

# The evolution of interoperability policy priorities

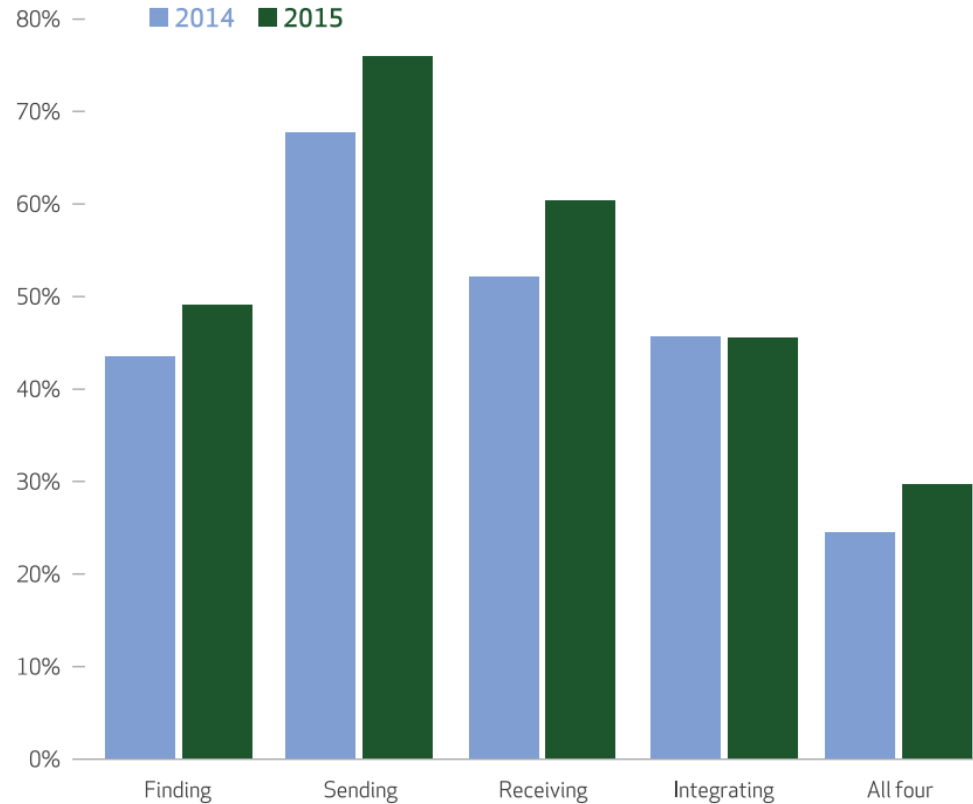


John Glaser, PhD  
Senior Vice President, Population Health

January 25, 2018

# Interoperability adoption is modest

Percentages of US hospitals with interoperability in four core domains, 2014 and 2015



Holmgren, Patel, and Adler-Milstein “Progress In Interoperability: Measuring US Hospitals’ Engagement In Sharing Patient Data” Health Affairs, 2017

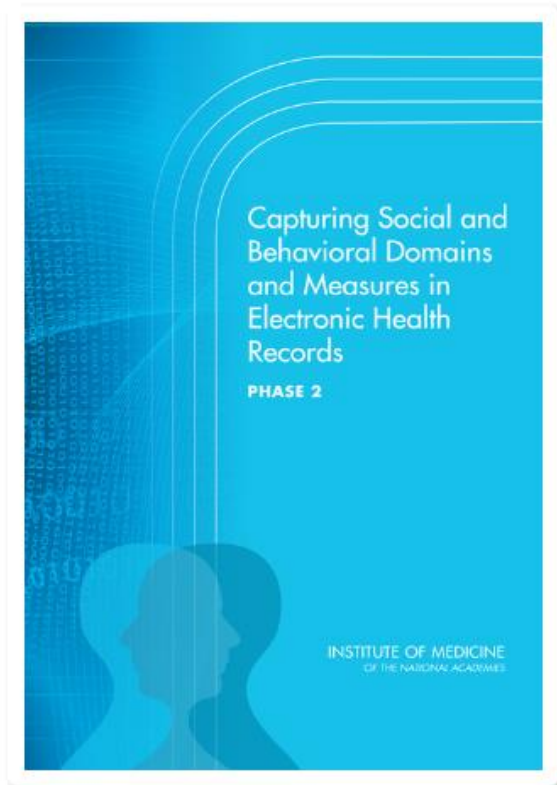
# Current Federal policy is framed by 21<sup>st</sup> Century Cures

- Centering on providers and a core set of clinical data (USCDI)
- Developing a single on-ramp to a network of networks; established through a Trusted Exchange Framework and a Common Agreement
  - Authentication method
  - Rules for exchange
  - Policies to enable exchange
  - Non-compliance processes
- Increasing the motivation to exchange
  - Penalize data blocking
  - Implied value to QHIN; participation in reimbursement
- Strengthening the centrality of the patient
  - Promote APIs
  - Ease patient/consumer access to their data

# Interoperability policy evolution will need to address several factors

- Expansion of the range of health data

# Capturing Social and Behavioral Domains in Electronic Health Records (IOM)



## **Sociodemographic**

- Sexual orientation
- Race/ethnicity
- Country of origin
- Education
- Employment
- Financial resource strain

## **Psychological**

- Health literacy
- Stress
- Negative mood and affect
- Psychological assets

## **Behavioral**

- Dietary patterns
- Physical activity
- Tobacco use and exposure
- Alcohol use

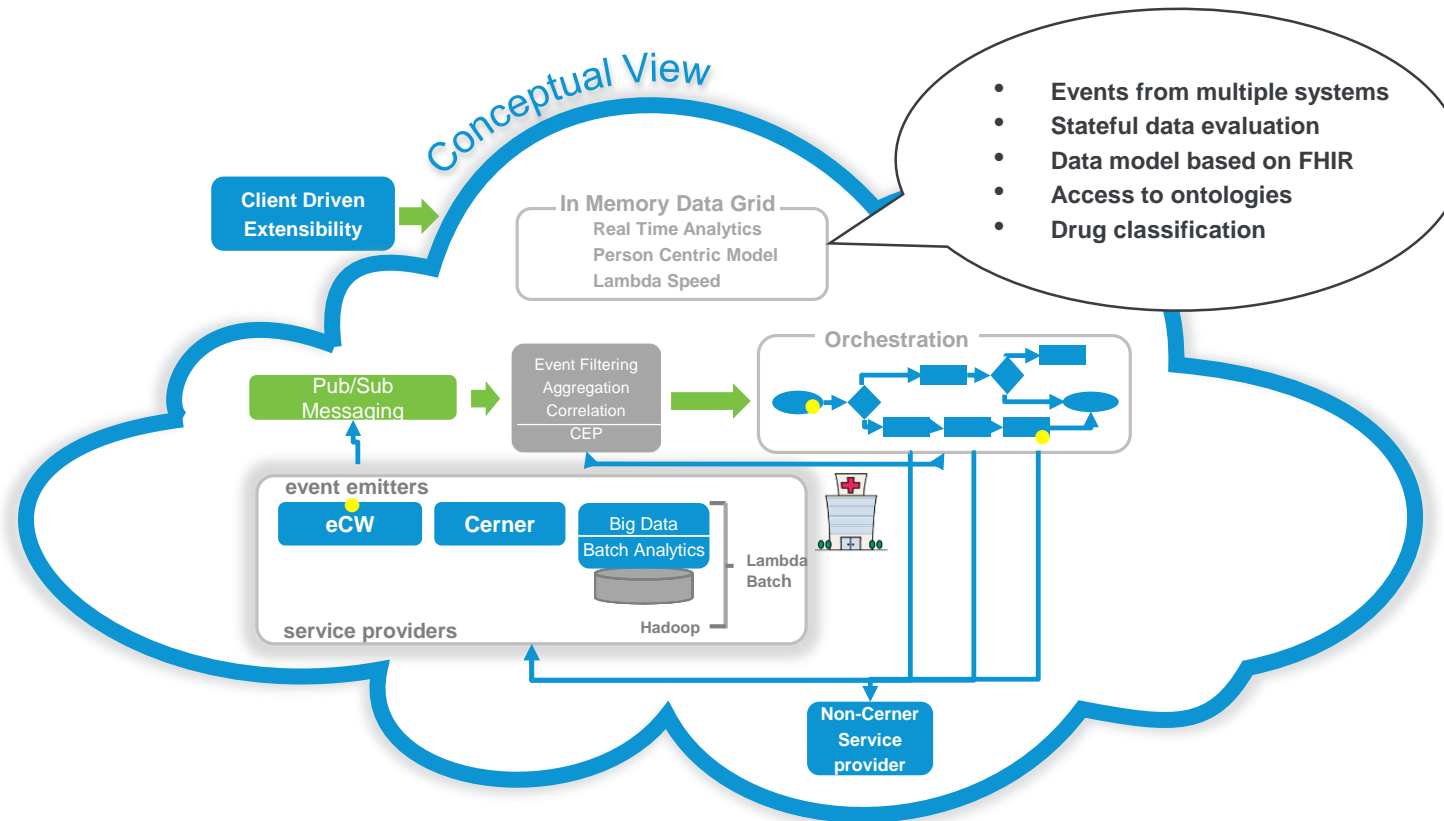
## **Individual level social relationships and living conditions**

- Social connections
- Exposure to violence

## **Neighborhood and communities**

- Neighborhood and community compositional characteristics

# Processing events



# Summary of a population health plan delivered to an EHR

Patients
Mark Smith ✕

**Mark Smith, 49y M** Health Score: 65

DOB 4/1/1959  
Network ID 3000 8154 6512  
Height 6' 0" (182 cm)  
PCP John Anderson, MD

**Allergies** + Add

Penicillin (rash) | Shellfish (hives)

**Reason for Visit**

Initiated by [Health Screening](#) 12/17/08 10:20 AM

- Elevated Blood Pressure (169/99 mmHg)
- High Cholesterol (222 mg/dL)

**Outstanding Care Items**

Influenza Vaccination (due 11/15/08)

**History** [View Details](#) [Search Record](#)

Advisor visit (12/17/08)

- Recommended Provider follow up

+ Add

Problems Depression, Seasonal Allergies  
Family Hypertension, Diabetes, Myocardial Infarction  
Surgeries Appendectomy  
Social Smoking (1 ppd), alcohol use (1 drink/day)  
Activity None reported

**Medications** Active ▼

Name	Days Left	Action
<span style="color: green;">●</span> Zoloft (sertraline) 100 mg PO daily	10	<span style="border: 1px solid #add8e6; padding: 2px;">Continue</span> <span style="font-size: 0.8em;">▼</span>
<span style="color: green;">●</span> Zyrtec (cetirizine) 10 mg PO daily	10	<span style="border: 1px solid #add8e6; padding: 2px;">Continue</span> <span style="font-size: 0.8em;">▼</span>
<span style="color: yellow;">●</span> Aspirin 81mg PO daily	OTC	<span style="border: 1px solid #add8e6; padding: 2px;">Continue</span> <span style="font-size: 0.8em;">▼</span>

**Suggested Plan** Care Logic

Visit - 1/29/09

+ Assessment

- Treatment

**Lifestyle Modifications:**

*Suggested:* + Add

- DASH Diet (2000 calories) [edit](#)
- Reduce sodium intake (<2.4 gm/day) [edit](#)
- Physical Activity (30 min x 5 days/week) [edit](#)
- Weight Reduction (Target 190 lbs.) [edit](#)
- Tobacco Cessation Program [edit](#)
- Monitor Blood Pressure (once/day) [edit](#)

**Medications:**

- Review Active Medications

*Suggested:* + Add

- Dyazide 25 mg/37.5 mg PO daily [edit](#)
- Lipitor 10 mg PO daily [edit](#)
- lisinopril 10 mg PO daily [edit](#)

**Follow-up:**

- Health Coach Consult (due 2/12/09)
- Provider Follow Up - John Anderson, MD (due 2/26/09)

*Suggested Future Actions:*

- Colonoscopy (due 4/1/09)
- Prostate Screening (due 4/1/09)

+ Visit Summary

+ Self Reported Activity

**Performance Measures** Metrics

**Appropriateness of Care**

- Assessment [i](#)
- Treatment [i](#)
- Follow Up [i](#)

**Patient Quality Outcomes/Measurements**

- Control Blood Pressure < 140/90 [i](#)
- BMI < 25 [i](#)
- LDL < 100 [i](#)
- HDL > 40 [i](#)
- Triglycerides < 150 [i](#)
- Medication Compliance [i](#)
- Tobacco Cessation [i](#)

**Service**

- Patient Satisfaction [i](#)

**Results** All Results

Vitals	Last	Previous
BP (mmHg)	165/97 1/29/09	169/99 12/17/08
Heart Rate (bpm)	78 1/29/09	80 12/17/08
Resp. Rate (bpm)	16 1/29/09	16 12/17/08
Temp (C.)	37.6 10/10/08	-

Labs	Last	Previous
Glucose (mg/dL)	-	82 12/17/08
Chol (mg/dL)	-	222 12/17/08
LDL (mg/dL)	-	144 12/17/08
HDL (mg/dL)	-	38 12/17/08
Trig (mg/dL)	-	200 12/17/08

**Care Value**

Min \$ 0
Base \$100
Max \$140

# Should health data be defined to include?

- Environmental data
- Grocery purchase patterns
- Health information search behavior
- Mood/content analyses of social media interactions
- Use of services such as transportation
- Behavior/motivation indicators such as credit scores



# Interoperability policy evolution will need to address several factors

- Range of health data
- Breadth of “covered entities”

# The expansion of health-related businesses brings the question of the breadth of covered entities

Apple is quietly working on turning your iPhone into the one-stop shop for all your medical info

**Amazon posts job opening for HIPAA expert**

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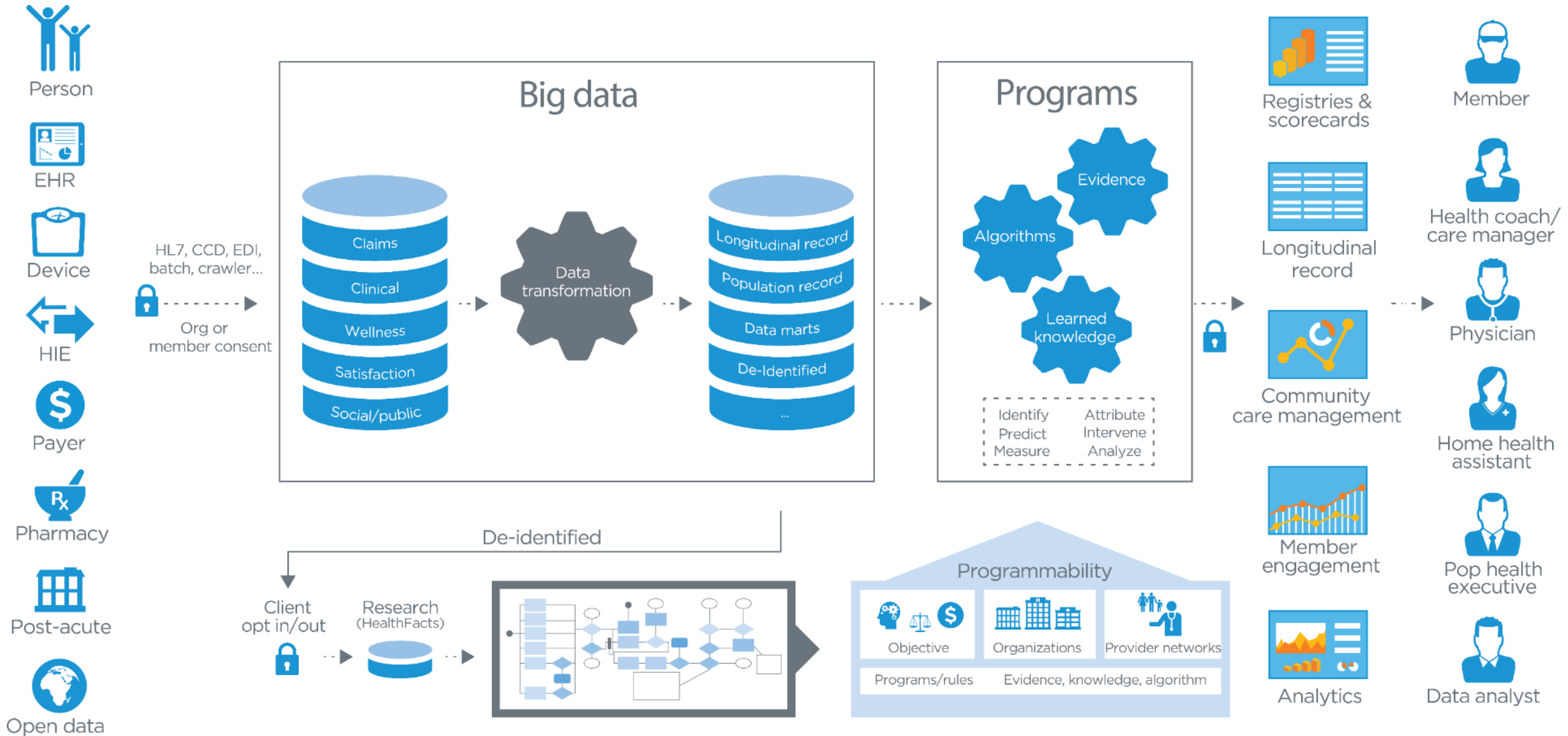
Why Lionel Richie and other famous investors are betting on this Uber for health care

**Grocery Stores Taking More Active Roles in Health Promotion**

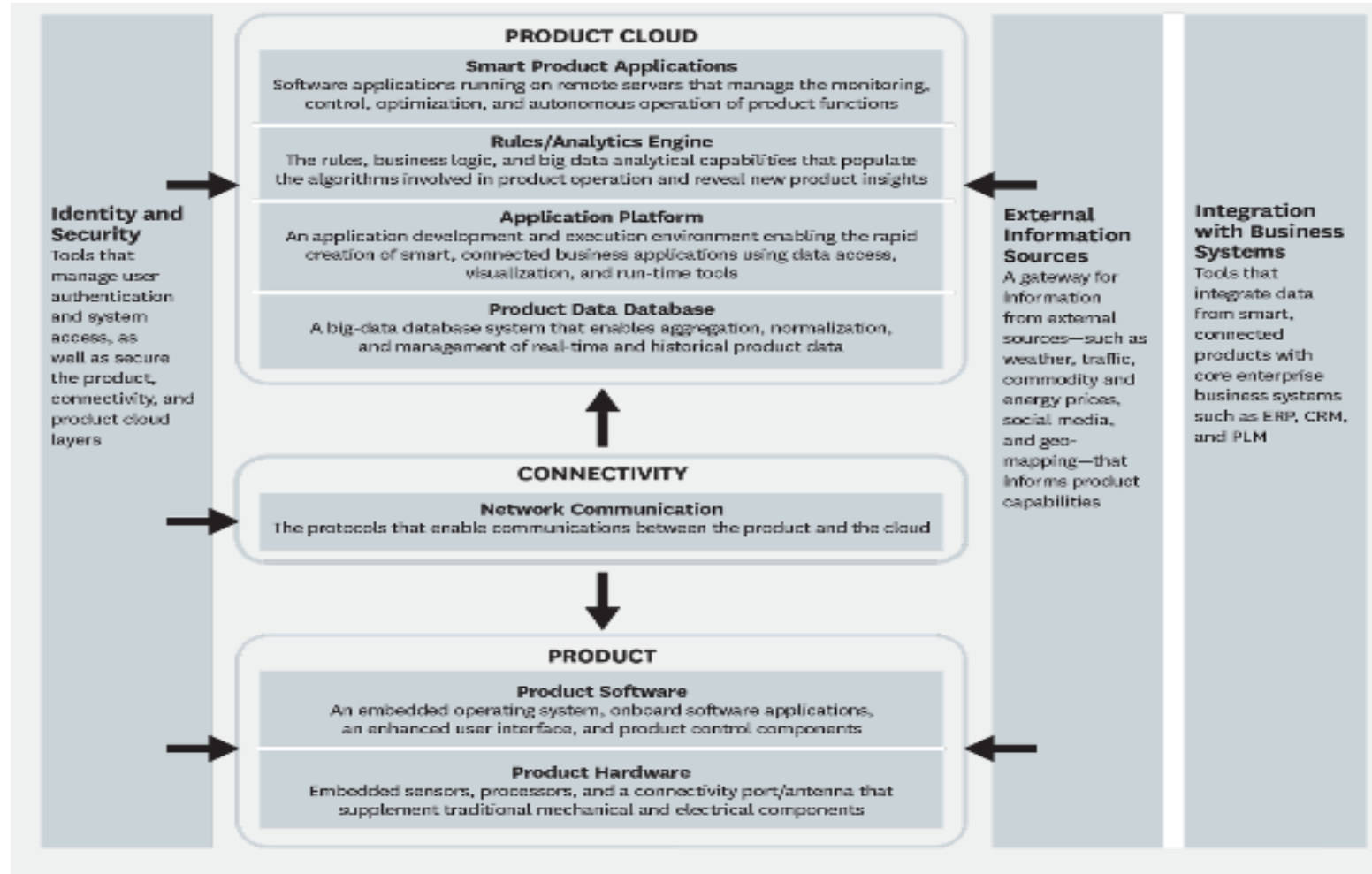
# Interoperability policy evolution will need to address several factors

- Range of health data
- Breadth of “covered entities”
- Diversification of “platforms”

# Population health as an aggregator and generation of health data



# The Internet of Things as an aggregator and generator of health data



Porter, HBR, 2015

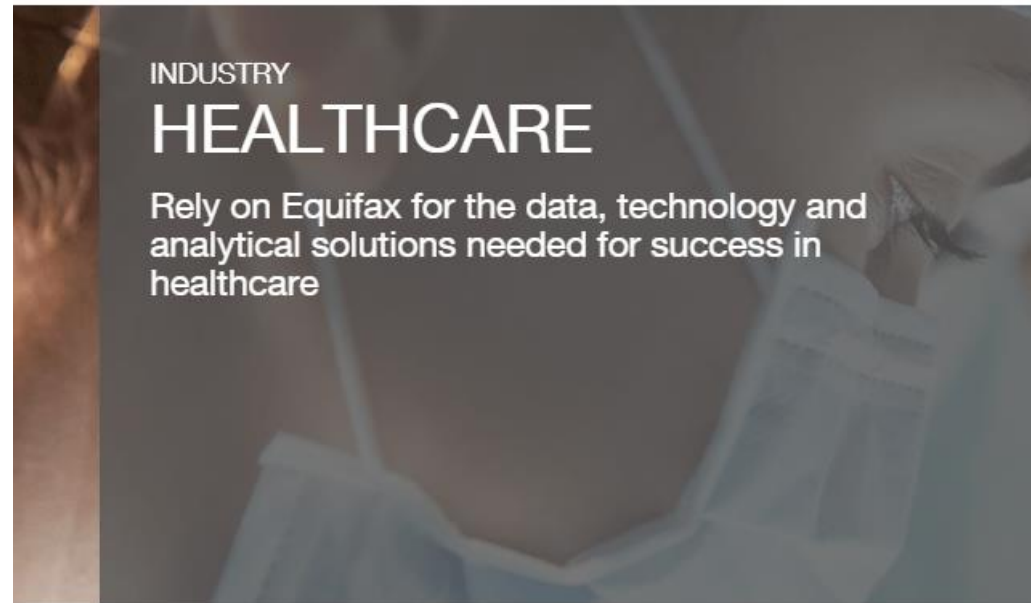
# Credit assessment companies as an aggregator and generator of health data



[Business](#)>[Healthcare](#)

## Business

[All Products](#) [Industry](#) ▾ [Business Need](#) ▾ [Resources](#)



# Interoperability policy evolution will need to address several factors

- Range of health data
- Breadth of “covered entities”
- Diversification of “platforms”
- Motivation to exchange

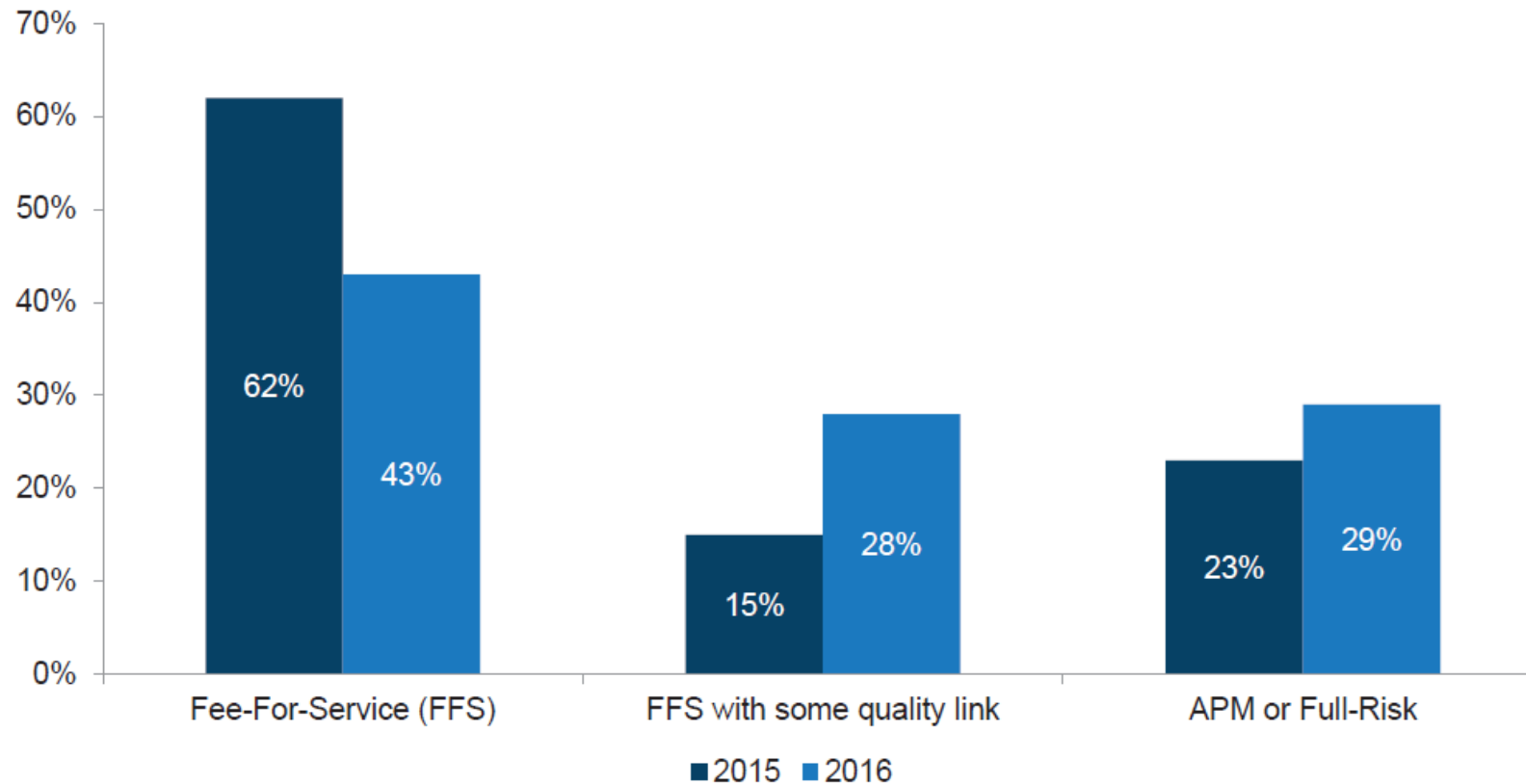
# Interbank consortium - SWIFT

- In 1973, 239 banks from 15 countries got together to solve a common problem: how to communicate about cross-border payments.
- The banks formed a cooperative utility, the Society for Worldwide Interbank Financial Telecommunication, headquartered in Belgium.
- SWIFT went live with its messaging services in 1977, replacing the Telex technology that was then in widespread use, and rapidly became the reliable, trusted global partner for institutions all around the world.
- The main components of the original services included a messaging platform, a computer system to validate and route messages, and a set of message standards.
- The standards were developed to allow for a common understanding of the data across linguistic and systems boundaries and to permit the seamless, automated transmission, receipt and processing of communications exchanged between users

[www.swift.com](http://www.swift.com)



# Continued shift away from FFS



Healthcare Payment Learning Network

# What does the policy future hold?

- Interoperability is evolving from a model rooted on:
  - Exchange of clinical data
  - Centered on EHRs
  - Using health information exchange technologies
  - Leveraging a network of networks
- Interoperability is evolving along several dimensions:
  - Range of health data
  - Breadth of “covered entities”
  - Diversification of “platforms”
  - Motivation to exchange
- Policy will need to grapple with and guide this evolution

# A modest policy proposal

- The boundaries of health data need to be defined and periodically reviewed
- All organizations and platforms that contain this data are subject to a common agreement/regulatory fabric on topics such as patient consent and control over data use, conformance to standards, etc.
- Patients/consumers/providers/payers can, using APIs, easily obtain health data from any organization and platform.
- The movement to value-based care needs to accelerate; co-existing with appropriate regulations that encourage/require sharing

**Questions?**