April 22, 2008

The Honorable Michael O. Leavitt
Chairman
American Health Information Community
200 Independence Avenue, S.W.
Washington, D.C. 20201

Dear Mr. Chairman:

The use of Clinical Decision Support (CDS) capabilities within electronic health records and related electronic clinical systems holds great potential to improve health care outcomes in the U.S. CDS provides clinicians, staff, patients and other individuals with knowledge and person-specific information, intelligently filtered at appropriate times, to enhance health and health care. CDS encompasses, but is not limited to, computerized alerts and reminders to care providers and patients, methods to bring care into compliance with clinical guidelines; condition-focused order sets, patient data reports and summaries, and documentation templates; advice to promote more accurate and timely diagnoses; and other tools that enhance decision making in clinical workflow. CDS is essential to assuring that the substantial and ongoing investments in biomedical science and innovation are translated as benefits to American taxpayers (in terms of improved health and health care) in a greatly accelerated timeframe.

Over past months, numerous American Health Information Community (AHIC) Workgroups have identified CDS capabilities to improve care as a timely and important area of focus. To address this need, a CDS Ad Hoc Planning Group, comprised of representatives from the Quality, Consumer Empowerment, Electronic Health Records, Personalized Healthcare, and Population Health and Clinical Care Connections Workgroups was created in May 2007 to form a common framework through which a coherent set of priorities for CDS could be generated. A set of "proto-recommendations" was developed and directed to the attention of multiple AHIC Workgroups during the spring of 2008. Workgroup contributions led to the development of formal CDS recommendations to accelerate the implementation of robust and workflow-sensitive CDS interventions that will drive measurable improvement in key health care outcomes.

Objectives of the initiative

- Advance patient-centric care and improve health care outcomes through effective use of CDS.
- Accelerate the successful adoption of CDS in a wide variety of health settings.
- Enhance patient participation in care through thoughtful applications of CDS.

Factors that will improve the ability of CDS to improve health care in the US include:

- Continued implementation of electronic health records with high degrees of interoperability.
- Adoption of national priorities for care improvement with explicit linkage of CDS to drive measurable improvements in these targeted areas.
- Harmonization of CDS tools, quality measures and quality reporting.
- Promotion of provider payment mechanisms that reward safe, high quality, efficient and coordinated patient care based on specific measures of quality and performance.

- Development of organizations, standards, tools and resources to assist small physician practices, hospitals, public health and other health settings to implement CDS efficiently and effectively.

CDS Roadmap – a foundational study
In 2005-06, the Office of the National Coordinator for Health Information Technology (ONC), in partnership with the Agency for Healthcare Research and Quality (AHRQ), supported the development of a CDS Roadmap. The American Medical Informatics Association (AMIA) convened experts in informatics, software engineering, and evidence development from industry, academia, and government to develop a national plan of action for CDS. The CDS Roadmap identified three essential elements for achieving the promise of CDS in health care: 1) access to the best knowledge available; 2) widespread adoption and effective use of CDS tools; and 3) continuous improvement of knowledge and CDS methods. The CDS Roadmap was presented to AHIC in the summer of 2006 and provides a useful background for the development of the recommendations offered in this document. (Journal of the American Medical Informatics Association. 2007;14:141-145)

Federal CDS Collaboratory
To coordinate efforts internal to the government, a multi-stakeholder federal CDS Collaboratory, co-sponsored by Agency for Healthcare Research and Quality (AHRQ), the HHS Personalized Healthcare Initiative, and ONC, has been formed. This group will build upon a scan of CDS-related federal agency activities conducted in 2007, and will work to leverage the efforts and knowledge of multiple agencies to expedite development and widespread adoption of effective CDS capabilities.

CDS Recommendations
The following recommendations will help ensure that clinical decision support is widely available to health care professionals, patients and individuals to enable high quality, cost-effective health care decisions. The recommendations are organized into three areas:

- Driving measurable progress toward priority performance goals for health care quality improvement through effective use of CDS.
- Exploring options to establish or leverage a public-private entity to facilitate collaboration across many CDS development and deployment activities.
- Accelerating CDS development and adoption though federal government programs and collaborations.

1. Drive measurable progress toward priority performance goals for health care quality improvement through effective use of CDS

CDS interventions support clinicians and patients in making decisions and taking specific actions that have been identified as best practices for specific clinical conditions at key decision points in care delivery. In this manner, CDS promotes the delivery of care that is consistent with guidelines designed to improve quality and promote adherence to best practices and guidelines for care.

Priorities for development of CDS tools should be shaped by national priorities for health care quality improvement. Highest priority CDS activities should be directed at health care scenarios

that are targeted for quality improvement. Based on broad stakeholder input, progress toward the identification of national priorities for health care quality improvement has been initiated by the National Quality Forum (NQF) and other priority-setting bodies. In the first half of 2008, NQF's National Priority Partners Committee plans to establish national priorities and performance goals for several common chronic conditions, to identify existing quality improvement measures that can be used to assess progress, and identify areas that need improved measurement of care quality within conditions targeted for quality improvement.

If quality measure development, CDS development, payment policy and evaluation efforts across various stakeholders can be better aligned, system level changes to achieve a high performance health care system will be more likely to succeed. Identification and dissemination of the impact of CDS on the outcomes of clinical conditions targeted for quality improvement will foster information sharing and collaboration helping to accelerate progress toward effective adoption of CDS.

Recommendation 1.1: Guided by the efforts of multiple national priority setting efforts (e.g., National Quality Forum's National Priority Partners Committee), representatives of federal agencies, including "the CDS Collaboratory", should identify priorities for federally funded CDS efforts by December 30, 2008. These priorities should consider existing government funded programs such as pay for performance, research and development grants, public health, and personalized health care. The CDS Collaboratory should develop an evaluation plan to monitor the impact of federally funded CDS programs on high priority areas. The CDS Collaboratory should widely disseminate its list of top priorities for CDS efforts, and how the government's CDS activities are helping to address those priorities.

Recommendation 1.1.1: HHS should collaborate with AHIC, the AHIC successor, the Healthcare Information Technology Standards Panel (HITSP) and other organizations to identify and harmonize data types needed to support CDS tools, with particular attention to tools and use cases that address the high priority conditions determined by national priority setting efforts such as the National Quality Forum's National Priority Partners Committee.

Recommendation 1.2: Once the priorities and evaluation plan from Recommendation 1.1 have been completed, the CDS Federal Collaboratory should facilitate alignment of CDS efforts, methods and metrics within federal agencies that deploy, support or facilitate CDS. The CDS Collaboratory should establish a mechanism to periodically measure the contribution of CDS efforts to accelerating progress within these agencies towards improving the care delivered for patients with the targeted clinical conditions.

2. Explore options to establish or leverage a public-private entity to facilitate collaboration across many CDS development and deployment activities

Effective adoption of CDS on a national scale will require the efforts and participation of numerous organizations, many of which sit outside the federal government. A public-private

entity to facilitate information sharing and coordination between relevant entities and activities will play an important role in advancing CDS implementation and improving the quality of health care.

Recommendation 2.1: By October 31, 2008, HHS and relevant partners should explore options to establish or leverage a public-private entity (e.g. AHIC 2.0 or other) to convene public and private organizations and stakeholders to promote effective CDS development and adoption and address gaps in CDS capabilities through planning, facilitation, and coordination of activities across diverse constituencies. The public-private entity could incorporate the viewpoints of multiple stakeholders by including representation from the CDS Ad Hoc Planning Group, the Certification Commission for Healthcare Information Technology (CCHIT), the Healthcare Information Technology Standards Panel (HITSP), the CDS Government Collaboratory (ex-officio government representatives) and organizations that represent consumers, providers, payers, guidelines developers, medical informatics experts, life sciences, public health, clinical information system and CDS developers, and others.

Recommendation 2.2: The public-private entity, working with its stakeholders, should plan a CDS infrastructure to serve the nation in the long term, and identify actions that its constituents can take to further the adoption of CDS. Looking across existing efforts within the public and private sectors, the public-private entity should identify approaches where coordination, collaboration and collective action can advance effective use of CDS.

A more detailed description of recommended activities that may be undertaken by the public-private entity is described in Appendix A.

3. Accelerate CDS development and adoption through federal government programs and collaborations

The activities of the public-private entity, the federal CDS Collaboratory, and the collaborative efforts that result should be supplemented by the efforts of specific federal entities. Activities that can be taken by federal entities to advance the charges of multiple Workgroups are outlined below.

Recommendation 3.1: AHRQ and NIH should support additional research to enhance discovery and application of best practices for utilizing clinician-specific and patient-specific CDS tools supportive of decision-making in EHR and Personal Health Record (PHR) systems by September 30, 2009.

Recommendation 3.2: AHRQ, CDC and NIH should support additional research to identify CDS approaches and interventions that patients in chronic disease groups such as diabetics, and other special populations, are most likely to use and find helpful when managing their own care by September 30, 2009.

Recommendation 3.3: To facilitate inclusion of consumer preferences in systems that support collaborative patient-provider decision making, HHS, through appropriate funding mechanisms, should support the development of a minimum data set of personal attributes that contribute to individualized care by June 30, 2009, expanding on existing work, such as that of the National Quality Forum's Health Information Technology Expert Panel. (Example attribute categories include: demographics, clinical history, and psychosocial factors.) Once the minimum data set has been created, HITSP should develop interoperability standards for the personal attribute minimum data set so that guideline developers and EHR vendors can produce and work with clinically consistent data. These interoperability standards should be added to the criteria for certification of Electronic Health Records (EHRs), as well as for certification of Personal Health Records (PHRs) at such time as those criteria may be developed.

Recommendation 3.4: CMS and AHRQ should collaborate to ensure that there is a process by which Pay for Performance, and Pay for Reporting initiatives inform the design and content of future model CDS knowledge repositories, so that resulting repositories meet the needs of Medicare Part A and Part B payment updates involving specific quality measures on an ongoing basis. Additionally, a process should be put in place to ensure that future relevant EHR demonstration projects include CDS, and that CDS "lessons learned" are included in demonstration project reports.

Conclusion

We believe that this set of recommendations offers great promise for advancing the goals of higher quality, safer and more efficient patient-centric health care. Thank you for giving us the opportunity to submit these recommendations. We look forward to discussing these recommendations with you and the members of the American Health Information Community.

Sincerely yours,

/John Glaser/
John Glaser
Chair, CDS Ad Hoc Planning Group
Co-Chair, Personalized Healthcare Workgroup

/Nancy Davenport-Ennis/
Nancy Davenport-Ennis
Co-Chair, Consumer Empowerment Workgroup

/Rose Marie Robertson/
Rose Marie Robertson
Co-Chair, Consumer Empowerment Workgroup

/Jonathan Perlin/
Jonathan Perlin
Co-Chair, Electronic Health Records Workgroup

/Lillee Smith-Gelinas/
Lillee Smith-Gelinas
Co-Chair, Electronic Health Records Workgroup

/Doug Henley/
Doug Henley
Co-Chair, Personalized Healthcare Workgroup

/Leslie Lenert/
Leslie Lenert
Co-Chair, Population Health and Clinical Care Connections Workgroup

/John Lumpkin/
John Lumpkin
Co-Chair, Population Health and Clinical Care Connections Workgroup

/Carolyn Clancy/
Carolyn Clancy
Co-Chair, Quality Workgroup

Appendix A

This section augments Recommendations 2.1 and 2.2 by providing additional background information and detail to key activities that may be coordinated by the CDS public-private entity. Potential activities and deliverables may include:

- Describe a model repository or repositories that will support the aggregation of readily-accessible, reusable, computable knowledge, decrease duplication of knowledge management efforts, and promote broader utilization of CDS.
- Articulate public and private contributions and accompanying business models that may be required over time to achieve a broad implementation of a cohesive repository of computable rules/clinical practice guidelines.
- Formulate education efforts and business cases that promote integration of CDS within Electronic Health Records (EHR) systems and create incentives for use of CDS to support improved patient care quality.
- Describe mechanisms that can be employed to ensure that consumers and health care professionals can be confident that the knowledge and algorithms behind CDS applications provide solid, quality suggestions and guidance.
- Develop a framework to optimize the delivery of CDS interventions so that advice is delivered at the right time, place and in a manner that enables consumers and health care professionals to act upon it in a timely manner.
- Articulate strategies to overcome the unique challenges of implementing CDS within Ambulatory Care settings.
- Describe methods by which consumer preferences surrounding care, treatment, and logistical matters can be accounted for, to support truly collaborative decision-making between consumers and care providers.
- Establish a communication forum for CDS stakeholders to promote identification of common interests and execution of mutually beneficial activities that advance widespread and effective utilization of CDS.
- Describe methods to measure CDS contributions to improvements in health care.