

90/10 Projects at New York City Department of Health and Mental Hygiene

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Background on 90/10

The Health Information Technology for Economic and Clinical Health (HITECH) Act provides “90/10” funding, of which the public health scope has been increasingly clarified through State Medicaid Director’s (SMD) letters.

2009 HITECH was signed into law as part of The American Recovery and Reinvestment Act (ARRA)

- Designed to promote adoption of health information technology (HIT) – particularly, “meaningful use” of electronic health records (EHRs) – and health information exchange (HIE)
- Meaningful Use (MU) stages 1-3 progressively added more public health measures

2010 State Medicaid Director’s (SMD) letter 10-016 provides guidance to increase public health capabilities and readiness for Meaningful Use (MU)

- *States may potentially receive 90 percent FFP for the following program administration activities... System and resource costs associated with State interfaces of a Health Information Exchange (HIE)—(e.g., laboratories, immunization registries, public health databases...*
- *...CMS encourages State Medicaid agencies to collaborate on HIT initiatives with... public health departments, county governments, and local governments.*

2016 SMD Letter #16-003 more explicitly provides guidance related to public health capabilities

- *...States may also claim 90 percent HITECH match for the costs of on-boarding Medicaid public health providers to interoperable systems and HIEs connected to Eligible Providers so that Eligible Providers are able to meet Meaningful Use measures focused on public health reporting and the exchange of public health data, including activities such as validation and testing for reporting of*

public health measures described in 42 CFR 495.22 and 495.24.

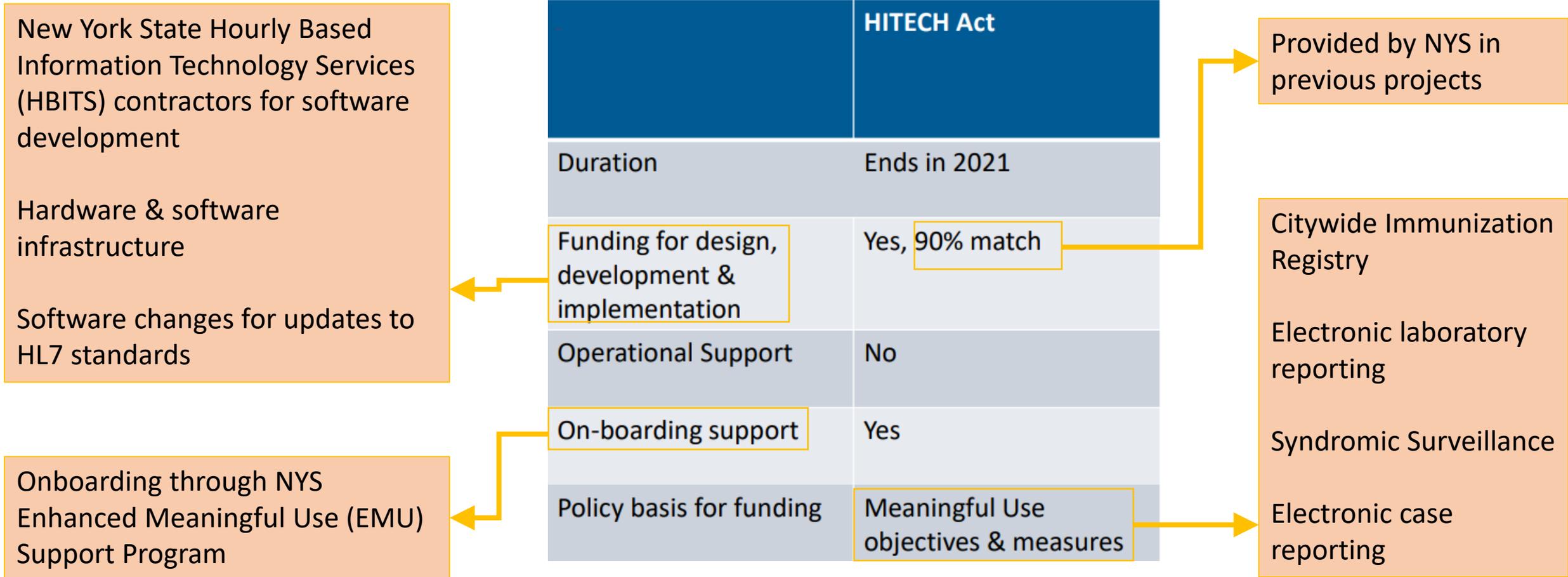
Background

- New York City (NYC) Department of Health and Mental Hygiene (DOHMH)
 - NYC has 8.5 million residents in 5 boroughs
 - DOHMH has 6,000 employees and annual budget of \$1.6 billion
 - DOHMH is organized into Divisions containing various Bureaus
 - Mission: Measure, reduce, and prevent disease and death
- Division of Disease Control
 - Disease Surveillance Units in Bureaus of Immunization, Communicable Disease, Sexually Transmitted Infections, Tuberculosis Control, and HIV/AIDS Prevention and Control
 - Syndromic Surveillance Unit in Bureau of Communicable Disease
 - Citywide Immunization Registry (CIR) in Bureau of Immunization

Public Health 90/10 project life cycle using ARRA/HITECH

- Project request document template
 - Drafted by Public Health
 - Reviewed by NYS DOH and NYS Medicaid
 - Projects must help providers meet MU/Interoperability project requirements
- NYS proposes eligible projects to CMS, in Implementation Advanced Planning Document (IAPD)
- Centers for Medicare and Medicaid Services (CMS) reviews projects and provides federal funds
- NYS provides non-federal match and implements CMS approved projects

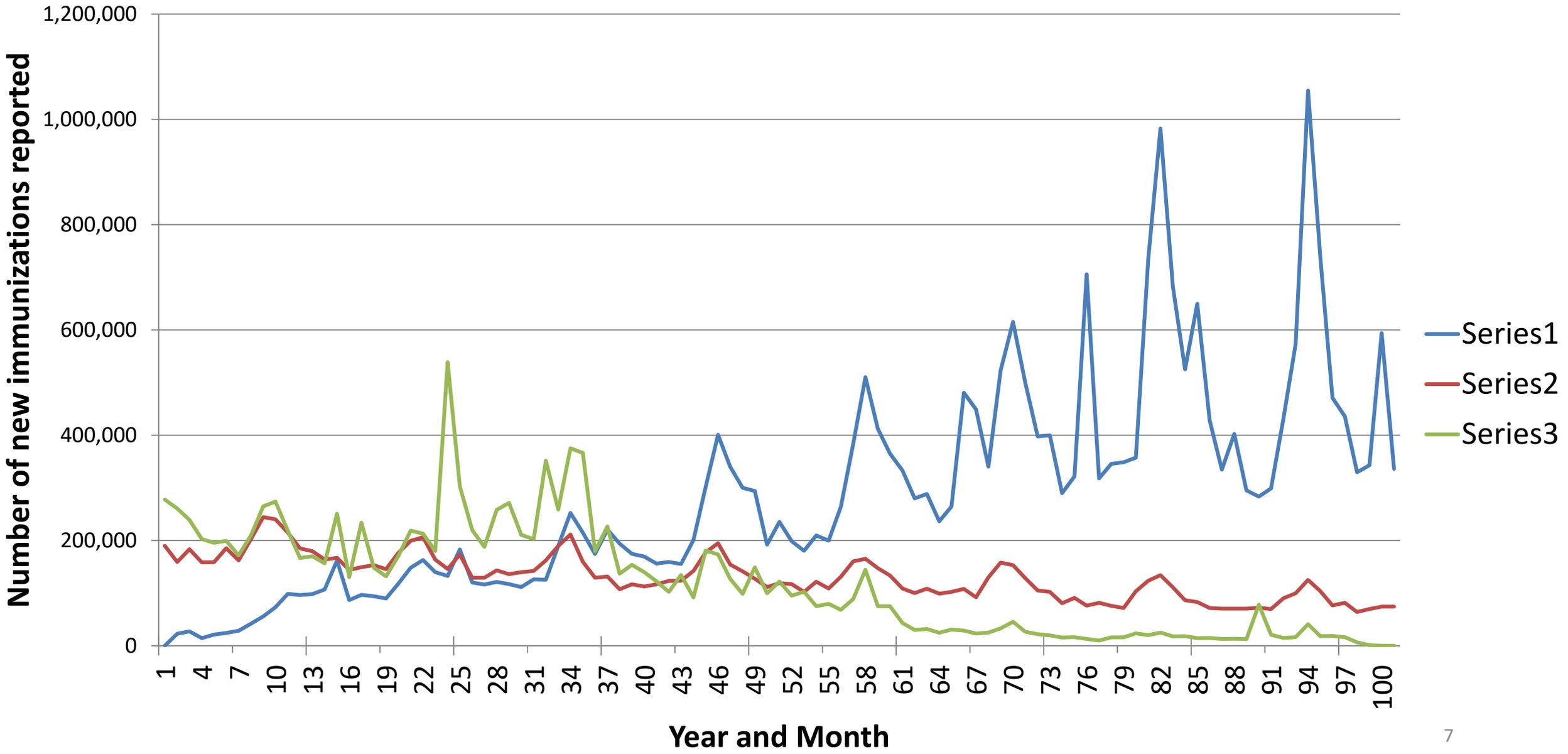
ARRA/HITECH 90/10 projects



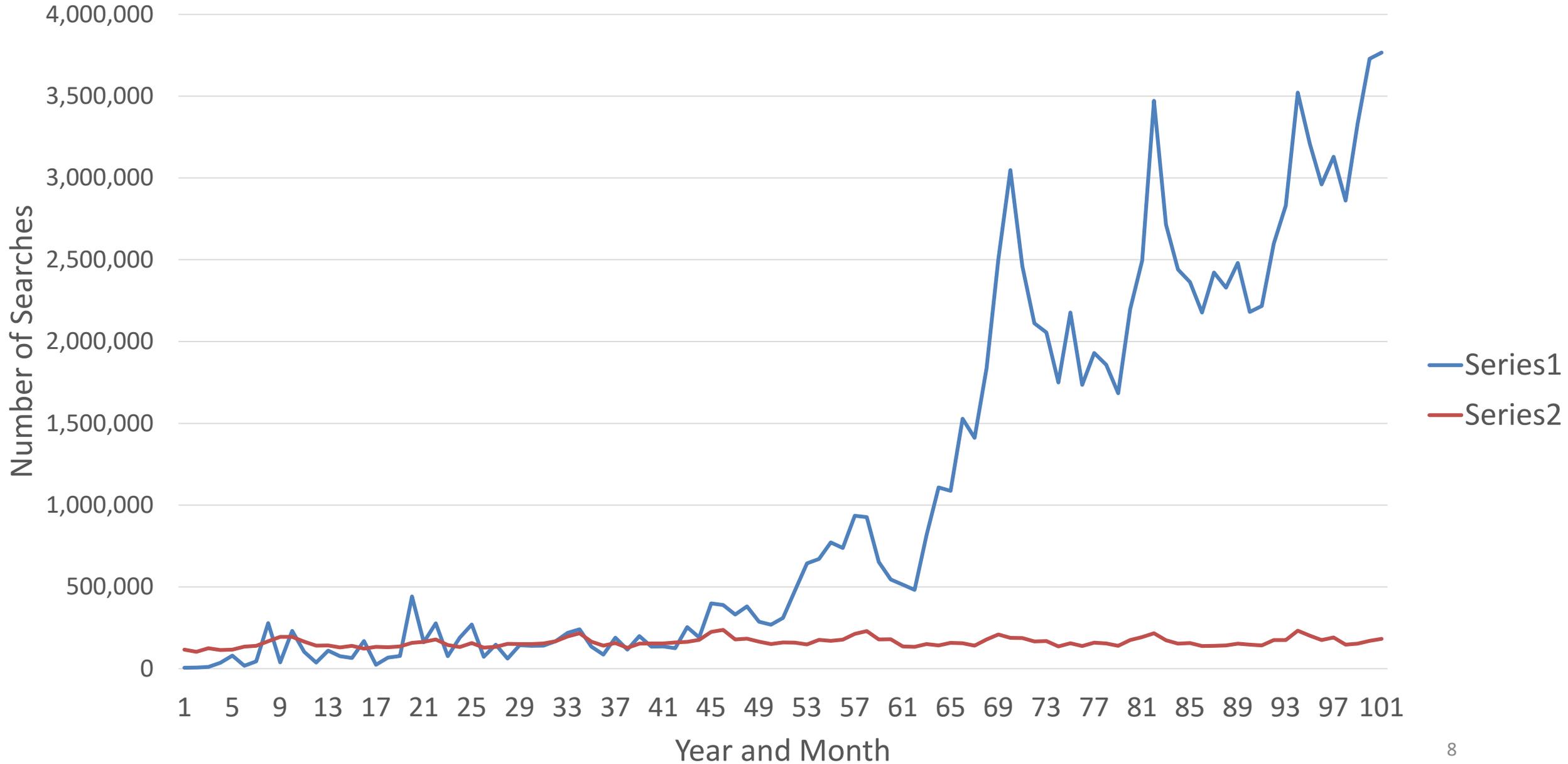
Citywide Immunization Registry (CIR)

- Implemented citywide in 1997
- Mandatory reporting of immunizations for *children* 0-18 years; reporting for adults >19 years requires consent
- 7.9 million patient records; 104 million immunizations
- 67 different EHRs at ~2,600 active provider sites in 2018
- Exchanges immunization records with the New York State Immunization Information System (NYSIIS)

Immunizations reported to CIR, monthly, by reporting method January 2011 to May 2019



Patient immunization record searches in CIR, monthly, by real-time search method January 2011 to May 2019



MDLand iClinic: download to empty immunization record

The screenshot shows the iClinic web interface for a patient named 'BABYGIRL, ONEYEAROLD M' (DOB: 02/13/2015, 1y Female). The user is logged in as 'MDLand Demo Account' (Medicine, Internal, MD). The interface includes a navigation sidebar on the left with icons for Dashboard, Waiting Room, Register, Patient Home, Schedule, Inbox/Outbox, Lab Order, Health Registry, Followup, Billing, Account, Inventory, Reports, Settings, and Message. The top header shows 'Waiting Room', 'Test, Test', and 'BABYGIRL, ONEYEAR' tabs. The main content area is titled 'Vaccine' and includes buttons for 'New Vaccine', 'Past Vaccine', 'Vaccine Inventory', 'Record Up/Download', and 'Delete Selected'. A table lists vaccine groups, and a context menu is open over the table, showing options like 'Upload Selected Vaccines', 'Download All Vaccines', 'View Up/Download History', 'Vaccine File', 'FLSHOTS File', 'ImmTrac File', 'NYSIIS File', and 'CIR File Form'.

Vaccine Group	1	3	4
DTaP/DT/Td/Tdap			
H1N1 Influenza			
Hep A			
Hep B			
Hib			
HPV			
Influenza			
Meningococcal			
MMR/Measles/Rubella			

MDLand iClinic: immunizations and clinical decision support downloaded from CIR


Medicine, Internal, MD **MDLand Demo Account** [Sign Out](#)

Waiting Room Test, Test BABYGIRL, ONEYEAR

Patient Home
BABYGIRL, ONEYEAROLD M (02/13/2015 1y Female) **Attending:** Medicine, Internal **Referral:**

[Save](#) [Refresh](#) [Follow Up Action](#) [Return](#) [Change Specialty \(Internal Medicine\)](#)

[Patient Home](#) [Visit History](#) [Medical History](#) [Payment/Account](#) [Msg/Activity](#)

Vaccine Last CIR Download: 2016-02-29(Today)

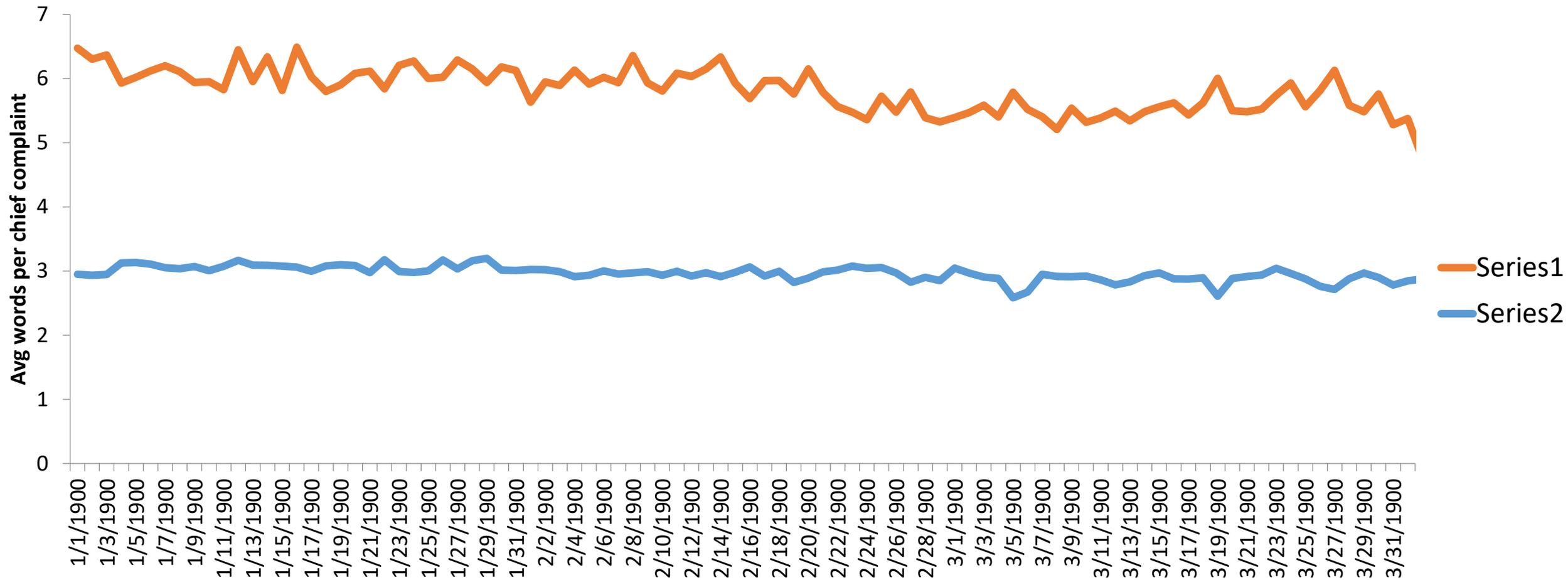
[New Vaccine](#) [Past Vaccine](#) [Vaccine Inventory](#) [Record Up/Download](#) [Delete Selected](#) Select All Vaccin

Vaccine Group	1	2	3	Next Due
DTaP/DT/Td/Tdap	04/10/2015 DTaP-Hib-IP... (120)	06/15/2015 DTaP-Hib-IP... (120)	09/15/2015 DTaP-Hib-IP... (120)	05/14/2016 DTaP (20)
H1N1 Influenza No longer recommended				
Hep A				02/13/2016 Hep A, ped/... (83)
Hep B				02/13/2015 Hep B, adol... (08)
Hib	04/10/2015 DTaP-Hib-IP... (120)	06/15/2015 DTaP-Hib-IP... (120)	09/15/2015 DTaP-Hib-IP... (120)	05/14/2016 Hib (PRP-T) (48)
HPV				02/13/2026 HPV, unspec... (137)
Influenza	12/05/2015 Influenza, ... (161)			01/02/2016 influenza, ... (88)
Meningococcal				02/13/2026 meningococc... (114)
MMR/Measles/Rubella	02/01/2016 MMR (03) 			02/29/2016 MMR (03)

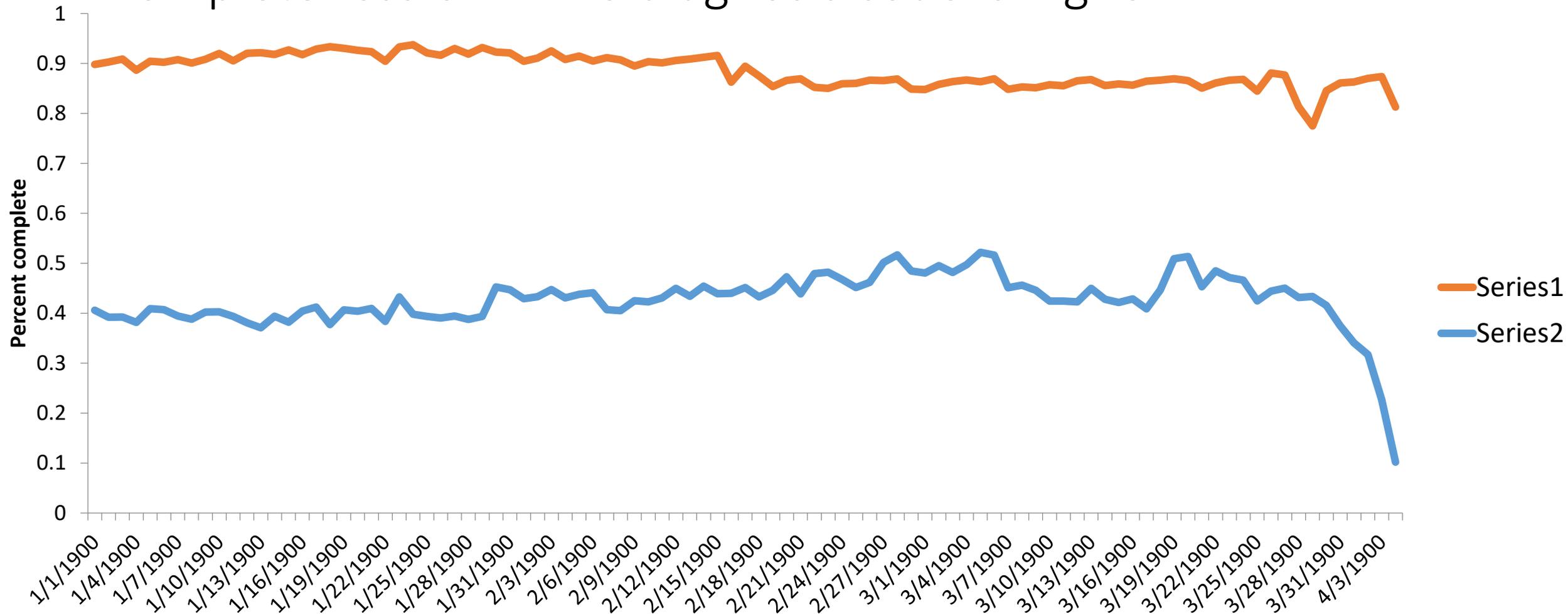
Syndromic surveillance

System	Data analyzed	Utility
1. Emergency department	Chief complaint Diagnosis code (ICD-10)	Outbreak detection Situation awareness Expected trends Emerging trends
2. 911 calls	Call type	Outbreak detection
3. Pharmacy sales	Drug name	GI illness Influenza surveillance
4. School nurse visits	Reason for visit	Outbreak detection Expected trends

Chief complaint is richer in HL7



Completeness of ICD10 diagnosis code is higher in HL7



Added value of HL7 interface for promoting interoperability

- The data are now received in close to real time
- Information is more complete and has more measures:

Patient date of birth	Temperature
O ₂ saturation (Pulse Ox)	Nurse triage notes
Race	Birth country
Insurance	Blood pressure
Smoking status	

Electronic Lab Reporting (ELR)

- Initiated in 2002
- All clinical labs serving residents of NYC required to submit results electronically by July 1, 2006
- NYC DOHMH works with NYS DOH to receive and perform message quality assurance
- Migrated to HL7 2.5.1 in August, 2016
- Laboratory Coordinators and Informatics Analyst work with hospital labs to meet meaningful use measures

ELR results

- 30 laboratories have converted to MU compliant HL7 2.5.1 feeds
- Converted internal processes to receive HL7 2.5.1 from NYS allowing the receipt of additional data elements
- HL7 2.5.1 supports better linking of susceptibilities to parent results - important for antibiotic resistant organisms

Gaps in ELR that may be filled by Electronic Case Reporting (eCR) from EHRs

ELR doesn't provide:

- History of Present Illness
- Reason for Visit
- Date of Onset
- Diagnoses
- Symptoms
- Medications administered
- Immunization status
- Death date
- Hospital unit
- Visit date/time
- Admission date/time
- Discharge date
- Preferred language
- Occupation

ELR has incomplete information on:

- Race
- Ethnicity
- Pregnancy

Electronic case reporting (eCR) background

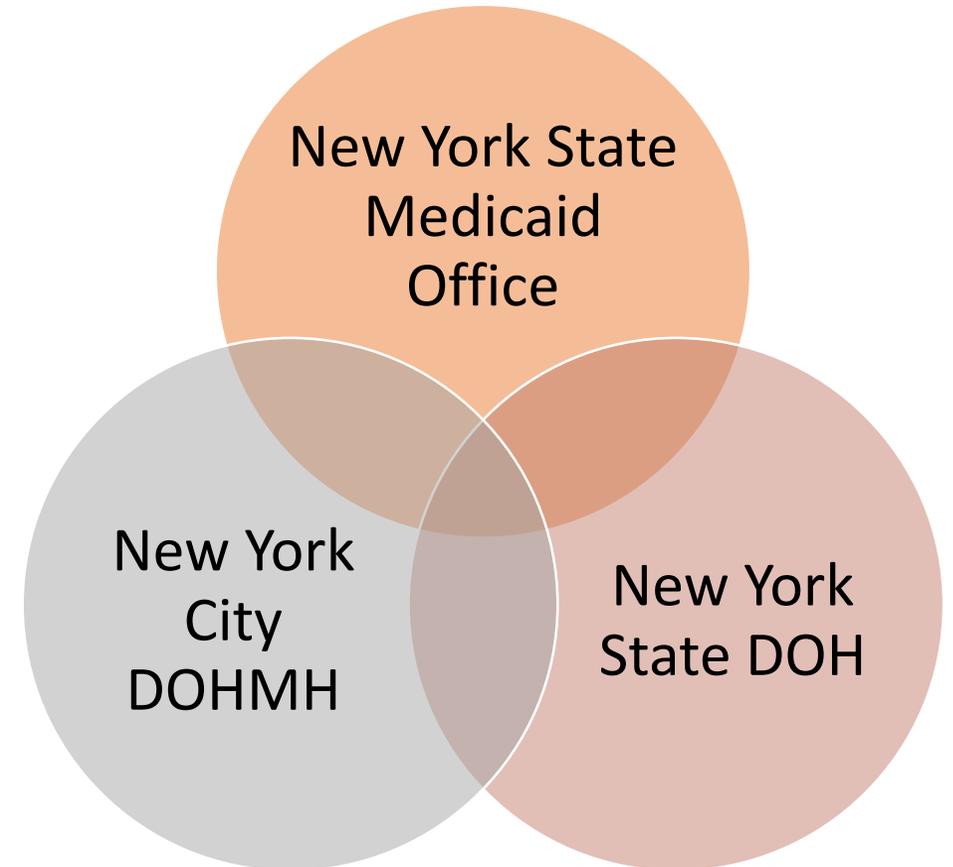
- Case reports from Electronic Health Records (EHRs) to public health agencies for disease surveillance and case work
 - Mostly automated, but can also be initiated manually
- Received \$100k grant from Public Health Informatics Institute (PHII)
 - Funded one contracted software developer for ~1 year
 - Shared design documents, database, and source code between NYC DOHMH and NYS DOH
 - Set up a private source code repository for collaboration
- Work in progress; finishing initial production implementation

Digital Bridge project

- Vision: “To ensure the health of our nation through a bi-directional information exchange between health care and public health”
- Current Project: A multi-jurisdictional approach to electronic case reporting (eCR)
- Why Digital Bridge?
 - Interoperable, scalable, and multi-jurisdictional
 - Leverages existing technology standards
 - Lays the foundation for bidirectional exchange of information

Digital Bridge – NYC & NYS Collaboration

- Each Digital Bridge site must include 3 partners
 - Department of public health
 - EHR vendor
 - Healthcare provider site
- NYC DOHMH and NYS DOH jointly applied to be a Digital Bridge implementation site
- Public Health worked with NYS Medicaid office to incorporate projects into the IAPD to CMS



eCR project status and plans for 2019-2021

- Finish implementing Electronic Case Reporting with Institute for Family Health, EPIC, and other eCR partners
- Analyze Electronic Case Reporting data quality
- Onboard additional EHRs and healthcare facilities
- Deliver Electronic Case Reporting data to disease registries
- Digital Bridge has incubated the eCR use case and is now transitioning the operations of eCR to Centers for Disease Control (CDC), the Association of Public Health Laboratories (APHL), and the Council of State and Territorial Epidemiologists (CSTE), who will lead national scale-up and eCR implementation

Challenges to public health access to 90/10 funds

- Make the right contacts and build partnerships
- Multiple competing priorities at all agencies
- Planning, coordination, and paperwork between agencies
- Time, effort, and attention to detail
- Communication and flexibility between partners
- Progress is iterative and incremental
- Public health projects that are promoting interoperability need sustainable source of funds

Post-HITECH funding for public health

In November 2018, ONC presented on Medicaid HIE/Interoperability Funding Sources, highlighting Medicaid Information Technical Architecture (MITA) System Funding, which will continue after HITECH funds expire.

	HITECH Act	MITA System Funding (Medicaid Information Technical Architecture)
Duration	Ends in 2021	Ongoing
Funding for design, development & implementation	Yes, 90% match	Yes, 90% match
Operational Support	No	Yes, 75% match
On-boarding support	Yes	No
Policy basis for funding	Meaningful Use objectives & measures	Business processes

Post-HITECH funding for public health

Must be a component of the State MMIS

- An MMIS is “an integrated group of procedures and computer processing operations (subsystems) at the general design level to meet principal objectives.” – Medicaid.gov¹
- *As described in a July 2000 letter to State Medicaid Directors, the enhanced matched rates are available to immunization registries that are components of the State MMIS to the extent that the registry services Medicaid beneficiaries and meets specifications set forth in the letter.* – **State Medicaid Director’s (SMD) #10-016**²

Must support a MITA “business process”

- *...a state may also consider developing or enhancing PDMPs in support of the ‘Manage Registry’ business process in MITA, which allows states to support specialized registries that receive an individual’s health outcome information, prepare updates for a specific registry (like the PDMP), and supply information in response to inquiries.* – **SMD Letter #16-003**³
- *CMS emphasizes the importance of dynamic provider directories with, as appropriate, bidirectional communications to public health agencies and public health registries.* – **SMD Letter #16-003**³

CIR supports Medicaid Managed Care Organizations (MMCO)

- In 2018, 9 MMCOs exchanged immunization information with CIR
- 648,897 MMCO patient records were searched
- 591,454 (91.15%) were found and all immunizations were returned
- Data is used for Health Effectiveness Data Information Set (HEDIS) and NYS Quality Assurance Reporting Requirements (QARR)
- Also perform patient reminder/recall when vaccines are due

More Health Information Exchange: Potential future projects that promote interoperability with NYC DOHMH

- Integrate EHR patient, disease surveillance, and health information from public health clinics
- Build one FHIR interface for all data exchange with Disease Control programs
 - Support data exchange with payers and ACOs
 - Enable queries from external partners to disease surveillance systems
 - Disease surveillance system integrated queries to provider EHR vendor hubs or HIEs in support of public health surveillance case work
 - Provide clinical decision support to data exchange partners
 - Support consumer engagement through patient portals

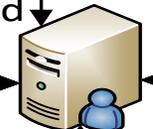
Vision for potential future project to build a Master Person Index (MPI) for Public Health Information Exchange

HIEs/RHIOs, EMRs, health insurance plans, and ACOs process patient record reporting and search requests during patient encounter to support clinical care and after encounter to measure clinical quality

Healthcare consumers using patient portals to access their health information



1. Reporting and query service responds to authenticated reporting and search requests

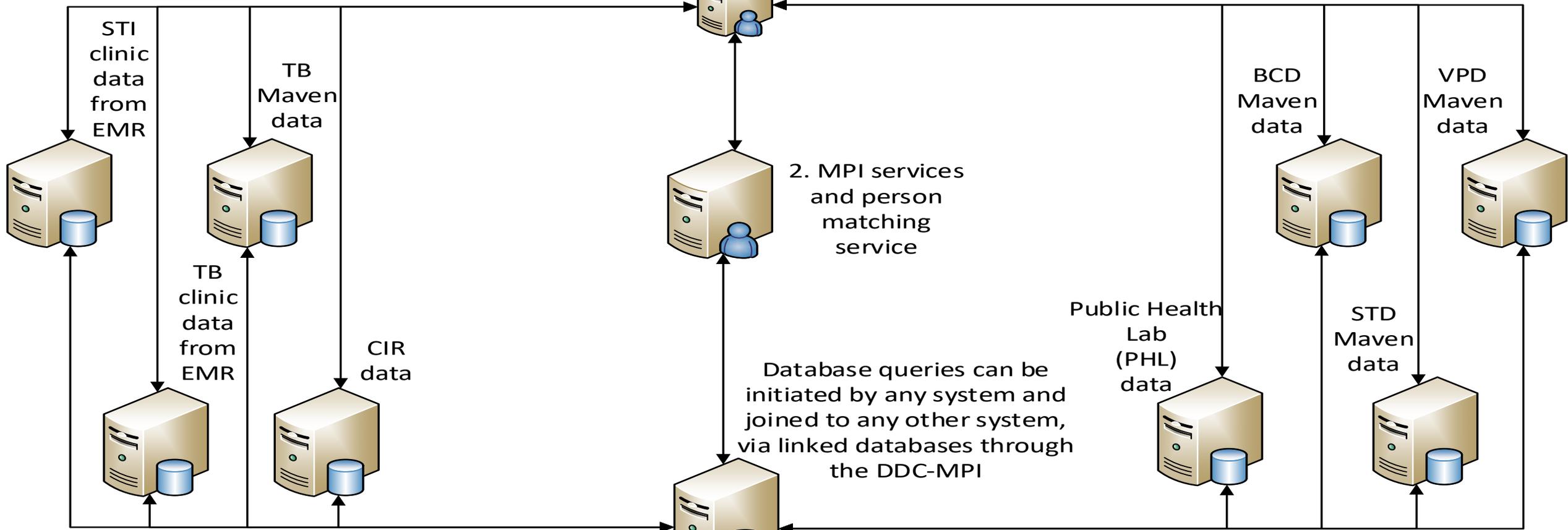


2. MPI services and person matching service



3. MPI database

Database queries can be initiated by any system and joined to any other system, via linked databases through the DDC-MPI



Aligning public health and Medicaid

As we approach the end of HITECH funding, public health must work with State Medicaid Agencies, ONC, and CMS to sustainably provide public health services to support state Medicaid enterprise systems.

Federal Agencies

- What guidance can federal partners provide to state Medicaid agencies re: working with **public health**?
- What resources are available to state Medicaid agencies for preparing and developing Advanced Planning Documents (APDs) **inclusive of state and local public health**?

State Medicaid

- Where do state and local public health fit into the State Medicaid Health IT Plan?
- What is the best forum and approach for coordinating with public health?

Public Health

- How can state and local public health plan together with the State Medicaid Office?
- How can public health functions (e.g., disease and immunization registries) integrate with the state MMIS? What are the pros and cons?

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