North American Experiences in Vaccine Coding

Shannon Coleman Director of Immunization Programs STChealth



Overview of Vaccine Code Sets



Vaccine Codes

CVX (Vaccines Administered)

The CVX code is a numeric string, which identifies the type of vaccine product used

MVX (Manufacturers of Vaccines)

These codes are an alphabetic string that identifies the manufacturer of a vaccine

NDC (National Drug Code)

Product specific codes used in broader healthcare settings

CPT (Current Procedural Terminology)

CPT codes are developed and maintained by the American Medical Association (AMA) and are intended to support billing for services.

CDC maintained code set mappings

NDC mapped to CVX/MVX

The product names provided by the CDC are based on the manufacturers' trade names. These names may differ from the original trade names because they need to represent a distinct product. It is common for several vaccines to share the same trade name across both pediatric and adult formulations.

CPT mapped to CVX

CPT codes associated with vaccines, toxoids, and immune globulins are mapped to their relevant CVX codes.

CVX mapped to Vaccine Groups

Various individual vaccines that can protect against a specific disease are categorized into a Vaccine Group.

CVX mapped to VIS (Vaccine Information Statements)

This table serves as a reference; however, the choice of which VIS to provide for a vaccine is ultimately made by the immunization provider.



NDC Lookup

<u>Sale</u> <u>NDC11</u>	<u>Sale Proprietary</u> <u>Name</u>	Sale Labeler	Start Date	End Date	Sale GTIN	<u>Sale</u> <u>Last</u> <u>Update</u>	<u>Use</u> <u>NDC11</u>	<u>No</u> <u>Use</u> <u>NDC</u>	<u>Use</u> <u>GTIN</u>	<u>Use</u> <u>Last</u> <u>Update</u>	<u>CVX</u> <u>Code</u>	<u>CVX</u> <u>Description</u>
00005- 0100- 02	Trumenba	Wyeth Pharmaceutical Division of Wyeth Holdings LLC	11/5/2014		00300050100027	11/22/2019	00005- 0100- 01	False	00300050100010	2/1/2023	162	meningococcal B, recombinant
00005- 0100- 05	Trumenba	Wyeth Pharmaceutical Division of Wyeth Holdings LLC	11/5/2014		00300050100058	11/22/2019	00005- 0100- 01	False	00300050100010	2/1/2023	162	meningococcal B, recombinant
00005- 0100- 10	Trumenba	Wyeth Pharmaceutical Division of Wyeth Holdings LLC	11/5/2014		00300050100102	11/22/2019	00005- 0100- 01	False	00300050100010	2/1/2023	162	meningococcal B, recombinant
00005- 1970- 50	Prevnar	Wyeth Pharmaceutical Division of Wyeth Holdings Corporation, a subsidiary of	3/1/2000	12/31/2011		5/30/2018	00005- 1970- 49	False		5/30/2018	100	pneumococcal conjugate PCV 7

Product to CVX/MVX

Product <u>Last</u> <u>MVX</u> <u>MVX</u> **Updated** name CDC Product Name Short Description CVX Code **Manufacturer** Code Date • status <u>status</u> VIMKUNYA Chikungunya, VLP, 329 Bavarian Nordic A/S ΒN 3/18/2025 Active Active recombinant, 0.8 mL. PF PENMENVY Meningococcal 328 GlaxoSmithKline SKB Active Active 3/18/2025 oligosaccharide (MenACWY), (MenB), PF PREHEVBRIO Hepatitis B Vaccine HepB recombinant, 3-220 VBI Vaccines, Inc VBI 12/10/2024 Inactive Inactive (Recombinant) antigen, Al(OH)3 ZOSTAVAX 121 Merck and Co., Inc. MSD Active 12/6/2024 zoster live Inactive DT(GENERIC) DT (pediatric) 28 Sanofi Pasteur PMC 12/6/2024 Active Inactive RABAVERT Rabies - IM fibroblast 176 ΒN 7/25/2024 Bavarian Nordic A/S Active Active culture RABAVERT SKB Rabies - IM fibroblast 176 GlaxoSmithKline 7/25/2024 Active Inactive

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CVX mapped to Vaccine Groups

Short Description	CVX Code	<u>Vaccine status</u>	<u>Vaccine Group</u> <u>Name</u>	CVX for Vaccine Group
DTP	01	Inactive	DTAP	107
OPV	02	Inactive	POLIO	89
MMR	03	Active	MMR	03
M/R	04	Inactive	MMR	03
measles	05	Inactive	MMR	03
rubella	06	Inactive	MMR	03
mumps	07	Inactive	MMR	03
Hep B, adolescent or pediatric	08	Active	НерВ	45
Td (adult), 2 Lf tetanus toxoid, preservative free, adsorbed	09	Active	Td	139
IPV	10	Active	POLIO	89
pneumococcal conjugate PCV 7	100	Inactive	PneumoPCV	152
typhoid, ViCPs	101	Active	TYPHOID	91

Benefits & Limitations

CDC Managed

This is the source of truth for code sets and used universally

Increases interoperability

The code sets are used universally

Timely

Once new information is released to the CDC, this is communicated across the community and published quickly

Manual process

The entire lifecycle of a vaccine code can be compilcated, but the ending result is a manualy updated file. This causes each user of the file to create their own intake process which is not standard.

Can have inconsistancies

The vaccine groups published by the CDC does not align with the HL7 vaccine groups

Gaps

Does not include international vaccines



Code set Governance

PIPELINE FOR A NEW VACCINE CODE



VACCINE CODES TOUCH MANY SYSTEMS

The full complexity of this process is simplified here. Each step requires coordinated, accurate, and timely updates of vaccine codes by multiple systems and industries.

CODE UPDATES AND ORDERS

- Once codes are updated within IIS, EHRs, and HIEs, vaccine is available to be ordered via public and private markets
- Publicly funded vaccine is ordered by providers through IIS
- Private vaccine is ordered through manufacturers and distributors and sent to clinics and health systems*
 - * Private vaccine does not touch all the same systems as publicly funded vaccine but follows a similar path with similar considerations for

APPROVALS

- Immunization program approves order and inventory
- Order is submitted to CDC/VTrckS via ExIS
- CDC/VTrckS approves vaccine order
- CDC passes order to McKesson

DISTRIBUTION

McKesson fills order, sends vaccine to provider and shipment data to CDC; CDC makes shipment data downloadable to IIS via VTrckS

- IIS loads shipment data as "pending" into electronic provider inventory
- Provider receives physical vaccine, "accepts" shipment data into electronic provider inventory via IIS
- A subset of doses that are wasted/expired are returned to McKesson, doses are uploaded via

DOSES GIVEN AND REPORTED

- Doses are administered in provider clinic, entered into the EHR, ⁺ reported to the IIS via HL7 with dose-level eligibility, or entered separately into an IIS via a web-based user interface
- Doses are decremented from public inventory within the IIS, provider accountability responsibilities are met⁺
- IIS/immunization programs report to CDC on appropriate use of public vaccine



Immunization Information Systems





STChealth specific code set implementation

Three different solutions within our products

- Manual
- Hybrid
- Service

Interoperability & the IZ Gateway Project

Case Study: Implementation in Qatar

Issues with Coding Consistency

Different Vaccine Code requirements

Qatar does not use NDC codes, so the dependencies within the IIS product had to be changed

Qatar administers vaccines that are not licensed in the US, which required manual changes to existing information or the need to insert of this information in the IIS

Different Manufacturer

Manufacturers needed to be added to the existing US vaccine manufacturers

Different Vaccine Schedules

Custom vaccine schedules needed to be added in addition to the US schedules already included in the IIS

Manual updates

Every time there are new vaccines released, these need to be manual changes which require an IIS upgrade

Moving forward

The future

Automation

- 1. Code Set service will be used in all products moving forward
- 2. Ideally, a working CDC API for code sets that are currently established
- 3. Guidance /Dictionary provided with the code sets for implementation
- 4. Eliminate the manual updates needed for our Qatar implementation maybe this is NUVA

Data sharing

- 1. Interoperability at both the National & International level
- 2. Ability to confidently understand global vaccines and their validity

Maximizing Coverage Rates

1. Interoperability not reliant on the IZ Gateway and US only code sets

