

AIRA Discovery Session: Vaccine Credentials

Noam H. Arzt, PhD, FHIMSS, FAMIA

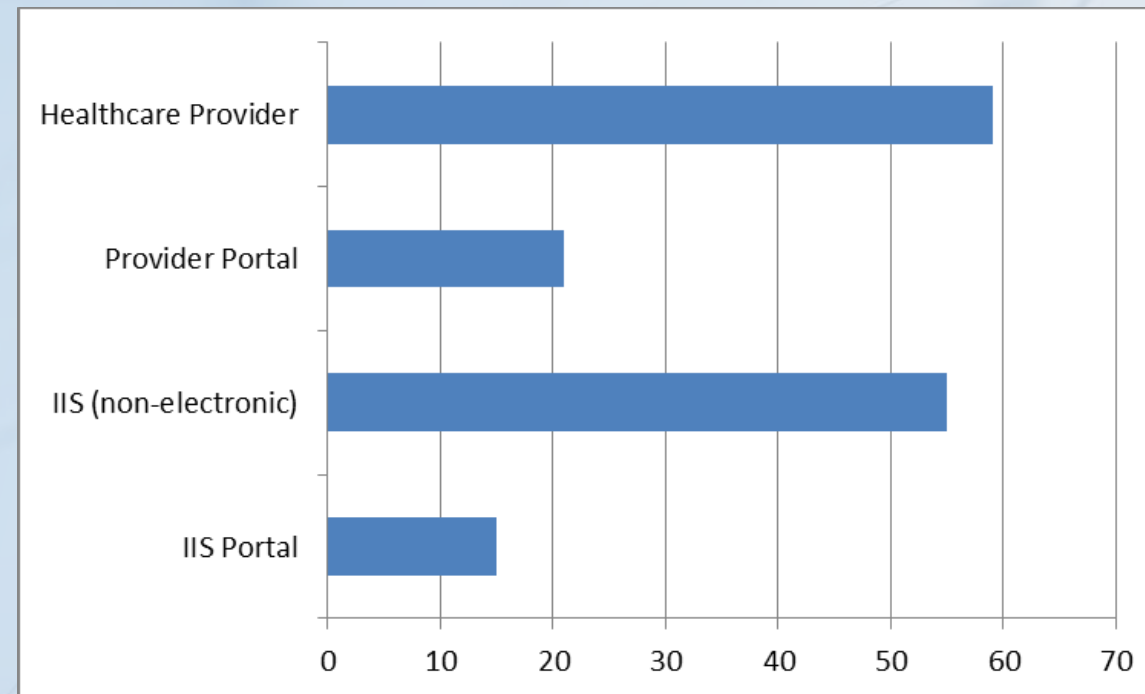
September 27, 2021

Background: The Need

- Falls into a broader topic of consumer access to vaccination data
- There are several valid scenarios where validated proof of up-to-date vaccination status for COVID-19 and other vaccine-preventable diseases would be useful
 - Travel
 - Work/school attendance
 - Large venue events
- These scenarios may or may not persist as time goes on, but the likelihood of the need for COVID-19 annual boosters only increases the potential need for ongoing record keeping and proof of vaccination for some time into the future.
- Global shift to digital vaccine credentials at least for COVID, maybe other vaccines (and tests) in the future
- New executive orders introduce “B2B” requirements
- Endless onslaught of press and editorials
- *Significant* consumer protection issues in play around data and location tracking

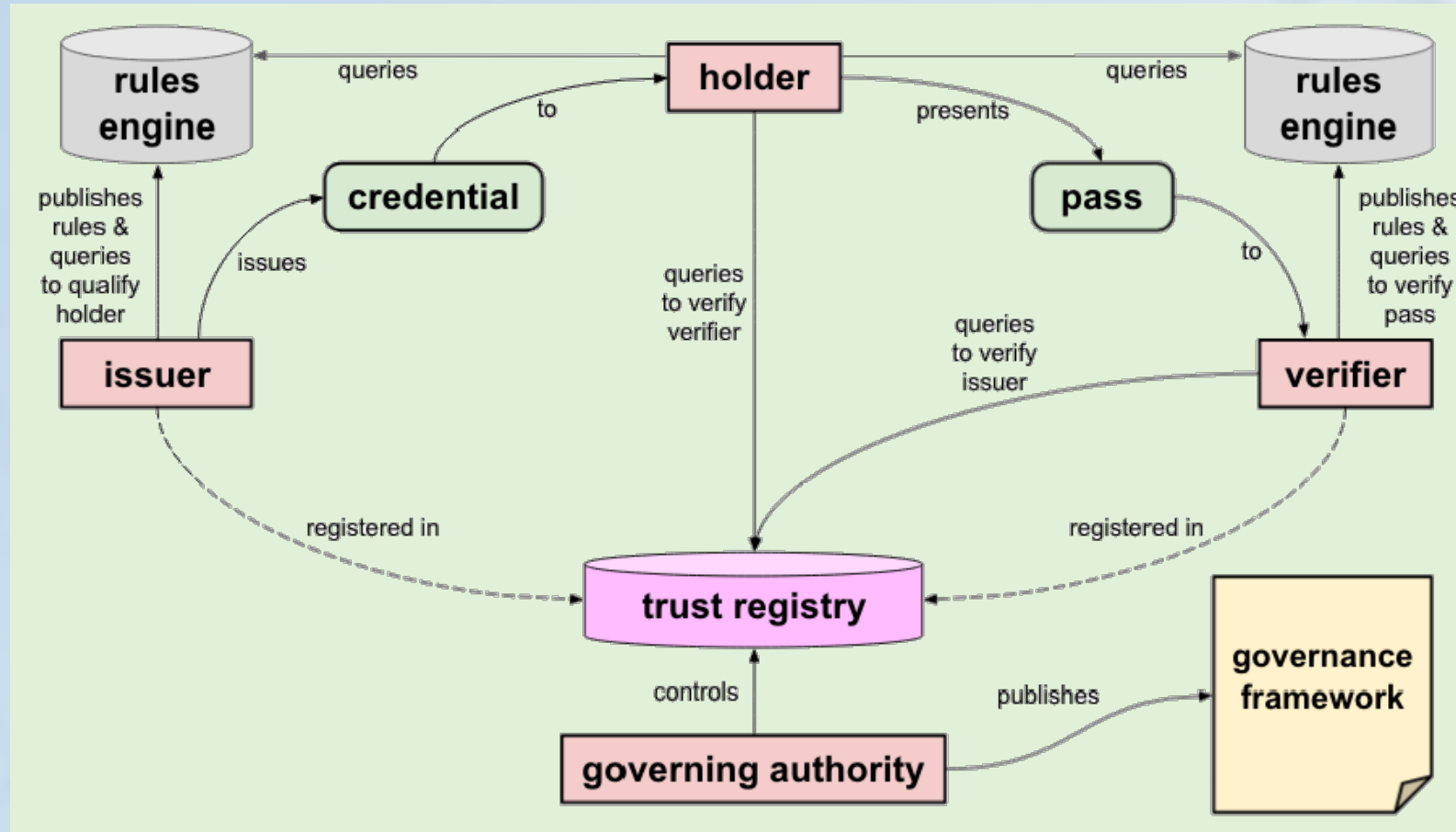
2019 IISAR Data: Patient Access

Ability for individual or guardian to obtain an official immunization record (# of IIS out of 59):



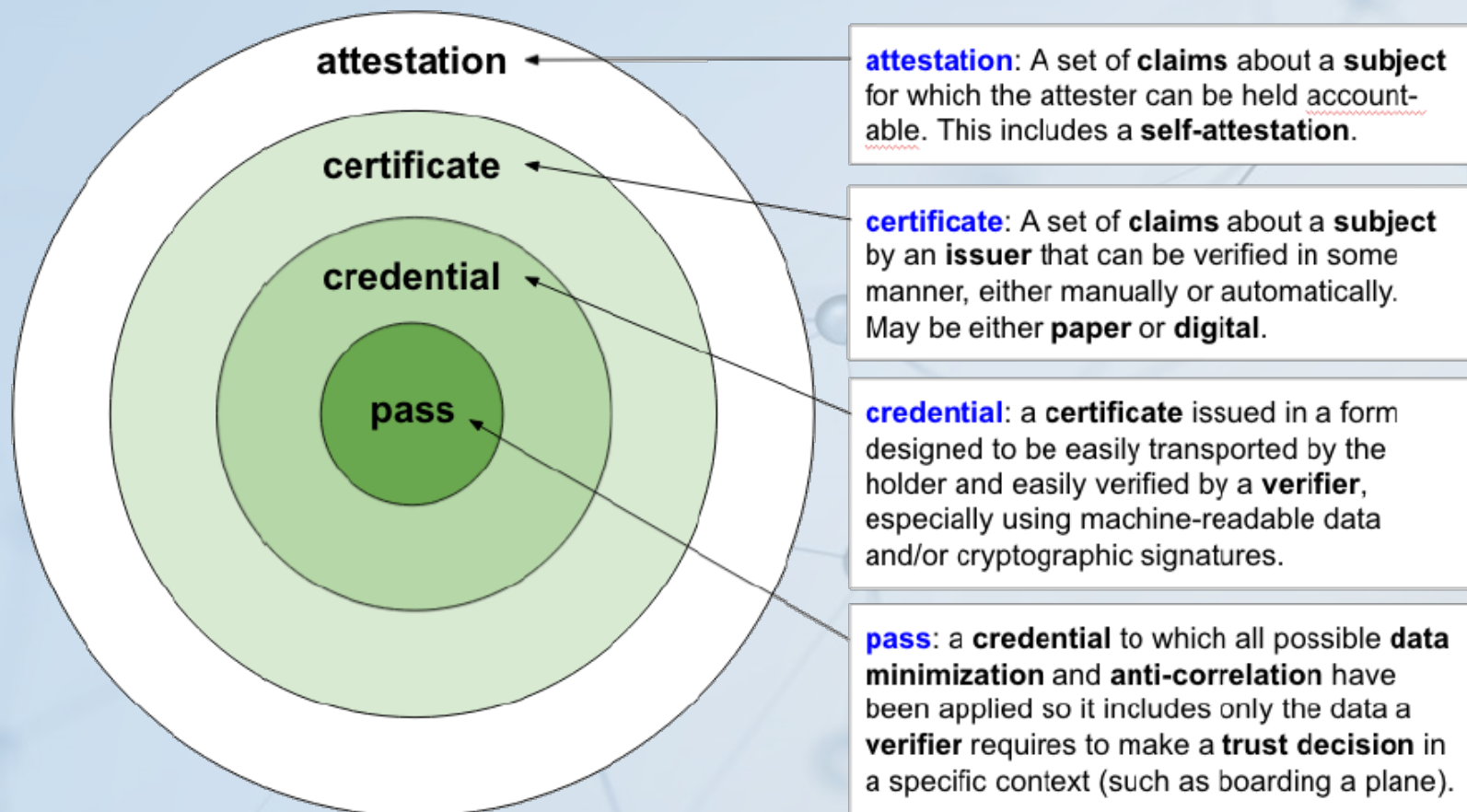
<https://www.cdc.gov/vaccines/programs/iis/downloads/2019-IISAR-Webfile-508.xlsx>

The Good Health Pass Ecosystem



Courtesy of [Good Health Pass Collaborative](#)

Core Terminology



Courtesy of [Good Health Pass Collaborative](#)

Multiple Initiatives

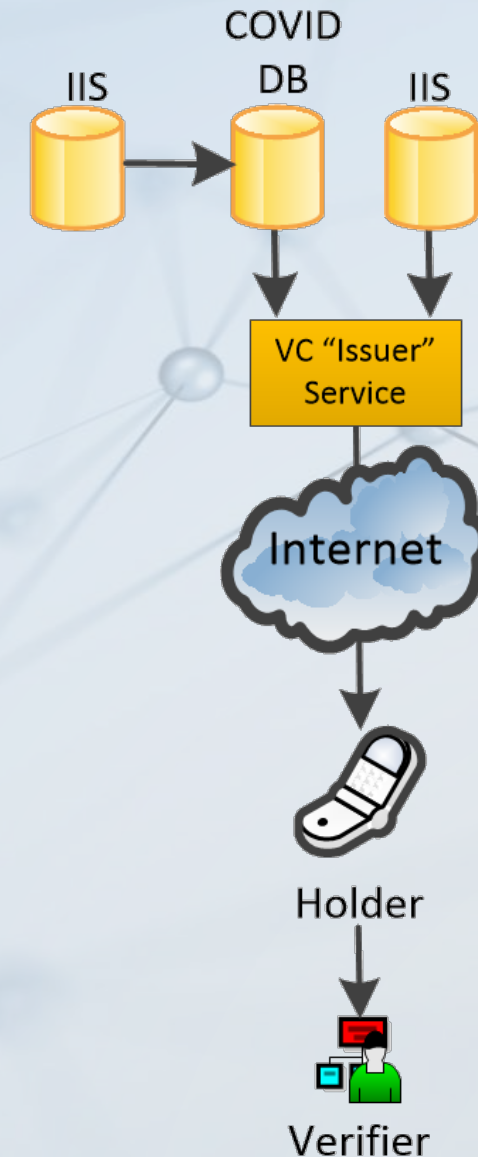
- **Vaccine Credential Initiative** ([VCI](#)): Focus on development of standards and reference implementation of SMART Health Cards for vaccination and COVID testing
- **COVID Credentials Initiative** ([CCI](#)): Affiliated with Linux Foundation Public Health ([LFPH](#)); strives to develop open source solutions for vaccine credentialing
- **WHO Smart Vaccination Certificate Working Group** ([WHO](#)): Software neutral group that is going to focus on common specifications for this functionality (see WHO [Guidance Document](#) and [European Union strategy](#))
- **Good Health Pass Collaborative** ([GHP](#)): Focus on re-enabling international travel, but scope seems to be broader (see [Blueprint document](#))
- **[PathCheck](#) Paper Credential**: Focus on representing digital credential on paper media

Technical Standards & Implementation

- The technical standards for vaccine credentials seem to be coalescing around HL7 Fast Healthcare Interoperability Resources (FHIR) and SMART Health Cards
- The US does not have the trust framework in place to manage the Public Key Infrastructure (PKI) necessary for digitally-verifiable credentials at a national level.
- There is a distinct underappreciation for issues related to determining if vaccinations are valid versus whether they simply were administered.
- There are many, many applications being developed for both consumer credential “holder” wallets, generation of a health pass based on some set of “rules,” and for verifiers who want to view verifiable credentials.
- Some state and local governments have prohibited requiring proof of vaccination.

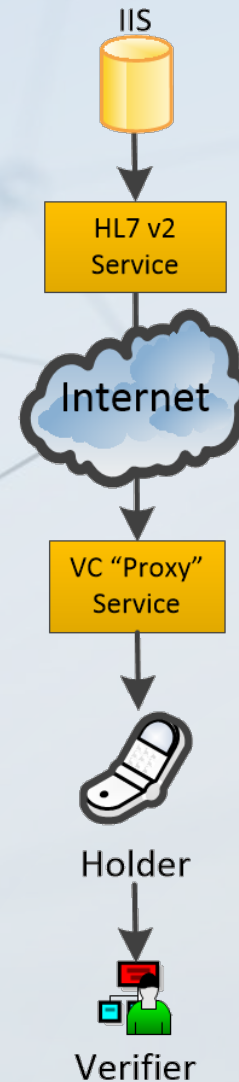
Simplest Strategy

- IIS should provide access to standards-based vaccine credentials through a FHIR-based API and SMART Health Cards.
- IIS would function as a vaccine credential issuer and provide digitally-verifiable source of vaccine information to consumer apps.
 - *Variation: Data sent from IIS to a "COVID DB"*
- For people who may have vaccination records in more than one IIS, record consolidation should be achieved either via IIS-to-IIS communication or via app access to multiple IIS.
- IIS should continue to provide traditional, complete vaccination records which contain both vaccine history and vaccine forecast for a patient.



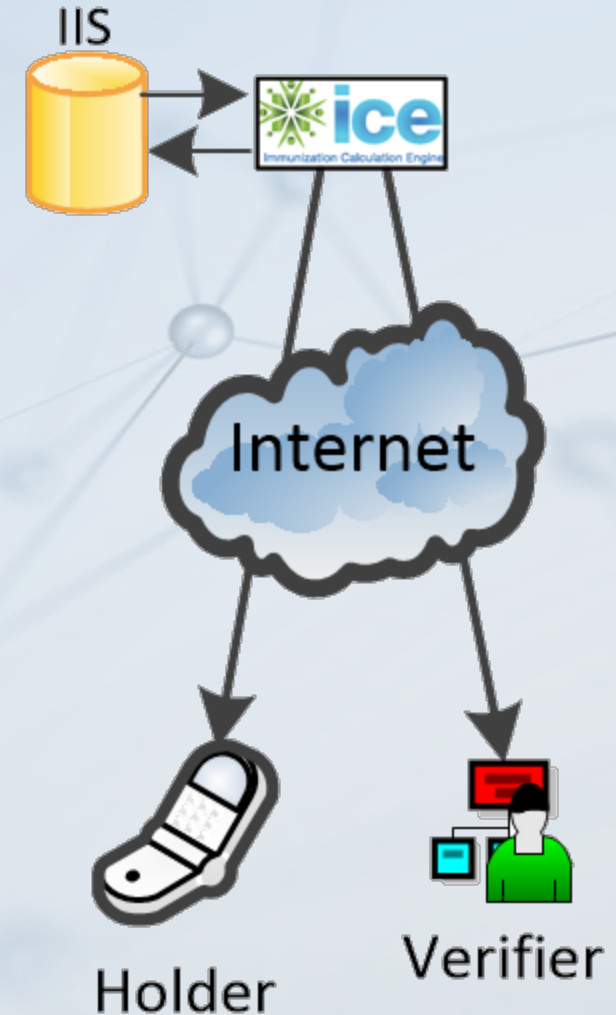
Fallback Strategy

- IIS partner with a single vaccine app provider to function as a “proxy” issuer of vaccine credentials for COVID-19 on its behalf. This app would query IIS via current HL7 v2 standards and in turn provide standards-based vaccine credentials through a FHIR-based API.
- The app would serve as the authorized, digitally-verifiable source of vaccination information in that jurisdiction.
- IIS should authorize the proxy issuer to provide vaccine credentials to other authorized consumer apps that meet jurisdiction-defined policies for identifying patient records in the IIS.
- IIS could provide their own consumer app.



Supplemental Strategy

- IIS should offer a new service by offering their immunization evaluation and forecasting rules systems to consumer apps via API to ensure that health passes are based on valid vaccinations and not just a count of doses administered.
- One example of such a service is the open source [Immunization Calculation Engine](#) (ICE).



Emerging National Strategy?

- Credentials seem to be coalescing around SMART Health Cards
- IIS seem to be partnering up with specific vendors for query or “proxy” provision of vaccine credentials
- Vendors seem very interested in querying “all IIS” but many IIS are not prepared to do so or remain exclusive - many IIS do not feel compelled to allow “competing” vendors to also connect and query
- IIS do not generally allow queries for employee verification
- IIS to IIS interoperability will complete jurisdictional records, but still not help people who live in one but work/go to school in another
- New class of “verifier” applications developing to help support vaccine mandates
- Burden falling to the consumer/employee/student to “collect” their digital credentials and present them when necessary (including to other apps)
- Credentials are not the same as passes

Additional Reading

- [A Complicated Path Forward in the US \(Part 1\) – Potential Sources of Data](#) (A discussion of the basic philosophy of the vaccine credentialing movement, including where data for use in a digital vaccine credential might come from in the US, IIS will likely be a major source of this data.)
- [A Complicated Path Forward in the US \(Part 2\) – Major Initiatives Underway](#) (A review of the major vaccine credentialing initiatives that are currently underway worldwide, including VCI, CCI, the EU and WHO.)
- [A Complicated Path Forward in the US \(Part 3\) – Recommendations](#) (Initial recommendations for how public health agencies in the US – federal, state, and local – should approach vaccine credentialing. Additional federal leadership would certainly be useful.)
- [WHO Interim Guidance](#) (Comments on the Interim Guidance released by WHO for member countries in March 2021. Their recommendations are particularly *unsuited* for the US)

Additional Reading

- [It's All About the Rules!](#) (For vaccine credentialing to be effective the issue boils down to the rules that are going to be developed and adopted to make the SVC's usable. Many of these rules currently don't exist so we will start by analyzing some key factors.)
- [Vaccine Credential Activities: Redirecting the Conversation for Public Health Registries](#) (In this article we issue more specific advice for public health agencies about vaccine credentialing to reduce confusion about what vaccine credentialing is and how it functions.)
- [Vaccine Credentials Do Not Replace Full Vaccination Histories](#) (In this article we address the similarities and differences between vaccine credentials and traditional immunization histories and offer some opportunities for public health to maintain its role in data access.)
- [Towards a National COVID-19 Vaccine Credential Strategy in the US](#) (In this article we lay out a model for vaccine credentials in the US)
- [Implementing Vaccine Credentials Across State Lines](#) (In this article we discuss the realities in the US about multi-state data access)

Thank you!

Noam H. Arzt
President
HLN Consulting, LLC
arzt@hln.com
858-538-2220
@NoamArzt