FHIR API ~ Insight and Recommendations for Commonwealth Adoption

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Re-Visiting the Kaine Administration

"Virginia Model" Established Cycle for Standards Adoption, Use

- Best State for Business (2006-8)

- Tied for Top Performing State (2005, 2008)

I

Establishing a Policy Framework

#Administrative Simplification: **VHEN** - a public-private consortium to lower administrative costs, starting with a universal eligibility portal

#Standards: **HB2044** requirement that any EHRs purchased by a state agency or grant must **adhere** to accepted **standards** for interoperability, privacy and data exchange, and be **certified** by a recognized certification body – through ITIB

II

Seeding Innovation

#HR Public-Private Partnership: Fulfill **EO42** through innovative partnership to provide health IT-powered services for state employees

#Innovation Grants: Seed capital to demonstrate Health IT value across Virginia's communities

What is Health Information Exchange? A Portfolio

Only Direct, Consumer-Mediated Models are Regulated Under CEHRT/MU

There are currently three key forms of health information exchange:

- Directed Exchange – ability to send and receive secure information electronically between care providers to support coordinated care
- Query-based Exchange – ability for providers to find and/or request information on a patient from other providers, often used for unplanned care
- Consumer Mediated Exchange – ability for patients to aggregate and control the use of their health information among providers

The foundation of standards, policies and technology required to initiate all three forms of health information exchange are complete, tested, and available today. The subsequent sections provide detailed information and example scenarios for each of the three forms.

"The EP, eligible hospital, or CAH provides access for patients to view online, download, and transmit their health information, or retrieve their health information through an API, within 24 hours of its availability…[patient data must be] available for the patient (or patient-authorized representative) to access using any application of their choice that is configured to meet the technical specifications of the API in the provider's CEHRT."

Source: https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie; https://www.federalregister.gov/articles/2015/10/16/2015-25595/medicare-and-medicaid-programs-electronic-health-record-incentive-program-stage-3-and-modifications#p-1518

Argonaut FHIR API a Candidate for Virginia Apps

Standard Addresses VITA-Governed Major IT Project Requirements

MU3: "Access to ONC-Certified API"

Certification Criteria (2015 Edition)

"The 2015 Edition includes **"application access"** certification criteria that require health IT to demonstrate it can provide application access to the **Common Clinical Data Set** via an **application programming interface** (API)."

"The purpose…is to rapidly develop **a first-generation FHIR-based API** and Core Data Services specification to **enable expanded information sharing** for **electronic health records** and other health information technology based on **Internet standards** and architectural patterns and styles."

Relevant Applications (RTIP)

1. EHR Acquisition – DBH, DOC Major Projects (MU Certified); ""Promote self-determination by providing consumers with access to information that allows consumers participation in decisions about their care;"
2. MMIS Modernization – "Creating provider and member portals that support the 'one stop shop' objective and improve information access and service for all Medicaid related needs"
3. EDSP – Eligibility Modernization – "Interface…for the business rules for SNAP, TANF/Employment Services, Medicaid (Non-MAGI Groups) and LIHEAP" (Subject to Section 1561 of the ACA – "consumer-mediated" rec's)

Source: argonautproject.org; healthIT.gov; https://www.healthit.gov/policy-researchers-implementers/health-it-legislation-and-regulations; http://www.vita.virginia.gov/Library/default.aspx?id=6442474293

Emerging Applications to Benefit from Standards

#1: Precision Medicine Initiative – "Sync for Science"

S4S FHIR API Calls

In the list of API calls below, you'll see each data type annotated with its MU Common Clinical Data Set labels (#1-21). Note that we're currently not covering elements #16 (care team members), #18 (unique device identifiers), #19 (assessment and plan of treatment), #20 (goals), #21 (health concerns) — which we believe is a reasonable scope limitation for the S4S pilots.

The Argonaut Project will help define these elements in more depth, and we'll build on that effort when additional implementation guidance is available.

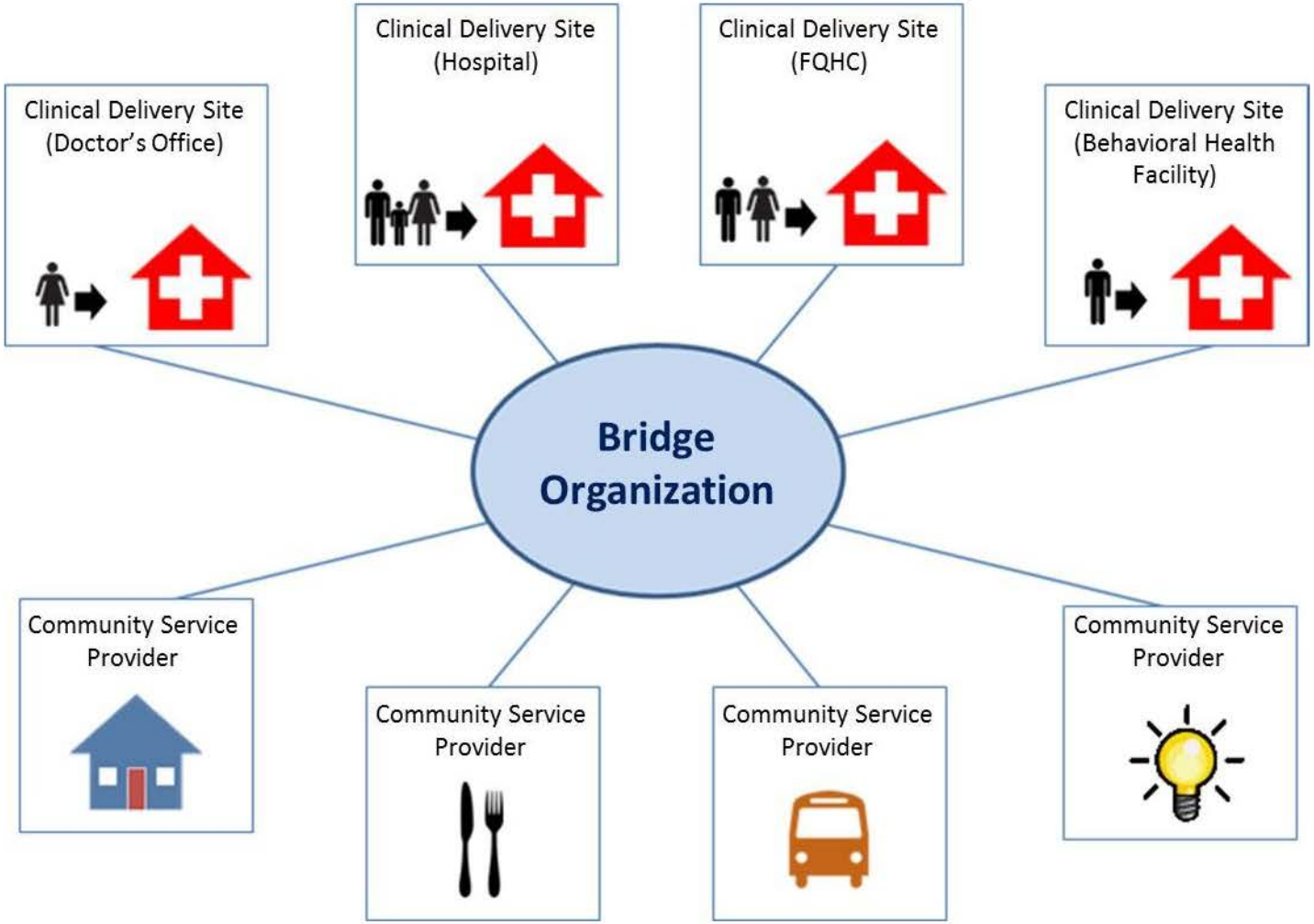
The examples below refer to the following variables:

- `:patientId` indicates the FHIR `id` of the `Patient` in context. For example, `123`.
- `:lastCheck` indiclates a FHIR `instant`, with millisecond-level precision including a timezone. For example, `2016-04-01T02:52:32.000Z`

Source: http://syncfor.science

Emerging Applications to Benefit from Standards

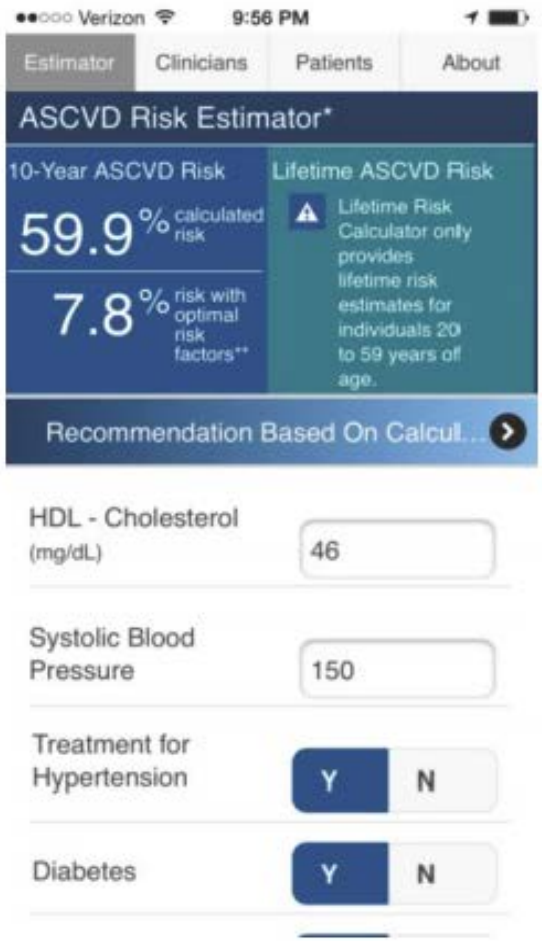
#2: Accountable Health Communities – Beneficiary Data Access



Source: https://blog.cms.gov/2016/01/11/can-helping-patients-social-needs-also-be-good-for-their-health/

Emerging Applications to Benefit from Standards

#3: Million Hearts Innovation Model – Shared Decision Making



How Risk Calculators Enhance High Value Care:

For example, Joe Smith is a 65-year-old African American man who smokes, has elevated cholesterol, and a borderline elevated blood pressure. His 10-year risk is 31.1% percent (high). Alan Jones is a 66-year-old white man with mildly elevated blood pressure (e.g., SBP 135 mm Hg), but no other risk factors, so his 10-year-risk is 11% (low). Treating Joe Smith's blood pressure (though traditionally valued the same by current one-size-fits-all pay for performance approach) has a much larger impact on risk of ASCVD than treating Alan Jones's blood pressure—and the provider is rewarded more for intervention.

Source: https://innovation.cms.gov/initiatives/Million-Hearts-CVDRRM/

Standardizing Procurement Language for APIs

ONC-Funded "SMART on FHIR" R&D Collaborative Publishes Best Practice

RFP Language for Buying SMART-Compatible HIT

SMART Platform (www.smarthealthit.org) is a project that lays the groundwork for a more flexible approach to sourcing health information technology tools. Like Apple and Android's app stores, SMART creates the means for developers to create and for health systems and providers to easily deploy third-party applications in tandem with their existing electronic health record, data warehouse, or health information exchange platforms.

To deploy SMART-enabled applications, health systems must ensure that their existing health information technology infrastructure supports the SMART on FHIR API. The SMART on FHIR starter set detailed below lists the minimum requirements for supporting the API and SMART-enabled applications. You may wish to augment this list of minimum requirements with suggestions from the Add-On Functionality listed depending on the types of applications your organization wishes to deploy.

This document is intended as a resource for providers and health systems as they draft Request for Proposals (RFPs) and negotiate with their HIS vendors for added functionality. It has multiple authors from across the SMART team and its advisors. Feedback is welcome.

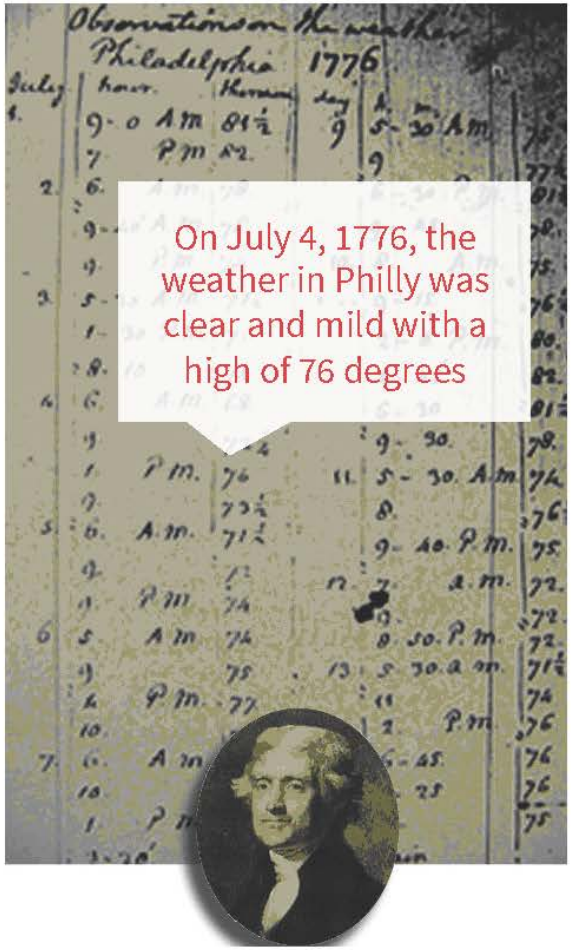
The vendor must support the SMART on FHIR platform, a vendor agnostic API that allows third-party developers to build external apps and services that integrate with the vended product.

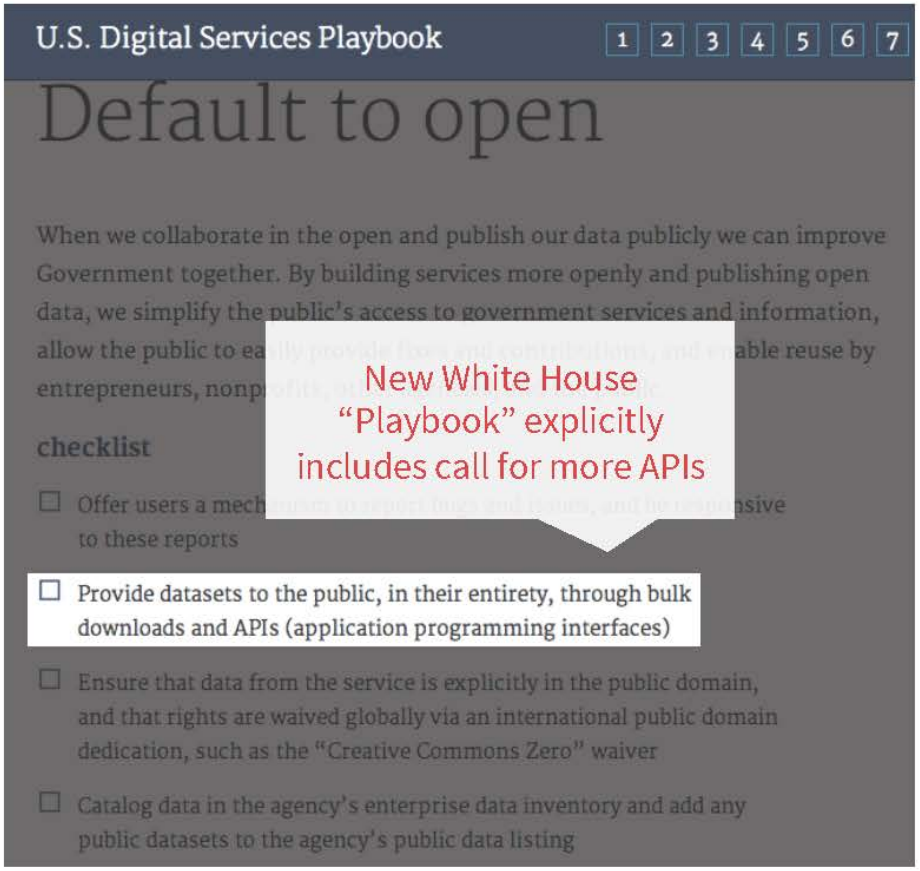
At a minimum, the vendor product should include the following components in order to support SMART on FHIR and SMART-enabled applications:

Source: http://smarthealthit.org/2014/10/rfp-language-for-buying-smart-compatible-hit/

Open APIs the Latest Effort to Democratize Data

From Jefferson to U.S. digital services "Playbook"



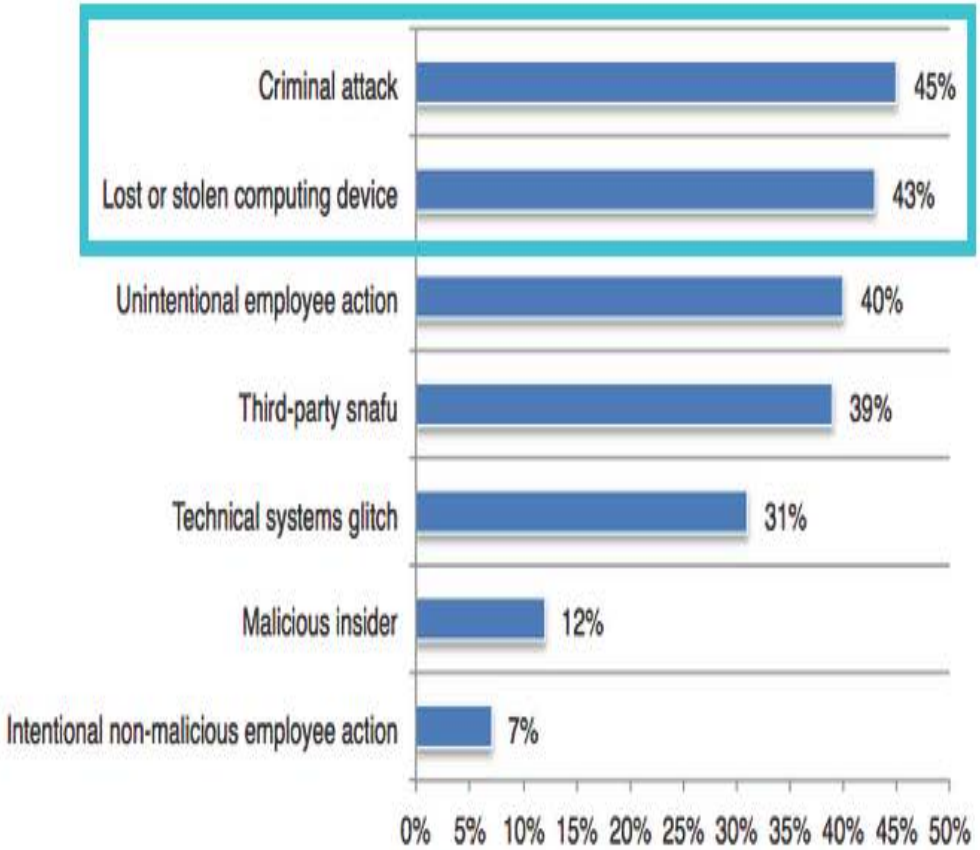


Source: http://celebrating200years.noaa.gov/foundations/climate_data/image1.html; whitehouse.gov

Opening Up While Locking Down

"API-First" Approach Adds Security Protection by Monitoring Use

What was the root cause of the healthcare organizations' data breach?
More than one response permitted



API vs. "Point to Point"

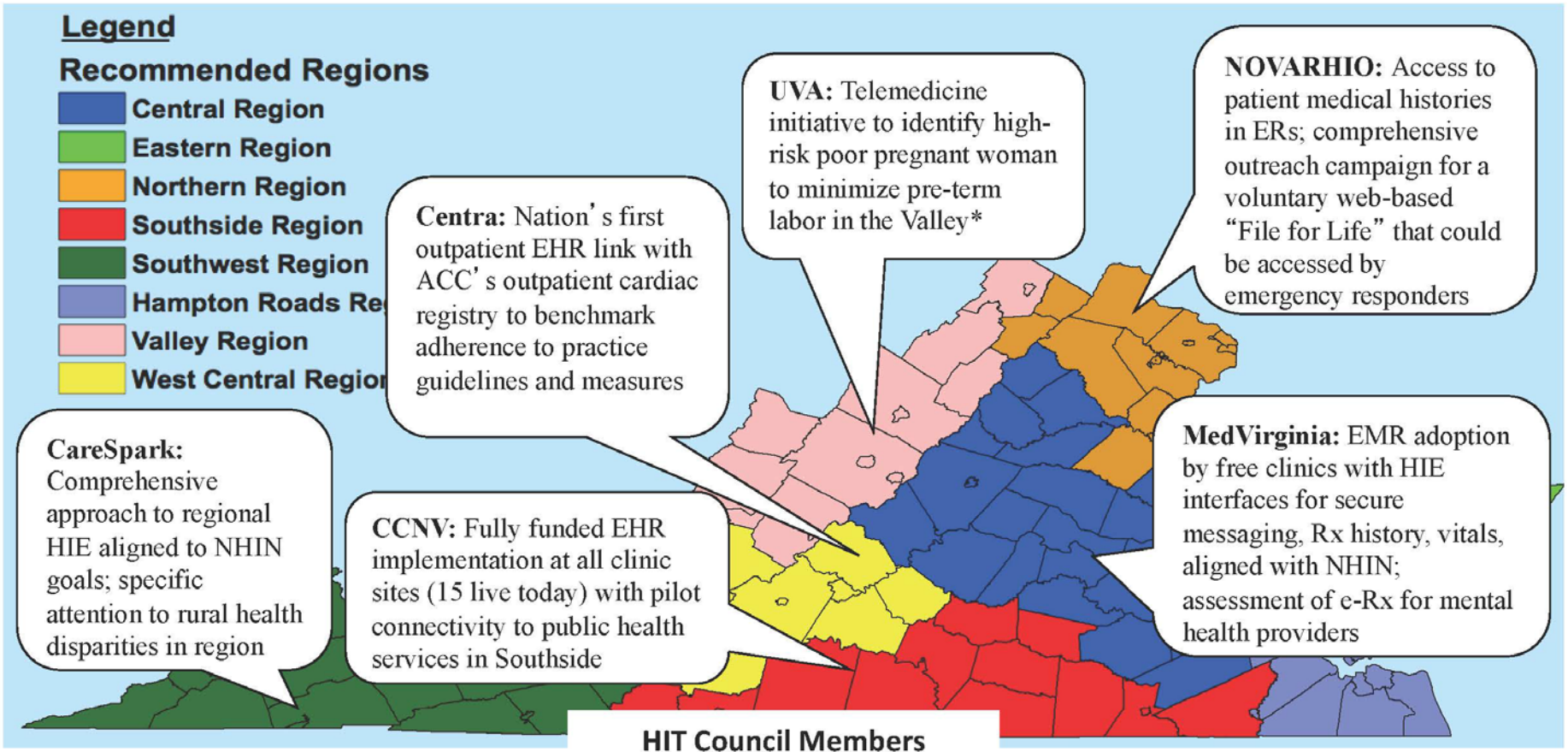
1. API-first approach to facilitate controlled access to data
2. Single point of "truth" for connected mobile, web apps
3. Real-time analytics to monitor use vs. shipping "blind" flat files

"Built-in" Security–APIs enforce a consistent protection mechanism across all channels with built-in authentication, authorization, and threat protection

Source: The Ponemon Institute, "Fifth Annual Privacy and Security of Healthcare Data Report", May 2015

A History of Leadership on HIT Standards

Time from Idea to Execution Measured in Months, not Years



HIT Council Members

- *CIO,* **AOL**
- *SVP,* **Sprint Nextel**
- *Chief Privacy Officer,* **Revolution Health**
- *Board Member,* **Harvest Foundation**
- *Board Chairman,* **Owens & Minor**
- *EVP,* **Riverside Regional MC**

*Awarded August, 2008 as part of Governor Kaine's Productivity Investment Fund

Should Virginia Lead on Care Delivery Reform?

Shifting from "Defense" to "Offense" on Payment Reform

the WHITE HOUSE PRESIDENT BARACK OBAMA

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Calling All Innovators – Health Care Innovation Challenge Open for Great Ideas

DECEMBER 7, 2011 AT 10:27 AM ET BY ANEESH CHOPRA

Summary: The Department of Health and Human Services has launched the Health Care Innovation Challenge, which will award $1 billion in grants to applicants who will implement the most compelling new ideas to deliver better health and improved care at lower costs

FOR IMMEDIATE RELEASE
March 23, 2016

Contact: HHS Press Office
202-690-6343
media@hhs.gov

Independent experts confirm that diabetes prevention model supported by the Affordable Care Act saves money and improves health

First ever preventive service model eligible for expansion under Medicare holds promise for employers, private insurers and patients

58% OF NEW CASES OF TYPE 2 DIABETES CAN BE PREVENTED THROUGH PROGRAMS LIKE THE YMCA's DIABETES PREVENTION PROGRAM

the Y

Source: National Institutes of Health Diabetes Prevention Program Trial (2002)

ymca.net/diabetes

"The evaluation results from Y-USA, CDC, and a large national provider DPP indicate that beneficiaries participating in diabetes prevention programs have achieved success with losing weight and reducing the incidence of diabetes. While each of the programs we evaluated has some limitations, we believe that the results indicate that the intervention has resulted in reductions in medical spending in the near term." - CMS Actuary

Source: https://www.whitehouse.gov/blog/2011/12/07/calling-all-innovators-health-care-innovation-challenge-open-great-ideas; https://www.cms.gov/Research-Statistics-Data-and-Systems/Research/ActuarialStudies/Downloads/Diabetes-Prevention-Certification-2016-03-14.pdf