

SYADEM

UNIFIED NOMENCLATURE OF VACCINES (NUVA)

A global standard for the interoperability of vaccination data

OVERVIEW

The Unified Vaccine Nomenclature (**NUVA**) is an international, multilingual, and structured terminology designed to represent all vaccines—whether commercial, historical, generic, or country-specific. It enables reliable interpretation of vaccination histories, facilitates vaccine equivalence management, and ensures semantic interoperability between health information systems. **NUVA** is also available as a community extension to SNOMED CT.

At the heart of **NUVA** lies the valence model, a powerful concept allowing the standardised, brand-agnostic representation of immune protection. A valence is the smallest functional immunological unit of a vaccine, tied to a specific infectious agent or subgroup (e.g., serotype or strain).



PURPOSE AND VALUE

- Deliver a universal vaccine terminology across time and regions
- Enable unambiguous decoding of vaccine labels (paper or digital)
- Ensure semantic alignment between national and international systems
- Support clinical decision-making, surveillance, and traceability
- Serve as a reference standard for governments, providers, researchers, and industry

CORE COMPONENTS OF NUVA

CATALOGUE

- Commercial and generic vaccine names
- Multilingual entries covering active, inactive, country-specific or historical vaccines

STRUCTURING

- Decomposition of vaccines into valences
- Linkage to diseases, valences and international/national codifications
- Extended NUVA according to AMM dates, commercialisations and laboratories

PIVOT TERMINOLOGY

- Intermediary layer for mapping across national coding systems (CIS/CIP, CVX...) and international (ATC, SNOMED CT...)
- Enables seamless integration into electronic health records (EHRs), digital vaccine records (**DVRs**), immunisation registries, and **VADES** engines

THE CONCEPT OF VALENCE IN NUVA

A valence represents the immunological core of a vaccine, which is necessary and sufficient to assess protection against a specific pathogen or subspecies, determine the need for a future dose, identify equivalent or substitutable vaccines, and calculate dose rank when combination vaccines are used.

USE CASES

- Harmonisation of vaccination records across borders or systems
- Interoperability with Immunisation Information Systems (**IIS**)
- Automatic enrichment of Digital Vaccination Records (**DVRs**)
- Valence-driven interpretation in Vaccine Decision Support Systems (**VADES**)
- Dashboards, coverage calculations, and logistical auditing
- Search of vaccines by valency or target disease

GOVERNANCE AND EVOLUTION

Managed by the International Vaccine Codes Initiative (**IVCI**)

Regular updates validated by scientific and technical committees

Open contribution framework for national authorities, expert societies, and industry partners

