



Introduction and Background

This document has been developed as a discussion tool, providing a historical background to the development of the concepts, examples, and current definitions for **vaccine type**, **vaccine product type**, and **vaccine**.

With the development of the *[MIROW Vaccination Level Deduplication in Immunization Information Systems Guide](#)*¹, there was need to define **vaccine** and attributes associated with **vaccine**. The definition of **vaccine** at that time had been all-inclusive, and a vaccine entity included attributes, comprising **CVX code (vaccine type)**, **lot number**, and all other vaccine-related attributes. As development of guides progressed, new requirements were introduced. In the *[MIROW Immunization Information System Collaboration with Vaccines for Children Program and Grantee Immunization Programs Guide](#)*², **vaccine** was partitioned into **vaccine** and **vaccine type**. The **vaccine type** was needed to identify patient eligibility for publicly funded vaccines. Patients are eligible for some **vaccine types** and may not be eligible for other **vaccine types**.

The *[MIROW Immunization Information System Inventory Management Operations Guide](#)*³ defined **vaccine product type**, which was used in two additional MIROW guides. Providers order vaccine based on the national drug code (**NDC**) (the key identifying attribute of **vaccine product type**) and receive shipments that contain **vaccines** with specific **lot numbers** and **lot number expiration dates**. The ordering process contains information about the **vaccine product type**, and the receiving process includes information about the **vaccines**. **Vaccine presentation type** is a concept that describes the vaccine dosage and packaging (e.g., syringes, vials). This information is reflected in the **NDC** and has been captured as a term alias for **vaccine product type**. Note that, when a **vaccination event** is reported, it's possible not all information (i.e., all attributes for **vaccine type**, **vaccine product type**, and **vaccine**) is known. For example, the **CVX code** may be known, but the specific **lot number** may not. In addition, as of November 2018, CDC is recommending discontinuing use of the Current Procedural Terminology (CPT) code.

¹ <https://repository.immregistries.org/resource/vaccination-level-deduplication-in-immunization-information-systems-1/>

² <https://repository.immregistries.org/resource/immunization-information-system-collaboration-with-vaccines-for-children-program-and-grantee-immuniz-1/>

³ <https://repository.immregistries.org/resource/immunization-information-system-inventory-management-operations/>

Relationships between vaccine, vaccine product type, and vaccine type are depicted on Figures 1 and 2 below.

Domain Diagrams

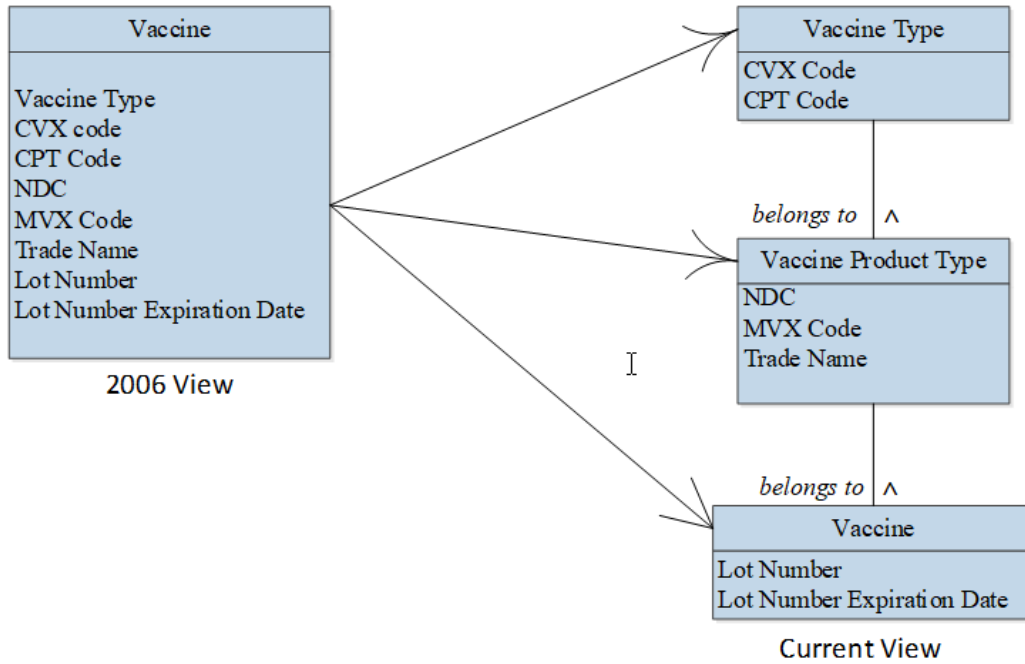


Figure 1: Comparison of domain diagrams from 2006 and the current MIROW common vocabulary

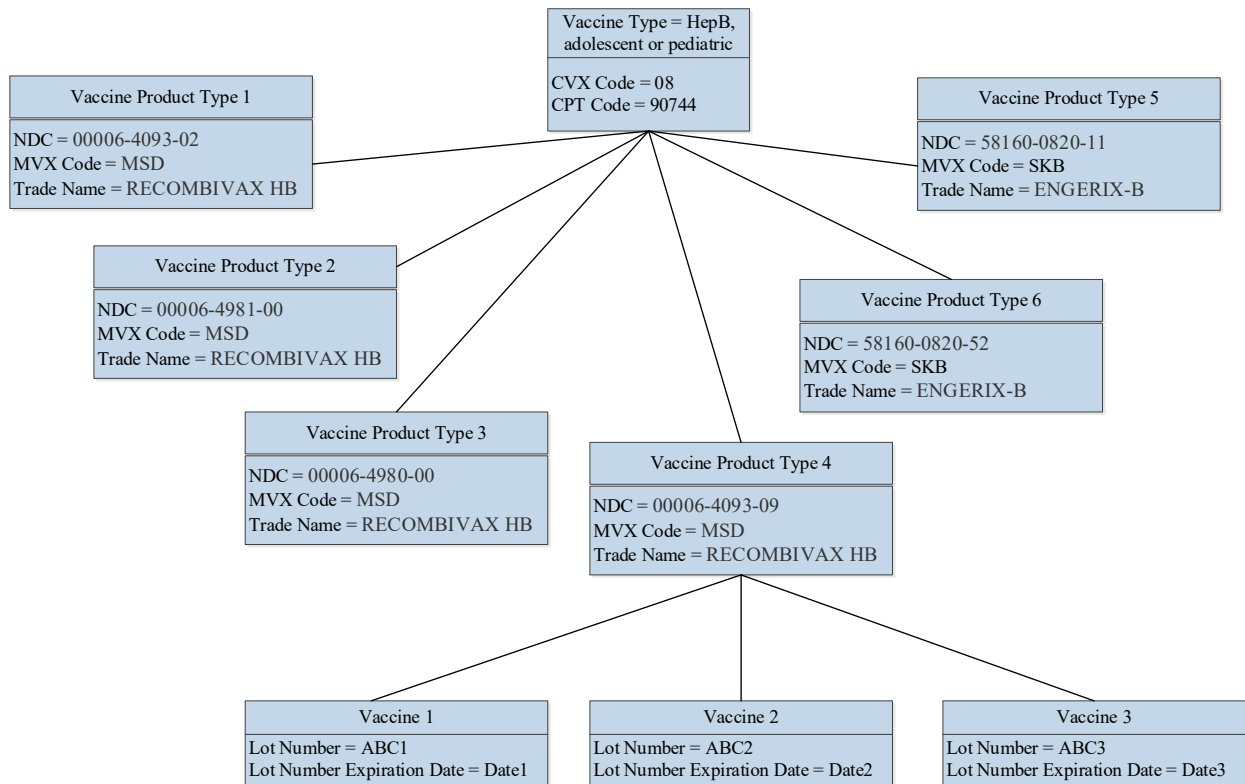


Figure 2: Example of vaccine types, vaccine product types, and vaccines
 Sources: <https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=ndc>;
<https://www2a.cdc.gov/vaccines/iis/iisstandards/vaccines.asp?rpt=cpt>

Definitions

These three definitions were developed by the MIROW Common Vocabulary Workgroup.

Vaccine	
Definition	a dose of substance administered during a vaccination event.
Comment	Vaccine is a classification of a vaccine product type that is described by a lot number. The lot number is not a unique identifier, rather it identifies a group of vaccines.
Example	Combination Example: Vaccine Type = HepB CVX Code = 8 Vaccine Product Type: - NDC = 58160-0820-11 - Manufacturer/MVX code = SKB - Trade Name = ENGERIX B-PEDS Vaccine:

	<ul style="list-style-type: none"> - Lot Number = ABCD - Lot Number Expiration Date = MM/DD/YYYY
Term Alias	Vaccine Dose
CDC-Endorsed Data Element Crosswalk	None
MIROW Guides	<ul style="list-style-type: none"> • Decrementing Inventory via Electronic Data Exchange • Management of Patient Active/Inactive Status in Immunization Information Systems • Data Quality Assurance in Immunization Information Systems: Selected Aspects • Immunization Information System Inventory Management Operations • Immunization Information System Collaboration with Vaccines for Children Program and Grantee Immunization Programs • Reminder/Recall in Immunization Information Systems • Data Quality Assurance in Immunization Information Systems: Incoming Data • Vaccination Level Deduplication in Immunization Information Systems

Vaccine Product Type

Definition	a classification that describes the manufacturer, and presentation of a vaccine type
Comment	The vaccine product type includes attributes NDC, etc. In addition, the vaccine product type is related to vaccine type which is a broader grouping, and also to the vaccine that is a specific value.
Example	<p>Examples of vaccine product types that belong to the same vaccine type of HepB, CVX Code = 8, but have different NDC codes:</p> <p>Vaccine Product Type 1</p> <ul style="list-style-type: none"> - NDC = 58160-0820-11 - Manufacturer/MVX code = SKB - Trade Name = ENGERIX B-PEDS <p>Vaccine Product Type 2</p> <ul style="list-style-type: none"> - NDC = 00006-4981-00

	<ul style="list-style-type: none"> - Manufacturer/MVX code = MSD - Trade Name = RECOMBIVAX-PEDS
Term Alias	Vaccine Presentation Type
CDC-Endorsed Data Element Crosswalk	No matching term to vaccine type is defined. There are some related terms—for example: Vaccine Product: The vaccine type that may be administered, historical or refused, and is messaged using the NDC or CVX code sets.
MIROW Guides	<ul style="list-style-type: none"> • Decrementing Inventory via Electronic Data Exchange • Data Quality Assurance in Immunization Information Systems: Selected Aspects • Immunization Information System Inventory Management Operations

Vaccine Type

Definition	a classification of vaccines that describes the disease to which it provides immunity
Comment	The vaccine type includes attributes CVX code, etc. In addition, the Vaccine Type is related to one or more vaccine product type(s), which is more specific, indicating manufacturer, and also the vaccine that is a specific dose.
Example	MMR, Hib-HepB, HepB-Peds
Term Alias	None
CDC-Endorsed Data Element Crosswalk	No matching term to Vaccine Type is defined. There are some related terms—for example, Vaccine Product: The vaccine type that may be administered, historical or refused, and is messaged using the NDC or CVX code sets.
MIROW Guides	<ul style="list-style-type: none"> • Decrementing Inventory via Electronic Data Exchange • Management of Patient Active/Inactive Status in Immunization Information Systems • Data Quality Assurance in Immunization Information Systems: Selected Aspects • Data Quality Assurance in Immunization Information Systems: Incoming Data • Vaccination Level Deduplication in Immunization Information Systems

