Immunization Calculation Engine (ICE)

The Immunization Calculation Engine (ICE) is a state-of-the-art open-source immunization forecasting software system which has two major components. The **ICE Web Service** evaluates a patient’s immunization history and generates the appropriate immunization recommendations for the patient. The **Clinical Decision Support Administration Tool** (abbreviated as the “CDS Admin Tool” or as “CAT”) is a web-based GUI tool that enables subject matter experts to test ICE rules and configuration without the intervention of software developers.

**Any organization may freely adopt ICE** due to its open source license and complete lack of dependence on any commercial software. Through its standards-based Web Service interface, ICE easily integrates with third party clinical information systems such as electronic health record systems (EHR-S), Immunization Information Systems (IIS), and Health Information Exchanges (HIEs) - regardless of their software architecture (.NET, Java, or other). Because of ICE’s Java-based implementation, it can be deployed in diverse technical environments.

**ICE comes pre-configured** with the childhood, adolescent, and adult schedules for fourteen vaccine groups, and the implemented rules are based on the recommendations of the Advisory Committee on Immunization Practices (ACIP). However, any organization may configure ICE to suit its own needs and can adapt ICE as new vaccines come to market and as the recommendations of the ACIP change.

ICE’s Web Service architecture scales to support simultaneous real-time processing of many patients submitted by one or more systems. It can also service requests for multiple immunization schedules. For example, a single ICE deployment could enforce one immunization schedule utilized by multiple EHR-S, another immunization schedule used by an IIS, and a third immunization schedule utilized by a school health system.

An executable binary distribution of the ICE Web Service is immediately available for production use, as is a cloud-based instance of ICE that organizations may freely connect to for evaluation and testing.
The ICE software system is being developed and configured by a collaborative partnership of public health and information technology experts from the New York City Department of Health and Mental Hygiene, Citywide Immunization Registry (CIR); HLN Consulting, LLC; the Alabama Department of Public Health (ADPH); and the OpenCDS collaboration which is led by researchers at the University of Utah, Department of Biomedical Informatics. The developers of ICE are seeking additional organizations that are interested in evaluating and utilizing ICE.

For more information about ICE, go to [www.hln.com/ice](http://www.hln.com/ice) or contact ice@hln.com.