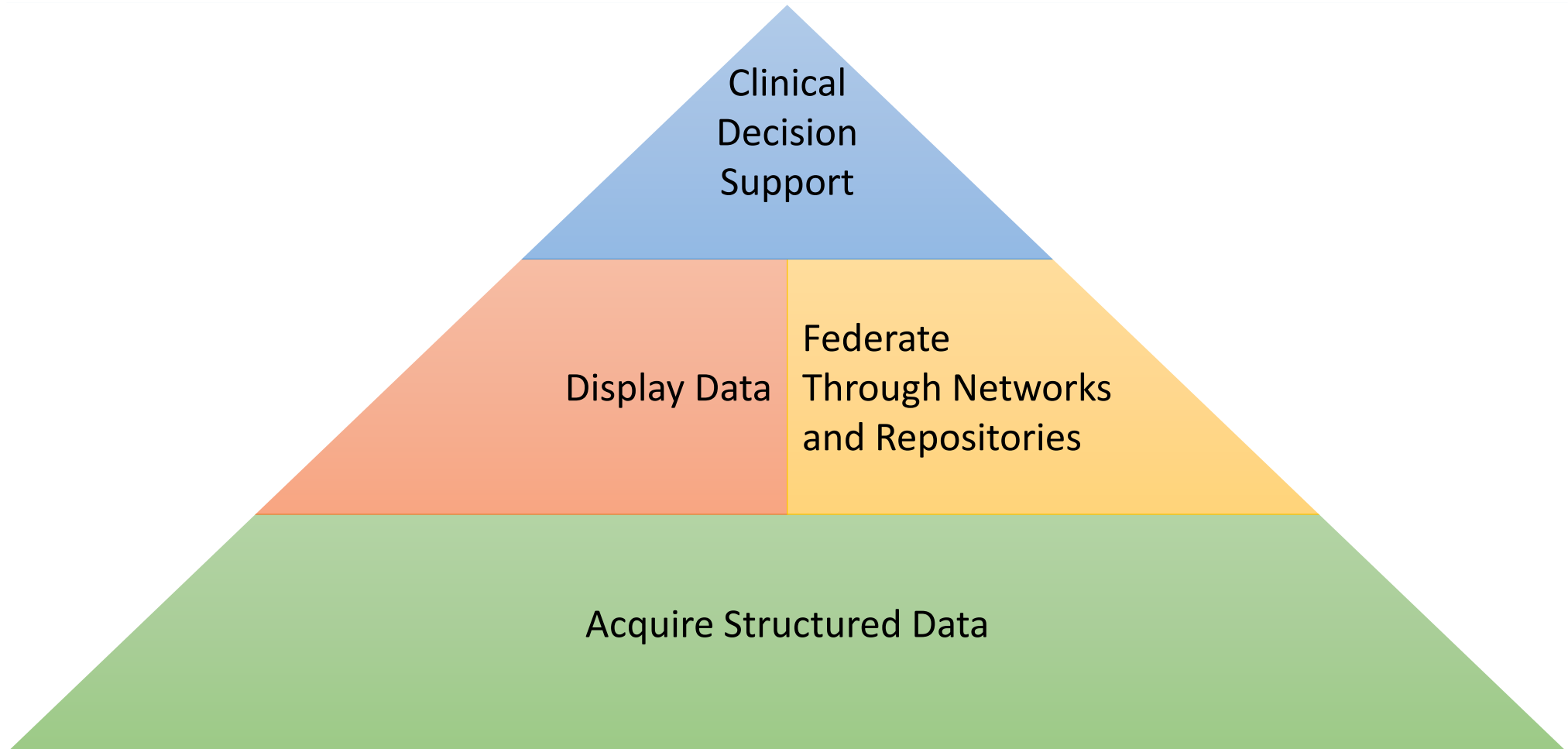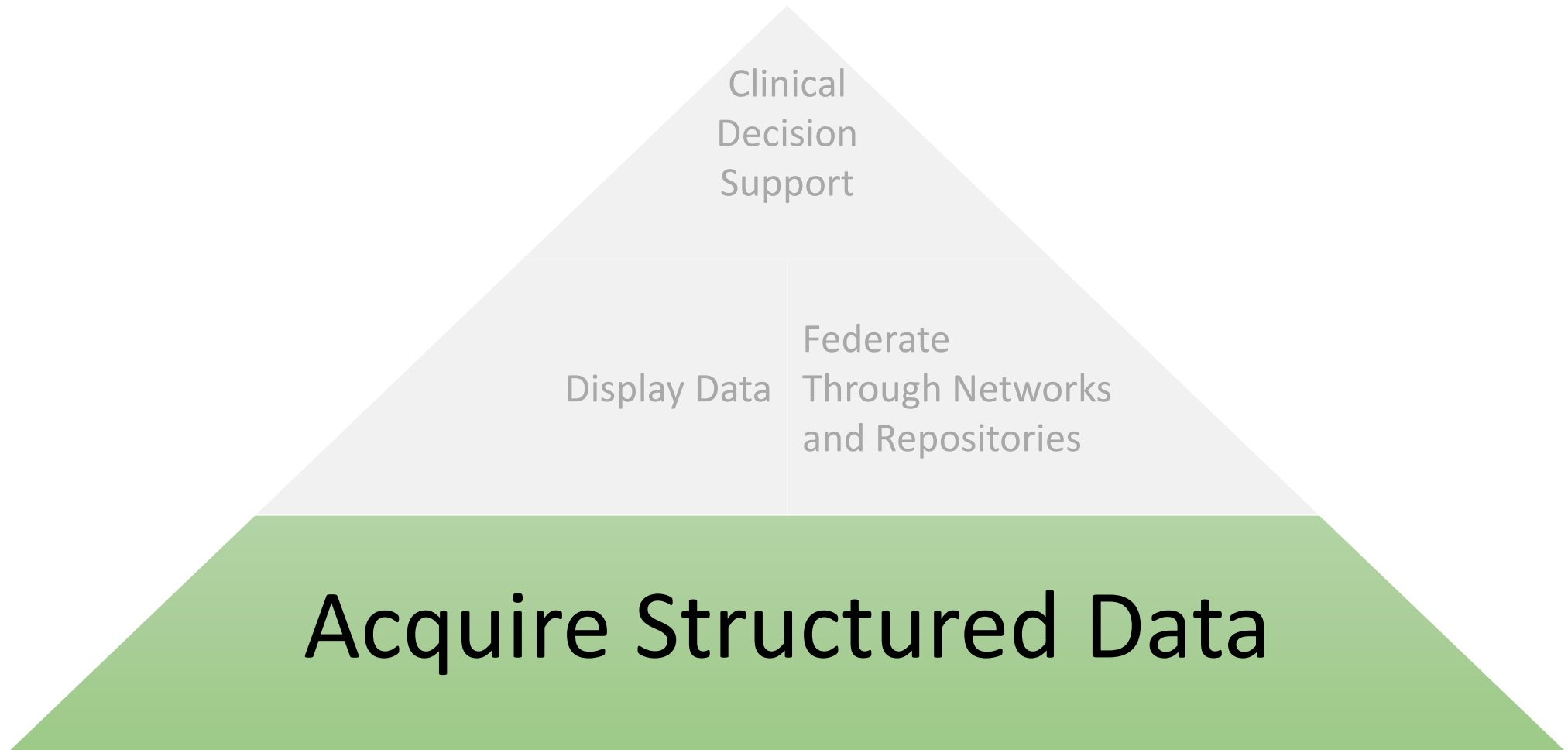# Clinical Informatics for Varied EHR Systems

State of Science and Gaps
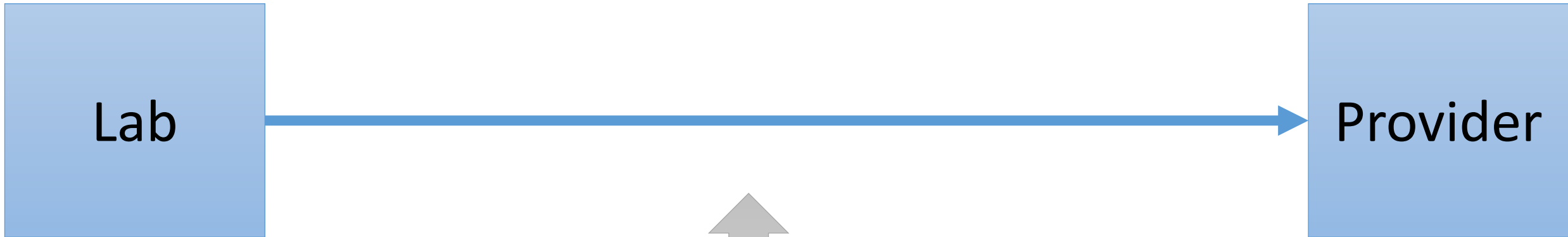
Provider Side Clinical Genetics IT Support

Provider Side Clinical Genetics IT Support

Clinical Decision Support

Display Data

Federate Through Networks and Repositories

Acquire Structured Data

Genetic Results Transmission

Lab → **Provider**

Types of Tests
Genotypes
Panels
Exome Results
Genome Results

Amount of Structure
Patient Demographics
PDF
Variants (HGVS|Genomic Coor)
Interpretations (Variant|Gene|Test Level)
Test Coverage
Meta Data |Annotations

Scope
Reported data
All Variants
Raw Data

Security
Secure Conduit
BAA Required?
Authentication

Transfer Method
HL7 v2|3 Push
FHIR
Batch File Transfer

Onotogies|Codes
Variants | Genes
Diseases
Tests
Results
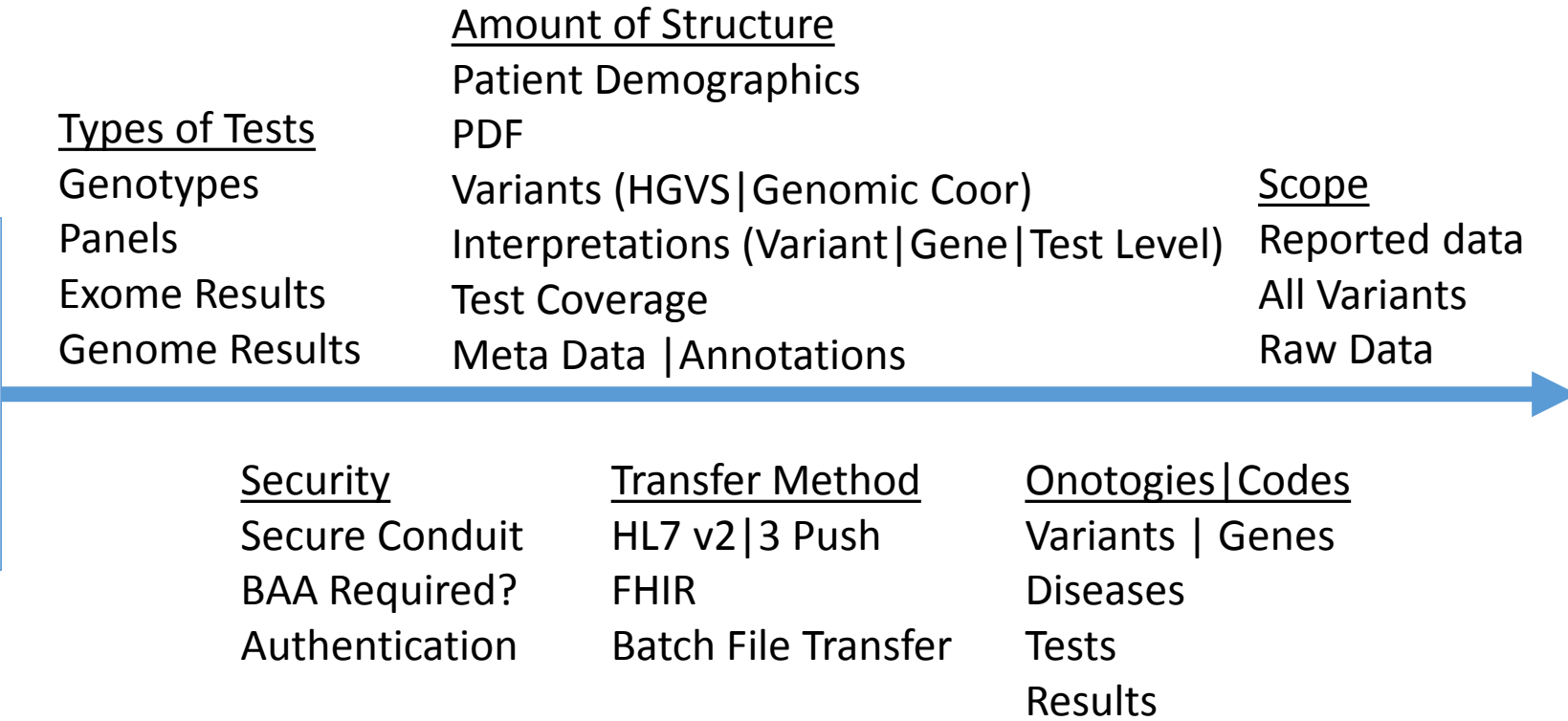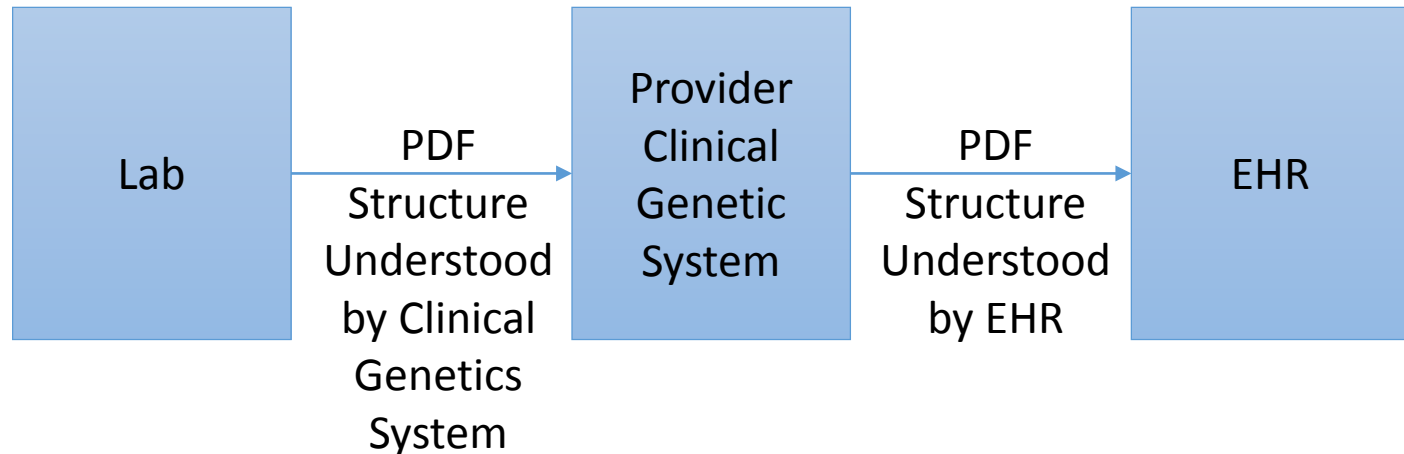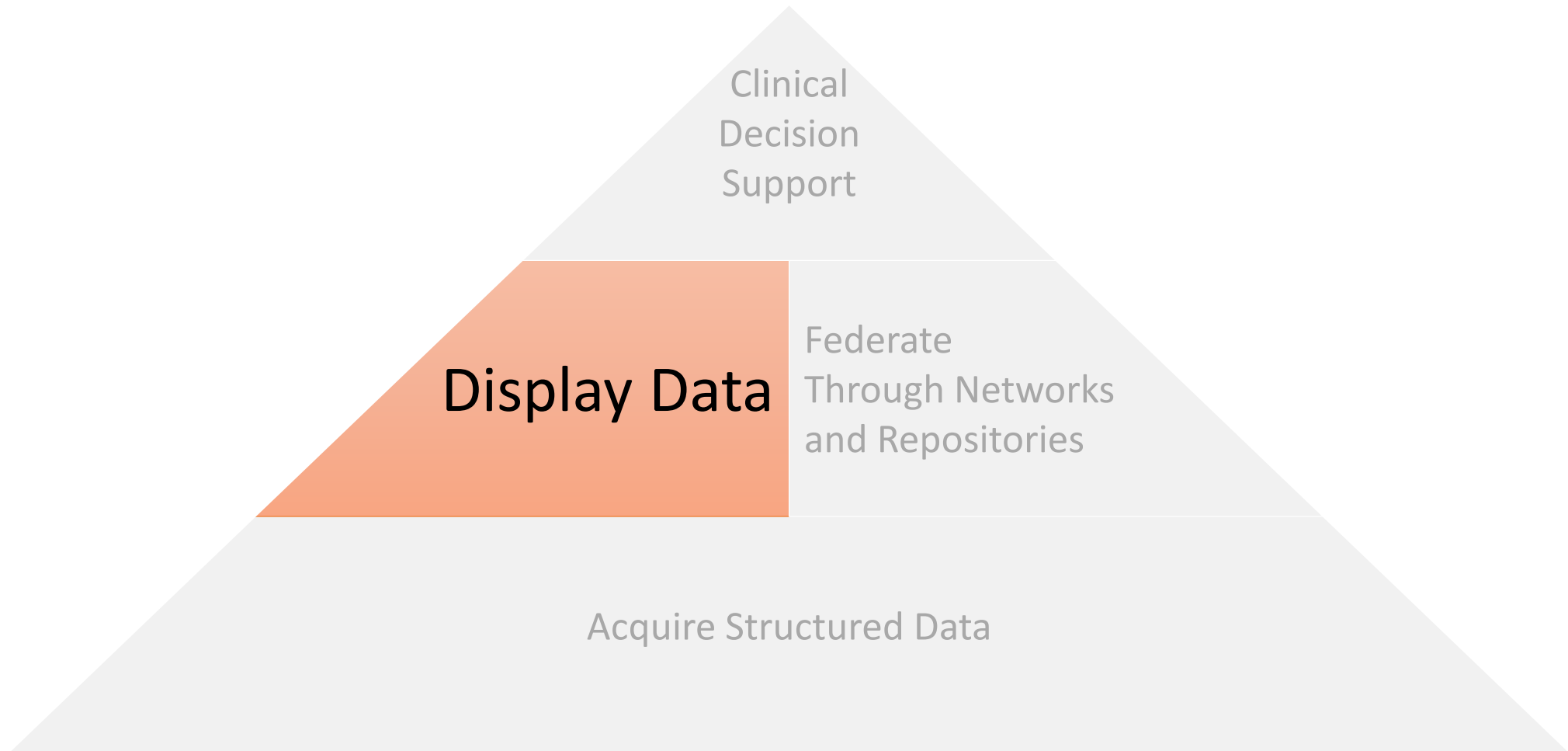
Provider EHR Ecosystem Options

Direct to EHR

Lab → EHR
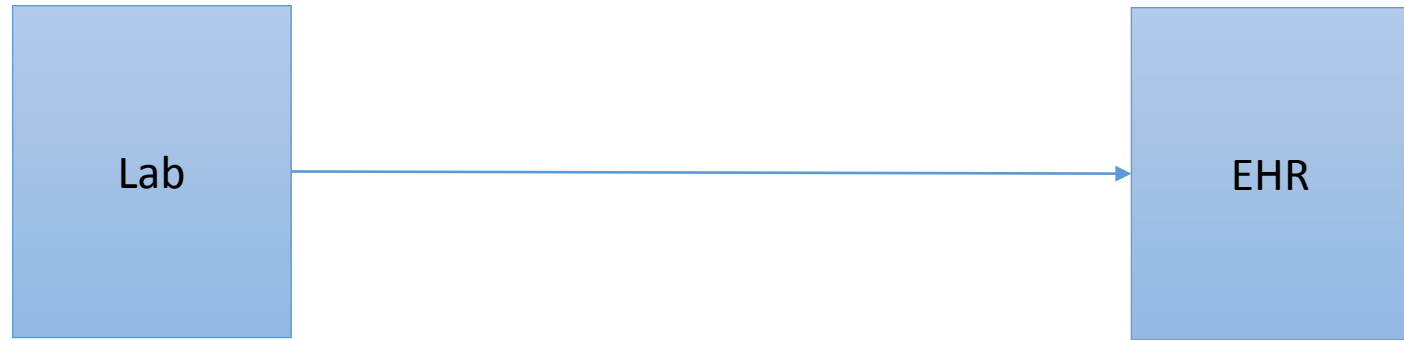
With Specialized Clinical Genetic System Intermediary

Lab → PDF Structure Understood by Clinical Genetics System → Provider Clinical Genetic System → PDF Structure Understood by EHR → EHR
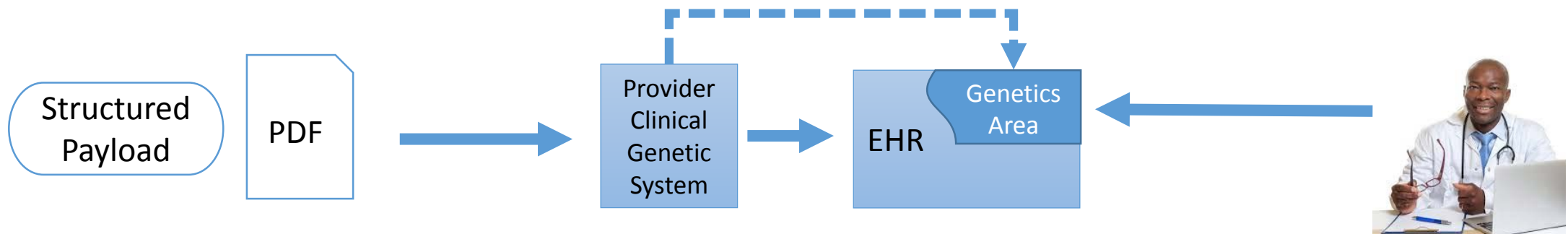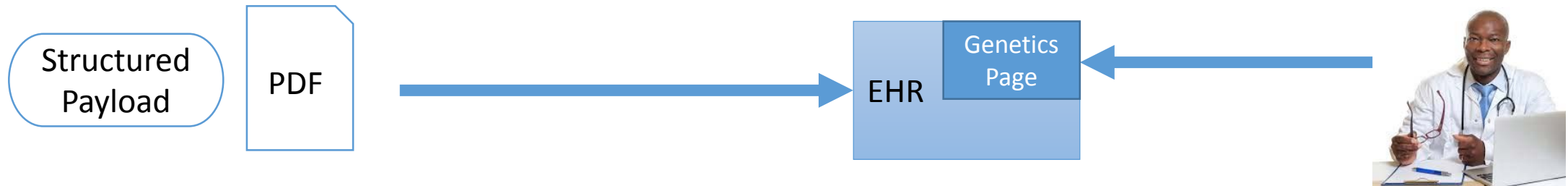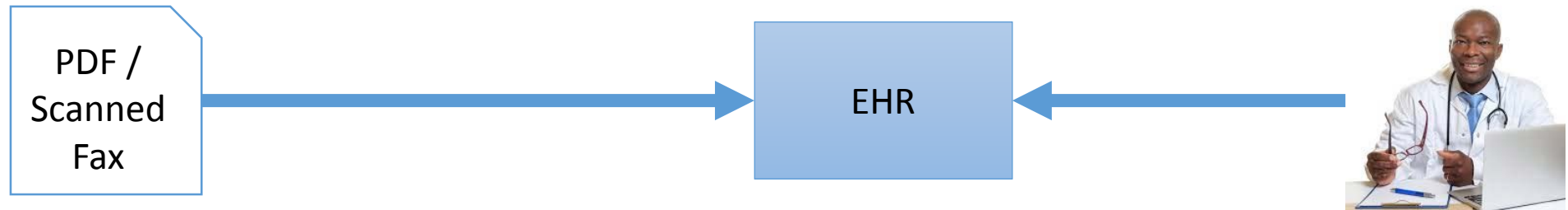
Potential Interpretation Locations
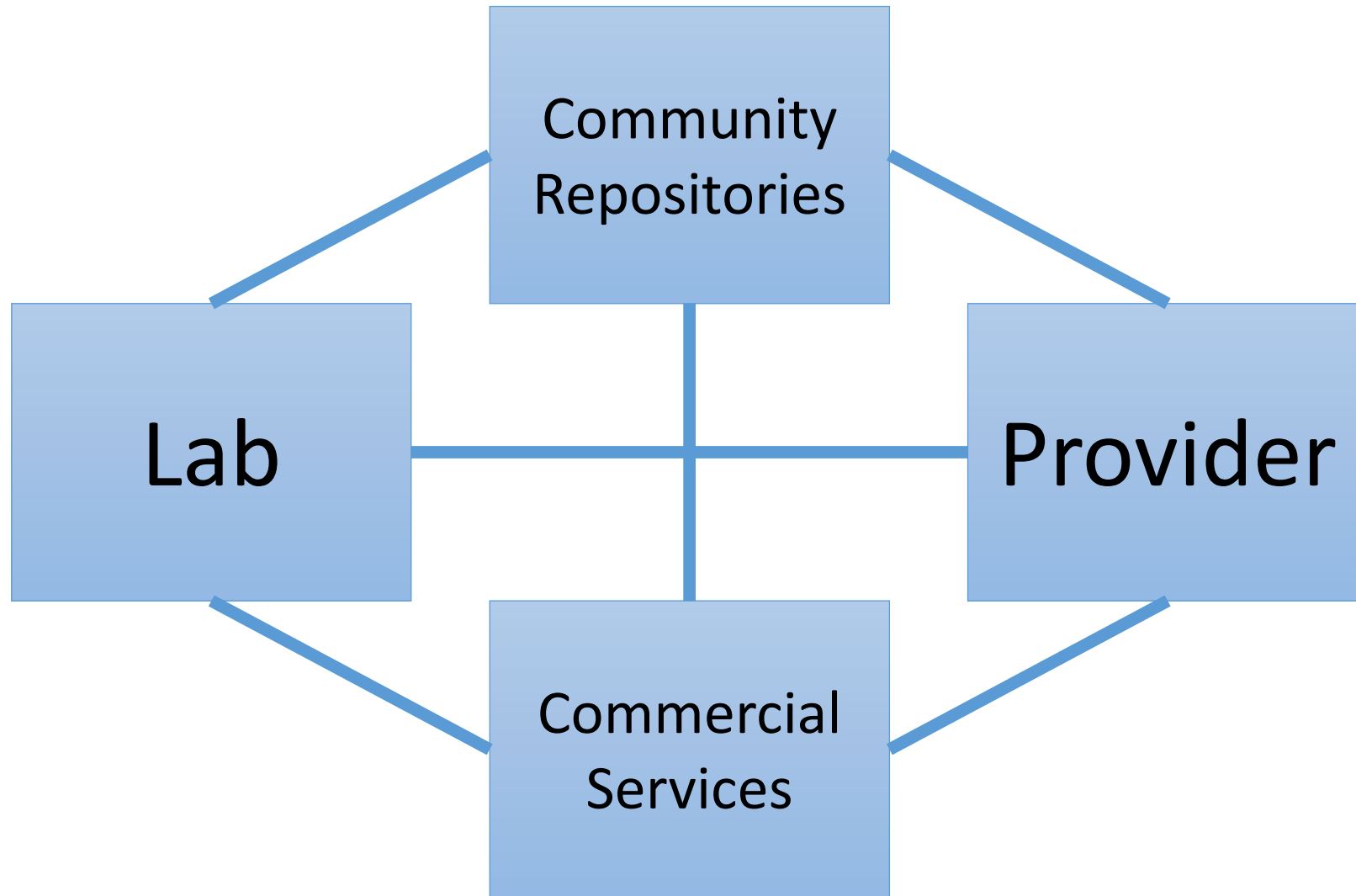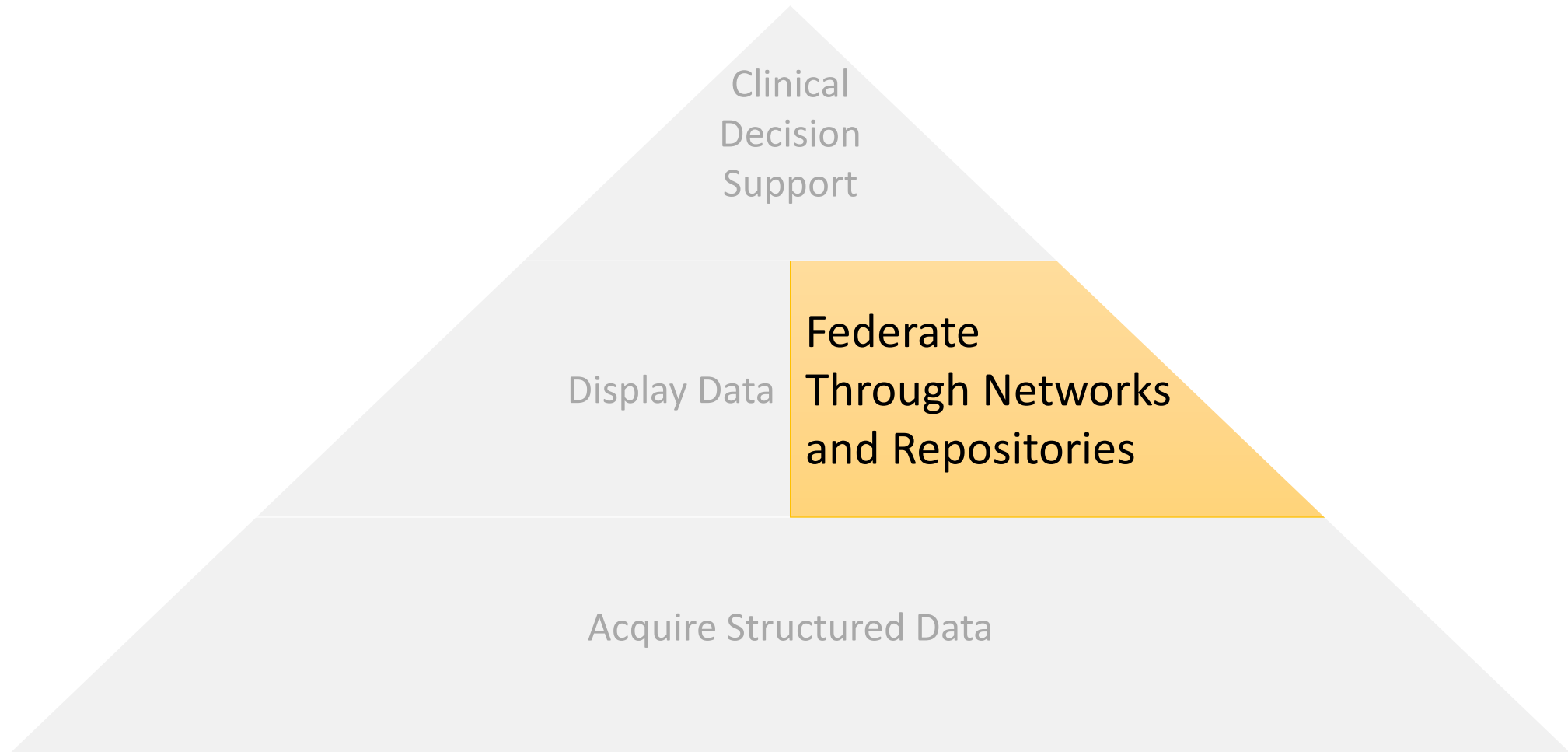
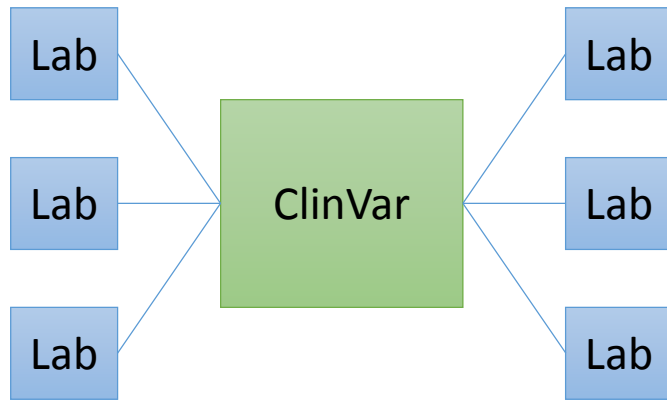# Provider Side Clinical Genetics IT Support

Display Mechanisms

Ux Design Elements

- Graphic Design
- Information Layout | Cognitive Optimization
- Screen Construction
- User Interface Evaluation

Provider Side Clinical Genetics IT Support

Clinical Decision Support

Display Data

Federate Through Networks and Repositories
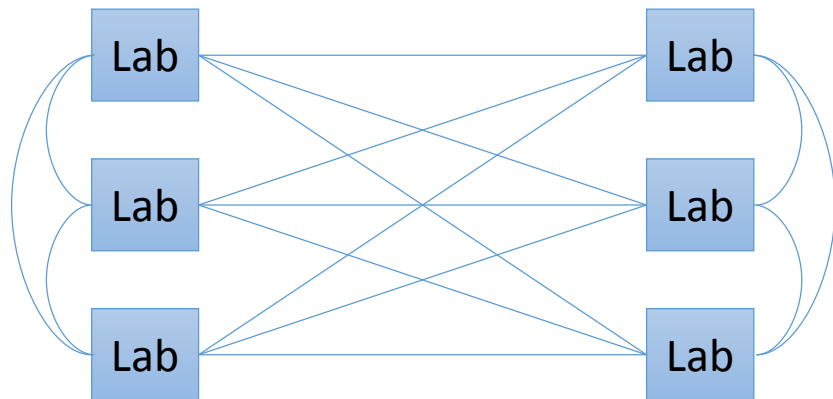
Acquire Structured Data
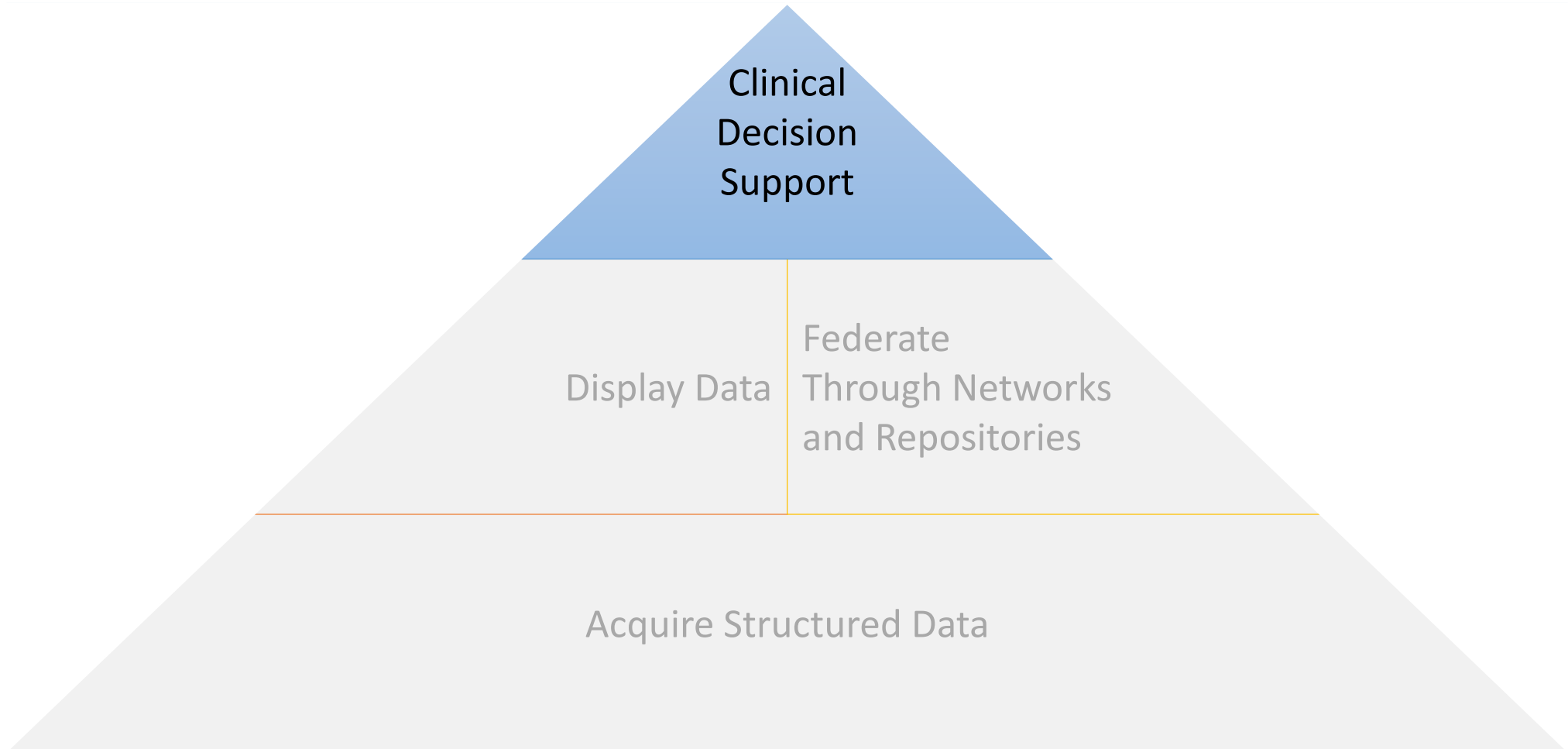
Federate Through Networks

Content

- Genetic Knowledge

- Aggregate Case Data

- Individual Case Data
  - Genetic Results
  - Phenotypes
  - Indications
  - **OUTCOMES**
  - De-identified / Identified

Provider Side Clinical Genetics IT Support

Clinical Decision Support

- Passive – On Screen Information and Options
  - eResources and Infobuttons
  - Annotations
  - Calculators
  - Population Based Analytics

- Active – Proactive Alerts
  - Pharmacogenomic Interventions
  - Knowledge Update Alerts
  - Genetic risk driven reminders