

# Interoperability in Context

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# Barriers to interoperability

**no EHRs....**only 10% of physician practices and hospitals had an EHR in early 2000s

**fragmentation of the industry (demand and supply)....**collective action problem; classic public goods problem

**misaligned economics....**providers paid based on quantity not quality

**complex content....**medical information is inherently multifaceted and dynamic

**standards....**moribund technical standards

**heterogeneous laws....**state-level variation

**consumer indifference....**most patients don't have complex health care needs

## Short History of EHR Interoperability

### EHR adoption rates

Hospital    Physician

16	28	<b>2010:</b>	<b>“Blue Button” coined at Markle Foundation meeting to enable patient access</b>
		<b>2012:</b>	<b>View, Download, Transmit included in MU and EHR certification</b>
		<b>2011:</b>	<b>HL7 “Fresh Look” report calls for simpler standards</b>
		<b>2012:</b>	<b>“VDT” included in EHRs; FHIR development starts</b>
97	74	<b>2014:</b>	<b>JASON Task Force calls for APIs; Argonaut Project started</b>
		<b>2015:</b>	<b>APIs included in MU and EHR certification; Argonaut Project implementation guides published</b>
		<b>2017:</b>	<b>Carequality-CommonWell agreement announced; Various EHRs implement Argonaut Project FHIR specifications; Major EHR vendors launch app stores</b>
97+	85+	<b>2018:</b>	<b>Apple Argonaut Project FHIR specifications in iPhones</b>

Sources: Arien Malec, ONC

# Major interoperability patterns

**push (“send”)**



**pull (“query & retrieve”)**

- documents → data



eHealth Exchange™

**bottom-up (“consumer-enabled”)**



**Thank you!**



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