1. **Executive Summary**
   1. Description: Summarize overall report, scope, goals, key content elements, recommendations and conclusions
   2. Contributors: All; Lead report authors
2. **Introduction, Scope, Audience**
   1. Description: defines the scope of the report, the goals, purpose, objectives, audience(s).
   2. From the Project Scope Statement:

The goal of this white paper is to identify, describe and analyze how various electronic standards currently in existence meet requirements as an end-to-end workflow to create quality measures, collect and report the required data and enable quality improvement in health care, and to identify gaps in existing standards, opportunities and needs for new standards, and make recommendations to address these gaps, opportunities and needs. The white paper will address the following goals:

* + 1. Provide a larger context of what is health quality in general, quality measurement, quality management and improvement, and other important dimensions on quality, and focus specifically on quality and quality measures of health care services delivered to individuals and the electronic standards used to report these measures.
    2. Assist measure developers, quality measurement policy, content and technical professionals, government agencies, accreditation bodies, and others who understand the way that various electronic standards being used to collect and report quality measures interact, relate to each other and work together to provide a rational framework for quality measurement reporting.
    3. Develop a framework for applying and working with electronic standards for quality measurement reporting.
    4. Evaluate the full scale of work flow components for quality measurement, identify gaps in completing the end-to-end process using within existing standards and offer recommendations to resolve these gaps.
  1. Contributors:
     1. \_\_Walter Suarez\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     2. \_\_Juliet Rubini\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     3. \_\_Floyd Eisenberg (will support where needed throughout the paper)
     4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **The Domain of Quality in Health and Healthcare**
   1. Description: This section will provide a broad discussion about the entire quality realm, including:
      1. Definition of terms
         1. Quality, Healthcare Quality, Quality Measurement, Quality Management, Quality Improvement, Quality Information
         2. Quality measures; Quality measure standards
      2. Various perspectives (health quality, public health/population health, clinical care, etc)
      3. Various groups involved (picture)
         1. Measure developers (CMS, NCQA, AMA, IHI, others)
            1. Includes researchers that do the research on measure (may or may not be included in developers)
            2. Includes the guidelines writers (may or may not be included in developers)
         2. Measure Stewards (CMS, Joint Commission) – maintains the endorsement of the measure
         3. Standards organizations (i.e., HL7)
         4. Measure Adopters
            1. Rulemakers and program administrators (CMS, Medicaid)
            2. Purchasers
            3. Accreditation bodies (Joint Commission, NCQA)
         5. Measure Endorsers (NQF, another…)
         6. Implementers
            1. EHR vendors
            2. Providers
            3. Quality data receivers (CMS, Joint Commission)
      4. Various levels - international, national, regional/local, organizational, provider groups (specialty), individual
         1. International - WHO, OECD, PAHO,
         2. National quality measurement perspectives (national reports – i.e. US National Quality Report)
      5. Various dimensions and approaches to quality health care, including examples
         1. Structure/Process/Outcome approach
         2. By condition (Diabetes, CVD)
         3. By entity (hospital, clinic/provider, specialties)
         4. By program (Medicaid, Medicare, CHIP, Accreditation)
      6. Examples - Perspectives from different countries on how quality of health care services are measured (i.e., WHO, EU, OECD, US, Canada, other)
         1. US national quality report.
         2. Report from IOM in the US that led to a lot of the national quality strategy; crossing quality chasm
         3. Canadian Institute for Health Information (CIHI)/Statistics Canada Health Indicators Framework - <https://secure.cihi.ca/free_products/HI2013_EN.pdf> (see page xi for the diagram). This link provides description of the dimensions and sub-dimensions <http://www.statcan.gc.ca/pub/82-221-x/2011002/hifw-eng.htm>. Note: the CIHI/Statistics Canada framework is very similar to the ISO framework as it was the basis of the ISO framework.
         4. ISO 21667 - Health indicators conceptual framework
         5. WHO quality
         6. OECD - Health Care Quality Indicators Project Conceptual Framework Paper <http://www.oecd.org/dataoecd/1/36/36262363.pdf>.
   2. Contributors:
      1. \_\_\_Walter Suarez\_\_\_\_\_\_\_\_\_\_\_\_
      2. \_\_\_Rute Martins\_\_\_\_\_\_\_\_\_\_\_\_\_
      3. \_\_\_Rosemary Kennedy\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
      4. \_\_\_Taroon Amin\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. **The Intersection of Quality Measurement, Quality Management and Clinical Decision Support**
   1. Description: This section will discuss the relationship and interdependencies between quality measurement, quality management and clinical decision support, within the context of the use of standards and electronic health record systems
      1. Rules are only one aspect of CDS (pull from HeD documents to define other aspects)
      2. Relationship between CQMs/sets of CQMs and CDS triggers
      3. Guidelines to Measures to CDS
         1. Research underlying the guidelines
      4. The use of data in real time (for CDS) versus retrospectively (for CQMs)
         1. But now entities are generating ‘concurrent’ quality measurements (in almost real time) – within hours, periodic
      5. Evaluating essential processes to impact the outcome; process vs. outcome measures and intersection with CDS
      6. Evidence and its role in both CDS and quality measurement; why its use may vary between the two (evidence-based CDS and evidence-based quality)
      7. Granularity of information required for CDS versus for quality measurement and risk adjustment
      8. The impact of quality management strategies (quality improvement) on quality and CDS
      9. Suggestion to have CDS and CQM be pursued together 🡪 CDS+CQM = CQI

Potential references

* NQF Report – Clinical Decision Support Driving Quality 2010
* CDS work by HIMSS/Jerry Osherhoff
* IHI process maps (potentially use to identify a case study)
* HeD documentation (S&I Framework)
  1. Contributors:
     1. \_\_Jason Kratz\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     2. \_\_Aziz Boxwala\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     3. \_\_Rosemary Kennedy (tentative)
     4. \_\_Chris Millet\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     5. \_\_Patty Craig\_\_\_\_\_\_\_

1. **Drivers of Healthcare Quality Measurement and Management**
   1. Description: This section will summarize the various drivers for healthcare quality measurement, including:
      1. Overall, for the industry, is the “Triple Aim” of better care, better health, lower cost
      2. Provider perspective
         1. Internal requirements/demands
            1. Internal program benchmarks (quality/safety/market share)
            2. Meeting external requirements
            3. Peer review
            4. Drive toward efficiencies
            5. Reputational effects
            6. Culture of accountability
         2. External requirements/demands
            1. Consumer demand
            2. Laws and regulations
            3. Accreditation and certification
            4. Contractual requirements
            5. Purchasers and payors (e.g., P4P)
            6. Public programs
            7. Population health
            8. Others – professional standards; changes in culture; consumer demand
            9. Consumer perspective
      3. Consumer perspective
         1. Increasing awareness of quality/safety issues
         2. Increasing costs of healthcare
         3. Increasing issues related to access
      4. Government and Public Program requirements (by federal/state regulations or state program requirements)
         1. CMS
         2. Medicaid (distinguish between state program requirements and state regulations)
         3. Meaningful Use
      5. Purchaser perspective
         1. Desire to assess the quality of services they are purchasing
      6. Accreditation perspectives
      7. Examples from various countries
         1. US examples of requirements
         2. UK and P4P application
         3. WHO and OECD quality indicators project

Potential references:

* May want to reference the NQF Generic Episode of Care framework (*NQF Measurement Framework: Evaluating Efficiency Across Patient-Focused Episodes of Care*)
* Another reference – Bob Greener’s Book on Quality  
  1. Contributors:
     1. \_\_Linda Hyde\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
     2. \_\_Taroon Amin
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     4. \_\_Anne Smith\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. **Quality Measure Standards and Data Models**
   1. Description: This section will review the various standards currently in use for healthcare quality measurement, including
      1. Description of the process (from a data perspective) of how all these moving parts fit together
         1. Discussion on the role of Registries – need to look at a standard infrastructure rather than fragmented registries
         2. Ensure to point out that for all ‘audiences’ all these elements apply
         3. Need to identify a series of ‘principles’ that standards need to meet (simplicity, practical applicability, etc) – Governance principles
            1. There are requirements of measures (principles of the quality of a measure) and then there are requirements of a standard to capture and report the measures
            2. New measures are going to link to issues related to cost, access, etc; and data for these measures are not residing in an EHR – pointing to the fact that EHRs are NOT the only sources of data
            3. Most measures now identify the source and whether there are data components that are not readily available from the EHRs
         4. There is a difference between the measurement calculation validity and the validity/reliability of the underlying data
         5. Important to stress the assumptions behind the need for a measure and its reliability
      2. Connect the drivers to the importance of consistency, standards, etc
      3. Measure standards (measure identified, development, tested, endorsement, validation) - it might be hard to generalize this; important to not speak on behalf one group only
         1. A good description of this is in the CMS Hospital PPS and Ambulatory PPS 2014 proposed regulations, and the description of the quality measures being proposed to be adopted
      4. eCQMs, eMeasures
         1. CQMs are the original measures; eCQMs/eMeasures are the HQMF-formatted measures
            1. Look at CMS definition in the rule
      5. Data models, Metadata, Expression Language
      6. Vocabulary standards
         1. Need for standard vocabulary in quality measures
      7. Electronic standards for capturing and reporting quality measures

Concentrate on HL7 (including HQMF, QDM-HQMF, QRDA Cat I, II, III) but reference other standards on quality and data models, including QDM, IHE (Administrated Use of EHR Data),

* + - 1. ISO (TC215 standards – health indicator framework, there are also some technical specifications for data warehousing) – this is more a framework that guides the definition of the model

This section will also include a summary of the usage of these standards, including examples on how providers, payers and others use quality measures

References:

* Article from KP in JAMIA – Jan 2014 about the implementation of standards
* EHR-Based Quality Measurement and Reporting – Critical for Meaningful Use and Health Care Improvement - A Position Paper of the American College of Physicians -February 2010 (provided by Thom Kuhn – email Jan 21, 2014 from Floyd)

1. Contributors:
2. \_\_Crystal Kallem\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_Kendra Hanley (i and ii above)
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9. \_Jyothi Mallampalli\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
10. **Gaps, Issues and Opportunities with Standards and Data Models**
    1. Description: This section will analyze overlaps, gaps, conflicts, issues and opportunities with respect to the current standards and models, and the need for new standards
       1. New framework (Metadata, Expression Language, Data Model) is helping address issues of overlap/duplication and identify where are things that need to be addressed
       2. We are always going to have the issues of standardized vocabulary
       3. Need to harmonize external requirement to the extent possible, from a technical perspective
          1. Different flavors of QRDA
          2. While there will be differences of external requirements of quality data, need to highlight where DON’T we need these differences
       4. Differences in setting (hospital, ambulatory) might not need to exist, with respect to the use of the standard
       5. Audit of the quality of quality data
       6. Maturity of standards
       7. Different experiences with the standards (for example, the experience in Netherlands with HQMF…)
       8. ‘Versioning’ of measures and value sets in the measure
       9. Evaluation criteria for eCQMs – how to evaluate consistently (and provide guidance to entities) the validity and reliability of measures
       10. Impact of new models of generating quality information
           1. Query Health
           2. Data Access Framework
           3. Structure Data Capture
           4. HealtheDecision
       11. National Testbed Concept (volunteer group of measure developers – HHS KAIZEN)
           1. Measure developers can use test data to evaluate measures before going to the field
       12. Public Health/CDC leveraging opportunities for querying data
           1. National Outbreak Reporting System
           2. NEDSS
           3. BioSense – National Syndromic Surveillance System
       13. Registry reporting/Registry certification
           1. Cancer
           2. Other
       14. Future Needs:
           1. QRDA Category II
           2. Risk Model Transport
    2. Contributors:
       1. \_\_Crystal Kallem\_\_\_\_\_\_\_\_\_\_\_\_
       2. \_\_Cynthia Barton\_\_\_\_\_\_\_\_\_\_\_\_
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11. **Conclusions and Recommendations**
    1. Description: This section will summarize key observations and findings and prove, as appropriate, a series of recommendations on how to address the gaps, overlaps, conflicts and issues with existing standards and models, and the potential need for new standards and models.
    2. Contributors:
       1. \_\_\_Walter Suarez\_\_\_\_\_\_\_\_\_\_\_
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       4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
12. **Appendices**
    1. Description: Appendices will include a series of supporting materials including Glossary, US materials (EHR Certification, Measure Authoring Tool, etc), International materials; Vocabularies; others.
    2. Contributors:
       1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
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**REVISED PROPOSED PROCESS AND TIMELINE**

* Project Kick-off July-August, 2013
* Identify Contributors August-September, 2013
* Environmental Scan October-December, 2013
* Initial Section Discussions November-December, 2013
* Discussion of Sections January, 2014 – HL7 WGM
* Submit Intent to Ballot Sunday, February 16, 2014
* Draft of Sections January-March, 2014
* Review and Finalize March, 2014
* Submit Report for Ballot March, 2014
* Ballot materials to HL7 March 23, 2014
* Ballot March 28-April 28
* Ballot Reconciliation May, 2014