

Dr. Mostashari and members of the Quality Measures Workgroup, thank you for inviting me to submit written testimony on the role of clinical decision support in quality improvement.

1. What is the role of Clinical Decision Support (CDS) in the quality lifecycle? How does CDS relate to quality measurement?

Clinical Decision Support (CDS) connects quality measurement to performance improvement. Without CDS, quality measurement becomes an artifact of the quality improvement process that may not impact performance. It can be useful to think of quality improvement as the *why*, quality measurement as the *what*, and CDS as the *how* to achieve that *what*. CDS should be part of every aspect of the quality lifecycle: planning, design, implementation, analysis and evaluation, and reporting.

When integrated into the workflow, CDS becomes the motive force that drives clinical process change and results in quality improvement. The CDS content relevant to each quality measure should be identified during measure development, and it should be integrated into all phases of the quality lifecycle.

When CDS is integrated with the entire quality lifecycle, it serves a central role in the clinical process and realizes its potential to drive improved performance. Without this integration, CDS remains ancillary and ineffective.

2. How might aggregate measurements of the usefulness and outcomes of CDS interventions be used to foster improved techniques for CDS delivery?

CDS suffers from the weakened state of systems improvement that characterizes the health care industry. While the initiatives of the ONC, AHRQ, and others are beginning to effect change, the task of operationalizing the reporting, monitoring, and measurement of CDS programs—such as would be standard operating procedure in other industries—remains at an early stage of development. Historically, the focus of CDS evaluation has been the quality and evidence base of the content, rather than the effectiveness of the CDS presentation and the relevance and timing of its delivery.

The understanding and interpretation of aggregate measurements is not the challenge. The challenge is fostering among all stakeholders—hospitals and vendors—a commitment to the creation of metrics that can be used in tandem with the creation and implementation of CDS solutions, along with a concomitant commitment to sharing the results of their measurement with each other. Without such commitments, the value of CDS outcomes reporting may go unrealized.

With a standard measurement system in place, effective CDS interventions could become a driver for the successive rounds of iteration that will be required over the next several years to realize the full potential of CDS to improve health care quality.

3. How can the alignment between quality improvement initiatives and CDS be improved? What additional things need to happen to blend these communities?

There is a significant disconnect between the conceptual framework of the quality improvement initiatives and the operational environment in which these initiatives should be implemented. We see several opportunities for improving the alignment between quality improvement initiatives and CDS, as follows:

- CDS should be part of every phase of the quality lifecycle, including initial planning.
- The CDS community should communicate the workflow and clinical process requirements of each quality measurement initiative to the quality community.
- The quality improvement and CDS communities should collaborate in the development of systems for implementing CDS as part of quality improvement.
- The quality improvement and CDS communities should collaborate in the design and development of systems and processes for evaluating and measuring CDS effectiveness and outcomes as part of quality improvement.

4. How can Health IT better support quality measurement/improvement?

The potential for Health IT to support quality measurement and quality improvement could be realized if the CDS and quality improvement communities were to better harmonize their efforts as follows:

- ONC should continue to lead the clarification and standardization of the vocabulary by which clinical knowledge is structured and rendered computable, and it should continue to drive the creation of an intervention standard that is both consumable by systems and interoperable among them.
- Together, ONC and the quality improvement community should take the lead in defining CDS and quality measurement as an integrated single solution. Meaningful Use should be used as a program for defining the operational requirements of achieving CDS-informed quality improvement goals.