



Quality Data Set (QDS): Technical Questions and Answers

1. What is the QDS?

The Quality Data Set (QDS) is a model of information. Specifically, it is a way to describe clinical concepts in a standardized format so individuals (i.e., providers, researchers, measure developers) monitoring clinical performance and outcomes can clearly and concisely communicate necessary information.

The QDS model also describes information in a manner that allows EHR and other clinical electronic system vendors to unambiguously interpret the data and clearly locate the data required. It intentionally does not prescribe the exact workflow of information *within* vendor applications to avoid restricting vendor innovation and differentiation regarding workflow. The QDS is equivalent to the *Rosetta Stone* in that it allows those monitoring clinical performance to fully express their data requirements. It further provides a standard for electronic system vendors to find that information.

QDS establishes a foundation for identifying and establishing a common understanding of key clinical concepts and locating that data. It will then ensure that all users of electronic health information are able to clearly understand each other.

2. How does QDS specifically relate to quality measurement?

The QDS is a model of information that allows quality measure developers to describe clearly and unambiguously the data required to calculate the performance measure. In turn, it allows EHR and other clinical electronic system vendors to share a common understand and interpretation and locate the data required. QDS is intended to enable automation of the quality measurement process, avoiding the need for abstraction of existing information or attestation of actions that have already occurred. Definition of quality measure data elements using the QDS should allow access to data for reporting in a way that is unobtrusive to routine clinical care.

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3. Who developed the QDS and what was HITSP's role?

QDS development began based on a request by the American Health Information Community (AHIC) and the Office of the National Coordinator for Health Information Technology (ONC) to fulfill the needs of a Quality Use Case published by AHIC. National Quality Forum convened the Health Information Technology Expert Panel (HITEP) in response to this need with funding from the Agency for Healthcare Research and Quality (AHRQ).

The QDS was initially developed by HITEP to enable quality measurement in EHRs and described in HITEP's first report, *Health Information Technology Expert Panel Report*:



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Recommended Common Data Types and Prioritized Performance Measures for Electronic Healthcare Information Systems. The model was further clarified in a second report, *Health Information Technology Automation of Quality Measurement: Quality Data Set and Data Flow.*

The Health Information Technology Standards Panel (HITSP), as a standards harmonization organization, identified existing technical standards that will map to the necessary data. They did not develop the QDS; however they performed the first measure retooling effort, requiring the QDS to translate data requirements from the measure developers to electronic data standards.

4. Why was QDS developed and what will it do?

The QDS was initially developed to provide direction and guidance to measure developers building measures using information from electronic clinical systems such as EHRs. It also provides a standard and consistent way for EHR vendors to articulate information required for performance measurement and reporting minimizing ambiguity and varied interpretation. In addition to enabling comparability across information and performance measures specifically, the QDS can promote delivery of more appropriate, consistent, and evidence-based care through clinical decision support applications.

The current version of QDS focuses primarily on EHR data requirements to support quality measurement and might best be described as “first generation.” It is clear that continued evolution of the QDS will be necessary to support the next generation of performance measures and more clearly enable other secondary uses of health information such as public health reporting and clinical effectiveness research.

5. Who will use the QDS?

Over time guideline developers, quality measure developers, and study designers in particular will use QDS as they develop new measures and update existing measures. EHR vendors will also use QDS as they identify and define their information capture and reporting needs for both quality measurement and clinical care.

Currently, the QDS is being used to translate a number of existing measures endorsed by NQF. These measures are based on claims data, clinically enriched claims data (claims enhanced with pharmacy and/or laboratory data), or data abstraction or attestation. Using the QDS, these measures are being converted or ‘retooled’ to address clinical information captured directly into EHRs as part of the routine care process.

6. How does the QDS directly support retooling activity?

The QDS translates data requirements from measure developers to electronic data standards which is the foundation for a retooled measure. The Health Information Technology Standards Panel (HITSP) performed the first retooling effort. Subsequently, NQF is using the QDS to retool additional measures under a contract from the



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Department of Health and Human Services. The final retooled measure format, the

eMeasure representation of the Health Quality Measure Format (HQMF), a new draft standard of HL7, also uses the QDS to describe each data element in the measure.

It is expected that these retooled measures will be used in various performance measurement programs. Additional work is also in progress to create a measure authoring tool that directly allows measure authors to use the QDS to create eMeasures in HQMF.

7. How will the QDS be used in care delivery and quality improvement?

QDS will be used in the development of new measures and used as existing measures are reworked or retooled to be standardized, comparable, and based on a consistent set of information. QDS will serve as the foundation for all performance measures moving forward and also provide a common language for EHRs. Vendors will use the QDS elements to bridge the definition gap between what is entered into specific EHR fields and the allowable data descriptions (codes) for use in measurement reporting.

Because the same elements are necessary for other aspects of clinical care and other secondary uses, much of what is defined in QDS is reusable. Collecting information once for multiple downstream uses will enable and drive a more efficient and effective healthcare system. For example, this same 'information model' will support and enable use of the data for research, public health surveillance, and post-marketing surveillance of pharmaceuticals and devices.

8. What are the benefits of QDS?

Use of the QDS will decrease the costs of measure development, maintenance, and revision as it provides a common language for performance measures and reporting. It will allow greater consistency and comparability across performance measures and will clearly define programming needs for EHRs vendors. This in turn will reduce costs, time, and manual burden of current processes and programs with paper based measures.

It also minimizes provider burden by enabling access to standard information in EHRs to support direct clinical care, public health reporting, clinical decision support, and medical research including comparative effectiveness research.

9. As a provider, how will QDS impact me?

Provider burden of quality measurement and reporting activities should be significantly reduced through the use of QDS by vendors and measure developers alike. In particular, it will minimize providers' reporting responsibilities because information required for measuring performance will automatically be reported and collected. This ultimately should limit the manual processes that are required today. In addition, the presence of the QDS should be invisible except to the degree that it makes the entire reporting

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process easier, faster, and more streamlined for the providers of care.

The QDS will further allow vendors and implementers of EHRs and personal health records (PHRs) to provide the right information at the right time to support appropriate care delivery concurrent with the care process. Thus, the QDS will enable clinical decision support and care coordination at the point of care.

10. Does QDS apply only to EHRs? Will providers without electronic resources (i.e. hand-written charts) still be educated on QDS and expected to use it?

The QDS was developed to help developers of performance measures to understand and effectively solicit the necessary data directly from EHRs. However, by providing a model of information to translate what is needed to what is present and available, the QDS provides value beyond the EHR. Potential ambiguity in measures, clinical guidelines, reporting, and research requests are often managed with detailed written descriptions and narrative instructions.

The QDS has potential for enhancing the clarity of data requests even in a paper environment. The real benefit, however, is to precisely define information required between two users of that information so there is clarity and no misinterpretation. This will help drive and ensure communication (or *interoperability*) between any two electronic sources (e.g., PHR to EHR, EHR to data warehouse, PHR to public health, EHR to public health).

11. What does the QDS have to do with meaningful use reimbursement?

Meaningful use regulations are elevating the importance of quality measurement as an essential element of EHRs, meaningful use incentives, and ultimately delivery of higher quality more effective care.

Quality reporting and performance measurement is a central component of meaningful requirements and a requirement to receive financial incentives for EHR usage. The QDS is a component of the infrastructure or 'highways' that need to be in place for this information to be delivered and received in a consistent, and standardized format.

12. Will the QDS change over time?

The QDS is a model of information. Similar to any model, further clarification and evolution occurs over time. The QDS was developed based on a data elements required by a set of 84 high priority measures in the first HITEP report, and expanded to account for data needs of over 500 NQF endorsed measures in the second HITEP report. The result is a model that covers a wide range of data requirements. However, new measures and data requirements will challenge the model. To respond to such challenges, continued evolution of the QDS is appropriate and expected.



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The first publication of modifications to the QDS is available for public comment in June, 2010 and regular updates are to be expected. Most updates are intended to maintain clarity and maintain consistency with the intended purpose. Some updates will address new types of data or nuances in data definitions; major modifications are not expected.

NQF with support and involvement of other stakeholders will maintain the QDS. The information will reside in a publicly available web based repository.

13. What will QDS look like or support in the future?

QDS will evolve to support applications beyond quality measurement and improvement. A "QDS like" structure is needed to support other secondary uses of health information including clinical decision support, population health, and comparative effectiveness research. The continued development of QDS is also essential infrastructure to maintain consistent understanding of information.

The current version of QDS was built to support measures that, by and large, assess the process of care within major health settings (e.g., hospitals, nursing homes, ambulatory practices). The future portfolio of measures will more clearly address clinical outcomes, coordination of care and patient-centered care. QDS will evolve to incorporate those and other needs as they present.