



# Templated CDA

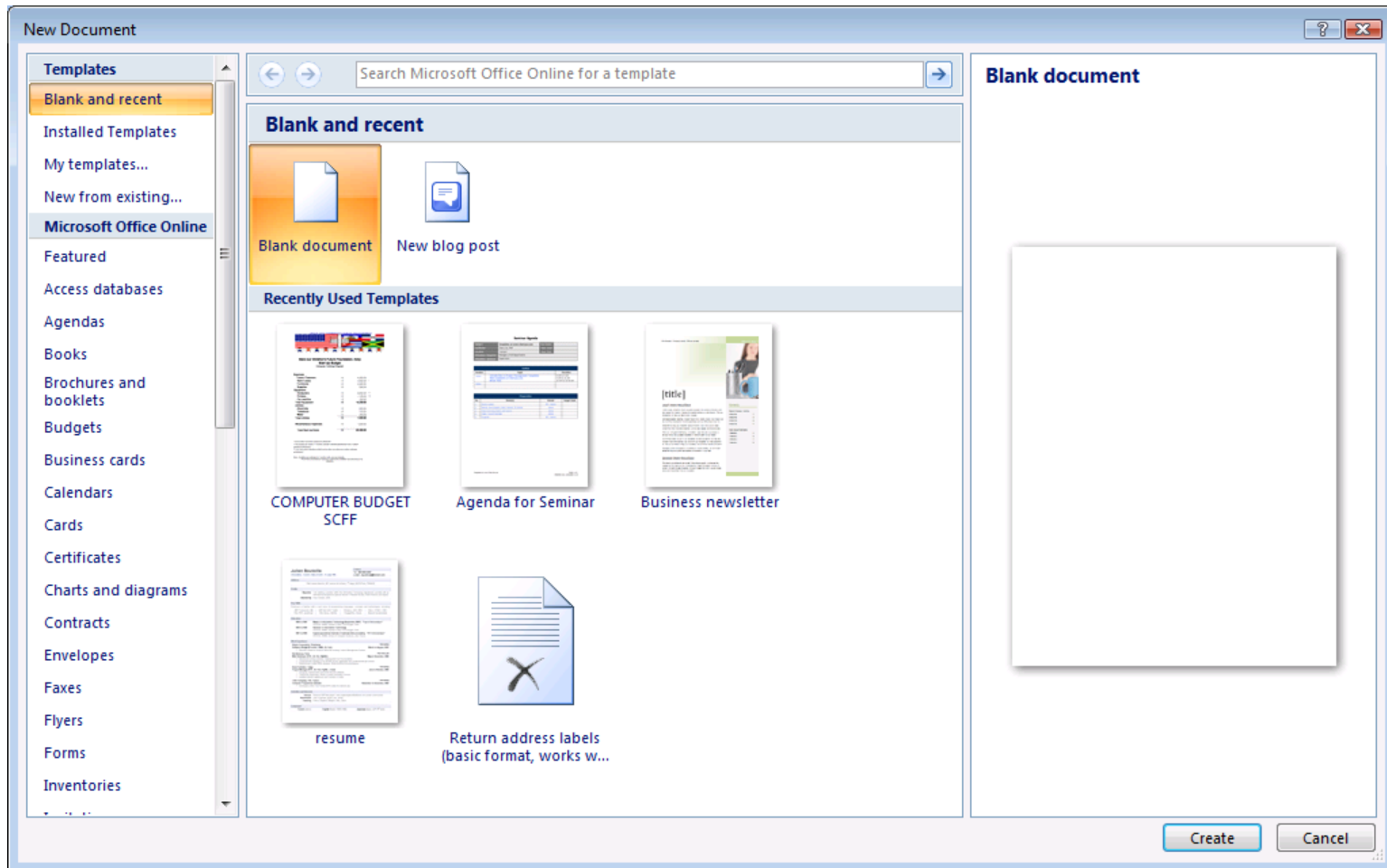
---

Bob Dolin, MD, FACP, FACMI, FHL7

Chair, Health Level Seven

President and CMO, *Lantana*  
CONSULTING GROUP

# What is templated CDA?



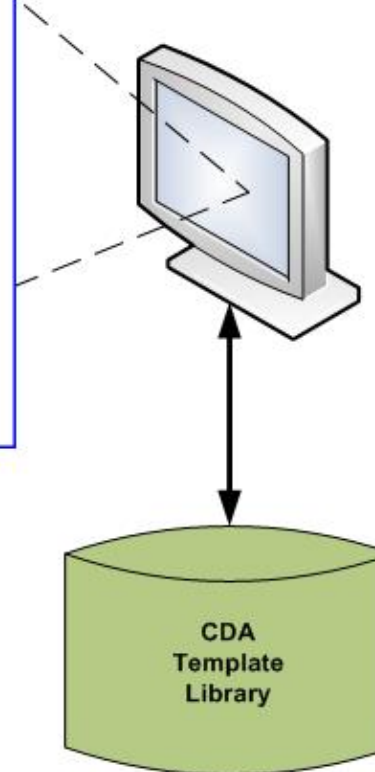
# What is templated CDA?

**History**  
Frequency of wheezing:  
 Daily and continual.  
 Daily but not continual.  
Episodes per week :: \_\_\_\_\_

**Labs**  
Peak Flow :: \_\_\_\_\_ l/m.

**Assesment**  
 Asthma, Intermittent.  
 Asthma, Mild Persistent.  
 Asthma, Moderate Persistent.  
 Asthma, Severe Persistent.

**Plan**  
 Pneumococcal Vaccine  
 Complete PFTs with lung volumes.  
 Provide education on peak flow self-monitoring.  
 Environmental and Occupational screening questionnaire.  
 Teach inha ler/spa cer/holding chamber technique.  
 Discuss environmental control measures to avoid exposure to known allergens and irritants.  
 Teach self-monitoring.



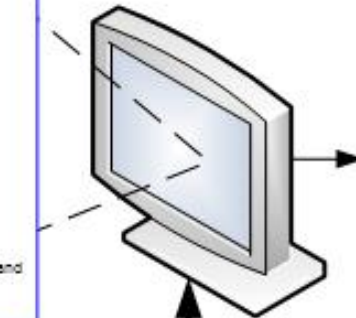
# What is templated CDA?

**History**  
Frequency of wheezing:  
 Daily and continual  
 Daily but not continual.  
Episodes per week: \_\_\_\_\_

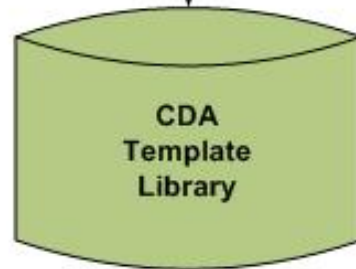
**Labs**  
Peak Flow: \_\_\_\_\_ l/m.

**Assessment**  
 Asthma, Intermittent.  
 Asthma, Mild Persistent.  
 Asthma, Moderate Persistent.  
 Asthma, Severe Persistent.

**Plan**  
 Pneumococcal Vaccine  
 Complete PFTs with lung volumes.  
 Provide education on peak flow self-monitoring.  
 Environmental and Occupational screening questionnaire.  
 Teach inhaler/spacer/holding chamber technique.  
 Discuss environmental control measures to avoid exposure to known allergens and irritants.  
 Teach self-monitoring.



```
<section>
  <templateId root="2.16.840.1.113883.3.27.354"/>
  <title>Plan</title>
  <text>Complete PFTs with lung volumes; Provide education
    on peak flow self-monitoring; ...</text>
  <entry>
    <observation classCode="OBS" moodCode="INT">
      <code code="23426006" codeSystem="&SNOMEDCT;"
        displayName="Pulmonary function test"/>
    </observation>
  </entry>
  <entry>
    <act classCode="ACT" moodCode="INT">
      <code code="223468009" codeSystem="&SNOMEDCT;"
        displayName="Teaching of skills">
        <qualifier>
          <name code="363702006" displayName="has focus"/>
          <value code="29893006" displayName="Peak flow
            rate measurement"/>
        </qualifier>
      </code>
    </act>
  </entry>
</section>
```

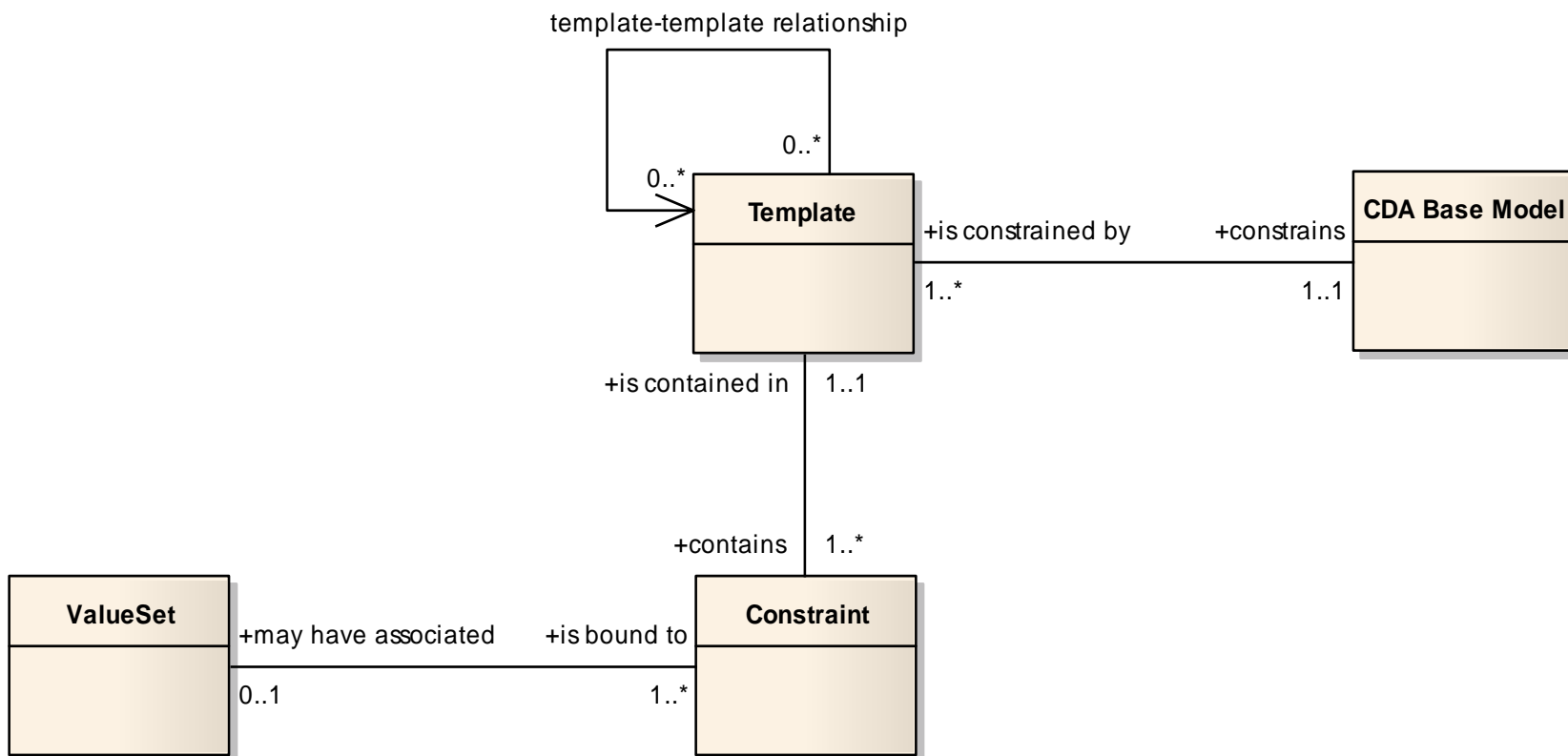


# Templated CDA business case

---

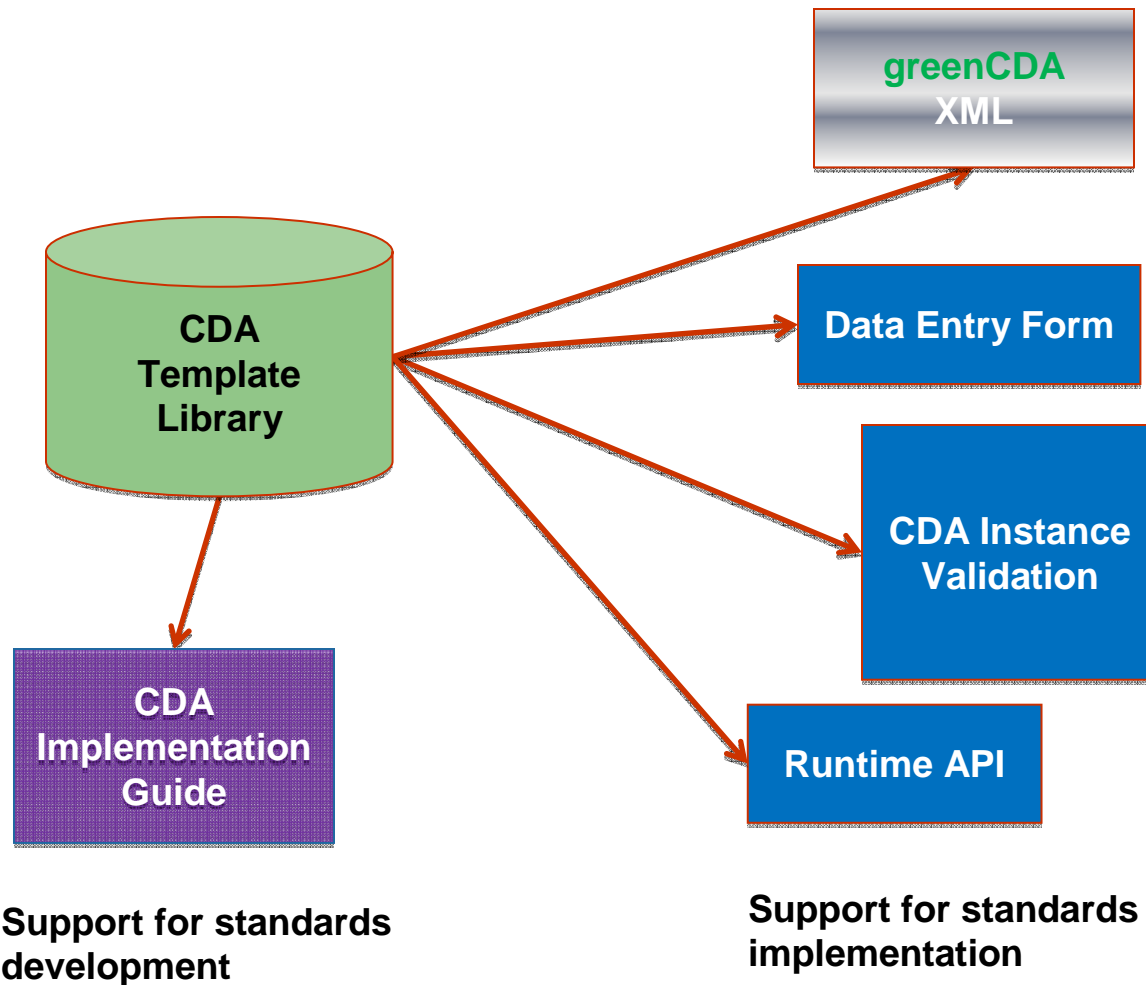
- **Streamlined standards development**
  - Reusable building blocks.
- **Streamlined standards implementation**
  - Implement once, deploy often.
- **Modular and reusable**
  - Templates (e.g., blood pressure, discharge diagnosis) can be repackaged with other templates in any number of CDA implementation guides.
- **Core component of CDA's “incremental interoperability” strategy**
  - Begin with simple CDA, and add templates as they are prioritized.

# Templates are computable artifacts



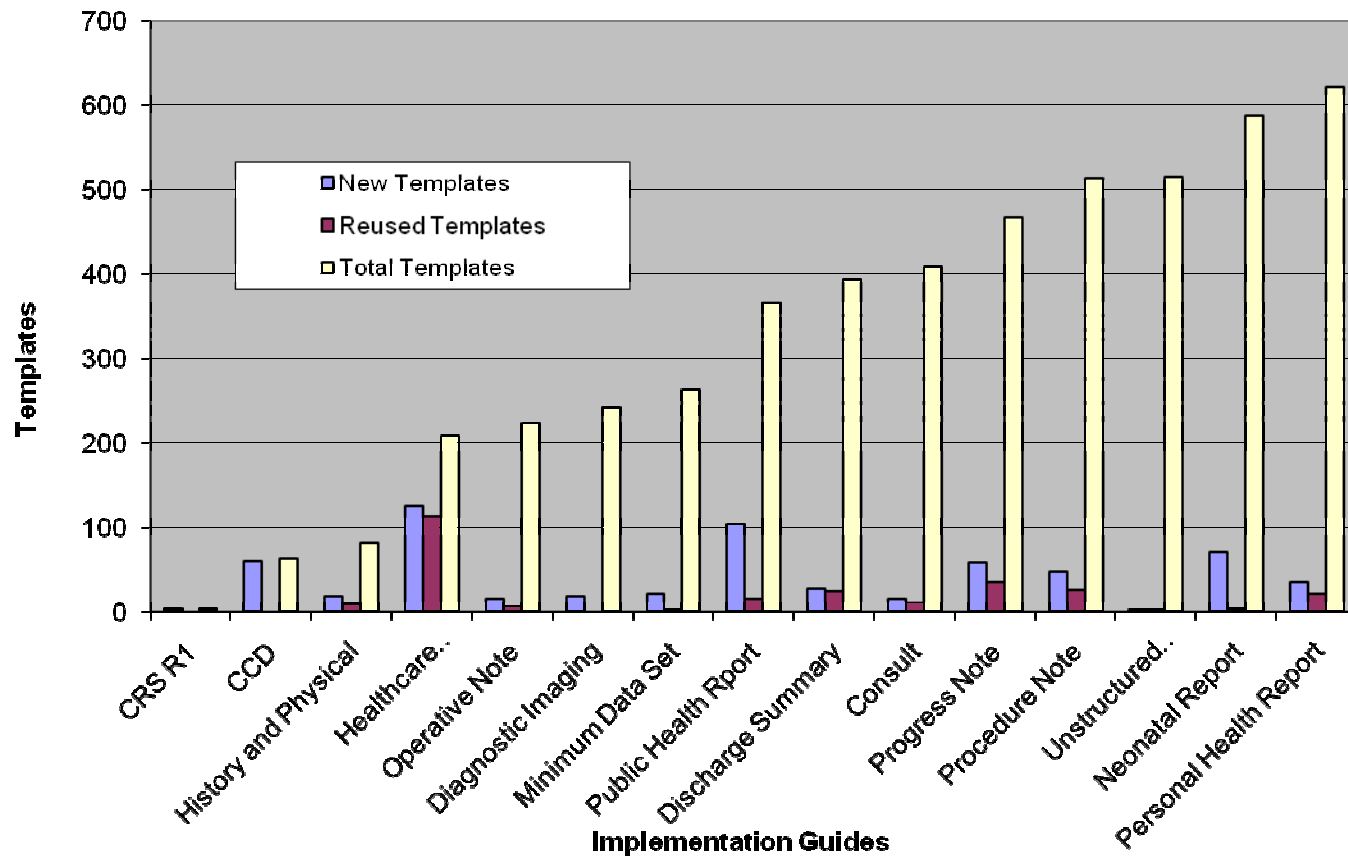
# Templates are computable artifacts

---



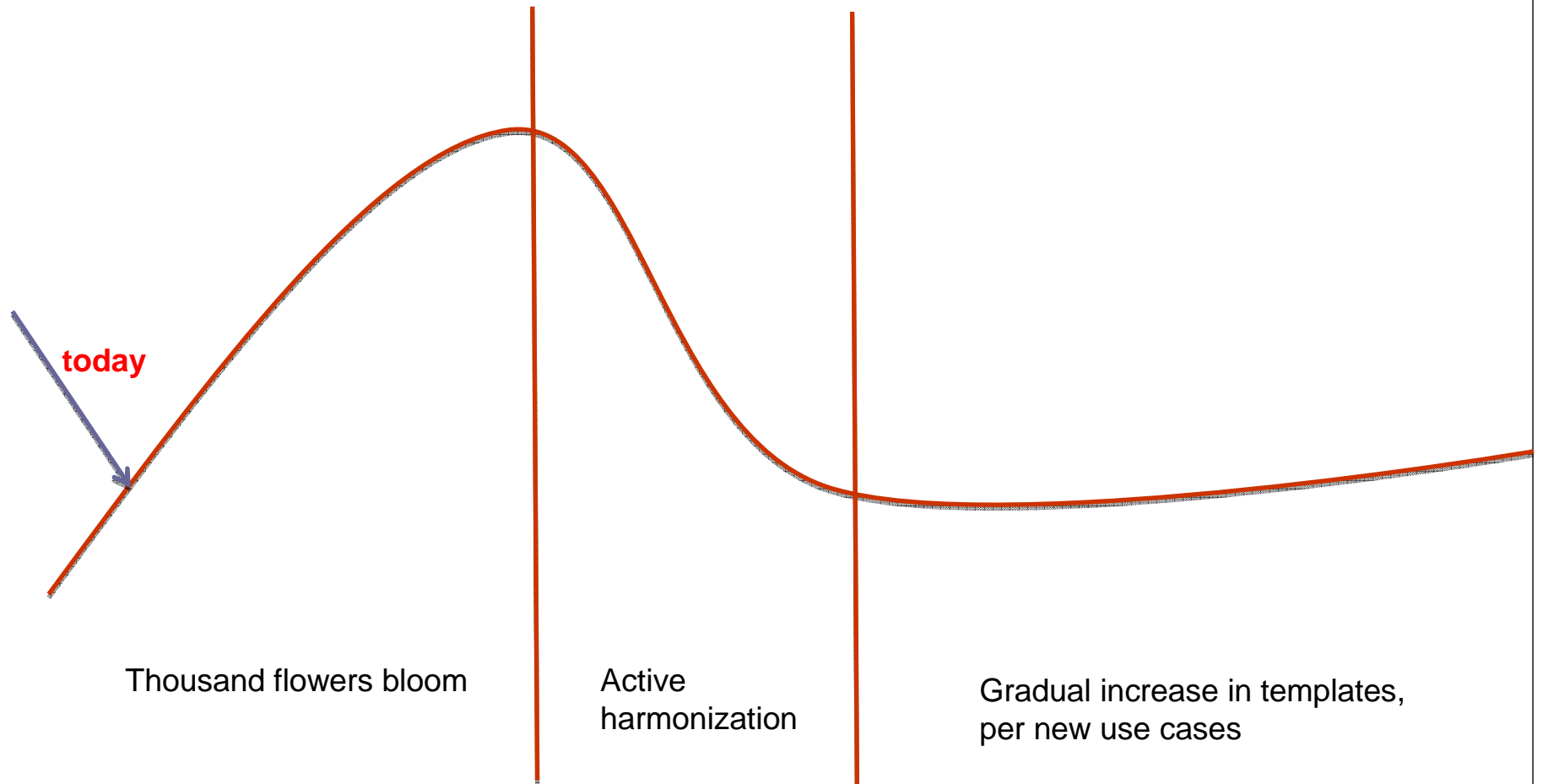
# Standards Development

- ~ 42 templates per guide: 24 new, 18 reused.



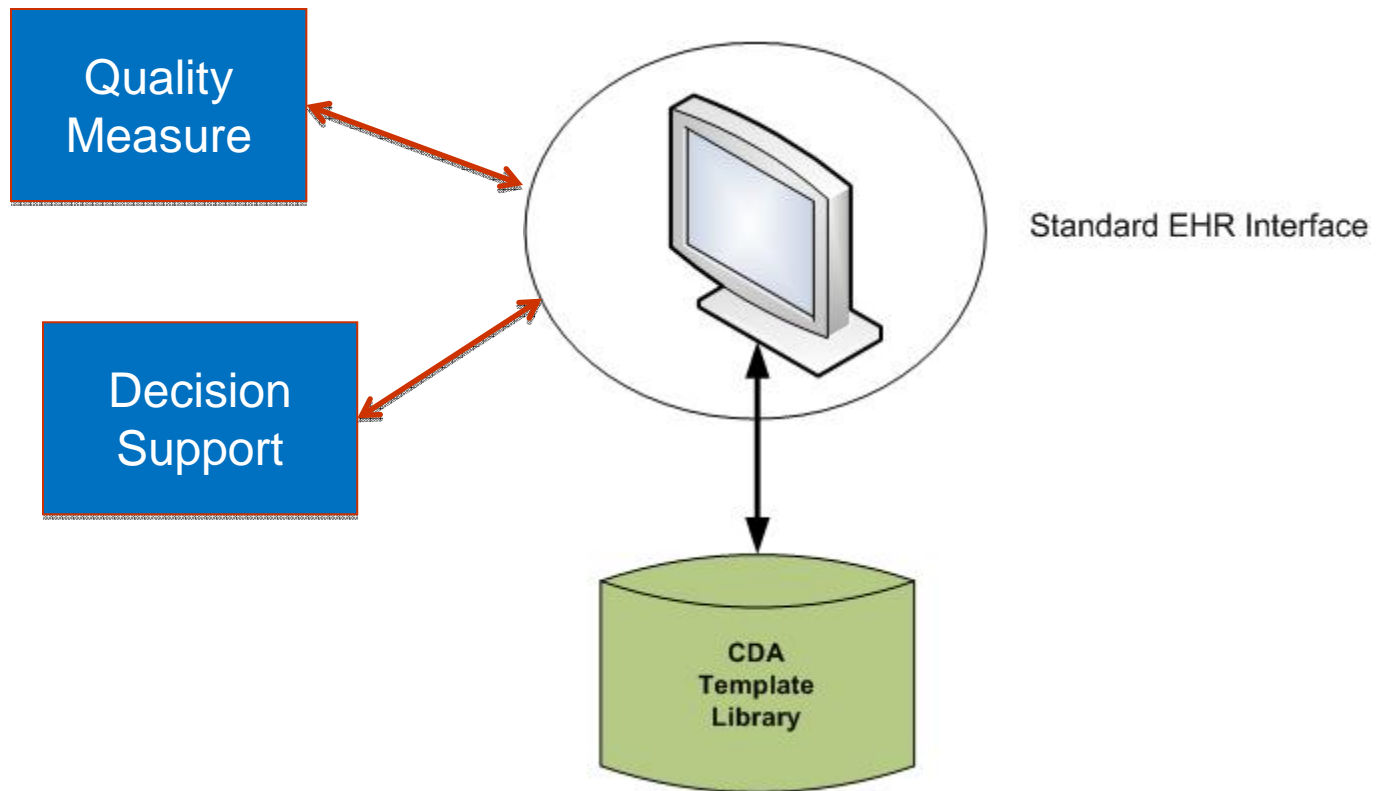
# Standards Harmonization

---



# Standard EHR Interface

---



# Templated CDA Interoperability Roadmap

IHB MEDQUEST HOSPITAL  
 DISCHARGE SUMMARY  
 PATIENT: DOGOOD, LARRY ADMITTED: 2/26/07  
 MR#: A1234567 DISCHARGE: 2/26/07  
 ACCOUNT #: 1234567  
 DISCHARGE MEDICATIONS:  
 1. ECASA 325 mg po daily (new)  
 2. Zocor 40mg po daily. (new)  
 3. Atenolol 100mg po daily (increased)  
 4. Glucophage 850 mg tab, 1 tab po TID  
 5. Zyrtec 10mg po daily  
 DISCHARGE DIAGNOSES:  
 1. Acute Myocardial Infarction s/p CABG.  
 2. Cardiovascular collapse  
 3. Hypertension, NOS  
 4. Diabetes Mellitus, type II  
 5. Seasonal Allergies  
 PROCEDURE: CABG, LIMA->LAD, SVC->Circ, SVC->Circ  
 2/26/07.  
 HISTORY OF PRESENT ILLNESS: This is a 51 year old male with a history of Hypertension and diabetes admitted with chest pain, and hypotension. Please see the History of Present Illness for details of admission. He was noted to have non-specific ST-T changes and positive cardiac enzymes on presentation and admission to the ICU.

Narrative Text

HL7 CDA Structured Documents

```

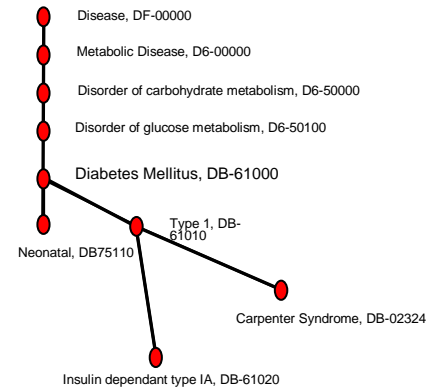
<componentOf>
  - <encapsulatingEncounter classCode="ENC" moodCode="EVN">
    <id root="1.3.6.1.4.1.2835.12" extension="9937012"/>
    <code code="99213" codeSystem="2.16.840.1.113883.6.12" codeSystemName="CPT-4"
      displayName="Evaluation and Management"/>
    - <effectiveTime>
      <high value="20070220"/>
      <low value="20070220"/>
    </effectiveTime>
    <dischargeDispositionCode code="01" codeSystem="2.16.840.1.113883.6.21" codeSystemName="UB92"
      displayName="Routine Discharge"/>
    </encapsulatingEncounter>
  - <componentOf>
    - <component>
      - <structuredBody>
        <templateId root="1.3.6.1.4.1.11050.10" extension="DMPL_CDAR2_LEVEL1-2REF_US_I2_2005SEP"/>
        - <component>
          - <section>
            <templateId root="1.3.6.1.4.1.19376.1.5.3.1.3.7" extension="HOSPITAL DISCHARGE DX Template"/>
            <code code="11535-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC"
              displayName="HOSPITAL DISCHARGE DX"/>
            <title>DISCHARGE DIAGNOSES</title>
            - <text>
              <paragraph>1. Acute Myocardial Infarction s/p CABG</paragraph>
              <paragraph>2. Cardiovascular collapse</paragraph>
              <paragraph>3. Hypertension, NOS</paragraph>
              <paragraph>4. Diabetes Mellitus, type II</paragraph>
              <paragraph>5. Seasonal Allergies</paragraph>
            </text>
          </section>
        </component>
      </structuredBody>
    </component>
  </componentOf>
  
```

Coded Data Elements via Templates

EHR Repository

Clinical Applications

SNOMED CT



# Templated CDA Interoperability Roadmap: 2011

---

- **Template tooling**
- **CDA implementation “simplification”**
  - **greenCDA** technology
- **Template harmonization**
  - **ONC-sponsored HL7/IHE/Health Story CDA Implementation Guide Consolidation Project**
- **Template exchange formalism**

# Templated CDA Interoperability Roadmap: 2012

---

- **Template tooling**
- **Template harmonization**
- **Template prioritization**
  - **ONC-sponsored HL7/IHE/Health Story CDA Implementation Guide Consolidation Project templates**
- **CDA Release 3**
- **Templates vs. Archetypes vs. Detailed Clinical Models vs. Domain Analysis Models vs. ...**

# Thank you!

---

