeks. 3. Famotadine - 10 mg twice daily x 2 weeks. He should follow up and have repeat EKG and troponin in 2-3 days. At this point cardiology should be updated and discussion for further follow up and plan.
MYOCARDITIS	1727373-1	6-17 years	Chest pain with elevated Troponins, decreased cardiac function, and diagnosis of myo/pericarditis 3 days after second vaccination.
MYOCARDITIS	1727416-1	6-17 years	Chest Pain
MYOCARDITIS	1732591-1	6-17 years	Chest pain, palpitations, troponin leak -- diagnosed with Myocarditis, Admitted to hospital for 2 days. Received supportive therapies with NSAIDS. No intervention or immunomodulors. Echo wnl with normal EF.
MYOCARDITIS	1735163-1	6-17 years	Fever and body aches. Treated with rotation of Motrin and Tylenol. Fever resolved after 2 days. Then 4 days later started with some chest pain/tightness - thought to be due to inhalation of campfire smoke. But then next day HR was 138 while sitting doing nothing. (Also had Meningococcal-ACWY vaccine on 6/17/21, but I don't have Lot#, etc.}
MYOCARDITIS	1736738-1	6-17 years	Hospitalized for four days on Sept 9, starting having shortness of breath next day and ER Myocarditis and Pericarditis.
MYOCARDITIS	1749562-1	6-17 years	12 yoF with recent covid infection who presented for symptoms as stated below that began 1 day following 2nd Pfizer vaccination. Myocarditis, pericarditis with chest pain few days after vaccination. Received IVIG and methylprednisolone. Started on aspirin. Chest pain improved prior to discharge with troponin downtrending. Headache and lymphadenopathy starting 1 day after vaccination. Headache persisted for two weeks before improvement. Received numerous pain analgesics.
MYOCARDITIS	1753906-1	6-17 years	Myocarditis. Developed chest pain, without fever or other ill symptoms, 2 days after vaccine. Found to have elevated troponin, BNP, D dimer. Admitted to hospital for 3 days. Treated with 3 days of steroids in hospital, on ASA until f/u Cardiology.
MYOCARDITIS	1756751-1	6-17 years	Patient complained of chest pain and was taken to ER. At the ER he complained of chest pain 6/10 and SOB. Troponin at initial hospital was 1031 and EKG showed ST depression in V1 and ST elevation in aVF and Lead II. He was transferred to hospital. Initial chest pain rated 2/10. Repeat labs showed Troponin 34000 and EKG with ST depression in V1 and ST elevation in aVF and lead II. He was admitted for COVID-19 vaccine myocarditis. On admission cardiology was consulted and requested repeat troponin, BNP and an echocardiogram in the AM of 9/28. IV meds were started at that time as well. EKG findings, and elevated cardiac biomarkers are more consistent with that of a myopericarditis. His echo on 9/30 is normal, with no evidence of dysfunction, pericardial effusion, or significant edema. On 09/27 Patient did complain of an aching chest pain at 5/10 rating, this was relieved with Toradol and no further dose of Toradol or pain was reported throughout stay. Naproxen 220 mg every 12 hours started on 9/28 and given as scheduled until 9/30 prior to discharge. We PO challenged Patient on 09/27 and he tolerated food and drink well, mom states he ate close to his home baseline. Troponins continued to down-trend, and repeat Echo and EKG were reassuring. Outpatient follow up with Dr. at discharge. Will need Halter monitoring to be set up by cardiology at follow up.
MYOCARDITIS	1758954-1	6-17 years	Woke up at night with severe left shoulder pain, 12 days after 1st vaccination, which receded and he went to bed. No symptoms the next day. Woke up early the following morning (now 14 days after vaccination) with L shoulder pain, chest pain, nausea, pale in color, at which point he was taken to the local ED. He was treated with ibuprofen and colchicine and had symptomatic resolution in less than twelve hours. Troponin began to decrease 12 hours after admission, decreased from high of 18 ng/ml to 0.34 ng/ml at time of discharge 3 days after presentation.
MYOCARDITIS	1759121-1	6-17 years	Thursday the 16th of September he was extra tired and a little bit of a headache on Friday he had a little bit of fever and on Saturday he told me he didn't feel good and I gave him some cough drops for the sore throat on Sunday he was sleepy and tired and complain of sore threat and saying he felt something in his chest like and at 3am he went to my room and he didn't feel well he said he was exhausted his jaw was hurting really bad, his chest was tight his felt was racing and he was holding his left arm and I called 911 and an ambulance took him to the ED and did and EKG and an Echo they diagnosed him for myocarditis after they ruled out heartburn and he was admitted. Infectious disease doctor was alerted.
MYOCARDITIS	1761287-1	6-17 years	Myocarditis
MYOCARDITIS	1764974-1	6-17 years	"He was in his usual state of good health. 5 days after receiving the vaccine, he complained of brief unilateral shoulder pain (unclear to family which shoulder), which the family attributed to a musculoskeletal source. No chest pains, shortness of breath, or palpitations. He was playing with 2 friends at a community pond, swinging from a rope swing, flipping in the air, and landing in the water feet first. He surfaced, laughed, told his friends ""Wow, that hurt!"", then swam toward shore, underwater as was his usual routine. The friends became worried when he did not re-emerge. His body was retrieved by local authorities more than an hour later."
MYOCARDITIS	1765513-1	6-17 years	"He presented with excessive fatigue, fevers, emesis, and chest pain. He received his second COVID-19 vaccination on 9/29, 3 days prior to ED presentation on 10/1. Per patient, he went to work the same day after receiving his second COVID vaccination. While at work, he became lightheaded and had to leave early. He went home and went to bed. He woke up in the middle of the night and vomited then went back to sleep for the rest of the night. The following day (9/30) he reports excessive fatigue and says he slept all day (~12-13 hours). Per mom, he was also very hot to the touch throughout the day. He then woke up on 10/1 with ""really bad"" left anterior, non-radiating chest pain in addition to his persistent dizziness, 3-4 episodes of emesis, and not being able to keep anything down - which prompted mom to bring him to the ED. He was transferred and admitted to a local hospital for myocarditis with a troponin of 27.33 and diffuse ST elevation with PR depression on EKG. A complete infectious disease workup was negative for other viral or bacterial causes of myocarditis. He received IVIG on 10/3. He also got tylenol and motrin and one dose of aspirin. His troponin down trended after receiving IVIG and his symptoms resolved. He was discharged on 10/6 with cardiology follow up outpatient."
MYOCARDITIS	1768729-1	6-17 years	Vomiting, shortness of breath, chest pain and myocarditis.
MYOCARDITIS	1772257-1	6-17 years	Acute myocarditis ~48 hours after vaccination with shortness of breath and chest pain, TPN elevation

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1782688-1	6-17 years	Presented with acute chest pain, awakening him from sleep, elevated troponin, cardiac arrhythmia. CMRI confirms myocarditis. Treated with lidocaine for ventricular arrhythmia, IVIG given, noted to have HTN discharged home on lisinopril. Troponin I peak 14.3, last level 9/8 0.83.
MYOCARDITIS	1785629-1	6-17 years	Patient presented with left sided chest pain about 12-24 hours after the administration of the first vaccine. He had chest pain that worsened with respirations. Laboratory studies included elevated troponin levels consistent with myocarditis. A 15-lead electrocardiogram showed pericarditis. By 48 hours the patient had reduction in pain while being treated with ibuprofen, 400 mg by mouth 3 times daily. 3 days after the vaccination he received an echocardiogram showing normal left ventricular function.
MYOCARDITIS	1787968-1	6-17 years	Previously healthy 13 yo old boy presenting with chest pain and vomiting. Symptoms started Sunday night with myalgias and generalized body aches. Received 2nd COVID19 vaccine on Sun. Post vaccine complained of generalized body aches, malaise, until Tuesday morning, when the patient returned to feeling at baseline. Tuesday night complaints of new onset substernal chest pain. Pain was worse when laying down and when raising hands. Sitting up helped with pain but walking around made pain increasingly achy. EMS was called who performed EKG, which was reportedly read as normal and at that time did not pursue further treatment. The patient only slept about 3 hours and the next morning, experienced multiple episodes of vomiting that worsened pain. The patient was subsequently brought to the ED.
MYOCARDITIS	1794918-1	6-17 years	Patient presented with vertigo, mild chest pain. In the ED, CK elevated in the 20,000s , troponin within normal limits, CKMB borderline elevated. EKG and echocardiogram were not concerning, cardiology stated low suspicion for myocarditis. Chest pain resolved by time of admission, vertigo and elevated CK improving with D5 Normal saline at 1.25x maintenance.
MYOCARDITIS	1798181-1	6-17 years	Patient is a previously healthy 16 year old male who presented to ER for severe substernal chest pain. Patients states that at 1 pm he started to experience 4-5/10 substernal chest pain. He spoke to his sister who suggested he rest and drink a glass of milk. Patient states that he tried a hot shower which helped a little but by 9 pm the chest pain increased in severity to 8-9/10. He denies fever, SOB, dizziness, palpitations, N/V. He called his bother who brought him to the ER. History significant for receiving second Pfizer COVID vaccine 3 days prior. Labs at outside ER were significant for high sensitivity Troponin elevated to 1447, CK = 1342, CRP= 2.89. EKG demonstrated ST elevation in anterior inferior leads as well as lateral precordial leads. Electrolytes, CBC wnl, LFTs mildly elevated AST at 88. Echo reported to be normal function and intracardiac structure. His was afebrile with a HR of 81, RR =20, BP= 173/91 decreased to 112/66 after falling asleep, Oxygen Sats =100%.. 16 year old previously healthy, 16 year old male who present with substernal chest pain in the setting of second dose of Pfizer COVID vaccine 3 days ago. Lab work and EKG consistent with post Vaccine myocarditis/pericarditis. Patient has no hemodynamic compromise requiring only pain relief for chest pain. No respiratory distress. PICU admission for monitoring for cardiac arrhythmias, pain management, serial EKGs and trending of his elevated troponin and inflammatory markers.
MYOCARDITIS	1804277-1	6-17 years	4/14/21 ist dose, 2nd dose5/5/2021. 9/9/2021 admitted, symptoms started 9/5/2021 chills, abd pain, vomiting, fever 101, denies diarrhea, cough. went to ER prescribed zofran 9/7 fever cont, sever abd pain, HA, nausea, and constipated. (RSV, flu,strep and covid all negative. home mom Miralax. 9/8 frequent diarrhea, abd pain, vomiting. elevated troponin, CRP, IL-6 ferritin, myocarditis. suspected MIS-C. negative, Sars coV-2 PCR negative, Igg & Igm antibody positive 9/9. eats hot dogs at work. coworker had covid 3 weeks prior. Pt works in family chicken coop and consumes fresh eggs. blood cx positive gram negative sepsis by Salmonella. discharge dx Sepsis by Salmonella with organ dysfunction. No reaction or events at time of vaccination ist dosse 4/14/2021 second dose 5/5/2021. With symptoms, possible exposure and elevated inflammatory markers case was initially suspected to be MIS-C; but found to have alternative diagnosis sepsis by Salmonella with organ dysfunction. (so not reported as MIS-C) Vaccine history noted during MIS-C investigation(2nd dose 4 months before onset). Was told to report to VAERS. Information pulled from medical record during MIS-C investigation.
MYOCARDITIS	1808551-1	6-17 years	Healthy athletic male, symptoms(HA, mayalgias, fatigue) developed 09/12/21. syncopal episode at home. ER Hospital, cardiac symptoms. myocarditis with acute heart failure. Hospitalized from 09/17-09/24/21. Responded well to milrinone and IVIG. Was discharged to home on lisinopril. EF 40-45% at discharge. Not sure if fully recovered but not strenuous exercise for 6 months
MYOCARDITIS	1808614-1	6-17 years	6am 10/16- shivering, 103 degree temperature, nausea, headache. 10/17- vomiting, extreme chest pain, shortness of breath, high heart rate, 104.8 temperature. Taken to a local hospital. Diagnosed with post covid 19 vaccination myocarditis with decreased cardiac function and elevated troponin which peaked at 573. Hospitalization inpatient cardiology floor at the hospital 10/18-10/10/21. Discharged with troponin levels at 170 and follow up echo and cardiology 10/28/21
MYOCARDITIS	1813447-1	6-17 years	Pt developed severe myocarditis with elevated troponin levels.
MYOCARDITIS	1813985-1	6-17 years	Patient developed chest pain on 10/18 with fever, headache, sore throat, nausea and fatigue noted 3 days prior to the chest pain. Upon presentation to the ER he was found to have non-specific T wave changes, elevated troponin, and elevated CRP. He was diagnosed with myocarditis. Ultimately, his hemodynamic status remained stable throughout his hospital stay. He was supported symptomatically and did not require any cardiovascular support. He was discharged home with close cardiology follow-up.
MYOCARDITIS	1818666-1	6-17 years	Myocarditis, atrial fibrillation resolved over a 7 day period
MYOCARDITIS	1818897-1	6-17 years	Patient presented chest pain on 8/20/2021. On 8/21/2021 she was diagnosed with myocarditis. She was then hospitalized for three days. She received I igiv infusion durning her hospital stay.
MYOCARDITIS	1826456-1	6-17 years	chest pain, shortness of breath, likely myocarditis
MYOCARDITIS	1835810-1	6-17 years	Common cold symptoms began 10/11/21 then chest pains began on 10/14/21. On 10/19 I took the patient to urgent care who prescribed Motrin. The pain became more severe so I took the patient to Hospital Emergency Room where he was admitted. Troponin was a 9 and patient was diagnosed with Myocarditis. He was given Motrin for pain and inflammation. Doctors treated with IVIG once the troponin levels continued to stay at a 7. He stayed in the hospital for 12 days and was released on steroids and a heart monitor. Also during this time his heart rate became irregular.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1837013-1	6-17 years	At around 11;30pm the day after my son received his 2nd Pfizer Covid vaccine, he woke me up and was complaining of significant chest pain. He could not get comfortable. I called the consulting nurse, as he was not having problems breathing she said I did not need to take him into the emergency room but to continue to monitor him and suggested giving him ibuprofen, I had already administered one ibuprofen and then gave him another. After several hours he was able to get comfortable and go to sleep. We had a routine visit with the pediatrician two weeks later and we discussed what had happened. Since he appeared to not have any further symptoms we didn't specifically run any test for the doctor order an EKG. We ended up having to follow up with a cardiologist and when we describe the event she determined based on what she had seen in other patients and that the ibuprofen stopped the symptoms that it is likely he had myocarditis as a result of the 2nd vaccine.
MYOCARDITIS	1838961-1	6-17 years	Myocarditis; multiple episodes of nonsustained ventricular tachycardia; offlabel use; This literature-study case was reported in a literature article and describes the occurrence of VENTRICULAR TACHYCARDIA (multiple episodes of nonsustained ventricular tachycardia) and MYOCARDITIS (Myocarditis) in a 16-year-old patient of an unknown gender who received mRNA-1273 (Moderna COVID-19 Vaccine) for COVID-19 vaccination. The occurrence of additional non-serious events is detailed below. No Medical History information was reported. On an unknown date, the patient received dose of mRNA-1273 (Moderna COVID-19 Vaccine) (unknown route) 1 dosage form. In 2021, the patient experienced VENTRICULAR TACHYCARDIA (multiple episodes of nonsustained ventricular tachycardia) (seriousness criterion hospitalization). On an unknown date, the patient experienced MYOCARDITIS (Myocarditis) (seriousness criteria hospitalization and medically significant) and OFF LABEL USE (offlabel use). At the time of the report, VENTRICULAR TACHYCARDIA (multiple episodes of nonsustained ventricular tachycardia) and MYOCARDITIS (Myocarditis) outcome was unknown and OFF LABEL USE (offlabel use) had resolved. DIAGNOSTIC RESULTS (normal ranges are provided in parenthesis if available): On an unknown date, Troponin: increase (High) increase. The action taken with mRNA-1273 (Moderna COVID-19 Vaccine) (Unknown) was unknown. For mRNA-1273 (Moderna COVID-19 Vaccine) (Unknown), the reporter considered VENTRICULAR TACHYCARDIA (multiple episodes of nonsustained ventricular tachycardia) and MYOCARDITIS (Myocarditis) to be possibly related. No further causality assessment was provided for OFF LABEL USE (offlabel use). Concomitant product and treatment medication use was not provided by the reporter. In this retrospective multicenter study across 16 hospitals, patients <21 years of age with a diagnosis of C-VAM (coronavirus disease 2019 vaccinationûassociated myocarditis) were included and compared with a cohort with multisystem inflammatory syndrome in children. Younger children with C-VAM were compared with older adolescents. Included Sixty-nine patients with a diagnosis of acute myocarditis after COVID-19 vaccination who had presented between Mar-2021 and Jun- 2021. Fifty-nine patients (94%) had received the Pfizer-BioNTech vaccine, and 4 (6%) had received the Moderna vaccine. All except for one patient presented after the second dose. This case concerns a 16-year-old, male patient with no relevant medical history reported, who experienced the expected serious AESI event of myocarditis the unexpected serious AESI event of ventricular tachycardia. The events occurred approximately at an unknown date after a dose of Spikevax. The rechallenge was unknown since no information about the other doses was available. The benefit-risk relationship of Spikevax is not affected by this report. This case was linked to MOD-2021-364806. Most recent FOLLOW-UP information incorporated above includes: On 28-Oct-2021: Follow up received by safety on 28-Oct-2021 included an Email with Administration received from Team and does not contain any new information.; Sender's Comments: This case concerns a 16-year-old, male patient with no relevant medical history reported, who experienced the expected serious AESI event of myocarditis the unexpected serious AESI event of ventricular tachycardia. The events occurred approximately at an unknown date after a dose of Spikevax. The rechallenge was unknown since no information about the other doses was available. The benefit-risk relationship of Spikevax is not affected by this report.
MYOCARDITIS	1838972-1	6-17 years	Myocarditis; Off label use; This literature-study case was reported in a literature article and describes the occurrence of MYOCARDITIS (Myocarditis) in a 17-year-old patient of an unknown gender who received mRNA-1273 (Moderna COVID-19 Vaccine) for COVID-19 vaccination. The occurrence of additional non-serious events is detailed below. LITERATURE REFERENCE: No Medical History information was reported. On an unknown date, the patient received dose of mRNA-1273 (Moderna COVID-19 Vaccine) (unknown route) 1 dosage form. In 2021, the patient experienced MYOCARDITIS (Myocarditis) (seriousness criteria hospitalization and medically significant). On an unknown date, the patient experienced OFF LABEL USE (Off label use). At the time of the report, MYOCARDITIS (Myocarditis) outcome was unknown and OFF LABEL USE (Off label use) had resolved. Possible DIAGNOSTIC RESULTS (normal ranges are provided in parenthesis if available): On an unknown date, Electrocardiogram: abnormal (abnormal) diffuse ST-segment elevation (days 1 and 2) and T-wave inversion (days 4 and 10). On an unknown date, Troponin: increase (High) increase. The action taken with mRNA-1273 (Moderna COVID-19 Vaccine) (Unknown) was unknown. For mRNA-1273 (Moderna COVID-19 Vaccine) (Unknown), the reporter considered MYOCARDITIS (Myocarditis) to be possibly related. No further causality assessment was provided for OFF LABEL USE (Off label use). In this retrospective multicenter study across 16 hospitals, patients <21 years of age with a diagnosis of C-VAM (coronavirus disease 2019 vaccinationûassociated myocarditis) were included and compared with a cohort with multisystem inflammatory syndrome in children. Younger children with C-VAM were compared with older adolescents. Included Sixty-nine patients with a diagnosis of acute myocarditis after COVID-19 vaccination who had presented between Mar-2021 and Jun- 2021. Fifty-nine patients (94%) had received the Pfizer-BioNTech vaccine, and 4 (6%) had received the Moderna vaccine. All except for one patient presented after the second dose. This case concerns a 17-year-old, male patient with no relevant medical history reported, who experienced the expected serious AESI event of myocarditis. Off-label use was considered an additional event. The event occurred approximately at an unknown date after a dose of Spikevax. The rechallenge was unknown since no information about the other doses was available. The benefit-risk relationship of Spikevax is not affected by this report. This case was linked to MOD-2021-364727 (Patient Link). Most recent FOLLOW-UP information incorporated above includes: On 28-Oct-2021: Follow up received by safety on 14-Oct-2021 included an Email with report received from team and does not contain any new information.; Sender's Comments: This case concerns a 17-year-old, male patient with no relevant medical history reported, who experienced the expected serious AESI event of myocarditis. Off-label use was considered an additional event. The event occurred approximately at an unknown date after a dose of Spikevax. The rechallenge was unknown since no information about the other doses was available. The benefit-risk relationship of Spikevax is not affected by this report.
MYOCARDITIS	1840706-1	6-17 years	local swelling of chest wall, lymphadenopathy, and myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1855286-1	6-17 years	Patient had shortness of breath and decreased exercise tolerance after second dose of Pfizer Covid vaccine. There was a bump in troponin and some mild chest pain. Symptoms has resolved and troponin normalized. Echocardiogram is reassuring with no signs of myocarditis or pericardial effusion. Based on presentation, he likely had mild myopericarditis secondary to COVID-19 vaccine. He is already back to his baseline activity level without any concerns.
MYOCARDITIS	1855566-1	6-17 years	Myocarditis, presenting with chest pain and positive troponin and cardiac MRI meeting diagnostic criteria with LGE and T2 edema
MYOCARDITIS	1855572-1	6-17 years	Myocarditis - started with fever and headaches followed by chest pain on day #3 with elevated troponin and positive CMR as below
MYOCARDITIS	1855750-1	6-17 years	Early october: first pfizer covid vaccine administered 10/29: second pfizer covid vaccine administered 11/7: patient began having chest pain (better with sitting up, worse with lying down or deep breathing) 11/8: Had first and only fever to 38.0. Went to PCP who was concerned about vaccine induced myocarditis so called cardiology team who ultimately recommended coming to ED for further evaluation 11/8 PM: admitted to Hospital. BNP 96 pg/ml, Trop 6.33 ng/ml. CRP 140 mg/L. Patient treated with Toradol/acetaminophen. 11/9: Worsening BNP 130, troponin 7.23. Respiratory pathogen panel sent to evaluate for other possible viral causes of myocarditis and resulted positive for rhinovirus/enterovirus. Patient and family deny recent cough, congestion, rhinorrhea, headaches. Patient did have a sore throat 1-2 days after vaccine was given (10/30 or 10/31) which self resolved but he was tested for strep at that time (negative). He has been afebrile throughout hospitalization. Echo normal. Remains admitted for pain control and monitoring of labs at this time.
MYOCARDITIS	1857832-1	6-17 years	myocarditis, mild.
MYOCARDITIS	1858264-1	6-17 years	myocarditis with elevated troponins and mildly decreased cardiac function on echocardiogram. He was treated with steroids, IVIG, lisinopril
MYOCARDITIS	1865909-1	6-17 years	Patient developed chest pain, confirmed as myocarditis. He was managed with high dose steroids and IVIG.
MYOCARDITIS	1868073-1	6-17 years	Patient presented with signs of myocarditis and pericarditis on 11/11/2021 several weeks after non-specific viral symptoms. Also with family history of cardiomyopathy and rhythm issues. He received Pfizer COVID vaccines on 5/13/21 and 6/3/21 so this is outside of reported timeframe for post-vaccine myocarditis but felt it was best to report out of caution. He is hospitalized and receiving scheduled toradol with stable symptoms, stable echo, and downtrending troponins. Case is being discussed with cardiology at hospital.
MYOCARDITIS	1888921-1	6-17 years	Acute chest pain. Found to have myocarditis likely vaccine induced.
MYOCARDITIS	1898183-1	6-17 years	Subjective fever, myalgias, chest pain with associated elevated troponin, EKG consistent with pericarditis, Cardiology consulted and pt diagnosed with myocarditis
MYOCARDITIS	1901192-1	6-17 years	"Myocarditis; This is a spontaneous report from a non-contactable consumer. An 8-year-old male patient received bnt162b2 (BNT162B2), via an unspecified route of administration on Nov2021, at the age of 8-years-old, (Batch/Lot number was not reported) as DOSE 1, SINGLE for covid-19 immunisation. The patient's medical history and concomitant medications were not reported. The patient received Pfizer vaccine and was in ICU with myocarditis within 2 days (unspecified day of Nov2021). He was ""totally healthy and active"" prior to vaccination. The outcome of the event was unknown. Treatment was received for the events. The lot number for (BNT162B2), was not provided and will be requested during follow-up."
MYOCARDITIS	1904100-1	6-17 years	Myocarditis
MYOCARDITIS	1905839-1	6-17 years	Presented with chest pain and emesis. Diagnosed with myopericarditis and admitted for observation and management with NSAIDs
MYOCARDITIS	1909856-1	6-17 years	3 days after his 2nd dose of the COVID-19 vaccine, patient had acute onset chest pain in the setting of 3 days of fever, headache and fatigue. Was found to have elevated troponin level indicating myocarditis. Was observed in the hospital overnight, troponin levels continued to down-trend and EKGs were normal, patient discharged home medically stable with close outpatient cardiology follow-up. Total 1 night stay in the hospital
MYOCARDITIS	1912620-1	6-17 years	Patient developed chest pain 11/24/21. On 11/27/21, he presented to Hospital and was noted to have elevated troponin levels. He was then transferred to hospital.
MYOCARDITIS	1914045-1	6-17 years	The day following vaccination the patient had chest pain and went to the hospital. labwork pending, suspected myocarditis. Patients mother is awaiting confirmation. The patient is still in the hospital as of 12/01/2021
MYOCARDITIS	1916370-1	6-17 years	Developed midsternal chest pain and shortness of breath 11/16/21. Seen at Urgent Care x 2, given Ventolin inhaler. Seen at on 11/23/21 for continued chest pain and intermittent SOB, to r/o myocarditis
MYOCARDITIS	1919967-1	6-17 years	Patient in the hospital with myocarditis. Patient confined inflamanahun of the heart lining.
MYOCARDITIS	1929297-1	6-17 years	Myocarditis followed by swollen lymph nodes in neck. Seen by oncologist and ruled out cancer. Swollen lymph nodes still persist 7 months later.
MYOCARDITIS	1932899-1	6-17 years	Started with headache and nausea. The next day chest pain and shortness of breath. Diagnosed with myocarditis. Now has dystopia and severe pain /muscle spasms.
MYOCARDITIS	1936238-1	6-17 years	myocarditis, pericarditis, admitted to PICU for monitoring, anti-inflammatory treatment
MYOCARDITIS	1939068-1	6-17 years	Per records - Patient presented to ER with complaints of chest pain that started 9/12/21, worse at bedtime. Admitted to hospital for observation. Per Post COVID vaccine myocarditis pathway patient treated with 1 dose IVIG on 09/22/21 and 1IV Solumedrol. At time of discharge patient her usual state of health w/out complaints of headache, nausea, and was afebrile, tolerating good PO intake.
MYOCARDITIS	1939984-1	6-17 years	myocarditis; chest pain
MYOCARDITIS	1943384-1	6-17 years	myocarditis with troponin leak and EKG abnormalities and ectopy, MRI scheduled
MYOCARDITIS	1944039-1	6-17 years	Pericarditis or myocarditis
MYOCARDITIS	1951967-1	6-17 years	post vaccine myocarditis, symptoms 2 days after vaccination, came in the morning of 12/10. CXR and EKG normal, CRP 1.1 (mildly elevated) troponin 7.94 (elevated. Admitted to a local Hospital

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1958068-1	6-17 years	"Myocarditis; This is a spontaneous report received from contactable reporter(s) (Consumer or other non HCP). The reporter is the patient. A 16 year-old male patient received bnt162b2 (BNT162B2), administered in arm left, administration date 02May2021 (Lot number: EW0162) at the age of 16 years as dose 2, single for covid-19 immunisation. Relevant medical history included: ""Known allergies: Penicillin"" (unspecified if ongoing) and no other medical history. There were no concomitant medications. Vaccination history included: Bnt162b2 (previous COVID-19 vaccine product also Pfizer product and lot number is ER8730, dose1, administrated in the left arm), administration date: 11Apr2021, when the patient was 16 years old, for Covid-19 Immunization. The following information was reported: MYOCARDITIS (hospitalization, disability, life threatening) with onset 31Jul2021 06:00, outcome ""not recovered"", described as ""Myocarditis"". The patient was hospitalized for myocarditis (hospitalization duration: 3 day(s)). The event ""myocarditis"" was evaluated at the emergency room visit. The patient underwent the following laboratory tests and procedures: sars-cov-2 test (Nasal Swab): (31Jul2021) negative. Therapeutic measures were taken as a result of myocarditis included Ibuprofen."
MYOCARDITIS	1959369-1	6-17 years	body aches and chills 12/16/21. Presented to ED 12/17/21 for chest pain too. EKG abnormal, thus workup initiated below. Ultimately transferred to higher level of care facility for myocarditis.
MYOCARDITIS	1967963-1	6-17 years	myocarditis
MYOCARDITIS	1967971-1	6-17 years	Myocarditis
MYOCARDITIS	1972037-1	6-17 years	Diagnosed with myocarditis 2 days after second Pfizer COVID-19 vaccination. Presented with chest pain and palpitations.
MYOCARDITIS	1974116-1	6-17 years	Pericarditis/Myocarditis; Patient presented with epigastric/RUQ abd pain that progressed to chest pain.
MYOCARDITIS	1976747-1	6-17 years	Admission Date/Time: 12/19/2021 12:11:00 Discharge Date/Time: 12/21/2021 12:13:10 Chief Complaint chest pain Patient Narrative Patient is a previously healthy 16yM w/ GERD p/w 1d chest pain and ST elevations on EKG at urgent care.Patient was in USOH when he got his COVID booster vaccine 5d ago (12/14). Afterwards, he had a day of muscle soreness similar to the symptoms he had after his 2nd COVID vaccine. Because of the chest pain, patient went to outside urgent care where he was found to have ST elevations on inferior leads and troponins elevated to 12.5 (upper limit 0.05). Patient was then sent to ED. Labs showing elevated troponin 1.49, CRP 2.85, ESR 10. He was admitted to cardiology service with differential diagnosis of post covid vaccine myocarditis. He was started on immun suppresive treatment for presumed post vaccine myocarditis. Initial ECHO was consistent with Mild left ventricular dilatation. Mild left ventricular systolic dysfunction. Qualitatively normal right ventricular systolic function. No significant valve dysfunction. No pericardial effusion. He has completed a course of IVIG and started on 5 day course of methylprednisone. Currently, he is at his baseline and without symptoms. The ST segment elevation have nearly normalized with non-specific ST segment changes. Troponin levels downtrended to 0.95, with most recent one being 1.01 . Repeat ECHO was done on day 3 of admission that showed improved LV function compared to admission ECHO. His cardiac MRI changes was reviewed by radiology also found to be consistent with myocarditis. He is going to complete his 5 day steroid course at home and will be seen as outpatient for follow up on 12/29 with Dr. Tests Pending No tests pending at time of discharge These tests will be followed by the Primary Service at Discharge after Discharge Vitals and Discharge Physical T: 36.9 ¦C (Temporal Artery) HR: 66 (Monitored) RR: 18 BP: 106/50 SpO2: 98% HT: 177.8 cm WT: 90.4 kg Discharge Physical Exam General: alert, no acute distress, normal hydration, not ill appearing Skin: no rash, warm, dry Head: atraumatic, normocephalic Eye: normal conjunctiva, sclera clear, no discharge, pupils equal, round, reactive, extraocular movements intact ENT: RTM normal, LTM normal, pharynx: normal, normal tonsils, mouth: moist mucus membranes, no lesions Neck: supple, trachea midline, no adenopathy, no tenderness Cardiovascular: regular rate and rhythm, no murmur, normal peripheral perfusion Respiratory: lungs CTA, respirations non labored Chest wall: no tenderness, no deformity Gastrointestinal: soft, nontender, nondistended, normal bowel sounds, no organomegaly Musculoskeletal: no deformity, no tenderness, normal range of motion, no joint swelling Diagnosis List 1. Adverse reaction to immunization, 12/19/2021 2. Chest pain, 12/19/2021 Procedure History No Procedure History Social History Smoking Status No Smoking Status Documented Allergies No known allergies Other Relevant Laboratory Results ECHO 12/19 Mild left ventricular dilatation. Mild left ventricular systolic dysfunction. Qualitatively normal right ventricular systolic function. No significant valve dysfunction. No pericardial effusion. ECHO 12/21 High-normal left ventricular size with low-normal systolic function - improved. Mild eccentric left ventricular hypertrophy. Qualitatively normal right ventricular systolic function. Normal valve function.? No pericardial effusion. Microbiology Results (Last 30 Days) Viral Respiratory panel negative, covid antibody negative Immunizations Covid booster on 12/14/202 Patient likely had myocarditis following his booster (3rd dose) of COVID-19 immunization that has low-normal function, but is currently asymptomatic. We will have him restricted from strenuous activity and competitive sports for 3 months. We will have him continue on the prednisone for 2 more days (5 total days) without a taper. He has follow-up in one week.
MYOCARDITIS	1979339-1	6-17 years	Myopericarditis without effusion or compromised cardiac function, presenting as chest pain, 3 days after Pfizer booster
MYOCARDITIS	1981147-1	6-17 years	Myocarditis- currently hospitalized
MYOCARDITIS	1989086-1	6-17 years	Son came up to my room states he said that his chest was hurting and had a hard time breathing. Feeling heart palpitations. GI Cocktail given to him for heart palpitations. Dr. stated that he had a heart event but did not know what it was. He was transferred to Hospital via ambulance. Diagnosed with Myocarditis
MYOCARDITIS	1990027-1	6-17 years	"- Clinically suspected COVID-19 Vaccine Associated Myocarditis consistent with ""Probable"" CDC case definition (chest pain and elevated troponin with no other identified cause on 12/26/21, 3 days after Pfizer vaccine #2 on 12/23/21) - status post ibuprofen for 1 day, symptoms self resolved. - Troponin rechecked 12/28/2021 was already low, near normal. - POCUS echocardiogram exam today normal"
MYOCARDITIS	1992807-1	6-17 years	Acute myocarditis/pericarditis - chest pain, elevated troponin, ST changes on EKG, slightly elevated CRP

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	1995387-1	6-17 years	"A fast heartbeat that lasted for a few hours; He went to the ER for treatment where they ruled out myocarditis and thinks it was anxiety; He went to the ER for treatment where they ruled out myocarditis and thinks it was anxiety; This is a spontaneous report received from a contactable reporter(s) (Physician) from medical information team. A 11 year-old male patient received bnt162b2 (BNT162B2), administration date 13Dec2021 18:00 (Batch/Lot number: unknown) at the age of 11 years as dose 1, single for covid-19 immunisation. The patient's relevant medical history and concomitant medications were not reported. The following information was reported: MYOCARDITIS (medically significant), ANXIETY (non-serious) all with onset 13Dec2021, outcome ""unknown"" and all described as ""He went to the ER for treatment where they ruled out myocarditis and thinks it was anxiety""; HEART RATE INCREASED (non-serious) with onset 13Dec2021 20:00, outcome ""recovered"" (Dec2021), described as ""A fast heartbeat that lasted for a few hours"". The events ""he went to the er for treatment where they ruled out myocarditis and thinks it was anxiety"", ""a fast heartbeat that lasted for a few hours"" and ""he went to the er for treatment where they ruled out myocarditis and thinks it was anxiety"" were evaluated at the emergency room visit. The patient underwent the following laboratory tests and procedures: heart rate: (13Dec2021) fast heartbeat. The clinical course of events was as follows: An 11 year old male patient received his first dose of Pfizer Biontech covid 19 vaccine on 13Dec2021 at 6 PM and at 8 PM he developed a fast heartbeat that lasted for a few hours. He went to the ER for treatment where they ruled out myocarditis and thinks it was anxiety. Caller seeking information if the patient should get a his second dose. The lot number for bnt162b2 was not provided and will be requested during follow up.; Sender's Comments: Based on the information provided, it is not clear if myocarditis was diagnosed. The reported symptom of fast heartbeat was possibly due to anxiety. Additional information has been requested. The case will be re-evaluated if more information is available. The impact of this report on the benefit/risk profile of the Pfizer product is evaluated as part of Pfizer procedures for safety evaluation, including the review and analysis of aggregate data for adverse events. Any safety concern identified as part of this review, as well as any appropriate action in response, will be promptly notified to Regulatory Authorities, Ethics Committees and Investigators, as appropriate."
MYOCARDITIS	1997256-1	6-17 years	chest pain on 12/20/21 intermittently, then continued through the night into the early morning on 12/31/21. Seen in the ED with chest pain and had elevated troponin 10K, peak was 12K and elevated crp. Nml d-dimer. Admission for myocarditis overnight stay
MYOCARDITIS	2000408-1	6-17 years	Vomiting day 2, fever , body aches, headache. Fatigue . Continued through day 3. Day 4 in early AM. Chest pain cold feeling. Taken to ER. diagnosis myocarditis. In ICU. 2 days. Ongoing symptoms. Not recovered 100 % yet
MYOCARDITIS	2001050-1	6-17 years	Approximately 1 week to 10 days later my son began to complain of fatigue, heart flutters and palpitations and nausea after physical activity. Symptoms would come and go until finally making an appointment with a pediatric cardiologist who referred us to ER. After visit to ER, my son was admitted into the hospital ICU cardiology unit. He was diagnosed with myocarditis. He was in the hospital for 5 days and is still under doctor's care.
MYOCARDITIS	2002165-1	6-17 years	diagnosis is Myocarditis. Elevated Troponin level, light headed during exercise
MYOCARDITIS	2014771-1	6-17 years	Pericarditis/Myocarditis. EKG with ST elevation, troponin elevated. Admitted to PICU
MYOCARDITIS	2016413-1	6-17 years	Presented to the ED today with sudden onset chest pain, recently received his Pfizer booster vaccination does 2 days ago on 1/5/22 (primary series completed 6/4/21). Then yesterday post-vaccine only had some mild fatigue and dizziness. Then chest pain occurred this am upon waking up. The chest pain was retrosternal and worse with taking a deep breath. Admitted to a local healthcare facility for myopericarditis.
MYOCARDITIS	2019415-1	6-17 years	chest pain r/o myocarditis
MYOCARDITIS	2025389-1	6-17 years	Acute myocarditis, admitted for 3 days, discharged home on NSAIDs with pediatric cardiology follow-up
MYOCARDITIS	2032336-1	6-17 years	15 yo M, previously healthy, with 2 d of chest pain s/p COVID mRNA vaccine booster (3rd dose) on 1/8, with tachycardia, normotension, elevated CRP, significantly elevated troponin, and abnormal EKG, all most consistent with myocarditis, timing suggestive of COVID vaccine-associated myocarditis -- however, given other etiologies of myocarditis should also be considered, e.g. viral. Overall pattern of presentation less suggestive of MIS-C or systemic autoimmune disease.
MYOCARDITIS	2034472-1	6-17 years	temperature to 100.1, fatigue headache on 1/11, followed by chest pain on 1/12. On 1/13 obtained labs with elevated troponin supporting myocarditis diagnosis. chest pain improving 1/13.
MYOCARDITIS	2036788-1	6-17 years	On 1/13-1/14 patient had chest pressure and shortness of breath, 1 episode of vomiting. He was seen in the ED and was prescribed advil for 3 days and followup with cardiologist. avoid strenous physical activity for 2 weeks. Diagnosed with myocarditis.
MYOCARDITIS	2037802-1	6-17 years	Acute Myocarditis
MYOCARDITIS	2038204-1	6-17 years	Episode of shortness of breath, unable to take a deep breath during a basketball game. I took her to the emergency room at Medical Center, they did ekg, vitals, lab work which included a troponin, CT scan of her chest. Her troponin was 639, then repeated and was 616, ekg normal. CT scan negative. Was diagnosed with myocarditis. Referred to a pediatric cardiologist. Went to see him 1/3/22 Dr. He repeated labs, ekg and did an echocardiogram. Troponin had dropped to 7, wbc 5,000 (which had been 18,000) ekg normal, echo normal and put a heart monitor on her for 2 weeks. Going to do stress test 4/15/22.
MYOCARDITIS	2038245-1	6-17 years	Pt reports that approx 4 days following administration- he experienced substernal chest pain - radiating to left arm with SOB. Pain also accompanied by Right sided scapula pain. Pt taken to ER for eval. Troponin found to be elevated as well as BNP. Pt transferred to PICU for monitoring and evaluation. Dx- post vaccination myocarditis.
MYOCARDITIS	2038303-1	6-17 years	Patient was admitted to Hospital on 1/15/22 with chest pain and shortness of breath 2 days following his Covid vaccine booster. Patient was admitted and being treated for myopericarditis.
MYOCARDITIS	2038332-1	6-17 years	Hospitalized for Myocarditis 1 day after receiving booster. Previous vaccinations 5/19/21, 6/09/21, Booster 1/14/21
MYOCARDITIS	2038507-1	6-17 years	Developed acute onset of chest pain and found to have elevated troponin consistent with post-vaccine myocarditis. This was his booster shot. He required admission mostly for pain control and monitoring of troponin values, which took two days to trend down.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2043410-1	6-17 years	Thu Jan 13 - vaccine given Fri- Fever + fatigue Saturday - Headache Sunday night - Chest pain radiating to jaw Monday - presented to medical care, ultimately diagnosed with myocarditis and admitted to inpatient floor
MYOCARDITIS	2045907-1	6-17 years	chest pain elevated cardiac enzymes abnormal EKG myocarditis
MYOCARDITIS	2047714-1	6-17 years	Patient received COVID-19 vaccine Pfizer booster third dose on 1/13 and on 1/17 patient presented with acute chest pain. Upon laboratories troponin were reported at 11K. Echochardiogram showed 50% EF: Patient was diagnosed with myocarditis
MYOCARDITIS	2051161-1	6-17 years	Myopericarditis following Pfizer booster
MYOCARDITIS	2051267-1	6-17 years	chest pain in the right upper chest that felt pressure-like without radiation. Was persistent through the night at around a pain of 5/10. This started 2 days after COVID-19 vaccine booster. Patient had elevated troponin and anterior and inferior ST segment elevations on EKG. He was admitted to the hospital for treatment of COVID-19 vaccine associated myocarditis
MYOCARDITIS	2052179-1	6-17 years	Presented to ED today onset of chest pain today. He received his Pfizer booster vaccination does 2 days ago on 1/5/22 (primary series completed 6/4/21). Then yesterday postvaccine only had some mild fatigue and dizziness. Then chest pain occurred this am upon waking up. The chest pain was retrosternal and worse with taking a deep breath and lasted one hour. Admitted to hospital for myopericarditis
MYOCARDITIS	2053939-1	6-17 years	Patient had chest pain 2 days after having the COVID vaccine, was taken to ER and found to have elevated cardiac enzymes, was monitored and remained stable in Cardiac ICU, discharged home to FU with Cardiologist on 1/13/22.Myocarditis thought to be result of COVID vaccine.- Doctor. On 1/13/22 patient had the cardiologist consult in which both EKG and Echo-cardiogram were performed. Both with normal results. According to the cardiologist his case was very mild and the diagnoses was made based on the chest pain that had resolved by the time he was admitted and troponin leak that was already down-trending by the time he came to the Cardiologist. Patient is to follow up with Cardiologist in 3 months to repeat troponin leak and NT-Pro BNP levels to confirm downtrend. No limitation on activities per Cardiologist.
MYOCARDITIS	2054577-1	6-17 years	myocarditis- elevated troponins and chest tightness Ibuprofen 600mg q8hrs
MYOCARDITIS	2057288-1	6-17 years	"t-wave inversion; The rash was like tiny red dots that kids get when they were little.; Cardio Myositis; 3rd booster shot with Pfizer COVID 19 vaccine; Slight rash on truncal and thoracic area; Fever of 103 degrees Fahrenheit; His Troponin levels were increased; This is a spontaneous report received from contactable reporter(s) (Consumer or other non HCP). The reporter is the parent. A 17 year-old male patient received bnt162b2 (BNT162B2), administration date 28Dec2021 (Lot number: FD0809, Expiration Date: 31Jan2022) at the age of 17 years as dose 3 (booster), single for covid-19 immunisation. Relevant medical history included: ""He is heavy but not obese"" (unspecified if ongoing). There was no family medical history relevant to AE(s). There were no concomitant medications. Prior vaccinations (within 4 weeks), the patient did not receive other vaccinations within four weeks prior to the first administration date of the suspect vaccine(s). The patient did not have any adverse event following prior vaccinations. Vaccination history included: Bnt162b2 (Dose: 01, Lot Number: EN6204 expiration is unknown and it could say EW6204, Anatomical location; left deltoid), administration date: 09Apr2021, when the patient was 16 years old, for COVID-19 immunization, reaction(s): ""No adverse event""; Bnt162b2 (Dose: 02, Lot Number: EW OR EN0161, Anatomical location; left deltoid), administration date: 30Apr2021, when the patient was 16 years old, for COVID-19 immunization, reaction(s): ""No adverse event"". The following information was reported: IMMUNISATION (medically significant) with onset 28Dec2021, outcome ""unknown"", described as ""3rd booster shot with Pfizer COVID 19 vaccine""; MYOCARDITIS (medically significant) with onset 03Jan2022, outcome ""recovering"", described as ""Cardio Myositis""; ELECTROCARDIOGRAM T WAVE INVERSION (medically significant), outcome ""unknown"", described as ""t-wave inversion""; RASH (medically significant) with onset 28Dec2021, outcome ""recovering"", described as ""Slight rash on truncal and thoracic area""; PYREXIA (medically significant) with onset 28Dec2021, outcome ""recovering"", described as ""Fever of 103 degrees Fahrenheit""; TROPONIN INCREASED (non-serious) with onset 2021, outcome ""unknown"", described as ""His Troponin levels were increased""; ERYTHEMA (non-serious), outcome ""unknown"", described as ""The rash was like tiny red dots that kids get when they were little."". The events ""cardio myositis"", ""slight rash on truncal and thoracic area"", ""fever of 103 degrees fahrenheit"", ""his troponin levels were increased"" and ""the rash was like tiny red dots that kids get when they were little."" were evaluated at the physician office visit. The patient underwent the following laboratory tests and procedures: blood test: (unspecified date) unknown result; body temperature: (28Dec2021) 103 degrees; c-reactive protein: (unspecified date) unknown result; diagnostic aspiration: (unspecified date) unknown result; echocardiogram: (unspecified date) fine; electrocardiogram: (unspecified date) t-wave inversion, notes: which suggests he has some problems still; full blood count: (unspecified date) unknown result; troponin: (unspecified date) increased; x-ray: (unspecified date) unknown result. Therapeutic measures were taken as a result of myocarditis, electrocardiogram t wave inversion, rash, pyrexia, troponin increased, erythema. The patient had slight rash on truncal and thoracic in the evening of 28Dec2021, and throughout the next day. He also had fever of 103 degrees Fahrenheit in the evening of 28Dec2021 post vaccination. That was the only time he got either of those and it was after the third dose as well. The rash was like tiny red dots that kids get when they were little. They just thought he was having a robust immune response. He had a fever of 103 degrees Fahrenheit for 4 days. The rash was on his stomach and back, his truncal and thoracic region. His symptoms started New Years Eve. It was very serious when he had it on 31Dec2021, but she thought he was having reflux. He had cardio myositis first thing on 03Jan2022, Monday morning. His troponin levels were already going down by the time he was seen on Monday. It had improved, but he had a t-wave inversion, which suggests he has some problems still. But he was mean as ever and would probably be fine. The patient did not visit to an emergency room. The patient had several physicians and lab visits. She did not know all of it, CBC, Tropin, Cardiac, C Reactive Protein monitoring. He also received palliative care, Ibuprofen, rest and monitoring. He had been seeing a cardiologist. They had been caught up being sick, so today was the first day they have not had an appointment or anything. The reporter's assessment of causality for the events Cardio Myositis, Slight rash on truncal and thoracic area, Fever of 103 degrees Fahrenheit was related with the suspect bnt162b2."
MYOCARDITIS	2057472-1	6-17 years	myocarditis
MYOCARDITIS	2062707-1	6-17 years	Chest pain, shortness of breath 26 hours after dose. Treated with ibuprofen. Diagnosed with myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2066154-1	6-17 years	Myocarditis
MYOCARDITIS	2071419-1	6-17 years	"Myocarditis; This is a spontaneous report received from a contactable reporter(s) (Consumer or other non HCP). The reporter is the parent. A 16-year-old male patient received BNT162B2 (BNT162B2), administered in arm right, administration date 13Dec2021 17:00 (Lot number: FJ1620, Expiration Date: Feb2022) at the age of 16 years as dose 3 (booster), single for COVID-19 immunization. The patient had no relevant medical history. There were no concomitant medications. Vaccination history included: BNT162B2 (dose 1, single; lot number: EW0186; site: left upper arm; time: 09:00), administration date: 14May2021, when the patient was 15 years old, for COVID-19 immunization; BNT162B2 (dose 2, single; lot number: EW0191; site: maybe right upper arm; time: 09:00), administration date: 03Jun2021, when the patient was 15 years old, for COVID-19 immunization. The patient did not receive any other vaccinations within four weeks prior to the first administration date of the suspect vaccine. The following information was reported: MYOCARDITIS (hospitalization, medically significant) with onset 16Dec2021, outcome ""unknown"", described as ""Myocarditis"". The patient was hospitalized for myocarditis (start date: 16Dec2021, discharge date: 18Dec2021, hospitalization duration: 2 day(s)). The patient underwent the following laboratory tests and procedures: echocardiogram: myocarditis; electrocardiogram: myocarditis; troponin: myocarditis. Clinical course: The patient had a lot of tests during hospitalization. All of the tests showed myocarditis. The tests included troponin, EKG, and echoes. Follow-up attempts are completed. No further information is expected."
MYOCARDITIS	2071733-1	6-17 years	Chest pain, elevated troponin after vaccine and again 4 months later.
MYOCARDITIS	2073046-1	6-17 years	PATIENT SUMMARY: Reason for Hospitalization: Myocarditis Admission HPI: The patient is a 14 yo with no significant PMH who presented with chest pain x 2 days and diffuse ST segment elevation x 1 day, 4 days after receiving his booster COVID-19 vaccine. Family reports that the patient had previously received 2 doses of the Pfizer vaccine without complication. Following his booster, he initially had headaches and chills, and then on Wednesday he started to develop chest pain localized to the center of the chest with numbness and worsening with exertion. He went to his primary care doctor on Wednesday 1/19/2022 and given that the pain was mostly exertional in nature, was sent home with return precautions. Then in the middle of the night on Wednesday night into Thursday 1/20/2022, patient had an episode of chest pain that woke him from sleep with 5/10 pain. He took a dose of ibuprofen, and was eventually able to go back to sleep. He continued to have chest pain this morning, particularly walking at school, and his parents called PCP office back regarding persistent pain. He then presented to the PCPs office , where he received a EKG, chest x-ray, and blood work including a troponin. Parent subsequently received a call from the PCP regarding abnormal EKG findings, and he was referred to the emergency department. Hospital Course: In the ED, patient was reporting 1-2/10 chest pain worse with mild exertion such as walking. He also endorses lightheadedness particularly with standing up. He denies any shortness of breath. VSS, no tachycardia, well appearing. Cardiac exam normal. No lower extremity edema. EKG reviewed there. Troponin from PCP resulted at 2.09, repeat labs in process and thus far include: normal chem, no leukocytosis, Hgb 14.2, Plt 174 (borderline low), d-dimer wnl, CRP 3.8. Troponin rising to 2.63. AST/ALT with transaminitis. Repeat CXR unremarkable. COVID PCR today is negative. A point of care ultrasound was obtained with two cardiac views which visualized the pericardial space He was admitted to cardiac service: During his stay we trended his Troponin that was downtrending. He had no chest pain. On 1/22/2022 had a run of Ventricular tachycardia, and was started on Nodalol. Received a IVIG and started the 5 day course of Steroids. On the day of discharge, Troponin down to 0.1, no arrhythmias over the past 48 hours. patient was in no apparent distress, afebrile. Patient was tolerating PO intake well with no vomiting or diarrhea. Family was given written and verbal discharge instructions including follow up and when to seek urgent care. Parents agreed with plan for discharge. Reasons for new, changed, and discontinued medications: - Nodalol 40 mg OD -Prednisone 40 mg twice daily for 6 more doses. (received 4 doses of 30 mg Methylprednisolone IV during his admission will continue on 1:1 steroid conversion at home) Reasons for new, changed, and discontinued equipment: NA Relevant Diagnostic Images/Studies: Echo done during his stay: ? Pulmonary venous connections, normal, left lower pulmonary vein, right lower pulmonary vein ? Systemic venous connections, normal ? Left atrium, no abnormalities detected ? Right atrium, no abnormalities detected ? Atrial septal defect, ruled out. No significant atrial septal defect; unable to exclude a small defect. Tests Pending Adenovirus PCR, QuaNT Cytomegalovirus PCR, blood, QuaNT Epstein-Barr Virus PCR, QuaNT LCFREEZE Lyme Antibody, Total Parvovirus DNA PCR QuaNT, Blood SARS CoV-2 (COVID-19) PCR, Resp, QuaL Treponema Pallidum Abs (FTA-ABS) These tests will be followed by the Primary Service at Discharge after Discharge Vitals and Discharge Physical T: 36.9 ¦C (Temporal Artery) HR: 74 (Monitored) RR: 20 BP: 130/68 SpO2: 98% WT: 75.7 kg Discharge Physical Exam General: alert, no acute distress, playful, normal hydration, not ill appearing Skin: warm, well-perfused Cardiovascular: regular rate and rhythm, no murmur, normal peripheral perfusion Respiratory: lungs CTA, non-labored respirations Gastrointestinal: soft , nontender, nondistended Neurological: no focal neuro deficits Diagnosis List 1. Myocarditis, 01/20/2022 Procedure History No Procedure History Social History Smoking Status No Smoking Status Documented Allergies No known allergies Laboratory Results Returned 48 Hours Prior to Discharge Labs Last 48 Hours Event Name Event Result Date/Time Sodium 135 mmol/L 01/23/22 Potassium 3.98 mmol/L 01/23/22 Chloride 103 mmol/L 01/23/22 CO2 23 mmol/L 01/23/22 Anion Gap 9 mmol/L 01/23/22 Glucose Level 95 mg/dL 01/23/22 BUN 14 mg/dL 01/23/22 Creatinine 0.56 mg/dL 01/23/22 Calcium 8.8 mg/dL 01/23/22 Phosphorus 4.4 mg/dL 01/23/22 Magnesium 1.9 mg/dL 01/23/22 AST (Aspartate Aminotransferase) 20 unit/L 01/23/22 ALT 22 unit/L 01/23/22 Alkaline Phosphatase 114 unit/L 01/23/22 Albumin 3.5 g/dL 01/23/22 Total Protein 9.1 g/dL High 01/23/22 Troponin T 0.1 ng/mL Critical 01/24/22 Troponin T 0.42 ng/mL Critical 01/23/22 Bilirubin, Total 1 mg/dL 01/23/22 Bilirubin, Direct <0.2 01/23/22 C-Reactive Protein 0.71 mg/dL High 01/23/22 Microbiology Results (Last 30 Days) Micro Results: Updates since 12/25/2021 00:00. Collection date displayed. HerpesSimplex Virus 1/2 PCR, QuaL: (Blood) 01/22/2022. Final Report: No HSV type 1 detected by PCR. No HSV type 2 detected by PCR. Discharge Information Discharge Activity Level: No physical activity Discharge Diet: Resume home diet Discharge Disposition: Discharged home Medications on Discharge nadolol (nadolol 40 mg oral tablet) 1 tab(s) by mouth Once a day predniSONE (predniSONE 20 mg oral tablet) 2 tab(s) by mouth Twice a day Duration: 3 Days 14 year old who developed myocarditis 4 days after receiving Pfizer booster of SARS CoV2, with STT wave changes and pericardial changes, significantly elevated troponin. Was noted to have NSVT 3 episodes, fastest rate of ~ 170. Started on nadolol and treated with IVIG and steroids, without further episodes of chest pain (which stopped prior to admission) or VT. Follow-up for testing this week (cMRI tomorrow), and Bardy being sent to the house. Follow up in several weeks. Limited from moderate and vigorous activity. short course of prednisone.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2074519-1	6-17 years	Chief Complaint Post vaccine myocarditis. History of Present Illness Pt. is a 13 yo young man who was admitted for post vaccine myocarditis, occurring 3 days after receiving the Pfizer COVID booster. His d/c summary is noted below. He received a dose of ibuprophen in our ED and was observed overnight. He had a repeat troponin as an outpatient on 1/18/2022 which was 0.03. Since his discharge home, Pt. has been afebrile and he has not had any chest pain. No palpitations, no dizziness or syncope. ROS includes a peanut and tree nut allergy for which he has an Epipen, otherwise, no significant medical hx. Pt. is in the 8th grade. He was on a swim team (through March). He does jiu jitsu inthe spring and plays soccer three times a week but has been restricted from sports since his discharge. Cardiology Summary Narrative Discharge Summary 1/15-1/16/22: Pt. is a 13yo previously healthy who initially presented with complaints of chest pain 3 days after the COVID booster (booster date 1/12/2022). He reports that he woke up on 1/15/2022with an aching chest pain that was localized primarily to the substernal area and a little bit to the left but otherwise did not radiate. He does not know of any exacerbating symptoms, but the pain was relieved after about an hour and taking 2 advil. He said throughout the day it has come back a little bit, currently reporting 1/10, but nothing similar to the intensity that he felt this morning. He had his COVID Pfizer booster on Wednesday and reports only having vague fatigue with the initial 2 dose series. He has not previous experienced these symptoms nor has he been ill or in contact with anyone ill recently. He has not previously had COVID. At hospital, they did a thorough work-up that included normal CBC, Chemistry, inflammatory markers (CRP 10, nml < 15), NT-BNP (76, nml < 450), and ECG. However, he did have serial elevation of troponins (highly sensitive, nml <14) with 94 -- > 124, so he was sent to BCH given concern of post-vaccine myocarditis. Recent Testing: CXR (1/15/22) There is visceral situs solitus and a left-sided aortic arch. The heart is normal in size and shape. The pulmonary blood flow is normal and the lungs are clear. Hospital Course: Pt. was admitted with post vaccine booster myocarditis. He reported significant chest pain the morning of 1/15 which has since resolved. During his admission he complained of at most 1/10 chest and most recently none at all. He had two EKGS during his admission that were all normal. His labs did show a mildly elevated troponin, last 0.23 prior to d/c. An ECHO showed a structurally normal heart with no dysfunction or coronary abnormalities. Given his resolved symptoms and normal EKG and ECHO Pt. is being discharged home with plan to repeat a troponin as an outpatient on Tuesday 1/18 and follow-up with cardiology in 1-2 wks. 1/20/22 Cardiology visit: Physical Exam Vitals & Measurements T: 37.1 ¦C (Temporal Artery) HR: 67 (Monitored) BP: 112/62 SpO2: 99% Weight: 50.1 kg (58%ile)*; Height: 167.0 cm (82%ile)*; Body Mass Index: 18 kg/m2 (37%ile)* *CDC chart used to calculate percentile value. There was no cyanosis or clubbing, and no rash. Neck veins were flat in the sitting position. There were no carotid bruits. Chest was clear to auscultation. Cardiac exam revealed a normal cardiac impulse without thrill. S1 was single. S2 was physiologically split. There were no murmurs, gallops, or clicks. Abdomen was soft and nontender, without hepatosplenomegaly. Pulses were full throughout, and there was no radial-femoral delay. Extremities were warm and well perfused, and there was no pretibial edema. Cardiology Diagnostics EKG: HR 67 bpm. WNL Group Detail Date Value w/Units Flags Normal Range Normal Reference Text Comment Ind Chemistry Troponin T 01/20/2022 16:02:22 EST <0.01 ng/mL Chemistry C-Reactive Protein 01/20/2022 16:02:22 EST 0.08 mg/dL Assessment/Plan In summary, Pt. is a 13 yo with recent hospitalization for post vaccine associated myocarditis, treated with ibuprofen. His presentation included chest pain and elevated troponins (normalized). He had a normal echo, normal EKG. His troponin and CRP are pending and will be added once they are resulted. He has not had any further chest pain. The family is very medically knowledgeable (mom is a neurologist and dad is a scientist). At this time, they have decided not to pursue a cardiac MRI but will have one in March 2022. We discussed what we know about post vaccine myocarditis and, in this setting, we follow similar guidelines as those with myocarditis in order to give the myocardium time to heal. Dr discussed our recommendations for activity restrictions. Pt. should be restricted from competitive/vigorous sports for the next 2-3 months and will return for a cardiac MRI for LGE in March, 2022.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2074524-1	3-5 years	Chief Complaint Neurologic problem (Complaint of) Arrival Date/Time: 01/21/2022 13:05:00 History of Present Illness 5 yo M with hx of autism (non-verbal) presenting with unresponsive episode. Pt was in usual state of health last night when he received his 2nd COVID-19 vaccine. He awoke today with fatigue and malaise that seemed to improve so pt went to school where he was sent home for malaise and fever (temp unknown). After arriving home, father went to change his pull up and while laying down pt was unresponsive and drooling and did not appear to be breathing. His eyes were open and rolled backwards. He appeared limp. No rhythmic jerking but family did say he seemed shaky earlier today. He turned blue during the episode so family called EMS and when police showed up, cyanosis resolved and pt had rapid, shallow breathing. He was sleepy afterwards but slowly improving. POC glucose 185 en route. PIV placed. No meds or interventions performed. Tachy en route 140-150's. He was given tylenol earlier today. PMHx: Autism (non-verbal) Home meds: None. NKDA FMHx: NO hx of seizure or febrile seizure. Social Hx: Lives with family. Attends school. Review of Systems General: +fever, +decerased appetite today Neuro: no headache or focal weakness. Skin: no rashes, bruising. HEENT: no vision changes, nasal congestion, sore throat. Cardiac: no chest pain. Respiratory: no cough, difficulty breathing, shortness of breath. GI: no recent nausea, vomiting, diarrhea. GU: no dysuria, hematuria. MSK: no joint pain or swelling. 10 ROS reviewed and otherwise negative Physical Exam Vitals & Measurements T HR RR BP Sp02 First Set 37.4 DegC (01/21/22 13:15:25) 140 bpm (01/21/22 13:25:13) 28 br/min (01/21/22 13:25:13) 121/63 mmHg (01/21/22 13:25:13) 100 % (01/21/22 13:25:13) VS as above. GEN: sleepy, non-verbal, intermittently follows commands. No acute distress. HEENT: PERRL, clear conjunctiva, oropharynx clear, moist mucous membranes. NECK: supple, full neck ROM. No LAD. CV: RRR, no murmurs. RESP: CTAB. ABD: soft, nontender, non-distended. EXT: warm, well perfused. NEURO: Moves all extremities equally. He is unable to cooperate with strength exam but full strength in lower extremities noted when touching his feet. Normal gait but slow. Normal balance. No tremors. Medical Decision Making 5 yo M with autism (non-verbal) presenting with unresponsive episode with cyanosis in the setting of malaise and fever post-COVID vaccine last night. DDx: febrile seizure, epileptic seizure, syncope, arrhythmia, myocarditis (post-vaccine), acute COVID-19 infection. Plan: chemistry, troponin, EKG, ibuprofen, COVID PCR, observe Reexamination/Reevaluation 15:45 - Pt is still sleeping. Feels warm to touch. HR downtrending. Labs significant for mild hyponatremia (Na 134), neg trop, neg rapid COVID/FLU/RSV PCRs. EKG normal. Will continue to observe to re-assess after waking. 16:57 - Pt is awake, alert and at baseline. Eating a banana. Care instructions and return precautions given to family. Family will follow-up with his primary Neurologist. Given this was a simple febrile seizure, he does not require Neuro consultation in ED or urgent EEG/imaging. Final Diagnosis 1. Febrile seizure Additional information for Item 19: Problem List/Past Medical History Ongoing Autism Global developmental delay Low muscle tone Relative macrocephaly Historical No qualifying data Procedure/Surgical History No Procedure History Family/Social History Basic Social History Living Arrangement Parent(s)/Guardian. Legal Guardian: Parent. Lives With: Mother, Father, Sister. Language Spoken at Home. Medications Prescribed This Visit Prescription No prescriptions for this encounter Allergies No known allergies Most Recent Results Current Encounter Lab Results - Current Encounter Sodium: 134 mmol/L Low (01/21/22 14:32:00) Potassium: 4.38 mmol/L (01/21/22 14:32:00) Chloride: 102 mmol/L (01/21/22 14:32:00) CO2: 20 mmol/L Low (01/21/22 14:32:00) Anion Gap: 12 mmol/L (01/21/22 14:32:00) Glucose Level: 99 mg/dL (01/21/22 14:32:00) BUN: 11 mg/dL (01/21/22 14:32:00) Creatinine: 0.35 mg/dL (01/21/22 14:32:00) Calcium: 9.4 mg/dL (01/21/22 14:32:00) Phosphorus: 4 mg/dL (01/21/22 14:32:00) Magnesium: 2 mg/dL (01/21/22 14:32:00) Troponin T: <0.01 (01/21/22 14:32:00) SARS-CoV-2 POCT: BINEG (01/21/22 14:32:00) Influenza A POCT: BINEG (01/21/22 14:32:00) Influenza B POCT: BINEG (01/21/22 14:32:00) RSV POCT: BINEG (01/21/22 14:32:00) Diagnostic Results EKG: sinus tachycardia, normal intervals, normal axis. rsR' in V1 which is likely normal variant. No pre-excitation, WPW, Brugada, or prolonged QTc.
MYOCARDITIS	2075598-1	6-17 years	Patient developed MIS-C (fever, rash, abdominal pain, eye changes, extremity changes, myocarditis). Symptoms starting Jan 23, 2022. Had laparoscopic appendectomy 1/28/2022 then developed cardiogenic shock. Currently recovering after anti-inflammatory treatment.
MYOCARDITIS	2079249-1	6-17 years	Myocarditis; possible myopericarditis.
MYOCARDITIS	2079908-1	6-17 years	Pt developed fulminant myocarditis. No other etiology other than recent booster vaccine has been identified. Appears to be improving at this time but is still requiring inotropic support and is intubated
MYOCARDITIS	2082640-1	6-17 years	Severe chest pain starting 3 days after the vaccine. Elevated troponin requiring admission for post-vaccine myocarditis.
MYOCARDITIS	2082967-1	6-17 years	Chest pain Found to have myocarditis Cardiology consulted Received IVIG on 1/31
MYOCARDITIS	2086400-1	6-17 years	Overnight symptoms on Monday night with severe chills, nerve pain, muscle pain, fever. Next day same symptoms and also had delirium and difficulty breathing and chest pain. We consulted with a nurse who gave us a video Appt next day. Felt somewhat better eventually, but by Thursday stated feeling lethargic and Friday morning had severe chest pain. Given another video Appt after calling. Was brought in for EKG and. bloodwork. Was called later to bring him to the ER due to elevated Troponin levels. Was advised at ER he would be hospitalized, next day told by Pedi Cardiologist my son had Myocarditis caused by Booster.

Symptoms	VAERS ID	Age	Adverse Event Description
			Patient is a 17 year old female admitted from the ED for midsternal to left-sided chest pain. She reports that her pain sarted yesterday morning and it woke her up. She describes the pain as a 4/10 pain. She took tylenol and it got a little bit better. Her pain was worse this morning to 6/10. She said pain was also worse with lying down and better when sitting up. She was also experiencing SOB, dizziness, pre-syncope. +palpitations and chest tightness which was mostly on the left with pressure and squeezing feeling, radiating to the right occasionally. Mom brought her to ED this morning. In the ED she had an elevated troponin and slightly elevated Nt pro BNP. She received Covid booster 5 days ago. Only recent illness noted is from a double AOM on 1/9. Pertinent results: Elevated troponin Medication given: None Recent history of travel: No Contact with sick person: No Recent immunizations: Covid booster 1/30/22 REVIEW OF SYSTEMS GENERAL: Positive for: decreased activity Negative for: change in appetitite, fever, chills, diaphoresis, fatigue, irritability, excessive weight loss, excessive weight gain PSYCH/BEHAVIOR: Positive for: none Negative for: agitation, behavioral problems, confusion, hallucinations NEURO: Positive for: dizziness, presyncopal Negative for: head injury, seizures, change in gait EYES: Positive for: none Negative for: photophobia, pain, discharge, redness ENT: Positive for: none Negative for: congestion, ear discharge, hoarseness, sore throat RESPIRATORY: Positive for: chest tightness, shortness of breath Negative for: cough, wheezing CARDIOVASCULAR: Positive for: chest pain, palpitations, dyspnea on exertion Negative for: cyanosis, swelling of feet GASTRO: Positive for: none Negative for: abdominal pain, nausea, vomiting, diarrhea GU: Positive for: none Negative for: decreased urine output, frequency, urgency ENDOCRINE: Positive for: none Negative for: cold intolerance, heat intolerance MUSCULOSKELETAL: Positive for: none Negative for: joint pain, joint swelling, limitiation of movement, muscle pain, back pain SKIN: Positive for: pallor Negative for: rash HEME: Positive for: pallor Negative for: easy bruising, excessive bleeding Problem List Troponin level elevated POA: Yes Active Problems: Troponin level elevated POA: Yes Patient is a previously healthy 17 year old healthy female with 2 days of acute chest pain and elevated troponin. BNP mildly elevated. Otherwise reassuring clinical exam. EKG showing early repolarization. Differential is most concerning for for Acute Myocarditis, pericarditis of unknown etiology, likely related to viral illness or possible recent Covid booster administration. Plan to trend troponin with ECG Q 6 hours and follow up ECHO. Further plan detailed below. PLAN CNS -Neurochecks q4h and prn changes -Resume home Concerta 72 mg and OCP (mom will bring in from home) RESP - Maintain POX >93%, continuous pox - Send RVP (Rapid flu, RSV and COVID negative) CVS - Continuous cardiorespiratory monitor, q1h VS per PICU routine - Consult to peds cardiology - ECHO today - Trend troponin Q 6 hours with ECG - If further increasing troponins, may need cardiac MRI FEN/GI - NPO until results of echo to evaluate for pericardial effusion - IVF NS at 80% at 60 ml/hr RENAL - Strict I&Os ID - monitor fever curve, follow up RVP LINES/TUBES/RESTRAINTS - PIV Plan of care discussed with Provider, RN, Patient, Family/Significant Other: mother and Consultants: cardiology Cardiology Note: History of Present Illness: Patient is a 17 year old female with history of ADHD who presents with left sided chest pain. Her chest pain first started yesterday AM, waking he reform sleep. The pain is described as pressure, and is worse when laying down and better when leaning forward. She took a tylenol and got a bit better, but developed shortness of breath with activity and with rest, dizziness, and feeling like she will pass out. Admits to heart pounding with chest pain. Brought to ED by mother, where she was foun to have an elevated troponin, mildly elevated NTproBNP, and otherwise normal labs. ECG showed early repolarization. Of note, patient received her third COVID booster this past weekend, and had a bilateral ear infection early January. ACTIVE PROBLEM LIST: Active Hospital Problems Diagnosis Date Noted ? Troponin level elevated 02/03/2022 REVIEW OF SYSTEMS: All other systems were reviewed and found to be negative unless otherwise stated above. CXR: Lines, tubes, and devices: None. Lungs and pleura: No focal consolidation.. No pleural effusion. No pneumothorax. Cardiomediastinal silhouette: Normal cardiomediastinal silhouette. Bones and soft tissues: No osseous abnormality. ECG: NSR with early repolarization ECHO: 1. No structural abnormalities. 2. Trivial tricuspid regurgitation. 3. Normal left ventricular size and wall thickness with qualitatively normal systolic and diastolic function. LVEF 2D 60%. Average global strain -19%. 4. Normal right ventricular size with qualitatively normal systolic function. 5. No arch obstruction. 6. 3/4 pulmonary veins seen. 7. No pericardial effusion. Cardiac Diagnosis: Perimyocarditis Impression: Patient is a 17 year old female with history of ADHD admitted with chest pain associated with shortness of breath and elevated troponin concerning for perimyocarditis. BNP and CRP mildly elevated, and active troponin leak suggests acute inflammatory process. Echocardiogram demonstrated normal cardiac structure and function. Unclear etiology, potentially viral or related to recent immunization. RVP in process. Overall plan to control pain, trend troponins, monitor hemodynamics. Troponin leak still trending up, if continues to increase overnight will plan for cardiac MRI in the morning to assess for scar burden and consideration of IVIG and steroids. Plan/ Recommendations: CNS - Ibuprofen q6h - Tylenol PRN CV - RVP pending PULM - CRM, monitor hemodynamics - Trend troponin T q6h with ECG - If uptrending overnight, will order cMRI in the AM FEN/GI - Regular diet - Strict I/O HEM/ID - Monitor fever curve Lines, Drains, and Airways Line Peripheral 02/03/22 0849 Right Antecubital 20 Gauge <1 day Please page pediatric cardiology fellow on call with concerns.
MYOCARDITIS	2087733-1	**6-17 years**	
MYOCARDITIS	2088210-1	**6-17 years**	14 year old female discharged last week on 1/28/22 from ICU after admission for acute respiratory failure requiring HFNC and myopericarditis of unclear etiology; received one pulse dose of IVMP (1000mg) and was started on colchicine 0.6mg daily, as well as coverage for possible pneumonia (received CFX inpatient and went home on Clindamycin). As per mother and patient, after going home on 1/28/22, the same night, fever developed, with temp of 101. Motrin was given, to which fever responded. Over the weekend, she was noted to have chest pain again, and had fever again on Sunday, temp 101F, associated with dyspnea and chest pain. This morning, chest pain worsened to the point that patient felt she could not breath. She presented to ER at that time.
MYOCARDITIS	2091886-1	**6-17 years**	Chest pain x 1 day ; improving on Motrin Myopericarditis; Troponin elevated in the 20's; Normal echocardiogram and ECG shows non-specific mild ST elevation Anti-Spike > 50.000 at the time of admission (02/05/2022) RVP negative
MYOCARDITIS	2092409-1	**6-17 years**	Myocarditis and pericarditis hospitalized in the PICU. Left chest pain starting after booster vaccine for COVID. Treatment , NSAIDs, colchicine and IVIG.
MYOCARDITIS	2092685-1	**6-17 years**	Day 1 after vaccine: nausea, malaise, fatigue, subjective fevers, decreased appetite Day 2: dizziness, sharp, intermittent, pleuritic chest pain- mid sternal and left sided, no tenderness to palpation Day 3: complete resolution of symptoms
MYOCARDITIS	2092767-1	**6-17 years**	Acute left-sided chest pain with ECG changes. Troponin leak consistent with myocarditis 3 days after vaccination.
MYOCARDITIS	2095394-1	**6-17 years**	Acute Myocarditis requiring inpatient hospitalization and cardiology consult
MYOCARDITIS	2096490-1	**6-17 years**	Patient given second dose at another location. 3 days later developed chest pain and shortness of breath with exertion. Increased troponin and clinical presentation consistent with myocarditis.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2098655-1	6-17 years	Myocarditis, Pericarditis
MYOCARDITIS	2101942-1	6-17 years	Myocarditis Patient developed chest pain 1 day after vaccination. Presented to hospital on 2/6/22 for chest pain and had elevated troponin. Transferred to our facility from other facility. Initial troponin at our facility was 2.296. Troponin peaked on 2/8/22 at 5.873 and then trended down after getting pulse dose steroids (Methylprednisolone 1000 mg daily x 3 doses). Troponin at discharge was 1.008. Patient discharge with steroid taper and follow-up with cardiology.
MYOCARDITIS	2112922-1	6-17 years	Myocarditis per cardiologist
MYOCARDITIS	2128518-1	3-5 years	Patient developed fever (101F), acute chest pain and was brought to care at the local ED. He was found to have symptoms and labs consistent with myocarditis. CXR/AXR WNL. His peak troponin was 2.01 (occurring approximately 3d after the vaccine). He had a normal echocardiogram and EKG. Additional labs included a WBC count of 9, normal BNP, mildly elevated CRP at 2.5, and positive COVID-19 RNA. Symptoms improved with ibuprofen provided orally. Hospitalized overnight at a HCF for ongoing monitoring. Discharged ~24h later with down-trending troponin of 0.68.
MYOCARDITIS	2134298-1	6-17 years	developed chest pain and nausea, diagnosis of acute myocarditis, being treated with Naprosyn 250mg BID
MYOCARDITIS	2137074-1	6-17 years	Chest pain, worsening over 2 - 3 days after his booster dose. Presented to ED, found to have elevated troponins. Admitted to the cardiology service. Troponin peaked on 2/21/22. IVIG given on 2/21/22, and troponins have fallen since. Chest pain resolving. Hemodynamically stable with normal cardiac function by echo and cardiac MRI throughout observation in hospital.
MYOCARDITIS	2137592-1	6-17 years	Vomiting and diarrhea for the past 7 days. NBNB emesis (multiples times) and watery diarrhea (>5 times per day). Abdominal distension and a maculopapular rash (non-pruritic or painful) in the back and torso since 2 days ago.
MYOCARDITIS	2138051-1	6-17 years	brief = myopericarditis detailed = 13 y.o. male with no significant past medical history who presents following 2 days of sternal chest pain and shortness of breath following exercise. Of note, he just received the Covid-19 vaccine booster (3rd dose, Pfizer) four days ago, Friday 1/14/22. He had no specific reaction following the first two doses of the Covid vaccine, however following third booster dose began to have new onset symptoms. On post-vaccine day 1 (1/15/22) he had vague symptoms of fatigue / tiredness, but otherwise able to continue all usual activities. On Sunday 1/16/22, he began to have feelings of L upper sternal chest pain and shortness of breath with exercise (was skiing with family) and when going up stairs. This continued on 1/17/22 prompting them to go to their PCP. Based on this history of chest pain, an EKG was performed which was interpreted as possible ST segment changes consistent with pericarditis vs. early repolarization. We were contacted and, given the history and ECG findings concerning for Covid-19 mRNA vaccine associated myo/pericarditis, we recommended evaluation in clinic today. Also recommended starting scheduled ibuprofen q 8hrs, which they took last night and this morning. One further questioning, he continues to have the chest pain. Has been fairly constant, feels like squeezing quality pain at top of sternum. No changes with breathing or when pushing on chest. Broadly, was a full-term infant with no significant problems during pregnancy, delivery, or in the immediate newborn period. No prior cardiac concerns. He is now a fairly active child and participates in multiple activities with his friends and family. He is generally able to keep pace with his friends during activity. A complete ROS is below, but they deny any episodes of cyanosis, syncope, color change, or other concerning signs/symptoms associated with current pain. EKG that day showed new T-wave inversion in right precordial leads (see below)
MYOCARDITIS	2140143-1	6-17 years	Presented to local ER with 2-3 days of Left sided chest pain that was intermittent and worse when lying on back. Diagnosed with Myopericarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	[2147200-1]	**6-17 years**	"myocarditis; Stills disease; My son started with inflammation issues in July; He kept getting chest pains; palpitations; 103 to 105 fevers; His heart,liver, kidneys, muscles and joints were affected; His heart,liver, kidneys, muscles and joints were affected; His heart,liver, kidneys, muscles and joints were affected; His heart,liver, kidneys, muscles and joints were affected; His heart,liver, kidneys, muscles and joints were affected; c-reaction, segmentation, Ferratin rates and other information markers extremely high; c-reaction, segmentation, Ferratin rates and other information markers extremely high; This is a spontaneous report received from a contactable reporter(s) (Consumer or other non HCP). The reporter is the parent. A 16 year-old male patient received bnt162b2 (BNT162B2), administered in arm left, administration date 08Jun2021 09:00 (Batch/Lot number: unknown) at the age of 16 years as dose 2, single for covid-19 immunisation. Relevant medical history included: ""Type 1 Diabetes"" (unspecified if ongoing), notes: Type 1 Diabetes; ""Celiacs disease"" (unspecified if ongoing); ""Hashimoto"" (unspecified if ongoing). Concomitant medication(s) included: NOVOLOG. Past drug history included: Gluten, reaction(s): ""Allergy"". Vaccination history included: Bnt162b2 (Dose Number: 1, Location of injection: Arm Left, Vaccine Administration Time: 09:00 AM), administration date: 18May2021, when the patient was 16 years old, for COVID-19 Immunization. The following information was reported: MYOCARDITIS (hospitalization, medically significant) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""myocarditis""; STILL'S DISEASE (hospitalization, medically significant) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""Stills disease""; INFLAMMATION (hospitalization) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""My son started with inflammation issues in July""; CHEST PAIN (hospitalization) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""He kept getting chest pains""; PALPITATIONS (hospitalization) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""palpitations""; PYREXIA (hospitalization) with onset 18Jul2021 12:00, outcome ""recovering"", described as ""103 to 105 fevers""; RENAL DISORDER (hospitalization), CARDIAC DISORDER (hospitalization), LIVER DISORDER (hospitalization), MUSCLE DISORDER (hospitalization), ARTHROPATHY (hospitalization) all with onset 18Jul2021 12:00, outcome ""recovering"" and all described as ""His heart,liver, kidneys, muscles and joints were affected""; C-REACTIVE PROTEIN INCREASED (hospitalization), SERUM FERRITIN INCREASED (hospitalization) all with onset 18Jul2021 12:00, outcome ""recovering"" and all described as ""c-reaction, segmentation, Ferratin rates and other information markers extremely high"". The patient was hospitalized for myocarditis, still's disease, inflammation, chest pain, palpitations, pyrexia, renal disorder, cardiac disorder, liver disorder, muscle disorder, arthropathy (start date: 12Oct2021, discharge date: 30Oct2021, hospitalization duration: 18 day(s)); for c-reactive protein increased, serum ferritin increased (start date: 18Oct2021, discharge date: 30Oct2021, hospitalization duration: 12 day(s)). The events ""myocarditis"", ""stills disease"", ""my son started with inflammation issues in july"", ""he kept getting chest pains"", ""palpitations"", ""103 to 105 fevers"", ""his heart,liver, kidneys, muscles and joints were affected"", ""his heart,liver, kidneys, muscles and joints were affected"", ""his heart,liver, kidneys, muscles and joints were affected"", ""his heart,liver, kidneys, muscles and joints were affected"", ""his heart,liver, kidneys, muscles and joints were affected"", ""c-reaction, segmentation, ferratin rates and other information markers extremely high"" and ""c-reaction, segmentation, ferratin rates and other information markers extremely high"" were evaluated at the physician office visit and emergency room visit. The patient underwent the following laboratory tests and procedures: c-reactive protein: (12Oct2021) extremely high; investigation: (12Oct2021) extremely high; pyrexia: (12Oct2021) 103; (12Oct2021) 105; serum ferritin: (12Oct2021) extremely high. Therapeutic measures were taken as a result of myocarditis, still's disease, inflammation, chest pain, palpitations, pyrexia, renal disorder, cardiac disorder, liver disorder. Clinical course: It was reported that my son started with inflammation issues in July. He kept getting chest pains and palpitations. He was ER three times prior to three week stay for myocarditis and a rare inflammatory disease believed to be Stills disease. He was admitted to the hospital in 12Oct with 103 to 105 fevers, c-reaction, segmentation, Ferratin rates and other information markers extremely high. His heart, liver, kidneys, muscles and joints were affected. Prior to vaccination the patient diagnosed with COVID-19, since the vaccination the patient been tested for COVID-19, patient receive any other vaccines within 4 weeks prior to the COVID vaccine was reported as no. Lot unknown reason was reported as Unable to locate or read the details. Treatment included: Magnesium to stop cardiac arrest, beta blockers, blood pressure meds, Anakinra, infusion. The lot number for bnt162b2 was not provided and will be requested during follow up."
MYOCARDITIS	[2147802-1]	**6-17 years**	Patient presented with chest pain 48 hours after received dose #1 of Pfizer vaccines. Found to have transiently elevated troponins. Diagnosed with myopericarditis.
MYOCARDITIS	[2157941-1]	**6-17 years**	Myocarditis (ST elevation, chest pain)
MYOCARDITIS	[2168108-1]	**6-17 years**	Patient had myalgias around 24 hours after vaccine, took some Tylenol that day. On the second day after the vaccine, he had chest pressure (low grade). He did not take anything for it, but woke up with worsening chest pain the following morning (3 days post vaccine). He was taken via EMS to the ER at the Hospital and was found to have elevated inflammatory markers, elevated troponins, and ST changes on EKG (consistent with myocarditis/pericarditis). He had an ECHO with normal function. We followed his troponins until they declined (around 7 days post vaccine) and his chest pain resolved. He was given scheduled ibuprofen during his stay here. He had no hemodynamic instability or arrhythmias.
MYOCARDITIS	[2170736-1]	**6-17 years**	Myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2179453-1	6-17 years	"Abnormal EKG; high troponin; Hospitalized at (with held) with Myocarditis; Chest pain began overnight Monday heading into Day 3; This is a spontaneous report received from a contactable reporter(s) (Consumer or other non HCP). A 15-year-old male patient received bnt162b2 (BNT162B2), intramuscular, administered in arm left, administration date 26Feb2022 15:00 (Lot number: FK9729) at the age of 15 years as dose 3 (booster), single for covid-19 immunisation. The patient's relevant medical history and concomitant medications were not reported. The patient was not diagnosed with COVID-19 prior to vaccination. Since the vaccination, the patient was tested for COVID-19. The patient did not receive any other vaccines within 4 weeks prior to the COVID-19 vaccine. Vaccination history included: Bnt162b2 (Dose Number: 2, Batch/Lot No: EW0185, Location of injection: Arm Left, Vaccine Administration Time: 10:00 AM, Route of Administration: Intramuscular), administration date: 05Jun2021, when the patient was 14 years old, for COVID-19 immunisation; Bnt162b2 (Dose Number: 1, Batch/Lot No: EW0176, Location of injection: Arm Left, Vaccine Administration Time: 08:00 AM, Route of Administration: Intramuscular), administration date: 15May2021, when the patient was 14 years old, for COVID-19 immunisation. The following information was reported: MYOCARDITIS (hospitalization) with onset 28Feb2022, outcome ""not recovered"", described as ""Hospitalized at (with held) with Myocarditis""; CHEST PAIN (hospitalization) with onset 28Feb2022, outcome ""not recovered"", described as ""Chest pain began overnight Monday heading into Day 3""; ELECTROCARDIOGRAM ABNORMAL (hospitalization) with onset 01Mar2022, outcome ""not recovered"", described as ""Abnormal EKG""; TROPONIN INCREASED (hospitalization) with onset 01Mar2022, outcome ""not recovered"", described as ""high troponin"". The patient was hospitalized for myocarditis, chest pain, electrocardiogram abnormal, troponin increased (start date: 02Mar2022, discharge date: 04Mar2022, hospitalization duration: 2 day(s)). The events ""hospitalized at (with held) with myocarditis"", ""chest pain began overnight monday heading into day 3"", ""abnormal ekg"" and ""high troponin"" were evaluated at the physician office visit. The patient underwent the following laboratory tests and procedures: SARS-CoV-2 test (Blood test for COVID): (02Mar2022) negative, notes: covid test type post vaccination (blood test); electrocardiogram (EKG): (01Mar2022) abnormal; troponin: (01Mar2022) high. Therapeutic measures (ibuprofen) were taken as a result of myocarditis, chest pain, electrocardiogram abnormal, troponin increased. Additional information: The patient received the most recent COVID-19 vaccine in a pharmacy or drug store. The patient was under monitoring and was scheduled for MRI and repeat EKGs. No follow-up attempts are possible. No further information is expected."
MYOCARDITIS	2184736-1	6-17 years	Myocarditis. Patient presented with chest pain and was found to have elevated troponins and ECG changes. He was given one dose of IVIG then IV methylprednisone x5 days until troponin trended down significantly after a dose of Toradol and scheduled ibuprofen, then did well with prednisone. Will continue steroid wean and scheduled ibuprofen as an outpatient and follow up with cardiology in 2 weeks. Discharged on 3/17
MYOCARDITIS	2196377-1	6-17 years	Myocarditis - treated with hospital confinement, monitoring, Motrin. Overnight stay in the hospital.
MYOCARDITIS	2211448-1	6-17 years	Chest pain with troponin elevation upon presentation to pediatric ICU Myocarditis diagnosed by MRI Treated with motrin
MYOCARDITIS	2213280-1	6-17 years	Patient presented with 2 days of chest pain. EKG showed mild diffuse elevations of ST segment. Cardiology consulted and Echo was normal. Cardiac markers were elevated but downtrended quickly. Started on ibuprofen and chest pain resolved. No hemodynamic/respiratory compromise or arrhythmias. Ultimately diagnosed with myocarditis secondary to COVID vaccine booster. He continues to be followed by cardiology for periodic monitoring.
MYOCARDITIS	2220471-1	6-17 years	The patient presented to the hospital 11/20/21 with signs and symptoms consistent with MIS-C as detailed next, felt to be triggered by previous COVID-19 infection (SARS-COV-2 nucleocapsid antibody was positive). Symptoms began the same day sh received influenza and COVID-19 vaccinations and in the context of known exposure to siblings with cold-like symptoms 1.5 months prior to admission. In detail, her symptoms began 11/15/21 with fevers of 102 -103 degF, occurring hours after receiving an influenza vaccine and her first COVID-19 vaccine (Pfizer) at a well child visit earlier in the day. On day 2 of illness, she developed abdominal pain, nausea, loose stools, and her fevers continued. On day 3-4 of illness, she developed a diffuse confluent sunburn-like rash on her abdomen, chest, and face, which spread to her arms (no involvement of palms/soles). Conjunctival injection developed by day 4 of illness and the rash worsened. She was brought to the ED on day 5 of illness when she felt her vision was a little blurry, where she was found to be hypotensive requiring a fluid bolus and she was admitted to the PICU. She was found to have multisystem inflammation with acute kidney injury, coagulopathy, myocarditis with elevated serum troponins but no compromised function, and vasodilatory shock. Studies were consistent with MISC with hepatomegaly, splenomegaly, increased echogenicity of the kidneys on ultrasound, acute kidney injury with Cr of 3.6, elevated CRP, pro-calcitonin, ESR, BNP, troponin, D-dimer, and fibrinogen, hypoalbuminemia, thrombocytopenia, as well as lymphopenia (normal WBC and low absolute lymphocyte count of 800 cells/uL). Her echocardiogram showed normal ventricular function, coronary arteries and anatomy. EKG was normal. CXR was normal. Initial differential diagnosis included MISC, shock KD, toxic shock syndrome, sepsis, less likely tick-born illness (no high risk exposures). Lower extremity dopplers were normal. Sepsis/ID workup was negative by blood cultures, respiratory viral multiplex nasopharyngeal PCR panel, COVID-19 nasopharyngeal PCR, ehrlichia and anaplasma serologies and PCRs, rickettsia rickettsii serologies, and a strep A PCR test from outside pediatrics clinic was negative 2 days prior to admission. COVID-19 serologies were positive for SARS-CoV-2 nucleocapsid antibody (qualitative) and spike antibody (titer of 182 U/mL; normal reference < 0.8 U/mL), indicating a past infection which was felt to be the trigger for her MIS-C. She was treated for MIS-C with IVIG, steroids, lovenox, and high dose aspirin. Lisinopril was given for elevated blood pressures presumably secondary to steroids. Empirical antibiotics for possible sepsis or toxic shock syndrome (ceftriaxone, clindamycin, vancomycin) were discontinued 48 hours of blood culture negativity and with no evidence of focal infection. She had excellent clinical recovery on MIS-C treatments. Pressors with norepinephrine were weaned off within 12 hours of admission, and her rash and fevers quickly resolved along with her other presenting symptoms. Inflammatory markers eventually were all improving by the day of discharge 11/24/22. She was discharged to home on weaning oral steroids, lovenox, aspirin, lisinopril. Upon hematology and cardiology outpatient follow up over the next two months (visits on 12/1/21 and 1/12/22 with repeat labs 1/3/22), she was doing well without any cardiac symptoms of chest pain, shortness of breath, palpitations, or syncope. She was noted to have demonstrated full recovery and with no recurrence of symptoms or inflammation on repeat labs (1/3/22) after coming off the steroids (completed 12/27/21). Lovenox was stopped 12/1/21. Aspirin was stopped 1/12/22 after her vW and FVIII levels normalized indicating resolution of vasculitis. She received her second COVID-19 vaccine (Pfizer) on 1/13/22. A cardiac MRI was normal on 1/24/22.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2223341-1	6-17 years	12-year-old boy with post-COVID-vaccine-associated myocarditis who had presented with chest pain x1 day and recent fever (2 days prior to admission) after dose #2 of Pfizer vaccine. Of note, history of acute COVID infection on 12/29/2021, but negative COVID during admission. COVID-vaccine-induced myocarditis was suspected with low clinical suspicion for MIS-C given time course, no recent fever, and mildly elevated CRP, with no other concerning symptoms. Troponins peaked at 1.66 and downtrended until 0.21 at time of discharge with recommendation for troponin recheck at 1 week while outpatient. Cardiology were consulted by the team, who recommended echo, which was unremarkable. EKG showed sinus rhythm. For chest pain, ibuprofen PRN was first-line, but patient denied chest pain and specific complaints for most of the hospital course. Patient was discharged in stable condition to home with appointment placed with cardiology and repeat troponin scheduled for 1 week post-discharge. Recommendation was to avoid strenuous activity and competitive sports for 3 months until clearance with treadmill.
MYOCARDITIS	2228774-1	6-17 years	Myocarditis; chest pain with elevated troponin, delayed myocardial enhancement on cardiac MRI
MYOCARDITIS	2249606-1	6-17 years	Post Vaccine Myocarditis with chest pain 1 day post vaccine, hospitalized in PICU and monitored.
MYOCARDITIS	2259929-1	3-5 years	Patient has a fever of 104 and she has chest pain. A complication of the COVID-19 Vaccines in Children is Myocarditis. Patient will need to be further evaluated for possible Myocarditis. Parent has been told to take patient to the Emergency Room for further evaluation.
MYOCARDITIS	2267086-1	6-17 years	Myocarditis, extreme tiredness.
MYOCARDITIS	2270761-1	6-17 years	Myocarditis
MYOCARDITIS	2271220-1	6-17 years	2/9/22 11 y/o male who had COVID-19 in December, presented to the ER with 8 days of fever, pleuritic chest pain, headache, and malaise. Also 3 to 4 days of periorbital and lip swelling with a macular rash that resolved. Hypotensive 76/43, tachycardia at 126. MIS-C vs Kawasaki. Admitted to ICU. Resp: remained stable on RA. ID: He was given IVIG x1 on 2/10 and started on Methylprednisolone 1mg/kg BID. Blood & urine cultures were negative. 2/9 CXR - small left effusion, EKG w/right bundle branch block. Echo-good contractility, mitral valve insufficiency consistent w/myocarditis. 2/11 Inflammatory markers downtrending, transfer to floor. CV: BP's were stable and he did not require any pressors. He was started on Aspirin 81mg daily and Lovenox. Evidence of mild myocarditis with tachycardia and mildly elevated troponin, which downtrended prior to transfer to regular floor. Repeat Chest Xray on 2/11 showed small left basilar pleural effusion unchanged from previous examination. It also showed subsegmental consolidation left base, suspicious pneumonia, and WBC also increased to 26.52, patient was started on Ampicillin. Ampicillin later changed to PO Amoxicillin as PO tolerance improved and clinical impression improved. Methylprednisolone was also changed to PO Prednisone. Blood and urine cultures showed no growth after 5 and 2 days, respectively. 2/14 Repeat Echo showed trivial-to-small pericardial effusion located posteriorly behind the heart, with excellent biventricular function. Patient remained afebrile while on floor. Inflammatory markers and LFTs continued to downtrend. Electrolyte abnormalities resolved. Discharged 2/15/2022.
MYOCARDITIS	2271233-1	6-17 years	01/13/2022 10-year-old male without significant past medical or surgical history presenting for evaluation of 6 days of fever, nausea/vomiting and decreased p.o. intake, diffuse abdominal pain, headache, fatigue, and migratory rash. Patient reportedly COVID-positive 12/6/2021, received initial COVID-vaccine in late November. Patient denying any chest pain, cough, or shortness of breath. Constellation of symptoms is concerning for Kawasaki versus MIS-C. Exam notable for diffuse rash with palmar involvement and early bullae/vesicles, straw berry tongue. There is no conjunctival injection, no perineal involvement. No focal neurologic deficits, diffuse abdominal tenderness without focality. Vital signs are stable hough notable for mild hypotension. Laboratory studies overall consistent with MISC (elevations in ESR/CRP, ferritin, etc. with elevations in troponin and BNP consistent with myocarditis. Electrolyte abnormalities including hyponatremia, hypokalemia, hypocalcemia consistent with inadequate oral intake and diarrhea. Hospital course: MIS-C associated with COVID-19, S/p CTX x2, negative blood cultures, S/p IVIG 1/14, Solumedrol 1/14-1/15, Transitioned to PO Prednisolone 1/16 Lovenox switched to ASA 1/1 Acute respiratory failure with hypoxia, Required HFNC on arrival to PICU, Stable on RA day of d/c. Myocarditis, LVEF 45-50% on 1/14 Discharge: Pt tolerating regular diet well. No N/V. Pt denies any pain. Rash to BLE and bilateral hands/arms improved. Follow up with PMD in one week, Rheumotology in one week, Cardiology in one month
MYOCARDITIS	2277757-1	6-17 years	Patient was admitted for post-vaccine myocarditis after presenting with chest pain, shortness of breath, and an elevated troponin.
MYOCARDITIS	2309695-1	6-17 years	Patient developed rhabdomyolysis discovered on 6/2/2022 (he is at higher risk for this due to CPT2 deficiency, peak CK 36k) and subsequently myocarditis discovered on 6/3/2022 (per Hospital metabolism department, he is NOT at higher risk for myocarditis due to his underlying condition). Cardiology consulted. ECHO performed showing nl systolic function but some signs of inflammation. He received IVIG for treatment as cannot get NSAIDS due to his CPT2 deficiency. No hemodynamic compromise. Troponins down trending as of 6/5 (peaked 1.24). Remains admitted for likely side effects of IVIG (severe headache) and continued hydration in setting of poor PO intake.
MYOCARDITIS	2312083-1	6-17 years	Myocarditis after 3rd dose of vaccine on May 20, 2022. Previous doses completed on May 27, 2021 and June 17 2021. Woke up on May 23, 2022 morning with chest pain, nausea, generally feeling weak. Brough to ER at local hospital and noted to have six beat run of ventircular tachycardia. Also had elevated troponin I to 7.1 ng/mL. Admitted to alternate Hospital, on 5/23 for monitoring. Troponin monitoring. Did not develop any further complications. Did receive IVIG due to diagnosis of myocarditis by cardiology. Seen by Pediatric infectious diseases. Discharged to home on 5/26/22.
MYOCARDITIS	2335323-1	6-17 years	Patient presented with increasing chest pain and elevated troponin two days following third dose of Pfizer vaccine.
MYOCARDITIS	2359520-1	6-17 years	Subsequent Covid-19 infection resulting in Hemorrhagic Myocarditis and death.
MYOCARDITIS	2359599-1	6-17 years	ADMISSION TO PEDIATRIC ICU AT HOSPITAL FOR MYOCARDITIS, TROPONIN ELEVATION 1.67 NG/DL ON 6/23/22
MYOCARDITIS	2374265-1	6-17 years	Diagnosis of pericarditis and myocarditis requiring emergency care and ICU admission. Cardiac symptoms began Sunday, 7/17/22 (2 days after vaccination). The patient is currently under cardiology care for at least the next 3 months.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2393308-1	6-17 years	16 year old male presented with chest pain, chest X-Ray normal, elevated troponin >20 ng/mL, and EKG with diffuse ST segment changes. Admitted to cardiac ICU for work up. Primary diagnosis acute myocarditis with pericardial involvement. During hospital course, only infectious source identified is rhino/entero virus. Past history of Covid-19 infection as well as vaccination (Pfizer x3). Due to literature finding myopericarditis as a possible adverse effect in this patient population from mRNA vaccines (16 year old male), it is reasonable to report this hospitalization.
MYOCARDITIS	2396411-1	6-17 years	"My son received his second Pfizer vaccination for COVID-19 on 7/9/2022. On about 7/12/2022, he began complaining of chest pains. I had previously had him examined by a cardiologist, who said that his heart was in ""perfect"" condition, so I didn't think there was anything seriously wrong. I thought that maybe he was just having a panic attack and that he would be okay. He continued complaining of chest pains on 7/13/2022 and 7/14/2022, however. On the morning of 7/15/2022, he collapsed in the shower. I walked into the bathroom and found him unconscious and leaning over the edge of the tub. I got him up, got him out of the shower, set him on the toilet, called 911, and tried to cover him up as much as I could. The ambulance came and checked his pulse and blood pressure. They found that his blood pressure was very low, so they decided to transport him to the ER. When he got to the ER, he underwent various tests, including a chest X-ray, a chest ultrasound, and bloodwork. The doctor told me that my son was diagnosed with myocarditis. He also asked me if my son had received a COVID-19 vaccine. When I answered in the affirmative, the doctor then told me that 3 other young men had been diagnosed with myocarditis that week after receiving the vaccines. My son was not admitted to the hospital, but the ER doctor did call my son's cardiologist to inform him that my son needed a follow-up visit. My son was prescribed a medication to treat the myocarditis. It may have been methylprednisolone, but I'm not sure. The doctor advised us that the myocarditis would eventually go away on its own. My husband and my son went to his cardiologist for the follow-up on or about 7/18/2022. My son underwent an echocardiogram. I don't recall the exact findings of the echocardiogram, but they must not have been serious, since the cardiologist told us that it would be safe for my son to take a plane trip out of state. Since my son received his diagnosis and was treated, he has not complained anymore about chest pains."
MYOCARDITIS	2397656-1	6-17 years	9/8/2021 admitted to Medical Center for Myocarditis 6/7/2022 after contracting the COVID virus, Traponion I elevated to 16.2, admitted back to Medical Center for round 2 of Mayocarditis. Hospital records attached. Shot record attached COVID vaccination card attached. These events have made a significant inpact on patient. She is constantly checking her blood pressure, pulse and O2 when she feels funny. She does seem to know when her traponions are elevated, as both times she was not feeling well she asked to go to the hospital. She has not been able to go back to her regular child life and activities as she has been told by the cardiologist not to stress out her heart. I have all supporting documentations.
MYOCARDITIS	2397966-1	6-17 years	myocarditis/pericarditis with chest pain, elevated inflammatory markers, EKG changes and elevated troponin, decreased heart function, requiring ICU admission, IVIG
MYOCARDITIS	2399147-1	6-17 years	He received his second dose of Pfizer vaccine on 7/30, around noon and soon after developed a headache (more on left side) and an elevated temperature of 100F. Family was more attentive to symptoms following 2nd vaccine, given that after is first dose roughly 2 weeks ago, he developed a widespread rash on his face requiring IM Benadryl and steroids to control. Yesterday, he was very weak unable to assist with normal household chores and later he woke early this AM with 9/10 chest pain over parasternal region, radiating to his neck and left shoulder. Pain was stabbing, wax/waning, and lasted 20 minutes with associated SOB and palpitations. HR ranged from 60-120bpm per wrist monitor. Episode resolved when flat. A second identical episode reoccurred roughly 4 hours later but was self resolved. He subsequently took one tablet of Chlortab antihistamine and Alka-Seltzer with minor relief in symptoms. Out of concern, family presented to ED for further workup. Family history pertinent for father with history of A. fib and myocarditis with COVID infection in October 2020. Presented to the ED, 3 days s/p second Pfizer dose with sudden onset parasternal chest pain, palpitations, and shortness of breath with laboratory evaluation consistent with myocarditis. Patient has a history of prior skin reaction following first dose of vaccine which subsequently required IM antihistamine oral steroids to alleviate. Current symptoms developed within hours of second dose, beginning with headache and elevated temperatures, later transitioning to weakness, chest pain, and shortness of breath last night. Pain described as parasternally radiating at times to neck and left shoulder and is not reproducible on exam. Further cardiac history of MI related death in paternal grandfather in his 40s and additional multiple MIs in maternal grandfather in 50s.
MYOCARDITIS	2442719-1	6-17 years	13 year old identical twin boy who started having chest pain approximately 24 hours after 2nd dose of covid vaccine. Chest pain was persistent and within 48 hours he developed shortness of breath so mom brought him to ED. Found to have elevated troponin and EKG with some ST segment elevation and was admitted for acute myocarditis.
MYOCARDITIS	2445046-1	6-17 years	Myocarditis Managed with ibuprofen and monitoring Sx resolved in 1 day Trponins trended down in 3 days
MYOCARDITIS	2454771-1	6-17 years	The decedent received the second dose of the COVID vaccine on 7/29/2022. She began vomiting at bedtime on 8/1/2022 and was found unresponsive the morning of 8/2/2022. She was transported to the emergency room by EMS where pronounced.
MYOCARDITIS	2465794-1	6-17 years	Pt came in with chest pain, diagnosed with myocarditis. We do not have record of third vaccine date. He states that he got COVID vaccine in July before school started. We have the last vaccine that he received dated as March 2022. He was adamant that he received the COVID vaccine in July as well. Was unable to get the records, Did not have it listed on physical vaccine card.

Symptoms	VAERS ID	Age	Adverse Event Description
MYOCARDITIS	2485028-1	6-17 years	5/13/22: Received vaccine and became exhausted and had arm pain almost immediately. Went to be early. 5/14/22: Did not get out of bed, was lethargic, had arm pain, a headache, and later in the day developed a fever (101.3) 5/15/22: Did not want to get out of bed, was hard to rise. Forced him up to take a shower and visit his grandmother. He had a fever (101 and higher) and was very tired all day. He fell asleep around 3pm at his grandmother's house so we came home. When we arrived home at around 3:30 pm, he complained of chest pain. We decided to take him to the ER. Just before leaving, he told us he needed to throw up and he did. He then said he felt much better. Thinking his chest pain was caused by indigestion due to his diet at his grandmother's house (soda and chips), we let him go to bed early and sleep instead of taking him to the ER. 5/16/22: He woke up at 1:30 am and threw up again. He said he felt ok and went back to sleep. Continued fevers of 102. He woke up again at 4:30 am and told us his chest hurt and it hurt to breathe. We took him to the doctor that morning. He sent us to the Emergency Room. After running tests and noticing high Troponin and (spikes and lows) on heart rate monitor, they decided to transport him via chopper to another Hospital, with thunderstorms in the area, he was sent via ambulance at 9pm. He was admitted at 11pm through the ER and we got into a room by 4am on 5/17/22. Admission diagnosis: acute myocarditis, unspecified myocarditis type Treated with Ibuprofen and Famotidine Released after troponin levels reached 4. Ibuprofen and famotidine taken until June 2 when levels were somewhat normalized on follow up EKG. Follow ups in June, September, and April. Because his inflammation has not gone down, Dr, the cardiologist will follow the patient for the next few years and has recommended he see the cardiac athletic specialist to help him re-introduce some sports; however he cannot swim or participate in contact sports. (As of 10/21/22)
MYOCARDITIS	2523053-1	6-17 years	Patient received the Pfizer Covid booster on May 17th 2022. The next morning, he woke up saying he had pains in his chest. He spent the whole day sick. On the evening of May 19th he complained of a pain in his jaw so bad, he requested to go to the ER. On the way to the ER, he began vomiting in the car. That night, we were admitted to the hospital with what doctors told us was vaccine induced myocarditis. He was in the hospital for 4 days with this condition. We were discharged but needed to continue to do daily blood work until his treponin levels went to 0. He also required additional cardiology appointments and an MRI.
MYOCARDITIS	2560194-1	6-17 years	Myocarditis

Symptoms	VAERS ID	Age	Adverse Event Description
			Primary Service at Discharge - Cardiology Medicine Hospital Course and Discharge Plan Admission Date/Time: 01/24/2023 02:39:00 Discharge Date/Time: 01/28/2023 11:23:55 Chief Complaint chest pain and troponin leak Patient Narrative ILLNESS SEVERITY: The patient has returned to baseline. PATIENT SUMMARY: Reason for Hospitalization: chest pain and troponin leak Admission HPI: Chief Complaint chest pain, troponin leak History of Present Illness The patient a 12 yo structurally normal heart with history of anxiety who presents with acute onset chest pain and elevated troponin in the setting of recent COVID booster 1/21. Per the patient he complained of some malaise and tactile temp on Sunday after his booster but no chest pain. For these symptoms his mother gave a dose of over the counter cold medication and his symptoms resolved. On Monday he then work up with 6/10 chest pain, primarily on the right side, worsens with deep breathing, and wakes and wanes. He denied fever, dizziness, syncope, palpitations, shortness of breath, or edema. He took a dose of ibuprofen but continued with intermittent chest pain. With his persistent chest pain, he went to urgent care, where an ECG was performed with what is described as a concern for possible RBBB and myocarditis, leading to referral to the first ED. There, troponin was 0.08 (with ULN 0.01), and he was transferred to this hospital's ED for further care. On arrival to the ED at this hospital he was hemodynamically stable, labs significant for troponin 309. Family reported sister was COVID + Monday evening. Again patient denies are viral s/s and his viral panel on admission including COVID was negative. Per parental report mom stated he had a cold a week prior to his vaccine, but he had no viral symptoms on admission. His chest pain was improved since arriving to the ED, reporting it as 1/10. Patient is being admitted for ongoing monitoring, trending troponin, and determining planning for further diagnostic workup. The patient was admitted to the floor for ongoing monitoring in setting of likely vaccine associated myocarditis. Since admission he has reported no chest pain since 1/24 am with stable vital signs. His repeat EKG was normal sinus and troponin was downtrending at 203 1/24 12pm. An Echo performed showed low normal function with no other structural findings. Hospital Course: The patient was admitted to the cardiology floor for continued monitoring of his troponin levels and EKG. An echocardiogram was performed which showed structurally normal heart and function (see report below). He was started on methylprednisolone IV. He remained asymptomatic with improved chest pain throughout his admission. Cardiac MRI showed small amount of LGE with normal function (see report below). He had normal EKGs. His Troponin levels and inflammatory markers were trending down until 1/26/23 when he had a small increase to 120s. Given this, and noted T-wave flattening on EKG and prior small amount of LGE on cardiac MRI, the decision was made to give him IVIG. He was pre-medicated with Zyrtec and Tylenol and then the 2g/kg (max 100g) dose with the MIS-C/Kawasaki slow transfusion protocol. He tolerated the IVIG infusion well, and repeat labs 1/27 revealed downtrending Troponin. His Echo on 1/27 and his EKG were both normal. By time of discharge, patient was well-appearing, vitals stable, demonstrating good PO intake. Follow up with cardiology in place for next week (2/1). He was instructed to avoid strenuous exercise. Discharge instructions and return precautions reviewed with patient and parent, who expressed good understanding and agreement Relevant Diagnostic Images/Studies: CXR 1/24/23 Reason For Exam Chest pain Report PROCEDURE: XR-Chest 2 Views REPORT FLAG: None IMPRESSION: Normal chest examination. END OF IMPRESSION INDICATION: Male, 12 years old, chest pain COMPARISON: None TECHNIQUE: Two views of the chest. FINDINGS: Lungs: Clear. Heart/mediastinum: Normal contours. Pleural effusion: None. Pneumothorax: None. Osseous/soft tissue structures: Normal. Included upper abdomen: Normal. ***** Final Report***** Leg US 1/24/23 Reason For Exam Leg pain Report PROCEDURE: US BILAT LOWER EXTREMITY VENOUS W/ DOPPLER REPORT FLAG: None IMPRESSION: Normal. No evidence of deep venous thrombosis. END OF IMPRESSION INDICATION: Male, 12 years old, Leg pain COMPARISON: None TECHNIQUE: Grayscale sonography with and without compression, as well as color and spectral Doppler imaging, was obtained of the deep venous system of bilateral lower extremities, including external iliac, common femoral, femoral, deep femoral, greater saphenous and popliteal veins. The IVC was not assessed. The posterior tibial and peroneal veins in the calf were assessed. FINDINGS: All visualized veins are patent, without intraluminal thrombus. Spectral Doppler imaging demonstrates normal venous waveforms. ***** Final Report***** Echo 1/24/23 ? Technically difficult examination due to suboptimal echocardiographic windows. ? No major structural abnormalities detected within the visible anatomy. Atrial septum, upper pulmonary veins, right coronary artery not seen. ? Normal valvular function. ? Normal left ventricular size with borderline global systolic function. No major regional wall motion abnormalities at rest. ? Qualitatively probably normal right ventricular systolic function. ? No pericardial effusion. Cardiac MRI 1/25/23 ? A localized small area of late gadolinium enhancement in basal inferior segment of left ventricle. ? Normal biventricular size and systolic function. No regional wall motion abnormalities. ? No significant valvular dysfunction. ? Normal coronary origins with no proximal coronary artery aneurysms. ? Trivial pericardial effusion. Echo 1/27/23 ? Normal valve function. ? Normal biventricular function. ? No pericardial effusion. Tests Pending No tests pending at time of discharge These tests will be followed by the Primary Service at Discharge after Discharge Vitals and Discharge Physical T: 36.8 ¦C (Temporal Artery) HR: 58 (Monitored) RR: 18 BP: 125/74 SpO2: 98% WT: 72 kg Discharge Physical Exam Gen: awake, alert, interactive HEENT: Normocephalic CV: RRR, no murmur appreciated, +PP, WWP Resp: lung sounds clear, easy WOB Abd: soft, non-tender Ext: moves all extremities with equal strength Diagnosis List 1. Chest pain, 01/24/2023 2. Myocarditis, 01/24/2023 Procedure History No Procedure History Social History Smoking Status No Smoking Status Documented Allergies No Known Medication Allergies Laboratory Results Returned 48 Hours Prior to Discharge Labs Last 48 Hours Event Name Event Result Date/Time D-Dimer <0.27 01/27/23 Sodium 136 mmol/L 01/27/23 Potassium 4.19 mmol/L 01/27/23 Chloride 104 mmol/L 01/27/23 CO2 21 mmol/L Low 01/27/23 Anion Gap 10 mmol/L 01/27/23 Glucose Level 112 mg/dL 01/27/23 BUN 13 mg/dL 01/27/23 Creatinine 0.67 mg/dL 01/27/23 Calcium 8.6 mg/dL 01/27/23 B-Type Natriuretic Peptide 72 pg/mL 01/27/23 Troponin T Gen 5 69 ng/L High 01/27/23 Microbiology Results (Last 30 Days) No Micro Results in past 30 days Health Care Proxy: Under 18 years old MOLST: Under 18 years old Follow-Up and Patient Instructions Patient Instructions Follow up with cardiology 2/1 week for EKG and labs. No strenuous exercise for 2-3 months (until cleared from cardiology). Plan for exercise test and repeat cardiac MRI.
MYOCARDITIS	2576037-1	**6-17 years**	
MYOCARDITIS INFECTIOUS	1280493-1	**6-17 years**	MYOCARDITIS. Patient is a 16 year old boy with ADHD who presented with fever and myalgias for 3 days, that progressed to sharp parasternal chest pain and some SOB. Patient received second dose Pfizer COVID-19 vaccine on 4/26, and after that shot experienced fever to 102 at home and myalgias. Subsequently his symptoms of chest pain have occurred. He underwent workup revealing of elevated Troponin, and EKG with some ST segment elevation, a slightly elevated CRP at 32, and a normal ECHO. Admitted for observation and concern for infectious myocarditis vs MIS-C. Cardiac MRI was done confirming Myocarditis, Troponin I was elevated and peaked at 23, 325pg/mL. Workup unrevealing of SARS. Other testing showed Resp virus panel negative, blood pcr for EBV, CMV, Parvovirus B19, enterovirus, and adenovirus all negative, HIV antigen/antibody testing negative. Patient treated with Ketorolac with steady improvement in symptoms over several hospital days. Discharged home 5/2 with Troponin I well down and symptoms resolved. Given reports in lay press regarding other cases of COVID-19 MRNA vaccine associated myocarditis, we are reporting this as a vaccine associated adverse event.

Note: Submitting a report to VAERS does not mean that healthcare personnel or the vaccine caused or contributed to the adverse event (possible side effect).

Notes:

Caveats: VAERS accepts reports of adverse events and reactions that occur following vaccination. Healthcare providers, vaccine manufacturers, and the public can submit reports to VAERS. While very important in monitoring vaccine safety, VAERS reports alone cannot be used to determine if a vaccine caused or contributed to an adverse event or illness. The reports may contain information that is incomplete, inaccurate, coincidental, or unverifiable. Most reports to VAERS are voluntary, which means they are subject to biases. This creates specific limitations on how the data can be used scientifically. Data from VAERS reports should always be interpreted with these limitations in mind.

The strengths of VAERS are that it is national in scope and can quickly provide an early warning of a safety problem with a vaccine. As part of CDC and FDA's multi-system approach to post-licensure vaccine safety monitoring, VAERS is designed to rapidly detect unusual or unexpected patterns of adverse events, also known as "safety signals." If a safety signal is found in VAERS, further studies can be done in safety systems such as the CDC's Vaccine Safety Datalink (VSD) or the Clinical Immunization Safety Assessment (CISA) project. These systems do not have the same limitations as VAERS, and can better assess health risks and possible connections between adverse events and a vaccine.

Key considerations and limitations of VAERS data:

- Vaccine providers are encouraged to report any clinically significant health problem following vaccination to VAERS, whether or not they believe the vaccine was the cause.
- Reports may include incomplete, inaccurate, coincidental and unverified information.
- The number of reports alone cannot be interpreted or used to reach conclusions about the existence, severity, frequency, or rates of problems associated with vaccines.
- VAERS data are limited to vaccine adverse event reports received between 1990 and the most recent date for which data are available.
- VAERS data do not represent all known safety information for a vaccine and should be interpreted in the context of other scientific information.

Some items may have more than 1 occurrence in any single event report, such as Symptoms, Vaccine Products, Manufacturers, and Event Categories. If data are grouped by any of these items, then the number in the Events Reported column may exceed the total number of unique events. If percentages are shown, then the associated percentage of total unique event reports will exceed 100% in such cases. For example, the number of Symptoms mentioned is likely to exceed the number of events reported, because many reports include more than 1 Symptom. When more than 1 Symptom occurs in a single report, then the percentage of Symptoms to unique events is more than 100%. More information. (/wonder/help/vaers.html#Suppress)

Data contains VAERS reports processed as of 03/17/2023. The VAERS data in WONDER are updated weekly, yet the VAERS system receives continuous updates including revisions and new reports for preceding time periods. Duplicate event reports and/or reports determined to be false are removed from VAERS. More information. (/wonder/help/vaers.html#Reporting)

About COVID19 vaccines:

- For more information on how many persons have been vaccinated in the US for COVID19 to date, see https://covid.cdc.gov/covid-data-tracker/#vaccinations/ (https://covid.cdc.gov/covid-data-tracker/#vaccinations/).
- One report may state that the patient received more than one brand of COVID-19 vaccine on the same visit. This is a reporting error, but explains why the total number of reports may not equal the total number of COVID-19 vaccine doses.

Help: See The Vaccine Adverse Event Reporting System (VAERS) Documentation (/wonder/help/vaers.html) for more information.

Query Date: Mar 27, 2023 2:19:35 PM

Suggested Citation:

United States Department of Health and Human Services (DHHS), Public Health Service (PHS), Centers for Disease Control (CDC) / Food and Drug Administration (FDA), Vaccine Adverse Event Reporting System (VAERS) 1990 - 03/17/2023, CDC WONDER On-line Database. Accessed at http://wonder.cdc.gov/vaers.html on Mar 27, 2023 2:19:35 PM

Query Criteria:

Age:	< 6 months; 6-11 months; 1-2 years; 3-5 years; 6-17 years
State / Territory:	The United States/Territories/Unknown
Symptoms:	MYOCARDITIS; MYOCARDITIS BACTERIAL; MYOCARDITIS INFECTIOUS
Vaccine Products:	COVID19 VACCINE (COVID19); COVID19-2 (COVID19-2)
VAERS ID:	All
Group By:	Symptoms; VAERS ID; Age
Show Totals:	False
Show Zero Values:	Disabled