

Health data APIs & interop

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AMDIS Virtual Symposium, 2020



Setting the scene: some personal examples

Clinical care perspective. Boston Children's Hospital "[BP Centiles](#)"

Researcher perspective. Harvard DBMI "[People-Powered Medicine](#)"

Patient perspective. Collecting my own data in [one place](#)

Patient access in the era of EHR Certification & Meaningful Use

ONC rules to set a **technical baseline** in products
+ **CMS** rules to set **deployment/usage** expectations

- 2011 "Provide patients with an electronic copy" [no workflow]
- 2014 "View, Download, Transmit" [workflow buried]
- 2015 "Patient API Access" [*functional* only]
- 2020* "SMART on FHIR" [standardized API]

Making it real: UX and patient perspective

Procure Project demo app (syncfor.science/procure-wip/?wizard=true)

- *[Developer, ahead of time]* Register app with EHRs → Providers
- *[Patient, just in time]* Connect app to health systems, one portal at a time
- *[Patient, just in time]* Approve or deny app's API access request

<Brief demo>

Making it real: EHR integration for providers

SMART App Gallery (gallery.smarthealthit.org)

- | | |
|---|---|
| • <i>[Developer, ahead of time]</i> | Register app with EHRs → Providers |
| • <i>[Health system, ahead of time]</i> | Configure apps for in-EHR launch |
| • <i>[Clinician, just in time]</i> | Navigate to apps (e.g, menu click or auto-launch) |
| • <i>[Clinician, just in time]</i> | Interact with app in context, automated SSO |

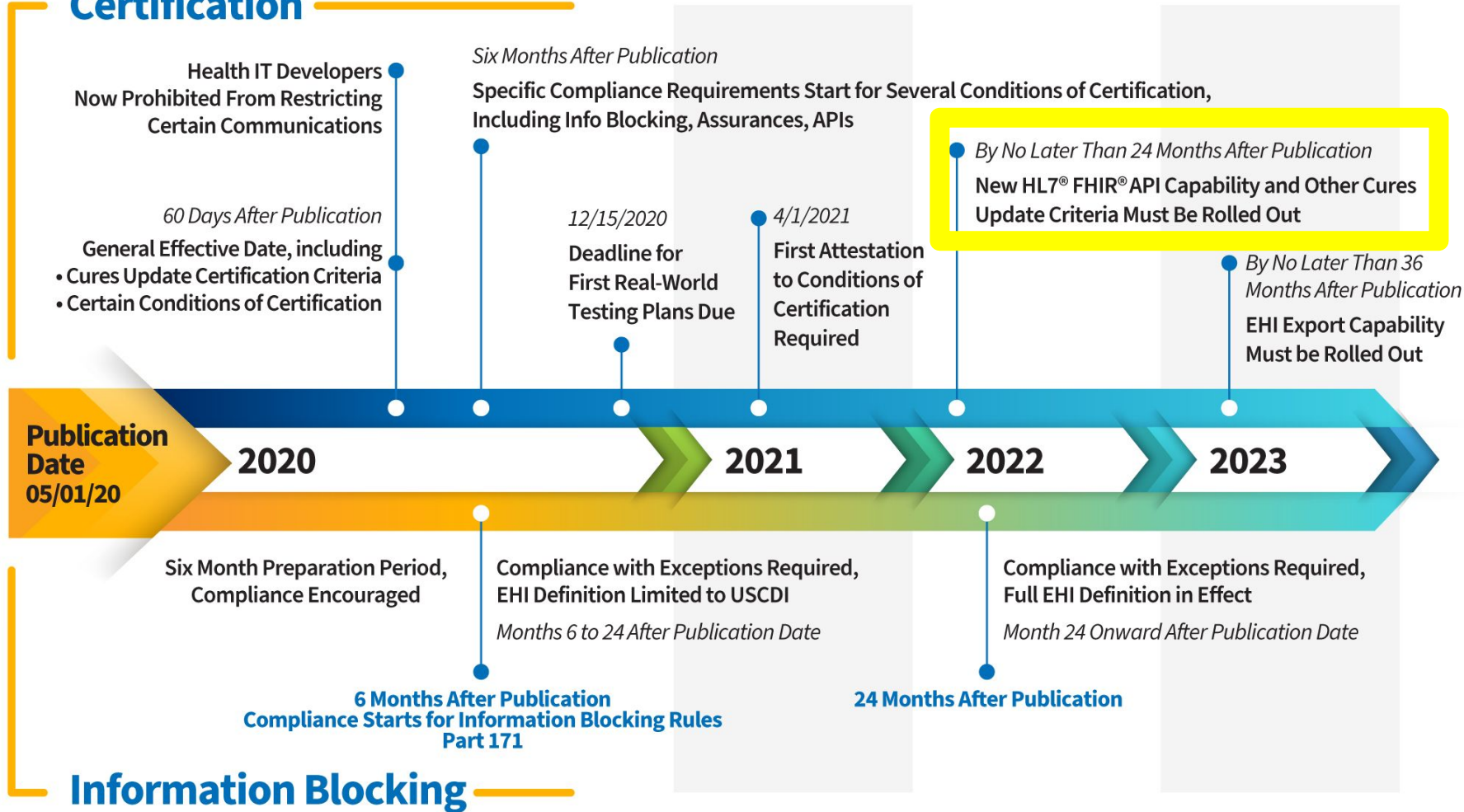
<Brief demo>

"2020" requirements (really 2015 "revised")

healthit.gov/curesrule/

- Support for API access to a core data set ([USCDI](#)) including **free-text notes**
- SMART on FHIR App Launch
 - Patient access (no cost to patients)
 - Provider access SMART (reasonable, nondiscriminatory, consistent fees)
- Population APIs via FHIR Bulk Data Export
 - e.g., for a health system to perform cross-population data analytics
 - e.g., for care coordination between payors and providers (CMS x3)

Certification



What do providers need to *do* ?

Mostly just: deploy certified EHR technology and turn it on.

*Because **EHR Vendors must...***

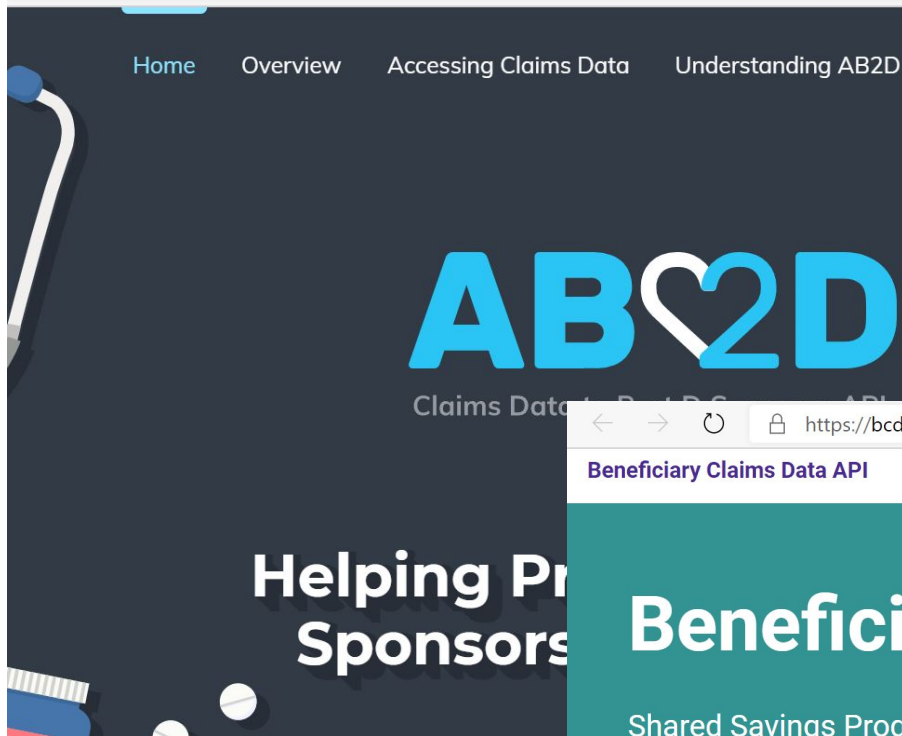
- publish a list of provider FHIR endpoints. E.g., [Epic's "Endpoints" JSON](#)
- manage app registrations (no vetting!),
- distribute app registration data to providers

... Patient API access should work "by default", e.g., for [MIPS PI PEA 1](#)
("any application chosen by a patient")

*Open questions: What apps can/should a patient trust? Do providers recommend or warn?
Is it ever okay to block access? Is it okay to require site-by-site approvals?*

APIs from CMS, payors

https://ab2d.cms.gov



Data at the Point of Care

Home

Documentation

Frequently Asked Questions

Log in

CMS PILOT API

A 360° view of your patients' history

As patients move throughout the healthcare system, providers often struggle to gain and maintain a complete picture of their medical history. Data at the Point of Care fills in the gaps with claims data to inform providers with secure,

https://bcda.cms.gov

Beneficiary Claims Data API

Join the Google

Beneficiary Claims Data API

Shared Savings Program ACOs can use this FHIR-based API to retrieve bulk Medicare claims data related to their assignable or prospectively assigned beneficiaries.

Challenges, limitations

APIs provide data integration, but only limited workflow integration

USCDI evolves at the pace of standards

"EHI Export" in 3y, *not automated*

App registration across a long tail of vendors

Balancing consumer autonomy with privacy and security protections

Identity and B2B exchange (e.g., TEFCA)