

Clinical Decision Support Implementers' Workbook



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About the Book

The Clinical Decision Support Implementers' Workbook is designed to help healthcare organizations use clinical decision support (CDS) to measurably improve outcomes important to the organization. It helps readers guide the selection, customization, and implementation of the most usable and effective CDS interventions to address specific clinical or strategic concerns.

The workbook helps organizations identify stakeholders in their CDS programs, and then guides them through the steps of working with those stakeholders to

- Determine the CDS program's goals and clinical objectives;
- Catalog local information systems' capabilities to help achieve those targets;
- Select the best approach to address the targets with specific CDS interventions;
- Develop the interventions;
- Ensure those interventions are acceptable to stakeholders and put them into use; and
- Monitor the CDS program on an ongoing basis to ensure it achieves organizational objectives.

This valuable resource will be useful for organizations with applications in place that support CDS, but it will also be a guide for organizations that anticipate implementing clinical decision support.



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*Developed for the HIMSS Patient Safety Task Force by the Patient Safety
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About the Authors and Their Organizations

Jerome A. Osheroff, MD, FACP, is Chief Clinical Informatics Officer at Thomson MICROMEDEX in Denver; he is also Adjunct Assistant Professor of Medicine at the University of Pennsylvania Health System in Philadelphia. For over two decades Dr. Osheroff has been building understanding of clinicians' information needs and developing methods of fulfilling them using information technology. These efforts include a variety of activities including product development, informatics research, clinical and informatics teaching, lecturing internationally, authoring guidebooks and articles, and consulting. Dr. Osheroff is a fellow of the American College of Physicians and the American College of Medical Informatics. As chief clinical informatics officer for Thomson MICROMEDEX, he helps ensure that the company's current and future clinical decision support offerings are optimally responsive to healthcare needs.

For over 30 years, Thomson MICROMEDEX's trusted medical information and flexible technology have enabled clinicians to access answers, alerts, and recommendations. From evidence-based references to system-integrated knowledge, clinicians rely on MICROMEDEX to enhance decisions, prevent adverse events, and promote best clinical practices throughout the continuum of care. (www.micromedex.com)

Eric A. Pifer, MD, is Assistant Professor of Medicine and Medical Director of Information Systems at the University of Pennsylvania Health System (UPHS) in Philadelphia. Dr. Pifer has led the implementation and customization of clinical information systems at UPHS since 1998. He has done this through clear articulation of the value of information systems in improving healthcare, the creation of strategic vision and the active management of a team of professionals devoted to this process. Dr. Pifer remains active in internal medicine practice and clinical teaching while maintaining a primary professional focus on deploying clinical decision support interventions to improve the quality of care for patients at UPHS.

The University of Pennsylvania Health System is an organization that includes four hospitals, a home care organization, and a large primary care network. The health system is located in Philadelphia and its surrounding suburbs. Its mission is excellence in patient care, research, and education. (www.uphs.upenn.edu)

Dean F. Sittig, PhD, is Director of Applied Research in Medical Informatics at Kaiser Permanente in Portland, Oregon, and Clinical Assistant Professor of Medical Informatics and Clinical Epidemiology at Oregon Health and Sciences University. For 20 years Dr. Sittig has been involved in various aspects of the design, development, implementation, and evaluation of clinical information systems with a special emphasis on clinical decision support. He has pursued these activities at a variety of leading academic medical centers including Yale, Vanderbilt, Harvard/Partners HealthCare System, and the Oregon Health and Sciences University where he is faculty. Dr. Sittig is a member of the Clinical Informatics Research Network, a national collaboration of Kaiser Permanente informaticians, researchers, physicians, and content specialists who share their knowledge to define, illustrate, and evaluate the strategic value of current and future clinical information systems.

Kaiser Permanente is America's largest not-for-profit health care organization, serving 8.1 million members in nine states and the District of Columbia. An integrated health delivery

system, Kaiser Permanente organizes and provides or coordinates members' care including preventive care such as well-baby and prenatal care; immunizations and screening diagnostics; hospital and medical services; and pharmacy services. (www.kp.org)

Robert A. Jenders, MD, MS, is Associate Professor of Clinical Medicine at Cedars-Sinai Medical Center and the University of California, Los Angeles. He is also Co-Chair of the Clinical Decision Support Technical Committee of Health Level Seven. For the past decade, Dr. Jenders has worked in clinical informatics, teaching in informatics graduate education programs, conducting research and development in clinical decision support systems, and lecturing at international meetings. In addition, for the past five years he has worked in Health Level Seven to develop standards and promote their use in health care computing. In addition to teaching internal medicine, Dr. Jenders applies this experience to the development of decision support systems and electronic health records at Cedars-Sinai Medical Center.

Founded in 1902, Cedars-Sinai Medical Center is the largest voluntary hospital in the western United States. Its 1,800 affiliated physicians and 8,000 employees offer inpatient and outpatient services to the greater Los Angeles area and to an international clientele. Cedars-Sinai is also a leader in medical education and research. With a reputation for excellence in medical informatics, Cedars-Sinai was named one of the 100 "most wired" hospitals by *Hospitals and Health Networks*. (www.csmc.edu)

Jonathan M. Teich, MD, PhD, is the Senior Vice President and Chief Medical Officer of HEALTHvision in Waltham, Massachusetts; he is also Assistant Professor of Medicine at Harvard University in Boston. Dr. Teich's main focus has been the use of information systems to directly improve clinical care, prevent adverse events, streamline clinical workflow, and improve resource utilization. He currently fulfills this focus as a founding member and chief medical officer of HEALTHvision. Previously, he led the design of the advanced clinical systems at Brigham and Women's Hospital beginning in 1988, including CPOE, ambulatory medical records, emergency medicine systems, and information resources for patients, all with emphasis on clinical decision support. Dr. Teich has authored over 90 publications in the field of medical informatics, and currently chairs the HIMSS Patient Safety Task Force.

HEALTHvision is a leading healthcare Internet company focused on helping healthcare organizations address the needs of physicians, patients, consumers, and employees through locally branded, web-based clinical information systems and public consumer web sites. More than 300 organizations use a customized version of the company's portal solution, supporting more than 20,000 clinicians. The company's web-based infrastructure, e-healthSOURCE, is the most widely used in the industry, hosting more than 5 million unique patient records. (www.healthvision.com)

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Reviewers

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