WHY YOUR CURRENT DATA STRATEGY MAY NOT WORK FOR VALUE-BASED CARE
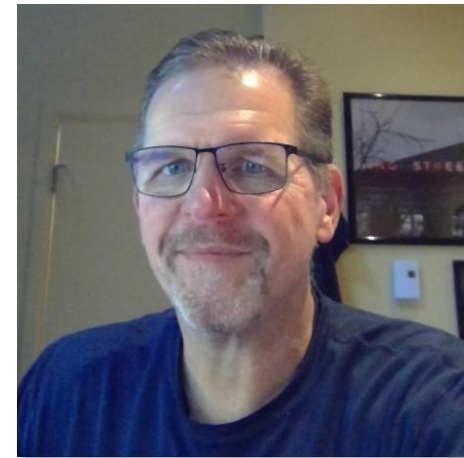## (AND HOW TO FIX IT)

September 16, 2021

Agenda

1. Why is a Data Strategy Change Needed?

2. What Data Strategy is better suited to support VBC?

3. Q&A

Today's **Presenters**

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VP, Customer Success
SpectraMedix

SpectraMedix Mission

Empower payers and providers with actionable insights as they transition to value-based care (VBC)

CERTIFIED
NCQA
HEDIS® MEASURES
2020
HEALTH PLAN AND
ALLOWABLE ADJUSTMENTS
MEASURES
SpectraMD USA, Inc dba SpectraMedix

CMS
CENTERS FOR MEDICARE & MEDICAID SERVICES

Star Ratings Measure List

ONC Certified HIT
2015 EDITION

The **SpectraMedix Solution Suite**

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APPLICATION

VBP Contract Modeler

Performance Analytics

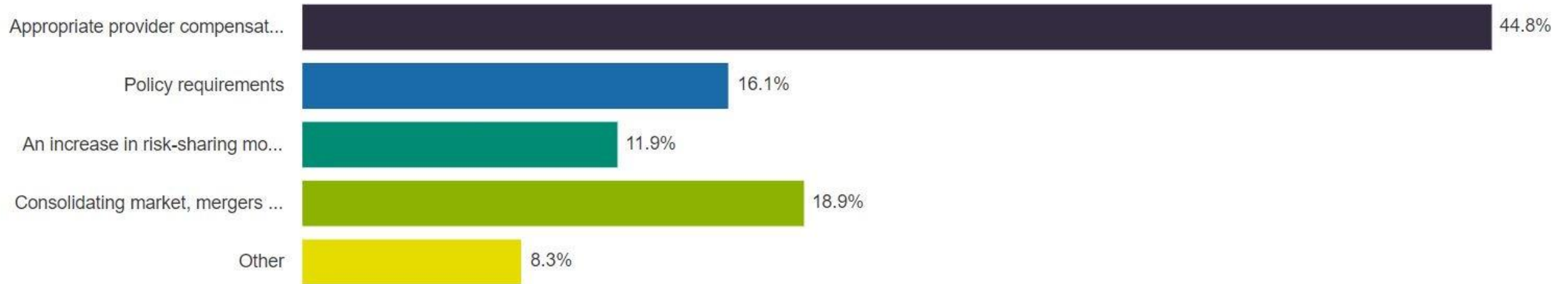**Real-Time Incentives**

Cohort Manager

Factors Accelerating **VBC Adoption**

What factors do you believe would accelerate the adoption of value-based care?   143 Responses

Factor	Percentage
Appropriate provider compensat...	44.8%
Policy requirements	16.1%
An increase in risk-sharing mo...	11.9%
Consolidating market, mergers ...	18.9%
Other	8.3%

Source: 2019 Definitive Healthcare's first-annual value-based care trends survey

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Data and Healthcare Today - **Some Facts to Ponder**

- *The volume of data generated within the healthcare industry is doubling every 73 days!*

- *80% of healthcare data is locked in unstructured data types*

- *According to recent survey data, nearly 36% of all U.S. health care payments were tied to alternative payment models; 25% is tied to value-based contracts*

- *A third of Medicare patients have four or more chronic conditions; 6% of patients represent 75% of healthcare costs*
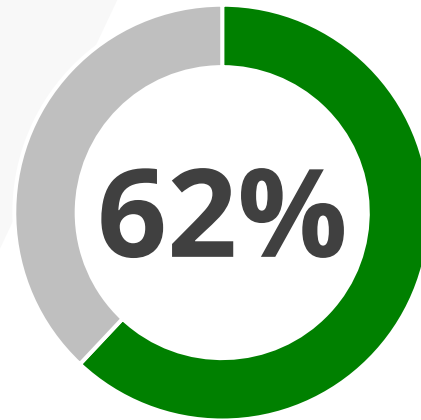
Poll

Do you know which high risk patients in your population are covered under a value-based contract?
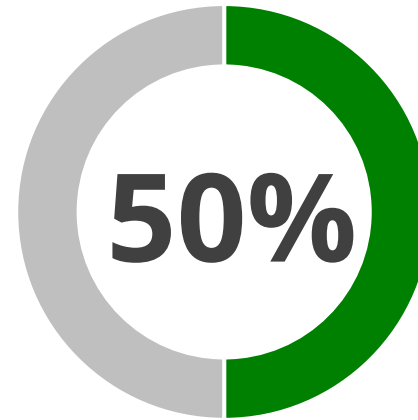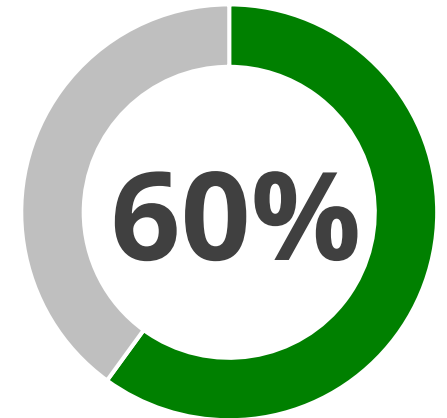
VBC Today – **Provider Perspective**

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25%
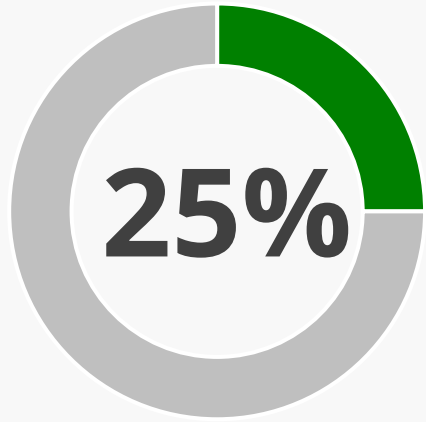
healthcare organization revenue tied to value-based payments

62%

plan to enter into or expand VBP participation in the next two years

50%

believe VBP will become the primary revenue model in the next five years

60%

intend to invest in new technologies in the short term

Do you know what technology investments will help you be successful in VBC?

Poll

Do you know what technology investments will help you be successful in VBC?

Why is a Data Strategy Change Needed?

Today's **Data Strategies**

- Data Warehouses

  - Typically built on relational database management systems (Microsoft SQL, Oracle, IBM Db2)

- EMR/EHR systems

  - Typically RDMS-based or a non-SQL DBMS (like Intersystems Cache)

  - Vendor proprietary data models, schema

  - Health Systems may have multiple EMR systems, each with different RDBM schema

- **A standard healthcare data model has yet to be widely adopted by the industry**

Today's **Relational Data Models**

- Support current financial, clinical and business operations, management and reporting (internal & external)

- Data schema were defined up front for known relationships and use cases

- Not well suited for the dynamics of analytics
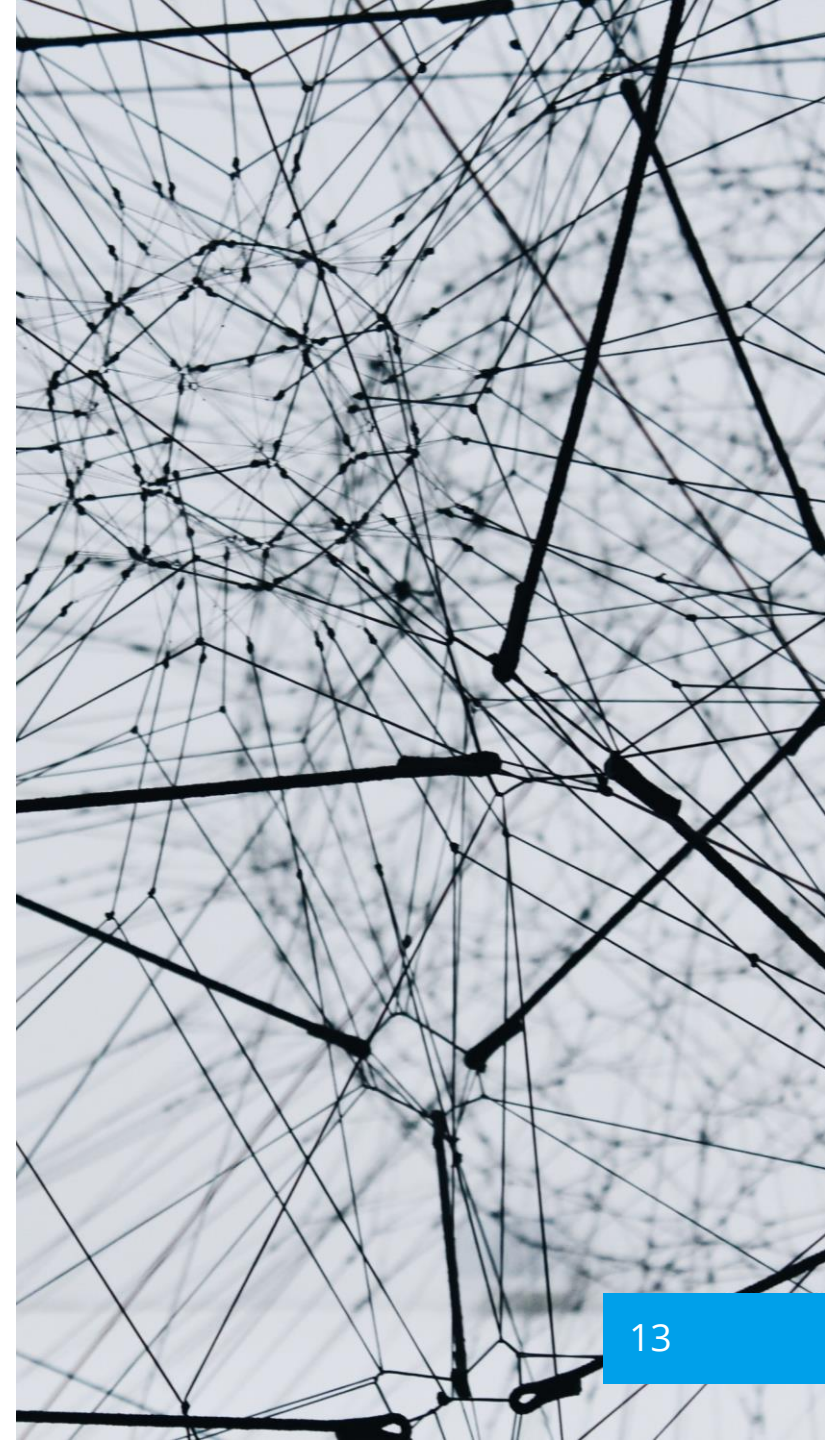
Today's Data 101 **Refresher**

- **Acquisition from Common Sources**
  - CIS: EMR/EHR and other clinical information systems
    - Clinical data (ADT/visits, vitals, lab results, problem lists, medications, H&P, discharge summaries, etc.)
  - Care Management systems
    - Assessments, SDOH, treatment plans, referrals, utilization management
  - Billing/Claims systems
    - X.12 837, 835 transactional data
    - Payer adjudicated medical & pharmacy claims
- **Integration**
  - ETL processing
    - EMPI, code translations, normalization
  - Traditional Data Warehouse as Repository
    - Relational DBMS (SQL, Oracle)
- **Interpreting**
  - Using the data in meaningful ways
    - Defined up front for known usage (as in RDBM)

What Data Strategy is Better Suited to Support Value-Based Contracting?
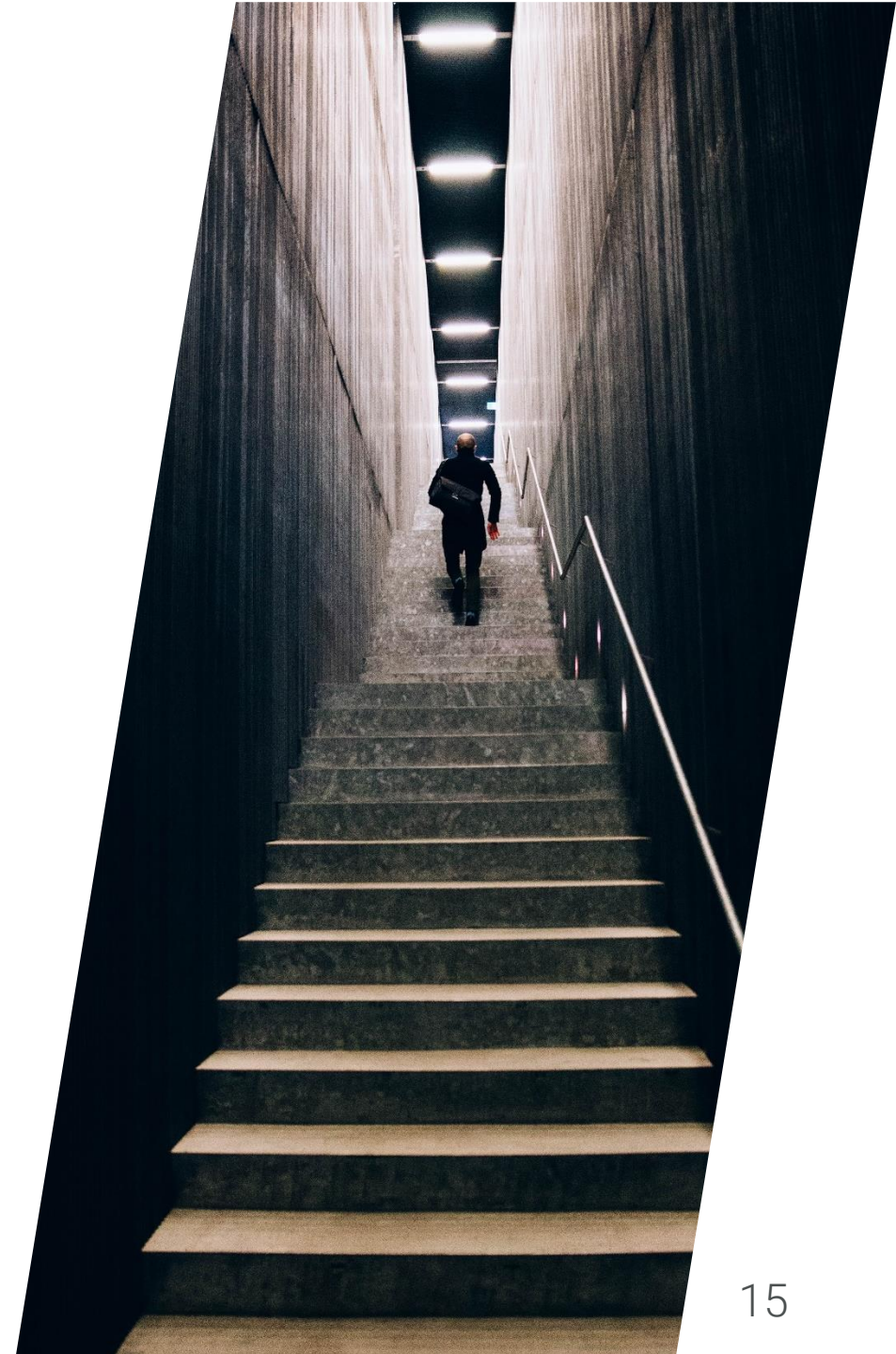
A Data Strategy for VBC

According to Gartner, *"The shift from centralized to distributed working requires organizations to make data, and data management capabilities, available more rapidly and in more places than ever before."*

"Big Data" comes of age in Healthcare

Big data architecture refers to **the logical and physical structure that dictates how high volumes of data are ingested, processed, stored, managed, and accessed**.

The hallmarks of **Big Data** are:
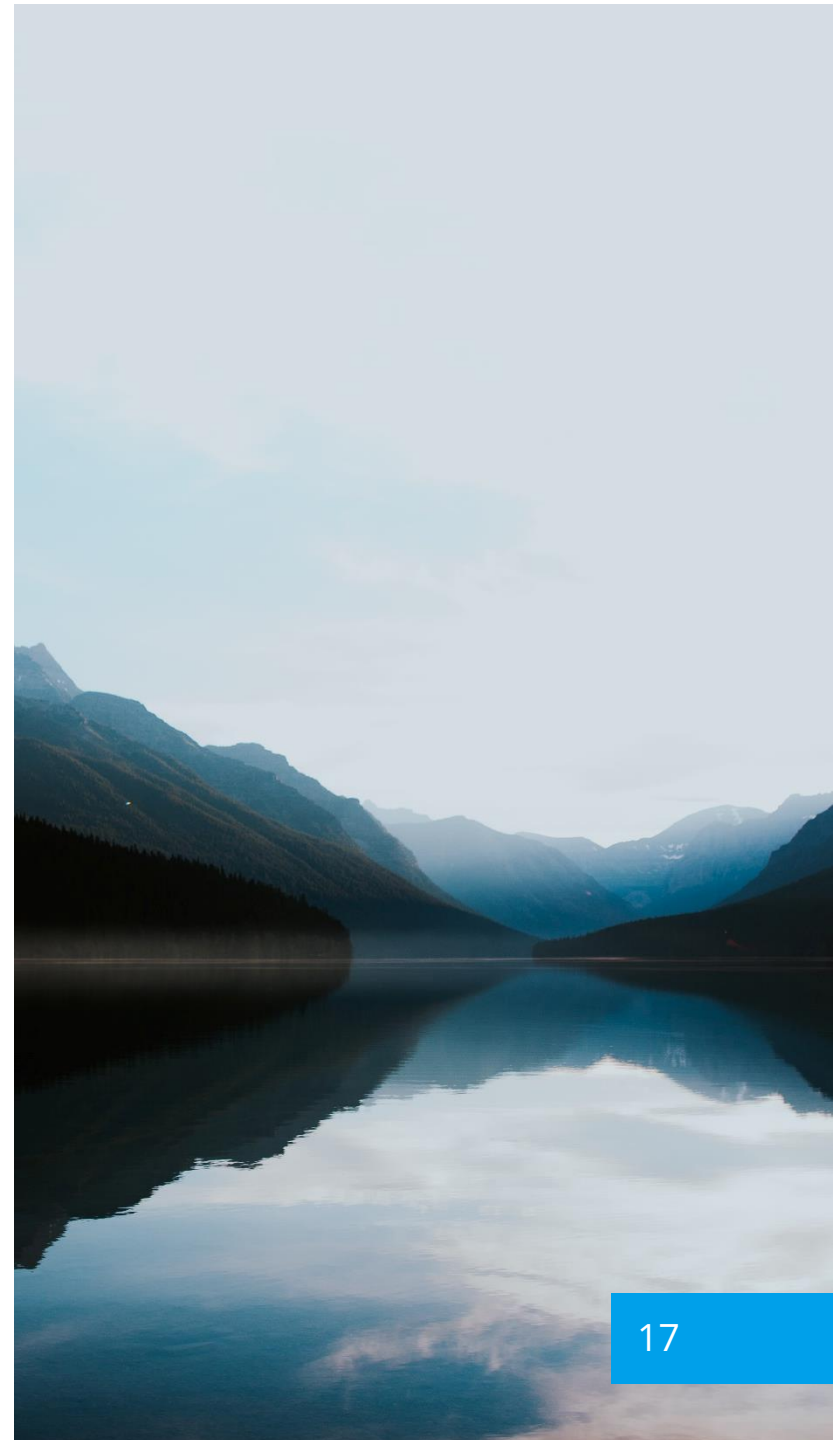   Volume
          Velocity
              Variety

Volume

Higher volumes of data from additional sources require different storage models and rapid provisioning, a

- Storage models
 - NoSQL data stores
  - Columnar data stores

Velocity

- Streaming or frequent bursts of data from smart medical and wearable devices and apps

- Still need same daily, weekly, monthly data feeds as

Variety

- Structured: What we're used to getting and using for administrative, financial, clinical operations and reporting
  - Not all data in a structured <u>format</u> is codified!
- Unstructured:
  - <u>80% of healthcare data is locked in unstructured data types</u>
  - The role of natural language processing and machine learning in effectively managing cost-effective population health
- Standardized: Formats and exchange methodologies
- Codified: Consistent, uniform usage of code sets (ICD, LOINC, NDC, etc.)
- New types of data to improve health status of high and rising risk cohorts
  - "smart" medical and wearable devices
  - SDOH data
  - Public databases (911, census, housing, crime, HCUP, CMS LDS)

FHIR Data Model
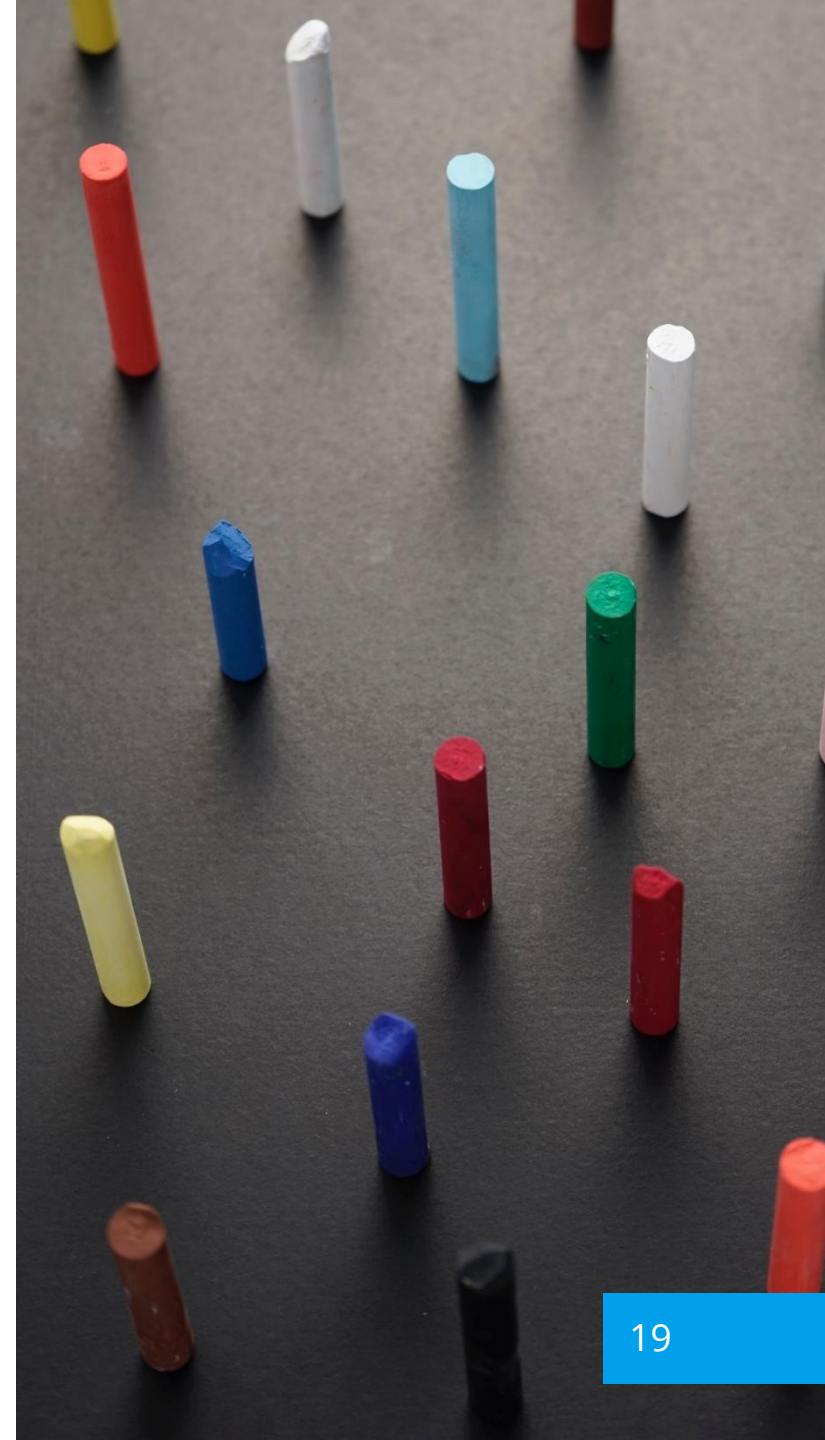
> *FHIR resources can be used **to build documents that represent a composition**: a set of coherent information that is a statement of healthcare information, particularly including clinical observations and services"*

Broadly, the FHIR specification is broken up into a set of modules:

Foundation: The basic definitional infrastructure on which the rest of the specification is built
Implementer Support: Services to help implementers make use of the specification
Security & Privacy: Documentation and services to create and maintain security, integrity and privacy
Conformance: How to test conformance to the specification, and define implementation guides
Terminology: Use and support of terminologies and related artifacts
Linked Data: Defined methods of exchange for resources
Administration: Basic resources for tracking patients, practitioners, organizations, devices, substances, etc.
Clinical: Core clinical content such as problems, allergies, and the care process (care plans, referrals) + more
Medications: Medication management and immunization tracking
Diagnostics: Observations, Diagnostic reports and requests + related content
Workflow: Managing the process of care, and technical artifacts to do with obligation management
Financial: Billing and Claiming support
Clinical Reasoning: Clinical Decision Support and Quality Measures

HL7 FHIR

Migrating to a Cloud-hosted **Data Lake Architecture**

- Cloud-hosted Data Lakes provide a data architecture that's flexible, extensible and rapidly provisioned

- Analysis can be faster directly from the Data Lake because you're not constrained to a predefined schema

- Data are more readily accessible later for usages yet to be determined or unknown (data mining)

Some popular data lake products include: *Microsoft Azure Data Lake, AWS Lake Formation, Data Bricks Lake House, Dremio (open source or commercial versions)*

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A **Data Lake Architecture**

Poll
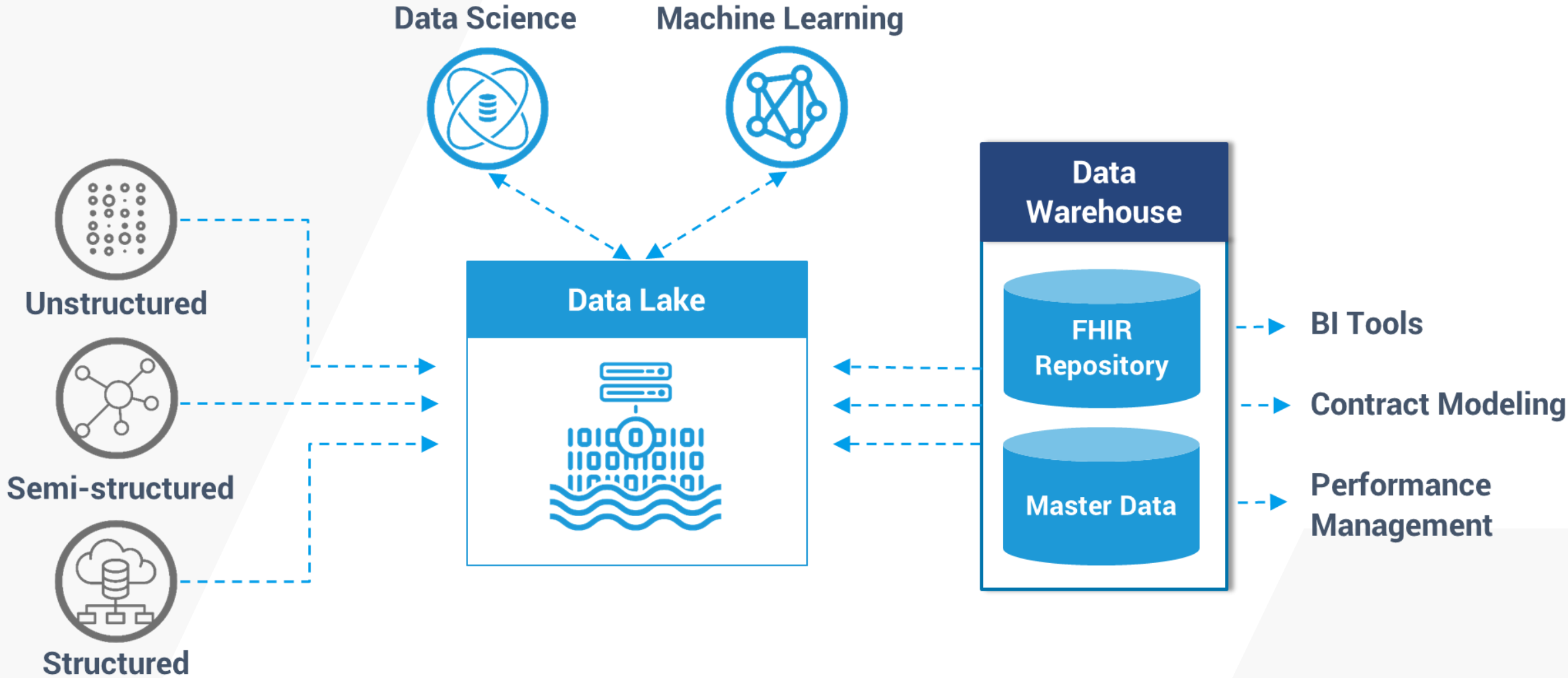
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Did you find this presentation helpful for planning your data strategy?

Q&A

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Thank You!

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