



The Office of the National Coordinator for  
Health Information Technology



# Connecting Health and Care for the Nation: A Shared Nationwide Interoperability Roadmap

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Office of the National Coordinator  
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# Big Picture: The Federal Health IT Strategic Plan & the Interoperability Vision for the Future

## Federal Health IT Strategic Plan

### VISION

High-quality care, lower costs, healthy population, and engaged people

### MISSION

Improve the health and well-being of individuals and communities through the use of technology and health information that is accessible when and where it matters most



### Goal 4 Objective A: Implement the Shared Nationwide Interoperability Roadmap



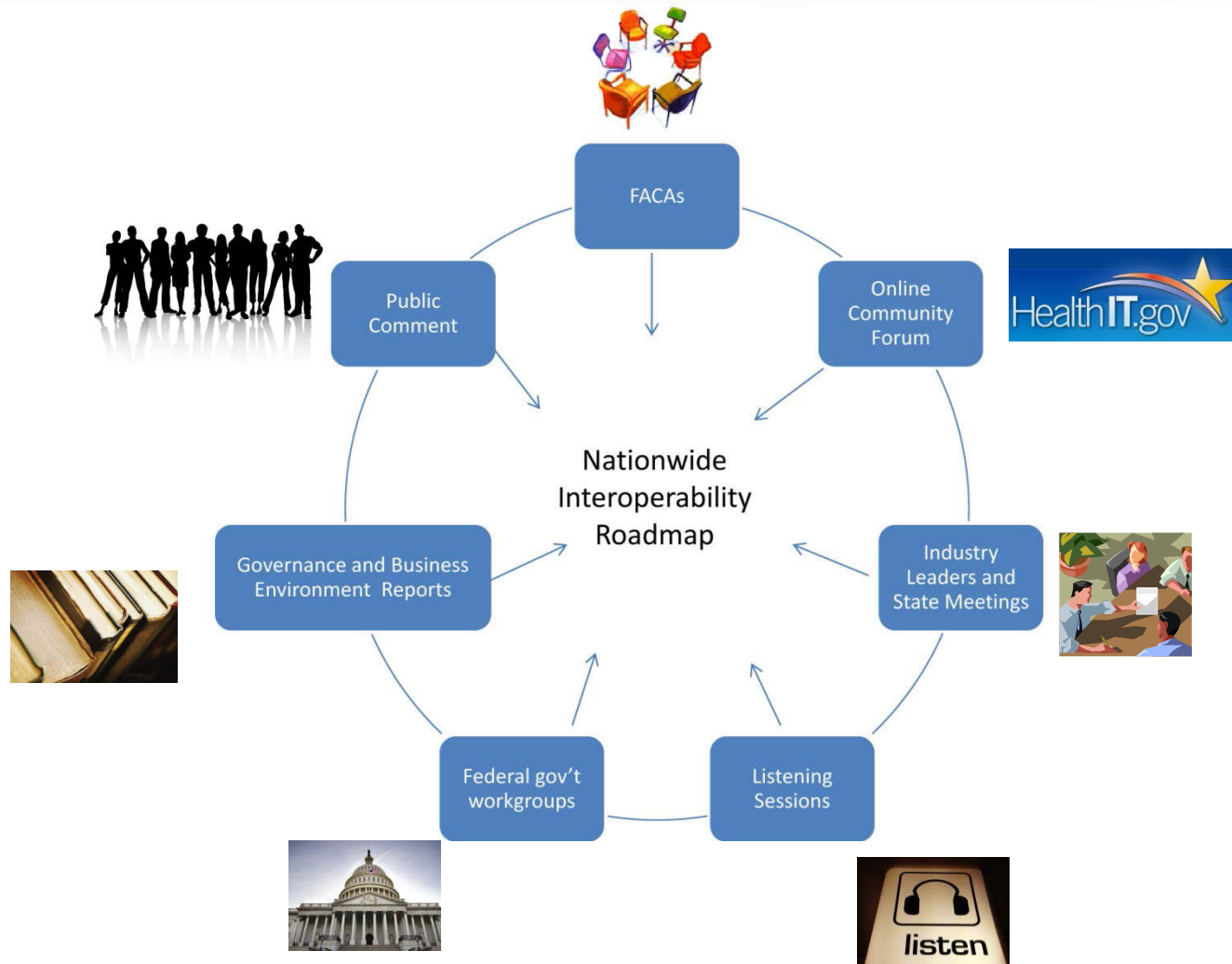
## ➤ IEEE as basis:

- The ability of a system to exchange electronic health information with and use electronic health information from other systems without special effort on the part of the user.

## ➤ Less Jargon-y:

- All individuals, their families and health care providers should be able to *send, receive, find and use* electronic health information in a manner that is *appropriate, secure, timely and reliable* to support the health and wellness of individuals through informed, shared decision-making.

# Vehicles for Stakeholder Feedback



- General agreement on interoperability requirements set forth in the draft, even if some disagreement about details
  - Recommendations to restructure the document
  - Mixed feedback on governance approach
  - Confusion about some privacy and security concepts, particularly related to permission/choice
  - Desire for more clarity/detail on standards direction
  - Call for unique health identifier

# Principle-based Interoperability



BUILD UPON EXISTING  
HEALTH IT INFRASTRUCTURE



MAINTAIN  
MODULARITY



ONE SIZE DOES  
NOT FIT ALL



CONSIDER THE CURRENT  
ENVIRONMENT AND SUPPORT  
MULTIPLE LEVELS OF ADVANCEMENT



EMPOWER  
INDIVIDUALS



SIMPLIFY



PROTECT PRIVACY AND SECURITY IN  
ALL ASPECTS OF INTEROPERABILITY



LEVERAGE  
THE MARKET



FOCUS  
ON VALUE



SCALABILITY AND  
UNIVERSAL ACCESS

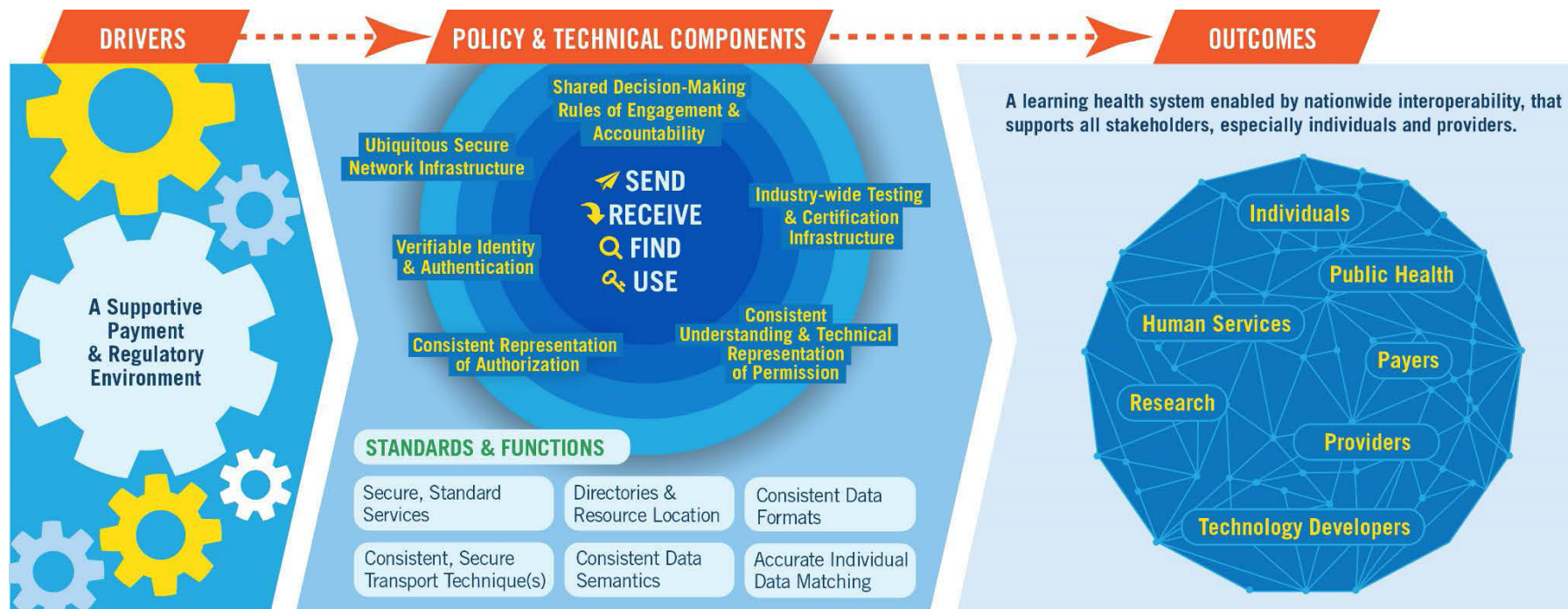
**2015-2017:** Send, receive, find and use priority data domains to improve health care quality and outcomes.

**2018-2020:** Expand data sources and users in the interoperable health IT ecosystem to improve health and lower cost.

**2021-2024:** Achieve nationwide interoperability to enable a learning health system, with the person at the center of a system that can continuously improve care, public health, and science through real-time data access.

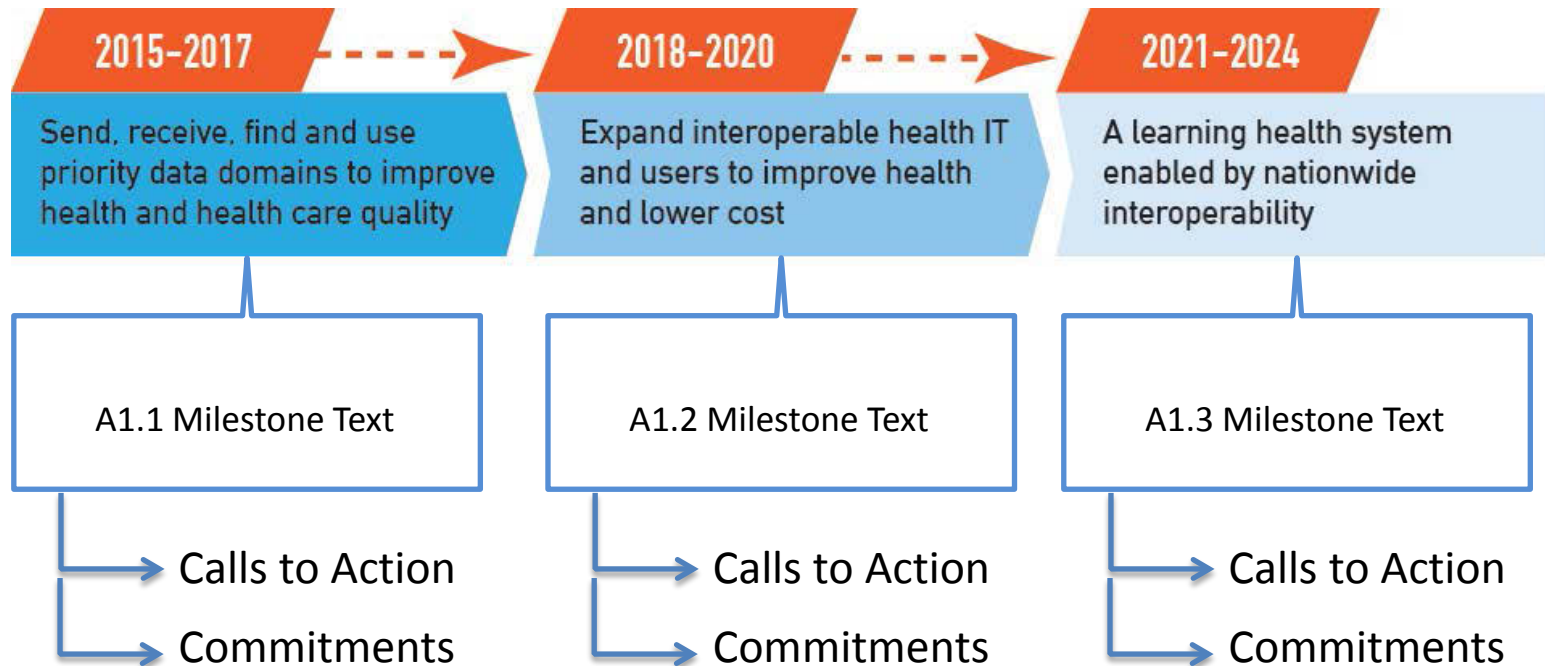


# Structure of the Final Roadmap





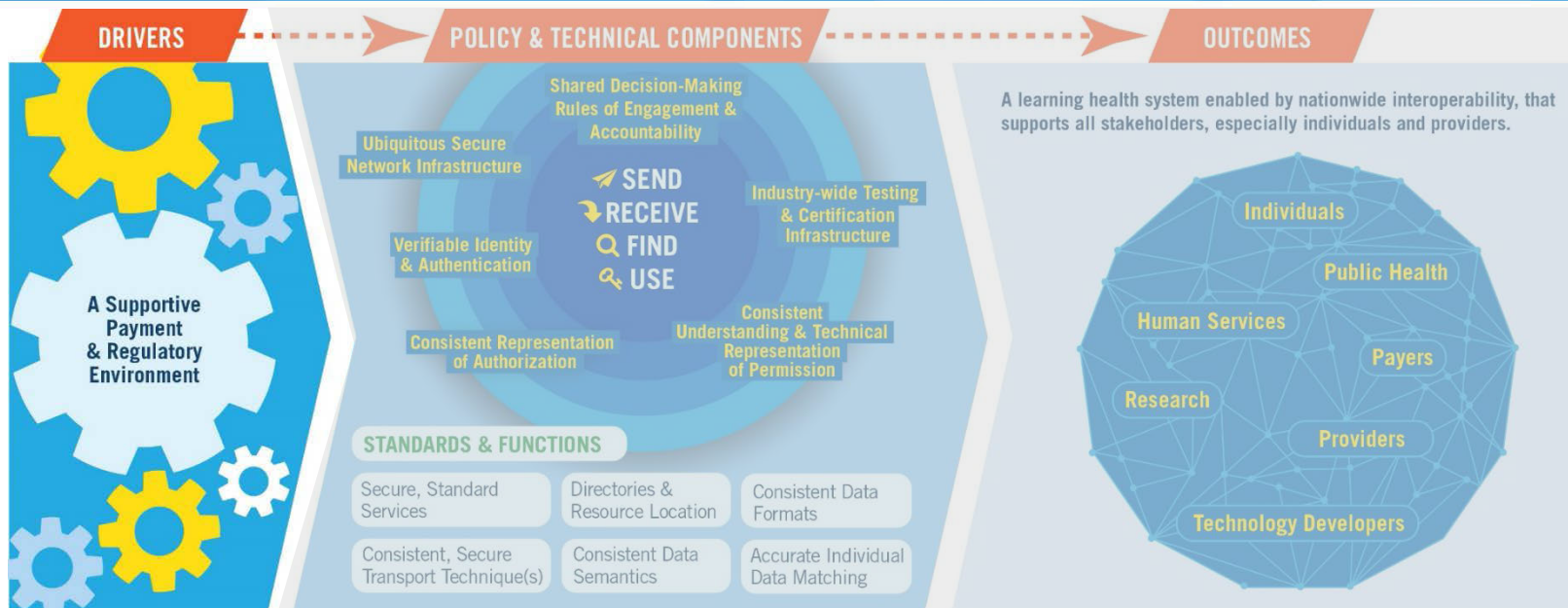
## Milestones



# Consolidated Section Tables

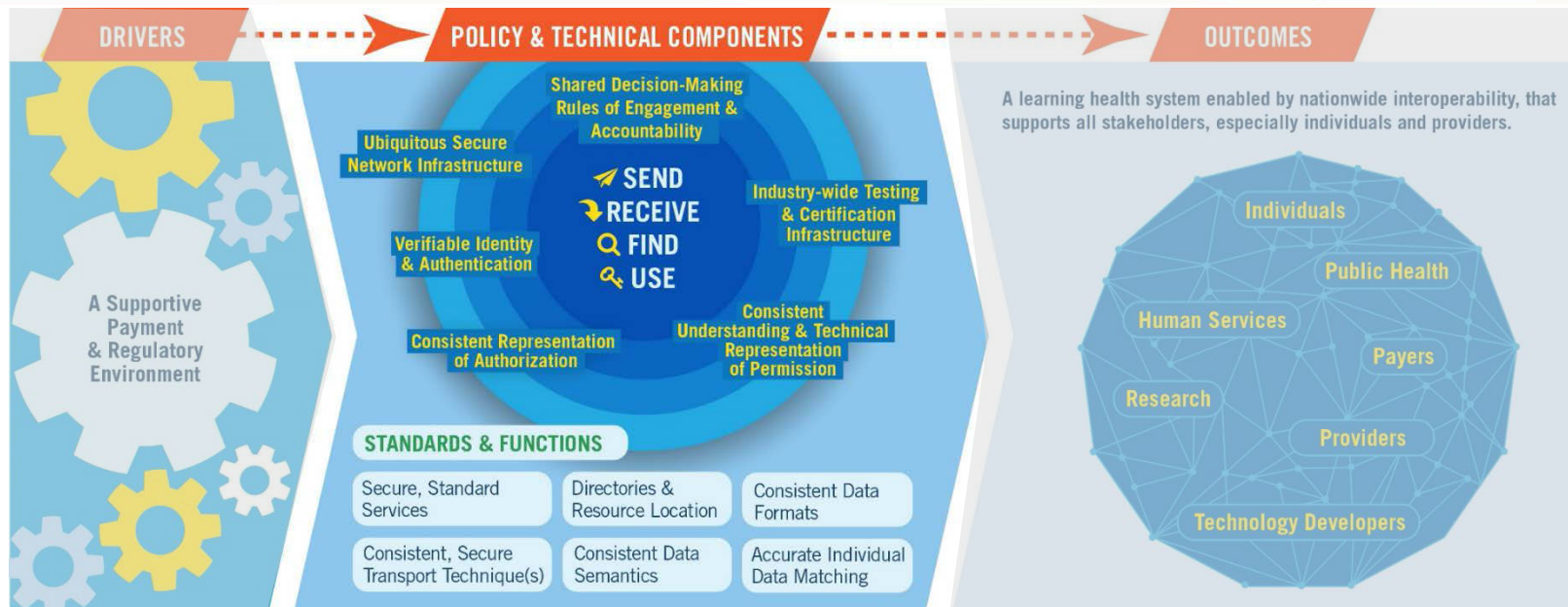
Table 4: Milestones, Calls to Action and Commitments for Verifiable Identity and Authentication of All Participants

| Category                   | 2015-2017<br>Send, receive, find and use priority data elements to improve health and health care quality  | 2018-2020<br>Expand interoperable health IT and users to improve health and lower cost  | 2021-2024<br>Achieve nationwide interoperability to enable a learning health system   |
|----------------------------|--|---|---|
| <b>D1. Milestones</b>      | 1. 65% of health care organizations permit patient access to patient portals via username and password plus knowledge-based attributes or emerging technologies in lieu of passwords to reduce vulnerabilities in identity theft.  | 2. At least 50% of health care organizations have implemented identity proofing and authentication best practices developed in D3.1.  | 3. 90% of health care registration systems support the creation of accounts for caregivers, proxies and personal representatives. |
| <b>D2. Calls to Action</b> | <p>1. Technology developers should develop or adopt innovative solutions, such as mobile technologies and RESTful approaches, to provide efficient, effective paths for individual and provider identity authentication.</p> <p>2. Health care organizations should work with Identity SDOs (e.g., SafeBioPharma, Kantara, OpenID foundation, OAuth2) to ensure health care use cases are addressed in identity management frameworks.</p> <p>3. Health care industry stakeholders should begin leveraging the Federal Identity, Credential, and Access Management (FICAM) Roadmap and Implementing Guide for identity management standards and best practices.</p> <p>4. The Federal Health Architecture (FHA) and participating federal agencies should adopt ONC recommended best practices on authentication.</p> <p>5. NIST, OCR, CMS, CDC, FDA and other stakeholders should collaborate regarding approaches for identity management, including HIPAA guidance for remote identity, authentication and access management.</p> | <p>6. Health care providers and their technical systems should allow authentication using credentials issued by other organizations by leveraging existing or emerging technologies.</p> <p>7. Health care providers and their technical systems should allow authentication using credentials issued by other organizations that meet ONC best practices.</p> <p>8. Health care organizations should find the right balance of security and usability by taking into consideration the diverse characteristics of their consumers.</p> <p>9. Health care organizations should adopt identity proofing and authentication best practices developed in D3.1.</p> | <p>Calls to action will depend on what the health IT ecosystem needs are as we move towards the 10-year timeframe.</p>            |
| <b>D3. Commitments</b>     | 1. ONC, in consultation with stakeholders, will establish and adopt best practices for provider and individual/consumer identity proofing and authentication, including specific levels of assurance, and will consult with OCR to ensure they are consistent with the HIPAA Security Rule and best practices already adopted for other comparable industries.   | <p>Calls to action will depend on what the health IT ecosystem needs are as we move towards the six-year timeframe.</p>   | <p>Commitments will depend on what the health IT ecosystem needs are as we move towards the 10-year timeframe.</p>                |



- A. A Supportive Payment and Regulatory Environment

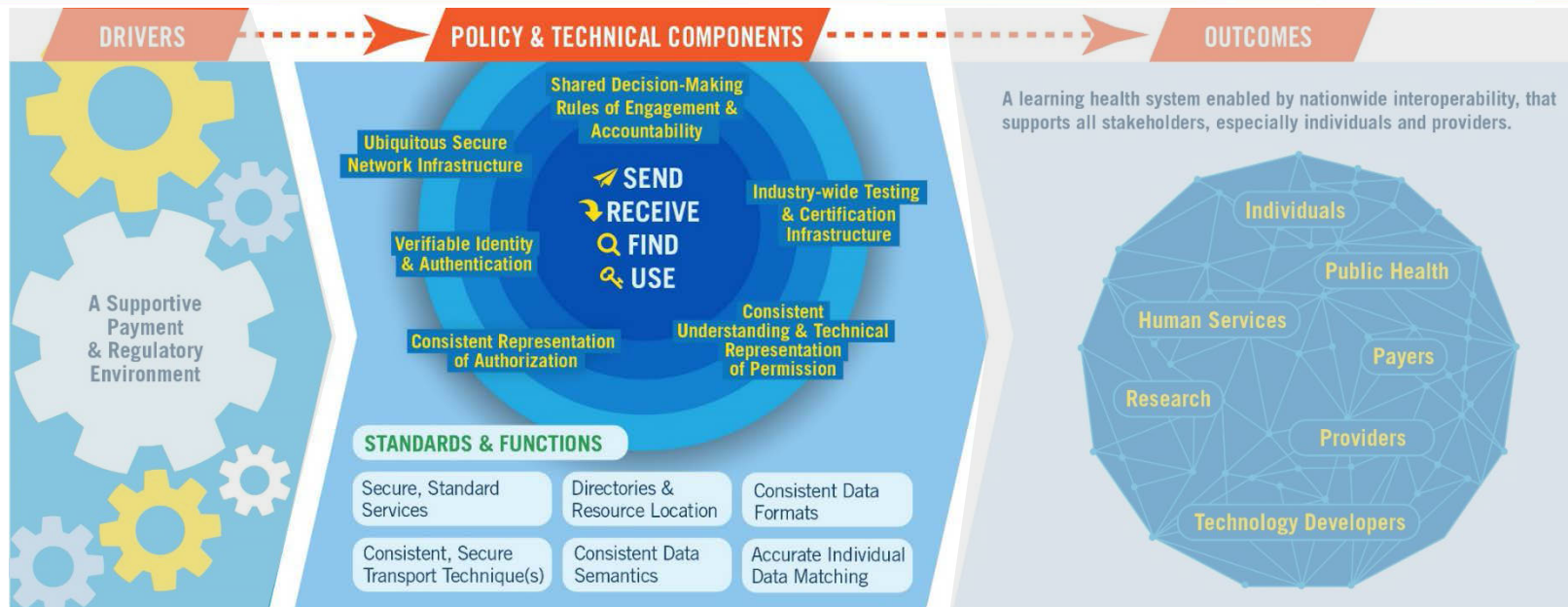
# Policy and Technical Components (1)



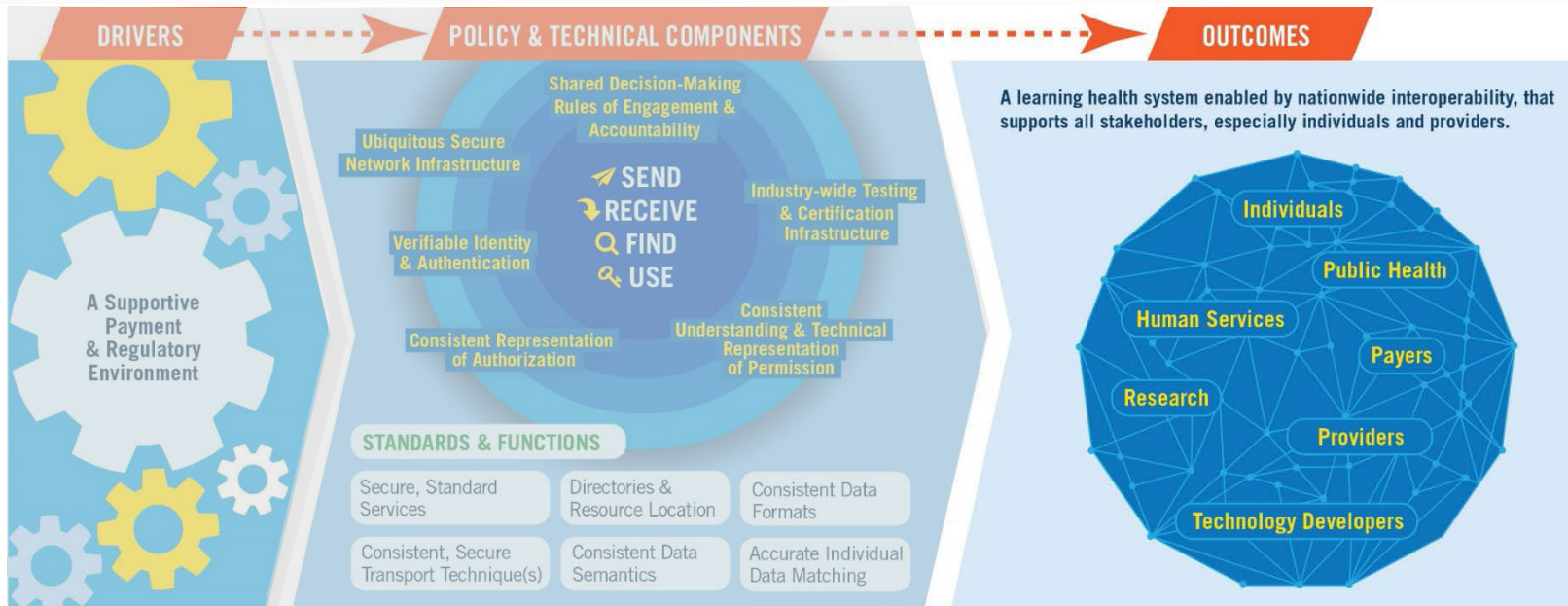
- B. Shared Decision-Making, Rules of Engagement and Accountability
- C. Ubiquitous, Secure Network Infrastructure
- D. Verifiable Identity and Authentication of All Participants
- E. Consistent Representation of Authorization to Access Electronic Health Information
- F. Consistent Understanding and Technical Representation of Permission to Collect, Share and Use Identifiable Electronic Health Information



# Policy and Technical Components (2)







- G. An Industry-wide Testing and Certification Infrastructure
- H. Consistent Data Semantics
- I. Consistent Data Formats
- J. Secure, Standard Services
- K. Consistent, Secure Transport Techniques
- L. Accurate Individual Data Matching
- M. Health Care Directories and Resource Location

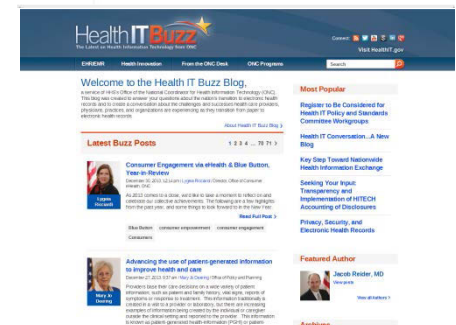


- N. Individuals Have Access to Longitudinal Electronic Health Information, Can Contribute to that Information, and Can Direct It to Any Electronic Location
- O. Provider Workflows and Practices Include Consistent Sharing and Use of Patient Information from All Available and Relevant Sources
- P. Tracking Progress and Measuring Success

# Stay Connected, Communicate, and Collaborate



- Browse the ONC website at: [HealthIT.gov](http://HealthIT.gov)  
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- Contact us at: [onc.request@hhs.gov](mailto:onc.request@hhs.gov)



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