



Woodstock Health Information & Technology  
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# NCVHS Consumer Roadmap

# Committee Proposed Roadmap

Committee recommended prioritizing and funding development of measures that are meaningful to consumers/patients by building on current measure development activities to specifically focus on the needs of consumers/patients as they make health and health care decisions in partnership with their health care team. This calls for a measurement roadmap that identifies a pathway to address information needed to support the consumer/patient as a central actor in an interactive relationship with the health care team and their community.

# Discussion Points

- Kudos to the committee!
- Roadmap making consumers the central actor
- Building on current eMeasure development
- Measures that are meaningful to consumers

# Kudos!

## Well aligned with existing frameworks

- NQF Coordination of Care Framework
  - Consumer health care home
  - Proactive plan of care
    - Accountable entities, including the consumer
  - Information technology
- Integrating the Healthcare Enterprise
  - Patient Centered Coordination Plan
- Meaningful Use 1 and 2
- National Priorities Partnership
- Etc.

# Gaps and other challenges

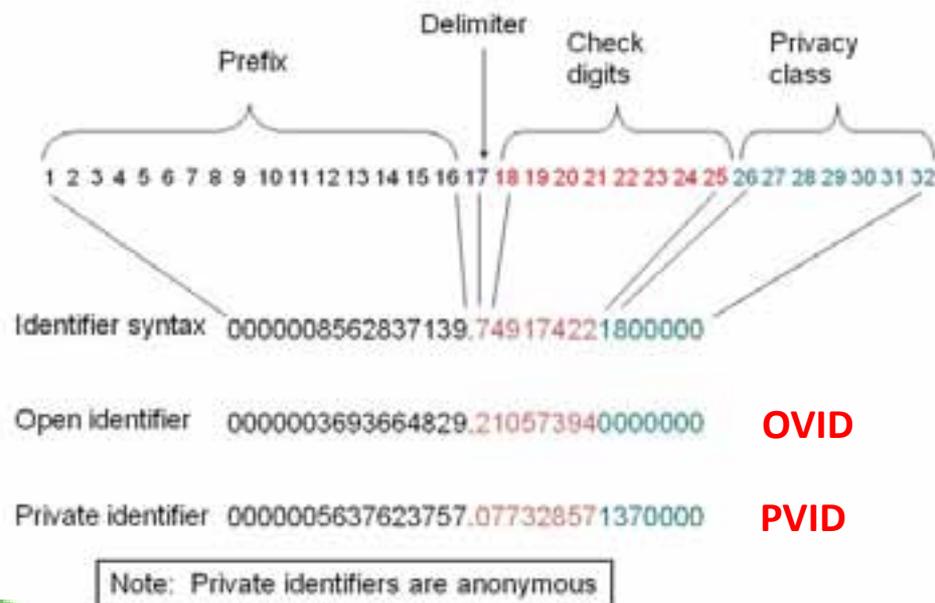
## ... things we must address

- Identifying persons is at an unacceptable  $3\sigma$  level
  - Very best practices create thousands of errors a day
  - Technology exists to get us *quickly* to  $6\sigma+$
- People have diverse ... complexity is high
  - Abilities
  - Resources
  - Communities
  - Preferences ... etc.
- Limited consumer – provider interoperability
  - Consumers use a larger health ecosystem

# Patient Identification: VUHID

## Moving from 3σ to 6σ+

- ASTM standard
- Favorably reviewed
  - RAND
  - HIMSS
- RWJF Grant
  - Production services
  - Initial HIE implementation
- **VA saved \$8B**



- Classes support ...
  - Preferences
  - Privacy
  - Deidentification
  - Other segmentation

Branding; connecting to the consumer

# Growth Areas for Patient Identifiers

- Expanded scope of patient identification
  - Coordination of care
  - Remote monitoring using multiple networks
  - Body area networks
- Beyond identification using VUHID classes
  - Preference
    - VHD incorporating preference classes
  - Education
    - HLOM tracking
  - Medical banking
    - VUHID class(es) for reimbursement
  - Research
    - Deidentified data sets

# Measures that are meaningful

## ... implementation suggestions

- Consumer preferences must be ...
  - Registered and dynamically managed
  - Computable
  - Interoperable with other capabilities
- Preferences are personally meaningful
  - May have underlying sensitive information
- Systems / applications must ...
  - Consume preferences
  - Measure the use of and adherence to preferences
  - Create actionable reports

# Preference Service

- SOA capability
  - Virtual Hippocratic Database (VHD)
  - First class, independent service (e.g., distinct from clinical data)
  - Queryable as a service by authorized users
  - Protective of private information using classes
- Preferences incorporate
  - Beliefs, desires and intentions
  - Learning styles, motivators and social milieu
- Key linked services
  - Knowledge library
    - Semantics for interoperability and subsumed taxonomies, etc.
    - Educational content (Medbiquitous HLOM), templates, etc.
  - Encoded policies
  - VUHID service

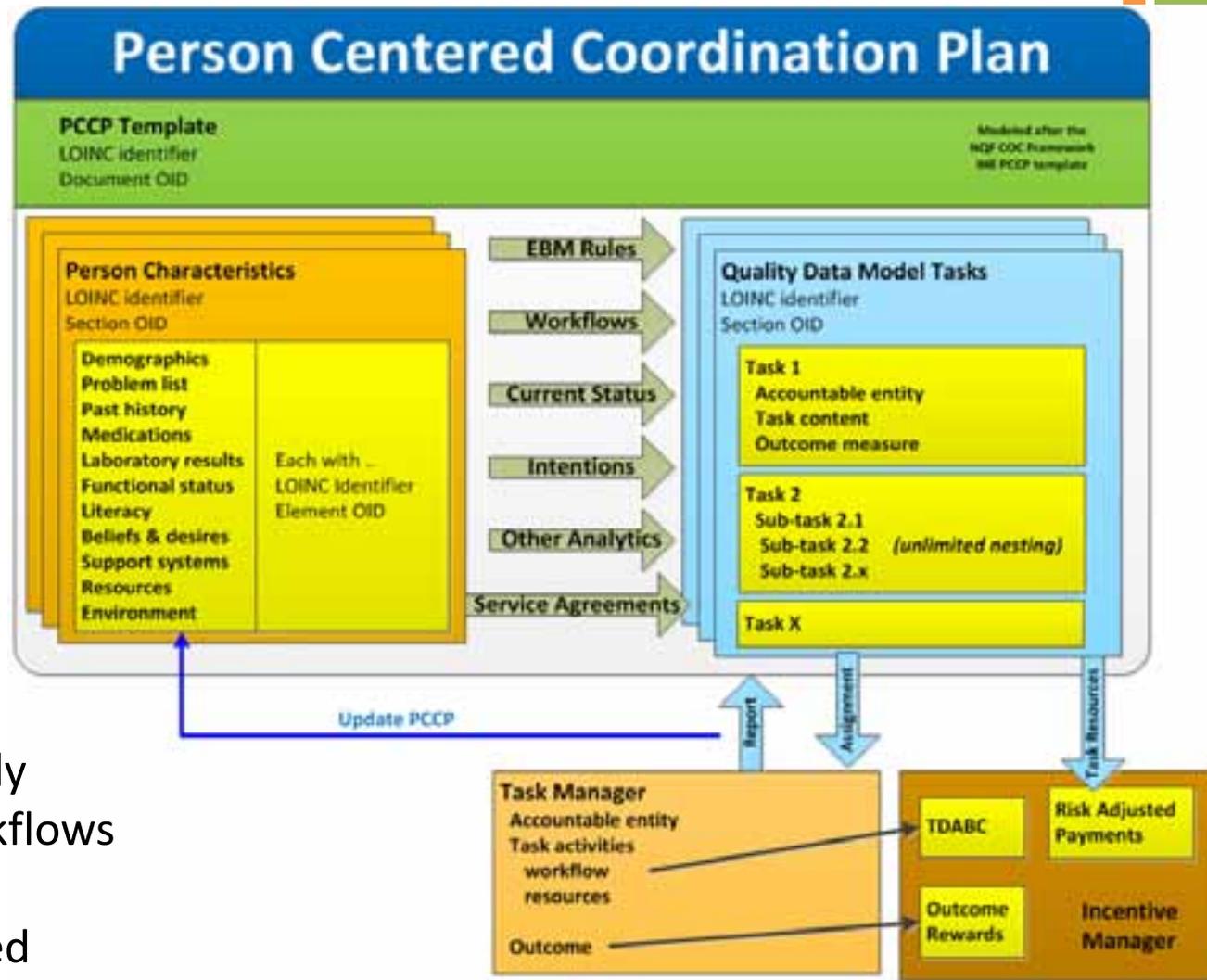
# What goes into eMeasures

- **Intrinsic**
  - HL-7 RIM
  - Object identifiers
  - UUIDs
  - LOINC ontology codes
  - References (currently weak)
- **Potentially by reference**
  - Education (HLOM)
  - Events
  - Evidence
  - Workflows
  - User interface
  - Consumer preferences
  - Intellectual property
- **By reference**
  - Identifiers
    - Providers
      - Provider profile
    - Persons / patients
      - Personal characteristics
  - Clinical taxonomies
    - LOINC observation codes
      - eDOS order sets
    - SNOMED
    - ICD-9 & -10
    - RxNorm
    - Etc., etc.
  - Value sets
  - Patterns
    - Coded functions

# NQF & HIE Framework for CoC

There are lots of external links!

- Paradigm which solves much of what ails health care!
- Patient characteristics trigger rules
- Rules populate QDM workflow tasks
- Tasks actors are assigned / notified
  - Commonly subtasks
  - Personal accountability
- Task actions are usually triggers, creating workflows
- Outcomes measured
- Coordination measured

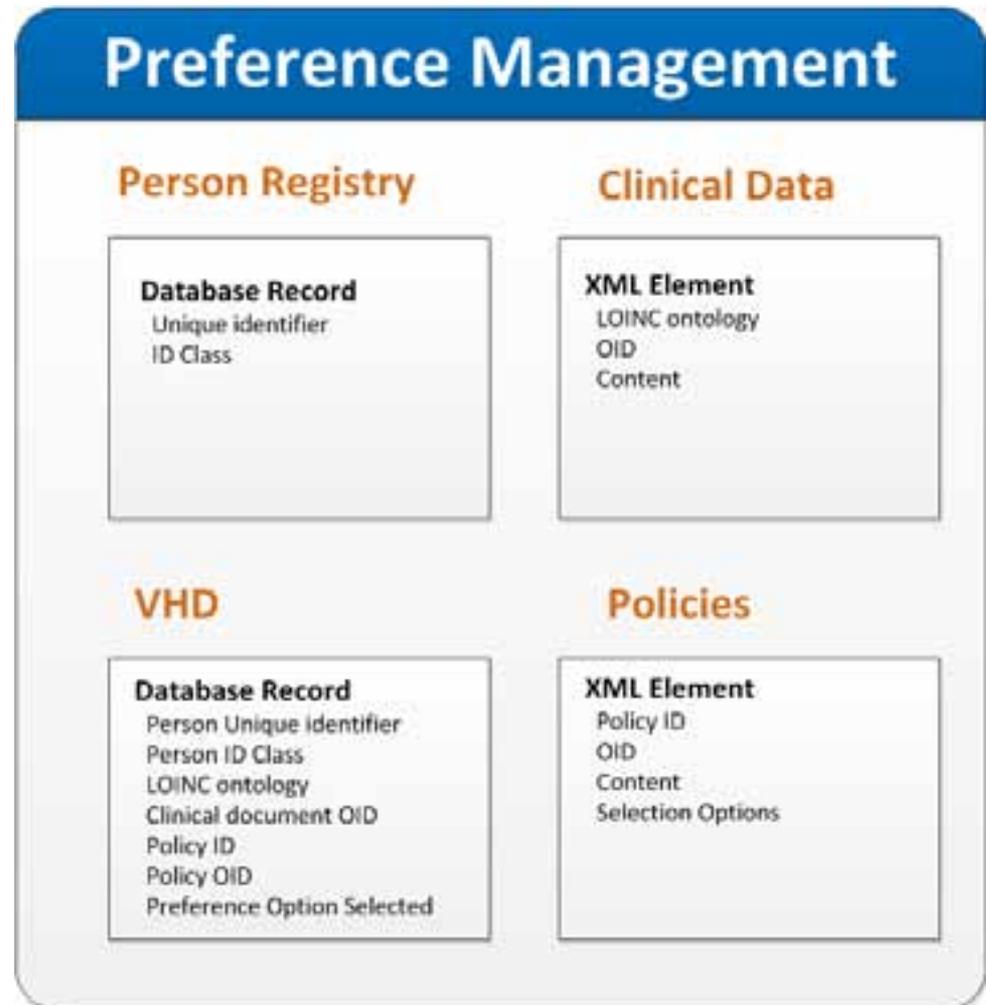


# Specific Engagement Strategies

- Beliefs and desires are linked to intentions
- Interventions reflect the change process
  - Beliefs → desires → intentions → outcomes
  - Interventions tailored to the person's journey
  - BDI artificial intelligence and intelligent agents
- Interventions reflect the person's ...
  - Literacy and learning preferences / strategies
  - Resources, community, etc.
- Measure the results
  - Metrics from the IT system *per se*
    - Use of preference service and linked services
    - Effect of preferences on interventions and results
    - Identify opportunities and actionable defects
  - Consumer experiences / feedback

# Privacy & Preferences

- HIE must balance sharing information with maintaining privacy
- Multiple privacy policies are necessary
- Both Open and Private VUHID identifiers (OVID/PVID)
- Certain types of data (behavioral health, minors, etc.) must be protected 'differently' using PVIDs
- State regulations are not all consistent
- HIEs' own PVIDs can help implement diverse policy requirements
  
- Private VUHID identifiers (PVIDs) created by patients or HIEs can help implement these constraints



# Resources

... extant solutions are deployed!

- VUHID
  - <http://gpii.info/>
- Persasive Health
  - <http://pervasive-health.com/>
  - Subsumption methods to manage requirements
- Bizlogic – Flowlogic – Jenyta
  - <http://bizlogic.net/>
  - Preferences enforced at the workflow level
  - DoD Code Blue security / workflow for health care
- Precedence Health Care
  - <http://precedencehealthcare.com/patients/>
  - BDI artificial intelligence for care coordination