



# *Introduction to Personal Health Records – Update: Implementation challenges*

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Markle Foundation

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**CONNECTING FOR HEALTH**<sup>SM</sup>  
MARKLE FOUNDATION *A Public-Private Collaborative*

# National trends

- President's 10-year commitment (2014?)
- HHS: American Health Information Community – Consumer Empowerment “Breakthrough”
- Congress – Carper, Porter, Kennedy bills for federal employees
- AHIP and BCBS – 100 million Americans
- Major employers – IBM, PepsiCo, Intel consortium
- Major providers – VA, Kaiser, Partners
- Consumer organizations – AARP, National Health Council
- Internet companies – Intuit, Microsoft, Google, WebMD

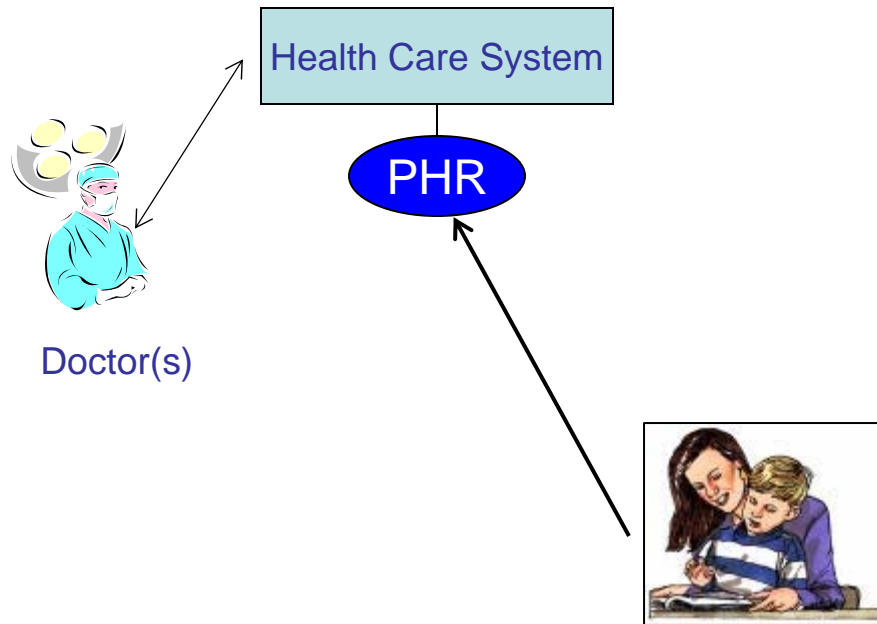
# What do we know about adoption and use so far?

- Provider portals reach 15-20% of patients to whom offered
  - Computer skilled
  - High users (visits, meds)
- Most other approaches with small uptake, except incentivized (e.g., IBM - \$150)
- Transactions heavily used
- Specialized products seem to have more user interest

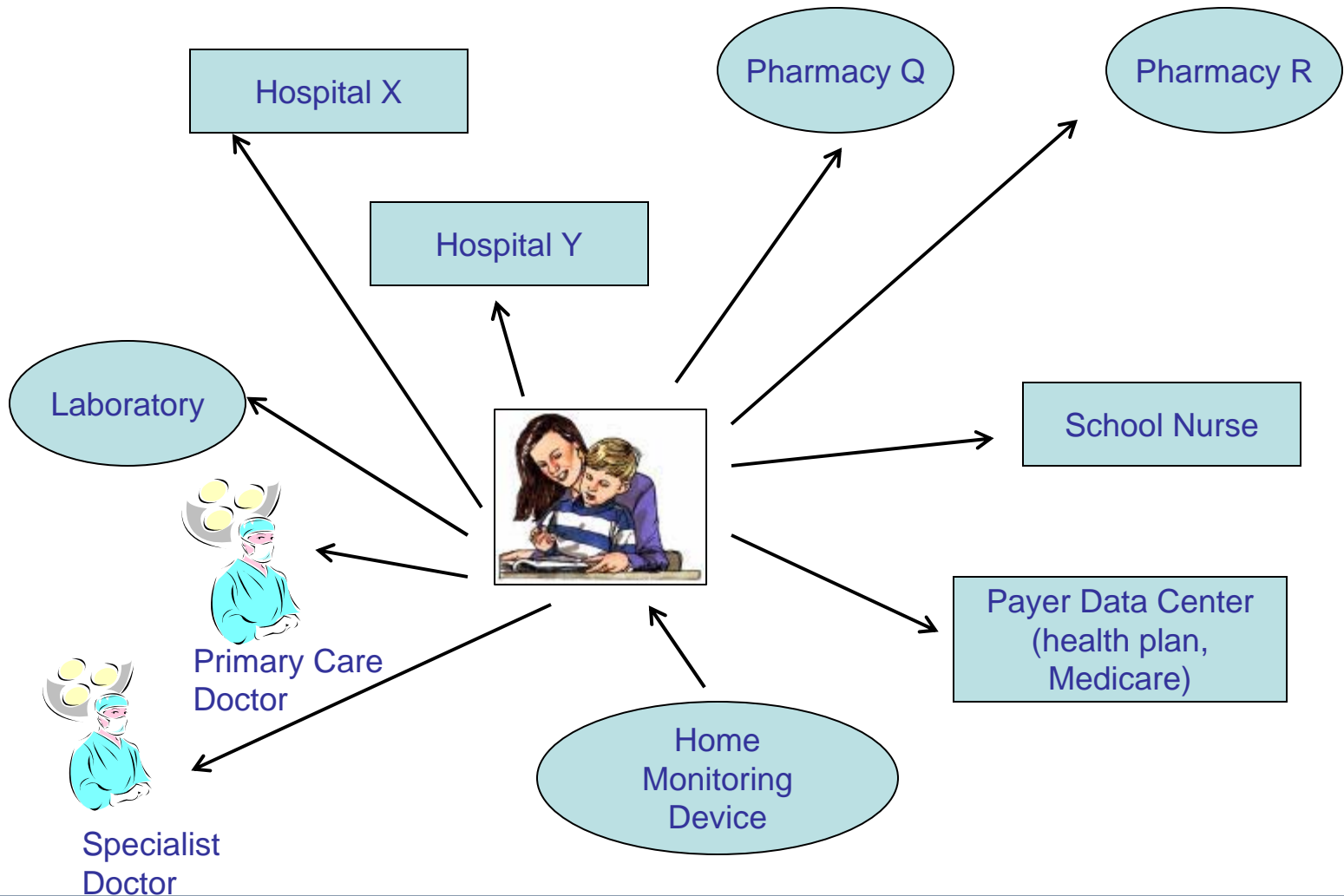
# The many sources of PHR – c. 2007

1. Providers and their portals
2. Employer sponsored
3. Health plan connected
4. Government agencies
5. Free-standing (“untethered”)
6. Dot-coms, internet portals
7. Pharmacies and PBMs
8. Device manufacturers
- 9. Affinity groups*
- 10. Financial services companies*

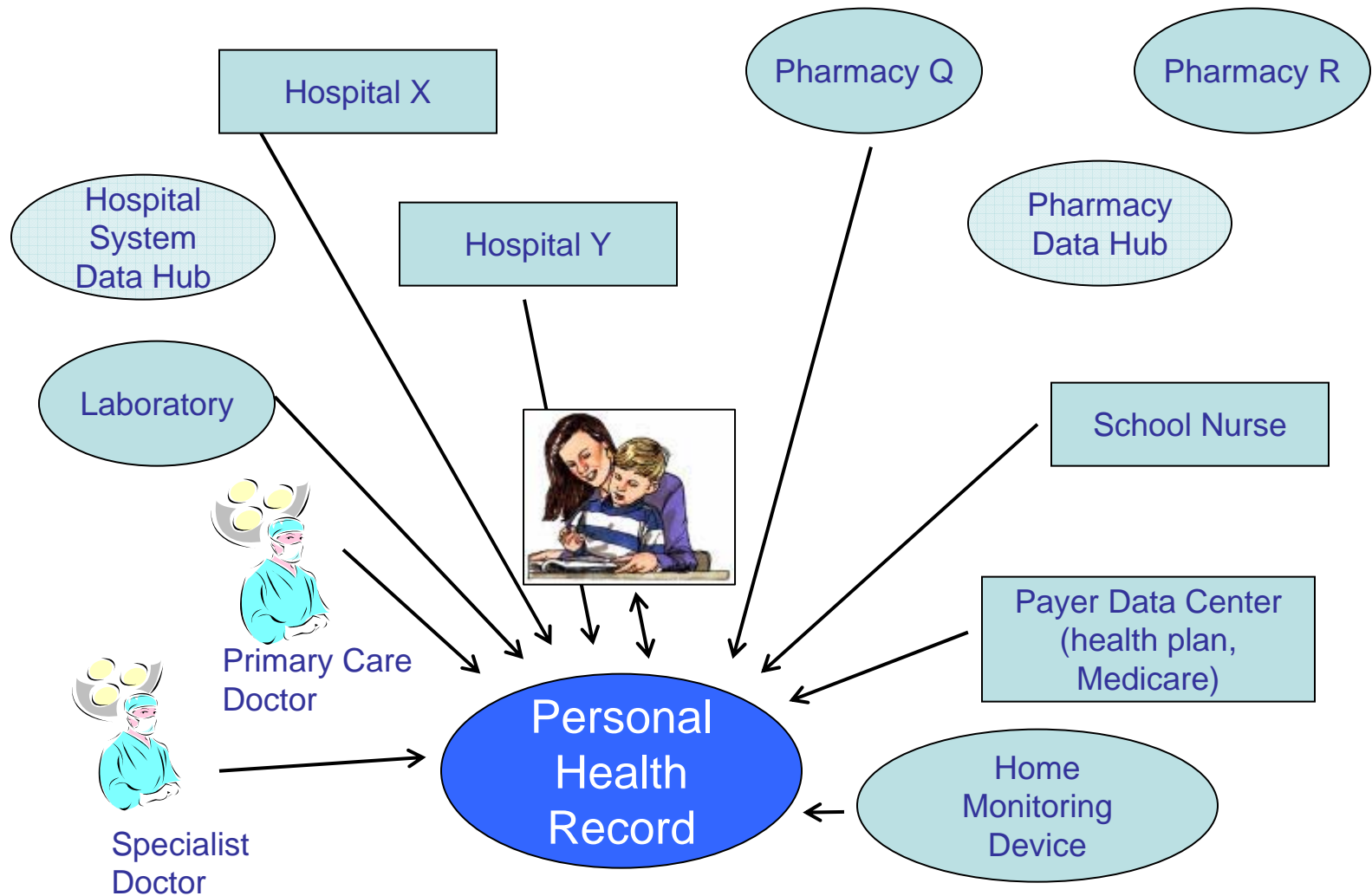
# The simple case



# The reality...



# The Networked PHR



# PHR landscape

- **Key question:** Are we headed for integration or just more silos?
- **Key wildcards:**
  - Public reaction to data spills
  - Congressional privacy debate
  - Public perceptions defined by one approach



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- Travel Deals
- Frequent Flyer
- Promotions
- Published Fares

**At the Airport**

- Airport Information
- Airport Parking
- Airport Delays
- Security Wait Times

**Travel Tools**

- Set-up Flight Alert
- My Flight Alerts
- Track Flight Status
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**After Your Trip**

- Rate an Airport
- Share Your Experiences

**Destination Info**

- Country Information
- Travel Warnings
- Travel Advisories
- Consular Information
- Sheets
- Airports of the World

**Historical Info**

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Flight:

Departure Date:

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View current US airport delays by using the [Current Airport Delays](#) application

**Track Flight Status Results**

Flight: [\(UA\) United Airlines 83](#)  
 Date: Dec 05, 2006  
 Status: En Route ■ On Time  
 Estimated Runway Arrival at 11:13 AM  
 Duration: 5h 49m  
 Equipment: 763

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- [Flight Events Timeline](#)
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**Departure**

Airport: [\(IAD\) Dulles International Airport](#)  
 Washington, DC, [US](#)  
 Scheduled: Tue - Dec 05, 2006 08:40 AM  
 Actual: Tue - Dec 05, 2006 08:59 AM (runway)  
 Gate: C12 (Terminal 1)  
 Weather: 26 °F (-3 °C)

- [Airport Information](#)
- [Performance Scorecard](#)
- [Delays](#)
- [Security Wait Times](#)
- [Weather](#)

**Arrival**

Airport: [\(LAX\) Los Angeles International Airport](#)  
 Los Angeles, CA, [US](#)  
 Scheduled: Tue - Dec 05, 2006 11:29 AM  
 Estimated: Tue - Dec 05, 2006 11:13 AM  
 Gate: 68B (Terminal 7)  
 Weather: 55 °F (12 °C)

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**Historical Performance**

Ontime: 93%  
 Ave Delay: 28 minutes  
 Rating: 3.5 of 5 ★★★★★

[Rating Details](#)

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**Positional Information**  
 Information available for flight while in US airspace  
 Flight: [\(UA\) United Airlines 83](#)  
 Equipment: 763  
 Latitude: 37-33-36.0N  
 Longitude: 87-34-12.0W  
 Speed: 392 kts  
 Altitude: 34,000 feet (10 km)  
 Bearing: 271 degrees  
 To LAX: 1,510 nm  
 From IAD: 484 nm

[Position Tracking Log](#)

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By Route | **By Flight** | By Airport

Airline: (UA) United Airlines

Flight: 83

Departure Date: December 05, 2006

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**Flight Events Timeline**

**FLEXIBLE DELIVERY**

- .NET CLIENT
- WEB CLIENT
- XML API
- XML MESSAGES
- DATA FEEDS

**DECISION SUPPORT & ANALYSIS**

- SCHEDULE & ROUTING SERVICES
- VISIBILITY & NOTIFICATION SERVICES
- FLIGHT HISTORY & STATISTICS SERVICES

**ENTERPRISE INFRASTRUCTURE**

- ENTERPRISE MESSAGE BUS, SECURITY & NOTIFICATIONS
- DATA AGGREGATION & DATA SOURCE MGMT.
- REAL-TIME DATA CONNECTION MGMT.
- FLIGHT & AIRPORT DATA WAREHOUSE

**DATA SOURCES**

- ORG FLIGHT SCHEDULES
- LINE HAUL TRUCK SCHEDULES
- GDS FLIGHT STATUS (SABRE)
- FAA FLIGHT & AIRPORT STATUS
- WEATHER DATA FEED
- BTS FLIGHT DATA



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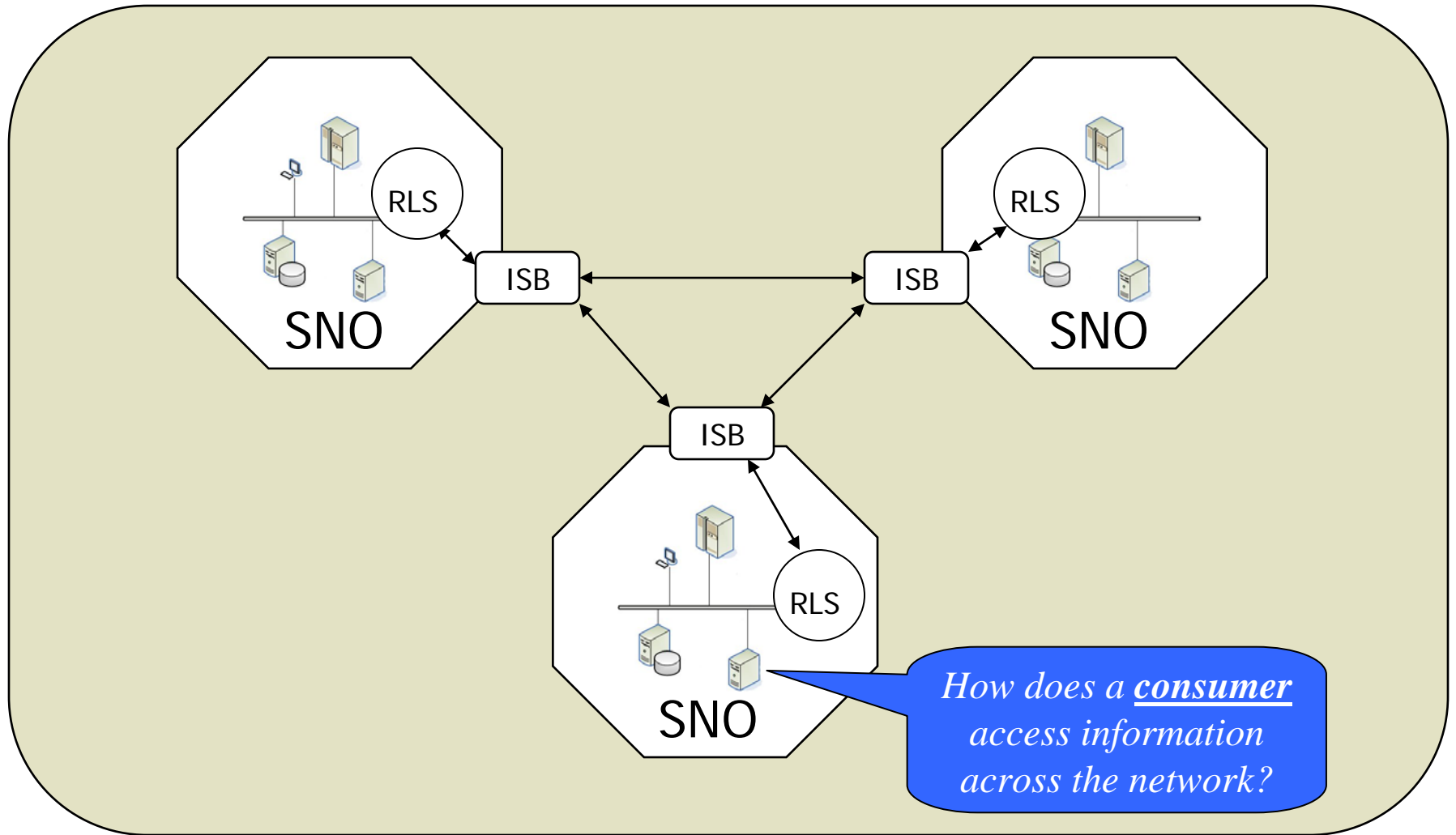
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# Features of a “networked” approach

- ‘Networked’ consumers drive transformative change in other sectors.
  - Content
  - E-commerce
  - Personal finance
  - Etc.
- A common ingredient is a fresh openness toward consumer access to, and contribution of, information.
- Truly “networked” PHRs would stimulate innovation.
- Consumers and health professionals gain opportunities to transform care delivery and roles.
- *A network needs common rules, particularly for privacy.*

*Creating a networked PHR  
environment that achieves  
sustainable consumer confidence*

# Common Framework architecture



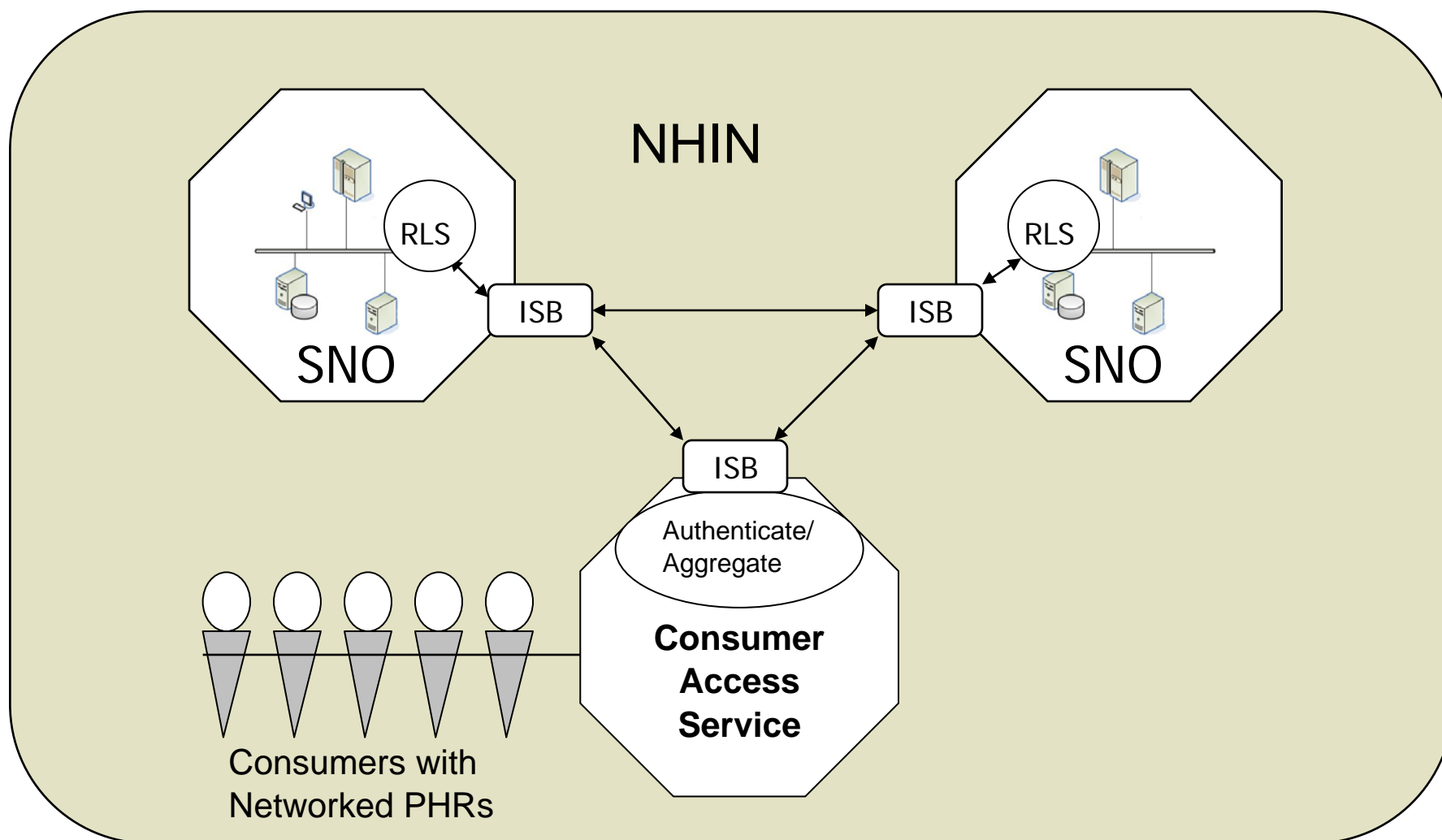


# Individual Consumers Will Need Mediating Bodies to Facilitate Their Access to the Network

## Functions:

- Distribute services to populations of consumers.
- Issue individuals' identity credentials and "vouch" for them as network users.
- Help consumers access and aggregate their personal health data and connect with various services.
- Assure that network-wide policies (e.g., privacy and information practices) are followed.

# Consumer Access Services



# Potential Sponsors of Consumer Access Services

- Affinity groups (e.g., AARP, labor unions)
- “Retail” PHR providers (e.g., WebMD, Intuit, Medem)
- Consumer portals (e.g., Google, Yahoo)
- Data clearinghouses (e.g., SureScripts)
- Retail pharmacies (e.g., Walgreens, Wal-Mart)
- Health plans (e.g., AHIP, BCBS)
- Provider organizations (e.g., VA, Kaiser Permanente)



# Keys to Success?

- Defining a Consumer Access Service that is trusted by consumers.
- Defining a Consumer Access Service that is trusted by other participants on the network.
- Determining minimum necessary privacy and security policies and practices.

# Needed policy framework for CAS

- Does HIPAA address privacy and security concerns?
- Authentication
- Authorization
- Consent and notification
- Consumer control of information sharing, including audit
- Rules for secondary use, data mining
- Consumer annotations and edits to their data
- Data management systems
- Governance, transparency, remedies

# Road to a Networked PHR

- High public interest in PHR features and services coupled with concern about privacy
- Many significant offerings in the works, with risk of creating new information silos
- All will face common challenges accessing data across the “network”:
  - Standards issues
  - Architecture issues
  - Policy issues
- A common policy and technical framework will be essential to achieved “networked” personal health record

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