FHIR resources for sharing a laboratory test catalog with the same business content as eDOS

Use cases:

**Guidance to ordering providers:**

* 1. What test, panel or superset can I order to lab X (globally or in a particular specialty)?
  2. What is lab X performance turn-around time and reporting delay for test/panel/superset Z?
  3. What patient indications, contraindications, restrictions for test/panel/superset Z of lab X?
  4. What preparation of the patient is needed for test/panel/superset Z of lab X?
  5. What supporting clinical information and/or prior results should accompany the order of test/panel/superset Z placed to lab X?
  6. What kind of observations will produce lab X when performing test/panel/superset Z?
  7. What reflex tests might be triggered by some of these observations?
  8. What are the guidelines to interpret as a whole the set of observations produced by lab X against test/panel/superset Z?
  9. What are the billing details for test/panel/superset Z performed by lab X?
  10. Are there particular coverage policies for test/panel/superset Z of lab X?

**Guidance to specimen collectors:**

* 1. What specimens (preferred or alternates) should be collected and sent to lab X to enable performance of test/panel/superset Z?
  2. What containers, additive, specimen handling should be applied?
  3. What supporting clinical information related to specimen collection should be incorporated to the order of test/panel/superset Z to lab X?

**Guidance to care providers on interpretation of a lab test result**

* 1. What are the normal/critical ranges or normal/abnormal categorical values for observation Y produced by lab X, for my patient?
  2. What units, decimal precision, conversion factor, absolute range for observation Y by lab X?
  3. What is the interpretation guidance (including delta check rules) for observation Y by lab X?
  4. How the result of observation Y by lab X should be sorted in a report?

These must be fulfilled equally in the *catalog duplication* paradigm (like eDOS) and in the *catalog sharing* paradigm. As I view it, to support both paradigms, we need these types of resources:

1. IVD testing service (ordered | reflex) that a particular lab can perform.
2. Observation (reportable | requested as prior results along an IVD testing service order) by a particular lab.
3. Supportive clinical information definition
4. Specimen definition
5. Bundle: Needed to support the *duplication* paradigm. Useless in the *sharing* paradigm.

In my understanding resource A includes by Reference resources B, C and D, and would support all use cases [a-q]. Resource B would support the last use cases [n-q].

So far, we’ve been pointed to:

* **DataElement** as a candidate for resources B and C, (see gap analysis for extensions needed).
* **ActivityDefinition**, developed by CDS, to be considered (and enhanced) for resource A.
* **Specimen** without subject or status would almost fit for resource D.