



The Citywide Immunization Registry (CIR) COVID-19 Reporting Data Elements

COVID Vaccine Administration Scope: COVID vaccine administration is available to individuals ages 5 years and older.

COVID Reporting Requirements: All COVID Vaccines must be reported within 24 hours of administration. Adult patient consent requirements to report immunization data to the CIR has been waived*.

From December 14, 2020 to June 26, 2021, the consent requirement for adults was suspended by the Governor’s executive order and the Health Commissioner's order (PDF). The orders required providers to report COVID-19, flu, and all other vaccinations administered to adults to the CIR. Currently, reporting of adult immunizations requires patient consent.

<https://www.governor.ny.gov/news/no-20282-continuing-temporary-suspension-and-modification-laws-relating-disaster-emergency>

The CIR will no longer ignore HL7 messages that come in with a 'Y' in PD1-12.

Race and ethnicity are important demographic data to collect to track equity of COVID vaccine distribution among different groups in NYC. Please read below the NYC DOHMH Health Advisory.

<https://www1.nyc.gov/assets/doh/downloads/pdf/han/advisory/2021/covid-19-vaccine-race-ethnicity-data.pdf>

HL7 Field	HL7 Data Element
Required Data Elements	
MSH-4.1	CIR Facility Code (HL7 Interface ID)
PID-5	Patient Name: First Name, Middle Name (optional) and Last Name
PID-7	Patient Date of Birth
PID-8	Patient Sex
PID-10	Patient Race
PID-11	Patient Address
PID-13	Patient Phone Number
PID-22	Patient Ethnicity
ORC-12.1 & 12.3	Ordering provider NYS license number or NPI number
RXA-3	Vaccine Administration Date
RXA-5	Vaccine CVX code and NDC code (CVX RXA-5.1-3 NDC RXA-5.4-6)
RXA-6&7	Vaccine Administered Amount and Unit
RXA-11.4.1	CIR Facility Code (Administering Location)
RXA-15	Vaccine Lot Number: unit of sale
RXA-16	Vaccine Expiration Date
RXA-17	Vaccine Manufacturer: MVX code
RXR-1	Vaccine Route of Administration
RXR-2	Vaccine Administration Site (on the body)
OBX-3 and OBX5	Vaccine funding source
Optional Data Elements	
OBX-3 and OBX5	Priority Codes

COVID Inventory Information

CVX	NDC-10 Unit of Sale	NDC-11 Unit of Sale	CPT Code	Sale Proprietary Name	MVX	Unit of Sale Carton
207	80777-273-99	80777-0273-99	91301	Moderna COVID-19 Vaccine 100 mcg/0.5 mL for adult 18+ (red cap)	MOD	10 multi-dose vial 5 mL each
207	80777-273-98	80777-0273-98	91301	Moderna COVID-19 Vaccine 100 mcg/0.5 mL for adult 18+ (red cap)	MOD	10 multi-dose vial 7 mL each
207	80777-273-99	80777-0273-99	91301	Moderna COVID-19 Vaccine 50 mcg/0.25 mL for booster adult 18+ (red cap)	MOD	10 multi-dose vial 5 mL each
207	80777-273-98	80777-0273-98	91301	Moderna COVID-19 Vaccine 50 mcg/0.25 mL for booster adult 18+ (red cap)	MOD	10 multi-dose vial 7 mL each
208	59267-1000-2	59267-1000-02	91300	Pfizer COVID-19 Vaccine 30 mcg/0.3 mL ages 12+ (purple cap)	PFR	195 multi-dose vials
208	59267-1000-3	59267-1000-03	91300	Pfizer COVID-19 Vaccine 30 mcg/0.3 mL ages 12+ (purple cap)	PFR	25 multi-dose vials
217	59267-1025-2	59267-1025-02	91305	Pfizer- COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose, tris-sucrose for ages 12+ (gray cap)	PFR	carton, 195 multi-dose vials
217	59267-1025-3	59267-1025-03	91305	Pfizer- COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose, tris-sucrose for ages 12+ (gray cap)	PFR	carton, 25 multi-dose vials
217	59267-1025-4	59267-1025-04	91305	Pfizer- COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose, tris-sucrose for ages 12+ (gray cap)	PFR	carton, 10 multi-dose vials
218	59267-1055-2	59267-1055-02	91307	Pfizer COVID-19 Vaccine Tris-sucrose formula, 10 mcg/0.2 mL for ages 5 yrs to < 12 yrs (orange cap)	PFR	carton, 195 multi-dose vials
218	59267-1055-4	59267-1055-04	91307	Pfizer COVID-19 Vaccine Tris-sucrose formula, 10 mcg/0.2 mL for ages 5 yrs to < 12 yrs (orange cap)	PFR	carton, 10 multi-dose vials
212	59676-580-15	59676-0580-15	91303	Janssen COVID-19 Vaccine 0.5 mL for adult 18+ (blue cap)	JSN	10 multi-dose vials

*All non-US COVID vaccines are now accepted by the CIR since 10/21/2021

Immunization Registries Code Sets

Please find the latest COVID-19 Vaccine code list here:

<https://www.cdc.gov/vaccines/programs/iis/COVID-19-related-codes.html>

Route and Administration Site Codes

Vaccine Route of Administration RXR-1

May submit either NCIT or HL7-0162 for route of administrations. If a VXU message is received where the RXR-1.1 is empty, the HL7 Web Service SHALL ignore the field. If RXR-1.3 (code system) is blank, ignore the RXR-1 segment and return a non-fatal error segment

FDA NCI Thesaurus (NCIT)	HL7-0162	Description	Definition
C38238	ID	Intradermal	Within or introduced between the layers of the skin
C28161	IM	Intramuscular	Within or into the substance of a muscle
C38284	NS	Nasal	Given by nose
C38276	IV	Intravenous	Administered into a vein
C38288	PO	Oral	Administered by mouth
	OTH	Other/Miscellaneous	
C38676		Percutaneous	Made, done, or effected through the skin.
C38299	SC	Subcutaneous	Under the skin or between skin and muscles.
C38305	TD	Transdermal	Describes something, especially a drug, that is introduced into the body through the skin

Vaccine Administration Site RXR-2:

If a VXU message is received where the RXR-2.1 is empty, the HL7 Web Service SHALL ignore the field.

If RXR-2.3 (code system) is blank, ignore the RXR-2 segment and return a non-fatal error segment.

HL7 0163	Description
LT	Left Thigh
LA	Left Arm
LD	Left Deltoid
LG	Left Gluteus Medius
LVL	Left Vastus Lateralis
LLFA	Left Lower Forearm
RA	Right Arm
RT	Right Thigh
RVL	Right Vastus Lateralis
RG	Right Gluteous Medius
RD	Right Deltoid
RLFA	Right Lower Forearm

Race

PID-10 Race (CE)

This field refers to the patient's race.

The CIR supports all of the governmentally assigned numeric Race code values listed in Table 0005 in the CDC IG.

Additionally, CIR supports two CIR assigned codes for "Two or More Races" and "Prefer Not to Answer." All other values will be ignored and the VXU message processed as if PID-10 was not valued. If PID-10 is not populated, the CIR HL7 Web Service will store value of "Not Indicated" for race and return a non-fatal error.

If reporting a patient of two or more races, report using value of "TOMR." If multiple values for race are sent, the CIR HL7 Web Service will process the first Race in the list of repeating Races; all others will be ignored.

Supported values for race are listed below for convenience

US Race Codes	Description (Please use HL70005 or CDCREC as the coding system)
1002-5	American Indian or Alaska Native
2028-9	Asian
2076-8	Native Hawaiian or Other Pacific Islander
2054-5	Black or African-American
2106-3	White
2131-1	Other Race
<empty field>	CIR will store as "Not Indicated" and return non-fatal error
ASKU	Asked but No Answer
UNK	Unknown / Undetermined
CIR Race Codes*	Description (Please use CIR as the coding system)
*CIR codes are used for values below due to corresponding CDC Race and Ethnicity Codes being not yet available	
TOMR	Two or More Races
PNTA	Prefer Not to Answer
CDC Race Code*	Description (Please use CDCREC as the coding system)
*Support added for CDC race codes listed below	
PHC1175	Refused to Answer

If sending an HL7 or CDC code for Race, use "HL70005" or "CDCREC" for the corresponding code system. If sending a CIR code for race, use "CIR" for the corresponding code system.

Example:

```
|TOMR^Two or More Races^CIR|  
|PNTA^Prefer Not to Answer^CIR|  
|PHC1175^Refused to Answer^CDCREC|
```

The CIR HL7 Web Service does not support NIP alpha race codes.

If both alpha and numeric codes are sent, per the CDC IG, the second triplet of the CE data type for race should be used for the above governmentally assigned numeric codes (####-#) as the first triplet is reserved for use (backward compatibility) of NIP alpha race codes.

Example:

```
|W^White^NIP^2106-3^White^HL70005| - or - |2106-3^White^HL70005|
```

Phone Numbers PID-13

Phone numbers are important for both patient matching and use of CIR tools like reminder/recall. The CIR supports a single current home phone, personal cellular phone number, and personal email address per patient. The CIR accepts all of the following values for reporting patient (PID segment) and next of kin (NK1 segment) phone numbers.

CIR IG reference: pgs. 27 – 30; 37 - 40

See HL7 Example:

```
PID|1||3124^^PATID^MR||Test^ELSA^^^^L^^^^^^|19830102|F||2028-9^Asian^HL70005|177 E Vaccine
ST^NY^NY^12345^USA||PHC1367^123456789~^PRN^CP^1^917^5557890~^NET^Internet^atest@email.com~^EMR^PH^1^21
2^5556155||ENG|S|OTHER|||||N^NOT HISPANIC OR LATINO^HL70189|||||||
```

Ethnic Group

PID-22 Ethnic Group (CE)

This field further defines the patient’s ancestry.

The CIR HL7 Web Service supports the following ethnicity codes:

- N^Not Hispanic or Latino^HL70189
- H^Hispanic or Latino^HL70189
- U^Unknown^HL70189
- 2186-5^Not Hispanic or Latino^CDCREC
- 2135-2^Hispanic or Latino^CDCREC
- PNTA^Prefer Not to Answer^CIR
- PHC1367^Refused^CDCREC

Other values will be disregarded and a non-fatal error reported. The CIR HL7 Web Service will process the first Ethnicity code (i.e., PID-22.1) and will ignore any additional/alternate ethnicity code (PID-22.4).

If PID-22 is left blank, the CIR HL7 Web Service will return a non-fatal error.

Ordering Provider

The Identifier Type Code (ORC-12.13) should be valued with “LN” when sending the provider’s license number and “NPI” when sending the provider’s NPI number; these are the HL7 suggested values from user-defined table 0203 (Identifier Type).

User-defined Table 0203 - Identifier Type

Value	Description	Constraints
LN	License Number	Used in ORC-12
NPI	National Provider Identifier	Used in ORC-12

Vaccine Funding Source

When an OBX is sent to convey the vaccine funding source, OBX-5.1 should contain one of the following codes from the PHVS Immunization Funding Source (IIS) value set. COVID vaccines should be documented as publicly funded for now.

Code	Label	Definition
PHC70	Private	vaccine stock used was privately funded
VXC50	Public	vaccine stock used was publicly funded

If OBX-5.1 contains an invalid code or one not supported by the CIR, a TableValueNotFound non-fatal error will be reported and the observation within the OBX will be ignored.

Priority Group Codes

You may find more information on how NYC is following priority group phases and when each phase is eligible to receive vaccine here: <https://www1.nyc.gov/site/doh/covid/covid-19-vaccine-eligibility.page>

We also accept NYSIS priority group codes.

Priority Group should be reported using two OBX Segments

OBX|1|CE|90064-7^Public health emergency event name^LN|1|COVID19^^CIR|||||F

OBX|2|CE|95715-9^Population group^LN|1|W29-1^Healthcare/Hospital Staff^CIR|||||F

OBX Segment #1: Indicates vaccine associated with public health emergency

OBX-3.1 = '90064-7'

OBX-3.2 = 'Public health emergency event name'

OBX-3.3 = 'LN'

OBX 4 = '1'

OBX 5.1 = 'COVID19'

OBX 5.3 = 'CIR'

OBX Segment #2: Priority group

OBX-3.1 = '95715-9'

OBX-3.3 = 'LN'

OBX 4 = '1'

OBX 5.1 = PRIORITY GROUP CODE - value from Priority Group table below

OBX 5.3 = 'CIR'

Description	CIR Priority group code OBX 5.1
Health Care/Hospital Staff	W29-1
Long-term care facility residents	G1
Long-Term Care Health Care Staff	W29-2
Hospital Care Provider - Emergency Medical Staff	W29-4
Health care provider staff, Other	W29-3
Funeral workers-direct contact -infectious material/bodily fluids	W39-5
Medical examiners and coroners	W39-4
Health Care Provider Ambulatory	W29-5
Childcare workers	W39-1
Teachers and Staff	W25
Food and Agriculture	W45
Public Transit	W53-1
Corrections Workers	W33-1
Grocery Workers	W35-1
Manufacturing Workers	W51-3
U.S. Postal Workers	W43-5
First Responders (fire, police)	W33
Age 75 years and older	G3-2
Eligible age at time of visit per current NYS guidelines	AGE
Experiencing homelessness/living in shelters	G7
Public Health Workers	W31

Shelter and Housing Workers	W21-1
Food Service Workers	W35
Taxi/Car Service	W53-2
Water and Wastewater Workers	W51-2
Energy Workers	W51-1
Communications	W49
Construction	W47-2
IT	W15
Legal Workers	W23
Public Safety Works	W47
News Media	W27-2
Trucking	W53-3
Finance Workers	W13-1
Age 65 to 74 years	G3
Persons aged 16–64 years with high-risk medical conditions	G2
Currently pregnant (Considered a comorbidity) *Using same code as NYSIIS	PREGNANT
Living and working in other congregate settings	G10
Incarcerated/detained in correctional facilities	G6
From racial and ethnic minority groups	G4
With disabilities	G12
Attending colleges/universities	G8
Under- or uninsured	G13
Architecture and Engineering Occupations	W17
Building and Grounds Cleaning and Maintenance Occupations	W37
Clergy	W21-4
e-commerce	W13-2
Entertainment and Media Workers	W27-1
Financial Institution	W41-3
Life, Physical, and Social Science Occupation	W19
Management Occupations	W11-1
Military	W55
Office and Administrative Support Occupations	W43
Personal Care (Salon, gym, nail)	W39-2
Real Estate	W41-2
Recreation	W39-3
Retail	W41-1
Social Services	W21-2
General Public	G99

NYSIIS priority group code set:

Value Code	Short Name	Description
HCPHOSP	HCP Hospital	Health Care Providers Hospital
HCPEMS	HCP EMS	Health care provider - EMS
HCPOTHER	HCP other staff	Health care provider - other facili ...
LTCFHCP	LongtermCare HCP	longterm care staff
LTCFRES	ltcf resident	long term care resident
HCPME	HCP MED Examiner	HCP- Medical Examiners, Coroners, morticians, etc
RESCONG	resident congregant setting	resident in congregant setting other than residents of LTCF
PUBSAFE	frontline public safety	frontline workers in public safety - fire fighters, police, corrections
HCPAMB	HCP Ambulatory	HCP Ambulatory staff
75+	75 years or older	persons 75 years or older who are not residents of LTCF
65-74	65 to 74 years old	65 to 74 years old who are not residents of LTCF
U65HEALTH	under 65 health	under 65 years with underlying health conditions at high risk of hospitalization
FRONTLINE	frontline staff	frontline workers in food/agriculture, USPS, manufacturing, grocery, public transit, educational (teacher, support staff, daycare)
OTHESSENTIAL	Other essential	Other essential staff - transportation and logistics, food service, housing construction, finance, IT, communications, energy, law, public safety and public health
PREGNANT	Pregnant	Persons who are currently pregnant
AGE	Eligible Age	Eligible age at time of visit per current NYS guidelines
3HEALTH	3rd dose -health reason	3rd dose administered due to existing health condition (immunocompromised)

Sample HL7 VXU Messages for all data elements

Moderna Example

```
MSH|^~\&|Test EHR Application|CIR FAC CODE|NYC DOHMH|NYC DOHMH|20201116082240-0500||VXU^V04^VXU_V04|10|P|2.5.1|||ER|AL|||Z22^CDCPHINVS
PID|1||D26376273^^^CIR FAC CODE^MR||Test^Snow^Adult^^^L||19380801|F||1002-5^American Indian or Alaska Native^CDCREC|320
11^Av^^Brooklyn^NY^11220^USA^L||^PRN^PH^^^657^5558563~^PRN^CP^^^646^4085993|||2186-5^non Hispanic or
Latino^CDCREC
PD1|||||^^N|20201115||A|20201115|20201115
ORC|RE||153235^^|1211506315^Smith^John^NPI
RXA|0|1|20201115|20201115|207^COVID-19, mRNA, LNP-S, PF, 100 mcg/ 0.5 mL dose^CVX^80777-273-99^ COVID-19, mRNA, LNP-S, PF, 100
```


mcg/0.5 mL dose^NDC|0.5|mL^MilliLiter^UCUM||00^New immunization record^NIP001|7832-1^Lemon^Mike^A^AA^PRN|^CIR FAC CODE|||Z0860BB|20221115|MOD^Moderna^MVX||CP|A
RXR|C28161^Intramuscular^NCIT|LA^Left Arm^HL70163
OBX|1|CE|30963-3^VACCINE FUNDING SOURCE^LN|1|VXC50^Publicly funded vaccine stock^CDCPHINVS|||F||20180315|
OBX|2|CE|64994-7^Vaccine funding program eligibility category^LN|2|V01^Not VFC Eligible^HL70064|||F||20200725||VXC40^Eligibility captured AT the immunization LEVEL^CDCPHINVS
OBX|3|CE|90064-7^Public health emergency event name^LN|1|COVID19^CIR|||F
OBX|4|CE|95715-9^Population group^LN|1|W29-1^Healthcare/Hospital Staff^CIR|||F

Pfizer Example

MSH|^&|Test EHR Application|^CIR FAC CODE|NYC DOHMH|NYC DOHMH|20201116082240-0500|VXU^V04^VXU_V04|10|P|2.5.1||ER|AL|||Z22^CDCPHINVS
PID|1|D26376273^CIR FAC CODE^MR||Test^Snow^Adult^L|19380801|F|1002-5^American Indian or Alaska Native^CDCREC|320 11th Av^Brooklyn^NY^11220^USA^L|^PRN^PH^657^5558563^PRN^CP^646^4085993|||2186-5^non Hispanic or Latino^CDCREC
PD1|||||^N|20201115||A|20201115|20201115
ORC|RE||153235^|||1211506315^Smith^John^NPI
RXA|0|1|20201115|20201115|208^COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose^CVX^59267-1000-3^COVID-19, mRNA, LNP-S, PF, 30 mcg/0.3 mL dose^NDC|0.5|mL^MilliLiter^UCUM||00^New immunization record^NIP001|7832-1^Lemon^Mike^A^AA^PRN|^CIR FAC CODE|||Z0860BB|20221115|PFR^Pfizer^MVX||CP|A
RXR|C28161^Intramuscular^NCIT|LA^Left Arm^HL70163
OBX|1|CE|30963-3^VACCINE FUNDING SOURCE^LN|1|VXC50^Publicly funded vaccine stock^CDCPHINVS|||F||20180315|
OBX|2|CE|64994-7^Vaccine funding program eligibility category^LN|2|V01^Not VFC Eligible^HL70064|||F||20200725||VXC40^Eligibility captured AT the immunization LEVEL^CDCPHINVS
OBX|3|CE|90064-7^Public health emergency event name^LN|1|COVID19^CIR|||F
OBX|4|CE|95715-9^Population group^LN|1|W29-1^Healthcare/Hospital Staff^CIR|||F

Janssen Example

MSH|^&|Test EHR Application|^CIR FAC CODE|NYC DOHMH|NYC DOHMH|20201116082240-0500|VXU^V04^VXU_V04|10|P|2.5.1||ER|AL|||Z22^CDCPHINVS
PID|1|D26376273^CIR FAC CODE^MR||Test^Snow^Adult^L|19380801|F|1002-5^American Indian or Alaska Native^CDCREC|320 11th Av^Brooklyn^NY^11220^USA^L|^PRN^PH^657^5558563^PRN^CP^646^4085993|||2186-5^non Hispanic or Latino^CDCREC
PD1|||||^N|20201115||A|20201115|20201115
ORC|RE||153235^|||1211506315^Smith^John^NPI
RXA|0|1|20201115|20201115|212^COVID-19 vaccine, vector-nr, rS-Ad26, PF, 0.5 mL^CVX^59676-580-15^COVID-19 vaccine, vector-nr, rS-Ad26, PF, 0.5 mL^NDC|0.5|mL^MilliLiter^UCUM||00^New immunization record^NIP001|7832-1^Lemon^Mike^A^AA^PRN|^CIR FAC CODE|||Z0860BB|20221115|JSN^Janssen^MVX||CP|A
RXR|C28161^Intramuscular^NCIT|LA^Left Arm^HL70163
OBX|1|CE|30963-3^VACCINE FUNDING SOURCE^LN|1|VXC50^Publicly funded vaccine stock^CDCPHINVS|||F||20180315|
OBX|2|CE|64994-7^Vaccine funding program eligibility category^LN|2|V01^Not VFC Eligible^HL70064|||F||20200725||VXC40^Eligibility captured AT the immunization LEVEL^CDCPHINVS
OBX|3|CE|90064-7^Public health emergency event name^LN|1|COVID19^CIR|||F
OBX|4|CE|95715-9^Population group^LN|1|W29-1^Healthcare/Hospital Staff^CIR|||F