

# ONC's Interoperability Rule: Implications for Access and Use of US CORE

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Co-Founder, Vivli

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# Interoperability

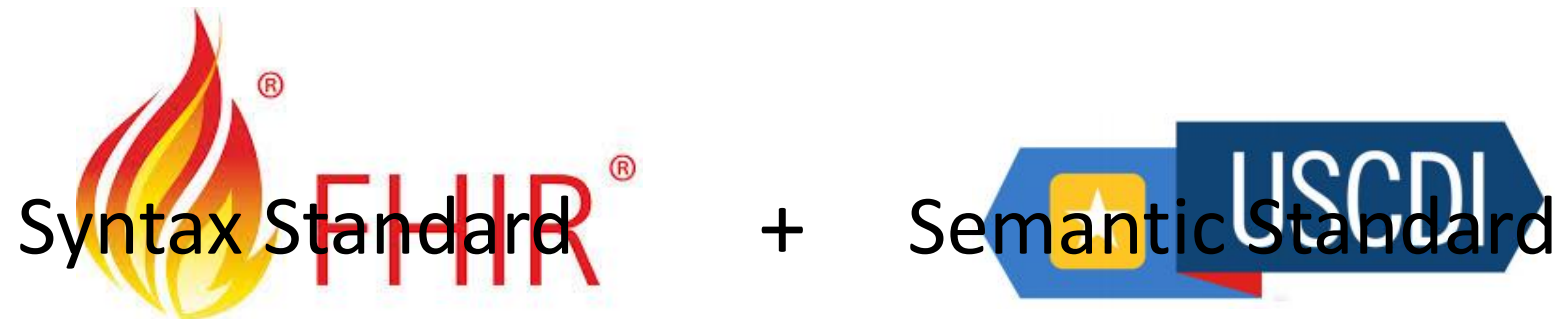
- The ability of computer systems or software to exchange and make use of information
  - syntactic: *format* of what is said (grammar)
    - e.g., using an exchange protocol over networks
    - e.g., HL7 FHIR, DICOM, XML,
  - semantic: *meaning* of what is said (dictionary)
    - e.g., using a controlled vocabulary
    - e.g., SNOMED, ICD-10



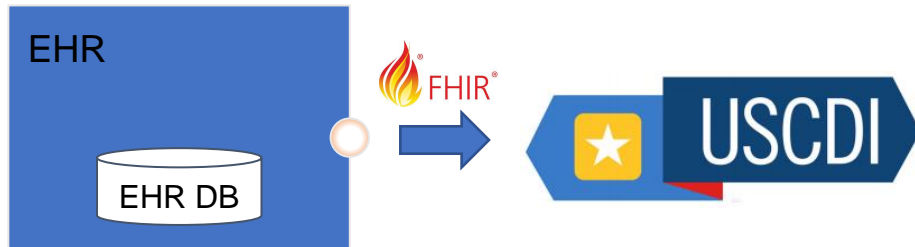
The screenshot shows the Urban Dictionary website interface. At the top, there is a dark navigation bar with the 'URBAN DICTIONARY' logo and links for 'Browse', 'Categories', 'Vote', and 'Store'. Below the navigation bar is a search input field with the placeholder text 'Type any word...'. The main content area features a 'TOP DEFINITION' section for the word 'Ractatious'. The definition is: '(Rak-taysh-ous) An adjective describing something that is **abnormal**, crazy, wild or insane **in a way** that's exceeds normal **levels**.' Below the definition is a user-submitted sentence: 'Dude, you're being really **ractatious tonight**. I'm gonna need you to **tone it down**.' The entry is attributed to 'by Thee\_average\_tortoise December 31, 2019'. At the bottom of the entry, there are icons for 'likes' (3) and 'dislikes' (0), along with a flag icon and a more options menu icon.

# ONC Interoperability Standards

- US Office of the National Coordinator for Health IT (ONC)



# Requirements under ONC Interoperability Rule



**All EHRs must offer an API  
that supports FHIR**

**Must support USCDI  
scope**



# United States Core Data for Interoperability v1

## Allergies and Intolerances *NEW*



- Substance (Medication)
- Substance (Drug Class) *NEW*
- Reaction *NEW*

## Assessment and Plan of Treatment



## Care Team Members



## Clinical Notes *NEW*



- Consultation Note
- Discharge Summary Note
- History & Physical
- Imaging Narrative
- Laboratory Report Narrative
- Pathology Report Narrative
- Procedure Note
- Progress Note

## Goals



## Health Concerns



## Immunizations



## Laboratory



- Tests
- Values/Results

## Medications



## Patient Demographics



- First Name
- Last Name
- Previous Name
- Middle Name (incl. middle initial)
- Suffix
- Birth Sex
- Date of Birth
- Race
- Ethnicity
- Preferred Language
- Current Address *NEW*
- Previous Address *NEW*
- Phone Number *NEW*
- Phone Number Type *NEW*
- Email Address *NEW*

## Problems



## Procedures



## Provenance *NEW*



- Author Time Stamp
- Author Organization

## Smoking Status



## Unique Device Identifier(s) for a Patient's Implantable Device(s)



## Vital Signs

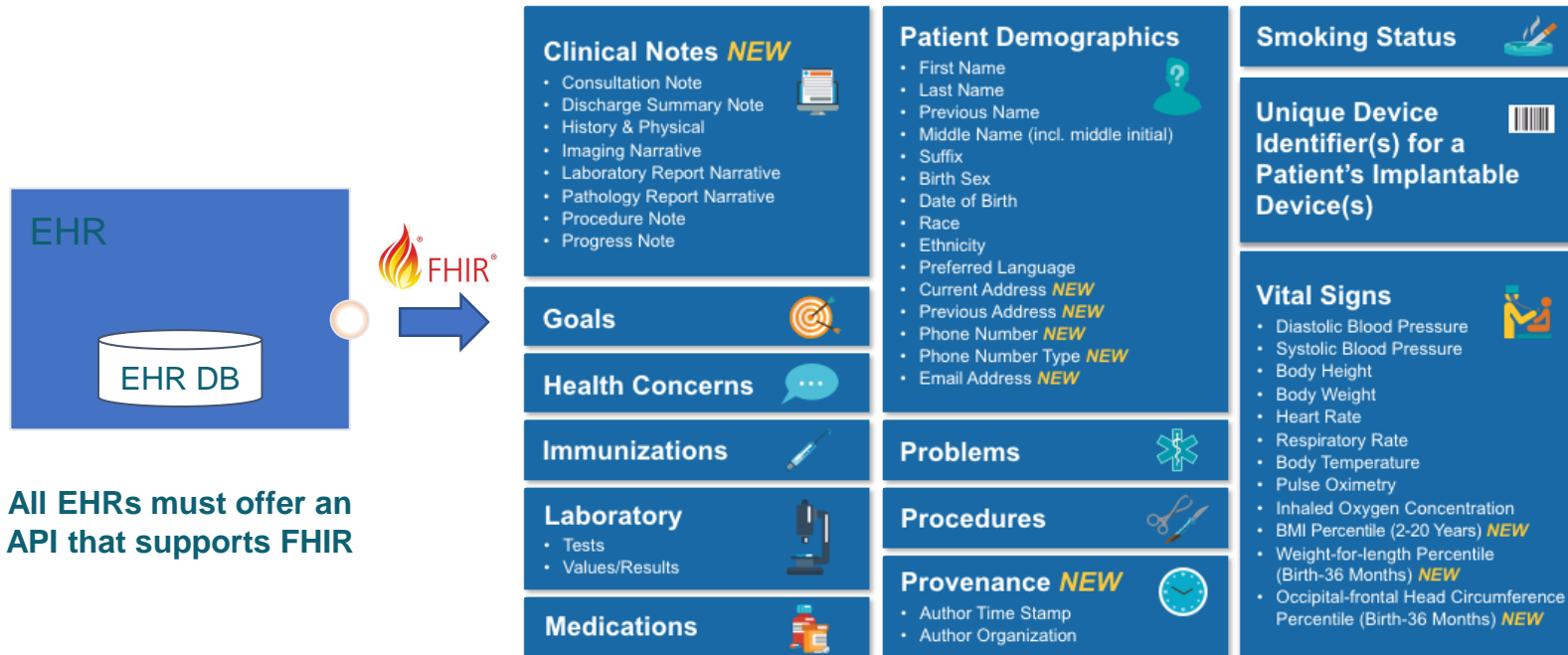


- Diastolic Blood Pressure
- Systolic Blood Pressure
- Body Height
- Body Weight
- Heart Rate
- Respiratory Rate
- Body Temperature
- Pulse Oximetry
- Inhaled Oxygen Concentration
- BMI Percentile (2-20 Years) *NEW*
- Weight-for-length Percentile (Birth-36 Months) *NEW*
- Occipital-frontal Head Circumference Percentile (Birth-36 Months) *NEW*



For more info:  
[HealthIT.gov/USCDI](http://HealthIT.gov/USCDI)

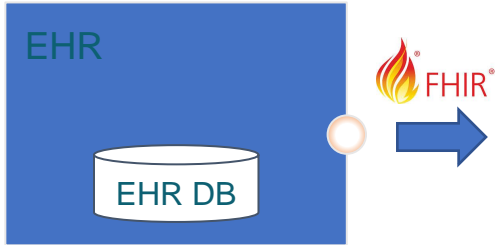
# EHRs must make USCDI dataset available via FHIR API



All EHRs must offer an API that supports FHIR

ONC enforcement begins September 30, 2020

# 2018: Apple Health Records brings USCDI to iPhone

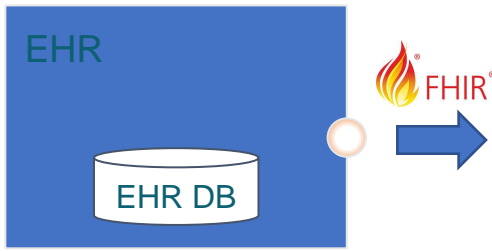


All EHRs must offer an API that supports FHIR



iOS app ecosystem

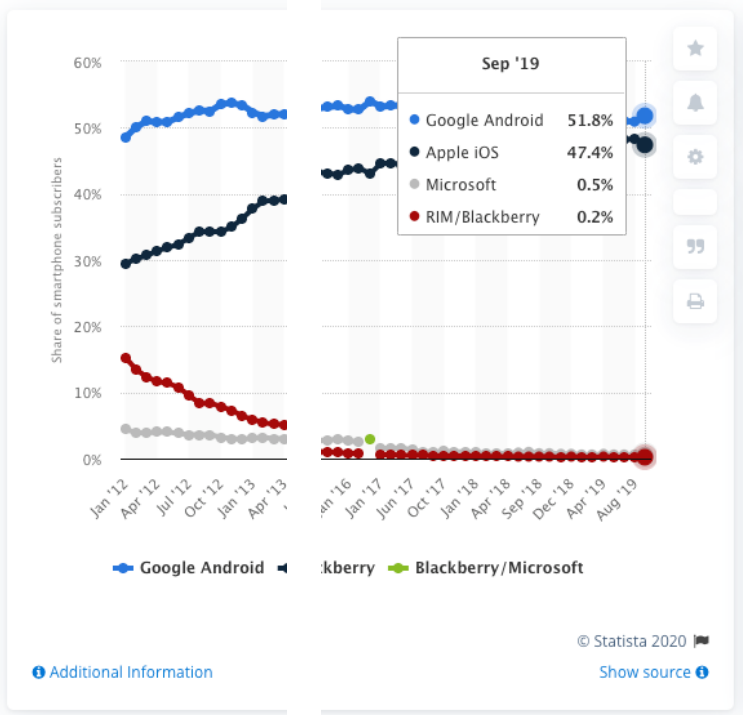
# Android market share: 52% of US, 75% worldwide



All EHRs must offer an API that supports FHIR



iOS app ecosystem

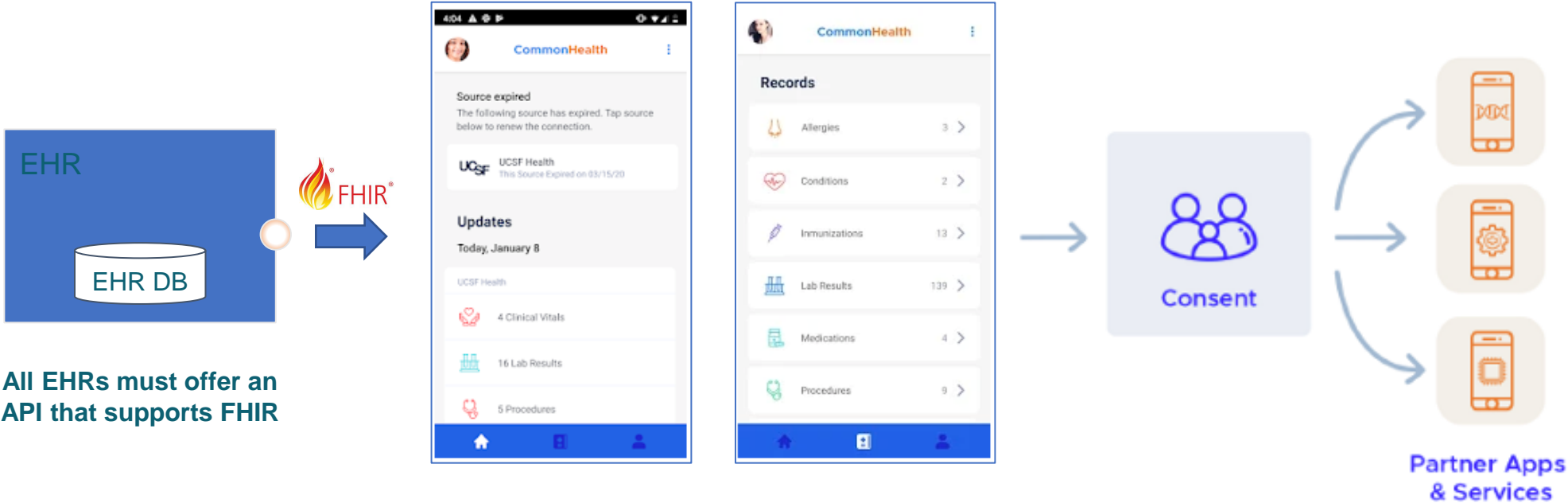


iOS vs Android US market share



# 2020: CommonHealth brings USCDI to Android

CommonHealth went live April 30 in Google Play store with UCSF as the first health system



CommonHealth was developed in partnership with

- UCSF
- Cornell Tech
- Sage Bionetworks
- Open mHealth

<https://commonhealth.org>



# The Commons Project

Independent Nonprofit Public Trust

The Commons Project is a 501c3 non-profit public trust, established to build digital services that **put people first**. The Commons Project fills the void between tech companies, government agencies, and traditional non-profits to build and operate the digital services that constitute **public infrastructure** for the digital era.

The Commons Project was established with support from:



## Our Principles:

- We serve peoples' interests above all
- People should control their private information
- Our services are not influenced by the interests of any third party
- We operate transparently with partners and people

# The spigot is open...iOS and Android apps can now get at USCDI



All EHRs must offer an API that supports FHIR

ONC Interoperability Rule

Works with Apple Health


Partner Apps & Services

<b>Clinical Notes <i>NEW</i></b> <ul style="list-style-type: none"> <li>• Consultation Note</li> <li>• Discharge Summary Note</li> <li>• History &amp; Physical</li> <li>• Imaging Narrative</li> <li>• Laboratory Report Narrative</li> <li>• Pathology Report Narrative</li> <li>• Procedure Note</li> <li>• Progress Note</li> </ul>	<b>Patient Demographics</b> <ul style="list-style-type: none"> <li>• First Name</li> <li>• Last Name</li> <li>• Previous Name</li> <li>• Middle Name (incl. middle initial)</li> <li>• Suffix</li> <li>• Birth Sex</li> <li>• Date of Birth</li> <li>• Race</li> <li>• Ethnicity</li> <li>• Preferred Language</li> <li>• Current Address <i>NEW</i></li> <li>• Previous Address <i>NEW</i></li> <li>• Phone Number <i>NEW</i></li> <li>• Phone Number Type <i>NEW</i></li> <li>• Email Address <i>NEW</i></li> </ul>	<b>Smoking Status</b>  <b>Unique Device Identifier(s) for a Patient's Implantable Device(s)</b>
<b>Goals</b>	<b>Problems</b>	<b>Vital Signs</b> <ul style="list-style-type: none"> <li>• Diastolic Blood Pressure</li> <li>• Systolic Blood Pressure</li> <li>• Body Height</li> <li>• Body Weight</li> <li>• Heart Rate</li> <li>• Respiratory Rate</li> <li>• Body Temperature</li> <li>• Pulse Oximetry</li> <li>• Inhaled Oxygen Concentration</li> <li>• BMI Percentile (2-20 Years) <i>NEW</i></li> <li>• Weight-for-length Percentile (Birth-36 Months) <i>NEW</i></li> <li>• Occipital-frontal Head Circumference Percentile (Birth-36 Months) <i>NEW</i></li> </ul>
<b>Health Concerns</b>	<b>Procedures</b>	
<b>Immunizations</b>	<b>Provenance <i>NEW</i></b> <ul style="list-style-type: none"> <li>• Author Time Stamp</li> <li>• Author Organization</li> </ul>	
<b>Laboratory</b> <ul style="list-style-type: none"> <li>• Tests</li> <li>• Values/Results</li> </ul>		
<b>Medications</b>		

iOS and Android app ecosystem